CEC
25.200.0
03 User Guide

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1 CEC Operation Guide

1.1 Enabling the CEC
To enable the CEC, log in to Huawei Cloud, set enterprise payment information, and subscribe to the CEC product.

1.2 Updating Enterprise Information
On the **Overview** page, an enterprise customer can view the basic information, business management information, and business processes.

1.3 Creating a Call Center Instance
On the **Instance Management** page, an enterprise customer can create and manage call center instances, and subscribe to agents, chatbots, and access codes for call center instances.

1.4 Managing Resources
On the **Resource Management** page, an enterprise can view and manage all subscribed resources, such as deleting a resource.

1.5 Viewing Call Duration Statistics
On the **Call Duration Statistics** page, an enterprise customer can view the call duration statistics of self-owned and Huawei access codes.

1.1 Enabling the CEC

To enable the CEC, log in to Huawei Cloud, set enterprise payment information, and subscribe to the CEC product.

For details about the pricing for commercial use, see **Overview**.

In the commercial use phase, the access codes provided for free trial expire. Therefore, you need to apply for number resources in advance.

Procedure

Step 1 In the navigation pane of **Huawei Cloud**, choose **Products** > **Business Applications** > **Cognitive Engagement Center (CEC)**.

Step 2 Click **Buy Now**.

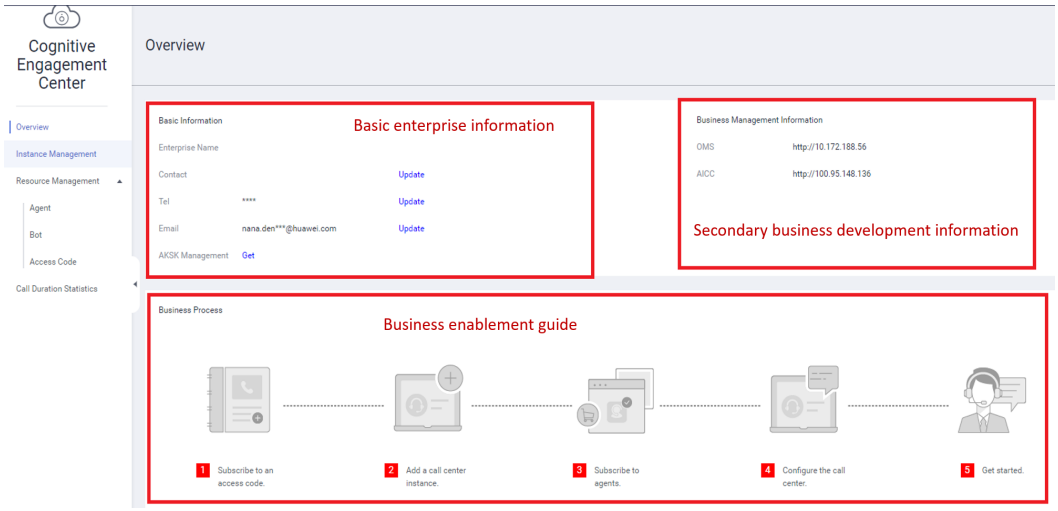
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Step 3 Use the Huawei Cloud account and password to log in to the Huawei Cloud official website.

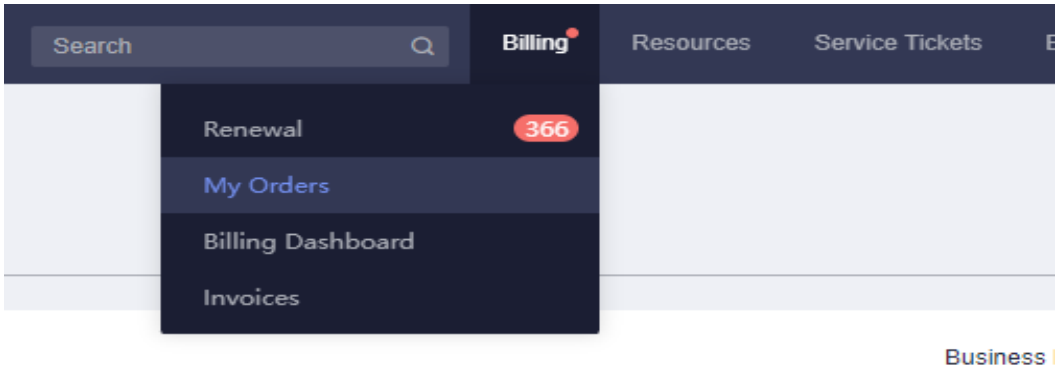
Step 4 Click **Go to complete** to complete payment details as prompted. This step is required for enterprises that log in to the CEC console for the first time and have not filled in the payment information. For details about the authentication, see **Adding a Payment Method**.

Step 5 On the **Enable CEC Service** page, select **I have read and agree to CEC Usage Agreement and Privacy Statement** and click **Enable**.

Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**. The CEC console is displayed, as shown in the following figure.



Step 6 After the subscription is complete, you can view the order information by choosing **Billing** > **My Orders**.



----End

1.2 Updating Enterprise Information

On the **Overview** page, an enterprise customer can view the basic information, business management information, and business processes.

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Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Click **Update** to modify the contact person, contact number, or email address.

----End

1.3 Creating a Call Center Instance

On the **Instance Management** page, an enterprise customer can create and manage call center instances, and subscribe to agents, chatbots, and access codes for call center instances.

Prerequisites

- An enterprise customer has applied for an access code.

  For details, see **1.4.3.2 Applying for Connecting to a Self-Owned Access Code**.
- Before a tenant (call center instance) subscribes to resources, the tenant has contacted the O&M administrator of the CEC to determine whether the new tenant needs to be split. The O&M administrator of the CEC needs to manually modify the configuration.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Instance Management**.

Step 4 Create a call center instance.

1. Click **Create Call Center Instance**.
2. Select an access code from the list. If multiple access codes are selected, specify an access code as the default outbound calling number.

   An access code is used as a hotline number in a call center for taking customer calls or displayed as a calling number at the customer side.

   If no access code is available, click **Click here to apply for connecting to a self-owned access code.** in the upper right corner to add a self-owned access code. For details, see **1.4.3.2 Applying for Connecting to a Self-Owned Access Code**.
3. Click **Next** and set **Instance Name**.
4. Click **Next**.
5. Set agent specifications based on the following parameters:

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- **Current Region**: Huawei Cloud site that supports the CEC function. If multiple sites are available, select the nearest site to reduce the network impact on agent access.
- **Billing Mode**: Select **Pay-Per-Use**.
- **Specifications**: Select the agent type as prompted. The options are **Basic agent**, **Professional agent**, and **Advanced agent**.
- **Agent Quantity**: Enter a value greater than or equal to 2. If more agent resources are required later, you can purchase them separately later.

6. Click **Next** to check the billing items. Click **Submit**. The purchase success page is displayed.

After the subscription is complete, you can click **Here** to return to the CEC console.

Step 5 (Optional) Purchase a chatbot.

To use self-service, you need to purchase a chatbot.

1. Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.
2. Choose **Instance Management**.
3. Click **More** corresponding to a call center instance and choose **Purchase ChatBot**.
4. Set **Purchase Type** and **Purchase Quantity**, and click **Next**.
5. Check the fee item details, read **CEC Usage Agreement** and **Privacy Statement**, select **I have read and agree to CEC Usage Agreement and Privacy Statement**, and click **Submit**. The subscription success page is displayed. Click **Here** to return to the **ChatBot** page.

----End

Follow-up Procedure

You can view the resources that you have subscribed to on the following pages:

- **Resource Management** > **Access Code**
- **Resource Management** > **Agent**
- **Resource Management** > **IVR**
- **Resource Management** > **TTS&ASR**

1.4 Managing Resources

On the **Resource Management** page, an enterprise can view and manage all subscribed resources, such as deleting a resource.

1.4.1 Deleting an Agent

You can delete a single agent.

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Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **Agent**.

Step 4 In the upper right corner, select a call center instance or enter a desired agent ID, and click **Query**.

Step 5 Click **Delete** in the row that contains the agent.

Step 6 In the confirmation dialog box, click **OK**.

----End

1.4.2 Deleting a Chatbot

You can delete a single chatbot.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **ChatBot**.

Step 4 Select a chatbot type.

Step 5 Select a call center instance name in the upper right corner and find the chatbot to be deleted.

Step 6 Click **Delete** in the row that contains the chatbot.

Step 7 In the confirmation dialog box, click **OK**.

----End

1.4.3 Managing Access Codes

Context

You can submit an application for adding a self-owned access code. Huawei operations management personnel will configure the line. Generally, this operation takes about three days. In this mode, you can retain the existing hotline number and ensure service continuity.

1.4.3.1 Notice on Suspending the Huawei Number Sales Service

Dear customers,

Thank you for choosing the CEC service on Huawei Cloud. Due to the product policy adjustment, we will not be able to provide the number application service

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for you from 2025. You can apply for connecting to self-owned access codes. For details about the operation and number requirements, see "Applying for Connecting to a Self-Owned Access Code".

If you have any questions, please submit a case or call the hotline (950808) and press 1 to contact us.

Thank you for using the CEC.

1.4.3.2 Applying for Connecting to a Self-Owned Access Code

You can only apply for connecting to a self-owned access code that supports SIP.

Prerequisites

To connect enterprise self-owned access codes that support SIP to the CEC, the following conditions must be met:

- Device: The device supports the SIP protocol and has a fixed public IP address and port number.
- Network quality: The voice call quality depends on the stability of the data network. The packet loss rate between the enterprise and the CEC must be less than 1%, the network jitter must be less than or equal to 60 ms, and the delay must be less than 200 ms. If the network does not meet this requirement, the voice may be intermittent and the other party cannot hear clearly.
- Network bandwidth: The voice media protocol used by the CEC is G.711 A, the average traffic is 100 Kbit/s, and the uplink and downlink traffic is equal. Bandwidth is calculated as follows: Network bandwidth = (Number of concurrent users x 100 Kbit/s)/1024

  Assume that there are 100 concurrent customers, the required bandwidth is (100 x 100 Kbit/s)/1024, that is, 9.7 Mbps. The required uplink and downlink bandwidth is 10 Mbit/s.
- Access code: Access codes that support SIP with signaling IP addresses and port numbers can be connected.
  - Common fixed-line numbers and 95 numbers: Enterprises can apply for these numbers from carriers.
  - 400 numbers: You can directly apply for self-owned numbers to connect to access codes that support SIP. For access codes that do not support SIP, contact the carrier to configure the forwarding of calls to a SIP fixed-line phone and apply for connecting to this self-owned access code. Common virtual numbers and mobile numbers cannot be connected.

Context

Introduction to SIP

Session Initialization Protocol (SIP) is one of multimedia communication framework protocols developed by Internet Engineering Task Force (IETF). The official website of IETF is https://www.ietf.org/. It is a text-based application-layer control protocol and is used to establish, modify, and release sessions of one or more participants. SIP is independent of transmission-layer protocols, and can be carried over different transmission protocols, such as UDP, TCP, TLS, and SCTP. SIP

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alone cannot complete a multimedia call. It establishes a complete multimedia communication system with other protocols. It must cooperate with protocols such as RTP/RTCP, SDP, MGCP, and DNS to complete a multimedia session process.

SIP only describes how to establish, modify, or release a session but does not describe session content. Therefore, SIP can carry any session content, such as voices, videos, and games.

SIP protocol example

The SIP protocol content varies according to the line and scenario. The following is the SIP protocol content in a voice call successfully initiated by the CEC. You can refer to this example to understand the SIP protocol in use.

```
INVITE sip:18012345678@10.11.56.68:5060;user=phone SIP/2.0
/*Request line. It consists of Method, Request-URI, and SIP Version. The Request-URI header field specifies the called number 18012345678 obtained by the UAP.*/
/*SIP Header-start*/
Via: SIP/2.0/UDP 10.11.56.61:5060;branch=z9hG4bK9njqrkwmmvg6or9gnjml6hvwv;Role=3;Hpt=8e48_16
/*Message header. It is used to record the path that a request passes through, so that the response can be correctly returned along this path. The SIP URI carried in the Via header field identifies the hostname or network address of the customer who initiates the request. The UAP obtains the signaling address of the peer end from the Via header field, for example, 10.11.56.61:5060.*/
Record-Route: <sip:10.11.56.61:5060;transport=udp;lr;Hpt=8e48_16;CxtId=4;TRC=ffffffff-ffffffff;X-HwB2bUaCookie=2717>
/*Forcible routing. It is used to force a request to pass through a series of proxies.*/
Call-ID: isbcjiwwievb2zvydwesyf2w0dxvdzsszefd@UAP9600
/*Unique ID of the entire dialog. It is a string consisting of random characters and used to uniquely identify a call.*/
From: <sip:02160123456@10.11.56.61;user=phone>;tag=yv20ze22-CC-57
/*This field specifies the initiator of a request. Calling numbers can be obtained from the field. For the first message, only the From field contains a tag, and the To field does not contain a tag.*/
To: <sip:18012345678@10.11.56.68;user=phone>
/*This field specifies the recipient of the request. During registration, the field specifies the public customer to be registered. During a session, the field specifies the recipient of the request and carries the URI of the recipient. For details about the Tag field, see the description of the From field. The To header field in an initial request may not carry a tag, but the requests or responses in a session must carry a tag. IP address:Port number obtained by the UAP from the To field is the local signaling address. The UAP obtains the original called sequence from the Historyinfo or Diversion header first. If the Historyinfo or Diversion header does not contain the required information, the UAP obtains the original called sequence from the To field. */
CSeq: 1 INVITE
/*Sequence number of a transaction. It is increased by one.*/
Allow:
INVITE,ACK,OPTIONS,BYE,CANCEL,REGISTER,INFO,PRACK,SUBSCRIBE,NOTIFY,UPDATE,MESSAGE,REFER
/*Header field. It is used to list all SIP methods supported by the UA.*/
Contact: <sip:02160123456@10.11.56.61:5060;transport=udp;Hpt=8e48_16;CxtId=4;TRC=ffffffff-ffffffff>
/*Address for subsequent direct communication with a customer. The SIP URI indicates the address for receiving responses.*/
Max-Forwards: 69
/*This field specifies the maximum times that a request can be forwarded before it arrives at the destination. The value decreases by 1 each time the request is forwarded. This header field is used to prevent proxy resources from being continuously consumed when a loop occurs. The value ranges from 0 to 255. The recommended value is 70.*/
Supported: 100rel
/*This field specifies all SIP extension methods supported by the UAC or UAS.*/
User-Agent: Huawei UAP9600 V100R005C00
Content-Length: 236
//This field records the length of a message body, and the unit is byte.*/
Content-Type: application/sdp
/*This field specifies that the message body type is SDP.*/
/*SIP Header-end*/

/*SIP Body-start*/
v=0
/*This field specifies that the protocol version is 0 (the protocol version used by the SDP is 0).*/
o=- 929076 929076 IN IP4 10.11.56.61
/*The first parameter indicates the name of a session initiator. The hyphen (-) indicates that this parameter
```

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```
is left empty.
The second parameter (929076) indicates the session identifier of a calling party.
The third parameter (929076) indicates the version of a calling party. When the session data changes, the version number is increased by one.
The fourth parameter (IN: Internet) indicates the network type. Currently, only this type of network is supported.
The fifth parameter (IP4) indicates the IP address type. Currently, only IPv4 and IPv6 are supported.
The sixth parameter (10.11.56.61) indicates the IP address of a session initiator, which is a signaling plane IP address.*/
s=SBC call
/*This field specifies the name of the current session.*/
c=IN IP4 10.11.56.61
/*Connection information. The "c=" line identifies the media receiving address of the UE. If the media-level "c=" line also exists, the media-level "c=" line is used. This parameter line is mandatory in any case.
The first parameter (IN) indicates the network type Internet. Currently, only this type of network is supported.
The second parameter (IP4) indicates the IP address type. Currently, only IPv4 and IPv6 are supported.
The third parameter (10.11.56.61) indicates the actual IP address used by multimedia streams.*/
t=0 0
/*The first parameter indicates the start time, and the second parameter indicates the stop time. The start time and stop time are Network Time Protocol (NTP) time in decimal format. If the values are both 0, the session is a persistent session.*/
m=audio 59354 RTP/AVP 8 0 97
/*m=<media> <port> <transport> <fmt list>. The media variable indicates the media type, which can be audio or video. Currently, the following types are defined: audio, video, application, data, and control. The port variable indicates the media port number. The transport variable indicates the transport protocol. Currently, only RTP/AVP is used. The fmt list variable indicates the format list.*/
a=rtpmap:8 PCMA/8000
a=rtpmap:0 PCMU/8000
/*rtpmap is a keyword, which is in the following format: PT value stream name/sampling rate.*/
a=rtpmap:97 telephone-event/8000
a=ptime:20
/*This field specifies that the maximum duration of a media to be packed in a packet is 20 ms.*/
a=fmtp:97 0-15
a=sendrecv
/*This field specifies that the media direction is bidirectional. The media direction has the following options: inactive, sendonly, recvonly, or sendrecv.*/
/*SIP Body-end*/
```

- SIP header is a signaling message used by a user of the sending party to notify a user of the receiving party of the basic information about the call.

  The signaling messages may be understood as:

  Call 10.11.56.68:5060.

  I'm sending you a SIP message from 10.11.56.61:5060.

  The call ID is *xxxx*.

  The call is from 10.11.56.61:5060.

  I need to send the message to 10.11.56.68:5060.

  This is the first Invite message sent in the call request.

  If you receive the message, reply to me at 10.11.56.61:5060.

  This is Huawei UAP9600 V100R005C00. You can reply to me with INVITE, ACK, BYE, and other messages.

  The signaling message contains 236 characters in the SDP format.

- The SIP body is a media message, that is, SDP. Media messages are mandatory in SIP messages. Signaling messages enable the sending party and receiving party to know that they are connected. Media messages enable both parties to know the specific content of messages.

  The media messages may be understood as:

  My version is 0.

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Messages are sent through the signaling address 10.11.56.61, and the media address is 10.11.56.61 (the server that processes the signaling data may be different from the server that processes the media data). The voice media stream port is 10002 and voice media streams are transmitted using RTP. The video media stream port is 10004 and video media streams are also transmitted using RTP.

Not all terminals support video media. Therefore, when a SIP message is received, the terminal may receive only the voice media information of the peer end. This is determined based on the negotiation result.

NOTICE

Currently, the supported media transmission type is RTP/AVP, that is, the UDP channel is used for transmission to ensure the real-time effect of voice and video transmission. The TCP-based RTP/SAVP media transmission type is not used.

Common SIP request and response messages are as follows.

Table 1-1 Description of request and response messages

Request	Response	Scenario
INVITE	1*XX*	Negotiation request, which is used when a session starts. If a 1*XX* message from the peer end is received, the SIP network is connected and the session can be started.
ACK	2*XX*	When the signaling and media negotiation or registration is successful, the local system notifies the peer system of the success and establishes an RTP channel.
OPTIONS	3*XX*	Redirection request, which is used to check trunks or MRCP links (for example, MRCP links used when the TTS or ASR is connected).
BYE	4*XX*	Used when a call ends in normal cases.
CANCEL	5*XX*	If a session is interrupted due to insufficient resources, the two ends of the SIP session need to forcibly release the call using the CANCEL request.
REGISTER	6*XX*	Used for registration.

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NOTICE

- The CEC side uses the OPTIONS request to query the information and functions of the called party every minute to check whether the link status is normal. The link is considered normal and calls can be made only when the enterprise side returns a 200ok response.
- When the PRACK request is used for renegotiation, the CEC side requires that the 18x message (for example, 180 ringing) returned by the peer end contain the **Require:100rel** field and the INVITE request sent by the peer end contain the **Supported:100rel** field. Otherwise, no sound can be heard during the call.
- When the CEC side uses the UPDATE request for renegotiation, this mode is used for a normal call with an agent. When the INVITE request is used for renegotiation, this mode is used for the call that is connected to the intelligent IVR or transferred through the common IVR. Some carriers do not support renegotiation using the second INVITE request. As a result, some functions, such as the virtual number service, are unavailable.

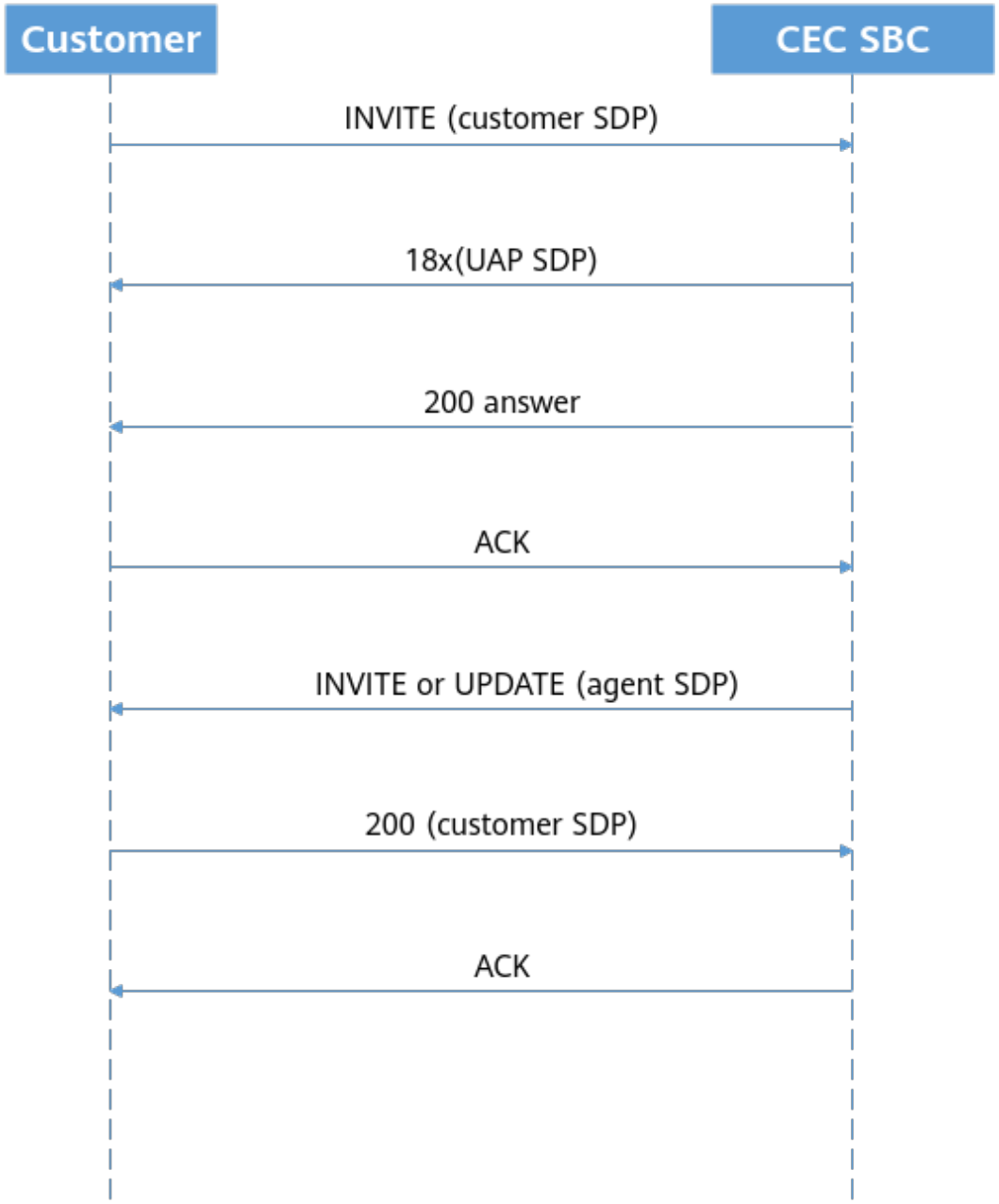
Introduction to the call process

The process for a customer to initiate an incoming call to the CEC is as follows:

- The customer initiates a call and sends an INVITE request to the SBC of the CEC.
- The CEC side returns a ringing message and a link connection success (200) message.
- After receiving the message, the customer side returns a final response to the INVITE request.
- The CEC side receives the reply and sends a renegotiation message to the customer side.
- After receiving the message, the customer side returns a link connection success (200) message.
- After the CEC returns a response to the request, the customer and agent start a conversation.

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Figure 1-1 Call process

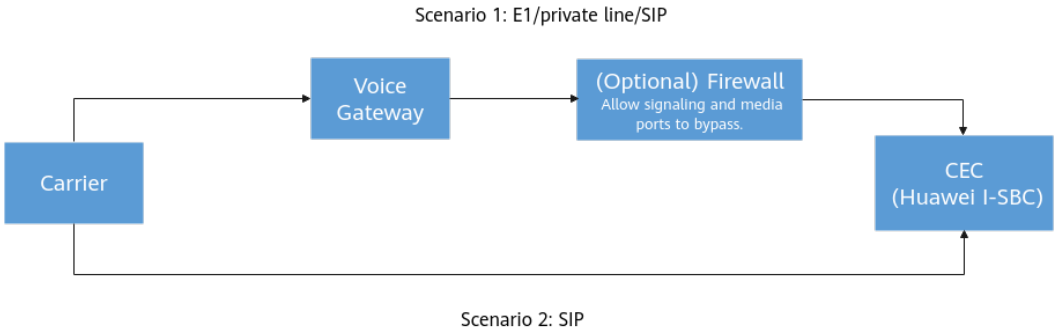


Business Scenario

The solution for connecting enterprise self-owned access codes that support SIP to the CEC is as follows:

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Figure 1-2 Connecting to a self-owned access code that supports SIP



Typical scenario 1

The enterprise has local access code resources and directly connects to the CEC.

Connection solution:

1. The enterprise applies for access code resources from the carrier. The resource type can be E1, private line, or SIP.
2. After the application is successful, the enterprise needs to use the local voice gateway to convert the non-SIP lines of the carrier to the SIP lines for the communication with the public cloud SBC platform of the CEC. For details about the devices, see the local device recommendation in **FAQs > Product Consulting**.
3. After referring to **Procedure**, the enterprise sends an email to the CEC operations personnel to apply for the signaling IP address, port number, and media port number of the CEC, which are used to set the trustlist on the local firewall and connect to lines.

Typical scenario 2

The enterprise applies for access codes that support SIP from the carrier, and the carrier interconnects with Huawei.

Connection solution:

1. The enterprise applies for access code and line resources from the carrier. The resource type can only be SIP.
2. After access codes are successfully applied for, the enterprise submits an application to the CEC requiring Huawei to directly interconnect with the carrier. The enterprise does not need to connect to the access codes and lines.

Procedure

Perform the following steps to add a self-owned access code.

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Resource Management** > **Access Code**.

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Step 4 Click the **Self-Owned Access Code** tab page and click **Click here to apply for connecting to a self-owned access code.** in the upper right corner. On the page that is displayed, set the access code, signaling and media IP addresses and port numbers, and click **OK**.

----End

Follow-up Procedure

For a self-owned access code, you need to wait for the CEC operations personnel to configure the connection relationship between Huawei Cloud and it. After the configuration is complete, the connection status of the access code is **Completed** on the **Self-Owned Access Code** page. You can click **Associate Call Center Instance** to associate the access code with an existing call center instance.

1.5 Viewing Call Duration Statistics

On the **Call Duration Statistics** page, an enterprise customer can view the call duration statistics of self-owned and Huawei access codes.

Procedure

Step 1 Log in to **Huawei Cloud**.

Step 2 Choose **Service List** > **Business Applications** > **Cognitive Engagement Center**.

Step 3 Choose **Call Duration Statistics**.

On the **Call Duration Statistics** page, the **Huawei Access Code** tab page is displayed by default. You can click the **Self-Owned Access Code** or **Huawei Access Code** tab to view the desired access code details.

Step 4 Set **Call Center Instance**, **Access Code Source** (mandatory), **Access Code**, and **Query Time Period**.

Step 5 Click **Query**.

Step 6 Select check boxes in front of access codes and click **Export** to export the call duration statistics. The following figure shows the format of the exported data.

Access Code	Instance Name	Access Code Type	Statistical Period(UTC+0)	Inbound Call Dur	Outbound Call Du	Billing Duration (min)
0 1	laLa01	Fixed-Line Phone Number	2020-12-21 16:00:00~2020-12-22 16:00:00	0	2	2
0 1	laLa01	Fixed-Line Phone Number	2020-12-13 16:00:00~2020-12-14 16:00:00	0	14	14

If no access code is selected, the call duration statistics on all access codes under the enterprise are exported by default. A maximum of 1000 records can be exported.

----End

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2 Tenant Administrator Guide

The tenant administrator refers to the administrator of the enterprise that uses the CEC service. During tenant space creation, the system administrator configures skill queues and accounts based on business requirements.

2.1 Tenant Space
When you sign in to your tenant space for the first time, you need to understand the resources allocated to the tenant space and the usage restrictions.

2.2 Configuring the Employee Center
The AICC allows you to maintain organization units (OUs) and employees of your customer service center. Different employees can perform different function operations by permission control.

2.3 Enabling Manual Services
After the employee information of the VDN is configured, you can configure the service content.

2.4 Configuring a Mobile Agent
A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

2.5 Configuring Multimedia Channels
The AICC supports multiple access modes, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, and LINE. Customers can access AICC services anytime and anywhere.

2.6 Robot Management and Configuration Guide

2.7 IVR Journey Analysis

2.8 Monitoring Outbound Call Risks
When the number of outbound calls of a tenant exceeds the warning threshold in the configured policy, a risk control record is generated. The system administrator notifies the tenant administrator of the risk control record. The tenant administrator can view the execution status of the risk control policy.

2.9 Managing Cases
The AICC allows you to use cases to create tasks to follow up customer requirements.

2.10 Managing Inspections

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The AICC provides the manual and AI post-event inspection functions. This section describes how to configure rating rules for inspectors to perform corresponding inspections.

2.11 Managing the Notification Center
This section describes how to manage notifications in the notification center.

2.12 Managing the Customer Center
A tenant administrator or an agent can view customer information and customer contact records, and add customer information.

2.13 Making Intelligent Outbound Calls
This section describes how to configure intelligent automatic outbound calls, manage outbound call tasks by category (including automatic and manual outbound call tasks), and properly plan outbound call tasks.

2.14 Managing Surveys
A survey records the survey content in the form of questions. Administrators can configure surveys for survey statistics collection of other businesses.

2.15 Managing Intelligent Training
Intelligent training tasks can be used to periodically train and test agents through released intelligent IVR flows to check the business skills of the agents.

2.16 Configuring the Knowledge Base
This section describes how to configure the knowledge base as a tenant administrator for agents to reference.

2.17 Configuring Public Resources

2.18 Managing Business Fault Bypass
This section describes how to manage business fault bypass and how to handle emergency faults to ensure normal businesses for operators.

2.19 Co-browsing

2.20 Social Media Operations

2.21 Configuring Performance Management

2.22 Migrating IPCC Data
A tenant administrator can migrate VCC information from the IPCC to the current tenant space, including skill queues, organization structures, roles, and basic employee information.

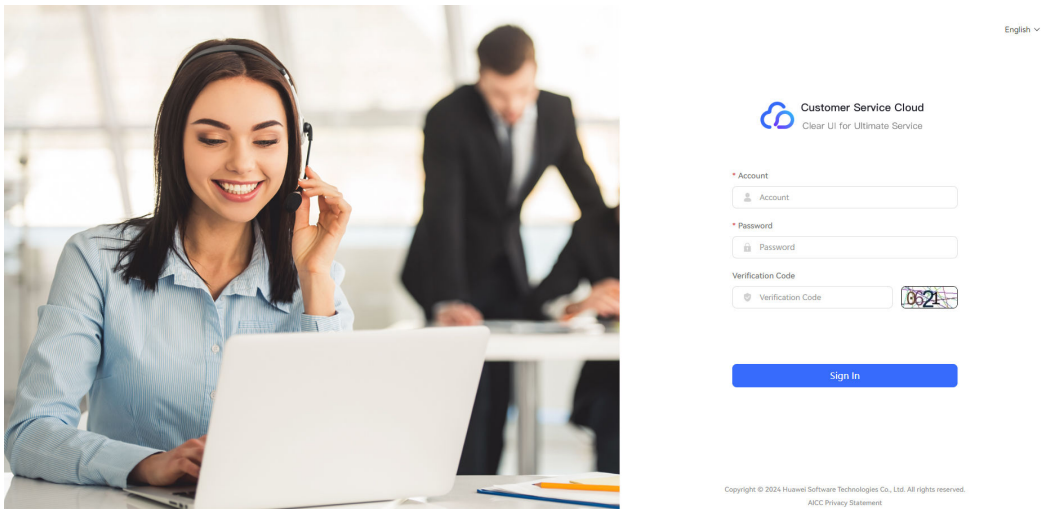
2.1 Tenant Space

When you sign in to your tenant space for the first time, you need to understand the resources allocated to the tenant space and the usage restrictions.

You can use an allocated business account to sign in to the AICC.

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Figure 2-1 Sign-in navigation



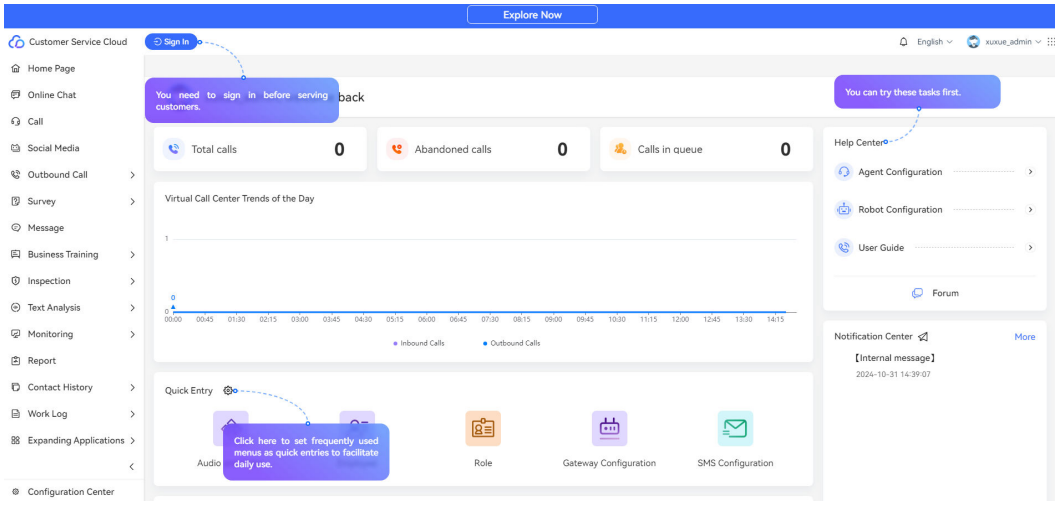
Currently, sign-in using both the account password and a verification code is supported. The verification code can be a graphic verification code, mobile phone verification code, or email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

NOTE

- A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
- The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but sign-in fails, you can obtain a new verification code immediately.

After you sign in to the system using a business account, the **Home Page** is displayed by default. If the home page is closed, you can click **Home Page** from the menu to open it.

Figure 2-2 Home Page



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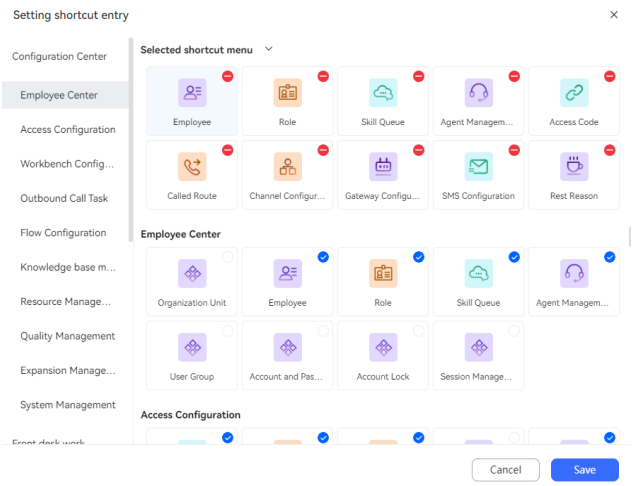
- Call center indicator statistics: Currently, indicator statistics are displayed only for a tenant administrator.
  - **Total calls**: Total number of calls in the tenant space on the current day.
  - **Abandon calls**: Total number of lost calls in the tenant space on the current day.
  - **Calls in queue**: Real-time indicator, which collects statistics on the number of queuing inbound calls in the tenant space.
  - **Virtual Call Center Trends of the Day**: Line chart that displays the number of inbound calls and the number of outbound calls of the VCC on the current day.

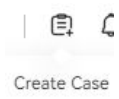
    Click Inbound calls or Outbound calls for the inbound or outbound call indicator respectively to select or deselect the call indicator of the VCC on the current day.
- **Quick Entry**

  a. By default, the following quick menu entries are selected for a tenant administrator: **Employee**, **Role**, **Skill**, **Agent Management**, **Access Code**, **Called Party**, **Channel Configuration**, **Gateway Configuration**, **SMS Configuration**, and **Rest Reason**. By default, all quick menu entries are displayed on the home page. Click ^ to collapse some quick menu entries.

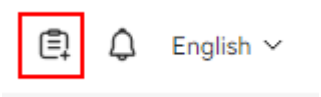
  By default, the following quick menu entries are selected for an agent: **Agent Parameter**, **Contact Record**, **Operation Record**, **Transfer Record**, **Rest Record**, **Agent Monitor**, **Recording**, **Task Query**, **Task Result**, and **Review Mgmt**. By default, some quick menu entries are displayed on the home page. Click ⌄ to expand all quick menu entries.

  b. Click ⚙. The page for setting quick entries is displayed.





  c. Click Create Case to quickly create a case. This quick entry is displayed only when the **Case 2.0** feature is enabled for the tenant space.



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d. Set quick menu entries.

i. To deselect an unnecessary quick menu entry, click corresponding to the entry under **Selected shortcut menu** or click corresponding to the entry among available entries.

ii. To select a required quick menu entry, click among available entries. You can drag the selected quick menu entries to adjust their display sequence.

iii. Click **Save**. The setting of quick menu entries is complete.

- **My To Do**
  - **Outbound Task**: This tab page is displayed only when the intelligent outbound call feature is enabled for the tenant space. Information about all configured outbound call tasks in the tenant space is displayed.
  - **Message**: Information about all messages left in the tenant space is displayed.
- **Help Center**: The help center provides documents to guide how to quickly configure agents and robots and use the call center.
  - Knowledge Center: Go to the knowledge base home page. This function is available only when the knowledge base feature is enabled for the tenant space.
  - Forum: Go to the Huawei forum home page.

NOTICE

The help center is not supported in the OP integration environment.

The **Knowledge base** feature must be enabled in the knowledge center.

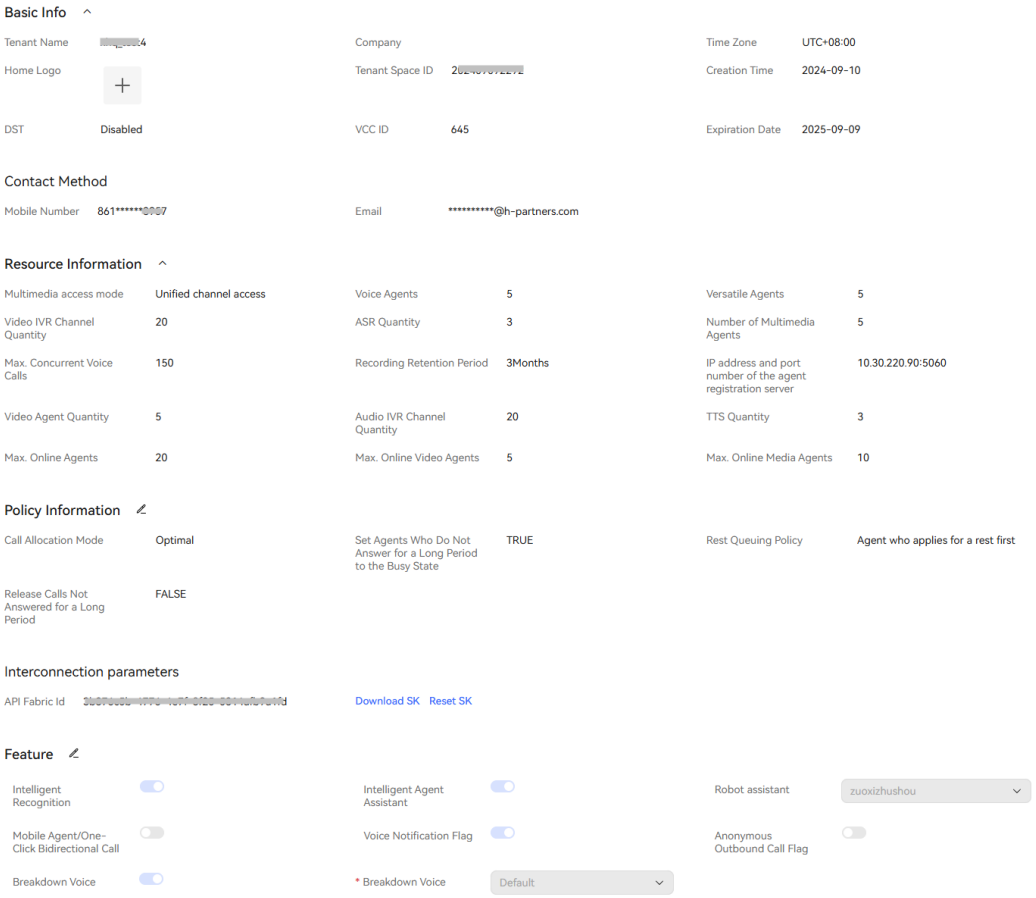
- **Notification Center**: All notifications of the current business account are displayed.
  - : Go to the notification sending page.
  - Click **More**. The **Notification Center** page is displayed.
  - New: A notification is not read. You can click the notification to view its details.

You can view basic tenant space information, tenant space resources, and the settings to be configured.

- You can choose **Configuration Center** > **System Management** > **Tenant Information** to view basic tenant space information, existing resource information, and tenant space features that can be customized.

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Figure 2-3 Tenant Information page



Only features can be configured. Other information, including tenant and resource information, cannot be modified. To modify the basic information and resource information, contact Huawei operations personnel.

Home Logo: Customize the home logo. Click  to upload the home logo, which is displayed only after the system administrator sets **Whether to allow custom home icons.** to **Yes** in the tenant space details.

Tenant space features that can be customized include:

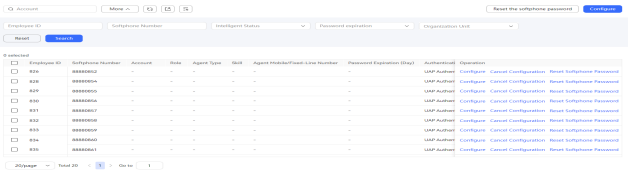
- **Intelligent Recognition**: Configure whether agents are intelligent agents. After this feature is enabled, you can set the intelligent agent assistant and flow code parameters for intelligent agent access.
- **Mobile Agent/One-Click Bidirectional Call**
  - After the system administrator enables the mobile agent feature for your tenant space, you can enable this feature to implement mobile agent functions.
  - After the system administrator enables the one-click bidirectional call feature for your tenant space, you can enable this feature to implement one-click bidirectional call functions.

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  - **Voice Notification Flag**: After the system administrator enables the voice notification feature for your tenant space, you can enable this feature to implement voice notification functions.
  - **Anonymous Outbound Call Flag**: After the system administrator enables the anonymous outbound call feature for your tenant space, you can enable this feature to implement anonymous outbound call functions.
  - **Breakdown Voice**: You can enable this feature to play a prompt tone when the tenant space system is faulty. For details, see **2.3.3.1 Configuring the Fault Prompt Tone**.

- The most important AICC resources are agent resources. You can choose **Configuration Center** > **Employee Center** > **Agent Management** to view details about the agents in your tenant space.

  Figure 2-4 Agent management

  You can view the number of agents, and the agent ID and softphone number of each agent. These resources cannot be modified.

  The number of agents of a type cannot exceed the number of agents of this type allocated by the system administrator. As a tenant space administrator, you need to configure roles of agents, business accounts associated with agents, skill queues of agents, and features of each agent. For details, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- In addition to agents, you also need to configure skill queues and called routes for complete calls. A tenant space has a certain number of default skill queues. You can also create skill queues as required. Your tenant space has access codes that have been allocated during provisioning. To increase access codes, contact Huawei O&M personnel.

  After associating agents, skill queues, and access codes, you can use an OpenEye softphone number to test call functions.

2.2 Configuring the Employee Center

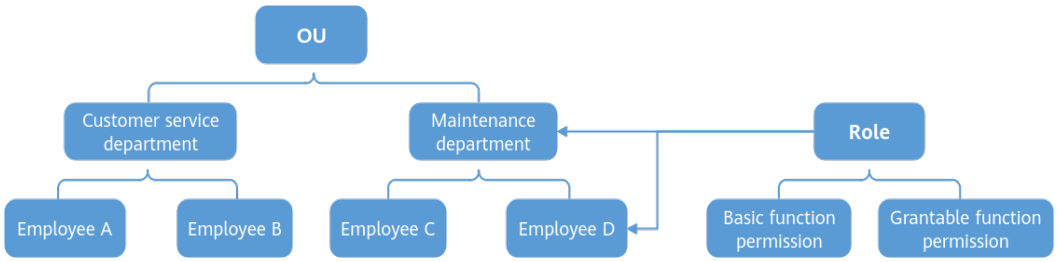
The AICC allows you to maintain organization units (OUs) and employees of your customer service center. Different employees can perform different function operations by permission control.

Concept

You need to understand the following concepts before configuring employees.

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Figure 2-5 Employee configuration



- OU: An enterprise tenant space has a default OU. You can create an OU under the default OU based on responsibilities. Multiple OUs can be created under each OU. For example, you can create the customer service department and maintenance department under an OU.
- Role: A role indicates a set of work permissions. When you assign a role to an employee, the employee has all the permissions contained in the role. For example, a role can be an agent, administrator, case owner, or task handler.

  Function permission: Function permissions are abstracted from GUI resources (for example, permission for using specified menus) and GUI operations (for example, addition, deletion, modification, and query). An employee can perform operations on a resource only when the role assigned to the employee has the corresponding permission. Function permissions are static resources that do not change with resource configuration data. Function permissions include the following:

  - **Basic Function Permission**: Permissions of a role.
  - **Grantable Function Permission**: Permissions that can be assigned to other roles by a role. Only the roles of the current account can be assigned to new roles.
- Employee: Employees indicate personnel employed by an enterprise. After a role is assigned to an employee, the employee can perform operations limited by the role permissions on the system.

Configuration flow

You can configure personnel by referring to the following brief description.

Step 1 For details about how to create an OU, see **2.2.1 Configuring OUs**. Because there is no employee or manager information, you do not need to configure the public role, employee, or manager for the new OU.

Step 2 The default roles **Tenant environment administrator** and **Default Agent Role** are preset in the AICC system. If the role does not meet the actual requirements, create a role by referring to **2.2.2 Configuring Role Permissions**.

Step 3 For details about how to create an employee, see **2.2.3 Configuring Employee Information**. When creating an employee, you can select a role and OU for the employee, but cannot configure a manager for the employee.

Step 4 Go back to **2.2.1 Configuring OUs** and configure information such as the manager and public role for the OU. The manager is the manager of all

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employees in the current OU, and the permission of the public role is granted to all employees in the OU.

----End

2.2.1 Configuring OUs

An enterprise tenant space has a default OU. You can create OUs under the default OU based on responsibilities.

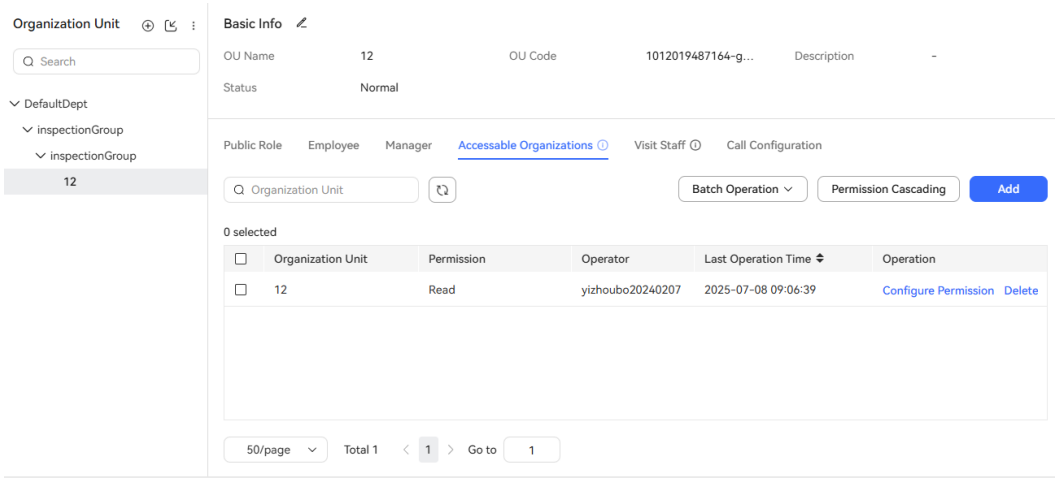
Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Log in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Organization Unit**. On the OU management page, select the default OU.

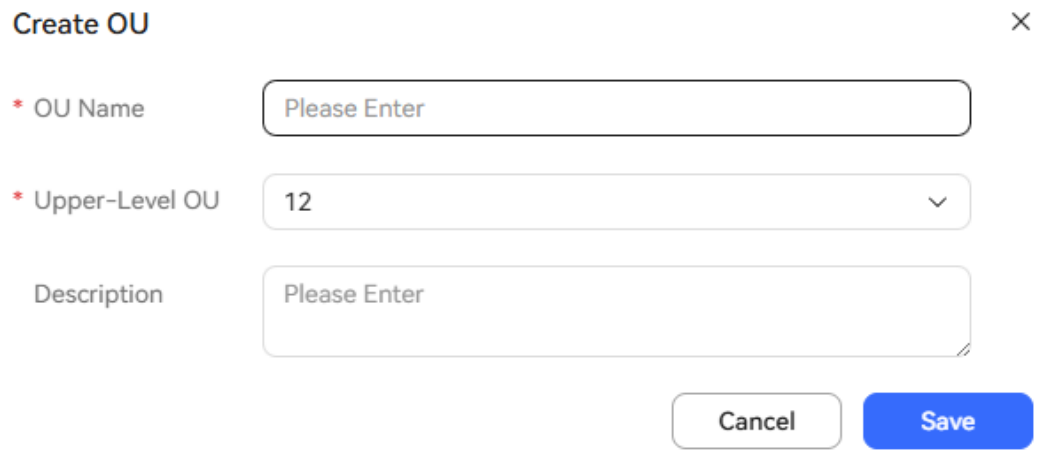
Figure 2-6 Organization Unit



Step 2 Click ⊕ to create an OU and configure OU information.

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Figure 2-7 Create OU



- **OU Name**: Enter a customized OU name, which is mandatory.
- **Upper-Level OU**: The default value is the upper-level OU to which the selected OU belongs. The value can be changed.
- **Description**: Enter an OU description.

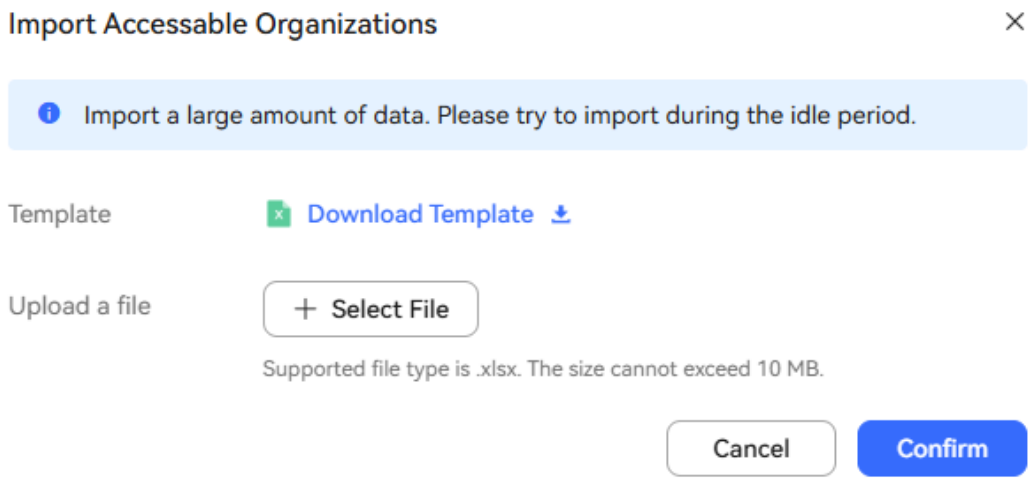
Step 3 Click **Save**.

Step 4 (Optional) Configure OU information.

- Importing accessible OUs

  a. Click to create an import task.

  Figure 2-8 Importing accessible OUs



  b. Click **Download Template** to download the template file to the local PC and fill in the template as required.

     - **Action**: operation type of the import task, which is mandatory. Value options:
       - **ADD**: added.

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- **EDIT**: modified.
- **DELETE**: deleted.

- **OU Name**: OU name, which is mandatory.
- **OU Code**: If the OU name is unique, you do not need to set this parameter. The OU code is used to identify the OU when the OU is not unique. You can choose **Configuration Center** > **Organization Unit** and view the OU code in the basic OU information.
- **Hierarchical Sub-OU**: specifies whether a sub-OU is cascaded. If this parameter is set to **Y**, all OUs under the OU are automatically configured with the access permission of this OU.
- **Accessible OU Name**: name of the accessible OU, which is mandatory.
- **Accessible OU Code**: If the OU name is unique, this parameter can be left empty. The code is used to differentiate non-unique OUs. You can choose **Configuration Center** > **Organization Unit** and view the OU code in the basic OU information.
- **Hierarchical Sub-Access OU**: specifies whether to cascade sub-OUs. If this parameter is set to **Y**, all OUs under the OU are automatically configured as accessible OUs.
- **Level of Access for the Users**: access permission.

  Value options of the access permission:

  - **R** indicates the read permission.
  - **W** indicates the write permission.
  - **C** indicates the connection accessible permission. The connection access right refers to the call transfer right.

  If multiple permissions need to be configured, separate them with semicolons (;), for example, **R;W;C**.
- **Level of access for the menu data**: menu permission, in *menuCode1*|**R;W,***menuCode2*|**R** format. Use vertical bars (|) to separate menus and corresponding permissions. Use commas (,) to separate multiple menus. To obtain the value of **menuCode**, choose **Configuration Center** > **Menu Management** and find the corresponding menu.

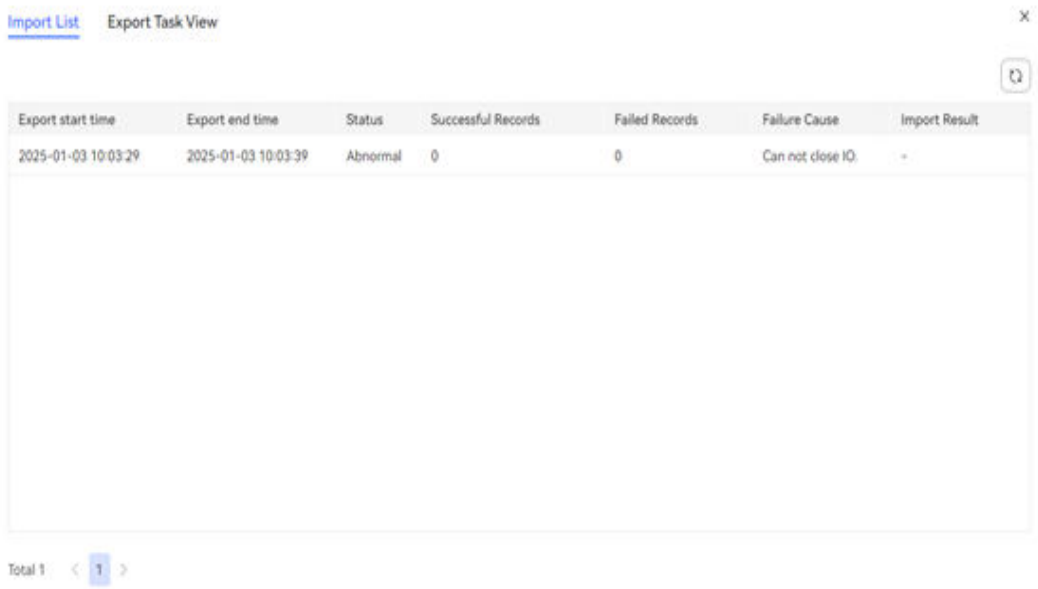
c. Click **Select File** to upload the configured OU information template.

d. Click **Confirm** to create an import task.

e. Click  to view the import task list.

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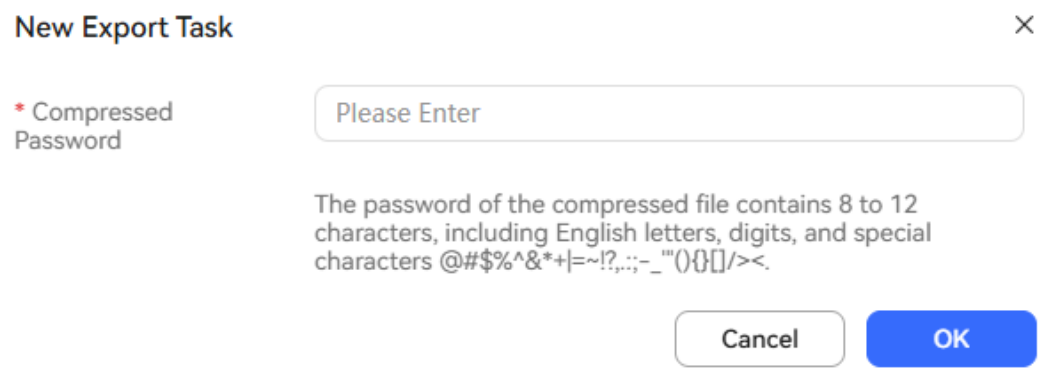
Figure 2-9 Import List



- Exporting OU information

  a. Click to create an export task. Click to view the plaintext password.

  Figure 2-10 New Export Task

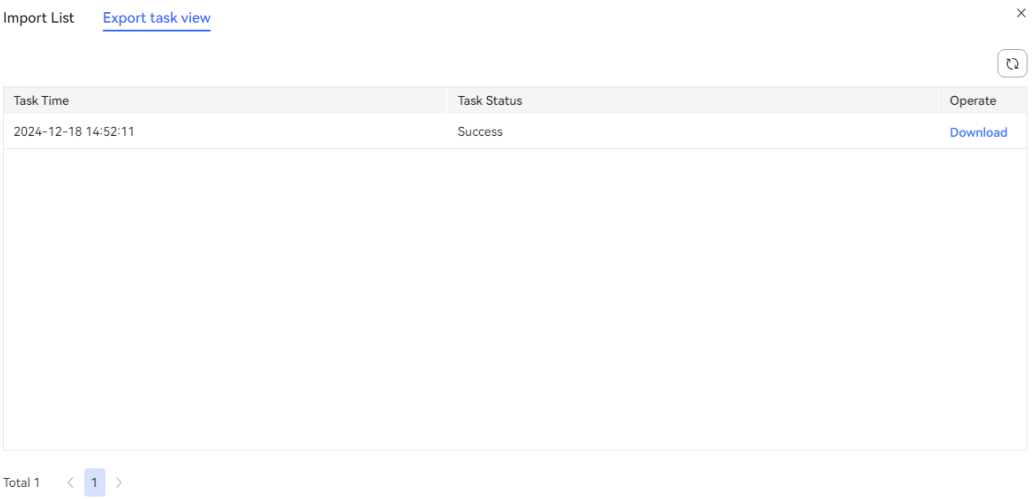
  

  b. Enter the password for compressing the exported file and click **OK** to create an export task.

  c. Click to view the export task list. Click **Download** corresponding to an export task based on **Task Time** to download OU information to the local PC.

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Figure 2-11 Export task view



- Click to disable the OU. Before disabling the OU, you need to delete all configured employees from the OU.

  CAUTION

  After an OU is disabled, the OU cannot be restored. Exercise caution when performing this operation.

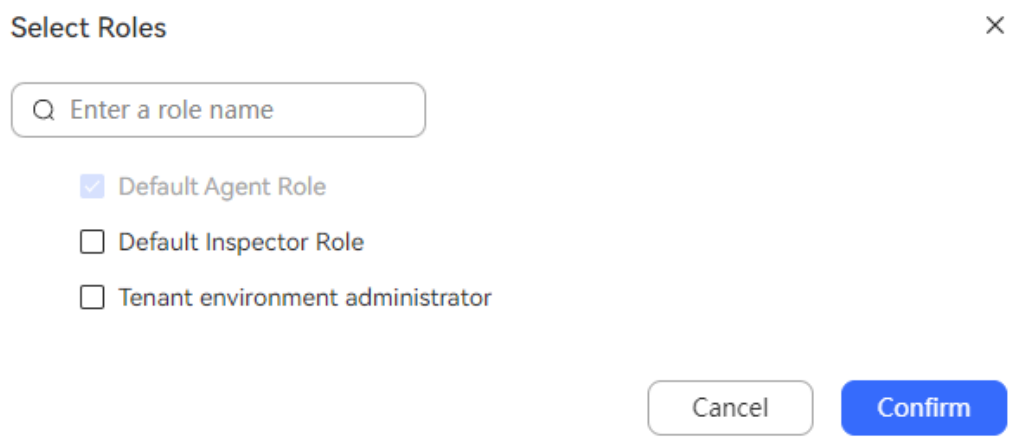
- Click to suspend the OU.
- Click to modify basic OU information.
- Click to resume a suspended OU.
- Click to enable a disabled OU.
- Enter an OU name and click to fuzzily search for OUs based on the OU name.

Step 5 Select a new OU and configure employee, role, manager, accessible OU, and accessible employee information for the OU. If there is no employee or manager information, you do not need to configure the public role, employee, or manager for the new OU.

1. Click the **Public Role** tab, click **Add**, and select a role from the existing roles in the tenant space. The permission of the public role is granted to all employees in the OU.

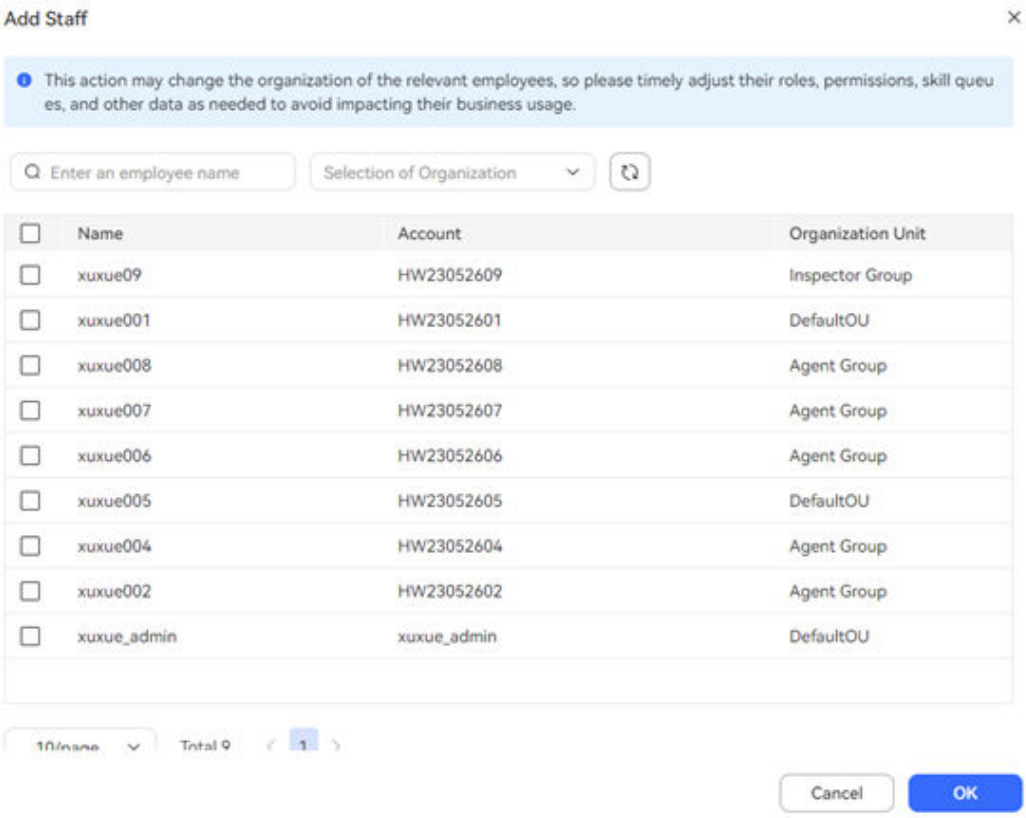
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Figure 2-12 Select Roles



2. Click **Confirm**. The role information is saved successfully.
3. Click the **Employee** tab, click **Add**, and select employees for the OU.

Figure 2-13 Add Staff

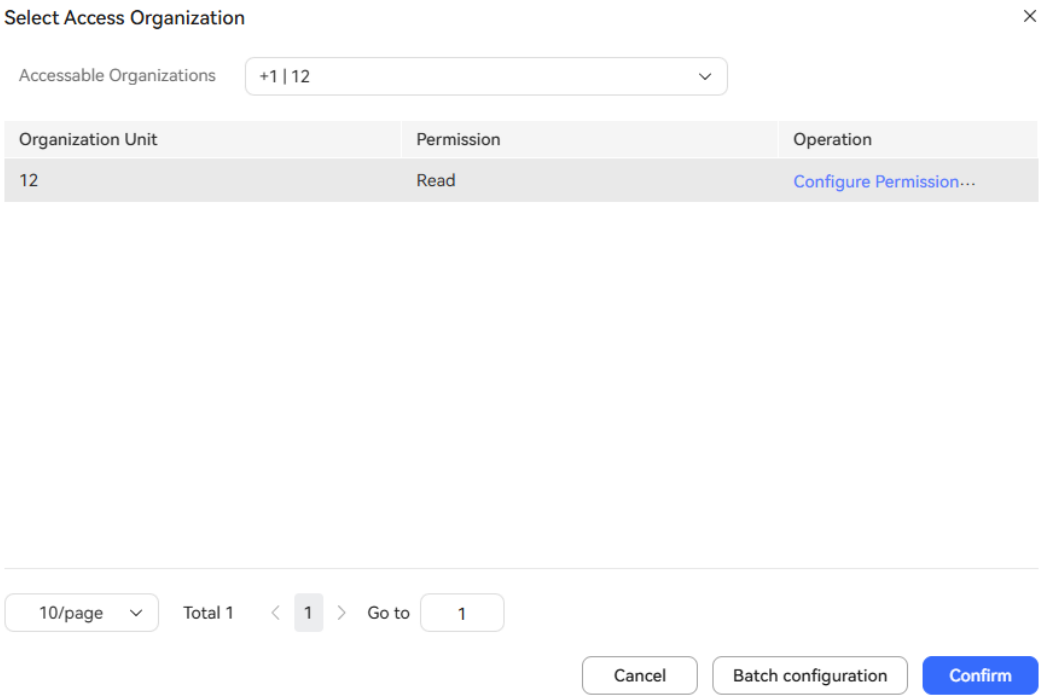


4. Click **OK**. The employee information is configured successfully.
5. Click the **Manager** tab. If no employee is available, add an employee by referring to **2.2.3 Configuring Employee Information**.
6. Click the **Accessible Organizations** tab to configure accessible OUs who do not belong to the OU but are allowed to access and use resources of the OU.

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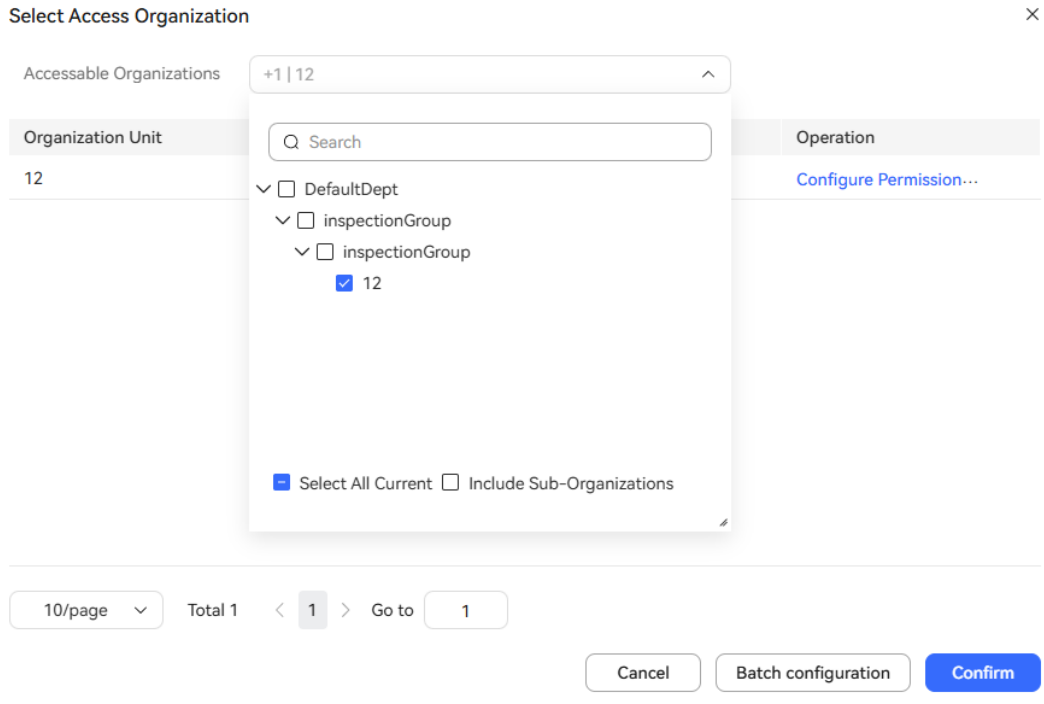
a. Click **Add**. The OU configuration page is displayed.

Figure 2-14 Select Access Organization



b. Select accessible OUs from the drop-down list next to **Accessible Organizations**.

Figure 2-15 Select Access Organization



The accessible OUs are specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

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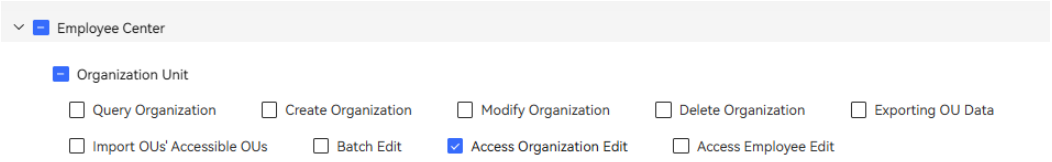
- After the parameter is set to **Yes**:
  - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - Operations supported for OU selection:
    - **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
- After the parameter control function is disabled, all OUs in the tenant space can be selected.

c. Select a configured accessible OU and click **Configure Permission** to configure the read, edit, and continue access permissions for the OU. An operator who adds, deletes, or edits an accessible OU must have the **Access Organization Edit** permission as shown in **Figure 2-16**.

Figure 2-16 Access Organization Edit permission



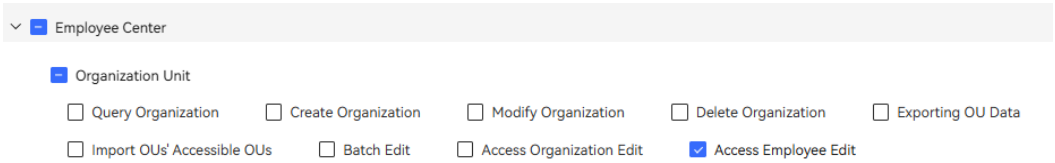
d. Click **Confirm**. The accessible OU configuration is saved successfully.

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e. If the current OU has sub-OUs, you can click **Permission Cascading** to synchronize the permissions of the current OU to the sub-OUs.

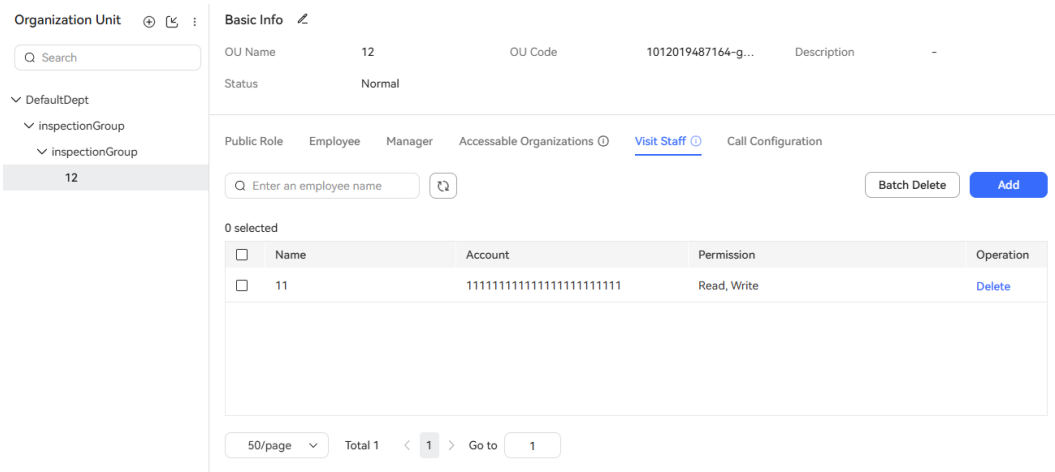
7. Click the **Visit Staff** tab. If no employee is available, add an employee by referring to **2.2.3 Configuring Employee Information**. An operator who adds or deletes an accessible employee must have the **Access Employee Edit** permission as shown in **Figure 2-17**.

Figure 2-17 Access Employee Edit permission



8. **Visit Staff**: Configure employees who do not belong to the OU but are allowed to access and use resources of the OU.

Figure 2-18 Visit Staff



9. **Call Configuration**: Set organization-level call parameters.

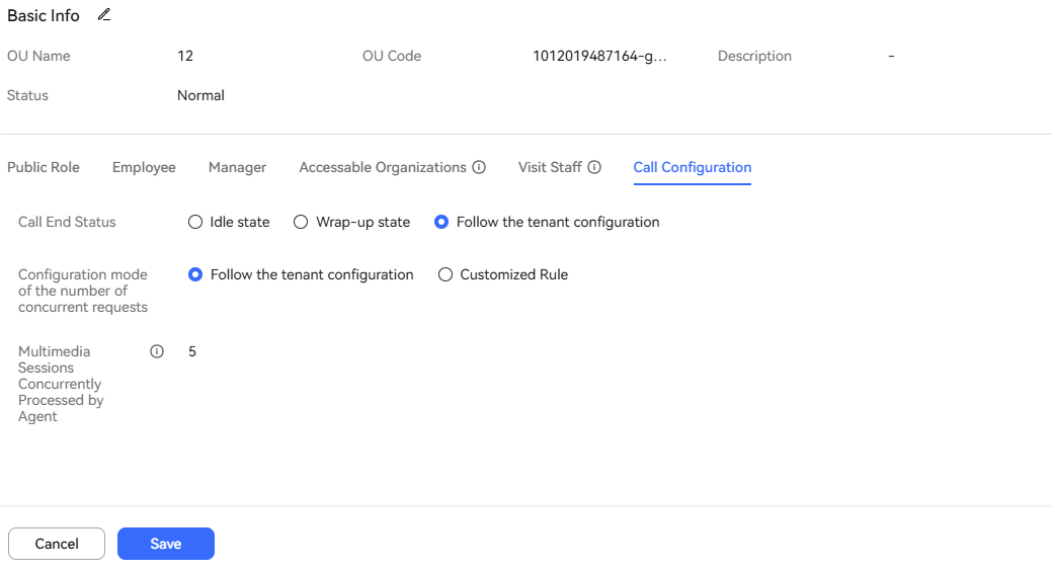
a. **Call End Status**: Select **Idle state**, **Wrap-up state**, or **Follow the tenant configuration**. By default, **Follow the tenant configuration** is selected.

b. **Configuration mode of the number of concurrent requests**: Select **Follow the tenant configuration** by default. This parameter can be customized.

c. **Multimedia Sessions Concurrently Processed by Agent**: This parameter can be modified when **Configuration mode of the number of concurrent requests** is set to **Customized Rule**.

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Figure 2-19 Call Configuration



----End

2.2.2 Configuring Role Permissions

A role indicates a set of work permissions. Menu permissions and operation permissions can be customized for a role.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Role**.

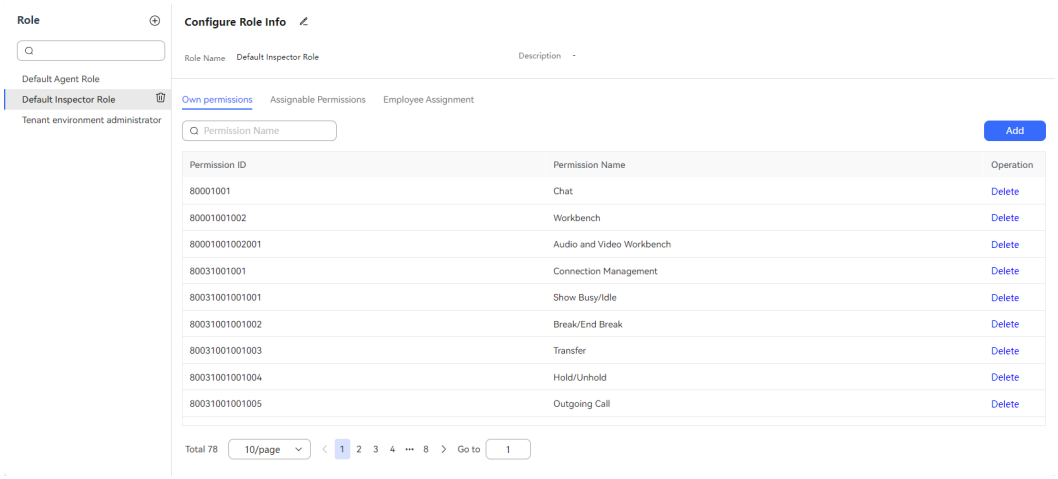
By default, the default roles **Tenant environment administrator** and **Default Agent Role** are preset in the system. The default role **Tenant environment administrator** cannot be deleted.

NOTE

To enable an agent to use the service guidance function, add the **Menu permissions** > **Channel Configuration** > **Call Center Configuration** > **Service Guidance** permission to the default agent role.

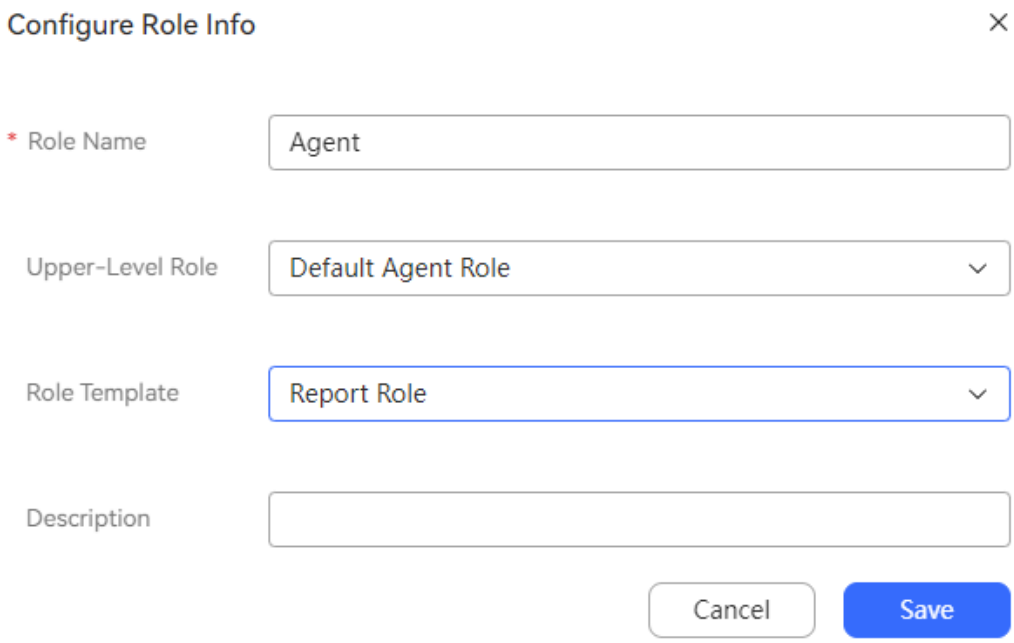
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Figure 2-20 Role



Step 2 Click ⊕ to create a role and configure role information.

Figure 2-21 Configure Role Info



- **Role Name**: Enter a customized role name, which is mandatory.
- **Upper-Level Role**: Set the parent role of the current role.
- **Role Template**: Select a preset role template to quickly create role permissions. For details about function permissions, see **Table 2-5** and **Table 2-6**.
  - **O&M Role**: The preset function permissions of the current role are as follows:

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Table 2-1 O&M role permissions

Menu Permission		Function Permission
Home	Home Page	-
	Tenant Administrator Home Page	-
Monitoring	Agent Monitor	Querying the Real-Time Status of All Agents of a Tenant
Contact History	Contact	■ Contact Record Export ■ Play Recording Online ■ Recording Download ■ Querying All Contact Records
	Transfer Record	■ Download ■ Playing
Work Log	Operation Log	■ Query All Operation Record ■ Operation Logs Export
	Sign-In Log	■ Query All Sign-In Log ■ Sign-In Log Export
	Transfer Record	■ Query All Transfer Record ■ Forwarding Logs Export
	Rest Record	■ Query All Rest Record ■ Rest Record Export

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Menu Permission		Function Permission
Employee Center	Organization Unit	■ Query Organization ■ Delete Organization ■ Modify Organization ■ Exporting OU Data ■ Import OUs' Accessible OUs ■ Batch Edit ■ Access Organization Edit ■ Access Employee Edit
	Employee	■ Save Employee ■ Reset User Password ■ Query User ■ Delete User ■ Canceling Configurations in Batches ■ Configuring Users in Batches ■ View User Privacy ■ Modify User Privacy ■ Export Employee Data ■ Import

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Menu Permission		Function Permission
	Role	■ Query Role ■ Batch Edit
	Skill	■ Skill Queue Data Export ■ Edit ■ Batch Edit
	Agent Management	■ Configure Agent ■ Export Agent Information ■ Batch Edit
	User Group	Query User Group
	Account and Password Rule	Edit
	Account Lock	■ Query Lock ■ Create Lock ■ Delete Lock
Access Configuration	Channel Configuration	■ Edit ■ Export ■ Try
Chatbot Management	**Flow Configuration** > **Common IVR**	■ Edit
	Flow Configuration > **Intelligent Chatbot**	■ Edit ■ Intelligent Robot Export
	Flow Configuration > **Flow** > **Process Orchestration**	■ Edit ■ Import Process ■ Export Process ■ Export Process Orchestration

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Menu Permission		Function Permission
	Flow Configuration > **Flow** > **Process Trace**	-
	Flow Configuration > **Flow** > **Dialog Test**	■ Edit ■ Export
	Flow Configuration > **Flow** > **Process Inspection**	Edit
	Flow Configuration > **Resource** > **Resource Template**	Edit
	Flow Configuration > **Resource** > **Business Interface**	■ Edit ■ Exporting Service Interfaces
	Flow Configuration > **Resource** > **Variable Management**	■ Edit ■ Custom Variable Export
	Flow Configuration > **Resource** > **Complex Cell**	■ Edit ■ Exporting Composite Diagram Elements
	Flow Configuration > **Resource** > **Stored Procedure**	Edit
	Flow Configuration > **Resource** > **Work Calendar**	Edit
	Flow Configuration > **Resource** > **Data Table**	Edit
	Flow Configuration > **Resource** > **Virtual Human**	Edit
	Flow Configuration > **System** > **System Configuration**	Edit
	Flow Configuration > **System** > **Gray Rule**	Edit
	Flow Configuration > **System** > **RecordHistory Management**	Call History Export

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Menu Permission		Function Permission
	Flow Configuration > **System** > **ASR Hotword**	■ Edit ■ Download
	Flow Configuration > **System** > **Metadata Management**	Edit
	Flow Configuration > **System** > **Label Mapping Management**	■ Edit ■ Import
Resource Management	Audio and Video	■ Edit
	Multimedia Library / WhatsApp Template	Edit
	External Number	Edit
Quality Management	Monitor Relationship	Edit
	Fullscreen Monitor	Edit
	Inspection Relation	-
Call Management	-	Co-browsing
Notification Center	-	■ View Notification ■ Agent Send Notification
System Public Permissions	-	■ User Numbers are Displayed in Plaintext ■ View All Organization Data ○ Edit All Organization Data

– **Report Role**: The preset function permissions of the current role are as follows:

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Table 2-2 Report role permissions

Menu Permission		Function Permission
Home	Home Page	-
	Tenant Administrator Home Page	-
Monitoring	Agent Monitor	-
	Recording	■ Recording Download ■ Export ■ Play
	Index Monitor	■ RealTime Overview ■ VCC Monitor ■ Skill Queue Monitor ■ Audio&Video IVR Monitor ■ Multimedia IVR Monitor ■ Case Management 2.0
	Inbound Call	Export
	Offline Message	-
Report	-	Querying All Organization Report Data
	VCC Traffic Report	Export
	VCC Traffic Report by AccessCode	Export
	IVR Traffic Report	Export
	IVR Traffic Report by AccessCode	Export
	Skill Queue Traffic Report	Export
	Skill Queue Traffic Report by AccessCode	Export

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Menu Permission		Function Permission
	Traffic Summary Report	Export
	Agent Traffic Report	Export
	Agent Outbound Call Report	Export
	Agent Operation Report	Export
	Abandoned Call in Ringing Report	Export
	Interval-Based VCC Traffic Report	Export
	IVR Outbound Call Report	Export
	System Performance Report	Export
	Agent Timesheet Report	Export
Contact History	Contact	▪ Contact Record Export ▪ Play Recording Online ▪ Recording Download ▪ Querying All Contact Records
Work Log	Operation Log	▪ Query All Operation Record ▪ Operation Logs Export
	Sign-In Log	▪ Query All Sign-In Log ▪ Sign-In Log Export
	Transfer Record	▪ Query All Transfer Record ▪ Forwarding Logs Export

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Menu Permission		Function Permission
	Rest Record	■ Query All Rest Record ■ Rest Record Export
Employee Center	Organization Unit	■ Query Organization ■ Modify Organization ■ Delete Organization ■ Exporting OU Data ■ Import OUs' Accessible OUs ■ Batch Edit ■ Access Organization Edit ■ Access Employee Edit
	Agent Management	■ Configure Agent ■ Export Agent Information ■ Batch Edit
	User Group	Query User Group
Quality Management	Monitor Relationship	Edit
	Fullscreen Monitor	Edit
System Management	Tenant Parameter	Edit
	Organization Parameter	Edit
Notification Center	-	■ View Notification ■ Agent Send Notification
System Public Permissions	-	User Numbers are Displayed in Plaintext

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– **Manager Role**: The preset function permissions of the current role are as follows:

Table 2-3 Manager role permissions

Menu Permission		Function Permission
Home	Home Page	-
	Tenant Administrator Home Page	-
Online Chat	-	▪ Online Chat ▪ Mail Agent Forwarding ▪ Local Multimedia File Sending by Agents ▪ Local Attachment Sending by Email Agents ▪ Email Agent CC Bcc
Call	-	▪ Call ▪ Transfer Pop-Up Parameters

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Menu Permission		Function Permission
Monitoring	Agent Monitor	■ Listen ■ Insert ■ Switchover ■ Intercept ■ Forcible Exit ■ Forcible Set Idle ■ Forcible Set Busy ■ Whisper ■ Queue Adjustment ■ Send a Note ■ Forcible Release ■ Querying the Real-Time Status of All Agents of a Tenant ■ Screen Monitoring ■ Multimedia Session Monitoring ■ Multimedia Session Insertion ■ Multimedia Session Interception ■ Session Initiation ■ Message Sending
	Recording	■ Recording Download ■ Export ■ Play

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Menu Permission		Function Permission
	Index Monitor	■ RealTime Overview ■ VCC Monitor ■ Skill Queue Monitor ■ Audio&Video IVR Monitor ■ Multimedia IVR Monitor ■ Case Management 2.0
	Inbound Call	Export
	Offline Message	-
Report	-	Querying All Organization Report Data
	VCC Traffic Report	Export
	VCC Traffic Report by AccessCode	Export
	IVR Traffic Report	Export
	IVR Traffic Report by AccessCode	Export
	Skill Queue Traffic Report	Export
	Skill Queue Traffic Report by AccessCode	Export
	Traffic Summary Report	Export
	Agent Traffic Report	Export
	Agent Outbound Call Report	Export
	Agent Operation Report	Export
	Abandoned Call in Ringing Report	Export
	Interval-Based VCC Traffic Report	Export
	IVR Outbound Call Report	Export
	System Performance Report	Export
	Agent Timesheet Report	Export

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Menu Permission		Function Permission
Contact History	Contact	■ Contact Record Export ■ Play Recording Online ■ Recording Download ■ Querying All Contact Records
Work Log	Operation Log	■ Query All Operation Record ■ Operation Logs Export
	Sign-In Log	■ Query All Sign-In Log ■ Sign-In Log Export
	Transfer Record	■ Query All Transfer Record ■ Forwarding Logs Export
	Rest Record	■ Query All Rest Record ■ Rest Record Export

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Menu Permission		Function Permission
Employee Center	Organization Unit	▪ Query Organization ▪ Modify Organization ▪ Delete Organization ▪ Exporting OU Data ▪ Import OUs' Accessible OUs ▪ Batch Edit ▪ Access Organization Edit ▪ Access Employee Edit
	Agent Management	▪ Configure Agent ▪ Export Agent Information ▪ Batch Edit
	User Group	Query User Group
Workbench Configuration	Common Phrase	Edit
Quality Management	Fullscreen Monitor	▪ Edit ▪ View Public Large-Screen Monitoring
System Management	Tenant Parameter	Edit
	Organization Parameter	Edit

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Menu Permission		Function Permission
Call Management	-	■ Connection Management ■ Show Busy/Idle ■ Break/End Break ■ Transfer ■ Hold/Unhold ■ Outgoing Call ■ Three-Party Call ■ Help-seeking ■ Mute/Unmute ■ End Call ■ Answer ■ Audio/Video Switching ■ Internal Call ■ Agent Multi-Channel Support ■ Callback ■ Two-stage Dialing ■ Reset Skill Queue
Notification Center	-	■ View Notification ■ Agent Send Notification
Personal Center	-	Modifying Agent Fixed-Line Phone Number

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Menu Permission		Function Permission
System Public Permissions	-	■ User Numbers are Displayed in Plaintext ■ Viewing and Editing Home Organization Data ■ Agent Parameters

– **Agent Role**: The preset function permissions of the current role are as follows:

Table 2-4 Agent role permissions

Menu Permission		Function Permission
Home	Home Page	-
	Tenant Administrator Home Page	-
Online Chat	-	■ Online Chat ■ Mail Agent Forwarding ■ Local Multimedia File Sending by Agents ■ Local Attachment Sending by Email Agents ■ Email Agent CC Bcc
Call	-	■ Call ■ Transfer Pop-Up Parameters
Contact History	Contact	■ Play Recording Online ■ Recording Download

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Menu Permission		Function Permission
Work Log	Operation Log	Operation Logs Export
	Sign-In Log	Sign-In Log Export
	Transfer Record	Forwarding Logs Export
	Rest Record	Rest Record Export
Employee Center	User Group	Query User Group
Workbench Configuration	Common Phrase	Edit
Call Management	-	■ Connection Management ■ Show Busy/Idle ■ Break/End Break ■ Transfer ■ Hold/Unhold ■ Outgoing Call ■ Three-Party Call ■ Help-seeking ■ Mute/Unmute ■ End Call ■ Answer ■ Audio/Video Switching ■ Internal Call ■ Agent Multi-Channel Support ■ Callback ■ Two-stage Dialing ■ Reset Skill Queue

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Menu Permission		Function Permission
Notification Center	-	■ View Notification ■ Agent Send Notification
System Public Permissions	-	■ User Numbers are Displayed in Plaintext ■ Agent Parameters

- **Description**: Enter a role description, which is optional.

Step 3 Click **Save**.

Step 4 (Optional) Edit role information.

- Click to delete role information.
- Click to modify role information.
- Enter a role name and click to fuzzily search for roles based on the role name.

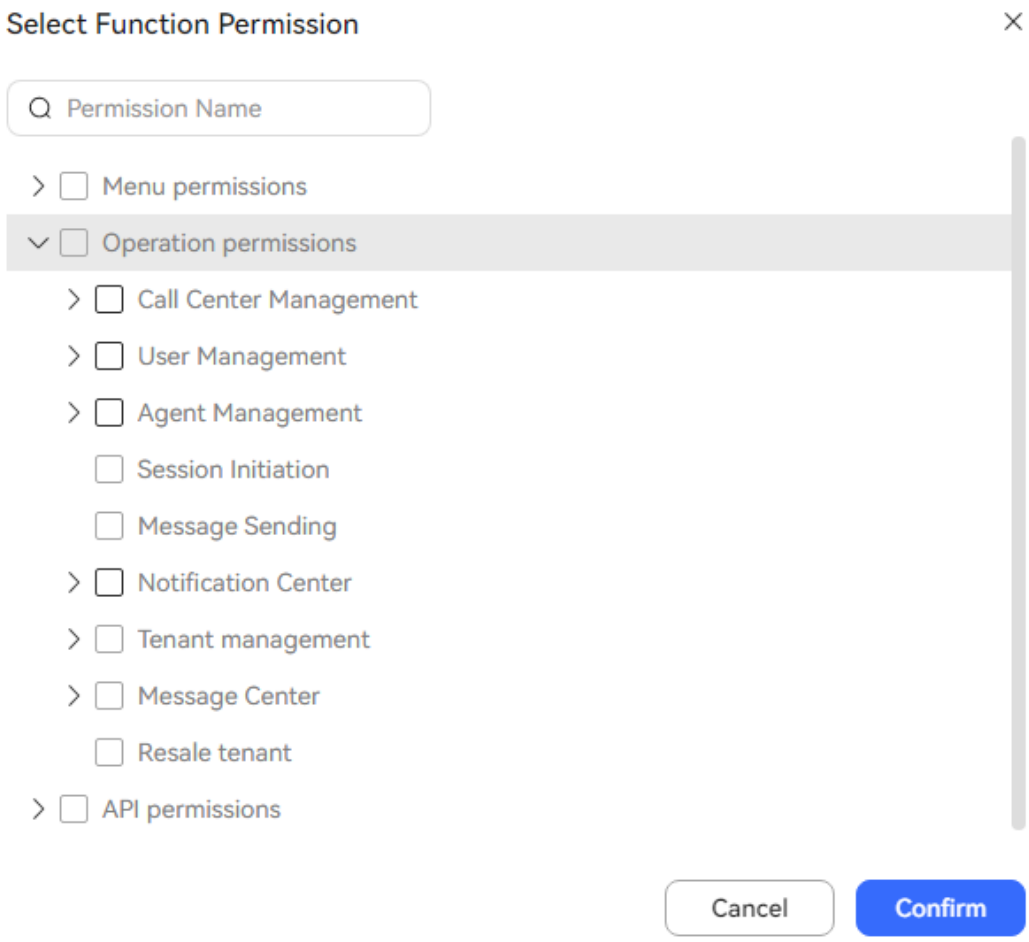
Step 5 Select the created role and configure permissions.

The page displaying role permissions is specified by the system parameter **Enable new permissions navigation**.

- If the value of **Enable new permissions navigation** is set to **No**, see **2.2.2.1 Permission Description (Old Navigation Page)** for the role permission description.
  a. Click the **Own Permissions** or **Assignable Permissions** tab.
     - **Own permissions**: Permissions of the current role.
     - **Assignable Permissions**: Permissions that the current role can assign to other accounts.
  b. Click **Add** and select function permissions.
     You can search for permissions. Permissions unavailable to the current role are dimmed, and the search results are highlighted.

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Figure 2-22 Select Function Permission



Function permission status description:

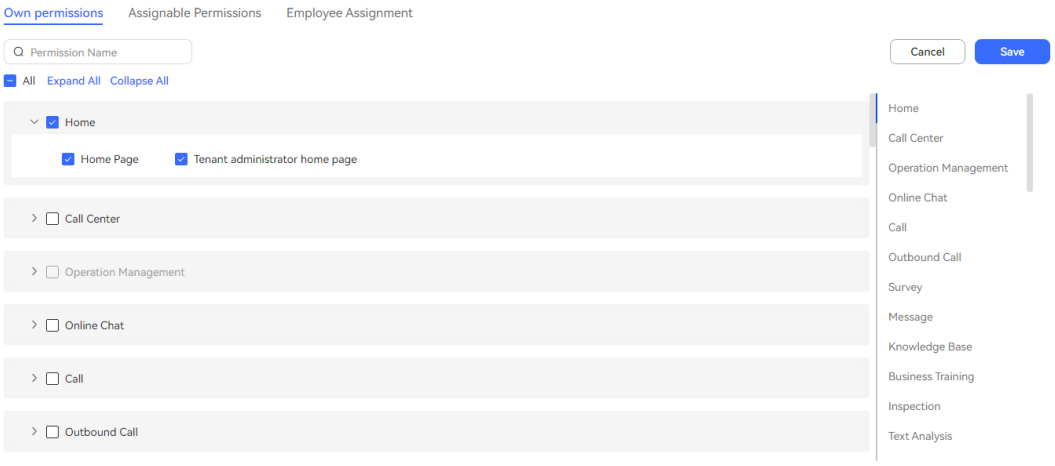
- ☐: The function permission has not been configured for the current role and can be selected for configuration.
- ☐: The function permission cannot be configured for the current role.
- ☑: The function permission has been configured for the current role.

c. Click **Confirm** to save the configuration.

- If the value of **Enable new permissions navigation** is set to **Yes**, see **2.2.2.2 Permission Description (New Navigation Page)** for the role permission description.

  The display level of permissions on the new navigation page is the same as that of the navigation pane on the AICC home page. You can query permissions based on the navigation pane. Click **Modify** on the right of the page to select or deselect permissions.

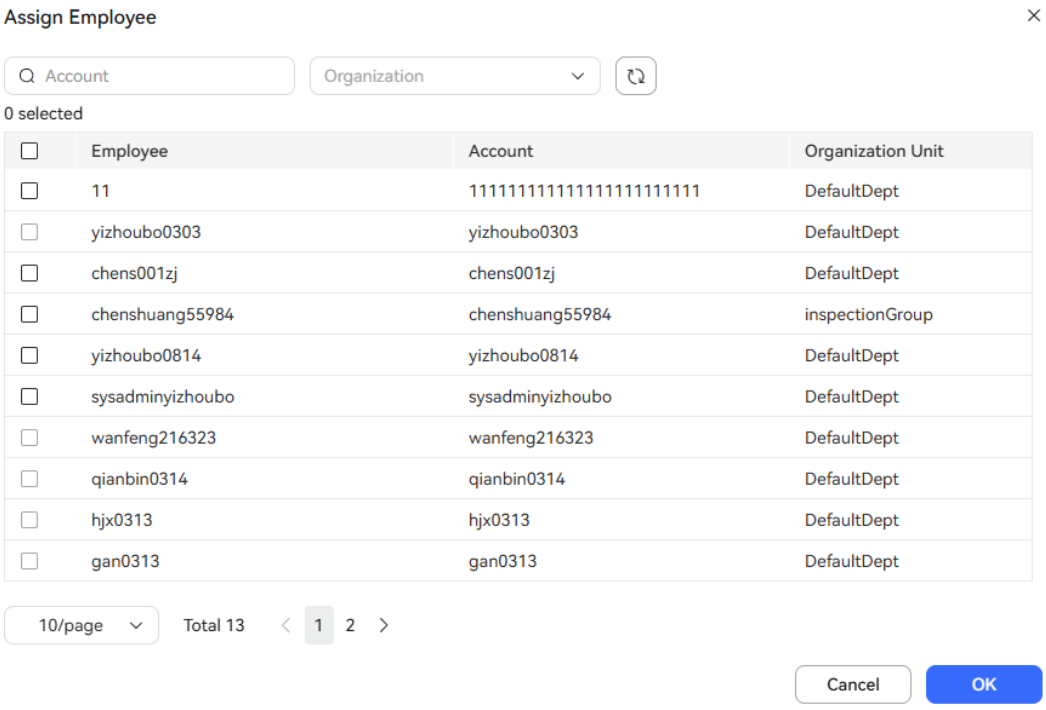
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Step 6 Assign employees.

1. Click the **Employee Assignment** tab and click **Add**. The **Assign Employee** dialog box is displayed.

Figure 2-23 Assign Employee



Organization: This parameter is specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the parameter is set to **Yes**:
  i. For accounts without the **View All Organization Data** permission in **System Public Permissions**:
     - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

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NOTE

If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is granted, the data under the OU (excluding sub-OUs) to which the current employee belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is granted, the data under sub-OUs of the OU to which the current employee belongs can be viewed.

ii. Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

– After the tenant parameter is set to **No**, all OUs in the tenant space can be selected.

– The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

2. Select employees to which the current role can be assigned and click **OK**.
3. (Optional) Select multiple employees and click **Batch Delete** to delete them in batches.

----End

2.2.2.1 Permission Description (Old Navigation Page)

This section describes role permissions displayed on the old navigation page. If the value of **Enable new permissions navigation** is set to **No**, the role permissions displayed in this section are used.

- **Menu permissions**: Configure system menus to restrict the menus available to employees with the current role. For details, see **Table 2-5**.
- **Operation permissions**: Configure page operation functions to restrict the operation permissions of employees with the current role. For details, see **Table 2-6**.
- **API permissions**: Configure API permissions to restrict the APIs available to employees with the current role. For details, see **Table 2-7**.

Table 2-5 Menu permissions

Permission		Description
My Time	Agent Schedule	• **My Schedule**: View the schedule of the current agent. • **Other Schedules**: View the schedule of other agents.
	Trade	**Trade**: **Allow Trading**

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Permission		Description
	Preference	• **Calendar**: View the calendar page of preferences. • **Details**: View the details page of preferences.
	Time-off	• **Calendar**: View the calendar page of the time-off. • **Details**: View the details page of the time-off.
WFM	Configuration	• **BU**: Manage organizations in the WFM. • **Skill Queue**: Synchronize skill queues in the AICC. • **Agent**: Synchronize and manage basic agent information in the AICC. – **Plain Text Display**: Display agents' personal information in plaintext. – **Move Agent**: Change the organization to which an agent belongs. • **Site**: Manage the organization of the WFM. – **Move Agent**: Manage the organization of the WFM. • **Color**: Manage the color in the schedule view. • **Activity**: Manage work items in the schedule. • **Notification**: Manage notifications from the schedule. – **Receive Notifications**: Receive notifications from the schedule. • **State Group**: Manage state group in the schedule. The preceding editing permissions of the menu can be set separately.
	Adherence	• **Graphical** • **Details**: View agent adherence details.
	Trade	• **Trade List** **Approve Trade**: A reviewer reviews a trade initiated by an agent.
	Performance	• **Monitor** • **Intraday View**

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Permission		Description
	Schedule	• **Scenario**: Manage and configure schedule scenarios. – **Publish**: Publish schedule scenarios to the master schedule. – **Edit**: Edit schedule scenarios. – **Build**: Build schedule scenarios. • **Master Schedule**: Manage the master schedule. – **Edit**: Edit the master schedule. – **Approve**: Approve the modified agent schedule information. – **Clear**: Delete the schedule information of an agent on a day. – **Swap Shift**: Swap the schedule information of two agents in the master schedule. • **Approve Change**: Approve time-off and exception applications of agents and the change information inserted in the master schedule.
	Calendar	• **Calendar** Item: Manage calendar items. – **Change Status**: Change the status of a calendar item, that is, change the priority of the calendar item, or publish the calendar item to the master schedule. • **Time-off Limit**: Manage the restrictions on agents' time-off applications. The preceding editing permissions of the menu can be set separately.
	Policy	• **Time-off**: Manage all time-off types and rules of the schedule. • **Exception Type**: Manage the information about all the non-working activities of the schedule. • **Shift**: Manage the basic parameters of workdays for the schedule. • **Contract**: Manage the work contracts of the schedule. • **Rotating Pattern**: Manage the working period of the repeated sequence of the schedule. The preceding editing permissions of the menu can be set separately.

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Permission		Description
	Forecast	• **Scenario**: Manage the forecast scenarios and the data after the scenarios are constructed. – **Adjust**: Adjust the volume build data and staffing build data after forecasting. – **Build**: Build forecast scenarios. – **Publish**: Publish the forecast scenario to the master forecast. • **Overlay**: Manage overlay events that affect volume data. • **Historical Data**: Manage the IV and AHT of historical dates. • **Forecast Template**: Manage forecast templates for outbound call activities. The preceding editing permissions of the menu can be set separately.
Inspection	Manual Inspection	Manage manual inspection rating rules, inspection tasks, inspection categories, inspection relationships, and inspection objects, view inspection results, and apply for inspection review.
	AI Inspection Rule	Manage AI inspection rules, including sensitive words, sentences, inspection rules, rating settings, and business scenarios.
	AI Inspection Result Review	View the inspected call list, set sample inspection plans, and view and handle inspection tasks.
	Text and Speech Analysis	Configure text analysis, manage indicator categories, search for keywords, display word frequency results, collect statistics on text analysis indicators, customize indicator contents, and export queried text analysis details.
Chatbot	-	Enable the chatbot function.
Tenant Administrator Home Page	-	Configure common functions on the home page to allow customers to view call center statistics.
Case Home	-	Use cases to create tasks to follow up customer requirements.

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Permission		Description
Intelligent Training	Intelligent training management	**Training Task Management**: Configure training task details. Currently, the following configurable operation permissions are available: • **Exporting Training Tasks**: Export training tasks. • **Editing Training Task Management**: Edit task content. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
	My Training Tasks	**My Tasks**: An agent can participate in intelligent training tasks. Currently, the following configurable operation permission is available: • **My Tasks**: operation permission related to agent training tasks. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
Outbound Call DataSource Management	-	Back up and store outbound call data on other servers.

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Permission		Description
Intelligent automatic dialing	ISales Management	• **ISales Task Management**: Configure outbound call task details. The menu permissions include **Manage all outbound call task data**, **Play Outbound Record**, **View Communication Records of Intelligent Outbound Calls**, **Export Communication Records of Intelligent Outbound Calls**, and **Export**. • **Holiday**: Set special dates and plan the execution time of outbound call tasks. Currently, the following configurable operation permission is available: – **Edit Special Dates**: Edit dates. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **ISales Task Monitor**: Check the execution of outbound call tasks. Currently, the following configurable operation permission is available: – **Exporting Monitoring Data of Outbound Call Tasks**: permission to export the monitoring data of outbound call tasks. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Task Report**: View the execution statistics report of outbound call tasks. Currently, the following configurable operation permission is available: – **Exporting the Outbound Call Task Report**: Export outbound call task report data. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Blacklist**: Configure the outbound number blocklist to reduce invalid outbound calls. Currently, the following configurable operation permissions are available: – **Importing the Outbound Call Blocklist**: Import the blocklist data. – **Exporting the Outbound Call Blocklist**: Export existing blocklist data. – **Editing an Outbound Call Blocklist**: Edit the date.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Business Results**: Define outbound call business results to summarize business status. Currently, the following configurable operation permission is available: – **Edit Service Result**: Edit business results and sub-business results. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **External Result**: Define outbound call execution results. Currently, the following configurable operation permissions are available: – **Edit Outgoing Call Display Result**: Edit an external result. – **Editing Outgoing Call Display Results in Batches**: Edit external results in batches. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Data Attr**: Configure different attributes for outbound call data and add customer information. Currently, the following configurable operation permissions are available: – **Attributes of releasing or canceling releasing outbound call data**: Release or cancel the release of outbound call data attributes. – **Editing the Attributes of the Outbound Call Data**: Edit the outbound call data attributes. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Call Template**: Configure outbound call task templates to reference templates during outbound call task configuration. Currently, the following configurable operation permissions are available: – **Releasing or Pausing an Outbound Call Template**: Release or cancel the release of an outbound call template. – **Editing an Outbound Call Template**: Edit template content.

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Permission		Description
		• **Special List**: Configure the special list to filter out invalid data during outbound call task execution. Currently, the following configurable operation permission is available: – **Transfer to Blacklist/Misjudgment**: Move a customer number to the blocklist/misjudgment list. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Agent Work Statistics**: Collect statistics on the outbound call workbench and summarize outbound call tasks. Currently, the following configurable operation permission is available: – **Exporting Agent Work Statistics**: Export the outgoing call data of agents If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Multimedia Marketing Management**: Perform multimedia marketing using SMS messages, emails, and WhatsApp messages. Currently, the following configurable operation permissions are available: – **Exporting e-Media Marketing**: Export marketing data. – **Importing e-Marketing Data**: Import marketing data. – **Editing Multimedia Marketing Management**: Configure marketing tasks. – **Releasing or Suspending an E-Media Promotion Task**: Release or suspend marketing tasks. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Outbound Call Business Report**: View the outbound call business statistics report. Currently, the following configurable operation permission is available: – **Exporting Service Result Report**: Export business result data. If the operation permission is not configured, the operation button in the corresponding menu is hidden.

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Permission		Description
		• **Ringback Tone Recognition**: Recognize intention and automatically identify outbound call failures. Currently, the following configurable operation permission is available: – **Updating RBT Information**: Synchronize the latest RBT content. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Task Group Management**: Manage the setting of the data import proportion of outbound call tasks. Currently, the following configurable operation permissions are available: – **Importing a Task Group**: Import task group information. – **Edit Task Group**: Configure task group information. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
	Outbound Execute	• **Agent Outbound Call Task**: Agents can view details about outbound call tasks. The **Outbound Cal Send Email** permission is included. • **Appointment Outbound**: Agents can reserve outbound call tasks. The permissions include **Adjusting Reserved Agents** and **Managing Reserved Outbound Call Records**.
	Outbound Call Configuration	• **File Server**: Upload outbound call task data from the server. Currently, the following configurable operation permission is available: – **Edit File Server**: Configure the connected outbound call service. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Mapping Rule**: Customize the mapping rules for importing data related to outbound call tasks. Currently, the following configurable operation permission is available: – **Edit Mapping Rule**: Edit the rule content. If the operation permission is not configured, the operation button in the corresponding menu is hidden.

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Permission		Description
	Outbound Call DataSource Management	Back up and store outbound call data on other servers.
Call Center Monitor	Monitor Configuration	• **Monitor Relationship**: Manage inspection relations between inspectors and agents. Currently, the following configurable operation permission is available: – **Edit**: Edit inspection relationships. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Full Screen Monitoring Configuration**: Configure fullscreen monitoring indicators. Currently, the following configurable operation permission is available: – **Edit**: Edit full screen data. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Report Subscription**: Configure subscribed reports and periodically send information about the subscribed reports to specified personnel via email. Currently, the following configurable operation permission is available: – **Edit**: Edit subscription report data. If the operation permission is not configured, the operation button in the corresponding menu is hidden. The following is the function permission for the system administrator, which does not need to be configured at the tenant level. The permission is **CMS System Configuration**.

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Permission		Description
	Monitor Management	• **Agent Operation Details**: View the connection operation details of agents in the tenant space. • **Call Link**: View details and tracks of calls in the tenant space from 00:00 on the previous day. • **Index Monitor**: View data about the VCC, IVRs, skill queues, and agents in the tenant space. The menu permissions include **Multimedia IVR Monitor**, **RealTime Overview**, **Agent indicator monitoring**, **Skill Queue Monitor**, **Audio&Video IVR Monitor**, and **VCC Monitor**. The function permission **Call Center Monitor** is for the system administrator, which does not need to be configured at the tenant level. • **Incoming Call Record**: View information about abandoned customer calls, calls requiring callback, and inbound calls. Currently, the following configurable operation permission is available: – **Export**: Export query records on the pages for querying calls requiring callback and incoming calls. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Recording**: View the voice and video call details of agents in the current tenant space. Inspectors (whose platform role is **Quality checker**) can preview or download recording files of agent calls. Currently, the following configurable operation permissions are available: – **Play**: Click the **Play** button on the **Recording** page. – **Export**: Export recording query records. – **Recording Download**: Click the **Download** button on the **Recording** page. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Agent Monitor**: View agent sign-in information in the current tenant space. Monitor agents and dynamically adjust agent resources based on business requirements. Tenant administrators can monitor agent status, but cannot perform inspection operations, such as skill queue adjustment, on agents. Inspectors (whose platform role is **Quality checker**) can perform inspection operations, such as skill queue adjustment, on agents.

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Permission		Description
		• **Offline Message**: View offline messages received by agents in the tenant space. • **Call Detail**: View details about all calls in the tenant space. Currently, the following configurable operation permission is available: – **Export**: Export query records. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Bidirectional Call**: View details about all bidirectional calls in the current tenant space. Currently, the following configurable operation permission is available: – **Export**: Export query records. If the operation permission is not configured, the operation button in the corresponding menu is hidden. The following is the function permission for the system administrator, which does not need to be configured at the tenant level. The permissions are **System Monitoring** and **UAP Monitoring**.
	Report	View the monitoring data of the call center, including the following reports: **VCC Traffic Report**, **VCC Traffic Report by AccessCode**, **IVR Traffic Report**, **IVR Traffic Report by AccessCode**, **Skill Queue Traffic Report**, **Skill Queue Traffic Report by AccessCode**, **Traffic Summary Report**, **Agent Summary Report**, **Agent Outbound Call Report**, **Agent Operation Report**, **Abandoned Call in Ringing Report**, **Interval-based VCC Traffic Report**, **IVR Outbound Call Report**, **System Performance Report**, and **Agent Timesheet Report**. The configurable operation permission on all the preceding reports is as follows: • **Export**: Export query records under all report menus. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
Online Customer Service	Workbench	**Audio and Video Workbench**: When an agent signs in, the voice and video workbench is automatically opened for business handling.
Home	-	Configure functions frequently used on the home page.

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Permission		Description
Scheduled Task Management	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
Operation Risk Control	Operation Risk Control	Function permissions for the system administrator, which do not need to be configured at the tenant level. The permissions include **Strategy Management**, **Tenant Strategy Configuration**, **Statistical Result**, and **Recording Wording**.
	Operation Risk Control	**Operation Risk Control**: View the execution of risk control strategies.
APIFabric Runtime	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
Online Studio	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.

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Permission		Description
User Management	User Management	• **User Group Management**: Manage employee group information in the tenant space. Currently, the following configurable operation permissions are available: – **Query User Group**: Query user group data. – **Batch Edit**: Edit user groups in batches. – **Delete User Group**: Click the **Delete** button on the **User Group** page. – **Modify User Group**: Modify the basic information about a user group. – **Create User Group**: Create a user group. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Employee**: Manage business account information of employees in the tenant space. Currently, the following configurable operation permissions are available: – **Modify User Status**: Update the status of an employee. – **Import**: Import user information. – **Export Employee Data**: Export user information. – **Federated User Management**: Manage federated users. – **Copy Permissions**: Copy user information – **Query User**: Query user data. – **Save Employee**: Click the **Edit** button on the **Employee** page. – **Reset User Password**: Click the **Change Password** button on the **Employee** page. – **Canceling Configurations in Batches**: Cancel the configuration of agent information in batches. – **Configuring Users in Batches**: Configure agent information in batches. – **Attach User to TenantSpace**: Associate a user with the tenant space. – **Delete User**: Click the **Delete** button on the **Employee** page. – **View User Privacy**: Query user privacy information. – **Modify User Privacy**: Edit user privacy information. • **Organization Unit**: Manage OU information in the tenant space.

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Permission		Description
		Currently, the following configurable operation permissions are available: – **Query Organization**: Query OU data. – **Create Organization**: Create an OU. – **Modify Organization**: Modify basic OU information. – **Delete Organization**: Click the **Delete** button on the **Organization Unit** page. – **Batch Edit**: Edit OUs in batches. – **Exporting OU Data**: Export OU information. – **Access Organization Edit**: Edit accessible OUs. – **Access Employee Edit**: Edit access employee information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Account and Password Rule**: Manage account and password rules in the tenant space. Currently, the following configurable operation permission is available: – **Edit**: Configure customized account and password rules. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Role**: Manage function permission information of employees in the tenant space. Currently, the following configurable operation permissions are available: – **Batch Edit**: Edit roles in batches. – **Modify Role**: Modify the basic information about a role. – **Grant Role**: Grant new function permissions to a role. – **Query Role Granted**: Query function permissions granted to a role. – **Manage Roles' Function Permissions and Data Permissions**: Manage function permissions of roles. – **Query Role**: Query role information. – **Create Role**: Create a role. – **Delete Role**: Click the **Delete** button on the **Role** page.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Account Lock**: Manage account lock status in the tenant space. Currently, the following configurable operation permissions are available: – **Query Lock**: Query account locking records. – **Create Lock**: Click the **Lock** button on the **Account Lock** page. – **Delete Lock**: Click the **Unlock** button on the **Account Lock** page. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Session Management**: Manage sign-in sessions of accounts in the tenant space. Currently, the following configurable operation permission is available: – **Edit**: Click the **Delete** button on the **Session Management** page. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
Case Management	Case	Manage case contents. The permissions include **Query Case**, **Create Case**, **Case Workbench**, and **My Draft Cases**.
	Task	Manage case tasks. The permissions include **Task Workbench**, **Query Task**, and **Task Transfer**.
	Milestone	Query milestones.
Operation Management	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
Log Configuration	Agent Tracing Configuration	Configure agent tracing logs.
APIFabric	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
LLM Engine	Large Model Zone	The permissions include **Prompt** and **Knowledge Base**.

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Permission		Description
	Workflow Management	The permissions include **Workflow Orchestration** and **Workflow Trajectory**.
Service Support Configuration	Contact Management	Manage contacts.
	Survey	Manage surveys.
	Case Automation	Set automatic cases. The permissions include **Duplicate Rule**, **Task Process**, and **Same Type Cases Rule**.
	Basic Case Configuration	Configure basic information about cases. The permissions include **Task Type**, **Case Template**, **Case Type**, **Milestone Config**, **Case SLA Configuration**, **Case Content Template**, **Custom Holiday**, and **Holiday Type**.
Operational Analysis	AI Assets	The permissions include **Asset Package** and **AI App**.
	Feature Miner	The permissions include **Feature data**, **Task scheduling**, **tag management**, **Meta data**, and **Tag data**.
	Online Serving	The permissions include **Worker** and **Serving**.
	Text Classification	The permissions include **Training Task**, **Online Serving**, **Dict Management**, **Offline Serving**, **Text Process Method** and **Model**.
	Model Training	The permissions include **Notebook**, **Setting**, **Model**, **Data Source**, **Job**, and **Project**.
Channel Configuration	Call Center Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.

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Permission		Description
	Call Center Configuration	Manage basic tenant space configurations. • **Basic Information**: View basic tenant space information. Currently, the following configurable operation permissions are available: – **Import**: Upload a custom logo of the tenant space. – **Edit**: Edit tenant information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Skill Queue**: Manage tenant space skill queues. Currently, the following configurable operation permissions are available: – **Batch Edit**: Delete and synchronize skill queue information in batches. – **Edit**: Edit skill queue information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Agent Management**: View tenant space agent configurations. Currently, the following configurable operation permission is available: – **Batch Edit**: Modify agent information in batches. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Called Route**: Configure called routes. • **Access Code**: View access code information of the tenant space. Currently, the following configurable operation permissions are available: – **Edit**: Edit access code information. – **Edit Calling Number**: Edit calling number information. – **Importing Calling Numbers**: Import calling number information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Settings**: Manage system parameter settings of the tenant space. For details, see **2.17 Configuring Public Resources** and **2.3 Enabling Manual Services**.

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Permission		Description
		The permissions include **Satisfaction Survey**, **SMS Configuration**, **Authentication Configuration**, **Gray Configuration**, **Encryption Information Management**, **SP Management**, **Federated App Management**, **IPCC Data Migration**, **Chat Workbench Management**, **Call Workbench Management**, **Busy Reason**, **Email Title Keyword**, **Application Integration**, and **Call Forwarding Policy Configuration**. **Configuring the Voice Muting Agent**: The following configurable operation permission is available: – **Edit**: Edit access code information. **Bidirectional Call**: The following configurable operation permission is available: – **Edit**: Edit bidirectional call information. **Page Configuration**: The following configurable operation permission is available: – **Edit**: Control the page layout and edit the page interface. **Contact Data Item**: The following configurable operation permission is available: – **Edit**: Edit the contact record fields, contact customer information area, and basic record data set. **UC Integration**: The following configurable operation permission is available: – **Edit**: Edit UC integration configurations. **Authentication**: The following configurable operation permission is available: – **Edit**: Edit identity authentication configurations. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Notification Route**: The following configurable operation permission is available: – **Edit**: Edit routing rules. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Table Data**: Query and configure data values in dynamic data tables. The following configurable operation permissions are available: – **Import**: Import data tables.

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Permission		Description
		– **Export**: Export data table records. – **Edit**: Edit data table fields and data values. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Message Flow Control**: The following configurable operation permission is available: – **Edit**: Edit flow control rules. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Resource Dump**: The following configurable operation permissions are available: – **Edit the Cloud Search Server Configuration Tab Page**: Edit cloud search configurations. – **Edit the Server Configuration and Task Configuration Tab Pages**: Edit the server configuration and task configuration. – **Configure a Cloud Search Server**: Edit the cloud search server. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Gateway Configuration**: The following configurable operation permission is available: – **Edit**: Edit gateway information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Email Signature**: The following configurable operation permission is available: – **Edit**: Edit a signature. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Gateway Monitoring**: The following configurable operation permission is available: – **Edit**: Edit gateway monitoring tasks. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Voice Notification**: The following configurable operation permission is available: – **Edit**: Edit the voice notification scope.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. **SmartCare Integration**: The following configurable operation permission is available: – **Edit**: Edit integration parameters. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Parameter Configuration**: The following configurable operation permission is available: – **Edit**: Edit parameter values. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Organization Parameter**: The following configurable operation permission is available: – **Edit**: Edit organization parameter values. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Certificate**: The following configurable operation permissions are available: – **Import**: Import certificate files. – **Edit**: Edit certificate information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Mobile Agent**: The following configurable operation permission is available: – **Edit**: Edit the mobile customer service number. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Call Reason**: The following configurable operation permission is available: – **Edit**: Edit a call reason. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Prompt Tone**: The following configurable operation permission is available: – **Edit**: Edit the prompt tone.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Rest Reason**: The following configurable operation permissions are available: – **Edit**: Edit a rest reason. – **Sync**: Synchronize rest reasons from the call center platform to the AICC. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Busy Reason**: The following configurable operation permission is available: – **Edit**: Edit a busy reason. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Special List**: The following configurable operation permissions are available: – **Edit**: Edit the content on the **Level Management**, **Special List**, **Special List History**, and **Special List Reminder** pages. – **Import**: Import list data to the **Special List** page. – **Export**: Export list data from the **Special List** and **Special List History** pages. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Harassment Record Review**: The following configurable operation permission is available: – **Harassment Record Review**: Review an application for blocklisting spam numbers. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Screen Pop-up**: The following configurable operation permission is available: – **Edit**: Edit addresses on the screen pop-up page. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Basic Information**: The following configurable operation permission is available: – **Edit**: Edit basic table fields and data.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Chat Workbench Management**: The following configurable operation permissions are available: – **View**: View the online chat workbench management page. – **Edit**: Edit the layout of the online chat workbench. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Call Workbench Management**: The following configurable operation permissions are available: – **View**: View the voice and video workbench management page. – **Edit**: Edit the layout of the voice and video workbench. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Email Title Keyword**: Manage email title keywords. – **Edit**: Add, edit, and delete email title keywords. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Application Integration**: The following configurable operation permissions are available: – **Edit**: Edit the application integration. – **Download**: Download the client secret when the authentication mode is OAuth2.0. If the operation permission is not configured, the operation button in the corresponding menu is hidden. **Call Forwarding Policy Configuration**: The following configurable operation permission is available: – **Edit**: Edit a call forwarding policy. • **Resource Dump Task**: Manage business resource data dump tasks. • **Service Number**: Manage service numbers. • **Service Guidance Configuration**: Configure visualized wizard-based service flow guidance for complex business handling in the customer service center.

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Permission		Description
		Currently, the following configurable operation permission is available: – **Edit**: Edit guidance flows. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Service Guidance**: View the service guidance. • **Resource Dump Task**: View resource dump records.

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Permission		Description
	Agent Information	• **Agent Information**: View information such as agent IDs, skill queues, and business accounts. • **Contact Record**: Query agent call records. • **Operation Record**: Query agent operation record details. • **Transfer Record**: Query details about call transfer records of agents. • **Sign-In Log**: Query agent sign-in records. • **Leave Message**: Manage and reply to offline messages of the current account. • **Agent Parameters**: An agent can customize parameters such as the calling number for making outbound calls, agent answering mode, whether to integrate the OpenEye softphone in the web system, and video display of the OpenEye integrated with the web system. • **Rest Record**: Query details about agent rest records in the tenant space. • **Bidirectional Call Record**: Query details about bidirectional call records after the one-click bidirectional call feature is enabled. Currently, the following configurable operation permissions are available: – **Download**: Click the **Download** button to download bidirectional call records. – **Export**: Export bidirectional call records. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Document Management**: Query contract signing information after the contract digital signature feature is enabled. Currently, the following configurable operation permission is available: – **Edit**: Click the **Edit** button on the corresponding page. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Reset Skill Record**: Query skill queue adjustment details. • **Identity Authentication Record**: Query details about all identity authentication records. • **Querying Dumped Resources**: Query the information about dumped resources.

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Permission		Description
		• **Offline Message Management**: Query and schedule user sessions in the offline queue.
	TenantSpace Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.

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Permission		Description
	IVR Management	• **Transfer external number configuration**: Configure the third-party number to which an outbound call is forwarded. Currently, the following configurable operation permission is available: – **Edit**: Edit external numbers to which outbound calls can be forwarded. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Semantic Understanding Service**: Configure the semantic understanding service. The permissions include **Digital Intelligence Employees**, **OIFDE Resource Management**, **OIFDE System Management**, **OIFDE Flow Management**, **Check Training**, **History Dialogue**, and **Knowledge Management**. • **Flow Management**: Manage intelligent IVR flows and common IVR flows. Currently, the following configurable operation permission is available: – **Edit**: Edit intelligent IVR flows and common IVR flows. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **IVR Voice**: Manage uploaded voice files. Currently, the following configurable operation permission is available: – **Edit**: Configure the voice files used by IVR flows. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Flow Configuration**: Manage flow parameters. – **OIFDE Resource Management**: Manage resources used by ODFS flows. – **Distribution Policy**: Configure a call transfer routing policy. **Editing**: Edit a transfer policy. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Work Calendar**: Configure an agent work calendar template. **Edit**: Edit the schedule of an agent.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **2D digital human img**: Customize the image of a virtual human diagram element. **Edit**: Edit the customized image. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Data Table**: Customize fields in a data table. **Edit**: Edit the data structure and content of a table. **View Data** **Edit Data** **Import Data** **Export Data** If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Metadata Management**: Describe the model metadata. **Edit**: Edit the description. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Variable Management**: Use a variable to store data during process execution. **Edit**: Edit the variable name. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Business Interface**: encapsulated third-party interface for ODFS service execution. **Edit**: Edit the interface. **View API call logs** If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Diagram Element Management**: Manage diagram element information in the ODFS flow. **Edit**: Edit the content of a diagram element. If the operation permission is not configured, the operation button in the corresponding menu is hidden.

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Permission		Description
		– **Stored Procedure**: In the OP independent deployment scenario, use a stored procedure and third-party data for data exchange. **Edit**: Edit the stored procedure content. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Resource Template**: static voice, TTS voice playback, and SMS message resource templates used in the ODFS process. **Edit**: Edit a resource template. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Dialog Test**: Test the robot dialog. **Edit**: Edit the test process. **Export**: Export the test content. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **OIFDE System Management**: Manage ODFS system parameters. – **Feature Mapping Rule**: Manage mapping rules. **Edit**: Edit a rule. **Import**: Import mapping rule information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **ASR Vocabulary Managment**: Manage common ASR words. **Edit**: Edit entries. **Download**: Download ASR hot words. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Historical Call** **Knowledge Dashboard** **Call Statistics Dashboard** **Service Capability Dashboard** – **System Settings**: Set system configuration items. **Edit**: Edit the configuration.

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Permission		Description
		If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **OIFDE Flow Management**: Manage the ODFS flow and related content. – **Process Inspection**: Check the ODFS flow. **Edit**: Edit the flow check rule. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Process Orchestration**: Orchestrate the ODFS flow. **Import Process**: Import an ODFS flow. **Export Process**: Export an existing ODFS flow. **Edit**: Edit flow information. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Flow Gray Rule**: Test the usage rules of the ODFS flow. **Edit**: Edit a rule. If the operation permission is not configured, the operation button in the corresponding menu is hidden. – **Robot management**: Configure robots and related parameters. The following configurable operation permission is available: **Edit**: Edit the robot processes. If the operation permission is not configured, the operation button in the corresponding menu is hidden. ● **Process Transfer Record**: Record information about a call transferred to a third party after the call is connected to the self-service flow. Currently, the following configurable operation permissions are available: – **Download**: Download recording files of conversations between customers and third parties. – **Play**: Play call recording files. If the operation permission is not configured, the operation button in the corresponding menu is hidden. ● Large Model Service

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Permission		Description
	Notification Center	• **View Notification**: View the content of received notifications. • **Send Notification**: This is a function permission for the system administrator, which does not need to be configured at the tenant level. • **Notification Template**: This is a function permission for the system administrator, which does not need to be configured at the tenant level. • **Agent Send Notification**: Agents can send only internal messages in internal notifications. They can send bulletin notifications only after an administrator configures the bulletin permission for them. • **Administrator Send Notification**: Send notifications to agents via email, SMS message, or bulletin. • **Notification Template**: Configure administrator notification templates. • **Variable Configuration**: Use variables when configuring internal message templates to send internal messages. Currently, the following configurable operation permission is available: – **Edit**: Edit the variable content. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Message Route Configuration**: Distinguish email messages from SMS messages. Currently, the following configurable operation permission is available: – **Edit**: Edit the message routing rules. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Notification Type Configuration**: Configure different notification types, for example, bulletin. – **Bulletin Type**: The following configurable operation permission is available: **Edit**: Edit a bulletin type. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
	System Management	**System Version**: This is a function permission for the system administrator, which does not need to be configured at the tenant level.

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Permission		Description
	Customer Center	**Customer Center Management**: Manage customer information in the tenant space. Currently, the following configurable operation permissions are available: • **Edit Address Book** • **Batch Edit Address Book** • **Import Address Book** If the operation permission is not configured, the operation button in the corresponding menu is hidden.
Service Channel Configuration	Social Media Operations	• **Social Media Workbench**: Process multimedia messages and enterprise account messages. The permissions include multimedia message processing and enterprise account message processing. • **Enterprise account operation**: Manage social media information about enterprise accounts. The permissions include **Social Media Management**, **To be approved**, and **Approval History**. The following operation permissions can be configured for social media management: – **Edit**: View all channel configurations, create and edit channel configurations, and maintain operations personnel of channels. Roles who do not have the edit permission can view all channel configurations but can edit only the channel configurations of themselves.

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Permission		Description
	Operation Management	• **Channel Configuration**: Configure multimedia access channels, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, and LINE channels. Currently, the following configurable operation permissions are available: – **Try**: Click the **Try** button after a channel is configured. – **Edit**: Click the **Edit** button to edit channel information. – **Export**: Export channel information. – **Edit WhatsApp Twilio Webhook Configuration**: Edit the WhatsApp Twilio Webhook configuration. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Multimedia Library Management**: Configure multimedia data of the common phrase, voice, video, image, address, personalized emoji, and card template types for agents to make calls. Currently, the following configurable operation permission is available: – **Edit**: Edit resources of all multimedia types. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Workbench Configuration**: Configure working time and non-working time. Currently, the following configurable operation permission is available: – **Edit**: Edit working time and non-working time. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Email Message Management**: Manage emails. Currently, the following configurable operation permission is available: – **Edit**: Configure the **Move** and **Assign** permissions with respect to notification messages in the email channel. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Channel Special List**: Set the special list of a channel. Currently, the following configurable operation permission is available:

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Permission		Description
		– **Edit**: Edit the special list. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
	Online Service	• **Online Chat Workbench**: An agent can handle business information accessed through the WeChat, web, X (Twitter), email, WhatsApp, Facebook, and LINE channels. • **Personalized Common Language**: Configure common phrases used by agents to handle businesses. Currently, the following configurable operation permission is available: – **Edit**: Edit a common phrase. If the operation permission is not configured, the operation button in the corresponding menu is hidden. • **Personalization**: Configure agent parameters. The permission includes **Maximum Number Of Concurrent Service Customers**.
	Offline Message Processing	Configure whether an agent receives offline messages.
	Enterprise account operation	Manage enterprise operations accounts. Currently, the following configurable operation permissions are available: • **Batch Reply**: Reply to marketing messages in batches. • **Reply**: Reply to a marketing message. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
Performance Management	Performance Scoring	Set performance scoring rules.
	Performance Configuration	Manage performance configurations.
Case Management 2.0	Case	Manage cases in version 2.0. The permissions include **Case Configuration**, **Case Workbench**, and **Historical Case**.

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Permission		Description
Survey Config	Survey Config	• **Script Management**: Configure survey scripts. • **Template Management**: Manage survey templates. • **Questionnaire Query**: Query the answer details of surveys. • **Questionnaire Statistics**: Collect statistics on details about other business modules associated with surveys. • **My Answers**: Query the survey details of the current account.
Knowledge Base	Knowledge Management	Manage and create knowledge. The permissions include **Consult Table Config**, **Knowledge Column**, **Recycle Bin**, and **Knowl Attribute**.
	Knowledge Review	Review knowledge details. The permissions include **Knowledge Review** and **Review Record**.
	Knowledge Application	Search for knowledge and add knowledge to favorites. The permissions include **Knowledge Home**, **Consult Table**, and **Favorites**.
	Template management	Create and manage knowledge templates. The permissions include **Content template** and **Consultation Table Template**.
IVR Analysis	IVR Overview	View IVR analysis data.
	Flow Analysis	View flow analysis data.
	Indicator Analysis	Compare and analyze indicator data. Currently, the following configurable operation permission is available: • **Export**: Export indicator data analysis results. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
	Version Comparison And Analysis	Compare and analyze IVR flow versions.
	Optimization Suggestions	Provide business optimization suggestions.

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Permission		Description
	Alarm Event	View alarm events.
	Service Pre-warning Configuration	Configure service alarm thresholds. Currently, the following configurable operation permission is available: • **Edit**: Edit warning rules. If the operation permission is not configured, the operation button in the corresponding menu is hidden.
AppCube Application Configuration	AppCube Service Configuration Center	• The AppCube feature must be enabled. • Go to the AppCube configuration page.
	App Call Task	Manage app call tasks.
	Online Customer Service Assets	Configure online customer service assets.
Customized menus	-	Configure the customized menu.
System Management	Security Configuration	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Tenantspace Management	
	Tenant Management	
	Service Type Management	
	Space Type Management	

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Permission		Description
	Viewing and Editing Home Organization Data	When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, an operator can view data of an OU to which the operator belongs. The editing permission depends on each business control.
	Edit Lower-Level Organization Data	When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, an operator with permissions to edit businesses can edit data of sub-OUs (including the bottom-layer OU) of an OU to which the operator belongs. To edit the data of the sub-OUs of the OU to which the operator belongs, the operator must have the permission to view the data of the sub-OUs.
	View Lower-Level Organization Data	When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, an operator can view data of sub-OUs (including the bottom-layer OU) of an OU to which the operator belongs.
	Edit All Organization Data	When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, an operator with permissions to edit businesses can edit data of sub-OUs of all OUs. To edit the data of the sub-OUs of all OUs, the operator must have the permission to view the data of all OUs.
	View All Organization Data	When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, an operator can view data of all OUs.
	System Management	• **Operation Logs**: View details about operation logs of business accounts in the tenant space. • **Sign-in Logs**: View details about sign-in logs of business accounts in the tenant space.

Table 2-6 Operation permissions

Permission		Description
Message Center	Message Send	Send internal messages.
Notification Center	Sending a Bulletin	Send bulletins through the notification center.

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Permission		Description
	Group-Send Internal Messages	Send internal messages to groups through the notification center.
Agent Management	Modifying Agent Fixed-Line Phone Number	An agent can modify **Fixed-Line/Mobile Number** on the agent information page.
	Configure Agent	Configure agents, cancel agent configuration, and configure agents in batches on the agent management page.
	Generate an Agent Electronic Business Card	Agents can generate and download electronic business cards on the personalized setting page. An electronic business card is a QR code with a hyperlink (Click-To-Chat), including a WhatsApp number, an agent business account, and an agent name. The agent generates a QR code and sends it to a customer. The customer scans the QR code and directly requests the agent to provide services through the WhatsApp channel.

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Permission		Description
Call Center Management	Connection Management	Configure call answering operations that can be performed by agents. • **Show Busy/Idle**: The busy state indicates that the agent is handling an inbound call, and the idle state indicates that the agent is ready to answer an inbound call at any time. • **Break/End Break**: An agent leaves and cannot handle businesses. The rest duration does not exceed 24 hours. • **Transfer**: An agent can transfer an inbound call to an external number, another agent, or a skill queue. After an inbound call is transferred, the call-related information is also transferred. • **Hold/Unhold**: An agent can hold a call with a customer. During the hold period, the customer can hear the hold music. The agent can perform other operations or make an outbound or help call, and then continue to talk with the customer. • **Outgoing Call**: An agent can initiate a call. • **Three-Party Call**: During a call between an agent and a customer, the agent can initiate a three-party call with another agent who is asked for help. If one party hangs up, the other two parties can still talk with each other. • **Help-seeking**: When an agent encounters a task that cannot be handled immediately, the agent can ask for help. If the agent selects two-party help, the customer's call is held. If the agent selects three-party help, a three-party call is set up. • **Mute/Unmute**: An agent can mute or unmute the local device. • **End Call**: An agent can proactively end a call. • **Answer**: An agent receives a call from a customer and chooses to answer the call. • **Audio/Video Switching**: An agent can switch a video call to a voice call or switch a voice call to a video call. • **Internal Call**: An agent can dial the number of another internal agent when there is no customer call. • **Agent Multi-Channel Support**: An agent can chat with customers through multimedia access channels. • **Callback**: The voice and video workbench allows agents to initiate calls based on historical contact records to continue interrupted businesses. • **Two-stage Dialing**: An agent can call back a customer number that exists in call records. • **Co-browsing**

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Permission		Description
	Contact Record Management	• **Querying All Contact Records**: Query the contact records of all business accounts. • **Play Recording Online**: Play recordings in contact records online. • **Recording Download**: Download the recording files of contact records. • **Contact Record Export**: Export contact records. • **Download Multimedia Call Content**: Download the multimedia call content in contact records.
	Quality Check	Inspectors can intervene in calls of common agents to ensure smooth business handling, and can manage inspection results. Inspection operations include **Listen**, **Insert**, **Switchover**, **Intercept**, **Forcible Exit**, **Forcible Set Idle**, **Forcible Set Busy**, **Whisper**, **Query All Inspection Results**, **Update Inspection Result**, **Delete Inspection Result**, **Multimedia Session Monitoring**, **Multimedia Session Insertion**, and **Multimedia Session Interception**.
	Operation Record Management	The permissions include **Query All Operation Record**, **Query All Transfer Record**, **Query All Sign-In Log**, **Query All Rest Record**, and **Sign-In Log Export**. **Rest Record Export**: Export rest records. **Forwarding Logs Export**: Export transfer records. **Operation Logs Export**: Export operation records.
	Privacy Statement	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Leave Message Management	• **Play Leave Message**: Play the recording of a message online. • **Download Leave Message**: Download the recording file of a message. • **Query All Leave Message**: Query all message records of an agent.
	IVR Voice Management	**File Upload**: Upload voice files for IVR flows.
	Reset Password	**Reset Tenant Password**: Reset the passwords of employee accounts in the tenant space.
	Reset Data	Reset tenant space system parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

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Permission		Description
	IVR Flow Management	• **Intelligent Robot Export**: Export intelligent robot information. • **Export Process Orchestration**: Export an orchestrated flow. • **Common IVR Export**: Export a common IVR flow. • **Exporting Composite Diagram Elements**: Export composite diagram elements. • **Call History Export**: Export historical call records. • **Exporting Service Interfaces**: Export business interface information. • **Custom Variable Export**: Export the created variable information. • **Process Resource Mgmt**: Group process resource information. Resources with the same business semantic application scenario are placed in the same group so that business operators can view and modify resources by scenario.
	Tenant AK/SK Configuration	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	Email Attachment	Upload or download attachments in an email when sending an email notification. The permissions include **Upload Email Attachment** and **Download Email Attachment**.
	User Numbers are Displayed in Plaintext	Customer numbers are displayed in plaintext and are not anonymized.

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Permission		Description
	Agent Workbench	• **Transfer Pop-Up Parameters**: If the page type of an inbound call screen pop-up is set to external page, parameters are carried when the third-party page is accessed. • **Query Customized Data on the Pop-Up Screen**: Query the customized data values on an inbound call screen pop-up. • **Modify Customized Data on the Pop-Up Screen**: Update the customized data values on an inbound call screen pop-up. • **Mail Agent Forwarding**: An agent can forward emails. • **Local Multimedia File Sending by Agents**: An agent can send multimedia files. • **Local Attachment Sending by Email Agents**: An agent can upload local attachments when sending an email. • **Email Agent CC Bcc**: An agent can set Cc and Bcc recipients when sending an email. • **Send SMS Notifications**: An agent can send SMS notifications to customers during customer contact, view message sending records in customer contact details, and resend SMS notifications to customers. • **Send WhatsApp Notifications**: An agent can send WhatsApp notifications to customers during customer contact, view message sending records in customer contact details, and resend WhatsApp notifications to customers. • **Send Email Notifications**: An agent can send email notifications to customers during customer contact, view message sending records in customer contact details, and resend email notifications to customers. • **Identity Verification**: An agent can perform identity authentication.
	Basic data table management	**View Demasking Data**: View demasked data in customized dynamic data tables.
	Download SK	Download SK information to the local PC.
	Fullscreen Monitor	• **Viewing Public Large-Screen Monitoring**: View details about fullscreen monitoring data. • **Edit Public Large-Screen Monitoring**: Customize fullscreen monitoring data parameters. • **Query Data of All Organizations**: View the fullscreen monitoring data of all OUs.

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Permission		Description
	Email agent management	• **Dispatch Emails to Other Agents**: Forward emails to other agents for handling. • **View All Agent Emails**: View the emails sent and received by all agents in the tenant space.
	Report	**Querying All Organization Report Data**: Query the report data of all OUs in the tenant space.
	Transfer Record Management	• **Play Recording Online**: View the recording files of call transfer records online. • **Recording Download**: Download the recording files of call transfer records.
	Document Management	**Preview Document**: Preview documents. **Download Document**: Download documents. **Operation All Documents**: Search for or invalidate any document in the tenant space.
	Skill Queue Management	**Skill Queue Data Export**: Export skill queue information.
	index monitoring	**Querying Data of All Organizations**: Query the monitoring indicator data of all OUs in the tenant space.
	Special List	**Harassment Record Review**: Review harassment records submitted by agents. This permission is assigned to tenant administrators by default and does not need to be configured for tenants.

Table 2-7 API permissions

Permission	Description
MR rest api auth	Obtain the MR node service permission.
CaseBDF rest api auth	Obtain the Case node service permission.
SLA rest api auth	Obtain the SLA node service permission.

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2.2.2.2 Permission Description (New Navigation Page)

This section describes role permissions displayed on the new navigation page. If the value of **Enable new permissions navigation** is set to **Yes**, the role permissions displayed in this section are used.

Permission types are not distinguished on the new navigation page. All permissions are displayed based on the menu hierarchy of the navigation pane on the AICC home page.

Table 2-8 Description

Menu Permission		Function Permission
The following is the permissions for the system administrator, which do not need to be configured at the tenant level.		
Call Center	Tenant Management, Call Center Config, Authentication Configuration, Federated App, Gray Configuration, Voice Management, Address Trustlist, SP Management, and Data Source	-
Operation Management	Customer Subscription Information, Offering Specification Code Mapping, Resource Specification Code Mapping, One-Click Subscribe Details Management, Customer Resource Instance, and Customer Bills	-
Call Risk	Strategy Management, Tenant Policy, Statistical Result, and Recording Wording	-
Monitoring	System Monitor	-
Version Management	App Version, App Site Connection, and System Version	-
Merchant Management	Merchant, Processing Records, Reseller Homepage, and Reseller Tenant	-
My Resources	My Resources	-

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Menu Permission		Function Permission
Workbench Configuration	Notification Template	-
Expansion and Integration	Online Customer Service Asset Configuration, API Management, APIFabric, IPCC Data Migration, and ISA report	-
System Management	System Parameter, Encryption, CMS System Configuration, and System Integration Configuration	-
Notification Center	Send Notification	-
Operational Analysis	-	-
The following is the permissions for tenant administrators. For details about the permissions, see Table 2-5.		
Home	Home Page	-
	Tenant Administrator Home Page	-
Online Chat	-	• Online Chat • Mail Agent Forwarding • Local Multimedia File Sending by Agents • Local Attachment Sending by Email Agents • Email Agent CC Bcc
Call	-	• Call • Transfer Pop-Up Parameters • Query Customized Data on the Pop-Up Screen • Modify Customized Data on the Pop-Up Screen • Send SMS Notifications • Send WhatsApp Notifications • Send Email Notifications • Identity Verification

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Menu Permission		Function Permission
Outbound Call	Call Mgmt	• Play Outbound Record • View Communication Records of Intelligent Outbound Calls • Export Communication Records of Intelligent Outbound Calls • Export • New outgoing call data authority • Permission to suspend or suspend tasks in batches • Enabling Task Permissions or Enabling Task Permissions in Batches • Permission to create an outbound call task • Editing an Outbound Call Task Type • Editing the Basic Information About an Outbound Call Task • Editing an Outbound Call Task • Editing the time of an outbound call task • Editing an Outbound Call Task Policy • Editing an Outgoing Call Policy • Edit Recycle Settings • Editing Outbound Call Tasks in Batches • Importing Outbound Call Data • Recall

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Menu Permission		Function Permission
	Multimedia Marketing	• Edit Multimedia Marketing Management • Exporting e-Media Marketing • Importing e-Media Marketing • Releasing or Suspending an E-Media Promotion Task • Editing Multimedia Data in Batches • Viewing Multimedia Marketing Dialog Content • Exporting Multimedia Marketing Dialog Content
	Call Monitor	Exporting Monitoring Data of Outbound Call Tasks
	Agent Call	Outbound Cal Send Email
	Reserved Call	• Managing Reserved Outbound Call Records • Adjusting Reserved Agents
	Special List	• Transfer to Blacklist/ Misjudgment • Batch Transfer to Blocklist/ Batch Misjudge
	RBT Recognize	Updating RBT Information
	Agent Work	Exporting Agent Work Statistics
	Service Result Report	Exporting Service Result Report
	Task Report	Exporting the Outbound Call Task Report
	App Call Task Mgmt	-
	Querying Archive Tasks	• Export • Audio Play • Audio Download
Survey	Survey Config	-
	Answer Query	-
	Answer Stats	-
	My Answers	-

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Menu Permission		Function Permission
Message	-	• Play Leave Message • Download Leave Message • Query All Leave Message
Knowledge Base	Knowledge Home	-
	Knowledge Column	-
	Favorites	-
	Knowledge Review	-
	Review Record	-
	Consult Table	-
	Recycle Bin	-
Business Training	Training Task	• Editing Training Task Management • Exporting Training Tasks • Editing Training Tasks in Batches
	My Tasks	Edit My Tasks
Inspection	Task Mgmt	Exporting Inspection Task
	Task Query	-
	Task Result	• Exporting Inspection Result • Query All Inspection Results • Update Inspection Result • Delete Inspection Result
	Review Mgmt	-
	Call List	-
	Spot-Check Plan	-
	My Tasks	-
	Appeal List	-
Text Analysis	Keyword Search	Export Details
	Hot Word	-
	KPI Stats	-
	KPI Category	-

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Menu Permission		Function Permission
Monitoring	Agent Monitor	• Listen • Insert • Switchover • Intercept • Forcible Exit • Forcible Set Idle • Forcible Set Busy • Whisper • Queue Adjustment • Send a Note • Forcible Release • Querying the Real-Time Status of All Agents of a Tenant • Screen Monitoring • Multimedia Session Monitoring • Multimedia Session Insertion • Multimedia Session Interception • Session Initiation • Message Sending
	Recording	• Recording Download • Export • Play
	Index Monitor	• RealTime Overview • Call Center Monitor • VCC Monitor • Query Data of All Organizations • Skill Queue Monitor • Audio&Video IVR Monitor • Agent Indicator Monitoring • Multimedia IVR Monitor • Case Management 2.0
	Inbound Call	Export
	Call Link	-
	Call Detail	Export

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Menu Permission		Function Permission
	Offline Message	-
	Agent Operation Details	-
	Bidirectional Call	Export
	Call Risk	-
Report	-	Querying All Organization Report Data
	VCC Traffic Report	Export
	VCC Traffic Report by AccessCode	Export
	IVR Traffic Report	Export
	IVR Traffic Report by AccessCode	Export
	Skill Queue Traffic Report	Export
	Skill Queue Traffic Report by AccessCode	Export
	Traffic Summary Report	Export
	Agent Traffic Report	Export
	Agent Outbound Call Report	Export
	Agent Operation Report	Export
	Abandoned Call in Ringing Report	Export
	Interval-Based VCC Traffic Report	Export
	IVR Outbound Call Report	Export
	System Performance Report	Export
	Agent Timesheet Report	Export
Contact History	Contact	• Contact Record Export • Play Recording Online • Recording Download • Querying All Contact Records • Download Multimedia Call Content
	Transfer Record	• Download • Playing
	ITA Call	• Export • Download

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Menu Permission		Function Permission
	Email	• Edit • Dispatch Emails to Other Agents • View All Agent Emails
	Document Management	• Edit • Preview Document • Download Document • Operation All Documents
	Dump Resource	-
	Satisfaction Statistics	-
	Offline Message Management	-
Work Log	Operation Log	• Query All Operation Record • Operation Logs Export
	Sign-In Log	• Query All Sign-In Log • Sign-In Log Export
	Transfer record	• Query All Transfer Record • Forwarding Logs Export
	Rest Record	• Query All Rest Record • Rest Record Export
	Adjustment Log	-
	Auth Log	Querying All Authentication Records
Expanding Applications	Customized menus	-
Social Media	**Social media workbench** > **Multimedia message processing**	-
	Social media workbench > **Enterprise account operations**	• Reply • Batch Reply
	Enterprise account operations > **Social media management**	Edit
	Enterprise Account Operations > **Pending Approval**	-
	Enterprise Account Operations > **Approval History**	-

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Menu Permission		Function Permission
Employee Center	Organization Unit	• Query Organization • Create Organization • Modify Organization • Delete Organization • Exporting OU Data • Import OUs' Accessible OUs • Batch Edit • Access Organization Edit • Access Employee Edit
	Employee	• Modify User Status • Save Employee • Reset User Password • Copy Permissions • Query User • Attach User to TenantSpace • Delete User • Canceling Configurations in Batches • Configuring Users in Batches • View User Privacy • Modify User Privacy • Federated User Management • Export Employee Data • Import
	Role	• Query Role • Create Role • Delete Role • Modify Role • Grant Role • Query Role Granted • Manage Roles' Function Permissions and Data Permissions • Batch Edit
	Skill	• Skill Queue Data Export • Edit • Batch Edit

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Menu Permission		Function Permission
	Agent Management	• Configure Agent • Export Agent Information • Batch Edit
	User Group	• Query User Group • Create User Group • Modify User Group • Delete User Group • Batch Edit
	Account and Password Rule	Edit
	Account Lock	• Query Lock • Create Lock • Delete Lock
	Session Management	Edit
Access Configuration	Access Code	• Edit • Edit Calling Number • Importing Calling Numbers
	Called Party	• Edit • Sync
	Channel Configuration	• Edit • Export • Try • Edit WhatsApp Twilio Webhook Configuration
	Mobile Agent	Edit
	Gateway Configuration	Edit
	M365 Application Configuration	Edit
	SMS Configuration	Edit
	Notification Route	Edit
	Voice Silent Agent	Edit
Workbench Configuration	Call Reason	Edit
	Call Workbench Management	• View • Edit
	Chat Workbench Management	• View • Edit

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Menu Permission		Function Permission
	Satisfaction	Edit
	Prompt Information	Edit
	Rest Reason	• Edit • Sync
	Busy Reason	Edit
	Email Signature	Edit
	Service Time	Edit
	Common Phrase	Edit
	Notification Template	Edit
	Notification Variables	Edit
	Notification Type	Bulletin Type > Edit
	Service Guidance	• Edit • Service Guidance
	Call Forwarding Policy Configuration	Edit
Call Config	Special Date	• Edit Special Dates • IBatch Edit Special Dates
	Blocklist	• Editing an Outgoing Call Blocklist • Importing the Outgoing Call Blocklist • Exporting the Outgoing Call Blocklist • Editing Outgoing Call Blocklists in Batches
	Marketing Opt-out List	• Add/Edit Marketing Opt-out List • Delete Marketing Opt-out List • Import Marketing Opt-out List • Export Marketing Opt-out List
	Business Results	Edit Service Result

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Menu Permission		Function Permission
	Caller Number Group	• Edit Caller Number Group • Importing Caller Number Groups • Editing Caller Number Groups in Batches
	Data Attr	• Editing the Attributes of the Outbound Call Data • Attribute of releasing or canceling releasing outbound call data
	Mapping Rule	Edit Mapping Rule
	External Result	• Edit Outgoing Call Display Result • Editing Outgoing Call Display Results in Batches
	Call Template	• Editing an Outbound Call Template • Releasing or Pausing an Outbound Call Template
	File Server	Edit File Server
	Task Group Management	• Edit Task Group • Importing a Task Group • Editing Task Groups in Batches
	ACD Detect Management	Enable or disable ACD detection, including enabling or disabling ACD detection in batches.
	Marketing Category Management	Add/Edit/Delete marketing category
Chatbot Management	**Flow Configuration** > **Common IVR**	• Edit • Common IVR Export • Process Resource Mgmt
	Flow Configuration > **Common IVR** > **Process Resource Mgmt**	Citation Resource Scenario Management
	Flow Configuration > **Intelligent Chatbot**	• Edit • Intelligent Robot Export • Process Resource Mgmt

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Menu Permission		Function Permission
	Flow Configuration > **Intelligent Chatbot** > **Process Resource Mgmt**	Citation Resource Scenario Management
	Flow Configuration > **Flow** > **Orchestration**	• Edit • Import Process • Export Process • Export Process Orchestration
	Flow Configuration > **Flow** > **Process Trace**	-
	Flow Configuration > **Flow** > **Dialog Test**	• Edit • Export
	Flow Configuration > **Flow** > **Process Inspection**	Edit
	Flow Configuration > **Resource** > **Resource Template**	Edit
	Flow Configuration > **Resource** > **Business Interface**	• Edit • View API call logs • Exporting Service Interfaces
	Flow Configuration > **Resource** > **Variable**	• Edit • Custom Variable Export • Custom Variable Import
	Flow Configuration > **Resource** > **Complex Cell**	• Edit • Exporting Composite Diagram Elements
	Flow Configuration > **Resource** > **Stored Procedure**	Edit
	Flow Configuration > **Resource** > **Work Calendar**	Edit

	Flow Configuration > **Resource** > **Data Table**	• Edit
		• View Data
		  – Edit Data
		  – Import Data
		  – Export Data

	Flow Configuration > **Resource** > **Virtual Human**	Edit
	Flow Configuration > **Resource** > **Distribution Policy**	Editing

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Menu Permission		Function Permission
	Flow Configuration > **System** > **System Configuration**	Edit
	Flow Configuration > **System** > **Gray Rule**	Edit
	Flow Configuration > **System** > **Call History**	• Call History Export • Call Statistics Dashboard • Service Capability Dashboard • Knowledge Dashboard
	Flow Configuration > **System** > **ASR Hotword**	• Edit • Download
	Flow Configuration > **System** > **Metadata Management**	Edit
	Flow Configuration > **System** > **Label Mapping Management**	• Edit • Import
	Flow Management	-
	Semantic Understanding	-
	Semantic Understanding > **Knowledge Management** > **Domain Management**	• Edit and Create Domain • Delete Domain
	Semantic Understanding > **Knowledge Management** > **Intent Management**	• Edit and Create Intent • Delete Intent
	Semantic Understanding > **Knowledge Management** > **Entity Management**	• User Entity – Edit and Create User Entity – Delete User Entity • Sensitive Words – Edit and Create Sensitive Words – Delete Sensitive Words • Stop Words – Edit and Create Stop Words – Delete Stop Words
	Semantic Understanding > **Knowledge Management** > **FAQ**	• Edit and Create FAQ • Delete FAQ

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Menu Permission		Function Permission
	Semantic Understanding > **Knowledge Management** > **Knowledge Gray Rule**	• Edit and Create Knowledge Gray Rule • Delete Knowledge Gray Rule
	Semantic Understanding > **History Dialogue** > **Historical Message Review**	-
	Semantic Understanding > **History Dialogue** > **Problem Clustering Task**	Delete the Clustering Task
	Semantic Understanding > **Check Training** > **Knowledge Test**	• Edit and Create Knowledge Test Case Group • Delete Knowledge Test Case Group
	Semantic Understanding > **Check Training** > **Operation Log**	-
	Semantic Understanding > **Check Training** > **Intelligent Engine Parameter**	• Edit system parameters • Modify Intent Parameters • Reset Intent Parameters. • Edit Flow Control Parameters
	Large Model Service > **LLM Engine** > **Large Model Zone** > **Prompt/Document Management/Knowledge List**	-
	Large Model Service > **LLM Engine** > **Workflow Management** > **Workflow Orchestration**	-
	Large Model Service > **LLM Engine** > **Model Evaluation** > **Test Set/Evaluation Task**	-
	Large Model Service > **LLM Engine** > **Large Model Service System Management** > **Operation Log/Model Management/Session Log/API Management**	-
	Large Model Service > **LLM Engine** > **Tenant Space Resource Management** > **Tenant Space Resource**	-

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Menu Permission		Function Permission
	Large Model Service > **LLM Engine** > **System Configuration** > **AI Security Configuration**	-
	Large Model Service > **LLM Engine** > **System Configuration** > **Basic Word Library Management**	-
	Large Model Service > **LLM Engine** > **System Configuration** > **Risk Thesaurus Management**	-
	Large Model Service > **LLM Engine** > **System Configuration** > **Basic Word Library Management**	-
	Large Model Service > **LLM Engine** > **Agent Zone** > **Agent Management**	-
	Large Model Service > **LLM Engine** > **Agent Zone** > **Tool Management**	-
	Large Model Service > **LLM Engine** > **Agent Zone** > **SOP Management**	
Knowledge Base Management	Knowl Attribute	-
	Consult Table Config	-
	Consulting Form Templates	-
	Content Template	-
Resource Management	Audio and Video	• Edit • Upload File
	Multimedia Library/WhatsApp Template	Edit
	Special List	• Edit • Import • Export
	SMS/Email Special List	Edit
	Channel Special List	Edit
	Harassment Record	Harassment Record Review
	External Number	Edit

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Menu Permission		Function Permission
	Email Title Keyword	Edit
Quality Management	Monitor Relationship	Edit
	Fullscreen Monitor	• Edit • View Public Large-Screen Monitoring • Edit Public Large Screen Monitoring • Query Data of All Organizations
	Report Subscription	Edit
	Rating Item	-
	Rating Template	-
	Inspection Category	-
	Inspection Object Type	-
	Inspection Relation	-
	Sentence	-
	Sensitive Word	-
	Inspection Rule	-
	Appraise Score Setting	-
	Business Scenario	-
	Text Analysis Config	-
	Analysis Field Define	-
Expansion and Integration	Pop-Up Screen	Edit
	Bidirectional Call	Edit
	Basic Table	Edit
	Page Configuration	Edit
	Contact Data Item	Edit
	UC Integration	Edit
	SmartCare Integration	Edit
	Voice Notification	Edit
	Authenticate	Edit

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Menu Permission		Function Permission
	Custom Table	• Edit • Import • Export • View Unmasking Data
	AppCube Service Configuration Center	-
	IPCCC Data Migration	-
	Application Integration	• Edit • Download
System Management	Tenant Information	• Edit • Import
	Tenant Parameter	Edit
	Organization Parameter	Edit
	Certificate	• Edit • Import
	Message Flow Control	Edit
	Resource Dump	• Configure a Cloud Search Server • Edit the Server Configuration and Task Configuration Tab Pages • Edit the Cloud Search Server Configuration Tab Page
	Resource Dump Task	Edit
	Permission Management	Edit
	Menu Management	Edit
	Gateway Monitoring	Edit
	Operation Log	-
	Sign-In Log	-
IVR Analysis	IVR Overview	-
	Flow Analysis	-
	KPI Analysis	Export
	Version Comparison	-
	Optimization	-

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Menu Permission		Function Permission
	Alarm Event	-
	Warning Condition	Edit
Case 2.0	Case Workbench	-
	Historical Case	-
Case Configuration 2.0	Case Configuration	-
Customer Center	Customer Center Management	• Edit Contacts • Batch Edit Contacts • Import Contacts
Performance	Performance Scoring	-
Performance Management	Performance Configuration	-
Log Configuration	Agent Tracing Configuration	-
Call Management	-	• Connection Management • Show Busy/Idle • Break/End Break • Transfer • Hold/Unhold • Outgoing Call • Three-Party Call • Help-seeking • Mute/Unmute • End Call • Answer • Audio/Video Switching • Internal Call • Agent Multi-Channel Support • Callback • Two-stage Dialing • Co-browsing • Reset Skill Queue

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Menu Permission		Function Permission
Personal Center	-	• Modifying Agent Fixed-Line Phone Number • Maximum Number Of Concurrent Service Customers • Generate an Agent Electronic Business Card
Notification Center	-	• Sending a Bulletin • Group-Send Internal Messages • View Notification • Administrator Send Notification • Agent Send Notification
System Public Permissions	-	• User Numbers are Displayed in Plaintext • Query Organization • Viewing and Editing Home Organization Data • View Lower-Level Organization Data – Edit Lower-Level Organization Data • View All Organization Data – Edit All Organization Data • Upload Email Attachment • Download Email Attachment • Agent Parameters

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Menu Permission		Function Permission
WFM	Configuration	• Skill Queue • BU – Edit • Site – Edit – Move Agent • Agent – Edit – Move Agent – Plain Text Display • Activity – Edit • Color – Edit • State Group – Edit • Notification – Edit – Receive Notifications
	Policy	• Time-off – Edit • Exception Type – Edit • Shift – Edit • Contract – Edit • Rotating Pattern – Edit

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Menu Permission		Function Permission
	Forecast	• Scenario – Adjust – Build – Edit – Publish • Overlay – Edit • Historical Data – Edit • Forecast Template – Edit
	Schedule	• Scenario – Publish – Edit – Build • Master Schedule – Edit – Approve – Clear – Swap Shift – Import • Approve Change
	Calendar	• Calendar Item – Change Status – Edit • Time-off Limit – Edit
	Trade	• Trade List – Approve Trade
	Performance	• Monitor • Intraday View
	Adherence	• Graphical • Details
My Time	Agent Schedule	• My Schedule • Other Schedules

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Menu Permission		Function Permission
	Trade	Trade • Allow Trading
	Preference	• Calendar • Details
	Time-off	• Calendar • Details

2.2.3 Configuring Employee Information

Employees indicate personnel employed by an enterprise. Employee accounts can be used to sign in to the system and perform business operations.

Context

Assign administrator permissions to the new employee Jack in department A so that Jack can work as an administrator.

Prerequisites

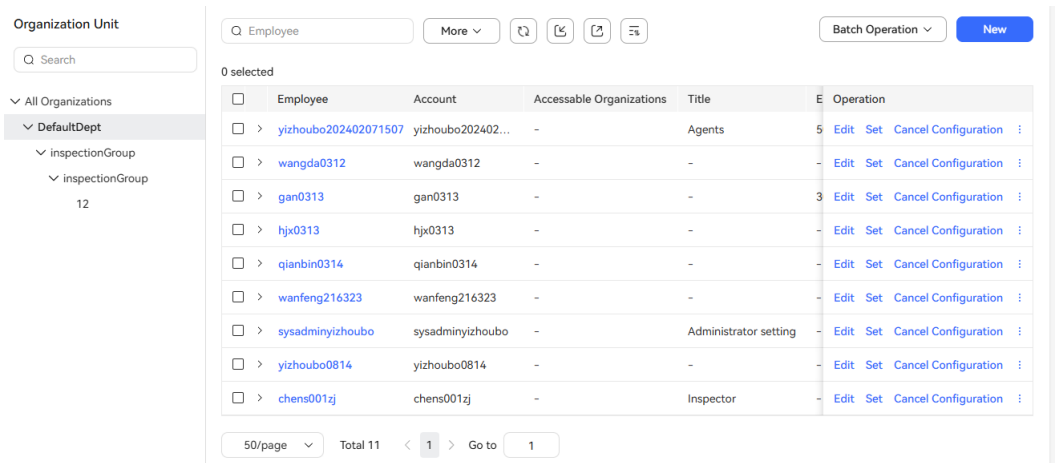
Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Configure an OU. For details, see **2.2.1 Configuring OUs**.

Step 2 Choose **Configuration Center** > **Employee Center** > **Employee**. The employee information management page is displayed. The OU information is displayed on the left, and employee information under the OU is displayed on the right.

Figure 2-24 Employee



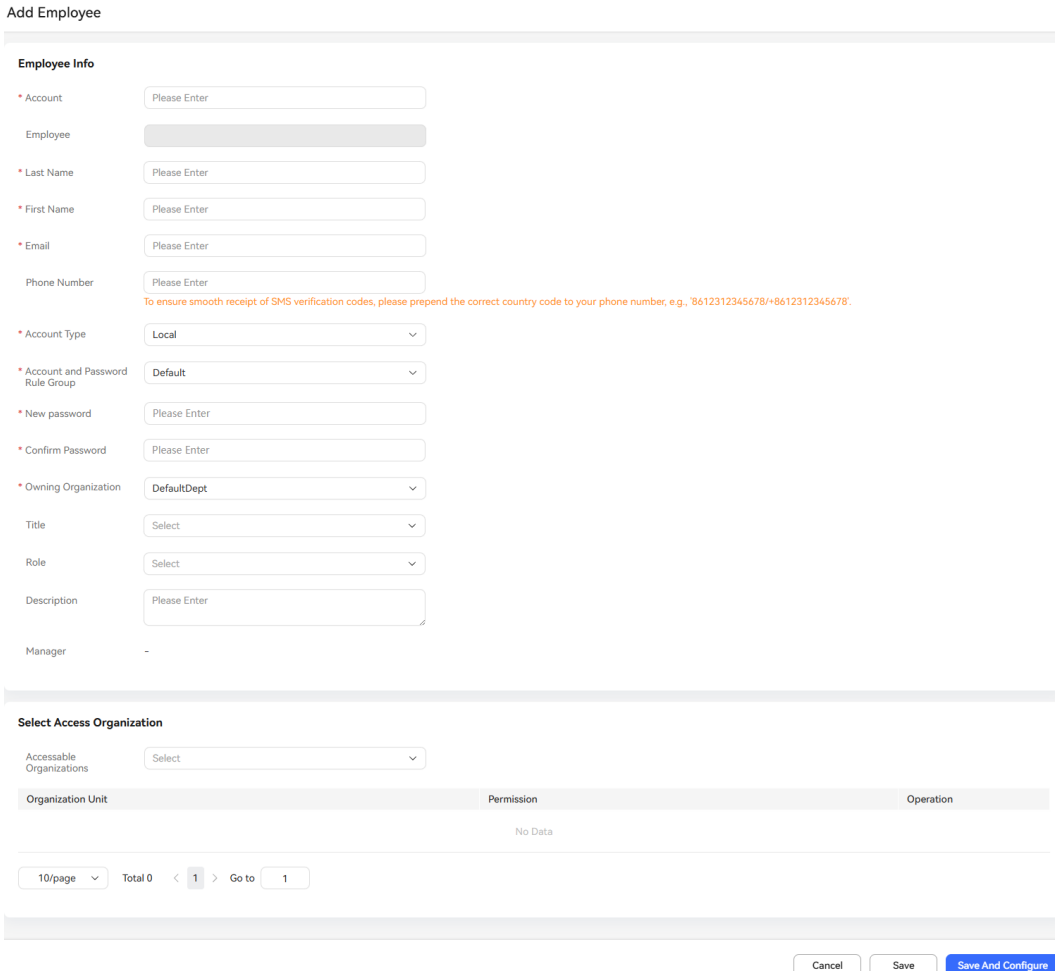
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> **NOTE**
>
> Information about the default employee created during tenant provisioning cannot be modified. Only agent IDs and skill queues can be configured, and passwords can be changed.

Step 3 (Optional) Enter an OU name to fuzzily search for all employee information under an OU based on the OU name.

Step 4 Click **New**. On the **Add Employee** page, configure employee information.

Figure 2-25 Employee Info



- **Account** (mandatory): Employee account used by business personnel to sign in to the AICC, for example, **j100006**.
- **Employee**: Employee name, which cannot be edited. On the Chinese GUI, this parameter consists of the last name and the first name, for example, **zhangsan**. On the non-Chinese GUI, this parameter consists of the first name and the last name, for example, **san zhang**.
- **Last Name** (mandatory): The last name of an employee, for example, **zhang**.

  > **NOTE**
  >
  > If you want to change the last name of an employee after the employee is associated with an agent, click **Save And Configure** and then click **Save**.

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- **First Name** (mandatory): The first name of an employee, for example, **san**.

  NOTE

  If you want to change the first name of an employee after the employee is associated with an agent, click **Save And Configure** and then click **Save**.

- **Email** (mandatory): Business email address used by an employee to receive notifications.
- **Phone Number**: Phone number of an employee.

  To receive the SMS verification code, you need to add the correct country code before the mobile number, for example, **8612312345678** or **+8612312345678**.

- **Account Type** (mandatory): The value is **Local** or **Domain**. You can select **Domain** only when domain account authentication is enabled for the tenant.

  When the tenant parameter **Whether to enable domain account authentication** is set to **yes**, LDAP-related tenant parameters are used. When the tenant parameter **Whether to enable domain account authentication** is set to **consistent with the system level**, LDAP-related system parameters are used.

- **Account and Password Rule Group** (mandatory): Password setting rule of an employee. By default, **Default** is selected.
- **New password** and **Confirm Password** (mandatory): Password for the first sign-in.

  NOTE

  Set a new password based on this password during the first sign-in. The new password must contain at least two different characters from the initial password.

  Set a password that meets the password complexity requirements as prompted.

  These two parameters are not displayed when **Account Type** is set to **Domain**.

- **Owning Organization** (mandatory): OU to which an employee belongs.

  Organization: This parameter is specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

  – After the parameter is set to **Yes**:

    i. For accounts without the **View All Organization Data** permission in **System Public Permissions**:

       ○ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/ **Organization Unit** page can be selected.

         NOTE

         If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

       ○ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is granted, the data under the OU (excluding sub-OUs) to which the current employee belongs can be viewed.

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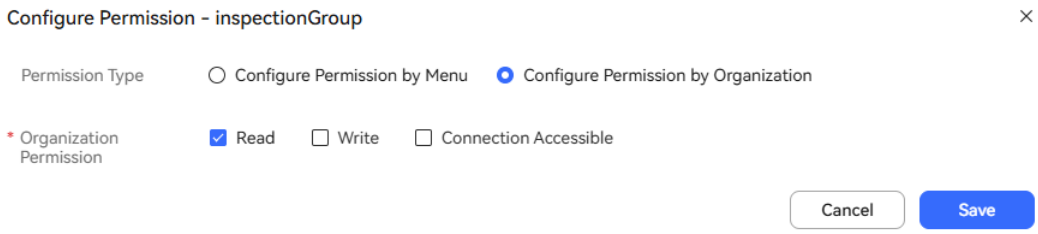
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is granted, the data under sub-OUs of the OU to which the current employee belongs can be viewed.

  ii. Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

- After the tenant parameter is set to **No**, all OUs in the tenant space can be selected.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

- **Accessible Organizations**: OUs that can be accessed by an employee. Permissions can be configured by menu permission or organization. By default, the read permission is configured by organization.

  Figure 2-26 Configuring accessible OUs

  The accessible OUs are specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

  - After the parameter is set to **Yes**:
    - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

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- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– After the parameter control function is disabled, all OUs in the tenant space can be selected.

NOTE

If the OU to which an employee belongs has the read permission on OU A and the employee has the write permission on OU A, the write permission of the employee on OU A is preferentially used.

- **Title**: Title of an employee, which is used for the AI inspection business to determine the operation permissions of the employee in the inspection task handling process.
- **Role**: Function permissions and menu permissions that the business account of an employee has. For details about how to configure role permissions, see **2.2.2 Configuring Role Permissions**.
- **Description**: Remarks about an employee.
- **Manager**: Unavailable when an employee is created. Configure the manager in the OU.

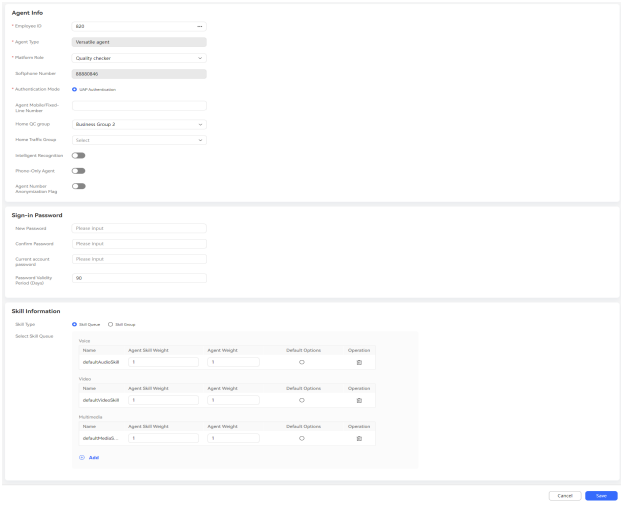
Step 5 Complete the employee creation and open the **Configure Agent** page.

- Click **Save**. On the **Employee** page, click **Set** corresponding to the new employee to open the **Configure Agent** page.
- Click **SaveAndConfigure** to complete the employee creation and directly open the **Configure Agent** page.

Step 6 Configure agent information.

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Figure 2-27 Configure Agent



- **Agent Info**
  - **Employee ID** (mandatory): Select an agent ID and its softphone number, agent type, and platform role.
  - **Agent Type**: The default value is the agent type associated with the selected **Employee ID**.
  - **Platform Role** (mandatory): The default value is the platform role associated with the selected **Employee ID**. The value can be changed. The options are **Common agent**, **Quality checker**, and **Callout agent**.
  - **Softphone Number**: The default value is the softphone number associated with the selected **Employee ID**.
  - **Authentication Mode** (mandatory): Agent information authentication mode. The value is **UAP Authentication**.
  - **Agent Mobile/Fixed-Line Number**: Mobile number or fixed-line phone number of the agent.
  - **Home QC group**: Inspection group to which the agent belongs. This parameter is available when **Platform Role** is set to **Quality checker**.
  - **Home Traffic Group**: Agent group to which the agent belongs.
  - **Intelligent Recognition**: Configure whether the agent is an intelligent agent. This switch is turned off by default. In addition to basic voice control functions, intelligent agents support real-time ASR and related intelligent recommendation functions. Before turning on this switch, ensure that the number of agents for which intelligent recognition is enabled does not exceed the number of intelligent agents allocated when the tenant is created.
  - **Automatic Session Summary**: This switch is turned off by default. After this function is enabled, the system can intelligently summarize the call content, issue resolution result, and customer satisfaction when **Call Reason** is configured on the workbench.

    This parameter is available only when the **Automatic Conversation Summary** feature is enabled and the **Intelligent Recognition** function is enabled.

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  - **Smart Form Filling**: This switch is turned off by default. After this switch is turned on, the system automatically extracts the information from the dialog text between a customer and an agent when the agent creates a case on the workbench. The system fills the information in the corresponding case form to complete the case filling task, so that the agent does not need to manually enter the information.

    This parameter is available only when the tenant parameter **Enabling the Intelligent TT Filling Feature** is set to **Yes**.

    To enable the **Smart Form Filling** function, enable the **Intelligent Recognition** function first.
  - **Reply polishing**: This switch is turned off by default. After this switch is turned on, an agent can polish a reply in plain text in the text box during a session on the workbench. The agent can use the scripts to improve service professionalism.

    This parameter is available only when the **Refine response** feature is enabled and for multimedia or versatile agents for which the **Intelligent Recognition** function is enabled.
  - **Phone–Only Agent**: After this switch is turned on, an agent can dial a specified access code to access an IVR flow, press a key as prompted to enter the agent ID and password to sign in, and answer calls on a mobile phone. When this switch is turned on, system O&M personnel need to customize the phone–only agent process for the tenant based on the platform, and the tenant needs to provide number resources for accessing the phone–only agent process.
  - **Agent Number Anonymization Flag**: Flag for a third-party to mark whether an agent has the anonymization feature. This is not a feature switch. The anonymization feature enables agents to customize the calling number displayed on the customer side (the calling number displayed to the customer) and the calling number displayed on the agent side (the calling number displayed to the agent).

- **Sign-in Password**
  - **New Password** and **Confirm Password**: Password used by the agent to log in to the softphone.
  - **Current account password**: Password of the business account for which employee information is configured, which is used to ensure account security.
  - **Password Validity Period (Days)**: Validity period of the softphone login password.
  - **Verification Code**: Authentication mode used for password settings to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

    Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

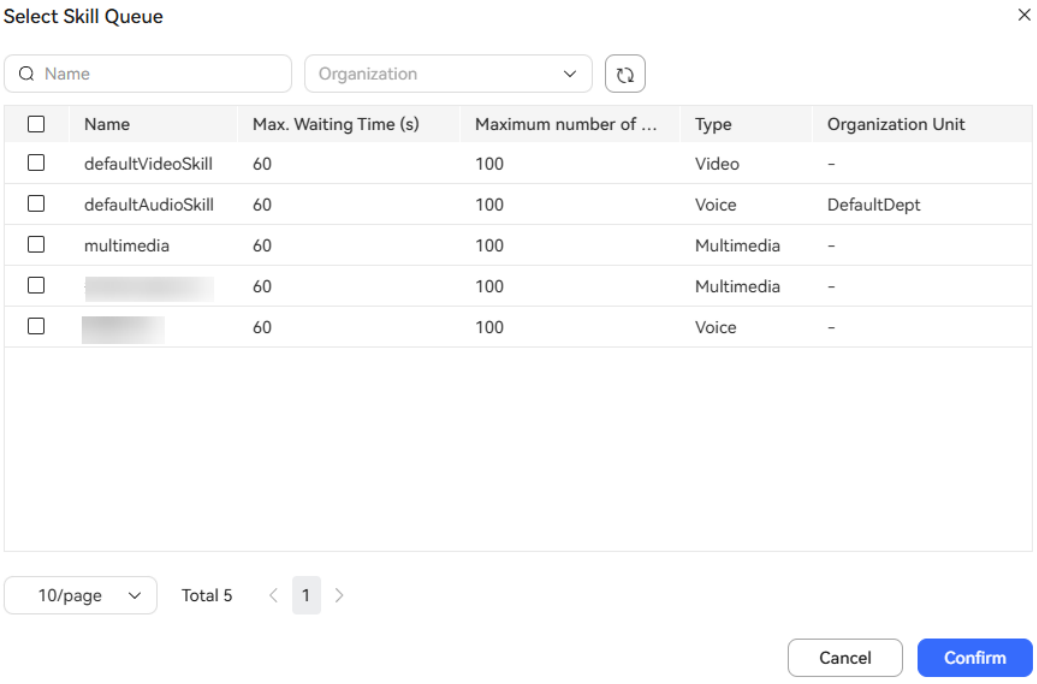
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NOTE

- A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
- The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password change fails, you can obtain a new verification code immediately.

- **Skill Information**
  - **Skill Type**: Skill type of the agent configured for the current employee. The options are **Skill Queue** and **Skill Group**.
  - **Select Skill Queue**: Click ⊕ to select skill queues to be associated with the agent configured for the current employee. Skill queues can be selected based on OUs.

Figure 2-28 Select Skill Queue page



The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

Operations supported for OU selection:

- **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.

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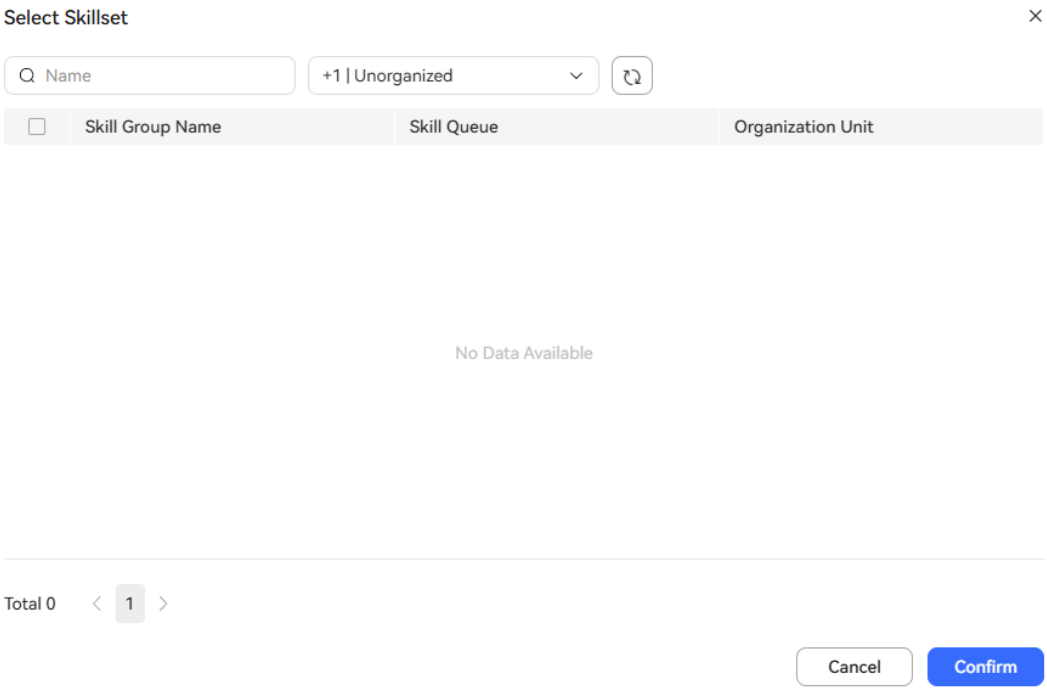
- NOTE

  Before using this parameter, ensure that all the following conditions are met:

  - The **Has the tenant enabled inter-organization data isolation enforcement** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
  - Relevant OU permissions have been configured. Either of the following is acceptable:
    - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
    - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.

– **Select Skillset**: Click *** to select skill groups to be associated with the agent configured for the current employee. Skill groups can be selected based on OUs.

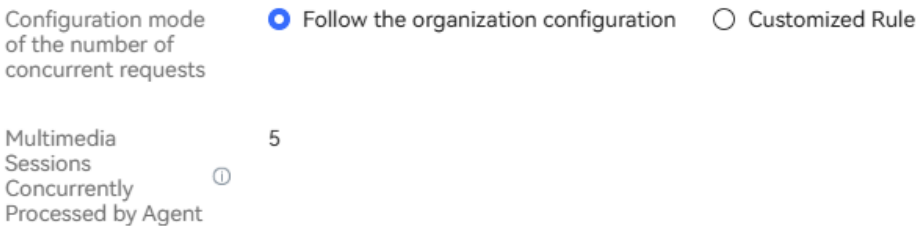
Figure 2-29 Select Skillset page



- **Call Configuration**: Set employee-level call parameters. This configuration is displayed when the agent type is versatile agent or multimedia agent.
  – **Configuration mode of the number of concurrent requests**: This parameter is set to **Follow the organization configuration** by default and can be customized.
  – **Multimedia Sessions Concurrently Processed by Agent**: This parameter can be modified when **Configuration mode of the number of concurrent requests** is set to **Customized Rule**. The maximum value is **60**.

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Figure 2-30 Call Configuration

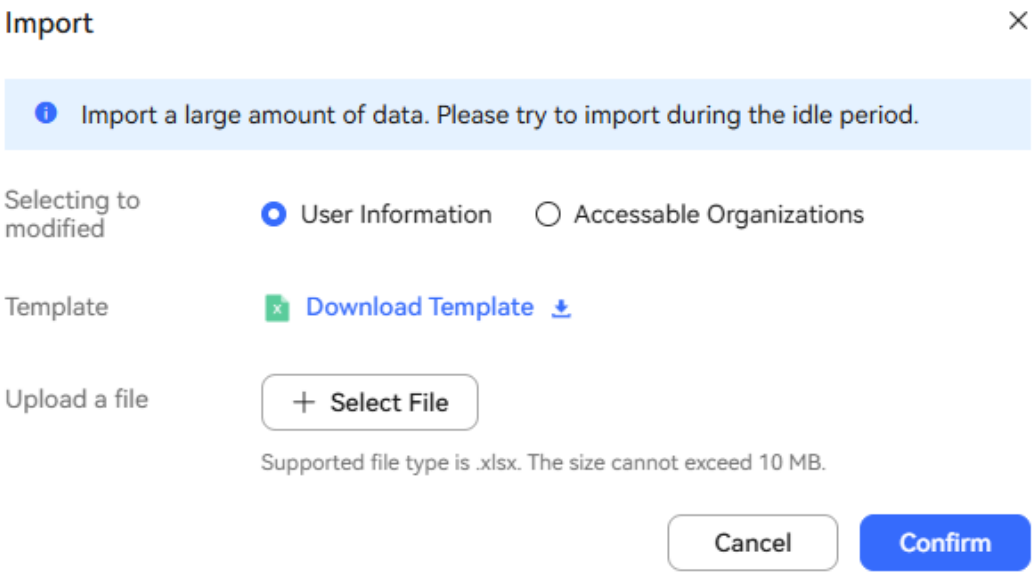


Step 7 (Optional) Filter data.

- Search for employee information by employee.
- Click **More**, enter an account, select a status, and click **Search** to filter detailed data.
- Click  to refresh real-time data.
- Import employee information and accessible OUs.

  a. Click  . The **Import** page is displayed.

  Figure 2-31 Importing a user

  b. Click **Download Template** to download the employee information template or the accessible OU to the local PC.

  c. Enter the user information or accessible OU information. For details, see the description on the **readme** sheet.

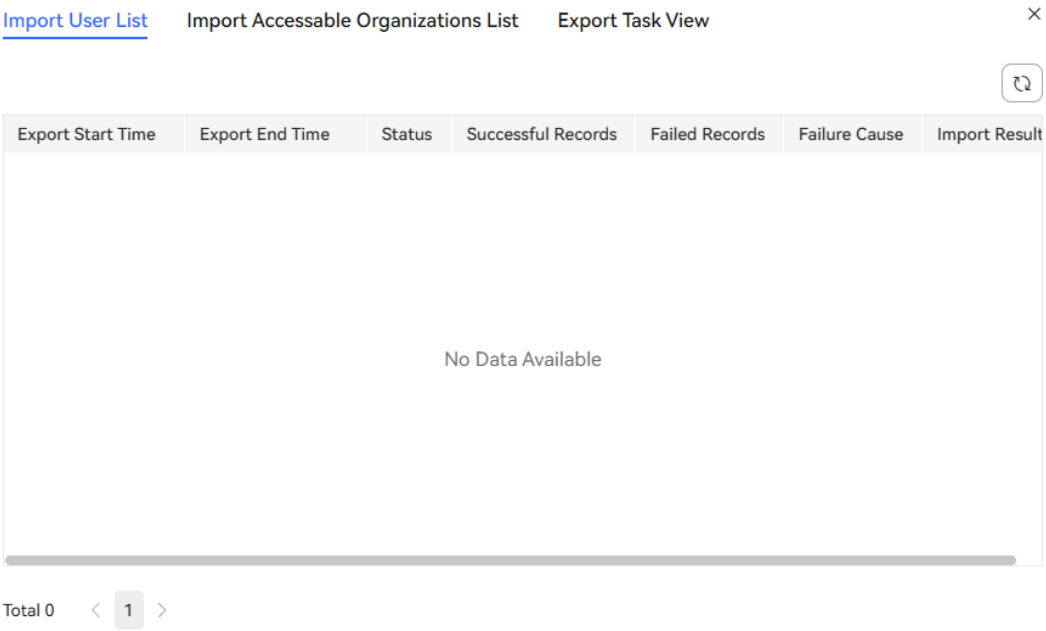
  d. Click  to upload the file.

  e. Click **Confirm** to create an import task.

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f. Click and select **Import User List** to view the user import task list. Select an import task according to the import time and click **Download** to view the import result.

Figure 2-32 Import User List



- Export a file.

  a. Click . A message is displayed, asking you whether to export employee information.

  b. Click **Export All**. The page for adding export tasks is displayed.

  c. After entering the compressed password, you can click to view the plaintext password.

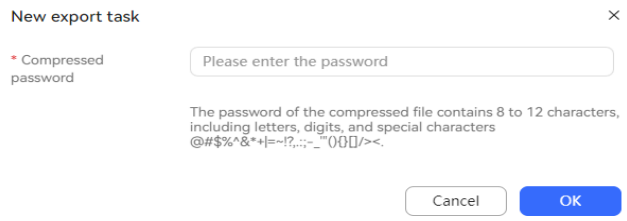
  d. Click **OK** to export employee information.

  e. Click . On the page that is displayed, click the **Export Task View** tab page and view the user export task list.

- Download employee information.

  a. Select employees to be downloaded in batches and click to create an export task. If no employee is selected, information about all employees is downloaded by default.

Figure 2-33 New export task

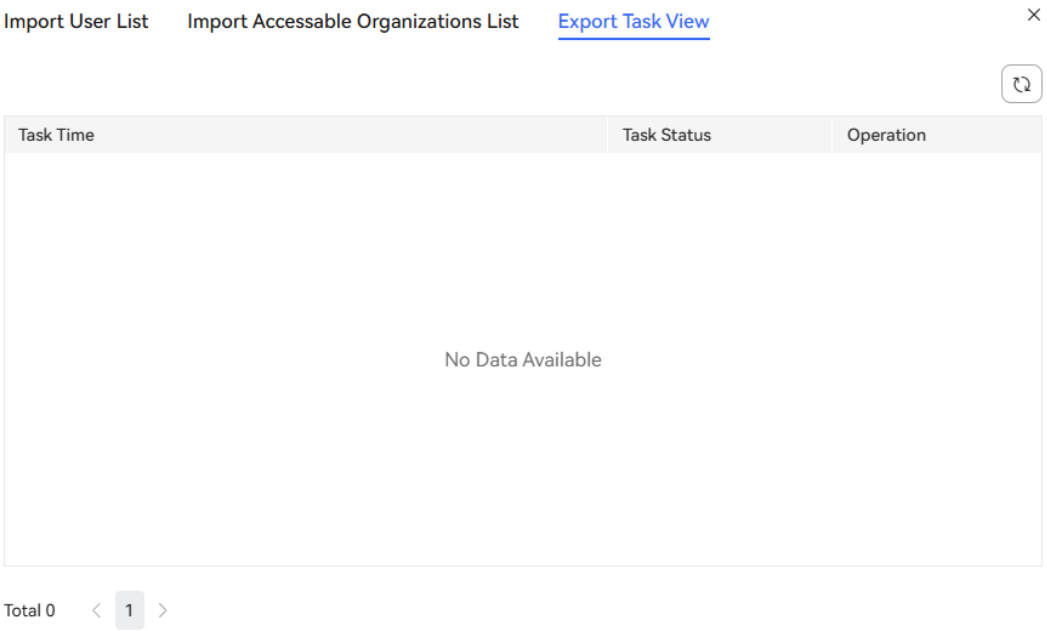


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b. Set **Compressed password** and click **OK** to create an export task.

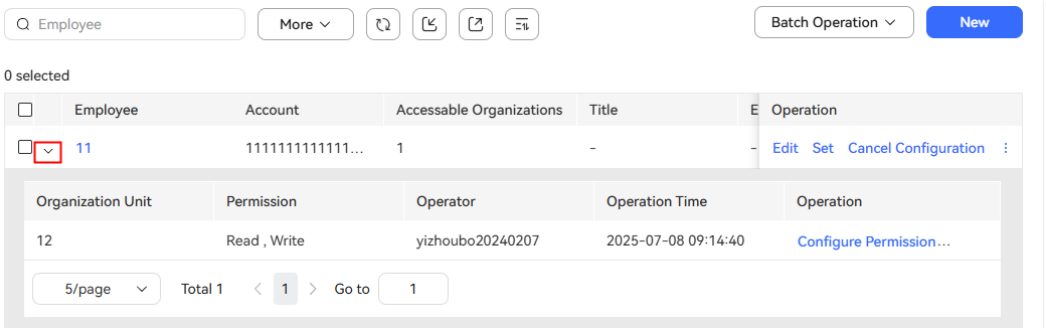
c. Click . On the page that is displayed, click the **Export Task View** tab page and view the export task list. Click **Download** corresponding to an export task based on **Task Time** to download employee information to the local PC.

Figure 2-34 Export task view



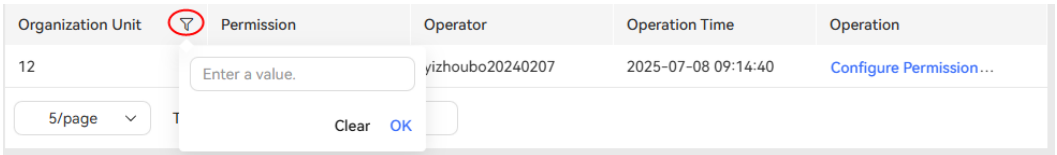
Step 8 Click on the left of the employee to edit the organization that the user can access.

Figure 2-35 Editing an OU that the user can access



1. Move the cursor next to **Organization Unit** and click . Enter an OU name to filter OUs.

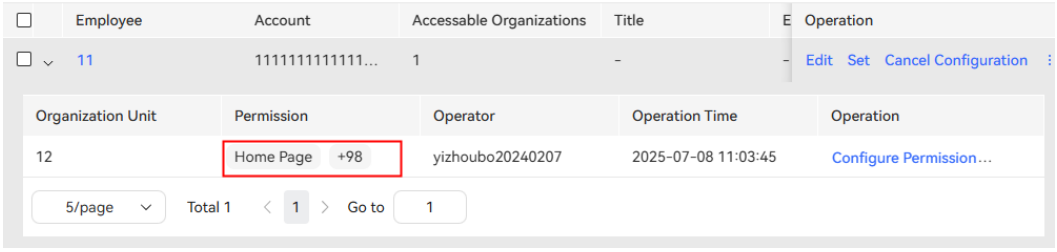
Figure 2-36 Filtering OUs



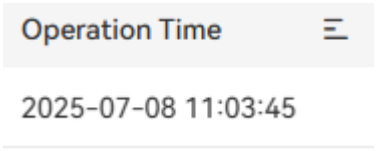
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2. If permissions are configured by menu type, click the menu bubble to view menu details.

Figure 2-37 Menu bubble



3. Move the cursor next to **Operation Time** and click . Sort parameters by operation time in descending or ascending order.



Step 9 Operate employee information in batches.

- **Disable**: Disable employee accounts in batches.

  To search for a disabled account, set the search criterion **Status** to **Forbid** and click **Search**.

  CAUTION

  A disabled account can be used only after it is deleted and then created again. Exercise caution when performing this operation.

- **Delete**: Delete an invalid employee account.

  A created account cannot be directly deleted. You need to disable the account before deleting it.

- **Suspend**: Suspend an account that has security issues so that the account cannot be used to sign in to the system.
- **Resume**: Resume a suspended account so that the account can be used to sign in to the system.
- **Reset Password**: Reset the password of an employee account. The new password takes effect only after the correct sign-in password of the current operator is entered.

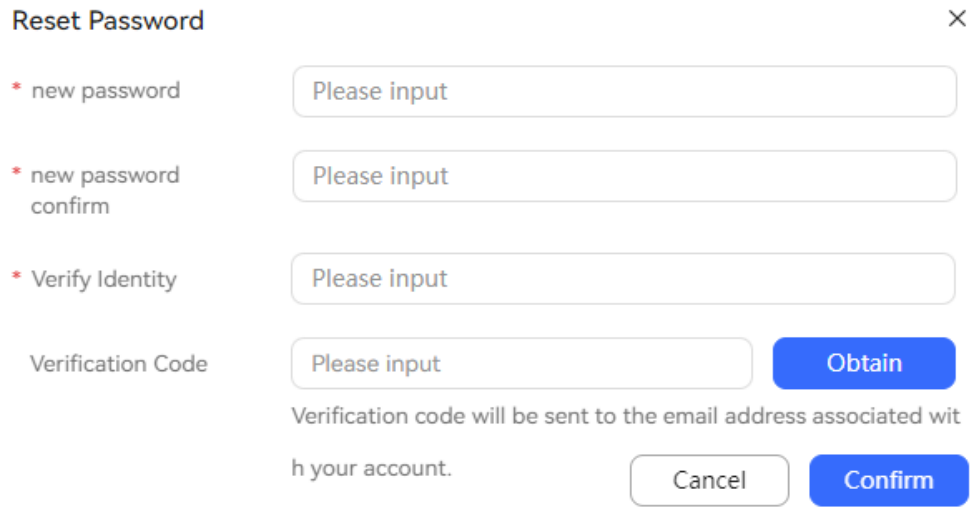
  A verification code is required for resetting the password to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

  Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

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NOTE

- A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
- The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password reset fails, you can obtain a new verification code immediately.



- **Adding Roles in Batches** and **Deleting Roles in Batches**: Set roles for accounts in batches.
- **Add Access Organization**: Set accessible OUs for accounts in batches.
- **Configuring Employees**: If agent IDs have not been configured for employee accounts, you can configure agent IDs and related agent information for the employee accounts in batches.
- **Cancel Configuration**: If agent IDs have been configured for employee accounts, you can cancel the configured agent IDs and related agent information for the employee accounts in batches.

----End

2.2.4 Importing Federated Users

The VDN supports import of third-party system users, such as federated users.

Prerequisites

- The system administrator has added a federated app.
- The system administrator has configured a third-party authentication system for a tenant when creating the tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Employee**.

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Step 2 Choose **Import Federated User** > **Import Federated User**, click **Download Template**, open the template, and add information about the users to be imported.

A maximum of 10,000 records can be imported using a template. The template size cannot exceed 10 MB.

Step 3 Click , select the modified template, and click **Submit**.

Step 4 Click **OK** to close the dialog box.

Step 5 Choose **Import Federated User** > **Federated User Import Result** to view the import result.

If **Status** is **Success**, the import is successful.

Step 6 Click **Download** in the **Import Result** column to download the import result details.

NOTE

If the start time exceeds seven days, the **Download** button is not displayed and the import result cannot be downloaded.

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

Step 7 Return to the **Configuration Center** > **Employee Center** > **Employee** page and view the new federated user in the employee account list.

Step 8 Configure a role for the federated user. For details, see **2.2.2 Configuring Role Permissions**.

----End

2.2.5 Configuring User Groups

User groups can be used to distinguish inspection objects during configuration of inspection relationships.

Prerequisites

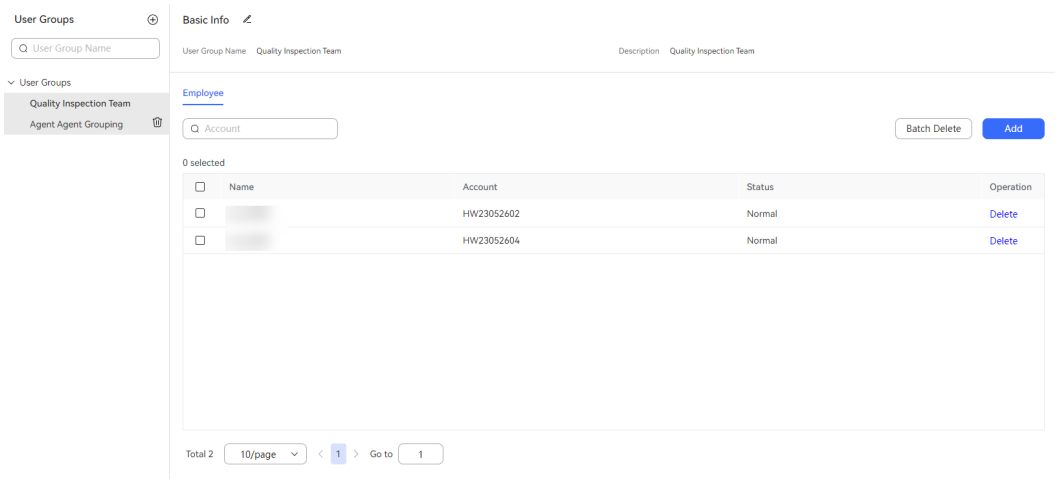
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Choose **Configuration Center** > **Employee Center** > **User Group**.

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Figure 2-38 User Group



Step 2 Click ⊕ to add a user group and configure basic user group information.

Figure 2-39 Creating a User Group



- **User Groups**: Enter a user group name, which is mandatory. An example is **Administrator group**. The value can contain a maximum of 64 characters and cannot contain the following special characters: <>
- **Description**: Enter a user group description, which is optional.

Step 3 Click **Save**. The user group is created successfully.

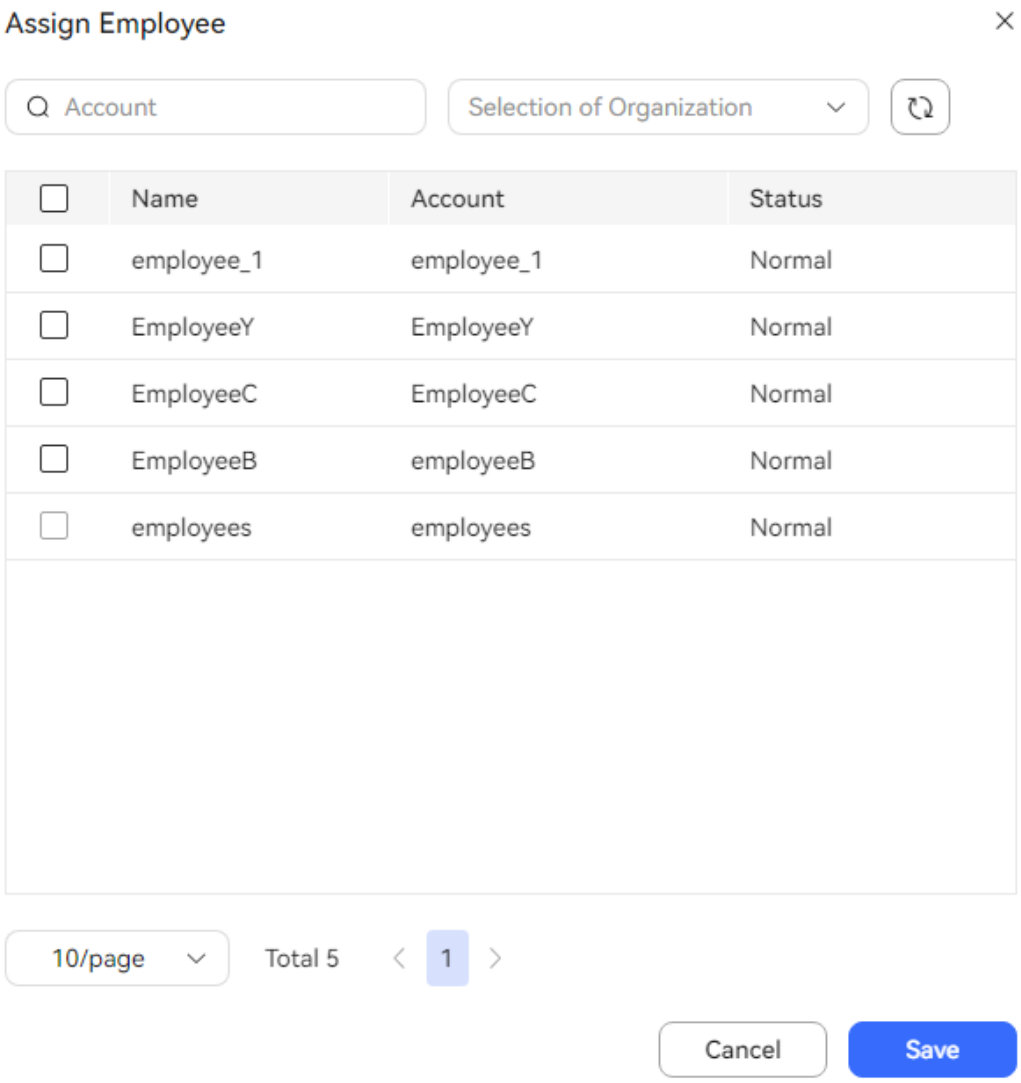
Step 4 (Optional) Customize user group information.

- Select a user group from the user group list and click 🗑 to delete the user group.
- Select a user group and click ✎ on the **Basic Info** page on the right to modify the name and description of the user group.
- Enter a user group name and click 🔍 to fuzzily search for user groups based on the user group name.

Step 5 Select the new user group and click **Add** to assign employees to the user group.

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Figure 2-40 Assign Employee page



Select an OU. When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, agents can be selected by OU. In addition, a non-administrator account that is not configured with the organization permission can query only employees of the current organization.

Step 6 Click **Save** to save the assigned employees.

Step 7 (Optional) Configure employee information under the user group.

- Enter an account and click to fuzzily search for employee information based on the account.
- Select multiple employees and click **Batch Delete** to delete them from the user group in batches.
- Click **Delete** corresponding to an employee to delete a single employee from the user group.

----End

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2.2.6 Configuring Account and Password Rules

The AICC provides a default account and password rule group **Default**, which cannot be modified or deleted. A tenant administrator can customize account and password rules.

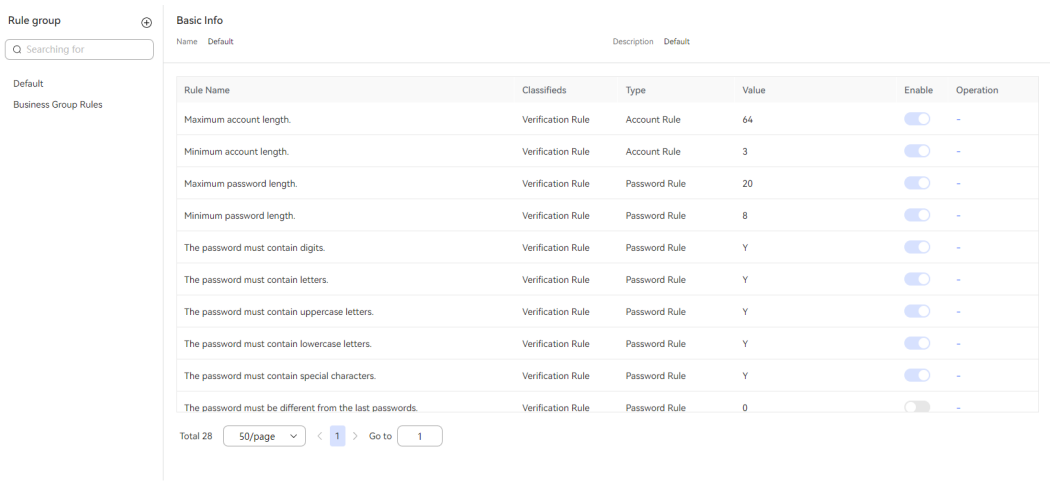
Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

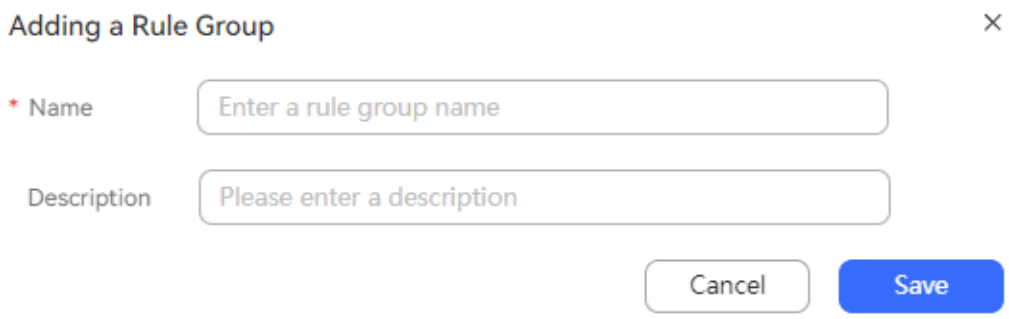
Step 1 Choose **Configuration Center** > **Employee Center** > **Account and Password Rule**.

Figure 2-41 Account and Password Rule



Step 2 Click + in the **Rule group** list to add a rule group.

Figure 2-42 Adding a Rule Group



Step 3 Customize the name and description of the rule group, and click **Save**. The rule group is added successfully.

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Step 4 (Optional) Customize rule group information.

- Click to delete a customized rule group.
- Click to modify the name and description of the rule group.
- Enter a rule group name and click to fuzzily search for rule groups based on the rule group name.

Step 5 Select the new account and password rule group. In the **Rule List** on the right, click **Modify** corresponding to the rule to be modified to modify the rule.

NOTE

Changing or disabling some password rules (such as **Minimum password length.** and **The password must contain digits.**) will affect password security and bring security risks. Exercise caution when changing or disabling these rules.

Step 6 Change the settings in the **Value** and **Enable** columns, and click **Save**.

----End

2.2.7 Managing Account Locks

A tenant administrator can manually lock or unlock agent accounts to ensure agent account security and proper use.

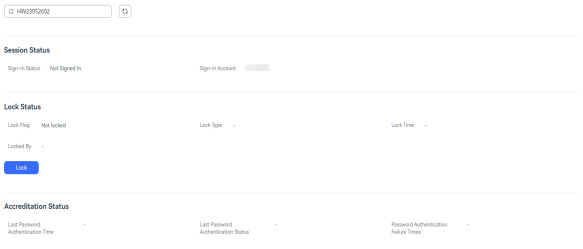
Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Account Lock**.

Figure 2-43 Account Lock



Step 2 Enter the agent account to be managed and click to search for business account information.

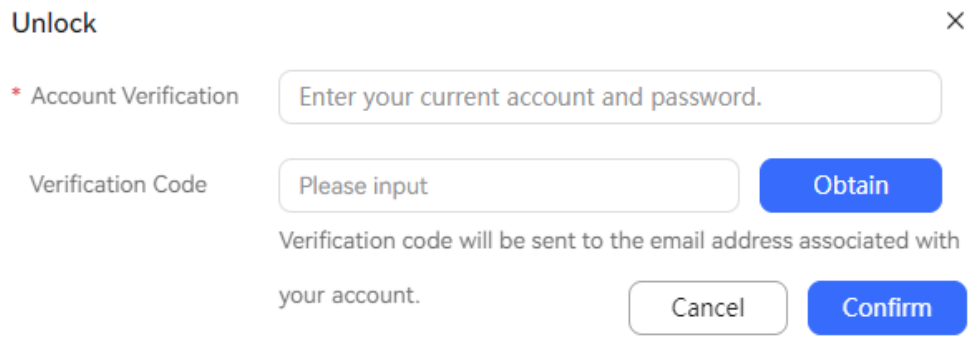
Step 3 Manage the agent account.

- Click **Lock** to lock the business account and restrict agent sign-in.

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- Click **Unlock**, enter the password of the current operator account, and click **OK** to unlock the business account and enable normal agent sign-in.

  Figure 2-44 Unlock

  A verification code is required for unlocking the account to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. For details about the authentication mode, see the value of **Two-factor Authentication Method** set by the system administrator.

  NOTE

  - A verification code is valid for 1 to 5 minutes and is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period** set by the system administrator.
  - The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but the account fails to be unlocked, you can obtain a new verification code immediately.

----End

2.2.8 Managing Sessions

A tenant administrator can view information about established sessions of agents online and manually terminate specified sessions.

Prerequisites

- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- If the agent for whom session termination is performed is in a call, the session termination does not affect the call. If the agent performs other operations or refreshes the page, the system forcibly signs out the agent. Therefore, exercise caution when terminating sessions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Session Management**.

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Figure 2-45 Session Management



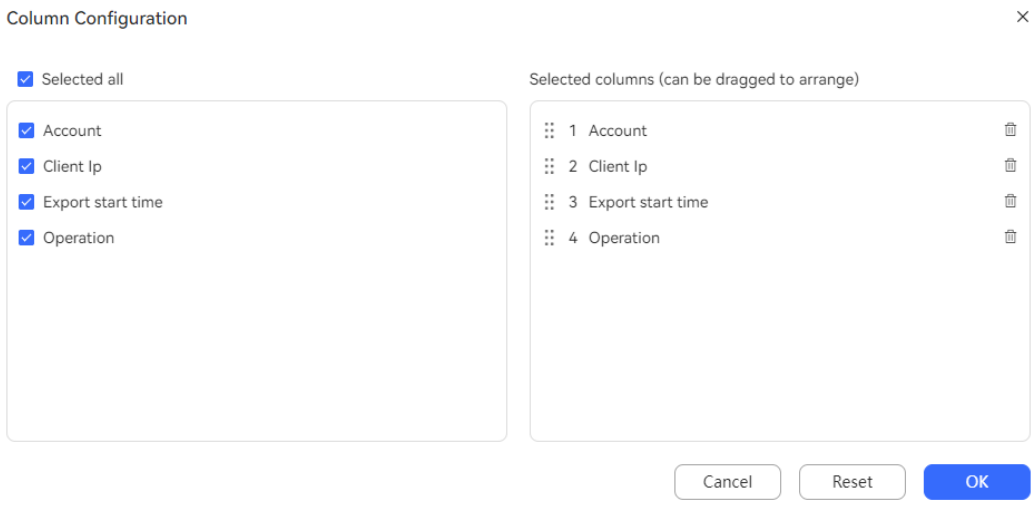
- **Account**: Signed-in business account.
- **Client Ip**: Agent sign-in IP address.
- **Begin Time**: Time when an agent signs in to the AICC.

Step 2 Set the data filter criterion.

- Enter an account to search for session information by account.
- Click  to refresh data based on the criterion or refresh real-time data.

Step 3 Click to set the table header.

Figure 2-46 Column Configuration



- Click  or  to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Click **Delete** corresponding to a session to terminate it.

NOTE

After a session is terminated, the client cannot continue to perform operations and returns to the sign-in page.

----End

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2.3 Enabling Manual Services

After the employee information of the VDN is configured, you can configure the service content.

2.3.1 Voice and Video Services

After a tenant administrator configures skill queues and called party routes and associates business accounts with agent IDs, agents can handle call businesses.

2.3.1.1 Maintaining Tenant Space Skill Queues

After a VCC is added, the tenant administrator needs to maintain the skill queues and agent accounts of the VCC.

Context

After modifying the subtype of a multimedia skill queue, you need to modify the associated called route, agent configuration, channel configuration, IVR flow, and intelligent IVR flow.

Prerequisites

- A tenant has been created.
- Permissions on operations under the current menu controlled by separate permissions have been configured. For details about the operation permissions that can be configured separately, see **Table 2-8**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator using the account and password set during tenant creation.

NOTE

If you forget the password, sign in to the AICC as the system administrator, choose **Call Center** > **Tenant Management**, click **Edit** in the **Operation** column corresponding to the tenant space, and click **Reset Password** in the upper right corner to change the password of the tenant administrator.

Step 2 Choose **Configuration Center** > **Employee Center** > **Skill** and click **New** to add a skill queue for the VCC.

You can directly use or edit the default skill queues automatically created after the system is installed, add new skill queues, or copy existing skill queues. The maximum number of skill queues of a tenant is specified by the system parameter **Max. Skill Queues for Each Tenant**. The value ranges from 1 to 5000. The default value is **1000**.

Step 3 On the **New Skill Queue** page, set parameters based on **Table 2-9**.

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Figure 2-47 New Skill Queue page

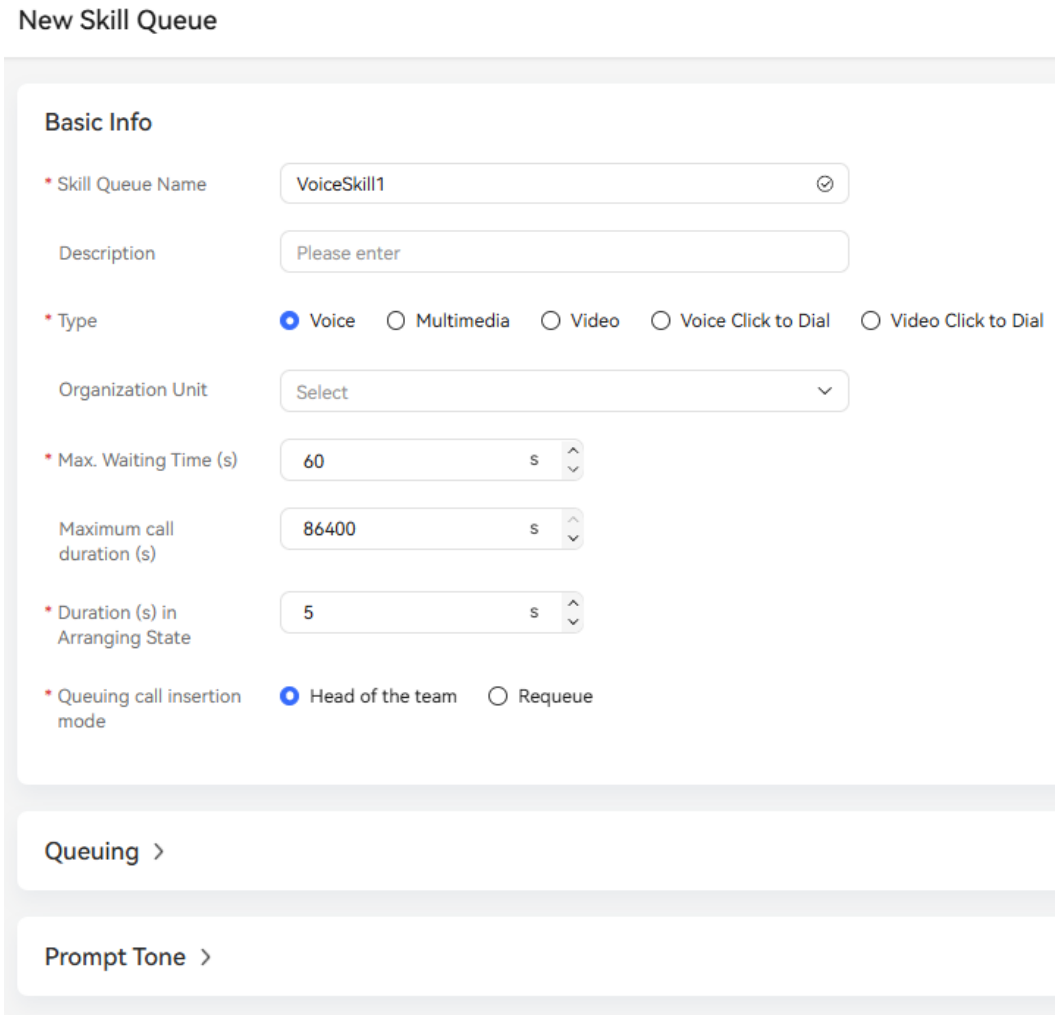


Table 2-9 Parameter description

Parameter	Description
Skill Queue Name	The value can contain a maximum of 100 characters.
Description	The value can contain a maximum of 255 characters.

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Parameter	Description
Type	The options are as follows: • **Voice**: A voice skill queue handles voice businesses. • **Multimedia**: A multimedia skill queue handles multimedia businesses. • **Video**: A video skill queue handles video businesses. • **Voice Click to Dial**: A voice click-to-dial skill queue is used together with multimedia businesses. During a text chat with an agent, a customer can directly make a voice call to the agent. • **Video Click to Dial**: A video click-to-dial skill queue is used together with multimedia businesses. During a text chat with an agent, a customer can directly make a video call to the agent. **NOTE** Click-to-dial skill queues apply only to the web channel. Default value: **Voice**
Subtype	This parameter needs to be set when **Type** is set to **Multimedia**. Select a channel type. The options are as follows: • EMAIL • WEB • SMS • WECHAT • FACEBOOK • TWITTER • LINE • WHATSAPP • INSTAGRAM • TELEGRAM

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Parameter	Description
Organization Unit	Add an OU for a skill queue. The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read and write permissions are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available. If the value of **Organization Unit** is left empty, **Unorganized** is selected.
Max. Waiting Time (s)	Default value: **60** Unit: second Value range: 1–60000
Maximum call duration (s)	For agent service, the duration of conversations between agents and customers needs to be limited. If the duration from the time when a customer initiates a call to the time when the call ends exceeds the value of this parameter, the system automatically releases the call. Default value: **86400** Unit: second Value range: 1–86400

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Parameter	Description
Duration (s) in Arranging State	Duration during which an agent is in wrap-up state after a call ends. After this duration, the agent enters the idle state and can answer calls from customers. The interval between maximum wrap-up state durations is 5. If the value is in the range of [1,5), the actual maximum wrap-up state duration is 5; if the value is in the range of [5,10), the actual maximum wrap-up state duration is 10; if the value is in the range of [10,15), the actual maximum wrap-up state duration is 15; and so on. For example, if the value is **12**, the actual maximum wrap-up state duration is 15. Default value: **5** Unit: second Value range: 0–3600
Queuing call insertion mode	Queuing mode of a call that is returned to the original skill queue due to rejection by an agent or no answering within the specified period. The options are as follows: • **Head of the team**: The call is ranked first in the same skill queue. • **Requeue**: The call is ranked first, last, or middle in the same skill queue.

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Parameter	Description
Queuing	Personalized configuration. The options are as follows: ● Queuing timeout processing configuration – **Skill Timeout** ▪ **Release** (default) ▪ **Transfer** – **Transfer Type** ▪ **Skill Queue** ▪ **IVR** The default value is **IVR**. When **Type** is set to **Multimedia**, **Transfer Type** can only be **Skill Queue**. – **Select IVR**/**Select Skill** ● Queue busy or overflow processing – **Skill Busy** ▪ **Release** (default) ▪ **Transfer** – **Transfer Type** ▪ **Skill Queue** ▪ **IVR** The default value is **IVR**. When **Type** is set to **Multimedia**, **Transfer Type** can only be **Skill Queue**. – **Select IVR**/**Select Skill** – **Queue Usage (%)** Device usage of the transferred-to skill queue when **Transfer Type** is set to **Skill Queue**. Device usage (%) = (Number of non-idle agents/Number of signed-in agents) x 70% + (Number of queuing calls/Maximum number of queuing calls) x 30% This parameter is valid when **Transfer Type** is set to **Skill Queue**. The system can transfer a call to a skill queue only when the device usage of the skill queue after the call transfer is lower than the value of this parameter. Otherwise, the system releases the call.

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Parameter	Description
	The value ranges from 0 to 100. – **Forwarding on Busy Condition** ▪ **Device Usage (%)** ▪ **Waiting duration (s)** – **Device Usage Threshold (%)**/**Waiting duration (s)** ▪ If **Forwarding on Busy Condition** is set to **Device Usage (%)**, the value of **Device Usage Threshold (%)** ranges from 0 to 100. ▪ If **Forwarding on Busy Condition** is set to **Waiting duration (s)**, the value of **Waiting duration (s)** ranges from 0 to 9999. – **Maximum call queuing data calculation method** ▪ **Fixed value**: The value of **Maximum number of queuing calls** is used as the maximum number of queuing calls. ▪ **Percentage of signed-in agents**: The value of **Scale Factor** is divided by 100 and then multiplied by the number of signed-in agents. The calculation result is rounded up and used as the maximum number of queuing calls allowed in the skill queue. – **Maximum number of queuing calls**/**Scale Factor** ▪ If **Type** is set to **Voice** or **Video**, the value ranges from 0 to 10000. ▪ If **Type** is set to **Multimedia**, **Voice Click to Dial**, or **Video Click to Dial**, the value ranges from 1 to 10000. • Call processing on nobody on-duty – **Call Processing on Nobody On-Duty** ▪ **Release** (default) ▪ **Transfer** – **Transfer Type** ▪ **Skill Queue** ▪ **IVR**

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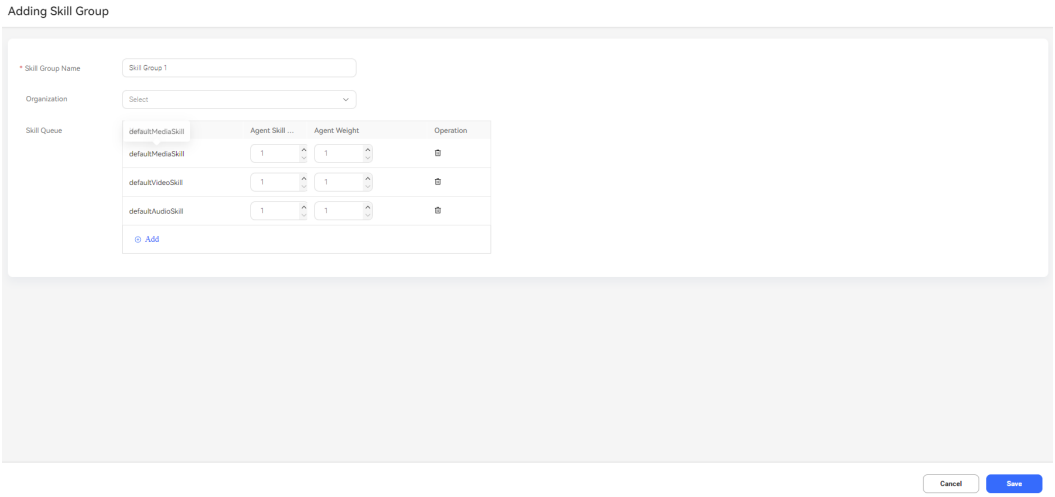
Parameter	Description
	The default value is **IVR**. When **Type** is set to **Multimedia**, **Transfer Type** can only be **Skill Queue**. – **Select IVR**/**Select Skill** **NOTE** Calls in voice, video, and click-to-dial skill queues can be transferred to IVRs or skill queues. Calls in multimedia skill queues can be transferred only to skill queues. The skill queue selected for call transfer must be of the same type as the skill queue to be created.
Setting Prompt Information Parameters	Personalized configuration. This configuration is available only when **Type** is set to **Voice** or **Video**. The options are as follows: ● Queuing configuration – **Queuing Method** ■ **Default Wait Tone** (default) ■ **Customizing the Wait Tone** ■ **IVR** – **Select IVR**/**Please select a waiting tone** ● Hold waiting configuration – **Keeping Method** ■ **Default Keeping Tone** (default) ■ **Customizing the Wait Tone** – **Please select a keeping tone** ● Agent answer mode configuration – **Answer Type** ■ **Report employee ID** (default) ■ **Report no voice** ■ **Report employee ID and customized voices** **NOTE** The waiting tones can be set only for voice and video skill queues and are not displayed for multimedia and click-to-dial skill queues.

Step 4 Click **Save**.

Step 5 Click the **Skill Group** tab. Click **New** to add a skill group.

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Figure 2-48 Adding Skill Group page



The following table describes the skill group parameters.

Table 2-10 Skill group parameters

Parameter	Description
Skill Group Name	Enter the name of a skill group. The value can contain a maximum of 64 characters.
Organization	Add an OU to a skill group. • Tenant administrator: All OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read and write permissions are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available. If the value of **Organization** is left empty, **Unorganized** is selected.
Skill Queue	Click Add to select a skill queue.
Agent Skill Weight	If an agent signs in to multiple queues, the agent preferentially handles calls in the queue with the highest skill weight. This text box is displayed only after you select a skill queue.

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Parameter	Description
Agent Weight	Calls are preferentially assigned to agents with higher weights. This text box is displayed only after you select a skill queue.

Step 6 Click **Save**. The skill group list is displayed.

----End

2.3.1.1.1 Configuring the Queue Waiting Tone

After a skill queue is added, a tenant administrator can customize the queue waiting tone for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenarios

- A prompt tone needs to be played when a customer is waiting in a queue before being connected to an agent.
- A prompt tone needs to be played when a customer is waiting in a queue after an agent transfers the inbound call.

Procedure

Step 1 Upload the customized queuing tone.

For details, see **2.6.3.2 Managing Voice and Video Resources**. Set **Usage Scenario** to **tone**.

Step 2 Contact the system administrator to approve the uploaded queue waiting tone.

After the waiting tone is approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click  to expand **Skill Parameter Configuration**.

Step 5 Under **Queuing and waiting configuration**, click **Queuing Method** and choose **Customizing the Wait Tone**.

Step 6 Click **Please select a waiting tone**, select the approved prompt tone, and click **OK**.

Step 7 Click **Save**.

----End

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2.3.1.1.2 Configuring the Hold Waiting Tone

After a skill queue is added, a tenant administrator can customize the hold waiting tone for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenarios

A prompt tone needs to be played when an agent holds a voice call with a customer.

Procedure

Step 1 Upload the customized hold waiting tone.

For details, see **2.6.3.2 Managing Voice and Video Resources**. Set **Usage Scenario** to **tone**.

Step 2 Contact the system administrator to approve the uploaded hold waiting tone.

After the waiting tone is approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click  to expand **Skill Parameter Configuration**.

Step 5 Under **Keeping and waiting configuration**, click **Keeping Method** and choose **Customizing the Keeping Tone**.

Step 6 Click **Please select a keeping tone**, select the approved prompt tone, and click **OK**.

Step 7 Click **Save**.

----End

2.3.1.2 Configuring Called Routes

After receiving a call from a customer, the CTI routes the call to an IVR or agent based on the routing policies. To allow agents to answer calls, you need to configure called routes.

Prerequisites

- A tenant has been created.
- Permissions on operations under the current menu controlled by separate permissions have been configured. For details about the operation permissions that can be configured separately, see **2.2.2.2 Permission Description (New Navigation Page)**.

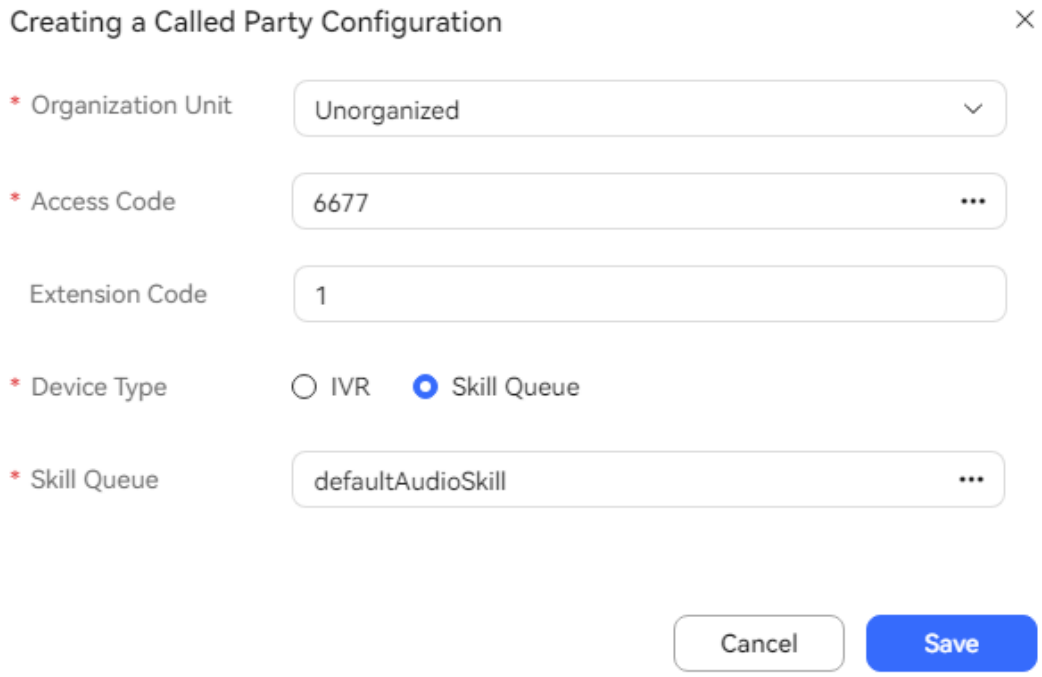
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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Called Party**.

Step 2 Click **New** to create a called route for the VCC.

Figure 2-49 Creating a Called Party Configuration



The parameters are described as follows:

- **Organization Unit**: Click ⌄ to select an OU to which the called route belongs.

  The options are as follows:

  – Tenant administrator: **Unorganized** and all OUs under the current tenant are available.

  – Common agent:

  ▪ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available.

  ▪ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the home OU, **Unorganized**, and accessible OUs are available.

- **Access Code**: Click ••• to select the access code of the OU selected for **Organization Unit**. The access code type is displayed in the dialog box. Select an access code of the **Audio/Video** type for the manual voice business. You can select an access code of a different type as required.
- **Extension Code**: Enter the number that needs to be dialed following the access code to route to the target device. In this example, **Extension Code** is

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set to **1**, indicating that a customer needs to dial 66881 to access the **defaultAudioSkill** skill queue.

- **Device Type**: Select **Skill Queue** for the manual voice business.
- **Skill Queue**: Click ••• to select the skill queue of the OU selected for **Organization Unit**. The skill queues displayed in the dialog box are of the same type as that of the access code. For example, if the access code is of the **Audio/Video** type, all available skill queues are of the same type.

Step 3 Click **Save** to save the configuration.

----End

2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue

After a tenant administrator allocates a business account and skill queue to an agent ID, the agent can handle voice and video call businesses.

Prerequisites

- A tenant has been created.
- Permissions on operations under the current menu controlled by separate permissions have been configured. For details about the operation permissions that can be configured separately, see **2.2.2.2 Permission Description (New Navigation Page)**.

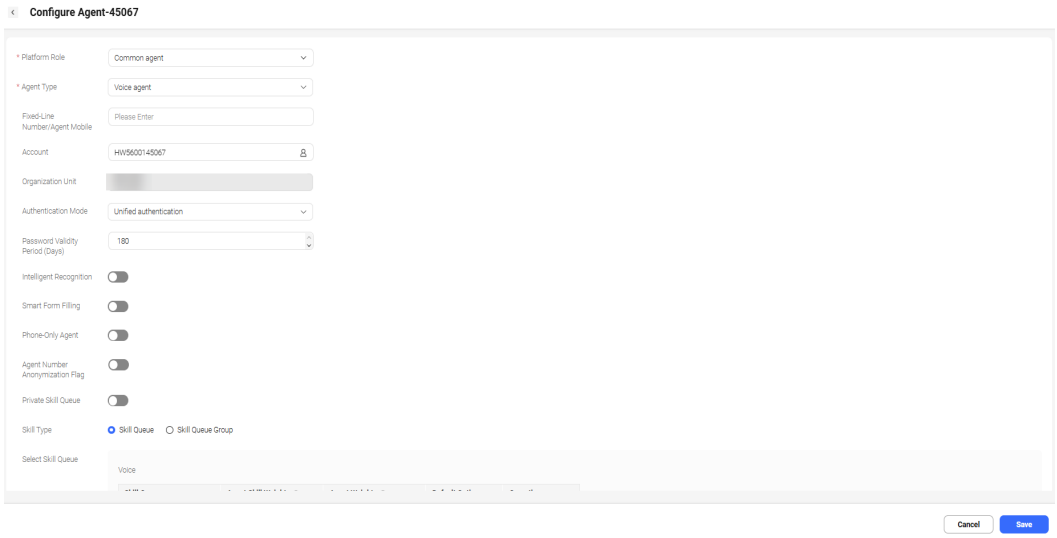
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Agent Management**.

Step 2 Select an agent ID and click **Configure** in the **Operation** column. The **Agent Info Configuration** page is displayed.

Step 3 Configure a business account and skill queue.

Figure 2-50 Agent information configuration page



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- **Platform Role** (mandatory): Select an agent role. Select **Common agent** for the manual voice business.
  - **Common agent**: This role can answer or transfer inbound calls from customers.
  - **Quality checker**: This role can intervene in calls between common agents and customers. For example, this role can perform operations, such as insertion, interception, and forcible busy state setting, to coach and supervise agents' handling of inbound calls.
  - **Callout agent**: This role can answer, transfer, or reject inbound calls from customers.
- **Agent Type** (mandatory): Select an agent type based on the type of businesses to be handled. Select **Voice agent** for the manual voice business.
  - **Voice agent**
  - **Video agent**
  - **Multimedia agent**
  - **Versatile agent**

  NOTICE

  By default, a versatile agent can handle businesses available for voice agents and multimedia agents, and is not counted as a voice agent or multimedia agent. That is, when a tenant space is created, the system adds voice and multimedia skill queues for versatile agents by default. If a versatile agent needs to handle video businesses, it is counted as a video agent.

  Therefore, to enable a versatile agent to handle video businesses, ensure that the number of video agents in the tenant space is not zero and there are available video agents. To add a video skill queue for a versatile agent, delete a video skill queue of any video agent and then add a video skill queue for the versatile agent.
- **Fixed-Line Number/Agent Mobile**: Enter a mobile number or fixed-line phone number used by the agent. Leave this parameter empty for the manual voice business.
- **Account**: Select a created employee account. For details, see **2.2.3 Configuring Employee Information**. You can use the tenant administrator account created during tenant creation first.
- **Authentication Mode**: Select a softphone authentication mode. Retain the default value **UAP Authentication**.
  - **UAP Authentication**: A softphone number and password need to be used to log in to the OpenEye.
  - **Unified authentication**: The system automatically authenticates a softphone.
- **Password Validity Period (Days)**: Enter the validity period of the agent ID password, in days. Retain the default value.
- **Default sign-in mode**: Default sign-in mode of an agent. This parameter is available only when the WebRTC feature has been enabled for the tenant

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space and the tenant parameter **Whether the tenant supports both WebRTC and integrated OpenEye SoftPhones** is set to **Yes**.

- **Intelligent Recognition**: Configure whether the agent is an intelligent agent. This switch is turned off by default. In addition to basic voice control functions, intelligent agents support real-time ASR and related intelligent recommendation functions. Before turning on this switch, ensure that the number of agents for which intelligent recognition is enabled does not exceed the number of intelligent agents allocated when the tenant is created.
- **Automatic Session Summary**: This switch is turned off by default. After this function is enabled, the system can intelligently summarize the call content, issue resolution result, and customer satisfaction when **Call Reason** is configured on the workbench.

  This parameter is available only when the **Automatic Conversation Summary** feature is enabled and the **Intelligent Recognition** function is enabled.
- **Smart Form Filling**: This switch is turned off by default. After this switch is turned on, the system automatically extracts the information from the dialog text between a customer and an agent when the agent creates a case on the workbench. The system fills the information in the corresponding case form to complete the case filling task, so that the agent does not need to manually enter the information.

  This parameter is available only when the tenant parameter **Enabling the Intelligent TT Filling Feature** is set to **Yes**.

  To enable the **Smart Form Filling** function, enable the **Intelligent Recognition** function first.
- **Reply polishing**: This switch is turned off by default. After this switch is turned on, an agent can polish a reply in plain text in the text box during a session on the workbench. The agent can use the scripts to improve service professionalism.

  This parameter is available only when the **Refine response** feature is enabled and for multimedia or versatile agents for which the **Intelligent Recognition** function is enabled.
- **Phone–Only Agent**: After this switch is turned on, an agent can dial a specified access code to access an IVR flow, press a key as prompted to enter the agent ID and password to sign in, and answer calls on a mobile phone. When this switch is turned on, system O&M personnel need to customize the phone–only agent process for the tenant based on the platform, and the tenant needs to provide number resources for accessing the phone–only agent process.
- **Agent Number Anonymization Flag**: Flag for a third-party to mark whether an agent has the anonymization feature. This is not a feature switch. The anonymization feature enables agents to customize the calling number displayed on the customer side (the calling number displayed to the customer) and the calling number displayed on the agent side (the calling number displayed to the agent).
- **Skill Type**: Select **Skill Queue** and click Add to set the skill queues of the agent. Alternatively, select **Skill Queue Group** and set the skill queue group of the agent. If multiple skill queues need to be added, ensure that the media types of all the skill queues are the same, except for versatile agents.

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For example, the media types of all the skill queues are voice and video, or multimedia. Click **default** to specify the default skill queue.

- **Configuration mode of the number of concurrent requests**: If **Agent Type** is set to **Multimedia agent** or **Versatile agent**, set the number of concurrent multimedia channel sessions.
- **Multimedia Sessions Concurrently Processed by Agent**: Maximum number of multimedia customers concurrently served by the agent. This parameter is available only when **Agent Type** is set to **Multimedia agent** or **Versatile agent**. The parameter priority is as follows: agent parameter > organization parameter > tenant parameter (if the value of the tenant parameter is the smallest, the tenant parameter is used).

  If the agent is not bound to a business account, this parameter is not displayed. The value ranges from 1 to 60.
- **Agent Answering Mode**: Answering mode of the agent. The options are **Auto Answer** and **Manual Answer**.

  This parameter is available only when the tenant parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** is set to **Yes**.

  This parameter takes effect only in the following scenarios:

  – The tenant parameter **Agent Answering Mode** is set to **Custom**, and the tenant parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** is set to **No**.

  – The tenant parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** is set to **Yes**, and the organization parameter **Agent Answering Mode** is set to **Custom**.

NOTE

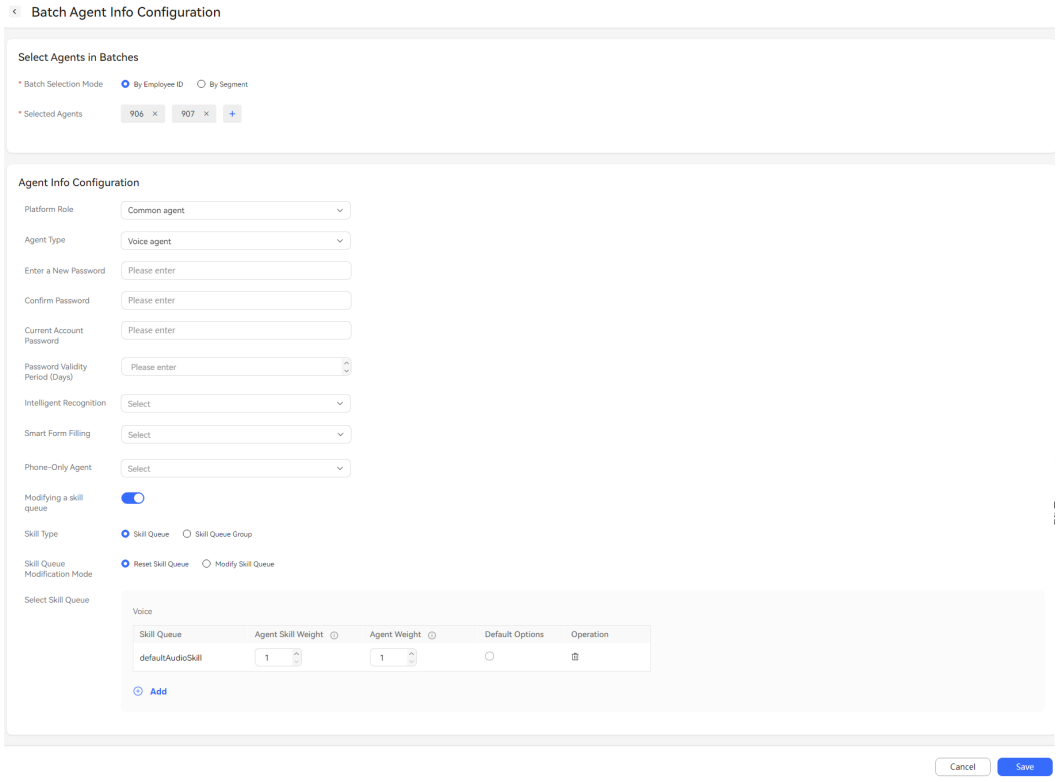
- Multiple default skill queues can be set, but only one default skill queue can be set for each skill queue type.
- If **Agent Type** is set to **Video agent**, set the number of video agents allowed when applying for tenant resources.
- If **Agent Type** is set to **Multimedia agent**, set the number of multimedia agents allowed when applying for tenant resources.
- If **Agent Type** is set to **Versatile agent**, set the number of versatile agents allowed when applying for tenant resources.
- To add more business accounts, choose **Configuration Center** > **Employee Center** > **Employee**.

Step 4 Click **Save**. The business account and skill queue are associated with the agent ID.

Step 5 (Optional) Click **Configure** in the upper right corner of the page. On the **Batch Agent Info Configuration** page, configure agent information in batches.

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Figure 2-51 Batch Agent Info Configuration page



- **Batch Select**: Select agents to be configured by agent ID or agent ID segment.
- **Agent Info Configuration**: Set parameters by referring to **Step 3**.

Step 6 (Optional) Select some agents and click  to export agent information in batches, or directly click  to export all agent information.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be added without entering a compression password.

----End

Follow-up Procedure

The tenant administrator needs to reset the agent's softphone password. The system randomly generates a password. The agent can change the password later.

Step 1 Sign in to the system as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Agent Management**.

Step 2 Select an agent ID and click **Reset Softphone Password** in the upper right corner of the page.

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NOTE

Remember the softphone number bound to the agent ID, which will be used during verification.

Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Obtain** to obtain a verification code.

Step 3 Set **Current Account Password** and click **OK**.

----End

After the configuration of a signed-in agent is modified, the agent needs to sign in again for the modification to take effect.

2.3.1.4 Configuring the Agent Answering Mode

After a skill queue is added, a tenant administrator can customize the agent answering mode for the skill queue.

Prerequisites

The skill queue to be configured is of the voice or video type.

Business Scenario

A tone needs to be played to a customer when an agent answers a call from the customer.

Procedure

Step 1 Upload the customized voices before and after the employee ID.

For details, see **2.6.3.2 Managing Voice and Video Resources**. Set **Usage Scenario** to **before reporting employee ID** or **after reporting employee ID**.

Step 2 Contact the system administrator to review the uploaded voices before and after the employee ID.

After the voices are approved, go to the next step.

Step 3 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, select a voice or video skill queue, and click **Edit** in the **Operation** column.

Step 4 Click  to expand **Skill Parameter Configuration**.

Step 5 In the **Skill AnswerMode** area, set **Answer Type** to **Report employee ID and customized voices**.

Step 6 Click the **Voice Before Employee ID** text box, select the approved voice before the employee ID, and click **OK**.

Step 7 Click the **Voice After Employee ID** text box, select the approved voice after the employee ID, and click **OK**.

Step 8 Click **Save**.

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NOTE

When **Answer Type** is set to **Report employee ID and customized voices**, the total duration of the employee ID and voices before and after the employee ID cannot exceed 20 seconds. Otherwise, only the voice data of the first 20 seconds is played.

----End

2.3.2 Agent Workbench

A tenant administrator can centrally manage agent workbench settings for agents to use during call business handling.

2.3.2.1 Configuring Call Reasons

A tenant administrator can configure call reasons for agents to select during business handling.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Call Reason**.

Step 2 Click **New** to add a call reason.

Step 3 Set call reason parameters.

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Figure 2-52 Create Call Reason page

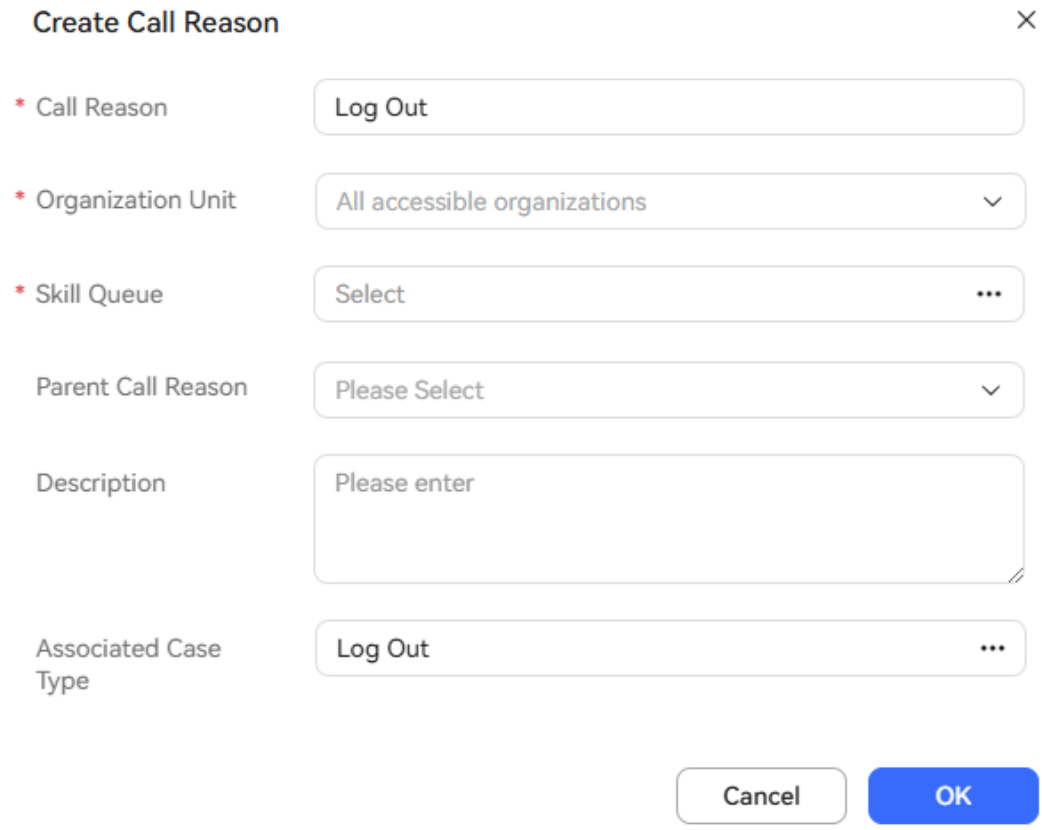


Table 2-11 Call reason parameters

Parameter	Description
Call Reason	Call reason name. This parameter is mandatory. The value can contain a maximum of 50 characters.
Organization Unit	Select an OU to which a call reason belongs. You can filter OUs by keyword. You can click ⊗ to clear the field. Value options: • Tenant administrator: All OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the home OU and accessible OUs are available. If **Organization Unit** is left empty, select **Unorganized**.

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Parameter	Description
Skill Queue	Select a skill queue associated with the call reason. The options are skill queues under the selected OU. You can click ⊗ to delete the selected skill queue. This parameter is optional when the tenant parameter **Indicates whether the skill queue is mandatory for call reason configuration.** is set to **No**. This parameter is not displayed when the tenant parameter **Call Reason Mapping Skill Queue Switch** is set to **No**.
Parent Call Reason	Upper-level call reason of a call reason. This parameter is optional.
Description	Description. This parameter is optional. The value can contain a maximum of 500 characters.
Associated Case Type	Case type associated with a call reason. This parameter can be set only after the **Case 2.0** feature is enabled. The options are case types that belong to the OU specified by **Organization Unit** and are configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page.

Step 4 Click **OK**.

Step 5 (Optional) Click **New** corresponding to the configured call reason and choose **Add Sub Level** to configure a subreason for the reason. After the configuration is complete, click **OK**.

----End

2.3.2.2 Configuring Rest Reasons

A tenant administrator can configure rest reasons, including the rest duration, for agents to select for a rest.

Prerequisites

1. Sign in as a tenant administrator, choose **Configuration Center** > **System Management** > **Tenant Parameter**, and set the following parameters:
   - **Forcibly End Agent Rest After Timeout**: The options are **0** (no) and **1** (yes). Set this parameter to **0**.
   - **Internal Message Template for Notifying Supervisor of Agent Rest Timeout**: Set this parameter to the ID of a created internal message notification template. For details about how to configure an internal message notification template, see **Configuring an Internal Message Notification Template**.
2. The tenant administrator has set a manager for agents.

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3. Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Scenario

When an agent needs to update the agent status to **Rest** after sign-in, the system allows the agent to select a rest reason. After a reason code is selected, the rest timing starts. After the agent has a rest, the agent can change the agent status and end the rest timing. If the rest time exceeds the duration specified by the selected reason code, the system displays a message indicating that the rest times out and sends an internal message to the manager of the agent, notifying the manager of the rest timeout.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Rest Reason**.

Step 2 Click **New**. The **Add Rest Reason** dialog box is displayed.

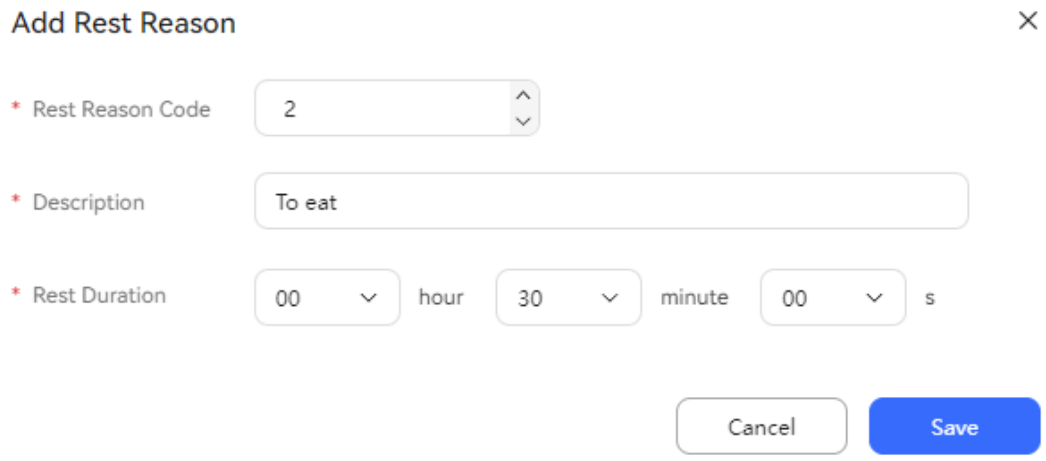


Table 2-12 Rest reason parameters

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Rest Reason Code	Text box	Reason code.	The value is a number ranging from 1 to 255.	Enter	The value must be unique.

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Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Description	Text box	Reason description.	The value can contain a maximum of 100 characters.	Enter	-
Rest Duration	Drop-down list	Rest duration.	The value contains only digits in the format of *hh:mm:ss*, for example, **00:00:00**. The rest duration must be greater than 0 seconds and less than 24 hours.	Enter	-

Step 3 Click **Save**.

Step 4 Click **Synchronize** to synchronize the information to the CTI.

----End

Follow-up Procedure

You can perform the following operations on rest reasons:

- Click **Edit** to modify a rest reason.
- Click **Delete** to delete a rest reason.
- Click **Delete** on the top of the page to delete rest reasons in batches.
- If the tenant parameter **Indicates whether to associate rest reasons with OUs.** is set to **Yes**, click **Assoc.Orgs** to set the OU associated with the rest reason. The sub-OUs of the associated OU can also use the rest reason.
- Select multiple rest reasons, click **Batch Operation** and choose **Batch Delete** to delete the selected rest reasons.
- If the tenant parameter **Indicates whether to associate rest reasons with OUs.** is set to **Yes**, select multiple rest reasons, click **Batch Operation** and

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choose **Batch Assoc.Orgs**, and set the associated OUs of the selected rest reasons.

NOTE

- If a reason code exists in the AICC but does not exist on the call center platform, delete the reason code from the AICC.
- If a reason code exists on the call center platform but does not exist in the AICC, add the reason code to the AICC. The rest duration is 10 minutes by default.
- If a reason code exists both in the AICC and on the call center platform, compare the basic information about the reason code. If any change occurs, update the reason code in the AICC.

2.3.2.3 Configuring Contact Record Data Items

Customer information is recorded in contact records. In addition, useful customer information can be obtained during contact record inspection, on the voice and video workbench, or during analysis.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

2.3.2.3.1 Creating a Customized Extended Field

Prerequisites

The tenant has provided the AICC with the API for querying extended customer information, the AICC has provided the secondary development API for connecting to the customer query API, and the connection has been completed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Create a contact record dataset.

1. Click the **Extended Contact Information Dataset** tab and click **New**.
2. Set parameters based on **Table 2-13**.

Table 2-13 Dataset parameters

Parameter	Description
Dataset Name	Dataset name, which is customized. The value can contain a maximum of 1024 characters. Multiple datasets can be created, but their names must be unique.

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Parameter	Description
Dataset Source Interface	API path developed by the AICC, which is used to connect to the API provided by the customer for querying extended customer information. Contact O&M personnel to obtain the value.

3. Click **Save**.

Step 3 Create a customized extended field.

NOTE

A maximum of 10 extended data items can be added.

1. Click the **Contact Record Data Item** tab and click **New**.
2. Set parameters based on **Table 2-14**.

Table 2-14 Parameters for creating a customized extended field

Parameter	Description
Data Type	Select **User-defined extended field**.
Field Name	Name of a customized extended field. The value can contain a maximum of 1024 characters.
Data Item ID	The value can contain a maximum of 128 characters.
Visible Contact Record	Whether an extended field is visible in the contact record list. The options are as follows: –  : yes –  : no
Field Order	Display sequence of a field in contact records. A field with a smaller No. is displayed in the front. Fields with the same No. are displayed based on their sequence in the list. The value is a number ranging from 1 to 100.
Source Dataset	The options are all extended contact information datasets added to the tenant space.
Dataset Mapping Field	Dataset mapping field. The value can contain a maximum of 32 characters.
Extended Writeback Field	Extended writeback field. The options are as follows: **extField1**–**extField10**

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Parameter	Description
Data Type	Data type. The options are as follows: – **String** – **Data dictionary**
Data Dictionary Value	This parameter is mandatory when **Data Type** is set to **Data dictionary**. The format is *Key 1*:*Value 1*,*Key 2*:*Value 2*.

3. Click **Save**.

Step 4 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the customized extended field.

----End

2.3.2.3.2 Creating a Basic Extended Field

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Create a basic extended field.

1. Click the **Contact Record Data Item** tab and click **New**.
2. Set parameters based on **Table 2-15**.

Table 2-15 Parameters for creating a basic extended field

Parameter	Description
Data Type	Select **Basic extended field**.
Field Name	The options are as follows: – **Handled Number** – **Original Called Number** – **Contact Number** – **Call ID** – **Collaborative Call ID** – **Sign-In IP Address** – **Customer Name** – **Skill Queue ID** – **Agent Organization** – **Business Result** – **Contact Record Language**

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Parameter	Description
Data Item ID	After you set **Field Name**, the value of this parameter is automatically associated. It is dimmed and cannot be modified.
Visible Contact Record	Whether an extended field is visible in the contact record list. The options are as follows: –  : yes –  : no
Field Order	Display sequence of a field in contact records. A field with a smaller No. is displayed in the front. Fields with the same No. are displayed based on their sequence in the list. The value is a number ranging from 1 to 100.

3. Click **Save**.

Step 3 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the basic data.

----End

2.3.2.3.3 Configuring the Contact Customer Information Area

Prerequisites

- You have configured an extended contact information dataset. For details, see **Step 2**.
- You have configured a dynamic data table. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Contact Data Item**.

Step 2 Add a data item to the contact customer information area.

1. Click the **Contact Customer Information Area** tab and click **New**.
2. Set parameters based on **Table 2-16**.

Table 2-16 Parameters for creating a data item in the contact customer information area

Parameter	Description
Field Name	Field name. The value can contain a maximum of 128 characters.

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Parameter	Description
Data Item ID	Field ID. The value can contain a maximum of 64 characters.
Visible	Whether a data item is displayed in the customer information area on the voice and video workbench. The options are as follows: –  : yes –  : no
No.	No. of a data item in the contact customer information area. The value ranges from 1 to 100.
Data Source Type	Data source type. The options are as follows: – **Call-associated data** – **Information dataset** – **Local data**
Data Source Object	Data source object ID. – When **Data Source Type** is set to **Information dataset**, the value is the name of a dataset configured on the **Extended Contact Information Dataset** page. – When **Data Source Type** is set to **Local data**, the value is the data configured on the **Configuration Center** > **Expansion and Integration** > **Dynamic Data Table** page.

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Parameter	Description
Data Source Object Mapping Field	Data source object mapping field. The value can contain a maximum of 32 characters. – When **Data Source Type** is set to **Call-associated data**, the value of this parameter is the mapping field of call-associated data. – When **Data Source Type** is set to **Information dataset**, the object name is the mapping field name of the dataset object. – When **Data Source Type** is set to **Local data**, the object name is the mapping field ID of the customized table object. When **Data Source Type** is set to **Call-associated data**, a maximum of three call-associated data fields can be configured for **Data Source Object Mapping Field**, which are separated by semicolons (;). Values of the call-associated data fields are obtained in sequence and written back to the extended field. To be specific, if the value of a call-associated data field is obtained, the value of the subsequent one or the values of the subsequent two are not obtained. Therefore, only the value of one call-associated data field is written into the extended field.
Extended Writeback Field	Extended contact record writeback field. This parameter is left blank by default. The value ranges from **extField1** to **extField10**. If the value is not empty, a record is added to the **Contact Record Data Item** page.
Data Type	Data type. The options are as follows: – **String** – **Data dictionary**
Data Dictionary Value	Data dictionary value. This parameter is displayed when **Data Type** is set to **Data dictionary**. The value can contain a maximum of 1024 characters. The format is *Key 1*:*Value 1*,*Key 2*:*Value 2*.
Display Style This parameter is displayed when **Data Type** is set to **Data dictionary**.	
Background Color	Background color.
Foreground Color	Font color.

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Parameter	Description
Font	Font style. – **Regular** – **Bold** – **Italic** – **Underlined**

3. Click **Save**.

Step 3 After the configuration is complete, choose **Contact History** > **Contact** to view the display effect of the contact customer information area.

----End

2.3.2.4 Configuring the Voice Notification Function

You can configure callback information for voice notifications. When a voice notification ends, the system calls back the configured URL and transfers call data.

Prerequisites

- The voice notification feature has been enabled for the tenant space.
- You have added voice notification callback URLs to the mobile agent callback address trustlist as the system administrator.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

If the shared key is changed, you need to modify the involved voice notification item as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Voice Notification**, click **Edit**, and update the value of **Shared Key**.

Obtain the shared key from the customer.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Voice Notification**, and configure the voice notification callback URL.

Step 2 Click **Edit** to configure the hang-up callback URL for voice notifications.

- **Hang-up Callback URL**: Configure the hang-up callback URL. The URL is provided by the third-party system. The AICC pushes the current call event to the URL. For details about the callback URL, see Callback APIs. The URL must start with **http** or **https**.

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NOTE

HTTP is not secure and may cause security risks. HTTPS is recommended.

HTTPS of the TLS 1.2 or a later version is used to ensure that sensitive web application data is not illegally intercepted during transmission

- **HTTP request method**: The default value is **POST**.
- **Secret key**. The value must contain at least 16 characters.

NOTE

The shared key setting takes effect for configuration of the callback URL using an API. If the shared key is not set, no authentication is performed. For configuration of the callback URL on the GUI, no authentication is performed by default.

No authentication may cause security risks. Exercise caution when using this mode.

Step 3 Click **Save**.

----End

2.3.2.5 Configuring the One-Click Bidirectional Call Function

You can select a one-click bidirectional call type (**CEC bidirectional call** or **ITA bidirectional call**) for the tenant space. The selected bidirectional call type is used when the agent bidirectional call API is invoked. In addition, you can configure callback information for one-click bidirectional calls. When a one-click bidirectional call ends, the system calls back the configured URL to transfer call data.

Prerequisites

- The one-click bidirectional call feature has been enabled for the tenant space.
- You have added one-click bidirectional call callback URLs to the mobile agent callback address trustlist as the system administrator.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

- When the callback URL authentication mode is set to **Shared Key**, if the shared key is changed, you can modify the involved one-click bidirectional call item as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the value of **Shared Key**.
- When the callback URL authentication mode is set to **OAuth 2.0**, if the AK and SK authorized by OAuth 2.0 are changed, you need to modify the involved one-click bidirectional call items as follows: Sign in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the values of **AK** and **SK**.
- When the one-click bidirectional call type is set to **ITA bidirectional call**, if the access key, app key, and secret key provided by the ITA are changed, you need to modify the involved one-click bidirectional call items as follows: Sign

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in to the system as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**, click **Edit**, and update the values of **AccessKey**, **AppKey**, and **SecretKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Bidirectional Call**.

Step 2 Click **Edit** to configure the one-click bidirectional call function.

Step 3 Select a one-click bidirectional call type. The options are **CEC bidirectional call** and **ITA bidirectional call**.

CEC bidirectional call indicates the bidirectional call function provided by the AICC, and **ITA bidirectional call** indicates the ITA bidirectional call API encapsulated on the AICC side. The selected bidirectional call type is used when the agent bidirectional call API is invoked.

NOTE

If **ITA bidirectional call** is selected, ensure that the CDR push URL has been configured on the ITA. Otherwise, the ITA cannot push CDRs to the CEC. An example push URL is as follows:

https://10.243.7.176:28090/apiaccess/rest/cc-management/v1/ita/twopartiescall/statusnotify

Step 4 Configure the CEC bidirectional call function.

1. Configure callback URLs.
   - **Connection Callback URL**/**Hang-up Callback URL**: Configure the connection callback URL or hang-up callback URL. The URL is provided by the third-party system. The AICC pushes the current call event to the URL. For details about the callback URL, see Callback Interface. The URLs must start with **http** or **https**.

     NOTE

     HTTP is not secure and may cause security risks. HTTPS is recommended.

     HTTPS of the TLS 1.2 or a later version is used to ensure that sensitive web application data is not illegally intercepted during transmission
   - **Method of Connection Callback** and **Method of Release Callback**: The default values are **POST**.
2. Configure URL authentication for interface invocation.
   - **Callback URL Authentication Mode**: The options are **Shared Key**, **OAuth 2.0**, and **None**.

     NOTE

     The callback URL authentication mode setting takes effect for configuration of the callback URL using an API. For configuration of the callback URL on the GUI, no authentication is performed by default.

     No authentication may cause security risks. Exercise caution when using this mode.
   - **Shared Key**: This information is mandatory when **Callback URL Authentication Mode** is set to **Shared Key**. The key must contain at least 16 characters.

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- OAuth 2.0 authorization information: This information is mandatory when **Callback URL Authentication Mode** is set to **OAuth 2.0**.
  - **AK**: Access key ID (AK), which is the unique identifier associated with the SK.
  - **SK**: Secret access key (SK), which is used with the AK.
  - **OAuth 2.0 Authentication Login URL**: URL for obtaining the OAuth 2.0 access token. The OAuth 2.0 authentication mode is applicable only to the AppCube component.

Step 5 Configure the ITA bidirectional call function.

1. Configure URL authentication for interface invocation.
   - **Callback URL Authentication Mode**: The options are **Shared Key**, **OAuth 2.0**, and **None**.

     NOTE

     The callback URL authentication mode setting takes effect for configuration of the callback URL using an API. For configuration of the callback URL on the GUI, no authentication is performed by default.

     No authentication may cause security risks. Exercise caution when using this mode.
   - **Shared Key**: This information is mandatory when **Callback URL Authentication Mode** is set to **Shared Key**. The key must contain at least 16 characters.
   - OAuth 2.0 authorization information: This information is mandatory when **Callback URL Authentication Mode** is set to **OAuth 2.0**.
     - **AK**: Access key ID (AK), which is the unique identifier associated with the SK.
     - **SK**: Secret access key (SK), which is used with the AK.
     - **OAuth 2.0 Authentication Login URL**: URL for obtaining the OAuth 2.0 access token. The OAuth 2.0 authentication mode is applicable only to the AppCube component.
2. Configure ITA parameters.
   - **AccessKey**: The value is provided by the ITA.
   - **SecretKey**: The value is provided by the ITA.
   - **AppKey**: The value is provided by the ITA.
   - **ITA Domain Name**: The value is provided by the ITA.
   - **X Number Allocation Mode**
     - **Automatic**
     - **Specified**
   - **X Number**: Purchased number provided by the ITA.

Step 6 Click **Save**.

----End

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Follow-up Procedure (Only for ITA Bidirectional Calls)

If you select **ITA bidirectional call**, perform the following steps to configure the authentication certificate for ITA bidirectional calls.

Step 1 Obtain the ITA authentication certificate by referring to **2.17.6 Managing Certificates**.

NOTE

To interconnect with the ITA bidirectional call function, you must upload the corresponding authentication certificate. You can obtain the certificate from **https://***ITA domain name***/v1/ngin/axmn**.

Step 2 Sign in to the AICC as the **sysadmin** user and choose **Configuration Center** > **System Management** > **Certificate**.

Step 3 Click **New**, set **Certificate Name** to **CERT_ITA**, set **Certificate Type** to **DER**, and select the obtained ITA authentication certificate.

Step 4 Click **Save**. After the certificate is uploaded, wait for 5 minutes for the certificate to take effect.

----End

2.3.2.6 Configuring Screen Pop-ups

A tenant administrator can configure pages frequently used or customized by agents as screen pop-ups. The screen pop-ups are displayed when agents answer calls.

Prerequisites

- You have contacted the system administrator to configure the third-party URL.
- If the page is an internal page, you have configured the internal page in advance. For details, see **2.3.2.7 Configuring Pages**.
- If the page is an AppCube-integrated page, you have enabled the **AppCube** feature and installed a non-AICC application package on AppCube.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Pop-Up Screen**.

Screen pop-up configuration support two page types: **Audio/Video** and **Multimedia**.

NOTE

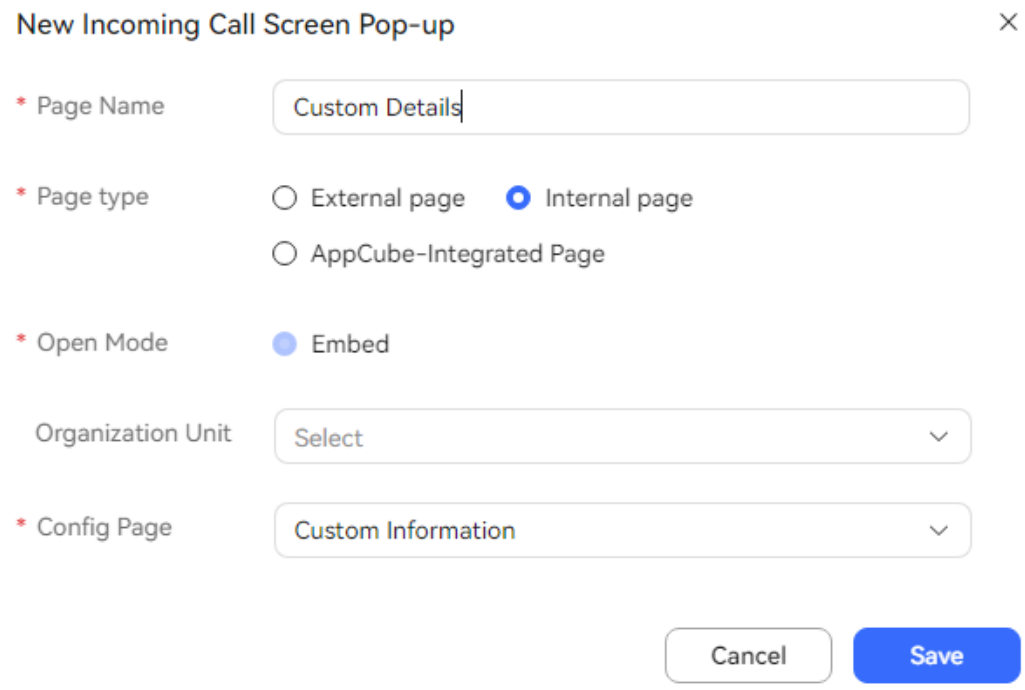
Pop-up pages can be integrated into the agent workbench. For example, an **Audio/Video** pop-up page can be integrated into the voice and video workbench, and a **Multimedia** pop-up page can be integrated into the online chat workbench.

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Step 2 Click **New**. On the **New Incoming Call Screen Pop-up** page that is displayed, configure screen pop-up information.

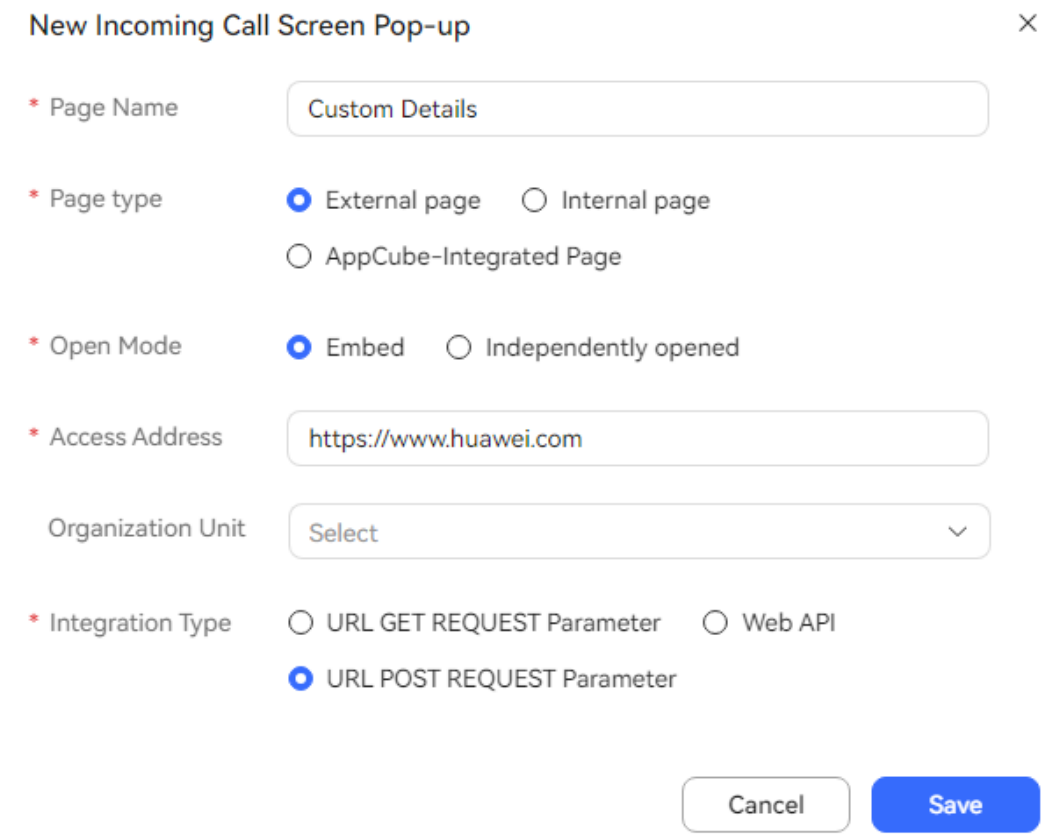
- The maximum number of screen pop-ups of the **Audio/Video** and **Multimedia** types for **Unorganized** and each OU is specified by the system parameter **Max. Screen Pop-ups for Each Tenant**. The value ranges from 1 to 10. By default, a maximum of five screen pop-ups can be created for each type.
- You can configure internal pages, external pages, and AppCube-integrated pages for the **Audio/Video** type, but can only configure external pages for the **Multimedia** type.

Figure 2-53 Internal page



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Figure 2-54 External page



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Figure 2-55 AppCube-Integrated Page

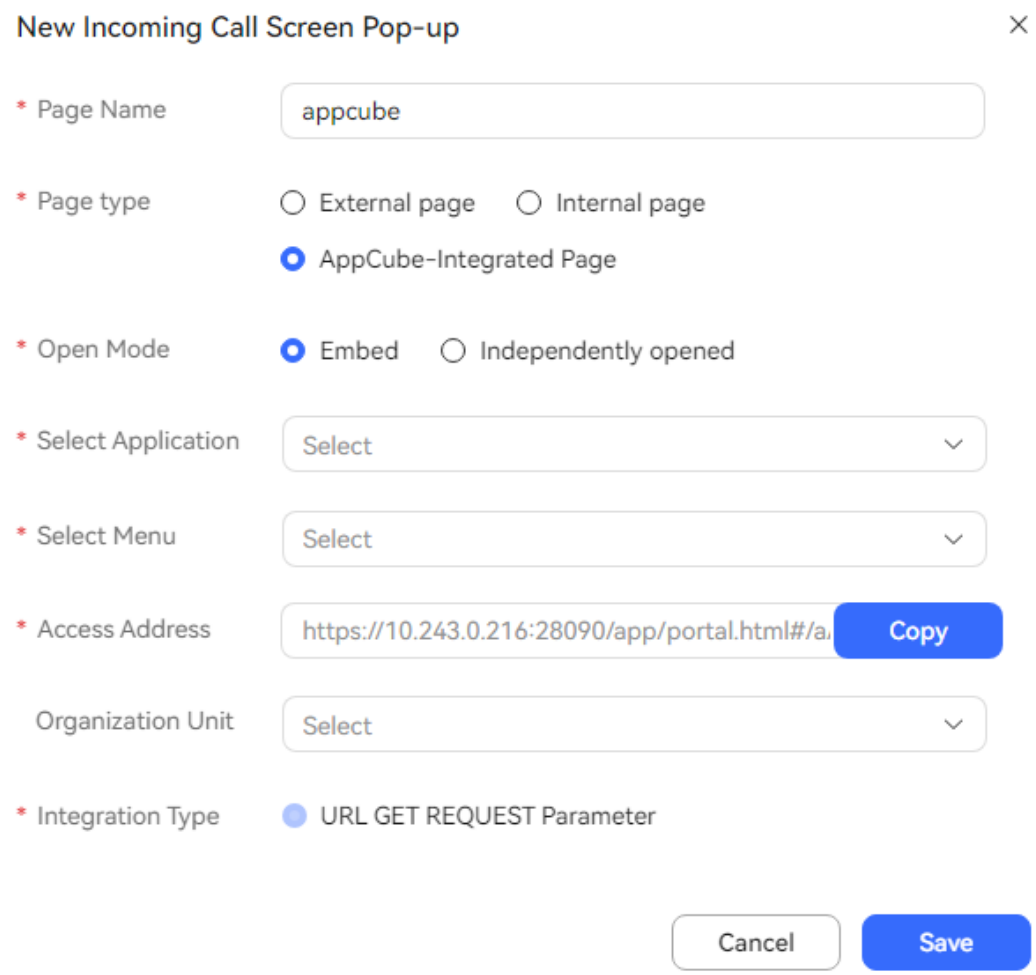


Table 2-17 Inbound call screen pop-up parameters

Parameter	Description
Page Name	Page name, which is customized.
Page type	The options are as follows: – **Internal page** – **External page** – **AppCube-Integrated Page**
Open Mode	The options are as follows: – **Embed** (By default, internal pages can be opened only in this mode.) – **Independently opened**

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Parameter	Description
Config Page	This parameter is mandatory when **Page type** is set to **Internal page**. The value is the page customized and published in **2.3.2.7 Configuring Pages**.
Select Application	AppCube application that has been installed.
Select Menu	Menu under the selected AppCube application.
Access Address	This parameter is mandatory when **Page type** is set to **External page**. The value is the third-party URL configured by the system administrator. **CAUTION** For example, if this parameter is set to **https://www.huawei.com**, the passed URL is actually https://www.huawei.com?callerNum=*400124*&calledNum=*88880344*&callid=*1574662344-400*&mediaType=*1*&callType=*1*&workNo=*1511*&callskill=*defaultAudioSkill*&callskillid=*3*&agentName=*HW38539906*. The following parameters are added by default: – **callerNum**: calling number – **calledNum**: called number – **callid**: ID of the current session – **mediaType**: media type. The options are **1** (voice) and **5** (multimedia). – **callType**: call type. The options are **0** (inbound call) and **1** (outbound call). – **workNo**: platform agent ID – **callskill**: skill queue – **callskillid**: skill queue ID – **agentName**: business account of an agent

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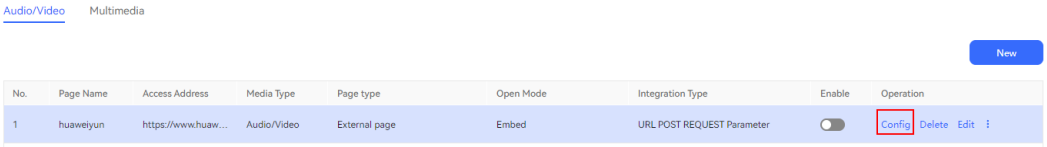
Parameter	Description
Organization Unit	OU to which a screen pop-up belongs. The options are as follows: – Tenant administrator: All OUs under the current tenant are available. – Common agent: ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the owning OU and accessible OUs are available. If the value of **Organization Unit** is left empty, **Unorganized** is selected. Screen pop-ups that do not belong to an OU can be applied to all agents in the tenant space.
Integration Type	This parameter is mandatory when **Page type** is set to **External page** or **AppCube-Integrated Page**. The options are as follows: – **URL GET REQUEST Parameter**: The page is integrated by setting screen pop-up parameters. For details, see Scenario 1: Integration by Using a URL (in GET Parameter Transfer Mode). – **URL POST REQUEST Parameter**: The page is integrated by setting screen pop-up parameters and processing form data. For details, see Scenario 2: Integration by Using a URL (in POST Parameter Transfer Mode). – **Web API**: The page is integrated using **AICCSupport.js**. For details, see Scenario 3: Integration by Using a URL (in Page JavaScript Invocation Mode).

Step 3 Click **Save**.

Step 4 (Optional) If the page is an external page or an AppCube-integrated page, set screen pop-up parameters for the page.

Otherwise, the following nine parameters are transferred by default: **callerNum**, **calledNum**, **callid**, **mediaType**, **callType**, **workNo**, **callskill**, **callskillid**, and **agentName**.

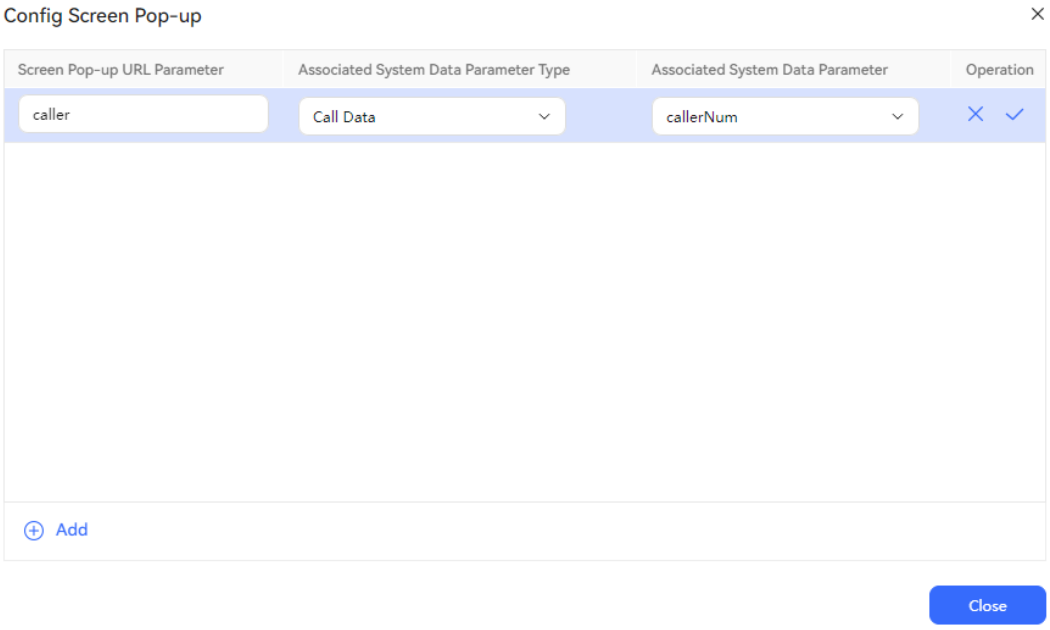
1. Select the configured inbound call screen pop-up and click **Config**. The page for setting external access address parameters is displayed.



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2. Click Add to add screen pop-up URL parameters to be passed. The maximum number of parameters is specified by the system parameter **Max. Parameters Transferred in URL of Screen Pop-up for Each Tenant**. The value ranges from 1 to 20. By default, a maximum of 10 parameters can be added.
3. Set **Screen Pop-up URL Parameter**, **Associated System Data Parameter Type**, and **Associated System Data Parameter**.
   - **Call Data**

     Figure 2-56 Selecting Call Data

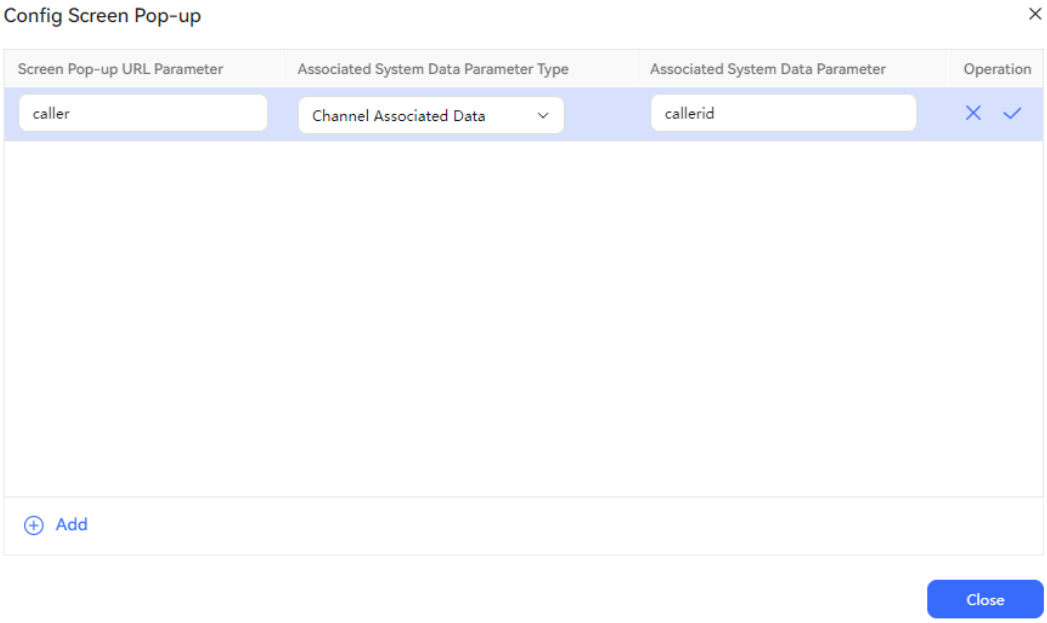
     

     The value of **Associated System Data Parameter** can be:

     - **callerNum**: calling number
     - **calledNum**: called number
     - **callid**: ID of the current session
     - **mediaType**: media type. The options are **1** (voice) and **5** (multimedia).
     - **callType**: call type. The options are **0** (inbound call) and **1** (outbound call).
     - **workNo**: platform agent ID
     - **callskill**: skill queue
     - **callskillid**: skill queue ID
     - **agentName**: business account of an agent
   - **Channel Associated Data**

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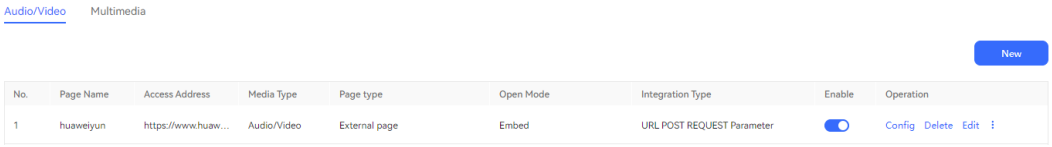
Figure 2-57 Selecting Channel Associated Data



The value of **Associated System Data Parameter** is customized.

4. Click **Close**.

Step 5 Select the configured pop-up page and click  in the **Enable** column to enable the pop-up page.



Step 6 If multiple inbound call screen pop-ups are enabled, click **Up** or **Down** in the **Operation** column to adjust the pop-up sequence of a screen pop-up. The screen pop-up on the top of the list pops up first.

----End

NOTE

Sign out and then sign in again for the configuration to take effect.

2.3.2.7 Configuring Pages

A tenant administrator can customize pages that can be referenced by inbound call screen pop-ups.

Prerequisites

- The system administrator has enabled the **Data customization** feature for the tenant space.
- A dynamic data table has been configured. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.

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- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Page Configuration**.

Step 2 Click . The **New Page** dialog box is displayed.

Step 3 Configure information about the customized page. The value of **Certificate Description** can contain a maximum of 256 characters and must be unique.

Step 4 Click **Save**.

Step 5 The configuration of a customized page includes the page layout and page interface. Select the added customized page and configure it.

1. Configure the page layout.

Figure 2-58 Page Layout

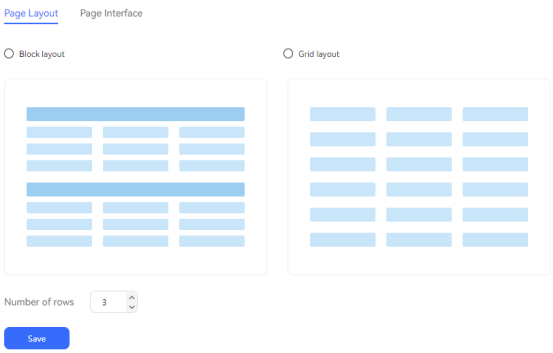


Table 2-18 Page parameters

Parameter	Description
Page Layout	
Layout type	The options are as follows: – **Block layout** – **Grid layout**
Number of rows	The options are as follows: – **2** – **3** – **4**
Save	Save the current page layout information.
Page Interface	

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Parameter	Description
Internal interface	Configure the object list.
External interface	External interfaces are configured on the **API Management** page. Contact the system administrator.
Save	Save the current page interface information.

2. Configure the page interface.
   - Internal interface

Figure 2-59 Internal interface

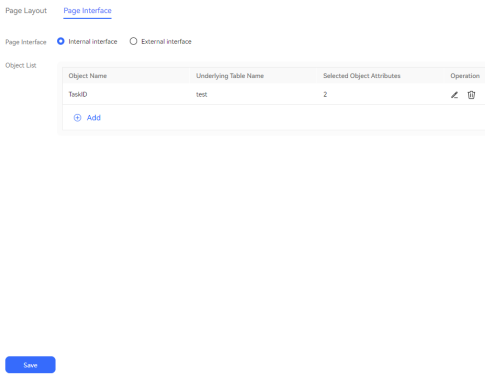


Figure 2-60 Select Object Attribute

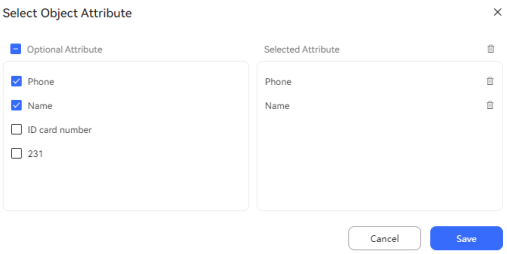


Table 2-19 Internal interface parameters

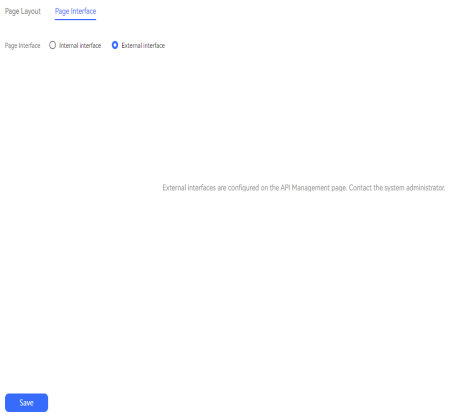
Parameter	Description
Add	Add an object to the internal interface. A maximum of five objects can be added.
Object List	
Object Name	Customize an object name.
Underlying Table Name	Select a published dynamic data table.

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Parameter	Description
Selected Object Attributes	Select dynamic data table fields. You can select multiple fields.
Operation	Perform operations on an object. ■ : Save a new object. ■ : Delete an object. ■ : Edit an object. ■ : Move an object down. ■ : Move an object up. ■ : Cancel a new object.

– External interface

Figure 2-61 External interface



External interfaces are configured on the **API Management** page. Contact the system administrator.

Step 6 Click **Save**.

Step 7 Click the name of the customized page. The **Page Layout** page is displayed. Click on the left of the page name to publish the customized page.

----End

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NOTICE

- Only published pages can be referenced by inbound call screen pop-ups. Pages that have been referenced by inbound call screen pop-ups cannot be unpublished.
- A maximum of five customized pages can be created. Delete unnecessary pages promptly.

Follow-up Procedure

You can perform the following operations on a configured page:

- Click  to modify the selected page.
- Click  to delete the selected page.

2.3.2.8 Configuring Dynamic Data Tables

A tenant administrator can customize dynamic data table fields to display stored customer information on customized pages.

Prerequisites

- The system administrator has enabled the **Data customization** feature for the tenant.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Business Scenario

When an enterprise tenant needs to store small-scale customer data in the call center, the AICC provides a customized dynamic data table to store customer information. Based on the customized page, the uploaded customer information can be automatically queried when an inbound call is made. For details about how to customize a page, see **2.3.2.7 Configuring Pages**.

Procedure

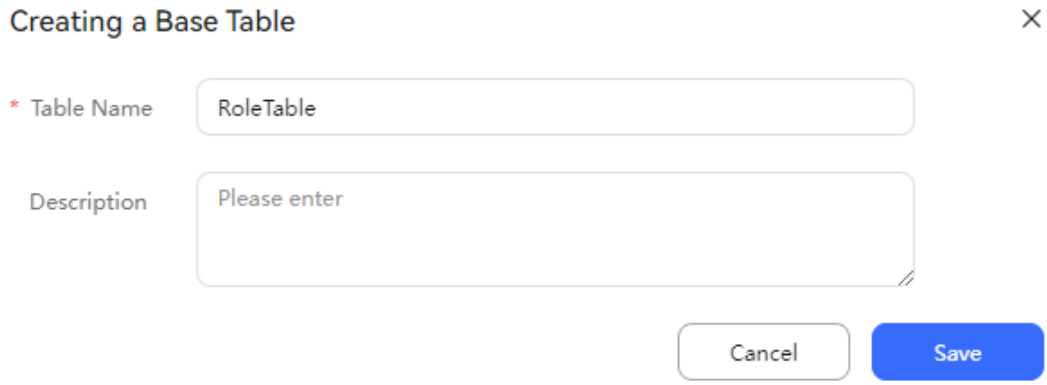
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Basic Table**.

Step 2 Click **New**. The **Creating a Base Table** dialog box is displayed.

Step 3 Set dynamic data table parameters.

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Figure 2-62 Creating a Base Table



NOTE

A maximum of five dynamic data tables can be created.

- **Table Name** (mandatory): Enter a customized dynamic data table name. The table name cannot contain special characters and can contain a maximum of 64 characters.
- **Description** (optional): Enter a dynamic data table description. The description cannot contain special characters and can contain a maximum of 1024 characters.

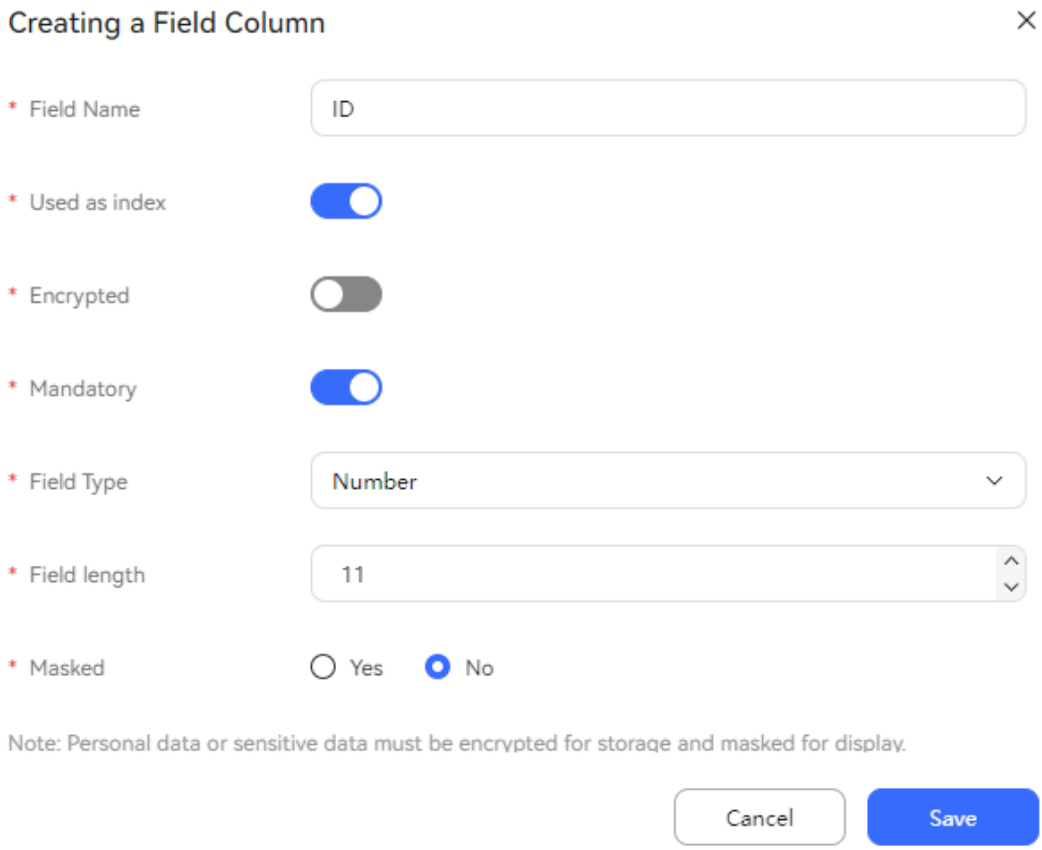
Step 4 Click **Save**.

Step 5 On the **Basic Table** page, click **Field Settings** corresponding to the new dynamic data table to configure fields for the dynamic data table.

Step 6 Click **New**. In the **Creating a Field Column** dialog box, set parameters, as shown in **Figure 2-63**.

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Figure 2-63 Creating a Field Column



NOTE

A maximum of one index field, 30 common fields, and 20 encrypted fields can be created.

- **Field Name**: This parameter is mandatory. The table name cannot contain special characters and can contain a maximum of 64 characters.
- **Used as index**: This parameter is mandatory.

  The options are as follows:

  – : yes

  – : no

  NOTE

  If **Used as index** is set to **Yes**, the field cannot be encrypted and is mandatory.
- **Encrypted**: This parameter is mandatory.

  The options are as follows:

  – : yes

  – : no

  NOTE

  If the data is personal or sensitive data, set this parameter to **Yes** to ensure data security.

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- **Mandatory**: This parameter is mandatory.
  The options are as follows:
  -  : yes
  -  : no
- **Field Type**: This parameter is mandatory. The options are **String**, **Number**, **Date**, **DateTime**, and **Dictionary**.
- **Field length**: This parameter is mandatory. The value ranges from 1 to 256.
- **Masked**: This parameter is mandatory. The options are **Yes** and **No**.

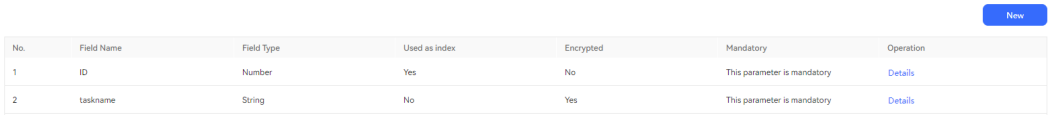
  NOTE

  If the data is personal or sensitive data, set this parameter to **Yes** to ensure data security.
- **Mask style**: This parameter is mandatory when **Masked** is set to **Yes**. The following uses **1234567890** as an example to describe the options.
  - **Reserve last four digits**: ********7890** is displayed.
  - **Reserve first four digits**: **1234******** is displayed.
  - **Mask last four digits**: **123456****** is displayed.
  - **Mask first four digits**: ******567890** is displayed.
  - **Mask all digits**: ************** is displayed.
  - **Email mask**: The first two digits and the last digit of an email address are reserved, for example, **to****3@aabbcc.com**.
  - **Bank account mask**: The first six digits and last four digits are reserved, for example, **620000******1234**.
  - **ID card number mask**: The date of birth and last four digits are masked, for example, **123456**************.

Step 7 Click **Save**.

Step 8 (Optional) Click **Top**, **Up**, **Down**, or **Bottom** corresponding to a field to adjust the field sequence.

Figure 2-64 Basic Table Configuration



Step 9 On the **Basic Table Configuration** page, click **Release** corresponding to a dynamic data table for which fields have been configured. In the **Tips** dialog box, click **OK** to publish the dynamic data table.

----End

Follow-up Procedure

You can perform the following operations on a dynamic data table in **Draft** state:

- Click **Edit** to modify the dynamic data table name and description.

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- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Delete** to delete an unnecessary dynamic data table.
- Click **Release** to enable a dynamic data table for which fields have been configured.

You can perform the following operations on a dynamic data table in **Release** state:

- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Withdraw** to update the dynamic data table status to **Draft**.
- Click **Discard** to update the dynamic data table status to **Discard**.

You can perform the following operations on a dynamic data table in **Discard** state:

- Click **Field Settings** to configure fields for the dynamic data table.
- Click **Delete** to delete an unnecessary dynamic data table.

NOTE

- Only dynamic data tables in **Release** state can be referenced by pages.
- Dynamic data tables in **Release** state cannot be deleted. Only dynamic data tables in **Draft** or **Discard** state can be deleted.

2.3.2.9 Querying a Data Table

A tenant administrator needs to add specific table data to the configured dynamic data table so that the data can be displayed on the configured screen pop-up after a call is connected.

Prerequisites

- The **Data customization** feature has been enabled for the tenant.
- A dynamic data table has been published. For details, see **2.3.2.8 Configuring Dynamic Data Tables**.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Custom Table**.

Step 2 Click ∨ and select a published dynamic data table to configure table data.



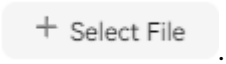
Step 3 Import table data.

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1. Click  . The **Import Data** dialog box is displayed.
2. Click **Data table template** to download the table data template to a local path and fill in table data.

   NOTE

   - Only an Excel file can be uploaded. The file size cannot exceed 20 MB. The file name can contain only Chinese characters, letters, digits, and underscores (_).
   - The header of the uploaded Excel file must match that of the downloaded template. Otherwise, the file processing fails.
   - The imported data cannot start with **+**, **=**, or **@**. If the data starts with **-**, the data must be in the format of **-***{One or more digits}{Several characters}*.

3. Click 

. In the dialog box that is displayed, select the configured table data file.
4. Click **Save**.

Step 4 Click  . On the **Data Import Record** tab page, confirm that **Status** of the data import record is **Completed**.

Step 5 Return to the **Custom Table** page to view details about the imported data.

----End

Follow-up Procedure

- Data editing: Imported table data can be edited again.
  - Click **Edit**. In the **Edit Data** dialog box, edit table data except index data. After confirming that the data is correct, click **Save** to save the table data.
  - Click **Delete**. In the **Confirm Delete** dialog box, click **OK** to delete unnecessary table data.
- Data export: Existing table data can be exported.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

  a. Click  . The **New export task** dialog box is displayed.
  b. Enter a customized compression password and click **OK**. The data is exported successfully.
  c. Click  and click the **Export task view** tab.
  d. Click **download** corresponding to the export record whose **Status** is **Success** to download the table data file to a specified path.
  e. After the download is successful, open the exported file and enter the compression password to view table data.

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2.3.2.10 Managing the Multimedia Library

A tenant administrator can preconfigure some multimedia library data, including common phrases, voices, videos, images, documents, addresses, personalized emojis, rich texts, card templates, and plain texts for agents to improve work efficiency.

Prerequisites

- To configure a card template for which a URL needs to be configured as a card option, an application for adding the URL to the address trustlist has been submitted to the system administrator and approved.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- Permissions on operations under the WhatsApp menu controlled by separate permissions have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- Before a WhatsApp template is created in the AICC, the template has been created by cooperating with Infobip, Gupshup, Cloud-API, and KooMessage.
- If the WhatsApp service provider is set to **Twilio**, the system parameter **Twilio Content API service address** has been set to the Twilio Content API service address connected to the AICC. The default value is **https://content.twilio.com**.

Context

After a version earlier than 23.100.0 is upgraded to the current version, the uploaded AAC file needs to be uploaded again. Otherwise, the old AAC file fails to be sent after the WhatsApp channel is connected to Infobip.

The multimedia file types supported by each channel are as follows.

Table 2-20 Multimedia data and channels

Multimedia Data Type	Supported Sending Channel
Common phrase (including common phrases in the multimedia library and personalized common phrases)	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • SMS • Instagram • Telegram

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Multimedia Data Type	Supported Sending Channel
Voice	• Web: MP3 or AAC • WeChat: MP3 • Facebook: MP3 • LINE: M4A • WhatsApp: ACC • Instagram: M4A • Telegram: MP3 or M4A
Video	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • Instagram • Telegram
Image	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • Telegram
Address	• Web • LINE • WhatsApp • Instagram • Telegram

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<table>
<tr><th colspan="2">Multimedia Data Type</th><th>Supported Sending Channel</th></tr>
<tr><td colspan="2">Personalized emoji</td><td>• Web
• WeChat
• WhatsApp
NOTE
When a multimedia agent sends a personalized emoji in GIF format in the multimedia library to a customer, due to the restrictions on WeChat, the image displayed on the customer side is a static image. In such case, the customer can save the image and open it in the phone album, in which the image is a normal GIF image.</td></tr>
<tr><td rowspan="4">Card template</td><td></td><td rowspan="2"></td></tr>
<tr><td></td></tr>
<tr><td>WhatsApp template message</td><td rowspan="2">WhatsApp</td></tr>
<tr><td>WhatsApp interactive message</td></tr>
<tr><td>Web card</td><td>Web</td></tr>
<tr><td colspan="2">Rich text</td><td>Web</td></tr>
<tr><td colspan="2">Email draft (not maintained on the Multimedia Library menu)</td><td>Email</td></tr>
<tr><td colspan="2">SMS template (not maintained on the Multimedia Library menu)</td><td>SMS</td></tr>
<tr><td colspan="2">Document</td><td>• Web: DOC, DOCX, PDF, or ZIP
• WhatsApp: DOC, DOCX, PDF, PPT, PPTX, XLSX, or XLS
• Telegram: PDF or ZIP</td></tr>
<tr><td colspan="2">Plain text</td><td>• Web
• WeChat
• X (Twitter)
• Facebook
• LINE
• WhatsApp
• SMS
• Instagram
• Telegram</td></tr>
</table>

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Multimedia Library**.

Step 2 Configure the common phrase library.

1. Click the **Phrase** tab and click ⊕ to add a common phrase category and set the following parameters:
   - **Category Name**: Enter a maximum of 20 characters.
   - **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.

   Only one common phrase can be added at a time. A common phrase can contain a maximum of 500 characters. If there are multiple common phrases, click **Create** to add them one by one.

Step 3 Configure the voice library, video library, image library, document library, and personalized emoji library. The following uses the voice library as an example.

1. Click the **Voice** tab and click ⊕ to add a voice category and set the following parameters:
   - **Category Name**: Enter a maximum of 20 characters.
   - **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name** and click **+Select File** to select a local voice file in MP3, AAC, or M4A format.
4. Click **Save**. The file is uploaded.

   You can perform the following operations on uploaded files:
   - ☰: Enter the list mode and display data in a list. This button is available only for the video library, image library, and personalized emoji library.
   - ▦: Enter the preview mode and display data on cards. This button is available only for the video library, image library, and personalized emoji library.
   - Click **Play** to play a voice file online.
   - Click **Preview** to preview a video or image file online.
   - Click **Download** to download an uploaded document online.
   - Click **Edit** to modify the description of an uploaded file.
   - Click **Delete** to delete an unnecessary multimedia file.
   - Click **Release** to publish an image, video, or voice file to the 5G VAS CSP. This button is not displayed in preview mode. The validity period of multimedia data published to the 5G platform is two months.
   - Click **Release Result** to view the result of releasing multimedia data to the 5G platform.
5. Update a multimedia resource imported with the flow.

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NOTE

- Only the voice library, video library, image library, and document library are involved.
- Multimedia resources can be updated only once.

a. Locate the resource whose **Resource Status** is **Ineffective** in the resource list.

b. Click **Edit** in the **Operation** column.

c. Upload the multimedia resource again.

After the resource is uploaded, the resource status changes to **Effective**. In this case, the resource is available.

Step 4 Configure the address library.

1. Click the **Address** tab and click ⊕ to add an address category and set the following parameters:
   - **Category Name**: Enter a maximum of 20 characters.
   - **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name**, **Longitude**, and **Latitude**. The longitude ranges from –180 to 180 and can contain 0 to 6 decimal places. The latitude ranges from –90 to 90 and can contain 0 to 6 decimal places.
4. Click **Save**. The address is configured.

   You can perform the following operations on uploaded addresses:
   - Click **Edit** to modify the description of an uploaded address.
   - Click **Delete** to delete an unnecessary address.

Step 5 Configure rich texts or plain texts. The following uses rich texts as an example.

1. Click the **Rich Text** tab and click ⊕ to add a rich text category and set the following parameters:
   - **Category Name**: Enter a maximum of 20 characters.
   - **Organizational Structure**: Select the OU created in **2.2.1 Configuring OUs**.
2. Select the new category and click **Create**.
3. Set **Name** and **Description**, and enter the rich text content.
4. Click **Save**. The rich text is configured.

   You can perform the following operations on created rich texts:
   - Click **View** to view a rich text.
   - Click **Edit** to modify a rich text.
   - Click **Delete** to delete an unnecessary rich text.

Step 6 Configure a card template.

Click the **Card Template** tab. The template list page is displayed.

- Configure a WhatsApp template message.

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NOTE

Only Twilio template messages can be created in the AICC and synchronized to the Twilio. For details, see the following configuration description.

a. Choose **WhatsApp Template Message** and click **Create**.

b. Click **Create**. The **Create WhatsApp Template Message** page is displayed.

   If you have created a template on the **Configuration Center** > **Resource Management** > **WhatsApp Template** page, you can directly go to **Step 6.g**.

c. Set the following parameters:

   - **Template Name** and **Template Description**: Customize the values.

     If the service provider of the selected WhatsApp template channel is **infobip**, **gupshup**, **cloud-api**, or **KooMessage**, the value of **Template Name** must be the same as that provided by the service provider.

   - **Business Solution Provider**: The options are as follows:
     - **KooMessage**
     - **Twilio**
     - **cloud-api**
     - **gupshup**
     - **infobip**
     - **other**

   - **Organization Unit**: Select the OU created in **2.2.1 Configuring OUs**.

   - **Template Channel**: Select the WhatsApp channel configured on the **Channel Configuration** page. For details about how to configure the WhatsApp channel, see **2.5.8 Configuring the WhatsApp Channel**.

   - **Template ID**: If this parameter is left empty, add a template ID. Otherwise, set it to the ID of an existing template in the Twilio, which can be obtained from **Develop** > **Messaging** > **Content Template Builder** > **name/Template SID**. This parameter is displayed only when the WhatsApp service provider is **Twilio**.

   - **MessagingServiceSid**
     - If the service provider of the selected WhatsApp template channel is **Twilio**, obtain the parameter from the Twilio from **Develop** > **Messaging** > **Service** > **Sid**.
     - If the service provider of the selected WhatsApp template channel is **gupshup**, set this parameter to the ID of the template created in the Gupshup.

     Language: Select the language of the template.

   - **Template availability times per day**: Customize the number of times the template can be sent in a day. If the value is exceeded, the template message fails to be sent.

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- **Template Content**: Configure the template content as required, including **Header**, **body**, **footer**, and **buttons**. The value must be consistent with the content of Infobip or Gupshup templates provided by the channel supplier.

d. Click **Save** to return to the WhatsApp template message configuration page.

e. (Required only for Twilio) Choose **Configuration Center** > **Resource Management** > **WhatsApp Template**, find the WhatsApp template created in **Step 6.c**, and click **Submit**. Wait for the template to be approved by the Twilio. The template status changes to **Passed**.

f. Select a data record of the **Template Name** column, that is, a WhatsApp template.

For WhatsApp templates whose **Business Solution Provider** is set to **Twilio**, the value of **Template Status** must be **Passed**.

g. Set the following parameters:

- **Template Message Name** and **Description**: Customize the values.
- **Intelligent Robot**: Select the intelligent robot configured in **2.6.2 Configuring an Intelligent Robot** and process the reply of the template message.

  The priority of the intelligent robot is higher than that of the access robot configured in the channel.
- **Template Name**: Select the WhatsApp template created in **Step 6.b**.

  After a WhatsApp template is selected, other parameters are automatically filled in with the data of the WhatsApp template.

h. Click **Save**.

- Create an interactive WhatsApp message.

a. Click the **Card Template** tab. The template list page is displayed.

b. Choose **WhatsApp Interactive Messages** and click **Create**. The WhatsApp configuration page is displayed.

c. Configure basic information.

- Using an existing template in the Twilio
  - **Message Name** and **Business Solution Provider**: Customize the values.
  - **Organization Unit**: Select the OU created in **2.2.1 Configuring OUs**.
  - **Channel** and **Language**: Select a WhatsApp channel and a language from the drop-down lists.
  - **Unique ID of a template**: Enter the corresponding message template SID in the Twilio.
  - **MessagingServiceSid**: Enter the value of **messagingServiceSid** obtained on the **Develop** > **Messaging** > **Service** > **Sid** page in the Twilio.
  - Set other parameters consistent with those configured in the Twilio.

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- Create an interactive message in the AICC.
  - Customize **Message Name** and **Description**.
  - Set **Business Solution Provider**. The options are as follows:
    - **infobip**
    - **Twilio**
    - **gupshup**
    - **KooMessage**
    - **cloud-api**
    - **other**
  - Customize **Unique ID of a template**. This parameter is displayed when **Business Solution Provider** is set to **Twilio**.
  - **Organization Unit**: Select the OU created in **2.2.1 Configuring OUs**.
  - Set **Message Type**. The options are as follows:
    - **Button Message**
    - **List Message**

d. Set parameters in the **Template Content** area.

- Customize **body** and **footer**.
- Set **Header**. This parameter is displayed when **Business Solution Provider** is set to **infobip**.
  - When **Message Type** is set to **Button Message**, select **None**, **Text**, **Image**, **Video**, or **Attachments**.

    If **Text** is selected, you need to set **Header Content**.

    If you select **Image**, **Video**, or **Attachments**, you also need to select a multimedia resource. Click  to select a media resource of the corresponding type from the multimedia library.
  - When **Message Type** is set to **List Message**, set **Header Content**.
- Customize **body**.
- Set **footer**. This parameter is displayed when **Business Solution Provider** is set to **infobip**.
- Set **Button** (mandatory when **Message Type** is set to **Button Message**).

  Click **Create** to create a button. A maximum of three buttons can be created.
- Set **List** (mandatory when **Message Type** is set to **List Message**).

  1) Enter a list title.
  2) Click **Create** to create a list group. A maximum of 10 groups can be added to a list.

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3) Enter a group title and click → to expand the group.
4) Click **Create** to create a group option. A maximum of 10 options can be added to a group.

e. Click **Save**. The interactive WhatsApp message is created.

- Configure a web card.

a. Choose **WebCard** and click **Create**.

b. Set the following card template parameters:

- **name**: Customize the value.
- **template type**: The options are as follows:
  - **Common type**: If this option is selected, you need to set the following parameters:
    - **title** and **Description**: Customize the values.
    - **Media Type**: The options are **IMAGE**, **Address**, and **VIDEO**.
    - **Multimedia Resource**: Select a multimedia resource of the corresponding type.
    - **linking**: Enter a URL for customers to click to go to the specified page.

      NOTE

      HTTP requests have security risks. HTTPS is recommended.
  - **Card Options**
- **Organization Unit**: Select the OU created in **2.2.1 Configuring OUs**.

c. Select a card display style. Value options:

- **transverse**
- **longitudinal**

d. Add card options.

NOTE

When **Card display style** is set to **transverse**, a maximum of 15 card options can be added. When **Card display style** is set to **longitudinal**, a maximum of five card options can be added.

i. Click **Add Card Options**.

ii. Set the following parameters:

- **Image property**: Select an image resource configured in **Step 3**.
- **Card display text**: Enter a maximum of 32 characters. The value cannot contain the following special characters: <>'"/\
- **Option Type**: The options are as follows:
  - **reply**
  - **linking**
- **select content**

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- When **Option Type** is set to **reply**, the value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\
- When **Option Type** is set to **linking**, the value must start with **http** or **https**.

  NOTE

  HTTP has security risks. Exercise caution when using it. You are advised to use HTTPS, which is more secure.

e. Click **Save**. The web card template is configured.

----End

2.3.2.11 Configuring Identity Authentication Processes

A tenant administrator can configure identity authentication processes for agents to authenticate the customer identity.

Prerequisites

- The **Authentication** permission has been enabled.
- An IVR flow voice has been configured.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Scenario

A third-party system needs to be connected when an agent needs to authenticate the customer identity during a call.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Authenticate**.

Step 2 Click **New**. The **Add Identity Authentication Process** dialog box is displayed.

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Figure 2-65 Add Identity Authentication Process

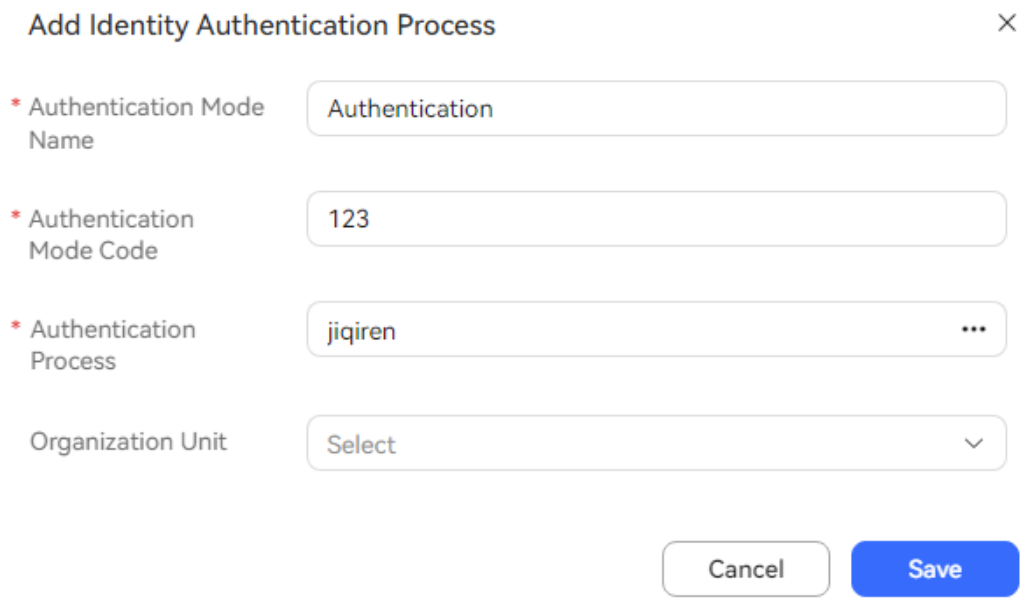


Table 2-21 GUI elements on the Add Identity Authentication Process page

Parameter	Description
Authentication Mode Name	Authentication mode name. The value can contain a maximum of 128 characters.
Authentication Mode Code	Authentication mode code. The value can contain a maximum of 128 characters.
Authentication Process	IVR flow that has been published in the tenant.

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Parameter	Description
Organization Unit	OU to which an identity authentication process belongs. The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the owning OU and accessible OUs are available. If the value of **Organization Unit** is left empty, **Unorganized** is selected.

Step 3 Click **Save**.

Step 4 Click  to enable the identity authentication process.

----End

Follow-up Procedure

You can perform the following operations when the configured identity authentication process is not enabled:

- Click **Edit** to modify the identity authentication process.
- Click **Delete** to delete the identity authentication process.

2.3.2.12 Managing the Voice and Video Workbench

A tenant administrator sets the tenant-level voice and video workbench layout.

Prerequisites

The tenant administrator has the management, viewing, and editing permissions on the voice and video workbench.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Call Workbench Management**.

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Step 2 Click **Edit**. On the **Edit Audio and Video Workbench** page, select a card under **All Widgets**.

Figure 2-66 Edit Audio and Video Workbench page

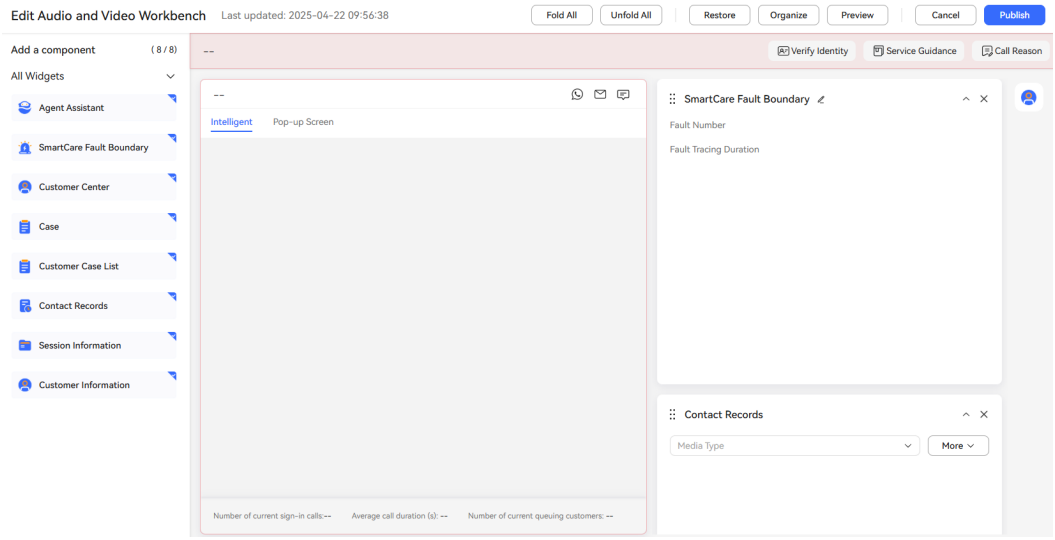


Table 2-22 GUI elements on the Edit Audio and Video Workbench page

Parameter	Description
All Widgets	Select a card on the voice and video workbench. Value options: • **Agent Assistant**: This option is available only when the **Intelligent Agent** feature is enabled. • **SmartCare Fault Boundary**: This option is available only when the **SmartCare** feature is enabled. • **Customer Center**: This option is available only when the **Customer Center** feature is enabled. • **Case**: This option is available only when the **Case 2.0** feature is enabled. • **Customer Case List**: This option is available only when the **Case 2.0** feature is enabled. • **Contact Records** • **Session Information** • **Customer Information**
Fold All	Collapse all cards on the workbench.
Unfold All	Expand all cards on the workbench.
Restore	Restore the layout to the preset tenant-level system layout. After the restoration, the layout data of the tenant administrator is deleted.

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Parameter	Description
Organize	Provide the automatic card layout function based on the widget framework capability.
Preview	Preview the voice and video workbench layout.
Cancel	Cancel the editing of the workbench layout.
Publish	Publish the edited workbench layout.

Step 3 Click **Publish**.

Step 4 Click **Confirm**.

----End

2.3.2.13 Managing the Online Chat Workbench

A tenant administrator sets the tenant-level online chat workbench layout.

Prerequisites

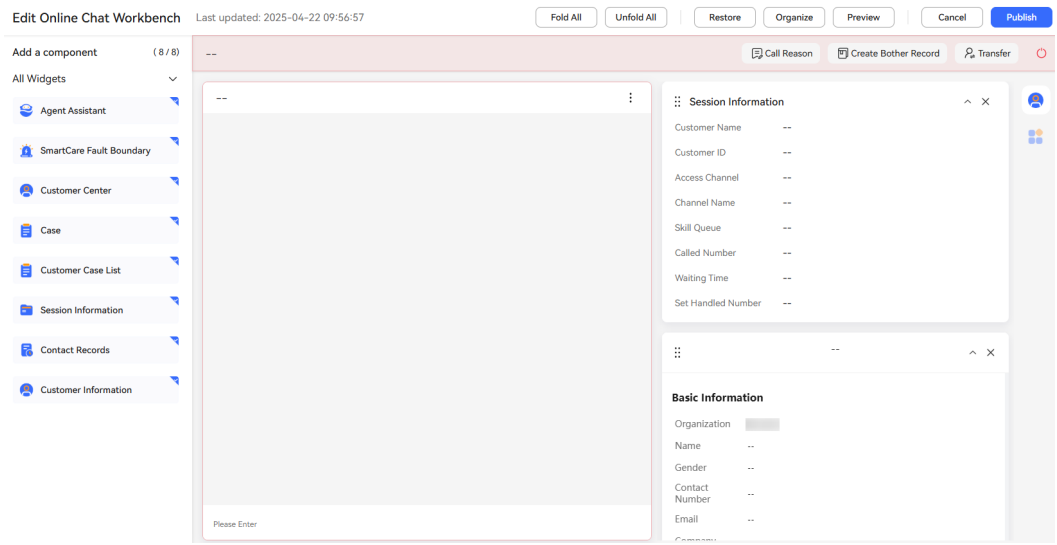
The tenant administrator has the management, viewing, and editing permissions on the online chat workbench.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Chat Workbench Management**.

Step 2 Click **Edit**. On the **Edit Online Chat Workbench** page, select a card under **All Widgets**.

Figure 2-67 Edit Online Chat Workbench page



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Table 2-23 GUI elements on the Edit Online Chat Workbench page

Parameter	Description
All Widgets	Select a card on the online chat workbench. Value options: • **Intelligent Recognition**: This option is available only when the **Intelligent Agent** feature is enabled. • **Agent Assistant**: This option is available only when the **Intelligent Agent** feature is enabled. • **SmartCare Fault Boundary**: This option is available only when the **SmartCare** feature is enabled. • **Customer Center**: This option is available only when the **Customer Center** feature is enabled. • **Case**: This option is available only when the **Case 2.0** feature is enabled. • **Customer Case List**: This option is available only when the **Case 2.0** feature is enabled. • **Session Information** • **Contact Records** • **Customer Information**
Fold All	Collapse all cards on the workbench.
Unfold All	Expand all cards on the workbench.
Restore	Restore the layout to the preset tenant-level system layout. After the restoration, the layout data of the tenant administrator is deleted.
Organize	Provide the automatic card layout function based on the widget framework capability.
Preview	Preview the online chat workbench layout.
Cancel	Cancel the editing of the workbench layout.
Publish	Publish the edited workbench layout.

Step 3 Click **Publish**.

Step 4 Click **Confirm**.

----End

2.3.2.14 Setting Busy Reasons

A tenant administrator can set busy reasons for agents to select when they are busy.

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Prerequisites

1. The tenant administrator has set a manager for agents.
2. Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Scenario

When an agent needs to update the agent status to **Busy** after sign-in, the system allows the agent to select a busy reason. After the agent is no longer busy, the agent status can be changed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Busy Reason**.

Step 2 Click **New**. The **Create Busy Reason** dialog box is displayed.

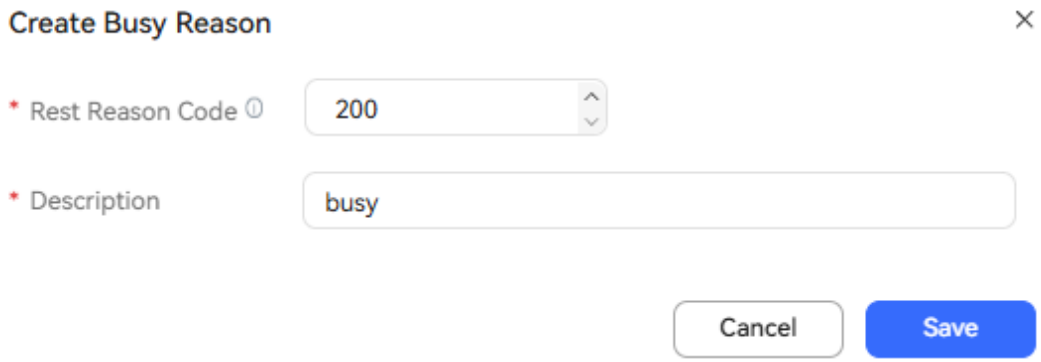


Table 2-24 GUI elements on the Create Busy Reason page

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Rest Reason Code	Text box	Reason code.	Number: 200–250	Enter	The tenant-level reason code must be unique.

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Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Description	Text box	Reason description.	The value can contain a maximum of 64 characters. The description cannot contain the following special characters: ~#$%&*/=+<>	Enter	-

Step 3 Click **Save**.

Step 4 Click  to enable the busy reason.

----End

Follow-up Procedure

You can perform the following operations on busy reasons:

- Click  to disable the enabled busy reason.
- Click **Edit** to modify the description of the disabled busy reason.
- Click **Delete** to delete the disabled busy reason.
- A busy reason used by an agent cannot be edited or deleted after being disabled.

2.3.3 Other Configurations

A tenant administrator can optimize tenant space configurations to improve agent and customer experience.

2.3.3.1 Configuring the Fault Prompt Tone

A tenant administrator can customize the fault prompt tone, which is played to users when system agents are faulty.

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Prerequisites

You have configured a customized fault prompt tone by choosing **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** and uploading a voice file whose **Usage Scenario** is **error**. The voice file can be used only after being approved by the system administrator.

Scenario

After a tenant administrator enables the fault prompt tone function, the transfer-to-agent function of the tenant space becomes invalid. When a fault occurs, the configured fault prompt tone is played. However, the function of directly calling an agent is not affected by this feature.

For example, a transfer diagram element is configured in an IVR flow, and an agent who transfers a call to a skill queue is configured for the diagram element. When a customer accesses the IVR flow and chooses to transfer the call to a skill queue, the system plays the fault prompt tone. In addition, the function of transferring the call to an agent is invalid for all agents.

Procedure

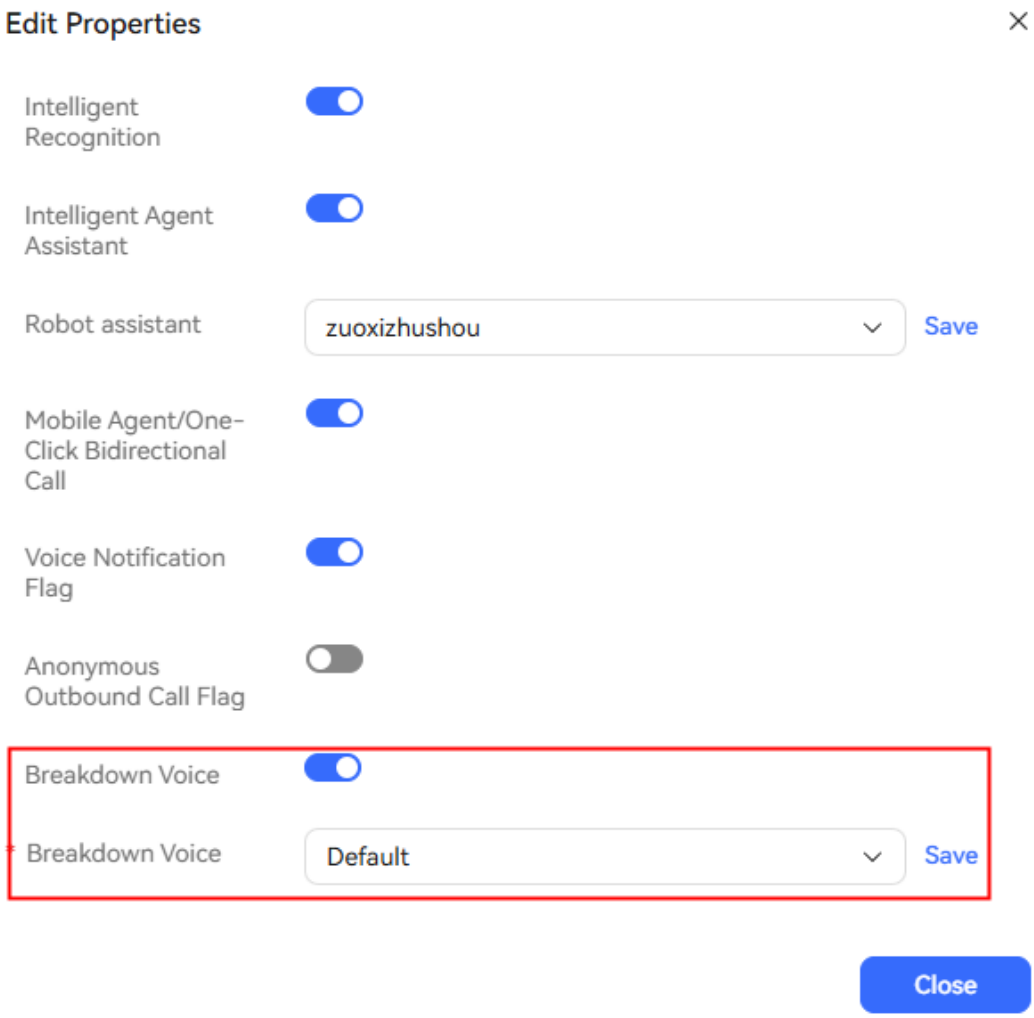
Step 1 Sign in to the AICC as a tenant administrator. Choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 Click next to **Feature** to enter the editing mode.

Step 3 Click  next to **Breakdown Voice** to enable the fault prompt tone function for the tenant.

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Figure 2-68 Breakdown Voice



Step 4 Select an approved prompt tone and click **Save**.

NOTE

- The function is disabled by default. Each time the function is disabled, the message "Update tenant fault success." is displayed.
- The system provides a default prompt tone.

----End

2.3.3.2 Configuring Satisfaction Surveys

A tenant administrator can set satisfaction levels for tenant space satisfaction surveys.

Business Scenarios

- Scenario 1: web channel satisfaction survey

  When a customer connected to an agent on the web page clicks the button for closing the chat window, a satisfaction survey page is displayed. The customer selects a satisfaction level, enters comments, and closes the chat window.

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- Scenario 2: SMS satisfaction survey

  When an agent or customer hangs up after the customer service call ends, the system automatically sends a satisfaction survey SMS message to the customer. The customer replies to the SMS message to provide the satisfaction survey result.

- Scenario 3: IVR voice satisfaction survey

  When an agent hangs up after the customer service call ends, the customer is transferred to the satisfaction survey. The customer presses a key to provide the satisfaction survey result.

- Scenario 4: Instagram, WeChat, Facebook, X (Twitter), WhatsApp, Telegram, LINE, and SMS channel satisfaction surveys

  After an agent ends a session, the system automatically sends a satisfaction survey text message to the customer.

- Scenario 5: Email channel satisfaction survey

  After an agent ends a session, the system automatically sends a satisfaction survey email to the customer. The customer clicks the satisfaction survey link in the email to evaluate the service.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Satisfaction**.

Step 2 Configure OUs.

All accessible organizations: Search for the satisfaction level configuration by OU.

Value options:

- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**:
  - Tenant administrator: **Unorganized** and all OUs under the current tenant are available.
  - Common agent: Accessible OUs are available.

  If **Organization Unit** is left empty, select **Unorganized**.
- This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**. Data of **Unorganized** is displayed on the page.

Step 3 On the **Satisfaction Level** tab page, click **Edit** to set satisfaction level parameters.

- **Satisfaction Level Configuration**: The default satisfaction levels are **1**: **Very dissatisfied**, **2**: **Dissatisfied**, **3**: **General**, **4**: **Satisfied**, and **5**: **Very satisfied**.

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  - Click ⊕ in the last row to add a satisfaction level. The ⊕ button is displayed only when the number of satisfaction levels does not reach the maximum.
  - Click 🗑 to delete a satisfaction level.
  - Click ↑ or ↓ to adjust the sequence of a satisfaction level.
  - Select a satisfaction level from the **Description** drop-down list.
- **Satisfaction Survey Type**: Select a multimedia satisfaction survey type.

  Value options:
  - **Satisfaction Evaluation**
  - **Questionnaire**
- **Satisfaction Survey Template Content Configuration**: Configure the satisfaction survey template content. The content can contain a maximum of 500 characters.

  This parameter is displayed only when **Satisfaction Survey Type** is set to **Satisfaction Evaluation**.

  Configure the satisfaction survey template content in preset languages.

  The language types are specified by the parameter **Languages supported by the satisfaction survey** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. If no parameter is set, no language tab page exists.
- **Questionnaire Content**: Configure the multimedia satisfaction survey content in preset languages. The language types are specified by the parameter **Languages supported by the satisfaction survey** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. If no parameter is set, no language tab page exists.

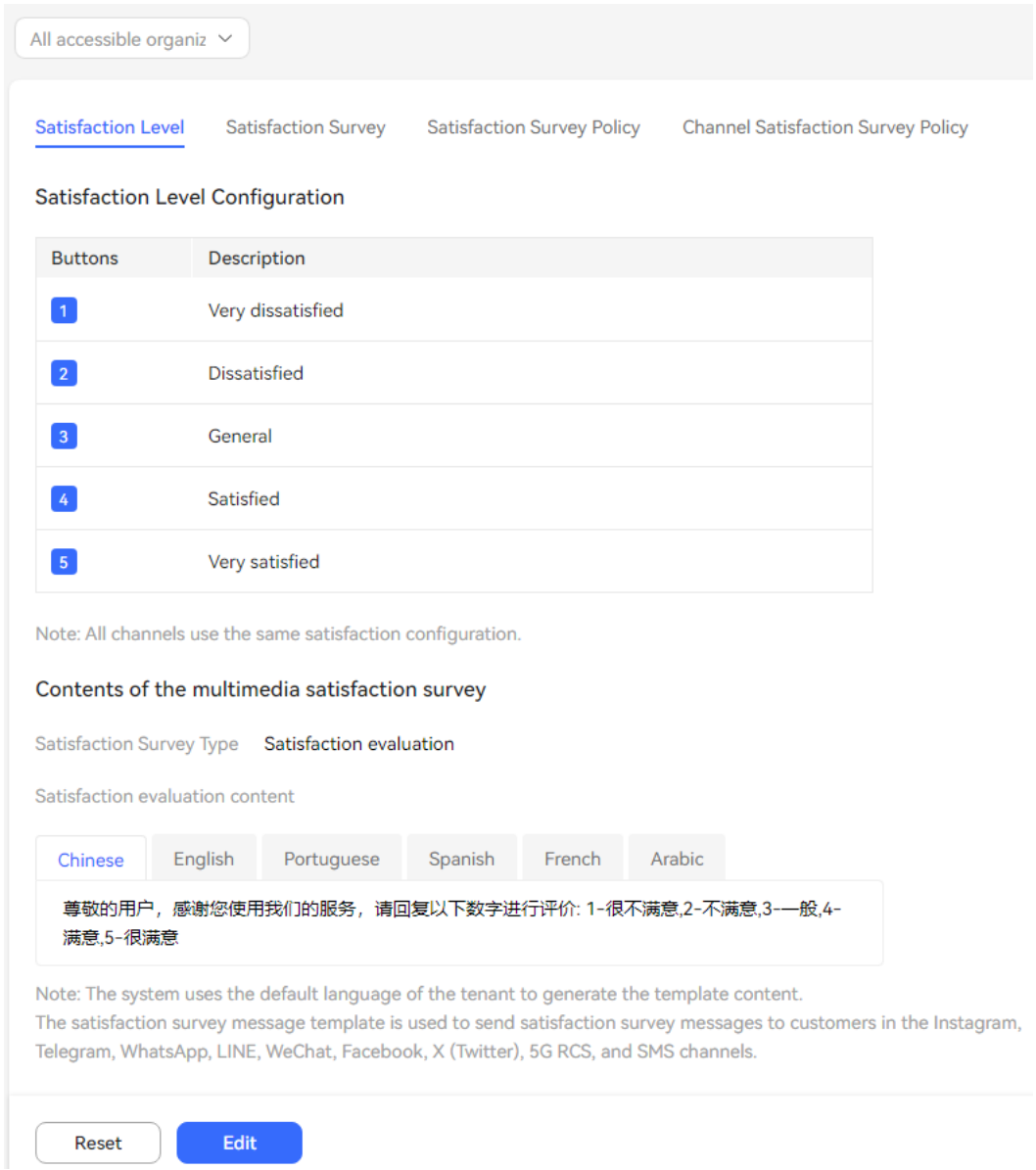
  Value options:
  - **Has your issue been resolved?**
    - **Yes**
    - **No**
  - **Please rate my service.**
    - **Very dissatisfied**
    - **Dissatisfied**
    - **General**
    - **Satisfied**
    - **Very satisfied**
  - **How likely are you to recommend us to friends and colleagues?**

    0 to 10

  This parameter is displayed only when **Satisfaction Survey Type** is set to **Questionnaire**.

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Figure 2-69 Satisfaction Level



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NOTE

Three to five satisfaction levels must be configured.

The satisfaction levels used in the satisfaction survey of each channel are the same. The satisfaction surveys include the voice satisfaction survey, SMS satisfaction survey, and web, Instagram, WeChat, Facebook, X (Twitter), WhatsApp, Telegram, LINE, SMS, and email channel satisfaction surveys.

If a satisfaction-related voice flow already exists, perform the following operations after satisfaction levels are updated:

- If the flow is an intelligent IVR flow, click **Cancel Release** corresponding to the flow on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** page and click **Edit**. After confirming that satisfaction levels have been synchronized, save and publish the flow.
- If the flow is a common IVR flow, click **Cancel Release** corresponding to the flow on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR** page and click **Edit**. After confirming that satisfaction levels have been synchronized, save and publish the flow.

The system uses the default language used by the tenant to generate the satisfaction survey template content.

The satisfaction survey message template content is used to send satisfaction survey messages to customers through Instagram, WeChat, Facebook, X (Twitter), WhatsApp, Telegram, LINE, and SMS channels.

Step 4 Click **Save**.

Step 5 On the **Satisfaction Survey** tab page, click **Edit** to set satisfaction survey parameters.

- **Switch**: Click  to enable the satisfaction survey function. If this function is enabled, the customer is automatically transferred to a satisfaction survey after an agent releases the call.
- **Satisfaction Survey Flow**: Select a published IVR flow and ensure that the flow contains the **Satisfaction Configuration** diagram element. Select an IVR flow in preset languages. The language types are specified by the parameter **Languages supported by the satisfaction survey** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. If no parameter is set, no language tab page exists.

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NOTE

- The procedure for configuring a common IVR flow is as follows:
  1. Choose **Configuration Center** > **Resource Management** > **Audio and Video**, upload the voice or video file used in the **Satisfaction Configuration** diagram element, and approve the file.
  2. Confirm that a main flow and an exception handling flow have been created and published successfully.
  3. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a subflow.

     Set **Is Referenced** to **Yes**.
  4. Select the **Satisfaction Survey** diagram element on the flow editing canvas, configure related information, and save the flow configuration.
  5. Select the new flow and click **Release**. After the flow is published, it can be used.

  For details, see **2.6.3 Configuring a Common IVR Flow**.
- The procedure for configuring an intelligent IVR flow is as follows:
  1. Choose **Configuration Center** > **Resource Management** > **Audio and Video**, upload the voice or video file used in the **Satisfaction Configuration** diagram element, and approve the file.
  2. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** and create an IVR flow.
  3. Select the **Satisfaction Survey** diagram element on the flow editing canvas, configure related information, and save the flow configuration.
  4. Select the new flow and click **Release**. After the flow is published, it can be used.
  5. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot** and create a chatbot.

     Set **Associated Process** to the flow created in **Step 5.ii**.

  For details, see **2.6.2 Configuring an Intelligent Robot**.

- **SMS Sending Channel**
  - **Huawei Cloud SMS**
  - **SMS Gateway**
- **SMS Template**: Select an SMS template whose **Notification Type** is **External Notification** configured on the **Notification Template** page. For details, see **2.11.7 Configuring Notification Templates as an Administrator**.

  Select an SMS template in preset languages. The language types are specified by the parameter **Languages supported by the satisfaction survey** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. If the parameter is not set, no language tab page exists.

  If the common SMS template selected for the SMS gateway contains the **${SatisfactionSurveyURL}** variable, the SMS satisfaction survey of the voice or video channel supports the questionnaire mode.

  When the SMS satisfaction survey of the voice or video channel supports the questionnaire mode, you need to set the system parameter **Satisfaction Survey Access AICC Domain Name**. The parameter value is similar to **https://yf-saas-test.aicccloud.com/**. The satisfaction survey URL in the SMS message is the combination of the value of the system parameter **Satisfaction Survey Access AICC Domain Name** and **service-cloud/aicc-**

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web/satisfactionsurvey/index.html?local=*{language}*&*srn=*{srn}. *language* is the session language. If no language is specified for a session, the default language used by the tenant is used. *srn* is a secure random number.

- **Valid Reply Period**: Validity period for replying to a satisfaction survey. The value ranges from 1 to 1440, in minutes.
- **Email Template**: Select a satisfaction survey template and enter a signature.
  - **Satisfaction Survey Template**: Email templates that contain the **${SatisfactionSurveyURL}** variable and are configured on the **Notification Template** page are available. For details, see **2.11.7 Configuring Notification Templates as an Administrator**.
  - **Email Signature (optional)**: Signatures configured on the **Email Signature** page are available. For details, see **2.11.6 Managing Email Signatures**.

  Select a satisfaction survey email template and email signature in preset languages. The language types are specified by the parameter **Languages supported by the satisfaction survey** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. If no parameter is set, no language tab page exists.

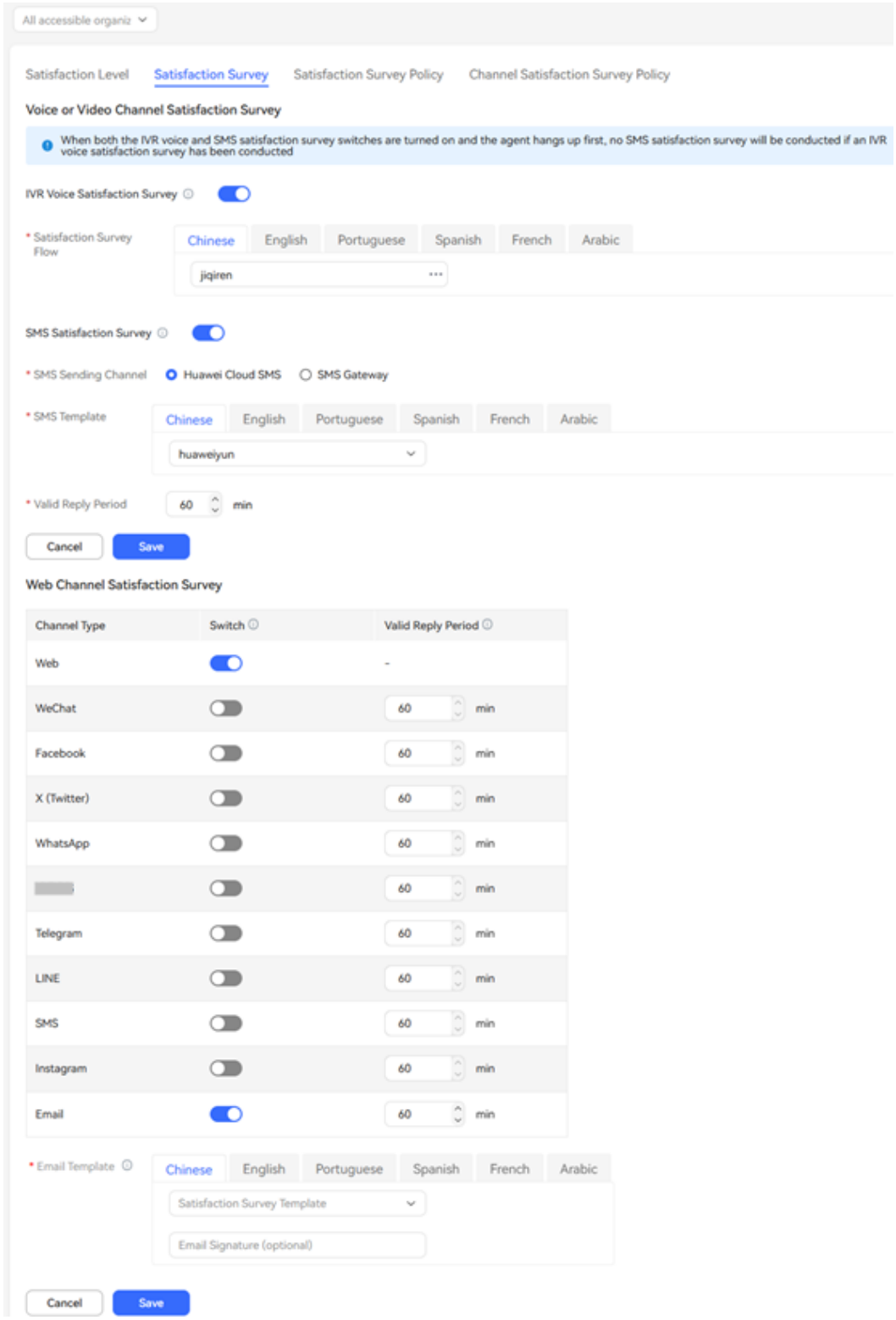
  This parameter is displayed only when the switch of the email channel is turned on.

  For the email channel satisfaction survey, the system parameter **Satisfaction Survey Access AICC Domain Name** needs to be set, whose value is similar to **https://yf-saas-test.aicccloud.com/**.

  The satisfaction survey URL in the email is the combination of the value of the system parameter **Satisfaction Survey Access AICC Domain Name** and **service-cloud/aicc-web/satisfactionsurvey/index.html?local=***{language}*&*srn=*{srn}. *language* is the session language. If no language is specified for a session, the default language used by the tenant is used. *srn* is a secure random number.

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Figure 2-70 Satisfaction Survey page



NOTE

If the configuration of a channel in the **Web Channel Satisfaction Survey** area of a new OU is not modified and saved, the configuration of this channel of **Unorganized** is used for commissioning the multimedia satisfaction survey.

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Step 6 Click **Save**.

Step 7 On the **Satisfaction Survey Policy** tab page, set satisfaction survey policy group parameters.

- **Policy Group Name**: Name of a satisfaction survey policy group. The value can contain a maximum of 20 characters.
- **Available Policies** and **Selected Policies**: Under **Available Policies**, click ☐ to select policies.
- **Handling Time**
  - **Start Time**: Start time of the time range in a day in which calls need to be transferred to the satisfaction survey.
  - **End Time**: End time of the time range in a day in which calls need to be transferred to the satisfaction survey.
- **Handling Date**
  - **Start date**: Start date of the time range in which calls need to be transferred to the satisfaction survey.
  - **End date**: End date of the time range in which calls need to be transferred to the satisfaction survey.
- **Call Duration**
  - **Minimum Call Duration (s)**: Minimum call duration of calls transferred to the satisfaction survey. The value is a number of 1 to 12 digits.
  - **Maximum Call Duration (s)**: Maximum call duration of calls transferred to the satisfaction survey. The value is a number of 1 to 12 digits.
- **Skill Queue**: Skill queue to which calls transferred to the satisfaction survey belong.

  Value options:
  - Tenant administrator: Skill queues of the OU and sub-OUs of the policy group name to which the skill queue policy belongs are available.
  - Common agent:
    - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, skill queues of accessible OUs are available.
    - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, skill queues of the owning OU, accessible OUs, and **Unorganized** are available.
- **Call Type**: Type of calls transferred to the satisfaction survey.
  - **Inbound Call**
  - **Outbound Call**
- **Access Code**: Voice and video access code transferred to the satisfaction survey.

  Value options:
  - Tenant administrator: Voice and video access codes of the OU and sub-OUs of the policy group name to which the access code policy belongs are available.

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  - Common agent:
    - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, voice and video access codes of accessible OUs are available.
    - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, voice and video access codes of the owning OU, accessible OUs, and **Unorganized** are available.

NOTE

If the configured satisfaction survey policy group does not require satisfaction survey for special time, call duration, skill queue, call type, or access code, configure an independent satisfaction survey policy and select **No survey** on the **Creating a Channel Satisfaction Policy** page.

Step 8 Click **Save**.

Step 9 On the **Channel Satisfaction Survey Policy** tab page, set channel satisfaction survey policy parameters.

- **Channel Type**: Channel type to which a satisfaction survey policy applies.
  - **Voice or video channel**
  - **Multimedia channels-Web**
  - **Multimedia channels-Email**
  - **Multimedia channels-WeChat**
  - **Multimedia channels-Facebook**
  - **Multimedia channels-X (Twitter)**
  - **Multimedia channels-WhatsApp**
  - **Multimedia channels-Telegram**
  - **Multimedia channels-LINE**
  - **Multimedia channels-SMS**
  - **Multimedia channels-Instagram**
- **Channel**: Select a multimedia channel configured on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page. For details, see **2.5 Configuring Multimedia Channels**.

  This parameter is displayed only when **Channel Type** is set to a value other than **Voice or video channel**.
- **Priority**: Priority of a channel satisfaction survey policy. The value ranges from 1 to 100. A smaller value indicates a higher priority. The policy with a higher priority is preferentially matched to conduct the survey.
- **Survey Type**: Select the type of the channel satisfaction survey.
  - When **Channel Type** is set to **Voice or video channel**, the options are as follows:
    - **IVR voice**
    - **SMS**

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    - **Questionnaire**
    - **No survey**
  - When **Channel Type** is set to **Multimedia channels-Web**, the options are as follows:
    - **Web**
    - **Questionnaire**
    - **No survey**
  - When **Channel Type** is set to **Multimedia channels-Email**, the options are as follows:
    - **EMAIL**
    - **Questionnaire**
    - **No survey**
  - When **Channel Type** is set to other multimedia channels, the options are as follows:
    - **Text Message**
    - **Questionnaire**
    - **No survey**
- **Questionnaire**: Select an IVR survey configured on the **Survey** > **Survey Config** page. For details, see **2.14.1 Configuring Surveys**.
  - When **Channel Type** is set to **Voice or video channel**, only the questionnaires whose **Survey Type** is **IVR Survey** are displayed.
  - When **Channel Type** is set to **Multimedia channels-***x*, only questionnaires whose **Survey Type** is **Manual survey** are displayed.
- **Survey Policy**: Select a policy group configured on the **Satisfaction Survey Policy** tab page.

Step 10 Click **Save**.

----End

2.3.3.3 Configuring the Customized Tone (Agent Ringback Tone)

The customized tone (agent ringback tone) is centrally configured by a tenant administrator. The ringback tones of all agents in the tenant space are the same.

Prerequisites

- A voice file whose **Usage Scenario** is **tone** is available on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Context

After a call is allocated to an idle agent, the agent ringback tone is played to the calling party before the agent answers the call.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Prompt Information**.

Step 2 Click **Edit** to configure an agent ring back tone.

- **Agent Ring Back Tone**: Select **Customization**.
- **Select Note File**: Select an uploaded voice file and click **OK**.

  The options are as follows:

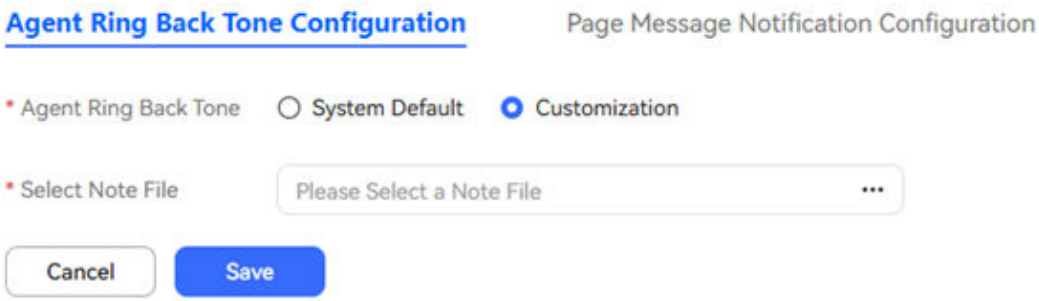
  – Tenant administrator: Customized note files of **Unorganized** and all OUs under the current tenant are available.

  – Common agent:

  ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, customized note files of accessible OUs are available.

  ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, customized note files of the owning OU, accessible OUs, and **Unorganized** are available.

Figure 2-71 Agent Ring Back Tone Configuration



Step 3 Click **Save**.

----End

2.3.3.4 Configuring Page Message Notifications

Customized page message notifications are centrally configured by a tenant administrator. The page message notifications of all agents in the tenant space are the same.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations

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are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

This configuration applies only when the page is hidden, such as when the browser is minimized, or when the page is tabbed in the background.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Prompt Information**.

Step 2 Click the **Page Message Notification Configuration** tab.

Step 3 Click **Edit** to set **Ringtones** and **Pop-up Dialog Box Reminder** under **Audio And Video Incoming Call Notification**, **Multimedia Incoming Call Notification**, and **New Multimedia Message Notification**.

The system provides the following ringtones, which can be played online. Select a ringtone as required.

- **msg**
- **news**
- **genie**
- **tip**
- **tinkle**

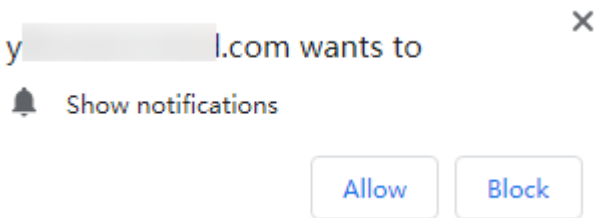
Step 4 Click **OK**.

----End

Follow-up Procedure

If a pop-up dialog box reminder is configured, when an agent signs in, the browser displays a dialog box asking whether to allow notifications. The pop-up dialog box reminder is valid only after the agent allows notifications.

Figure 2-72 Dialog box asking whether to allow notifications



2.3.3.5 Configuring Voice Silent Agents

Voice silent agents are used to assist the intelligent voice robot. If the robot training is incomplete, agents can assist the robot in replying.

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Prerequisites

- An IVR flow whose **Work Mode** is **Monitor** or **Insert** exists in the intelligent IVR. For details, see **2.6.2.2.9 Publishing a Flow**.
- You have configured the following called routes. For details, see **2.3.1.2 Configuring Called Routes**.
  - Called route whose **Device Type** is **IVR** and **Type** is **Audio/Video** created using the preceding intelligent IVR flow
  - Called route whose **Device Type** is **Skill Queue** and **Type** is **Multimedia**
- A skill queue whose **Type** is **Voice** exists. For details, see **2.3.1.1 Maintaining Tenant Space Skill Queues**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Voice Silent Agent**.

Step 2 Click **New**. On the **New Voice Silent Agent** dialog box, set voice silent agent parameters.

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Figure 2-73 New Voice Silent Agent

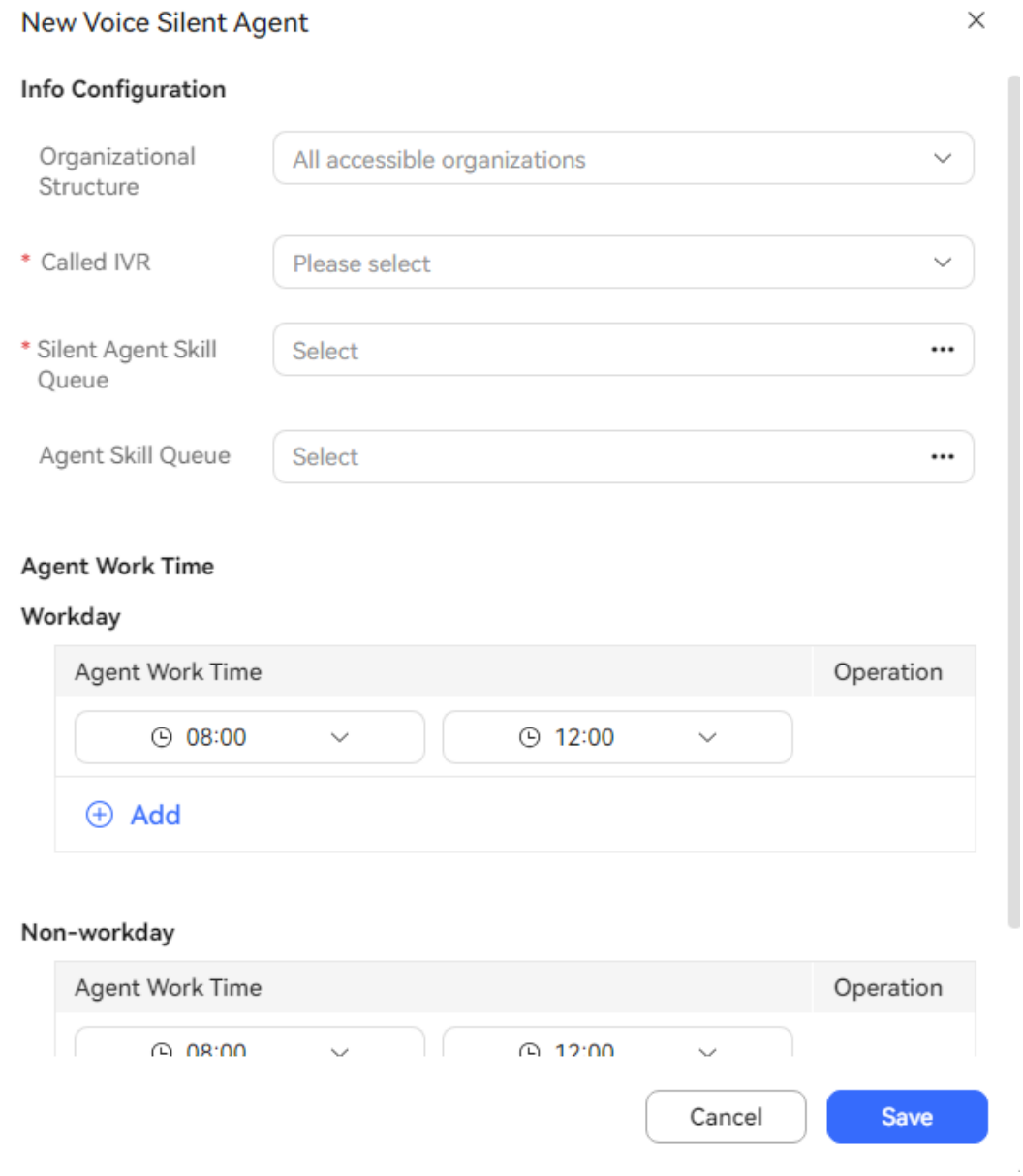


Table 2-25 Voice silent agent parameters

Parameter	Description
Info Configuration	
Organizational Structure	OU to which a voice silent agent belongs. **NOTE** If no OU is configured or **Unorganized** is selected, the data can be used by all OUs.
Called IVR	Called IVR created using an intelligent IVR flow whose **Work Mode** is **Monitor** or **Insert**.

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Parameter	Description
Silent Agent Skill Queue	Multimedia called route.
Agent Skill Queue	Voice skill queue.
Agent Work Time: A maximum of four working time segments can be added.	
Workday	Working time segment of the agent on workdays.
Non-workday	Working time segment of the agent on non-workdays.

Step 3 Click **Save**.

----End

2.3.3.6 Managing Messages

A tenant administrator can query messages in the current tenant space by page based on criteria, or assign, handle, play, or download them.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Message**.

Step 2 Manually search for messages based on criteria.

Figure 2-74 Message list page

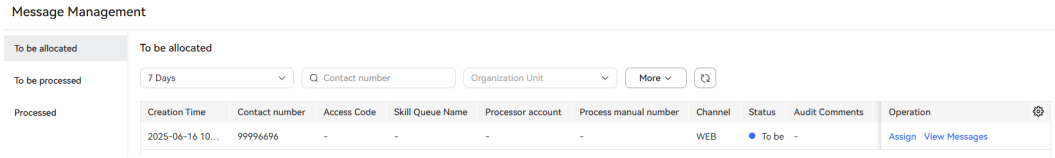


Table 2-26 Parameters for searching for messages

Parameter	Description
Time	Value options: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Contact number	Customer number.

Parameter	Description
Organization Unit	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. Value options: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for the message records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected.
Processor account	Business account.
Process manual number	Agent ID in the tenant space.
Channel Type	Value options: • **Voice**: Message handling, playback, and download are supported. • **WEB**: Message assignment, viewing, and handling are supported.
Skill Queue	Skill queue whose voice messages are to be queried. Advanced search criterion.

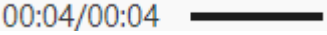
Step 3 Choose **To be allocated** to assign messages to agents for handling.

1. Click **Assign**. The **Assigning Messages** dialog box is displayed.
2. Search for all agents that have been bound to accounts in the tenant space or search for agents based on criteria. Click ○ to select an agent.
3. Click **OK**. The message is assigned to the selected agent.
4. Choose **To be processed**. On the **To be processed** page, the process manual number and processor account are updated to the agent ID and business

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account of the selected agent, the update time is the current time, and the status changes from **To be allocated** to **Unprocessed**.

Step 4 Play a message. You can perform the following operations:

-  : Play or pause a voice message.
-  : Fast forward or rewind the recording.
-  : Adjust the playback volume.
-  : Select a playback speed. The options are **0.5X**, **0.75X**, **1.0X**, **1.25X**, **1.5X**, and **2.0X**.

Step 5 Download a message.

NOTE

The downloaded message contains personal data. Exercise caution when processing the exported message to prevent personal data leakage and abuse.

The playback and download functions are available only for the current drive letter. For example, if the current drive letter is Y and the drive letter is switched from Y to Z, playback and download will fail. To play and download historical files properly, switch the drive letter from Z back to Y.

The encoding format of downloaded recording files is G711.A-law. Use a proper player to play the recording files.

1. Select the message to be downloaded and click **Download**.
2. Enter a customized compression password.

   The compression password must contain letters, digits, and the following special characters: _@%

   The compression password can contain a maximum of 12 characters.
3. Click **OK**.

Step 6 Handle a received message as an agent.

1. Choose **To be processed**.
2. Click **Process** corresponding to a message. The **Process Message** dialog box is displayed. The message status changes from **Unprocessed** to **Processing**.

   An agent can click **Reassign** to assign a message to another agent.
3. After confirming that the agent status is idle, click  to initiate a call to the contact number to handle the message.
4. Return to the **Handling Comments** text box, enter comments, and click **Submit** to complete the message handling. After the submission is successful, the message status changes from **Processing** to **Processed**.

----End

2.3.3.7 Viewing Contact Records

A tenant administrator can search for and export contact records of the current tenant space to learn about the working status of agents.

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Prerequisites

To display contact record fields that are not displayed by default after the tenant is created, see the configuration at **2.3.2.3 Configuring Contact Record Data Items**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Contact**.

Step 2 Set search criteria to search for contact records based on the criteria.

Figure 2-75 Contact page (when Indicates whether to set the call reason for customer contact. is set to No)

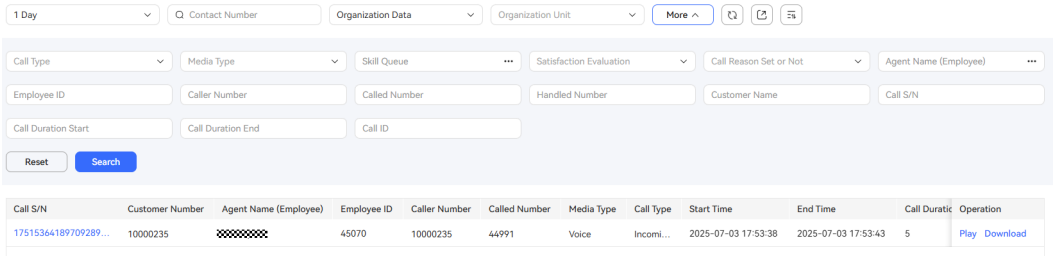
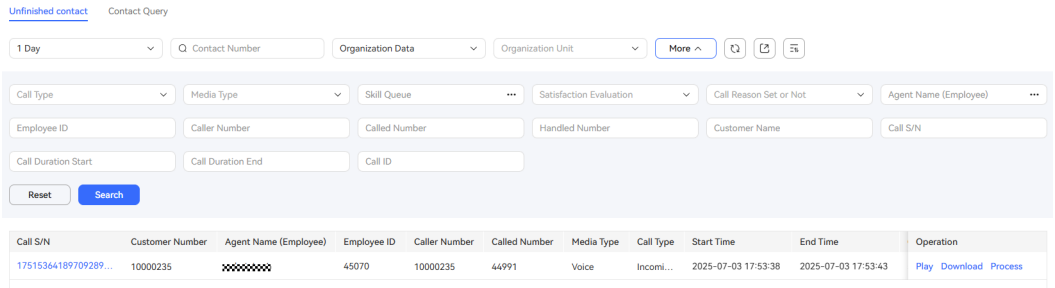


Figure 2-76 Contact page (when Indicates whether to set the call reason for customer contact. is set to Yes)



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Table 2-27 GUI elements on the Contact page

Element	Type	Description
1 Day	Drop-down list and calendar component	Time when a contact record is generated. Search criterion. Value options: • **1 Day** • **3 Days** • **7 Days** • **31 Days** • **90 Days** • **Customization** Default value: **1 Day** **NOTE** The maximum time span for searching for contact records is determined by the **Time Span for Contact Record Query** parameter.
Contact number	Text box	Calling number, called number, or handled number. Search criterion. This parameter is used for exact search. Only contact records whose numbers are the same as the entered number are displayed.
Data scope	Drop-down list	Data scope of contact records. Search criterion. Value options: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to search for all contact records, to view all organization data, and to edit all organization data are not granted.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for the contact records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. Value options: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – If the permission to search for all contact records is granted or the permissions to view all organization data and to edit all organization data are granted, **Unorganized** and all OUs are available. – If the permissions to search for all contact records, to view all organization data, and to edit all organization data are not granted: ▪ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. ▪ This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**.
More	Button	Expand advanced search criteria.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Create an export task. **NOTE** Whether this button is displayed is determined by the **Contact Record Export** permission. Agents without this permission cannot export contact records. By default, a tenant administrator has this permission.

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Element	Type	Description
	Button	View export tasks. **NOTE** Whether this button is displayed is determined by the **Contact Record Export** permission. Agents without this permission cannot view export tasks. By default, a tenant administrator has this permission.
Call Type	Drop-down list	Call type. Search criterion. Value options: • **Outgoing Call** • **Incoming Call** • **Predicted outbound call** • **Preview outgoing call** • **Preempted outbound call** • **ITA bidirectional call** • **Fixed Outbound Call** • **Double call** • **Collaborative call** • **Click-to-dial** • **Intelligent Robot Outbound Call** • **Offline Queue Call**
Media Type	Drop-down list	Media type. Search criterion. Value options: • **Voice** • **Video** • **Multimedia**
Skill Queue	Drop-down list	Skill queue. Search criterion.
Satisfaction Evaluation	Drop-down list	Satisfaction level. Search criterion. Value options: • **Very dissatisfied** • **Dissatisfied** • **General** • **Satisfied** • **Very satisfied** • **Not evaluated** • **Evaluation failed** **NOTE** Satisfaction levels can be customized. For details, see **2.3.3.2 Configuring Satisfaction Surveys**.

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Element	Type	Description
Call Reason Set or Not	Drop-down list	Whether the call reason is set. Search criterion. Value options: • **Yes** • **No**
Account	Selection box	Business account name. Search criterion.
Employee ID	Text box	Agent ID. Search criterion.
Caller Number	Text box	Calling number. Search criterion. If the number of agents for the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the calling number and the time range for the search does not exceed seven days.
Called Number	Text box	Called number. Search criterion. If the number of agents for the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the called number and the time range for the search does not exceed seven days.
Handled Number	Text box	Handled number. Search criterion. If the number of agents for the tenant does not exceed the value of the system parameter **Maximum number of agents for fuzzy query of calling, called, and handled numbers in a tenant contact record**, a fuzzy search can be performed when no record is exactly matched based on the handled number and the time range for the search does not exceed seven days.
Customer Name	Text box	Customer name. Search criterion.
Call S/N	Text box	Call SN. Search criterion.

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Element	Type	Description
Call Duration Start	Text box	Minimum call duration of a contact record. Search criterion. Value range: a maximum of 6 digits Unit: second This parameter is unavailable when the time span for searching for contact records exceeds 31 days.
Call Duration End	Text box	Maximum call duration of a contact record. Search criterion. Value range: a maximum of 6 digits Unit: second This parameter is unavailable when the time span for searching for contact records exceeds 31 days.
Contact Number (Fuzzy Search)	Text box	Calling number, called number, or handled number. Search criterion. This parameter is used for fuzzy search. Contact records whose numbers contain the entered number are displayed. This parameter is unavailable when the time span for searching for contact records exceeds 31 days. This parameter is not displayed if the system parameter **Whether to enable encryption for a large amount of personal data** is set to **Yes**.
Call ID	Text box	Call ID. Search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for contact records.
Call S/N	Button	Call Serial Number is a 19-digit number randomly generated by the system. You can click a value to view the operations related to the handled number in a call, including the conversation content, call reason, contact records, and transfer records.
Customer Number	Label	Customer number.
Account	Label	Business account name.
Employee ID	Label	Agent ID.
Caller Number	Label	Calling number.
Called Number	Label	Called number.

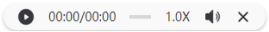
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Element	Type	Description
Media Type	Label	Media type. If the media type is multimedia, the specific multimedia channel is also displayed. Value options: • **Voice** • **Video** • **Multimedia-Instagram** • **Multimedia-Telegram** • **Multimedia-WhatsApp** • **Multimedia-LINE** • **Multimedia-Email** • **Multimedia-SMS** • **Multimedia-X (Twitter)** • **Multimedia-Facebook** • **Multimedia-WeChat** • **Multimedia-Web** • **Multimedia-Others Channel**
Call Type	Label	Call type. Value options: • **Outgoing Call** • **Incoming Call** • **Predicted outbound call** • **Preview outgoing call** • **Preempted outbound call** • **ITA bidirectional call** • **Fixed Outbound Call** • **Double call** • **Collaborative call** • **Click-to-dial** • **Intelligent Robot Outbound Call** • **Offline Queue Call**
Start Time	Label	Start time
End Time	Label	End time.

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Element	Type	Description
Call Duration (s)	Label	Call duration, in seconds. The call duration is the duration from the time when a call is connected to the time when the call is released. If the call duration is less than 1 second, **0** is displayed. The recording file can be played and downloaded.
Hang-up Party	Label	Hang-up party. Value options: • **User** • **Agent**
Skill Queue	Label	Skill queue.
Call Reason	Label	Call reason.
Call Remarks	Label	Call remarks.
Satisfaction evaluation	Label	Satisfaction level. Value options: • **Very dissatisfied** • **Dissatisfied** • **General** • **Satisfied** • **Very satisfied** • **Not evaluated** • **Evaluation failed** **NOTE** • After the IVR voice satisfaction survey switch is turned on and a satisfaction survey IVR flow is bound, if the customer does not evaluate the service, the value is empty. • After the SMS satisfaction survey switch is turned on and an SMS template is bound, if the customer does not evaluate the service, the value is empty. • After the channel satisfaction survey switch is turned on, if the customer does not evaluate the service, the value is empty. • If the customer is not transferred to the satisfaction survey flow, the value is empty.

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Element	Type	Description
Operate	Button group	Operations that can be performed. Value options: • **Play** • **Download** The encoding format of downloaded recording files is G711.A-law. Use a proper player to play the recording files. • **Process** **NOTE** • Voice files can be played and downloaded in WAV format. • When the video application mode of an agent is SFU video, the video file in the contact record generated for a video call between the agent and a customer can be played online or downloaded in MP4 format. • When the video application mode of an agent is MCU video, the video file in the contact record generated for a video call between the agent and a customer can be downloaded in TS format. • When **Video Application Mode** is set to **MCU(CloudVC)**, an agent can download video files only after signing in. • Multimedia call content can be downloaded in HTML format. The size of the downloaded file is specified by the tenant parameter **Maximum size of a file for downloading multimedia files**. If the size of a multimedia call content exceeds the value of this parameter, the content cannot be downloaded. After you click **Play**, the voice playback component  is displayed above the list. This component is used to play the recording in a contact record. The **Process** button is displayed on the **Unfinished contact** tab page only when the tenant parameter **Indicates whether to set the call reason for customer contact.** is **Yes**. You are advised to use video software other than Windows Media Player to play downloaded videos. The name of a downloaded recording file is *Date_Business account name_Skill queue*.**zip**. *Date* indicates the time when the file is downloaded. If the agent is associated with multiple skill queues, the first skill queue is used as the value of *Skill queue* by default. The name of a downloaded multimedia call content file is *Call SN*_**contactextrecord**_*Date*.**zip**. The email content in the downloaded multimedia call content

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Element	Type	Description
		file cannot be viewed, and the download link cannot be clicked to download the document. If the **Screen recording and screen inspection** feature is enabled to automatically record agents' screen operations: • After you click **Play** for a voice contact record, the agent's screen operation video is displayed. • After you click **Play** for a video contact record, the **Recording File Details** dialog box is displayed. Then, after you click **Play** for the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed.

Step 3 Export contact records (excluding voice and video files) to the local PC in batches.

1. Click  , set **Data Scope** and **Export Field**, and enter a compression password.

   NOTE

   - For details about the complexity requirements for the compression password, see the prompt on the page. The compression password is used to open the downloaded package.
   - The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
   - The **Compression password** parameter is not displayed when the tenant parameter **Specifies whether to set a password for the compressed file for exporting data** is set to **No**.
   - The maximum number of contact records that can be exported at a time is specified by the system parameter **Max. Contact Records Exported Each Time**. The value ranges from 1 to 100000. The default value is **100000**.
   - You can click  to view the plaintext password.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

Step 4 Play or download the recording file of a contact record.

1. Click **Play** in the **Operate** column to play the recording file.
   - After you click **Play** for a voice contact record, the agent's screen operation video is displayed.
   - After you click **Play** for a video contact record, the **Recording File Details** dialog box is displayed. Then, after you click **Play** for the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed. After you click **Play** for the record whose **Media Type** is **Video**, the video of the video call is displayed.
2. Click **Download** in the **Operation** column and enter the password of the compressed package to download the recording file and multimedia call content.

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NOTE

The downloaded file contains personal data. Exercise caution when processing the exported file to prevent personal data leakage and abuse.

You are advised to use video software other than Windows Media Player to play downloaded videos.

3. On the **Unfinished contact** tab page, click **Process** in the **Operate** column to set the call reason of the contact record.

----End

2.3.3.8 Viewing Offline Messages

A tenant administrator or agent can query offline messages of users in the current tenant space by condition, view messages, and assign messages.

Prerequisites

The agent must have the **Offline Message Management** menu permission. A tenant administrator has this permission by default.

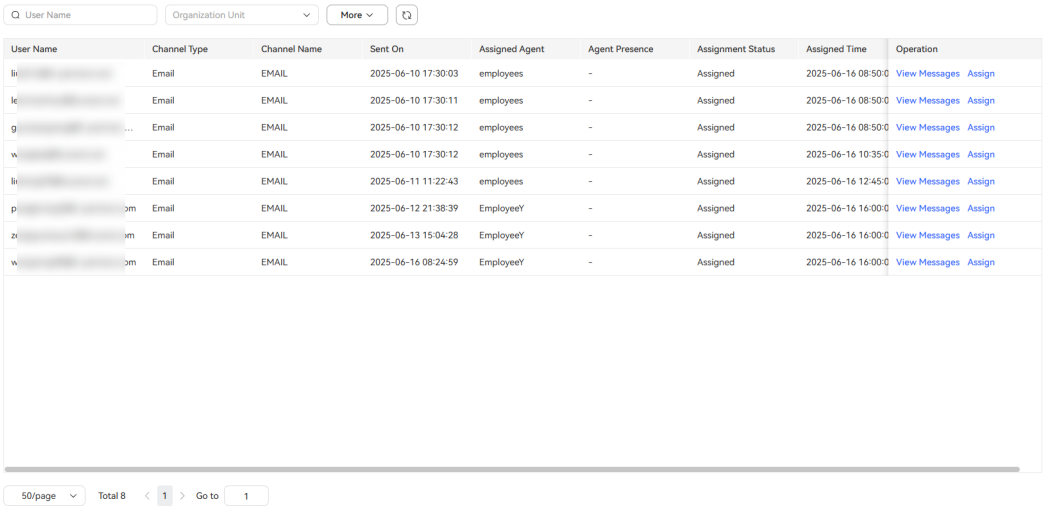
Procedure

Step 1 Sign in to the AICC as a tenant administrator.

Step 2 Choose **Contact History** > **Offline Message Management**. The management page is displayed.

Step 3 Enter filter criteria to query offline messages.

Figure 2-77 Offline Message Management page



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Table 2-28 GUI elements on the Offline Message Management page

Element	Description
User Name	User name. Search criterion. Only the following special characters are supported: @.-
Organization Unit	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword.
More	Expand advanced search criteria.
	Search for data based on search criteria again and refresh data on the page.
Channel Name	Channel name. Search criterion.
Channel Type	Channel type. Search criterion. Value options: • **Web** • **Instagram** • **Telegram** • **WhatsApp** • **LINE** • **WeChat** • **Facebook** • **X (Twitter)** • **5G RCS** • **Email** • **SMS**
Reset	Reset search criteria.
Search	Search for contact records.
User Name	User name.
Channel Type	Channel type.
Channel Name	Channel name.
Sent On	Time when an offline message is sent.
Assigned Agent	Agent to whom an offline message is assigned.

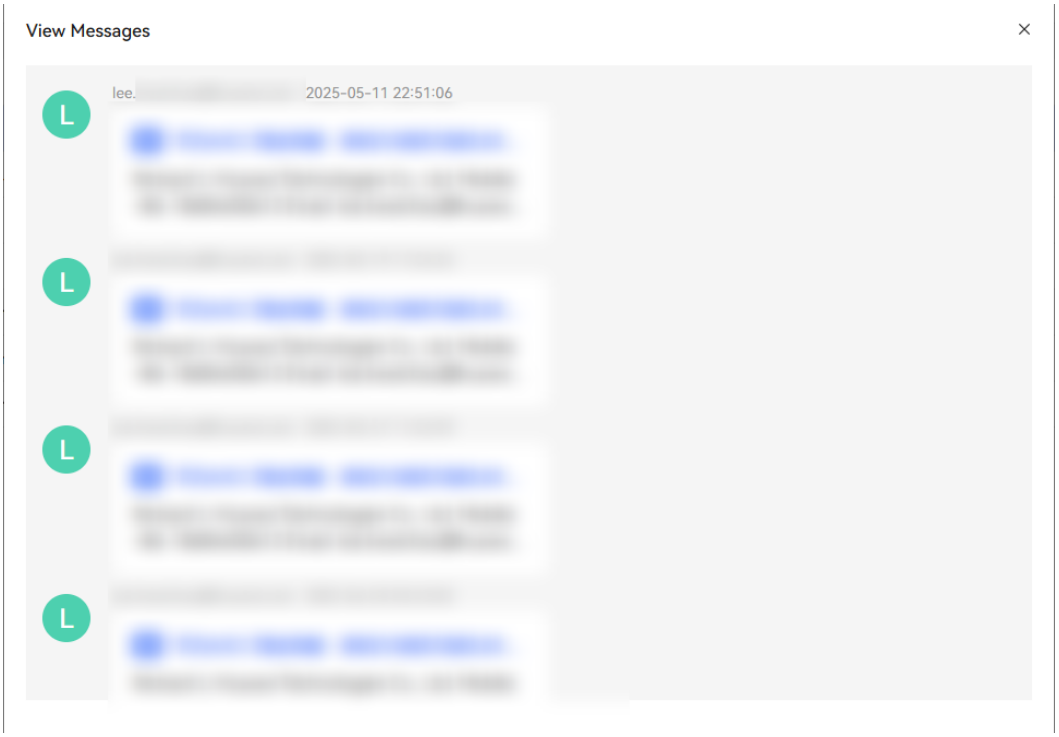
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Element	Description
Agent Presence	Online status of an agent. Value options: • **Offline** • **Idle** • -
Assignment Status	Assignment status of an offline message. Value options: • **Assigned** • **To be assigned**
Operation	The following operations are supported: • **View Messages** • **Assign** Offline customers who have been assigned but not processed can be re-assigned. If an assigned offline customer is not processed within a specified period of time, the tenant administrator can assign the offline customer again by default. The minimum interval for reassignment is specified by the tenant parameter **Minimum interval at which offline users can be reallocated**. The value ranges from 5 to 600, in minutes. The default value is **10**.

Step 4 View offline message details.

1. Click **View Messages**.

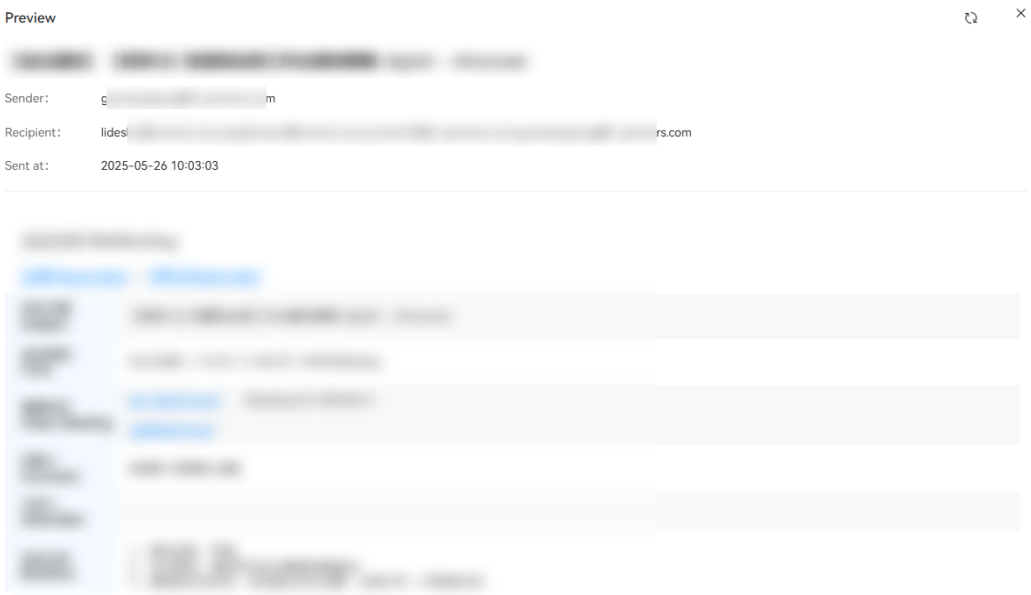
Figure 2-78 View Messages page



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2. Click a message to preview its details, as shown in **Figure 2-79**.

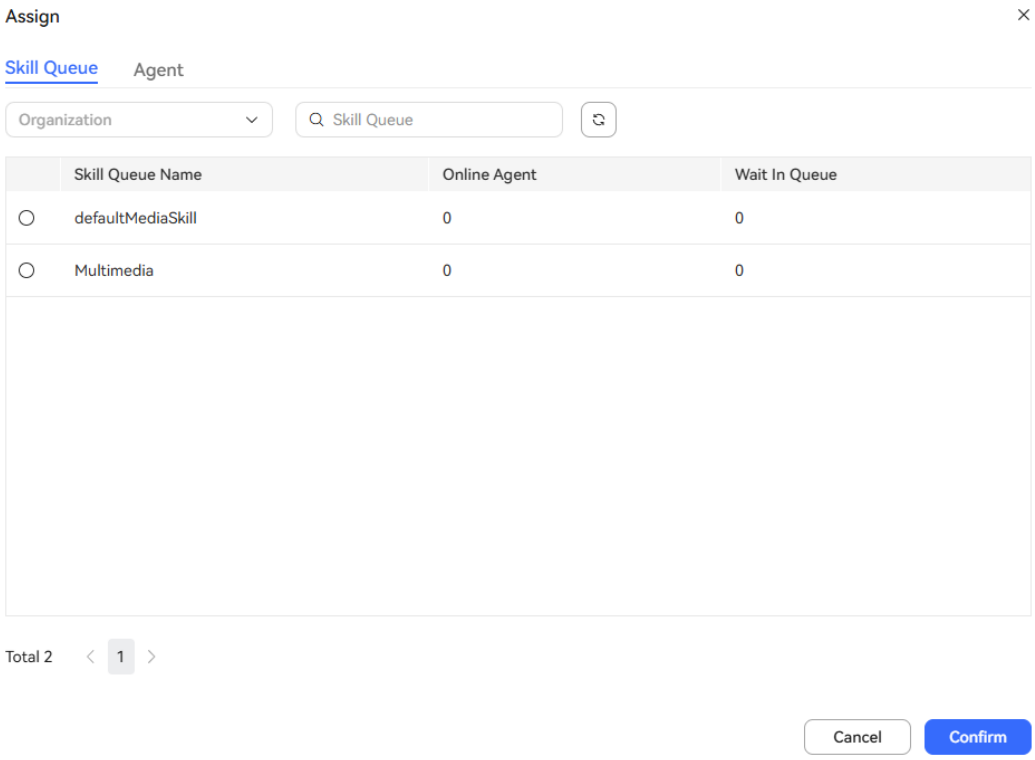
Figure 2-79 Message preview page



Step 5 Assign an offline message to a skill queue or an agent.

1. In the **Operation** column, click **Assign** and select the skill queue to which the offline message is to be assigned.

Figure 2-80 Assign - Skill Queue page



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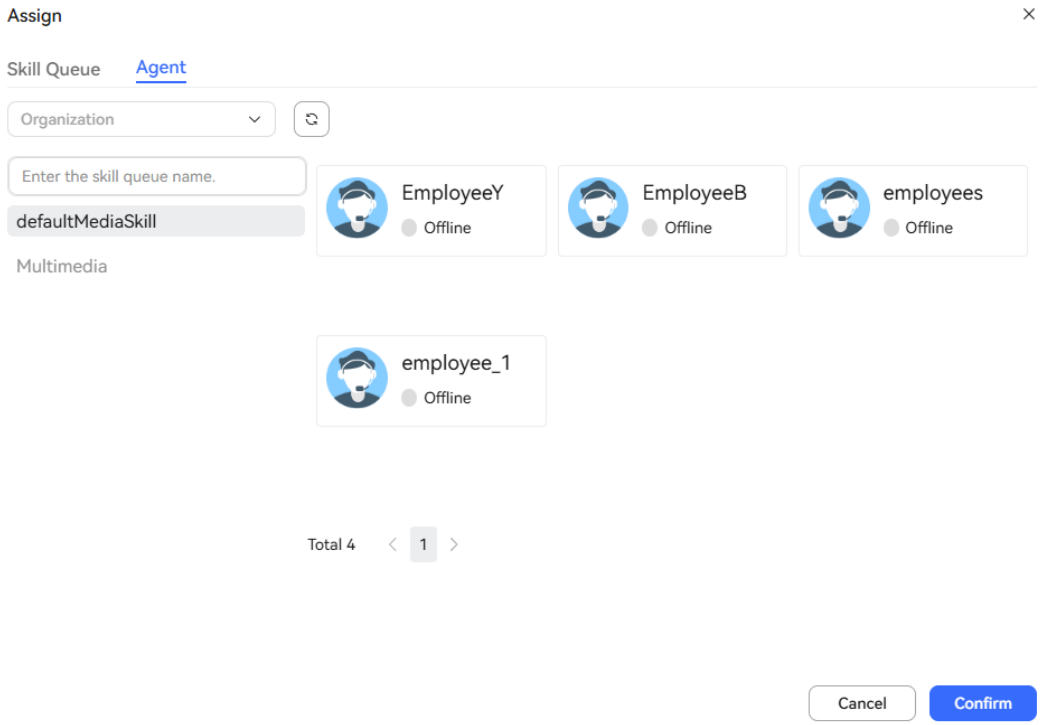
2. In the **Operation** column, click **Assign** and select the agent to which the offline message is to be assigned.

   NOTE

   If the current login user is an agent, the agent status is not displayed on the page for assigning offline messages to other agents. You need to establish an inspection relationship between the current login agent and the to-be-assigned agent on the **Configuration Center** > **Quality Management** > **Monitor Relationship** page. For details, see **4.3.1.1 Configuring Monitoring and Inspection Relationships**.

   - To-be-assigned agent - agent group *X*
   - Current login user - inspector group *X*
   - Add an inspection relationship between the agent group *X* and the inspector group *X*.

Figure 2-81 Assign - Agent page



----End

2.3.3.9 Viewing Bidirectional Call Records

A tenant administrator can search for or export bidirectional call records of the current tenant space by page based on criteria, or play or download recording files. In this version, bidirectional call records are available only for ITA bidirectional calls.

Prerequisites

- The **One-Click Bidirectional Call** feature has been enabled for the tenant.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **ITA Call**.

Step 2 Set search criteria to search for bidirectional call records based on the criteria.

Figure 2-82 ITA bidirectional call page

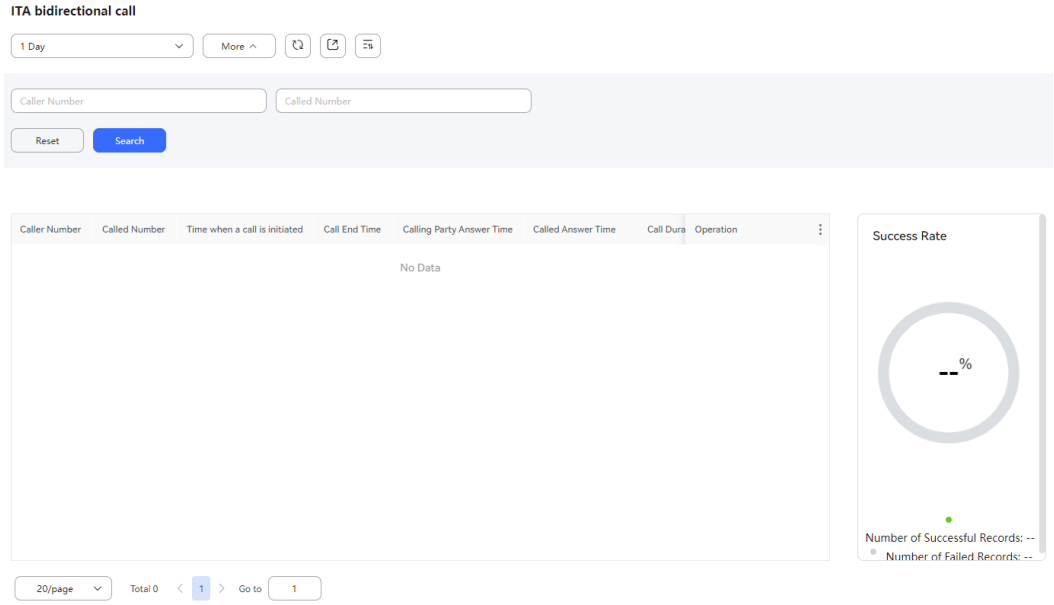


Table 2-29 GUI elements on the ITA Call page

Element	Type	Description
Time	Drop-down list	Value options: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Caller Number	Text box	Agent number dialed after a one-click bidirectional call. Advanced search criterion.
Called Number	Text box	Customer number dialed after a one-click bidirectional call. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for bidirectional call records.

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Element	Type	Description
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Add a task for exporting bidirectional call records.
	Button	View export tasks.
Caller Number	Label	Agent-side number of a one-click bidirectional call. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	Customer-side number of a one-click bidirectional call. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Time when a call is initiated	Label	Time when a bidirectional call is initiated, that is, time when the calling party is called.
Call End Time	Label	Time when the last party of a bidirectional call releases the call.
Calling Party Answer Time	Label	Time when the calling party answers a call after the call is set up.
Called Answer Time	Label	Time when the called party answers a call after the calling party answers the call.

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Element	Type	Description
Call Duration (s)	Label	Call duration, in seconds. The call duration is calculated from the time when the call is set up.
Release Reason	Label	Call release reason.
Operation	Label	• **Play** • **Download**
Success Rate	Label	Bidirectional call success rate. • **Number of Successful Records**: Number of successful calls in the list. • **Number of Failed Records**: Number of failed calls in the list.

Step 3 Export bidirectional call records (excluding voice and video files) to the local PC in batches.

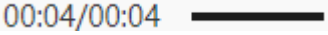
1. Click  and enter a compression password.

   NOTE

   - For details about the complexity requirements for the compression password, see the prompt on the page. The compression password is used to open the downloaded package.
   - The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
   - Click  to view the plaintext password.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

Step 4 Play a bidirectional call recording. You can perform the following operations:

-  : Play or pause the recording.
-  : Fast forward or rewind the recording.
-  : Adjust the playback volume.
-  : Select a playback speed. The options are **0.5X**, **0.75X**, **1.0X**, **1.25X**, **1.5X**, and **2.0X**.

Step 5 Download a bidirectional call recording.

1. Select the bidirectional call recording to be downloaded and click **Download**.

   NOTE

   The downloaded bidirectional call recording contains personal data. Exercise caution when processing the exported recording to prevent personal data leakage and abuse.

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2. In the confirmation dialog box, click **Yes**.

----End

2.3.3.10 Configuring the Online Chat Service Time

A tenant administrator can set workdays and non-workdays for multimedia online chat businesses in advance so that agents can manage working hours more conveniently.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Service Time**.

Step 2 Configure the work calendar.

- Organization Unit: Click to assign an OU to which a work calendar belongs.

  The options are as follows:

  – Tenant administrator: **Unorganized** and all OUs under the current tenant are available.

  – Common agent:

    ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available.

    ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the owning OU, accessible OUs, and **Unorganized** are available.

- **Select non-working days**: Select several days in a week as non-workdays. For example, select **Saturday** and **Sunday** as non-workdays. The selected dates are synchronized to all months.
- **Select Rest Dates**: Select several dates as non-workdays. For example, select the dates from October 1, 2019 to October 7, 2019 (National Day) as non-workdays.

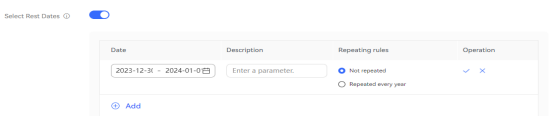
  a. Click  to expand the area for adding rest dates.

  NOTE

  Disabling this function will clear all data in the table. Exercise caution when performing this operation.

  b. Click **Add** and set rest date parameters based on **Figure 2-83**.

  Figure 2-83 Select Rest Dates

  c. Click **Save** to save the configuration.

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- **Select Work Dates**: Select several dates as workdays. The earliest date is the current date of the last year. For example, select July 13, 2019 (Saturday; temporary overtime) as a workday.

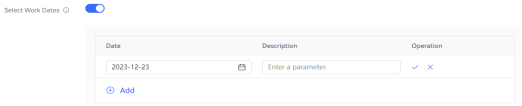
  a. Click  to expand the area for adding work dates.

  NOTE

  Disabling this function will clear all data in the table. Exercise caution when performing this operation.

  b. Click **Add** and set work date parameters based on **Figure 2-84**.

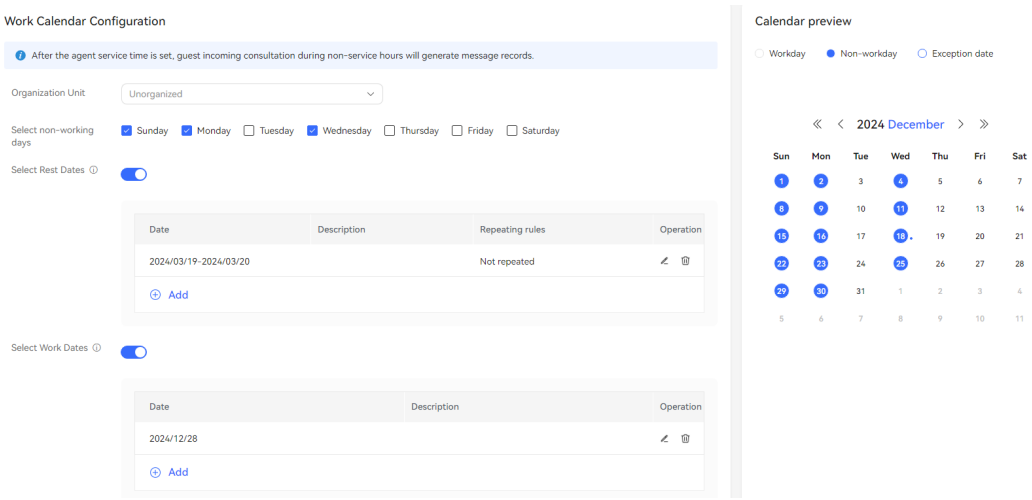
  Figure 2-84 Select Work Dates

  c. Click **Save** to save the configuration.

Step 3 The configured workdays and non-workdays are displayed in the **Calendar preview** area in real time. You can directly view the configuration result.

Figure 2-85 Calendar preview



----End

2.3.3.11 Viewing Skill Queue Adjustment Records

An agent or a tenant administrator can query skill queue adjustment details.

Prerequisites

- The agent has the **Reset Skill Record** menu permission.
- The agent's skill queue has been adjusted by referring to **Follow-up Procedure**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Adjustment Log**.

Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 2-86 Adjustment Log page

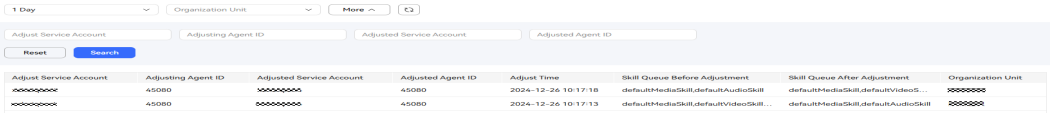


Table 2-30 GUI elements on the Adjustment Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for skill queue adjustment records of sub-OUs. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
More	Button	Expand advanced search criteria.
Adjust Service Account	Text box	Advanced search criterion. • Business account of the agent who adjusts a skill queue. • Business account of an inspector.

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Element	Type	Description
Adjusting Agent ID	Text box	Advanced search criterion. • ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Text box	Advanced search criterion. • Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent ID	Text box	Advanced search criterion. • ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Reset	Button	Reset search criteria.
Search	Button	Search for skill queue adjustment records.
	Button	Search for data based on search criteria again and refresh data on the page.
Adjust Service Account	Label	• Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjusting Agent ID	Label	• ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Label	• Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent ID	Label	• ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Adjust Time	Label	Time when a skill queue is adjusted.
Skill Queue Before Adjustment	Label	Skill queue to which an agent has signed in before skill queue adjustment.

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Element	Type	Description
Skill Queue After Adjustment	Label	Skill queue to which an agent signs in after skill queue adjustment.
Organization Unit	Label	OU to which an agent belongs.

----End

2.3.3.12 Viewing Identity Authentication Records

An agent or a tenant administrator can query identity authentication details.

Prerequisites

The agent has the **Identity Authentication Record** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent or a tenant administrator and choose **Work Log** > **Auth Log**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

Figure 2-87 Auth Log page

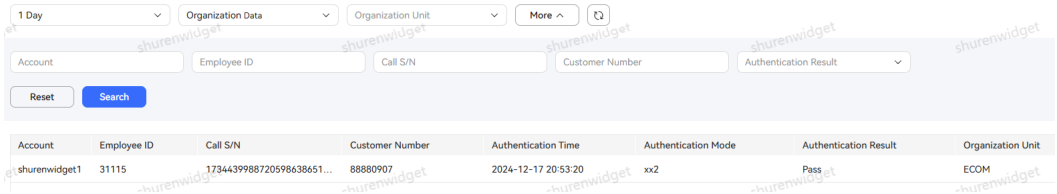


Table 2-31 GUI elements on the Auth Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**

Element	Type	Description
Data scope	Drop-down list	Date scope of identity authentication records. Search criterion. The options are as follows: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to search for all identity authentication records, to view all OU data, and to edit all OU data are not granted.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for the identity authentication records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permission to search for all identity authentication records is granted, **Unorganized** and all OUs are available.
More	Button	Expand advanced search criteria.

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Element	Type	Description
Account	Text box	Business account of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	ID of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Call S/N	Text box	Call SN. Advanced search criterion.
Customer Number	Text box	Customer number. Advanced search criterion.
Authentication Result	Drop-down list	Advanced search criterion. • **Not returned** • **Pass** • **Fail** • **Error**
Reset	Button	Reset search criteria.
Search	Button	Search for identity authentication records.
	Button	Search for data based on search criteria again and refresh data on the page.
Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	ID of the agent who performs identity authentication.
Call S/N	Label	Call SN.
Customer Number	Label	Customer number.

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Element	Type	Description
Authentication Time	Label	Time when identity authentication is performed.
Authentication Mode	Label	Identity authentication mode.
Authentication Result	Label	Identity authentication result. • **Not returned** • **Pass** • **Fail** • **Error**
Organization Unit	Label	OU to which an agent belongs.

----End

2.3.3.13 Managing Documents

A tenant administrator can search for documents of the current tenant space by page based on criteria, or invalidate, preview, or download documents.

Prerequisites

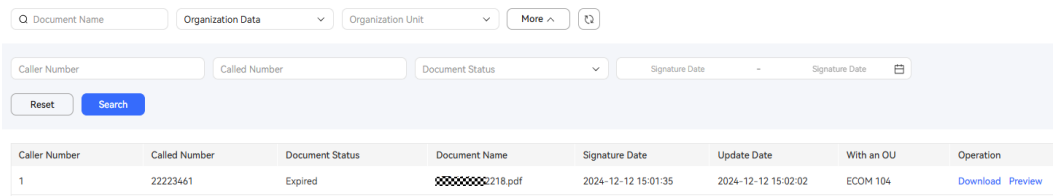
- The **Contract Digital Signature** feature has been enabled for the tenant.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 2-88 Document Management page



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Table 2-32 GUI elements on the Document Management page

Element	Type	Description
Document Name	Text box	Document name.
Data scope	Drop-down list	Data scope of document information. Search criterion. Value options: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to operate all documents, to view all organization data, and to edit all organization data are not granted.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for document information of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. Value options: ● Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ● Common agent: – If the permission to operate all documents is granted or the permissions to view all organization data and to edit all organization data are granted, **Unorganized** and all OUs are available. – If the permissions to operate all documents, to view all organization data, and to edit all organization data are not granted: ▪ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. ▪ This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**.
Caller Number	Text box	Advanced search criterion. ● When an agent initiates a call, the calling number is an access code. ● When a customer initiates a call, the calling number is a customer number.
Called Number	Text box	Advanced search criterion. ● When an agent initiates a call, the called number is a customer number. ● When a customer initiates a call, the called number is an access code.

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Element	Type	Description
Document Status	Drop-down list	Document status. Advanced search criterion. • **Unsigned** • **Signed** • **Expired**
Signature Date	Drop-down list	Signature date. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for document management records.
	Button	Search for data based on search criteria again and refresh data on the page.
Caller Number	Label	• When an agent initiates a call, the calling number is an access code. • When a customer initiates a call, the calling number is a customer number. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	• When an agent initiates a call, the called number is a customer number. • When a customer initiates a call, the called number is an access code. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.

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Element	Type	Description
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Document Name	Label	Document name.
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.
With an OU	Label	OU to which an agent belongs. Value options: **Unorganized** and all OUs under the current tenant.
Operation	Label	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. **NOTE** The downloaded documents contain personal data. Exercise caution when processing the downloaded documents to prevent personal data leakage and abuse. • **Preview** Select the document to be previewed and click **Preview**.

----End

2.3.3.14 Managing Harassment Records

A tenant administrator can review harassment records submitted by agents. After the records are approved, they are added to the special list. The tenant administrator and agents can view the review results.

Prerequisites

- The common agent has the **Harassment Record** permission and the **Harassment Record Review** permission.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Harassment Record**.

Step 2 Set search criteria as required to search for harassment record information.

Figure 2-89 Harassment Record page

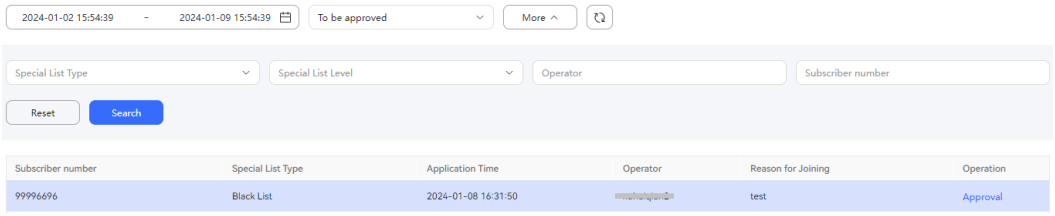


Table 2-33 Key elements on the Harassment Record page

Element	Type	Description
Application time range	Calendar component	Application time range. Search criterion. The time range cannot exceed seven days. You can click ⊗ to delete the selected time range.
Status	Drop-down list	Harassment record status. Search criterion. • **To be approved** • **Approved** • **Rejected** You can click ⊗ to delete the selected state.
Special List Type	Drop-down list	Special list type. Search criterion. • **Black List** • **Red List**
Special List Level	Drop-down list	Special list level. Search criterion.
Operator	Text box	Operator business account. Search criterion. You can click ⊗ to delete the entered operator.

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Element	Type	Description
Subscriber number	Text box	Customer number. Search criterion. • Phone number • Email address Example: **123@huawei.com**
Reset	Button	Reset search criteria.
Search	Button	Search for harassment records.
	Button	Search for data based on search criteria again and refresh data on the page.
Subscriber number	Label	Customer number.
Special List Type	Label	Special list type. • **Black List** • **Red List**
Application Time	Label	Time when a harassment record is created.
Operator	Label	Business account of the agent who creates a harassment record.
Reason for Joining	Label	Reason for adding a customer number to the special list.
Operation	Button group	Operations that can be performed. • **Approval**: Approve a record that has not been approved. • **View**: View an approved or rejected record.

Step 3 Click **Approval** in the **Operation** column.

- Select **Agree**.
  - **Special List Level**: Select a special list level.
  - **Effective Period**: Set the time range when the special list record takes effect. The time range specified by **Effective Period** must be within the time range from the current time to January 19, 2038.
  - **Opinions**: Enter the opinion on the harassment record. The value contains a maximum of 500 characters.
- Select **Reject**.

  Opinions: Enter the opinion on the harassment record. The value contains a maximum of 500 characters.

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Step 4 Click **Save**.

After the application is approved, you can choose **Configuration Center** > **Resource Management** > **Special List** and click the **Special List** tab to view the new special list record.

After the approval is complete, you can choose **Configuration Center** > **Resource Management** > **Harassment Record** to view the approval result. Approved harassment records are migrated to the history table every hour and cannot be queried on the GUI.

----End

2.3.3.15 Configuring Service Guidance

A tenant administrator can configure visualized wizard-based service flow guidance for complex business handling in the customer service center to instruct agents to efficiently and quickly provide satisfactory services for customers based on the configured visualized flows.

Prerequisites

- The **Agent Business Process Visualization** feature has been enabled for the tenant space.
- The common agent has the **Service Guidance** permission.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Service Guidance**.

Step 2 Click **New** to create a level-1 service guidance category.

If data exists on the page, click ⊕ next to **Service Category** to create a level-1 service guidance category.

Table 2-34 Key elements on the page for creating a level-1 service guidance category

Element	Type	Description
Name	Text box	Name of a level-1 service guidance category. The value can contain 1 to 200 characters.

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Element	Type	Description
Serial Number	Drop-down list + text box	Sequence number of a level-1 service guidance category. The value is an integer ranging from 0 to 99.
Parent Category Name	Drop-down list	Name of the parent category of a level-1 service guidance category. The options are as follows: • **No Parent Category** • Names of service guidance categories that have been created under the tenant Select **No Parent Category**.
Description	Text box	Description of a level-1 service guidance category. The value can contain 0 to 1000 characters.

Step 3 Click **Save**.

Step 4 Click ⊕ next to the name of the level-1 service guidance category created in **Step 2** to create a level-2 service guidance category.

Table 2-35 Key elements on the page for creating a level-2 service guidance category

Element	Type	Description
Name	Text box	Name of a level-2 service guidance category. The value can contain 1 to 200 characters.
Serial Number	Drop-down list + text box	Sequence number of a level-2 service guidance category. The value is an integer ranging from 0 to 99.
Selected Category Name	Label	Level-1 service guidance category name selected when creating a level-2 service guidance category.

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Element	Type	Description
New Type	Drop-down list	Relationship with the selected category name. The options are as follows: • **Add Sub Level** • **Add Peer Level** Select **Add Sub Level**.
Description	Text box	Description of a level-2 service guidance category. The value can contain 0 to 1000 characters.

Step 5 Click **Save**.

Step 6 Click the name of the level-2 service guidance category created in **Step 4**.

Step 7 Click **New** to create a service guidance flow.

Table 2-36 Key elements on the page for creating a service guidance flow

Element	Type	Description
Name	Text box	Name of a service guidance flow. The value can contain 1 to 200 characters.
Serial Number	Drop-down list + text box	Sequence number of a service guidance flow. The value is an integer ranging from 0 to 99.
Parent Category Name	Label	Name of the level-2 service category to which a service guidance flow belongs.
Call Reason	Drop-down list	Call reason of a service guidance flow. The options are call reasons that have been created under the tenant.
Customized Page URL	Text box	Customized information displayed when an agent uses the service guidance function. The value can contain 1 to 200 characters.

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Element	Type	Description
Description	Text box	Description of a service guidance flow. The value can contain 0 to 1000 characters.

Step 8 Click **Save**.

After the service guidance flow is created, you can perform the following operations:

- Click the flow name to view information about the service guidance flow.
- Click **Edit** in the **Operation** column to modify information about the service guidance flow.
- Click **Delete** in the **Operation** column to delete the service guidance flow.

Step 9 Click > next to the name of the service guidance flow created in **Step 7**.

Step 10 Click **Edit** in the **Operation** column to access the guidance flow editing canvas and edit the guidance flow.

Table 2-37 Key elements on the page for editing a flow

Element	Type	Description
Save	Button	Set the flow status to **Draft**.
Release	Button	Set the flow status to **Release**.
	Button	View the thumbnail of the service guidance flowchart. • Drag the thumbnail to move the flowchart canvas. • Click  to zoom in or out the flowchart.
Toolbar - Function Diagram Element	Button	 : Add functional diagram elements to the canvas.
Toolbar - Branch Diagram Element	Button	 : Add a **Branch Judgment** diagram element to the canvas.
Toolbar - Zoom In/ Zoom Out	Button	 : Adjust the display percentage of the current canvas by clicking a value in the drop-down list or clicking the zoom-in or zoom-out icon.

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Element	Type	Description
Toolbar - Reset View	Button	: Reset the canvas position and display the flow in the current view.
Toolbar - Full Screen	Button	: Switch to the fullscreen mode.
Toolbar - Undo/ Redo	Button	: Undo or redo operations such as adding or deleting diagram elements in the canvas.
Toolbar - Delete	Button	: Delete diagram elements or lines from the canvas.

Table 2-38 Key elements on the Node Attribute page of a diagram element

Element	Type	Description
Name	Text box	Name of a function diagram element. The value can contain 1 to 50 characters.
Node Type	Option button	Node type of a diagram element. • **Task** • **Branch**
Execute Type	Drop-down list	Execution type of a diagram element. Value options: • **Common** • **SMS** • **Email** • **Trans IVR** • **Sub Flow** • **Create Case**

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Element	Type	Description
Execution Content	Drop-down list	Execution content of a diagram element. This parameter is displayed when **Execution Type** is set to any value except **Common**. The options are as follows: • When **Execution Type** is set to **SMS**, the options are all SMS templates whose **Notification Type** is **External Notification** under the tenant space. • When **Execution Type** is set to **Email**, the options are all email templates under the tenant space. • When **Execution Type** is set to **Trans IVR**, the options are all common IVR flows and intelligent IVR flows under the tenant space. • When **Execution Type** is set to **Sub Flow**, the options are all service guidance flows under the tenant space. • When **Execution Type** is set to **Create Case**, the options are all case types under the tenant space.
Transfer Type	Drop-down list	Type of call transfer to IVR flows. This parameter is displayed only when **Execution Type** is set to **Trans IVR**. Value options: • **Release Transfer** • **Hang-up Transfer**
Explanation	Text box	Content that an agent needs to introduce to a customer. The value can contain 0 to 200 characters.
Information	Text box	Node description. The value can contain 0 to 200 characters.
Associated Service Handling Link	Text box	URL of the associated business that can be handled. The value can contain 0 to 200 characters. Contact the system administrator to add the URL to the address trustlist. **Address Type** must be set to **Business Guidance Process Trustlist**.

Step 11 After the guidance flow is edited, click **Release**.

If the agent assistant needs to use the guidance flow, set **Associated Data** of the **Call Transfer** diagram element in the flow of the intelligent agent assistant to the name of the guidance flow.

After the flow is published, click **View** to view the efficiency comparison data of the guidance flow in a specified period, including the number of contacts, average call duration, and first resolution rate in the same period when the guidance flow

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is used and when the guidance flow is not used. The timeliness requirement for the data is that data generated 24 hours ago can be queried.

----End

2.3.3.16 Configuring SmartCare Integration Information

A tenant administrator can configure information about the interworked SmartCare.

Prerequisites

- The **SmartCare** feature has been enabled for the tenant space.
- You need to apply to the system administrator to add the SmartCare interconnection address to the address trustlist whose **Address Type** is set to **SmartCare interconnection address**.
- You have the **SmartCare Integration** permission. Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **SmartCare Integration**. The **SmartCare Integration Information Configuration** page is displayed.

Step 2 Click **Edit** to configure SmartCare information.

Table 2-39 Key elements on the SmartCare Integration Information Configuration page

Element	Type	Description
SmartCare Interconnection Address	Text box	SmartCare URL. The URL must start with **http** or **https**. **NOTE** HTTP is not recommended, because it may bring risks. The secure HTTPS protocol is recommended. The value of **SmartCare Interconnection Address** must be added by the system administrator to the address trustlist. **Address Type** is set to **SmartCare interconnection address**.
AppId	Text box	Provided by SmartCare. The value ranges from 5 to 100.
AppSecret	Text box	Provided by SmartCare. The value ranges from 5 to 100.

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Element	Type	Description
Certificate	Selection box	Select a certificate uploaded on the **Configuration Center** > **System Management** > **Certificate** page.
Fast boundary scene name	Text box	Name of the fast demarcation scenario. Provided by SmartCare. The value can contain a maximum of 64 characters.
Deep boundary scene name	Text box	Name of the in-depth demarcation scenario. Provided by SmartCare. The value can contain a maximum of 64 characters.

Step 3 Click **Save**.

----End

2.3.3.17 Configuring an Outbound Calling Number

A tenant administrator can configure a calling number for an outbound call.

Prerequisites

- The **Calling Number Anonymization** feature has been enabled for the tenant space, and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Access Code**.

Step 2 Click **Add Caller Number** to add a calling number for an outbound call task.

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Figure 2-90 Create Outbound Calling Number page

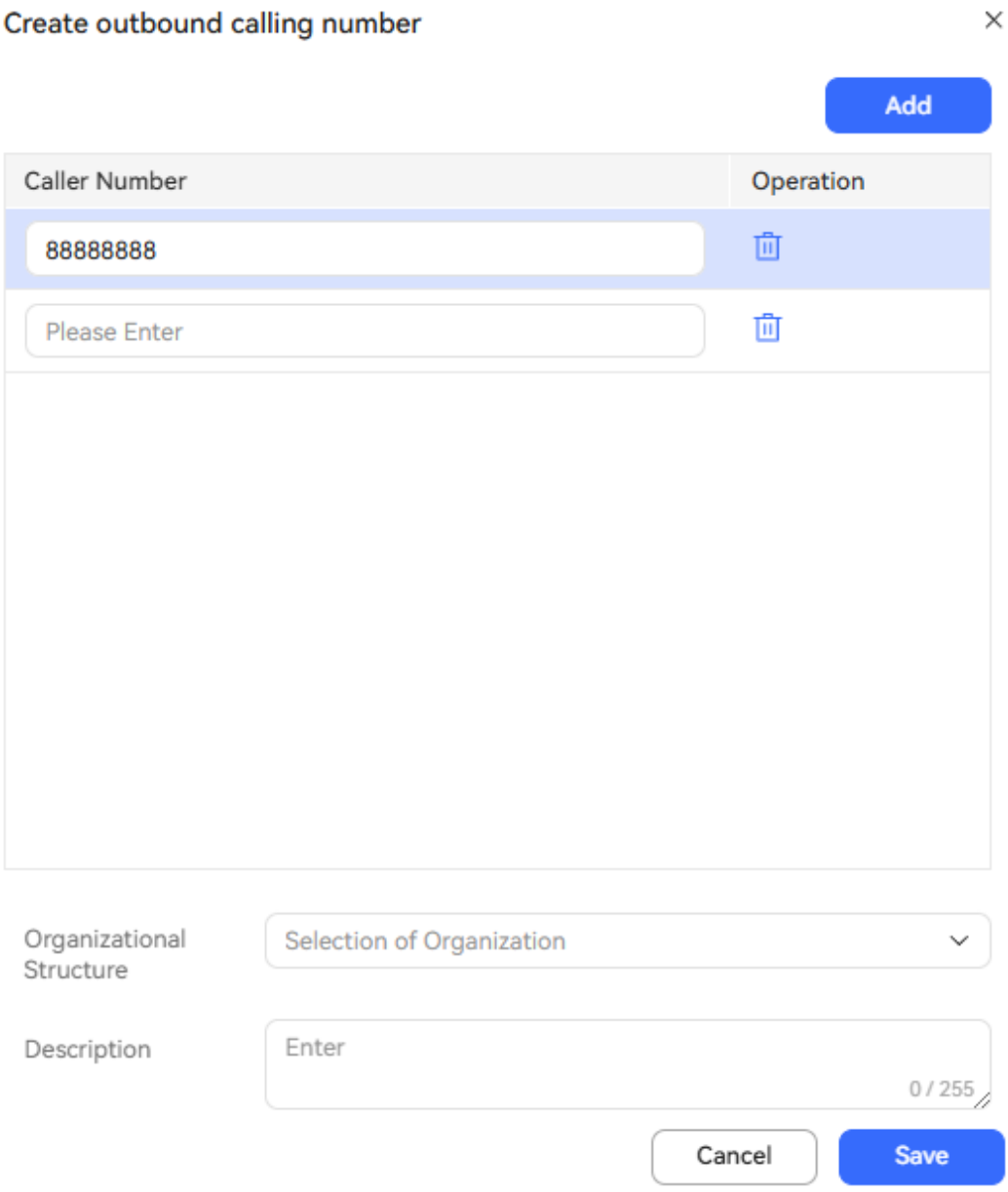


Table 2-40 GUI elements on the Create Caller Number page

Element	Type	Description
Add	Button	Add a text box of an outbound calling number.
Caller Number	Text box	Enter an outbound calling number. The value can contain a maximum of 24 characters.

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Element	Type	Description
Operation	Button	Delete a text box of an outbound calling number.
Organization Unit	Drop-down list	Set the OU to which the new outbound calling number belongs. • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the owning OU, sub-OUs, and accessible OUs are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs under the current tenant are available. If the value of **Organization Unit** is left empty, **Unorganized** is selected.
Description	Text box	Enter a description. Value range: 0–255

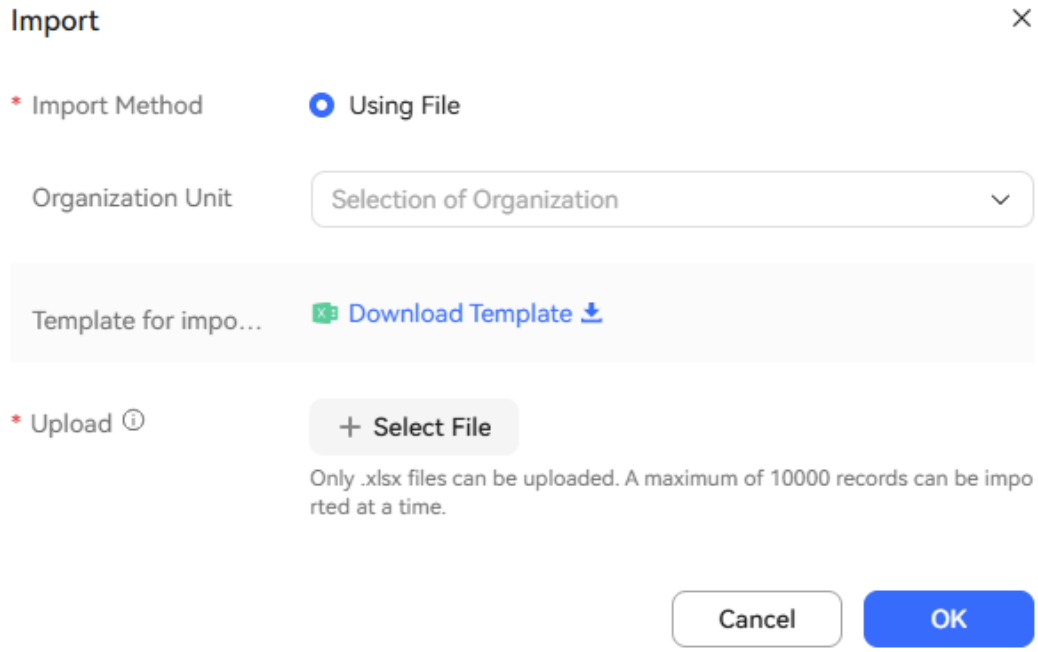
Step 3 Click **Save**.

Step 4 Import outbound calling number information.

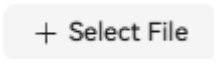
1. Click  . The **Import** page is displayed.

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Figure 2-91 Import page



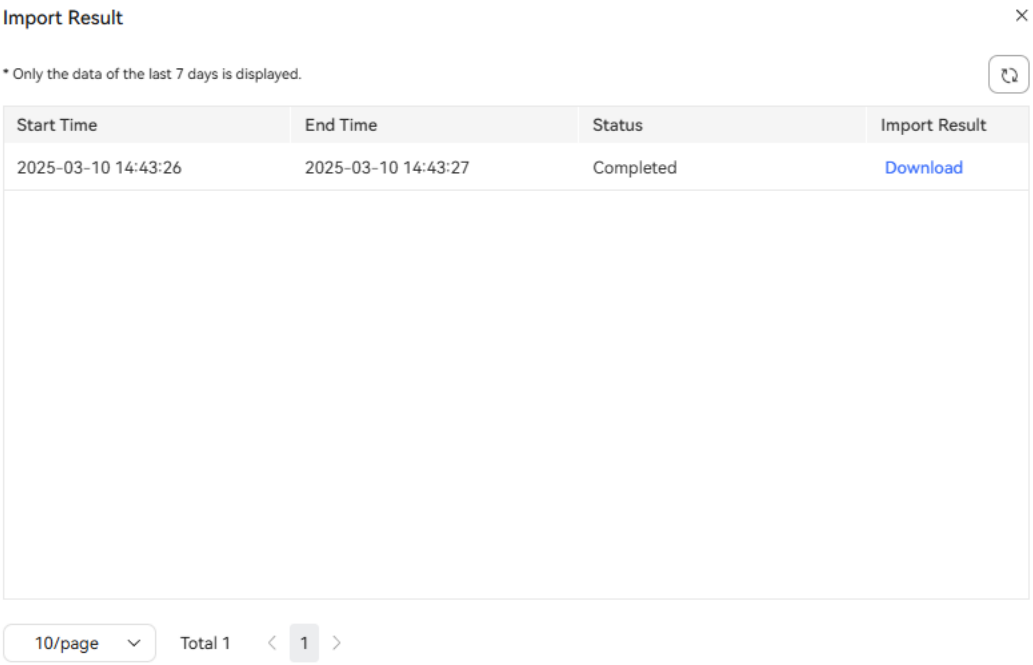
2. Click **Download Template** to download the outbound calling number information template to the local PC.
3. Enter outbound calling number information.

   Only outbound calling numbers can be entered in the file to be uploaded. Each number can contain a maximum of 20 digits.
4. Click 

to upload the outbound calling number information list.
5. Click **OK**. An import task is created.
6. Click  to view the import result. Select an import task according to the import time and click **Download** to view the import result.

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Figure 2-92 Import Result page



----End

2.3.3.18 Configuring Skill Queue Monitoring Groups

The AICC provides monitoring groups for skill queues. You can add skill queues to a monitoring group to monitor and report different BPOs or businesses (such as B2B and B2C).

Prerequisites

- A common agent must have the skill menu permission and the permission to edit skill menus on the GUI and in batches.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Employee Center** > **Skill**.

Step 2 Choose **Monitoring Group**. Click **New** to create a monitoring group.

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Figure 2-93 Creating a Monitoring Group page

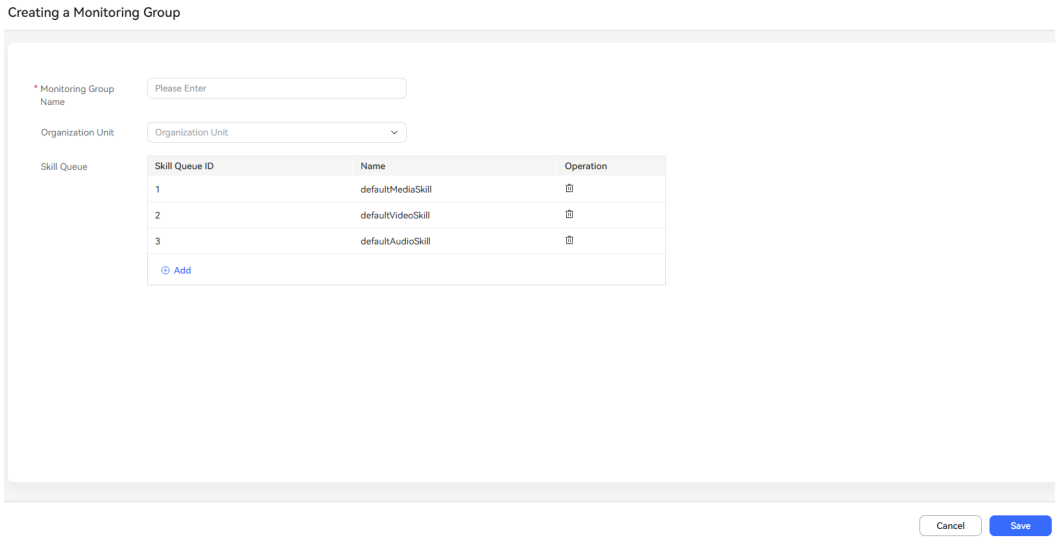


Table 2-41 GUI elements on the Creating a Monitoring Group page

Element	Type	Description
Monitoring Group Name	Text box	Enter the name of the monitoring group. Value range: a string of no more than 64 bytes
Organization Unit	Drop-down list	Add an OU for the skill group. You can filter OUs by keyword. You can click ⊗ to clear the field. If **Organization Unit** is left empty, select **Unorganized**. Value options: • Tenant administrator: All OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read and write permissions are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
Skill Queue	Drop-down list	Click ⊕ Add to select a skill queue. A monitoring group can contain a maximum of 500 skill queues.

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Step 3 Click **Save**.

A maximum of 2,000 monitoring groups can be created for a tenant space.

----End

2.3.3.19 Managing Application Integration

A tenant administrator can manage third-party applications integrated into the AICC.

Prerequisites

- The application integration feature has been enabled for the tenant space.
- You need to submit an application to the system administrator to add the application URL to the address trustlist whose **Address Type** is **Application Integration**.
- A common agent must have the **Application Integration** menu permission and the permission to edit and download information on the GUI.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Log in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Application Integration**.

Step 2 Click **New** to create an application integration.

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Figure 2-94 New Application Integration page

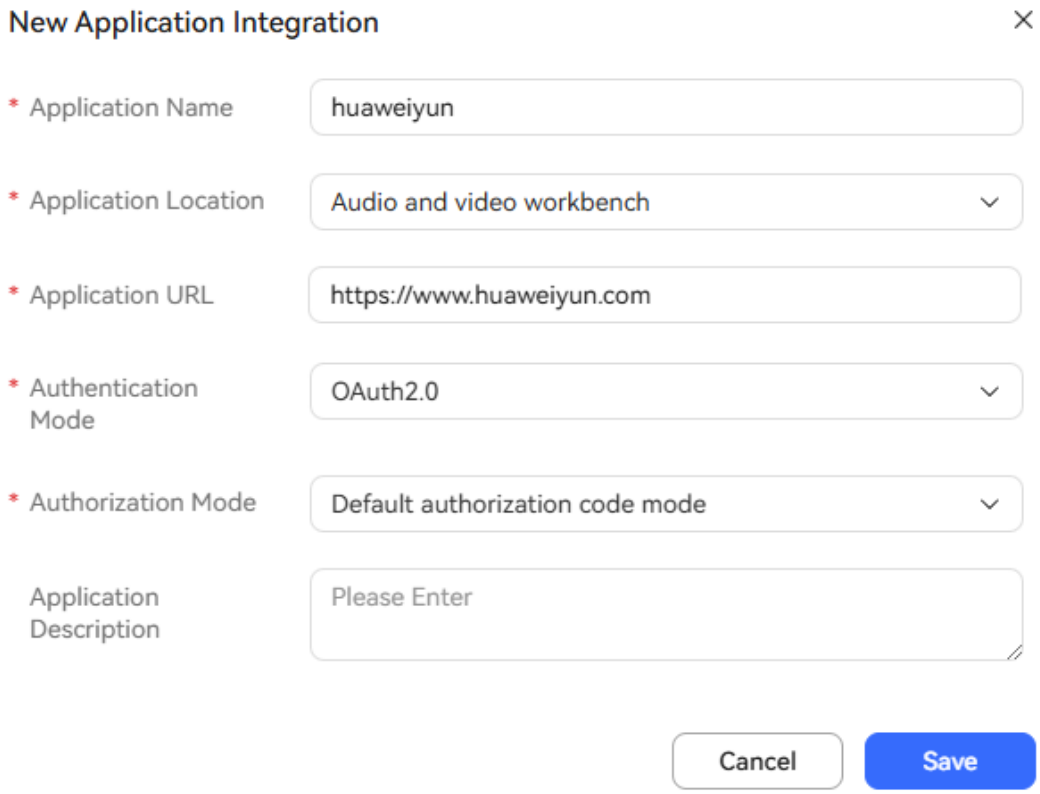


Table 2-42 GUI elements on the New Application Integration page

Element	Type	Description
Application Name	Text box	Name of an application. The value can contain a maximum of 64 characters.
Application Location	Drop-down list	Location where the application is integrated. • Extended application: Integrate the application on the **Configuration Center** > **System Management** > **Menu Management** page. Set **Configuration Mode** to **Application Integration**, add the application to **Applications** in the navigation pane. • Audio and video workbench: The application is integrated into the workbench application integration card on the audio and video workbench. • Online chat workbench: The application is integrated into the workbench application integration card on the online chat workbench.

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Element	Type	Description
Application URL	Text box	URL of a third-party application. The value can contain a maximum of 512 characters. You need to submit an application to the system administrator to add the application URL to the address trustlist whose **Address Type** is **Application Integration**.
Authentication Mode	Drop-down list	Authentication mode for application integration. Value options: • **Non-authentication** • **SAML2.0** • **OAuth2.0** **NOTE** Set the authentication mode. Unauthorized access has security risks. Exercise caution when using unauthorized access.
Authorization Mode	Drop-down list	Authorization mode when the authentication mode is OAuth2.0. Set the parameter to **Default authorization code mode**.
Application Description	Text box	Description of an application. The value can contain a maximum of 512 characters.

Step 3 Click **Save**.

A tenant can create a maximum of 100 extended applications.

Step 4 Click **Release**.

----End

2.3.3.20 Configuring Call Transfer Policies

A tenant administrator can configure call transfer policies based on skill queues.

Prerequisites

- A common agent has the **Call Forwarding Policy Configuration** menu permission and the **Edit** operation permission.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Call Forwarding Policy Configuration**.

Step 2 Click **New** to create a call transfer policy.

Figure 2-95 new policy - basic configuration page

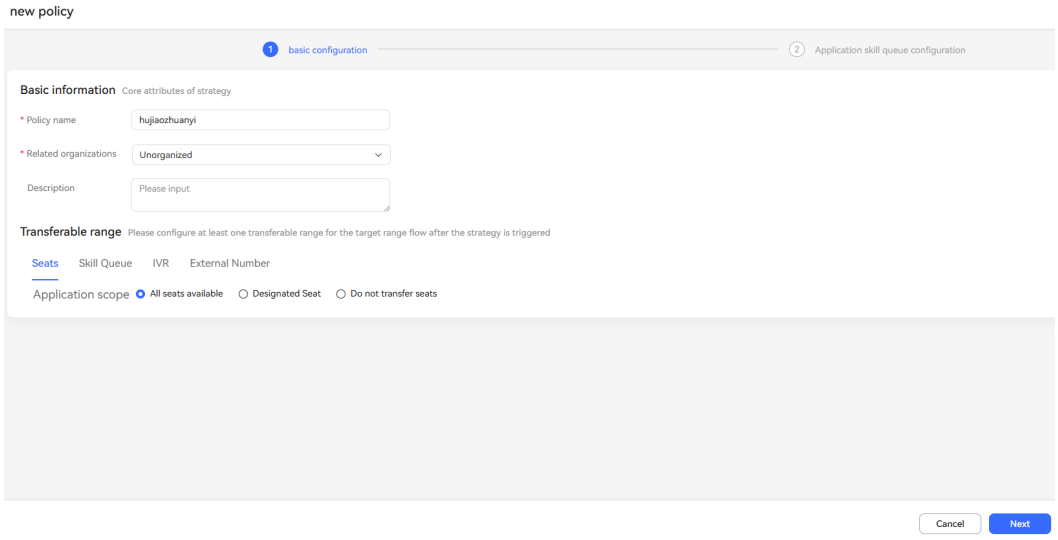


Table 2-43 GUI elements on the new policy - basic configuration page

Element	Type	Description
Basic information		
Policy name	Text box	Name of a call transfer policy. Value range: a string of a maximum of 64 characters
Related organizations	Drop-down list	Select an OU to which the call transfer policy belongs. You can filter OUs by keyword. You can click ⊗ to clear the field. Value options: • Tenant administrator: All OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read and write permissions are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.

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Element	Type	Description
Description	Text box	Description of a call forwarding policy.
Transferable range (**Seats**)		
Application scope	Option button	Application scope of call transfer. Value options: • **All seats available** • **Designated Seat**: A maximum of 1,000 agents can be selected. • **Do not transfer agents**
Account	Text box	Service account of the agent. This parameter is available only when **Application scope** is set to **Designated Seat**.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. This parameter is available only when **Application scope** is set to **Designated Seat**. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for skill queues of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. Value options: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
	Button	Search for data based on search criteria again and refresh data on the page. This parameter is available only when **Application scope** is set to **Designated Seat**.

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Element	Type	Description
Agent ID	Label	Agent ID. This parameter is available only when **Application scope** is set to **Designated Seat**.
Account	Label	Business account of an agent. This parameter is available only when **Application scope** is set to **Designated Seat**.
Type	Label	Agent type. This parameter is available only when **Application scope** is set to **Designated Seat**.
Platform Role	Label	Platform role of an agent. This parameter is available only when **Application scope** is set to **Designated Seat**.
Transferable range (**Skill Queue**)		
Application scope	Option button	Application scope of call transfer. Value options: • **All skill queues** • **Specify skill queue**: A maximum of 1,000 skill queues can be selected. • **Do not transfer skill queue**
Name	Text box	Name of a skill queue. This parameter is available only when **Application scope** is set to **Specify skill queue**.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. This parameter is available only when **Application scope** is set to **Specify skill queue**. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for skill queues of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. Value options: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
	Button	Search for data based on search criteria again and refresh data on the page. This parameter is available only when **Application scope** is set to **Specify skill queue**.
Name	Label	Name of a skill queue. This parameter is available only when **Application scope** is set to **Specify skill queue**.
Type	Label	Skill queue type. This parameter is available only when **Application scope** is set to **Specify skill queue**.
Transferable range (**IVR**)		
Application scope	Option button	Application scope of call transfer. Value options: • **All IVR** • **Specify IVR**: A maximum of 1,000 IVR flows can be selected. • **Do not transfer IVR**

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Element	Type	Description
Name	Text box	Name of an IVR flow. This parameter is available only when **Application scope** is set to **Specify IVR**.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. This parameter is available only when **Application scope** is set to **Specify IVR**. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for skill queues of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. Value options: ● Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ● Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
	Button	Search for data based on search criteria again and refresh data on the page. This parameter is available only when **Application scope** is set to **Specify IVR**.

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Element	Type	Description
Name	Label	Name of an IVR flow. This parameter is available only when **Application scope** is set to **Specify IVR**. Value options: • Value of **Chatbot Name** of a published common IVR flow whose **Organization Unit** is the same as the value of **Organization Unit** on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR** page. • Value of **Chatbot Name** of an intelligent IVR flow whose **Organization Unit** is the same of the value of **Organization Unit** on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot** page.
Description	Label	Description of an IVR flow. This parameter is available only when **Application scope** is set to **Specify IVR**. Value options: • Value of **Chatbot Name** of a published common IVR flow whose **Organization Unit** is the same as the value of **Organization Unit** on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR** page. • Value of **Description** of an intelligent IVR flow whose **Organization Unit** is the same of the value of **Organization Unit** on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot** page.
Transferable range (**External Number**)		
Application scope	Option button	Application scope of call transfer. Value options: • **All external numbers** • **Specify external number**: A maximum of 1,000 external numbers can be selected. • **Do not transfer external numbers**
Name	Text box	Name of the external number. This parameter is available only when **Application scope** is set to **Specify external number**.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. This parameter is available only when **Application scope** is set to **Specify external number**. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for skill queues of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. Value options: ● Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ● Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
	Button	Search for data based on search criteria again and refresh data on the page. This parameter is available only when **Application scope** is set to **Specify external number**.
Number	Label	Mobile number. This parameter is available only when **Application scope** is set to **Specify external number**. Value: the number configured on the **Configuration Center** > **Resource Management** > **External Number** page.
Name	Label	Name of an external number. This parameter is available only when **Application scope** is set to **Specify external number**.

Step 3 Click **Next**.

Step 4 Configure the application skill queue.

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Figure 2-96 new policy - Application skill queue configuration

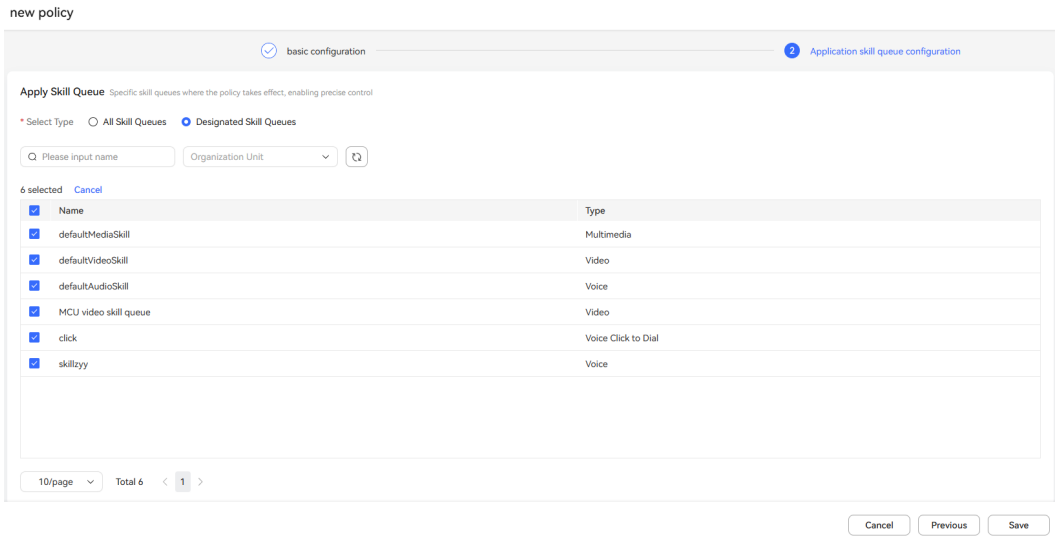


Table 2-44 GUI elements on the new policy - Application skill queue configuration page

Element	Type	Description
Select Type	Check box	Type of the skill queue to which the call forwarding policy is applied. Value options: • **All Skill Queues** • **Designated Skill Queues**
Please input name	Text box	Enter the name of the skill queue to which the call forwarding policy is applied. This parameter is available only when **Select Type** is set to **Designated Skill Queues**.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. This parameter is available only when **Select Type** is set to **Designated Skill Queues**. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for skill queues of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. Value options: ● Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ● Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
	Button	Search for data based on search criteria again and refresh data on the page. This parameter is available only when **Select Type** is set to **Designated Skill Queues**.
Name	Label	Name of a skill queue. This parameter is available only when **Select Type** is set to **Designated Skill Queues**.
Type	Label	Type of a skill queue. This parameter is available only when **Select Type** is set to **Designated Skill Queues**.

Step 5 Click **Save**.

A tenant can create a maximum of 1,000 forwarding policies.

----End

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2.4 Configuring a Mobile Agent

A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

2.4.1 (Optional) Configuring an Inbound Call Flow

You can configure a flow to directly transfer an inbound call to the number of a customer manager who has provided services for the customer.

Prerequisites

- You have completed the connection between the AICC and OIAP.
- You have obtained the information about the mobile agent and bidirectional call interfaces in the API Fabric from the O&M personnel.

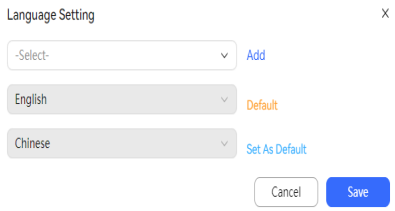
Context

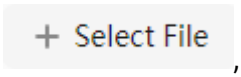
The flow invokes the getCalledInfo interface to obtain the inbound call data, and transfers the inbound calls to a specified number or a skill queue based on the data.

Procedure

Step 1 Add a voice file, which is used as a voice prompt for an error flow.

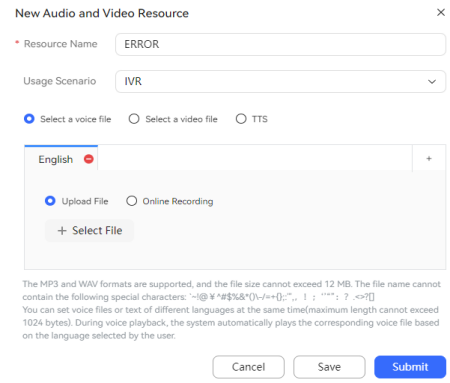
1. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Audio and Video**.
2. Click **Language Setting**, click **Set As Default** next to the language to be set as the default language, and click **Save**.



3. Click **New** in the upper right corner. The page for adding a voice file is displayed.
4. Set voice prompt parameters.
   - **Resource Name**: Enter the name of the file to be uploaded.
   - **Usage Scenario**: Select **IVR**.
   - Select **Select a voice file**, click  , select a local WAV voice file, and click **Submit**. If you do not have a voice file, select **Online Recording**.

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Figure 2-97 Adding a voice file

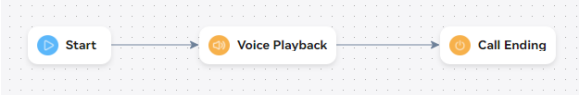


5. Click **Submit** to submit the voice file to the system administrator for approval.

Step 2 Add an error flow.

A tenant space has only one error flow. The flow provides a solution for common errors in a normal flow (for example, the next node cannot be found).

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Management**.
2. Click **New**.
3. Set flow parameters. Enter a flow name, set **Type** to **Exception Handling Flow**, set **Is Referenced** to **Yes**, and click **Save**.
4. Click the flow to expand it and click **Edit**. The flow editing page is displayed.
5. Draw a flow, set the voice file added in **Step 1** as the prompt tone for the **Play Voice** node, as shown in the following figure, and click **Save** to save the flow.



6. Expand the new error flow, click **Release**, select **Official Release**, and click **Confirm**. The new flow is successfully published.

Step 3 Add the two interfaces to the trustlist.

The two interfaces are used for authentication and obtaining interface data.

1. Contact the system administrator to add the IP addresses and port numbers, or domain names of the interfaces to the trustlist of the interface control menu.
2. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Business Interface**.
3. Click the **Self-defined Interface** tab and click **New**. The **Add Business Interface Configuration** dialog box is displayed. Set interface parameters by referring to **Figure 2-98** to **Figure 2-101**.

   Figure 2-98 and **Figure 2-99** indicate the input and output parameters of the getCalledInfo interface. **Figure 2-100** and **Figure 2-101** indicate the input and output parameters of the token interface.

   The token interface is used to obtain the token for AICC authentication. The getCalledInfo interface is used to check whether the current calling number

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has historical call records. If historical call records are available, the called numbers are found.

Figure 2-98 Message header and output parameters of the getCalledInfo interface

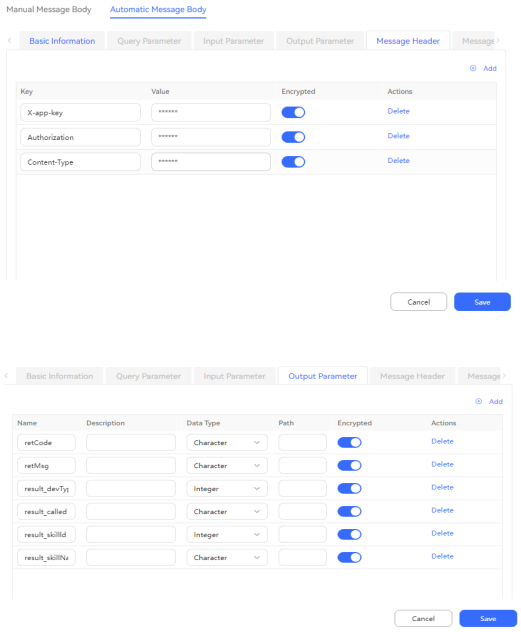


Figure 2-99 Input parameters of the getCalledInfo interface

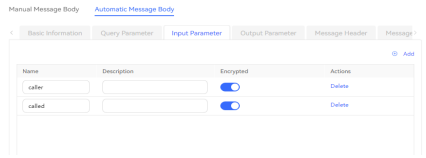
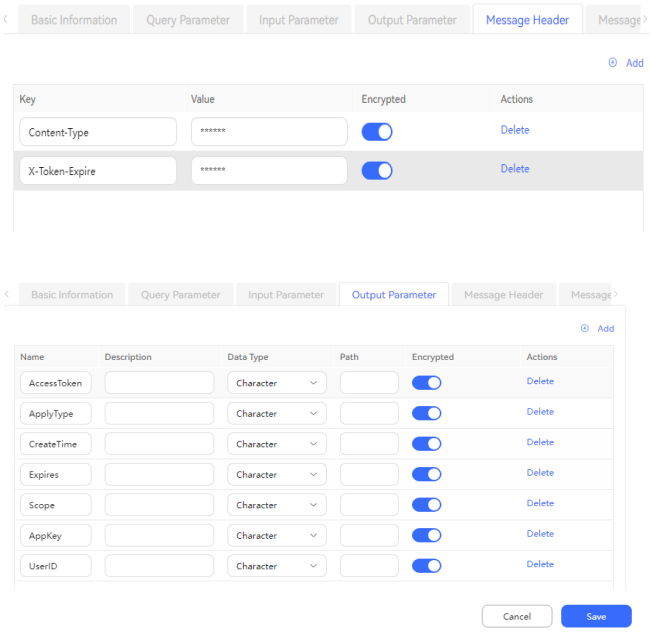
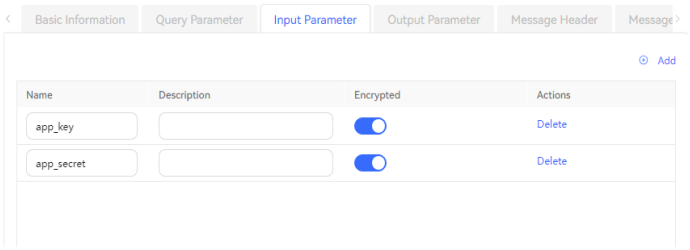


Figure 2-100 Message header and output parameters of the token interface



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Figure 2-101 Input parameters of the token interface

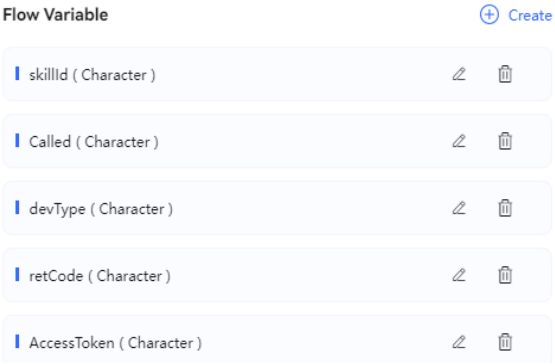


Step 4 Add an inbound call flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**.
2. Click New.
3. Set flow parameters. Enter a flow name, set **Type** to **Subflow**, and click **Save**.
4. Click the flow to expand it and click **Edit**. The flow editing page is displayed.
5. Click a diagram element on the canvas and create the following flow variables on the right.

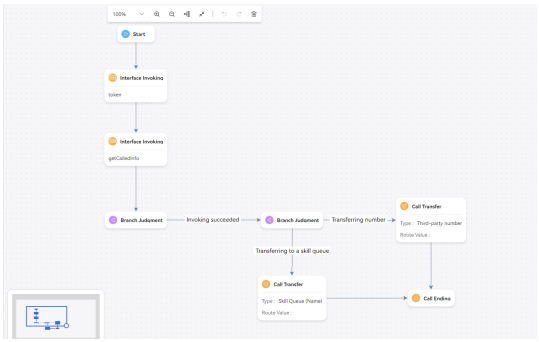
   These variables are used to store the data returned by the interface in the flow.

Figure 2-102 Configuring parameters



6. Drag diagram elements to the canvas and draw the flow as shown in the following figure.

Figure 2-103 Drawing a flow



7. Configure nodes.

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Node	Configuration
token	**Interface Invoking** diagram element, which references the token interface added in **Step 3**. Message header: – Set **Content-Type** to **application/json**. – Set **X-Token-Expire** to **6000**. Input parameters: – Set **app_key** to the AK. – Set **app_secret** to the SK. Output parameters: – Set **AccessToken** to **FLOW.AccessToken**.
getCalledInfo	**Interface Invoking** diagram element, which references the getCalledInfo interface added in **Step 3**. Message header: – Set **x-app-key** to the value of **AK**. – Set **Authorization** to **Bearer ${FLOW.AccessToken}**. – Set **Content-Type** to **application/json**. Input parameters: – Set **caller** to **${SYS.callingNumber}**. – Set **called** to the system access code provided by the mobile agent. Output parameters: – Set **retCode** to **FLOW.retCode**. – Set **result.devType** to **FLOW.devType**. – Set **result.called** to **FLOW.called**. – Set **result.skillId** to **FLOW.skillId**.
Branch Judgment (left)	**Branch Judgment** diagram element, which is used to determine whether an interface is successfully invoked. If the value of **FLOW.retCode** is **0**, the interface is successfully invoked.
Branch Judgment (right)	**Branch Judgment** diagram element, which is used to determine the flow direction. – If the value of **FLOW.devType** is **1**, the call is transferred to the called number returned by the getCalledInfo interface. – If the value of **FLOW.devType** is **0**, the call is transferred to the skill queue specified by the call center. **NOTE** Note that the skill queue is a voice skill queue of common agents, but not mobile agents.

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Node	Configuration
Transferring number	**Call Transfer** diagram element, which is used to transfer a call to a third-party number. Set **Transfer Type** to **Third-party number** and **Route Value** to **${FLOW.called}**.
Transferring to a skill queue	**Call Transfer** diagram element, which is used to transfer a call to a skill queue. Set **Transfer Type** to **Skill Queue(Name)** and **Route Value** to an existing voice skill queue in the system.

8. Click  in the upper part of the canvas to save the flow.
9. Expand the new subflow, click **Release**, select **Official Release**, and click **Confirm**.

Step 5 Set the called route and add the association between the flow and the system access code.

1. Choose **Configuration Center** > **Access Configuration** > **Called Party**.
2. Click **New** to add a called route.
3. Select an OU to which the called route belongs, select a system access code of the **Audio/Video** type, enter an extension code, set **Device Type** to **IVR**, and select the flow configured in **Step 4**.
4. Click **Save**.

----End

2.4.2 Configuring a Mobile Agent in the AICC

After a customer dials a tenant access code, the call is connected to a skill queue or a specified number based on the mobile agent configuration.

Prerequisites

- After the system administrator enables the **Mobile agent** feature for tenants, the tenant administrator can configure mobile agents.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator. Choose **Configuration Center** > **Access Configuration** > **Mobile Agent**.

Step 2 Click **New**. The **Creating a Mobile Agent** dialog box is displayed.

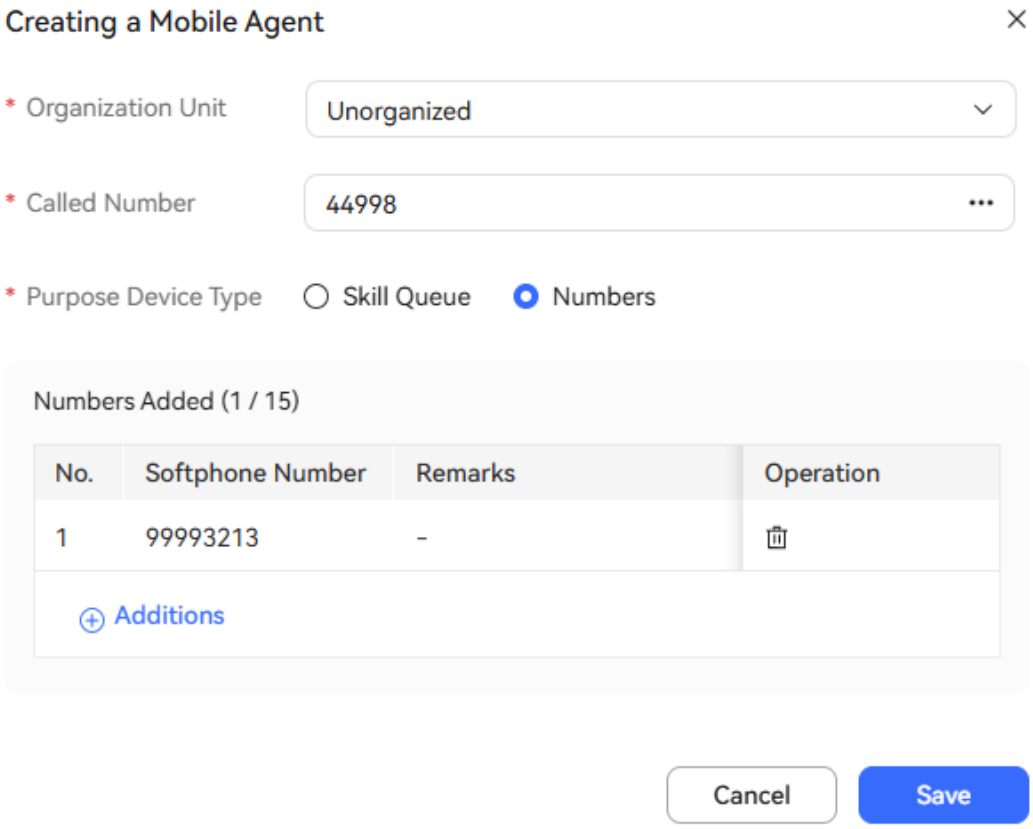
Step 3 Configure a mobile agent.

If you have configured a flow in "Configuring an Inbound Call Flow", set **Purpose Device Type** to **Numbers** and select the softphone number or mobile number of a

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mobile agent. When no call record of the customer is found, the call is directly connected to the agent number configured in this step.

Figure 2-104 Creating a Mobile Agent



Parameter description:

- **Organization Unit**: Select an OU to which a mobile agent belongs.

  The options are as follows:

  - Tenant administrator: **Unorganized** and all OUs under the current tenant are available.
  - Common agent:
    - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available.
    - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the owning OU, accessible OUs, and **Unorganized** are available.
- **Called Number**: Click the text box to select an access code in the dialog box that is displayed. The access codes displayed in the dialog box are configured on the **Called Party** page. For details, see the called route setting in **2.4.1 (Optional) Configuring an Inbound Call Flow**.
- **Purpose Device Type**: Type of the device that can be connected for a customer manager to connect to a call from a customer. The options are **Skill Queue** and **Numbers**.

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a. **Skill Queue**: Click the text box to select a skill queue in the dialog box that is displayed. The skill queues displayed in the dialog box are of the same type as the access code. For example, if the access code is of the **Audio/Video** type, all available skill queues are of the same type.

b. **Numbers**: Click Additions to select a number in the dialog box that is displayed. The numbers displayed in the dialog box are mobile agent softphone numbers configured by the system administrator during tenant administrator creation.

Step 4 After adding a destination device for the VCC, click **Save**.

----End

2.5 Configuring Multimedia Channels

The AICC supports multiple access modes, including WeChat, web, X (Twitter), email, WhatsApp, Facebook, and LINE. Customers can access AICC services anytime and anywhere.

After customer calls are connected, the calls are processed in a unified manner and intelligently routed to agents. Agents do not need to pay attention to the customer access mode.

Prerequisites

- Agents are available in a multimedia skill queue.
- You have configured a multimedia called route. For details, see **2.3.1.2 Configuring Called Routes**.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- When **Multimedia access mode** of a tenant administrator is set to **Unified channel access**, all channels can be created.

  The number of concurrent sessions of all channels can be set for a single agent. The priorities of the configuration for the number of concurrent multimedia customers served by an agent are as follows: agent > OU > tenant (If the priority of the tenant configuration is the lowest, the tenant configuration is used.)

  – Agent-level concurrent session configuration entry 1: **Personal Center** > **Personalized Settings** > **Multimedia Sessions Concurrently Processed by Agent**.

  – Agent-level concurrent session configuration entry 2: **Configuration Center** > **Employee Center** > **Employee** > **Configuration**.

    Agent Type must be **Versatile agent** or **Multimedia agent**.

  – OU-level concurrent session configuration entry: **Configuration Center** > **Employee Center** > **Organization Unit** > **Call Configuration**.

  – Tenant-level concurrent session configuration entry: **Configuration Center** > **System Management** > **Tenant Parameter** > **Service Channels**.

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Example: If **Multimedia access mode** is set to **Unified channel access** and the number of concurrent sessions is set to **5**, sessions can be created for all channels, and a maximum of five users can access a session through any channel at the same time.

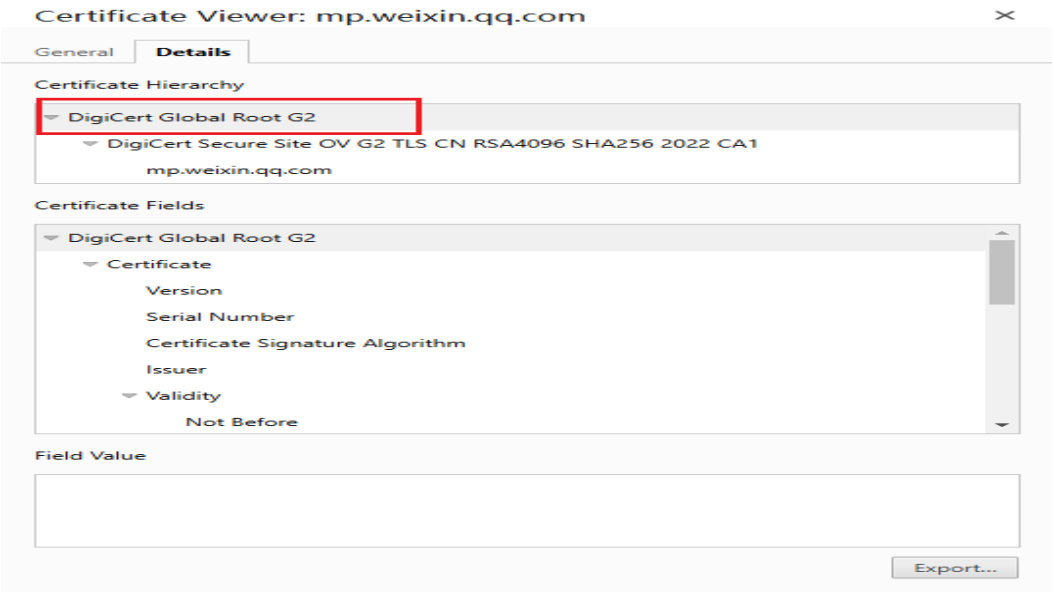
2.5.1 Configuring the WeChat Channel

A tenant administrator can configure the WeChat channel for customers to access.

Prerequisites

- Prerequisites for key-based hosting
  - The system administrator has uploaded the WeChat authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page. To obtain the certificate, click the certificate name shown in the red box of **Figure 2-105** and then click **Export**.

    Figure 2-105 Exporting the WeChat certificate

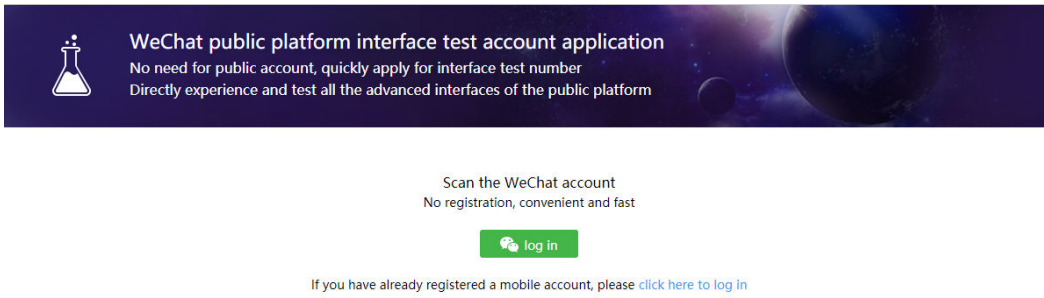
    

  - In the test environment, you have logged in to the WeChat Official Accounts Platform and applied for a test account access ID and secret in advance.

    i. Visit the test account website of the WeChat Official Accounts Platform at **https://mp.weixin.qq.com/debug/cgi-bin/sandboxinfo?action=showinfo&t=sandbox/index**, and use your personal WeChat account to scan the QR code for login.

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Figure 2-106 WeChat Official Accounts Platform



ii. Obtain information about the test account.

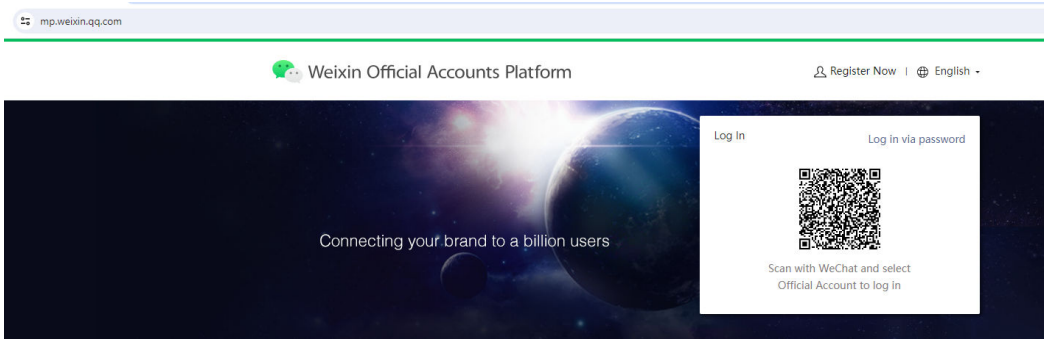
Figure 2-107 Test account information



– In the commercial environment, you have accessed the WeChat Official Accounts Platform and registered an official account in advance.

i. Visit the website of the WeChat Official Accounts Platform at **https://mp.weixin.qq.com/** and register a WeChat official account by referring to the following WeChat documents. Among the multiple WeChat official account types, you are advised to choose a service account.

○ To register an account outside Chinese mainland, see **https://kf.qq.com/faq/220601uYfUz2220601UVJjmU.html**.



ii. Log in to the WeChat Official Accounts Platform, choose **Official Account** > **Settings and Development** > **API Management** > **Basic Settings**, and obtain the values of **AppID** and **AppSecret**.

iii. Add the public IP address of the AICC to the IP address trustlist.

1) Log in to the K8s container backend of the AICC and query the WeChatAdapter container.

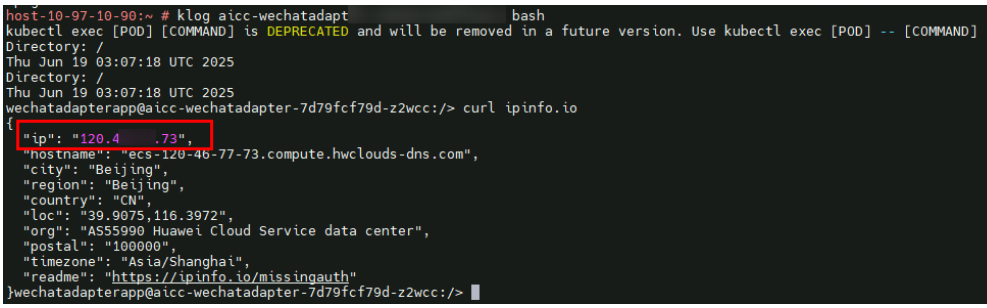
2) Access the WeChatAdapter container. *aicc-wechatadapter-7b66c5bc6-9db25* indicates the WeChatAdapter container queried in **3.1)**.

```
klog aicc-wechatadapter-7b66c5bc6-9db25 bash
```

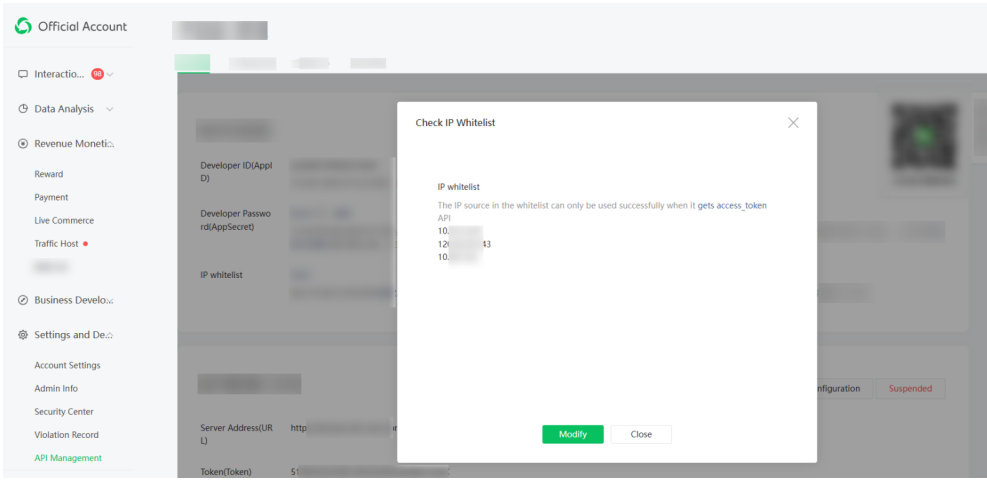
3) Run the following command. The IP address in the red box of **Figure 2-108** is the queried IP address.

```
curl ipinfo.io
```

Figure 2-108 Public IP address



4) Select and add the external public IP address of the AICC queried in **3.3)** to the IP address trustlist.



- Prerequisites for QR code–based hosting

  The enterprise official account has passed the WeChat authentication. In addition, a third-party platform account has been created and released on the entire network.

Context

- If the app ID and app secret provided by WeChat change, the WeChat channel involved in the AICC also needs to be modified. The modification method is as follows: Choose **Configuration Center** > **Access Configuration** > **Channel Configuration** as a tenant administrator, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **App Id** and **App Key**.
- After enabling **WeChat message encryption switch**, set **EncodingAESKey** to the value on the WeChat Official Accounts Platform. If the value on the WeChat Official Accounts Platform is changed, you need to change the value on the AICC as follows:
  - On the WeChat platform: Log in using a developer account, and update the value of **EncodingAESKey**.
  - In the AICC: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the value of **EncodingAESKey**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-45 Channel information parameters

Parameter	Description
Channel Selection	Select **WeChat**.
Hosting Method	Value options: • **Key**: For details about the parameters, see **Table 2-46**. • **QR code**: For details about the operations, see **Step 3.1**. Select a hosting mode based on site requirements.

Table 2-46 Key-based hosting parameters

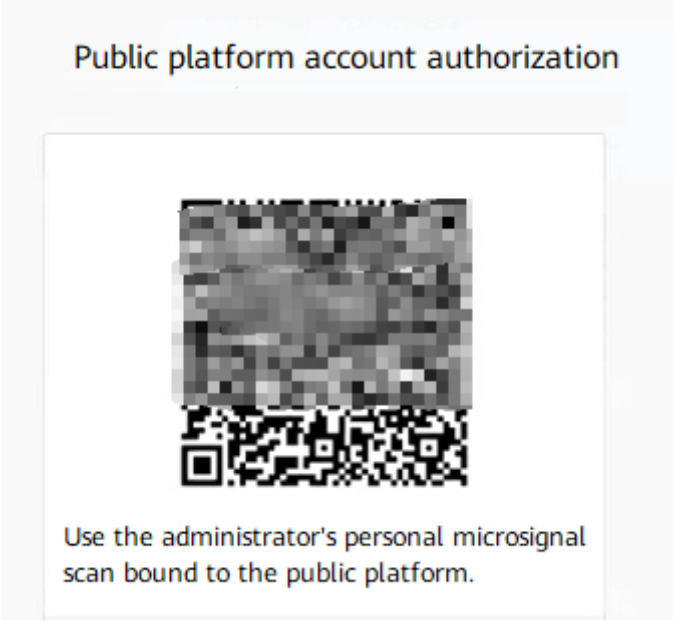
Parameter	Description
App Id	Enter the AppID and AppSecret obtained from the WeChat Official Accounts Platform. To obtain the app ID and app secret, see **Applying for an Access ID and Secret**.
App Secret	
WeChat message encryption switch	Whether to enable WeChat message encryption. Value options: •  : off •  : on Default value:  Disabling message encryption may cause security risks. The setting must be consistent with that on the WeChat Official Accounts Platform.

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Parameter	Description
EncodingAESKey	The value is a string of 43 characters, including only digits and letters. After enabling **WeChat message encryption switch**, set **EncodingAESKey** to the value on the WeChat Official Accounts Platform. If the value on the WeChat Official Accounts Platform is changed, you need to modify the value on the AICC accordingly as follows: • On the WeChat Official Accounts Platform: Log in using a developer account, choose **Official Account** > **Settings and Development** > **API Management** > **Basic Settings**, and update the value of **EncodingAESKey**. • On the AICC: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the value of **EncodingAESKey**.
Interconnection Encryption Algorithm	Encryption algorithm used for WeChat interconnection. The options are as follows: • **SHA-1** • **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

QR code–based hosting operations:

1. After setting **Hosting Mode** to **QR code**, click **Scan WeChat QR Code To Authorize**. The Official Accounts Platform account authorization page containing a QR code is displayed.



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2. Use a WeChat account to log in to WeChat and scan the QR code. The system displays a message indicating that the scanning is successful. Authorize the account on your mobile phone.

   NOTE

   An official account or mini program account can be bound to only one open platform account.

3. After the authorization, the system displays a message indicating that the authorization is successful. The QR code–based hosting is complete. Return to the channel configuration page to complete subsequent configurations.

Step 4 Set basic configuration parameters.

Table 2-47 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.

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Parameter	Description
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**

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Parameter	Description
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**

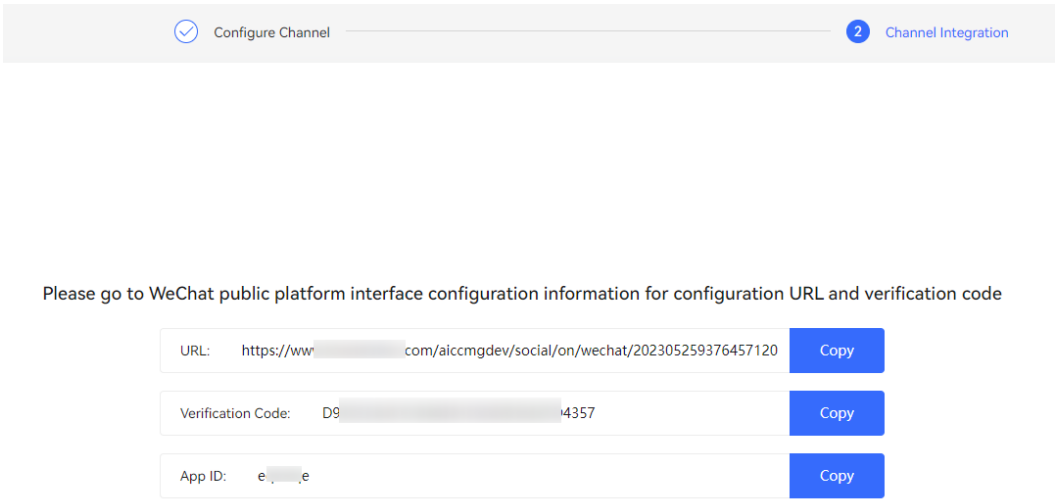
Step 5 Set robot configuration parameters.

Table 2-48 Robot configuration parameters

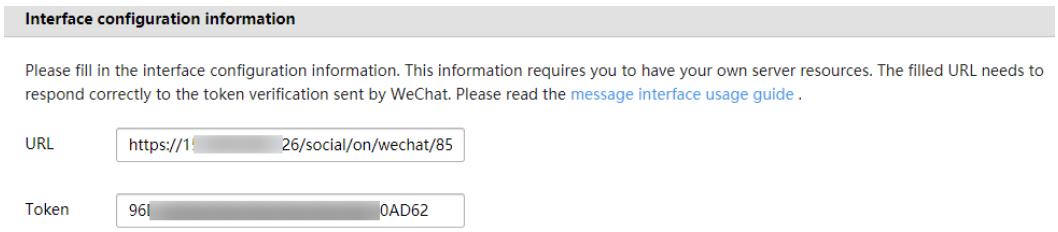
Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 On the **Channel Integration** page, set parameters. This step is required only in key-based hosting mode.

1. On the **Channel Integration** page, copy the values of **URL** and **Verification Code**.



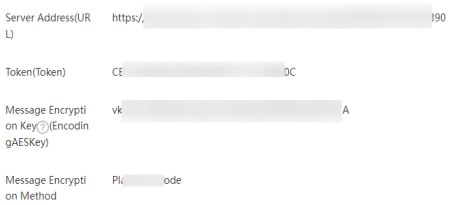
2. Copy the values of **URL** and **Verification Code** on the **Channel Integration** page to the WeChat Official Accounts Platform.
   - Test account: Go to the test page of the WeChat Official Accounts Platform and enter the values of **URL** and **Verification Code** in the **Interface configuration information** area. Click **Submit** to perform token authentication.



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- Official account: Choose and enter the values of **URL** and **Verification Code** in **URL** and **Token** in the server configuration, respectively.

  Customize the value of **EncodingASEKey**, which can be manually entered or randomly generated and is used as the key for encrypting and decrypting the message body. Customize the value of **Message Encryption Method**.



Step 7 If the authentication is successful, the access is successful. Return to the channel configuration page of the AICC and click **Submit**. The access success page is displayed, and the WeChat channel access configuration is complete.

----End

Further Description

To set up a connection with an agent, scan the QR code of the test account and send a message to its backend.

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.2 Configuring the Web Channel

A tenant administrator can configure the web channel for customers to access.

Prerequisites

- This section describes only how to enable the web channel and verify the functions. In actual scenarios, an enterprise needs to develop the client chat

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page through JavaScript or API integration. For details about how an enterprise performs integration and development, see Lightweight Web Chat Control Integration (Token Mode) and Overview.

- The tenant administrator has a multimedia agent that has been bound to the tenant administrator's business account.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Configure Channel** page is displayed.

Set **Channel Access Code**, select **WEB**, and click **Next**.

NOTE

The channel access code must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).

Step 3 Set channel information parameters.

Table 2-49 Channel information parameters

Parameter	Description
Channel Selection	Select **Web**.

Step 4 Set basic configuration parameters.

Table 2-50 Web channel parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.

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Parameter	Description
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Click To Call	For details, see **2.5.12.1 How Do I Set the Click-to-Dial Called Route?**
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue reminder interval	Customized notification interval for a customer waiting in a queue.
Queue reminder content	Customized notification content for a customer waiting in a queue.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Interval	Customized notification interval for a customer waiting in a queue, in seconds. • Digits • 10–99 This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.

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Parameter	Description
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Third-party authentication key	For details, see **2.5.12.6 How Do I Set the Third-Party Authentication Key?**
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**
Message Push	For details, see **2.5.12.8 How Do I Enable Message Push?**

Step 5 Set robot configuration parameters.

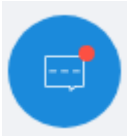
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Table 2-51 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 (Optional) Click **Try**. On the page that is displayed, configure customer information to simulate the dialog window on the client. Verify that customers can chat with agents or the robot through the current channel.

1. Click **Try**, and click  in the lower right corner of the page that is displayed.

   If **Connecting to the Intelligent Robot** is enabled, the customer is connected to the robot by default. Otherwise, the customer is automatically connected to an agent.

2. In the **Online Customer Service** dialog box, enter the chat content, click **Send**, and check the reply of the robot or agent.

   If the chat content entered by the customer contains keywords configured for the robot or agent, the robot or agent identifies the keywords and replies to the customer. If the keywords cannot be identified, the robot or agent replies, for example, "Sorry, I cannot understand."

   NOTE

   When communicating with the robot, the customer can click **Transfer to Agent** or enter any keyword set in the **Keyword for Transfer to Agent** text box to switch from the robot to an agent. However, the customer cannot switch to the robot or an agent when communicating with an agent.

3. Sign in as a multimedia agent and choose **Online Chat Workbench**.

4. (Optional) Click  , then click **Evaluation** to comment on the current agent, including the satisfaction rating and content evaluation, and click **Confirm** to submit the evaluation.

   NOTE

   The customer can only evaluate the services of agents who have at least one dialog with the customer in the web channel. During and after a dialog, the customer can evaluate the service of the agent at any time. The last evaluation is used.

Step 8 Return to the web channel access configuration page and click **Close**.

----End

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Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.3 Configuring the X (Twitter) Channel

A tenant administrator can configure the X (Twitter) channel for customers to access.

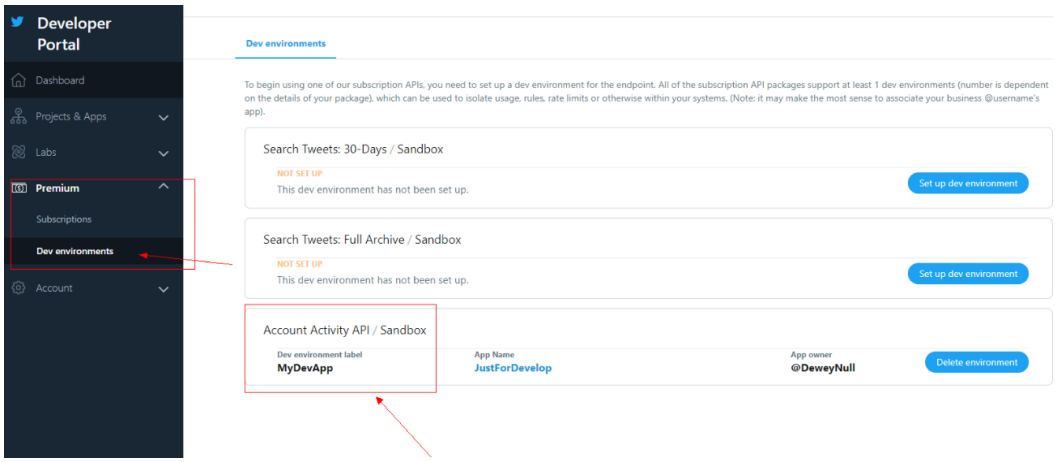
Prerequisites

NOTE

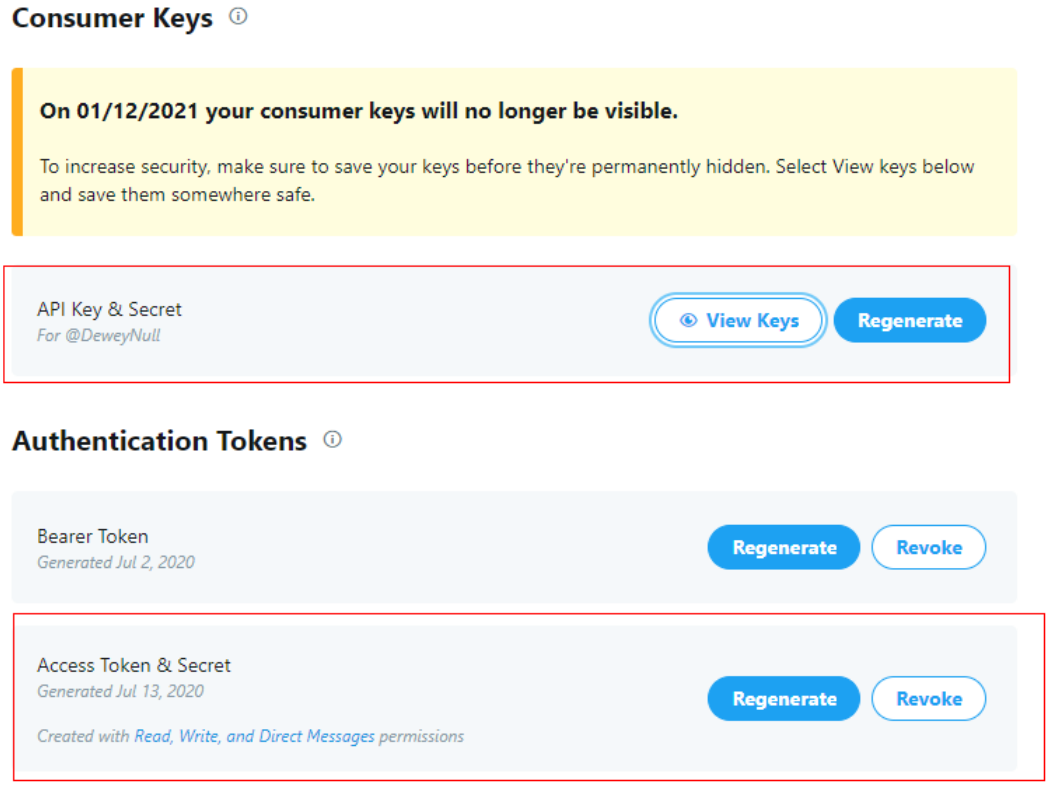
- This feature applies only to regions outside the Chinese mainland.
- This feature is supported only for demonstration in AICC 25.200.0 and cannot be put into commercial use. If commercial use is required, the AICC needs to be upgraded to AICC 25.200.0.SPC1.
- The account corresponding to the channel is provided by the customer, and the customer shall bear the related expenses incurred by this account.

- The system administrator has uploaded the X (Twitter) authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have obtained developer information from the X (Twitter) Developer Platform.
  a. Visit the X (Twitter) Developer Platform at **https://developer.twitter.com/en** to apply for a developer account for personalized configuration. View the account information on the page shown in the following figure.

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b. View the **API Key & Secret** and **Access Token & Secret** parameters.



Context

- X (Twitter) allows a project to connect to multiple systems, but the AICC requires that one X (Twitter) project connect to one channel to prevent duplicate messages.
- If the API key, API key secret, access token, and access token secret provided by X (Twitter) are changed on X (Twitter), you need to modify the involved X (Twitter) channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **API key**, **API key secret**, **Access Token**, and **Access Token Secret**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Create Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-52 Channel information parameters

Parameter	Description
Channel Selection	Select **X (Twitter)**.
API key	Enter the information obtained from the X (Twitter) Developer Platform.
API Key Secret	
Access Token	
Access Token Secret	
Account Level	Webhook real-time message push is enabled for enterprise-level accounts by default. Accounts of other levels do not support real-time message push. The number of messages that can be pulled is limited by X (Twitter). As a result, full message synchronization to the AICC cannot be ensured. You are advised to use an enterprise-level account in the commercial use phase. Select an account level based on site requirements. Value options: ● **Basic**: basic level ● **Enterprise**: enterprise level ● **Pro**: advanced level **NOTE** If you select **Enterprise**, the Webhook mode (push mode) is used to obtain messages. If you select **Basic** or **Pro**, the pull mode is used to obtain messages. The AICC pulls messages from X (Twitter) every minute.
Interconnection Encryption Algorithm	Encryption algorithm used for X (Twitter) interconnection. The options are as follows: ● **SHA-1** ● **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

Step 4 Set basic configuration parameters.

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Table 2-53 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**

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Parameter	Description
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**

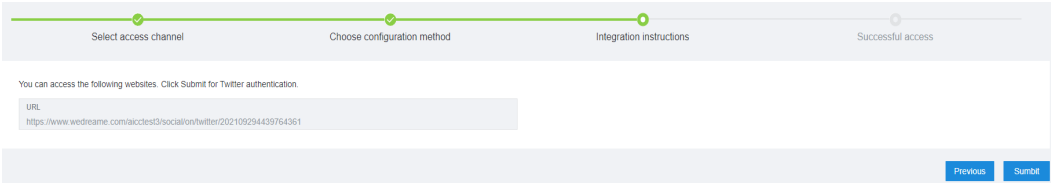
Step 5 Set robot configuration parameters.

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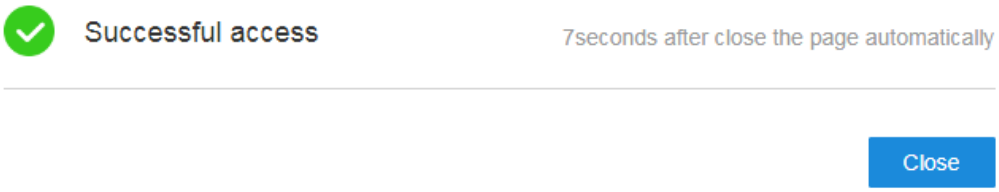
Table 2-54 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 Click **The next step**. The **Channel Integration** page is displayed.



Step 7 Visit the URL and click **Submit** to perform token authentication. If the token passes the authentication, the access is successful. Return to the AICC and click **Submit**. The **Successful access** page is displayed.



----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

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2.5.4 Configuring the Facebook Channel

2.5.4.1 Configuring Facebook Information

This section describes Facebook-related configurations and applications to enable Facebook customers to chat with AICC agents online. If some pages or configurations on Facebook are different from those described in this section, the pages or configurations on Facebook prevail.

Prerequisites

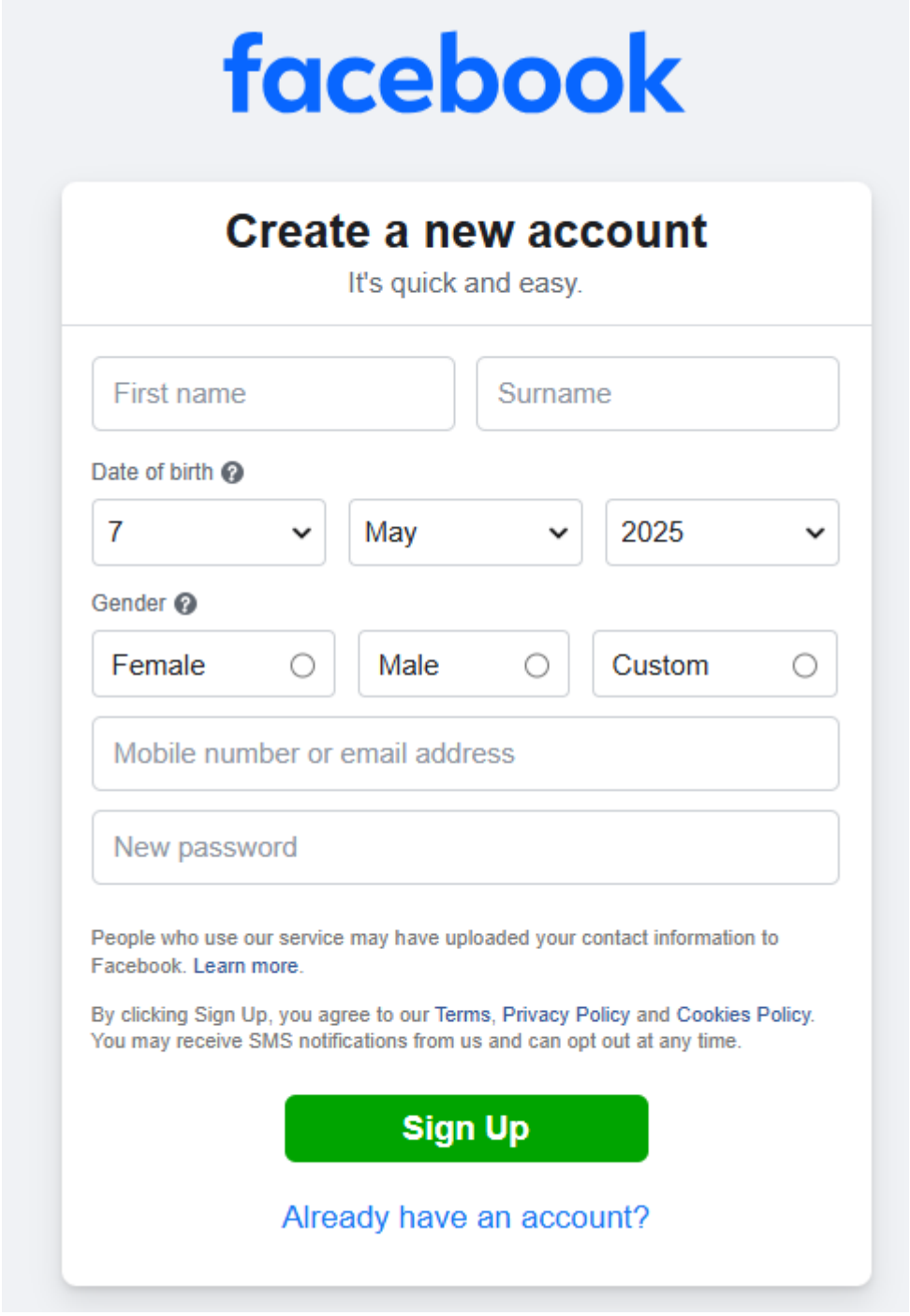
None

Procedure

Step 1 Sign up for a Facebook personal account.

Sign-up URL: https://www.facebook.com/

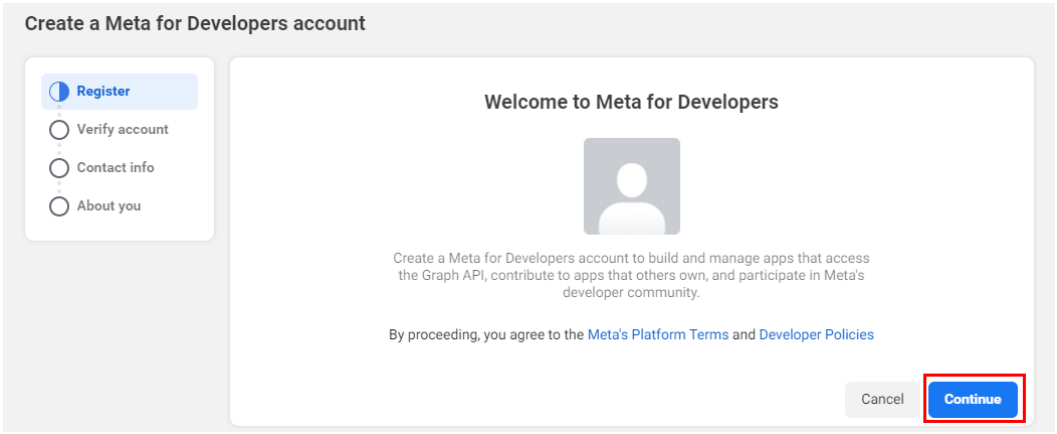
 Copyright © Huawei Technologies Co., Ltd.



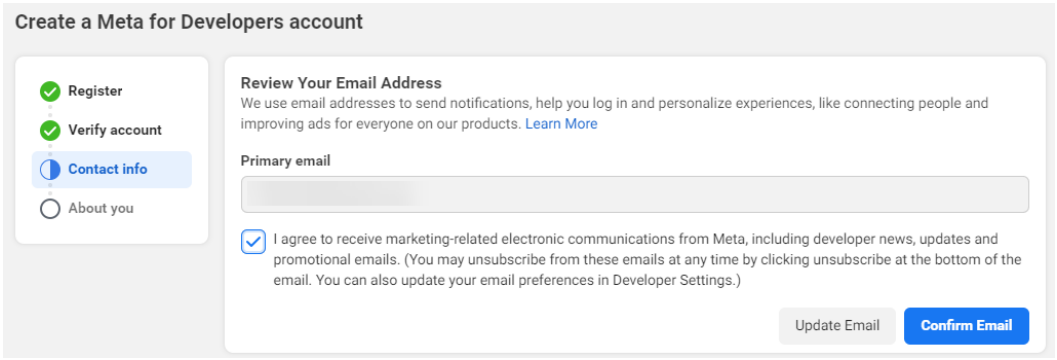
Step 2 Log in to Meta for Developers and apply for a Meta for Developers account.

1. Use the Facebook personal account to log in to https://developers.facebook.com/.
2. Click **Get Started** in the upper right corner.
3. Create a Meta for Developers account as prompted.

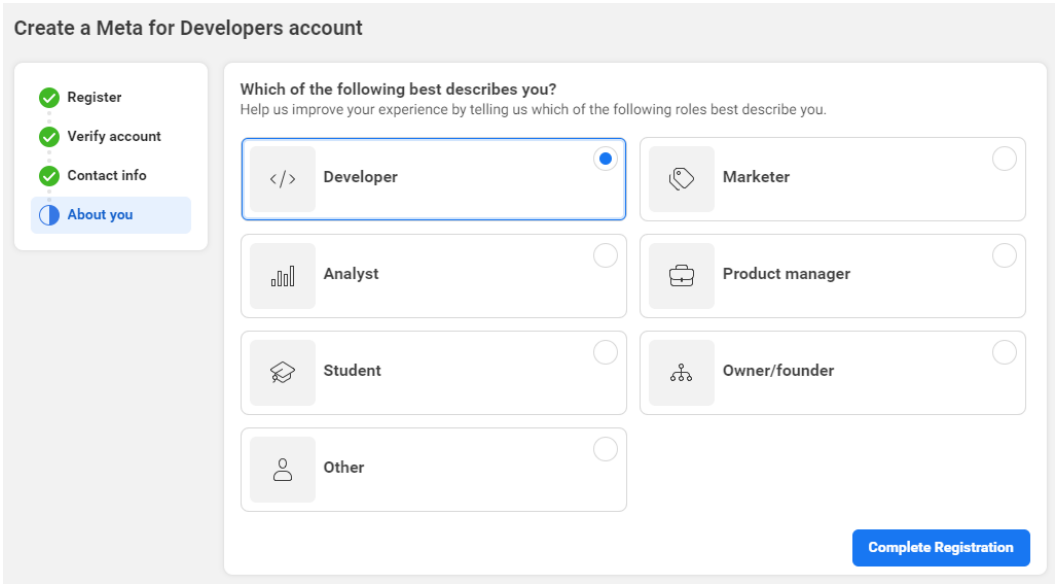
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4. Verify the account. If the account has been verified during registration, skip this step.
5. Check the mailbox information.



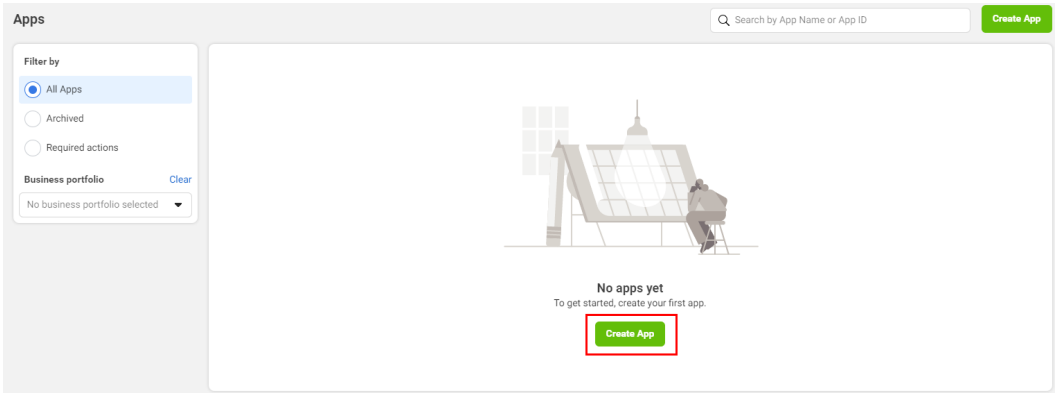
6. Select **Developer** and click **Complete Registration**.



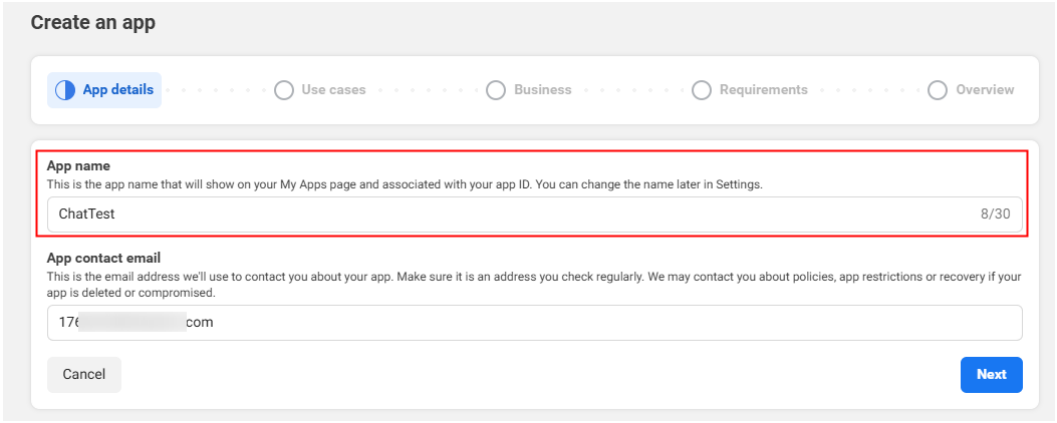
Step 3 Create an app. If you already have a Meta for Developers account, you can create an app by referring to **2.5.12.12 Creating an App Using a Facebook Developer Account**.

1. After the Meta for Developers account is registered, the **Create an app** page is displayed. Click **Create App**.

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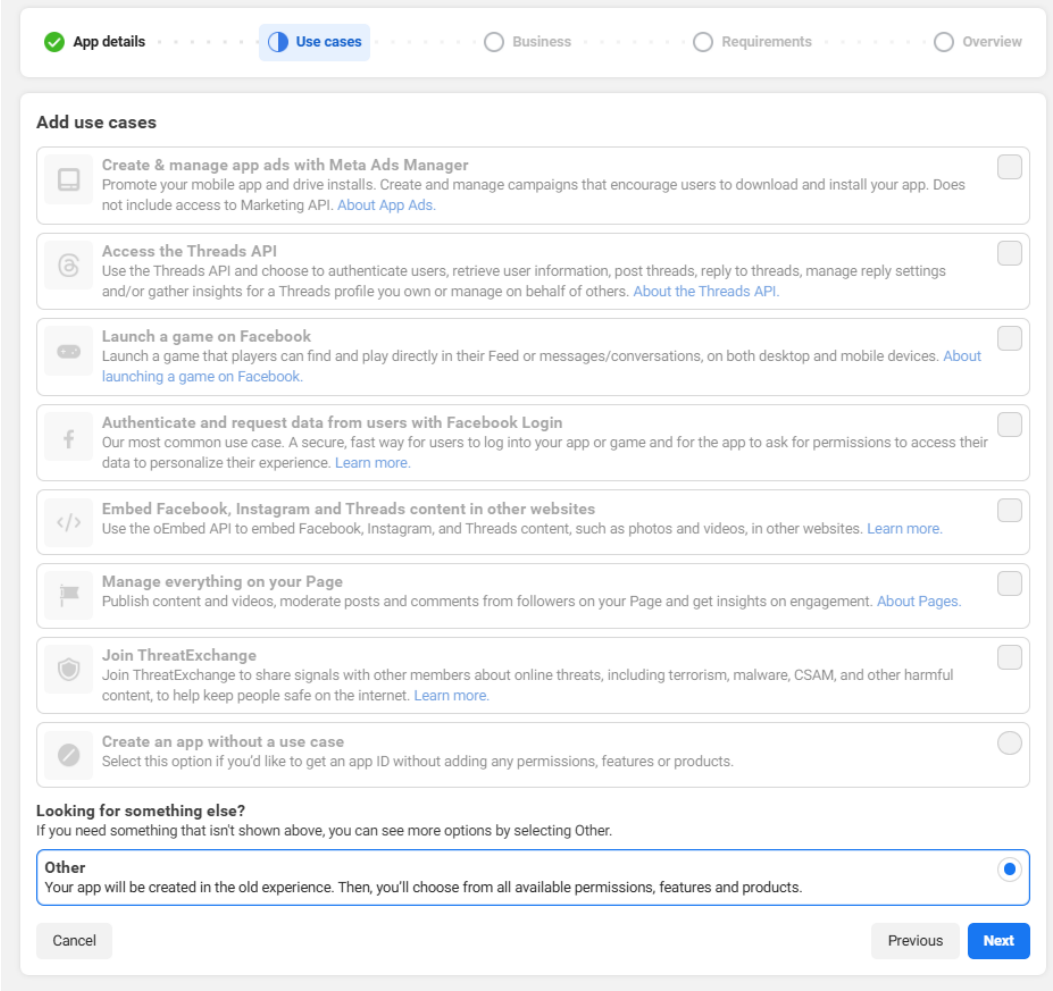


2. Enter a customized app name and click **Next**.

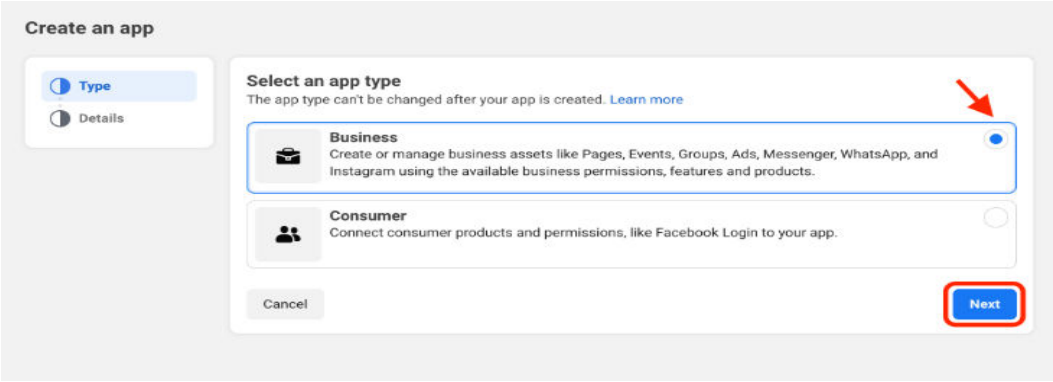


3. Select **Other** and click **Next**.

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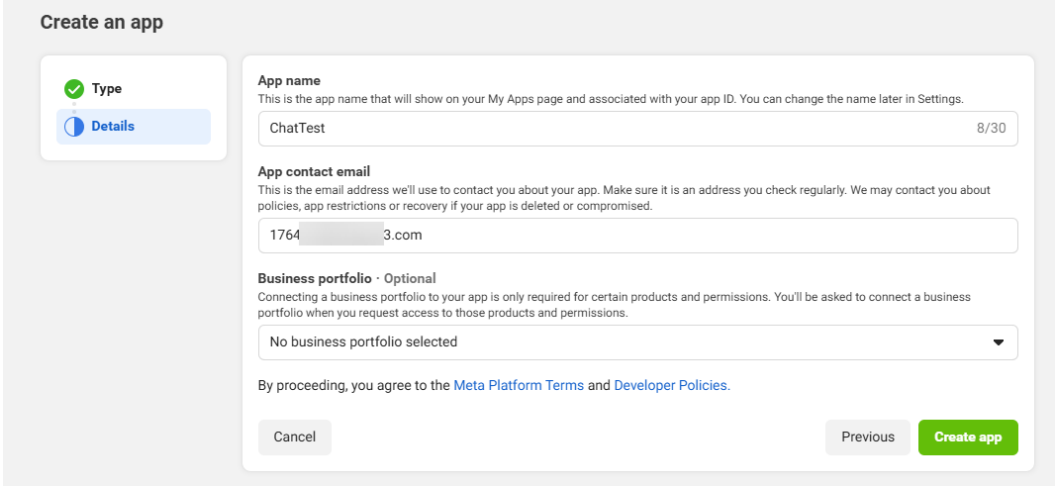


4. Select **Business** and click **Next**.

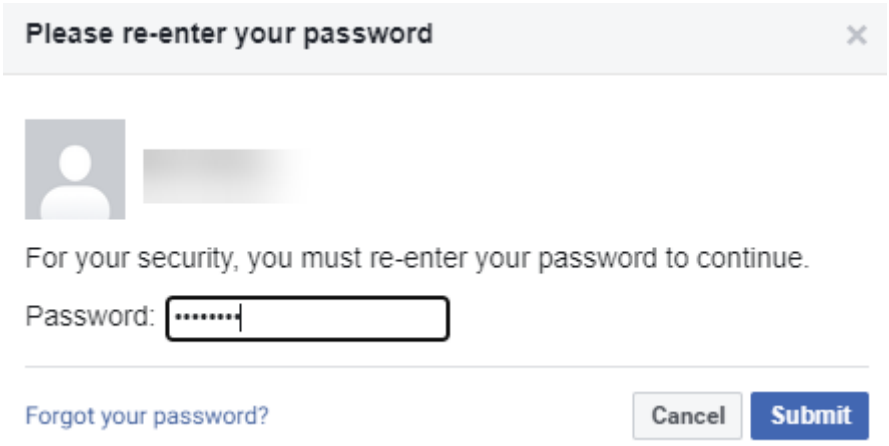


5. Check the application information and click **Create app**.

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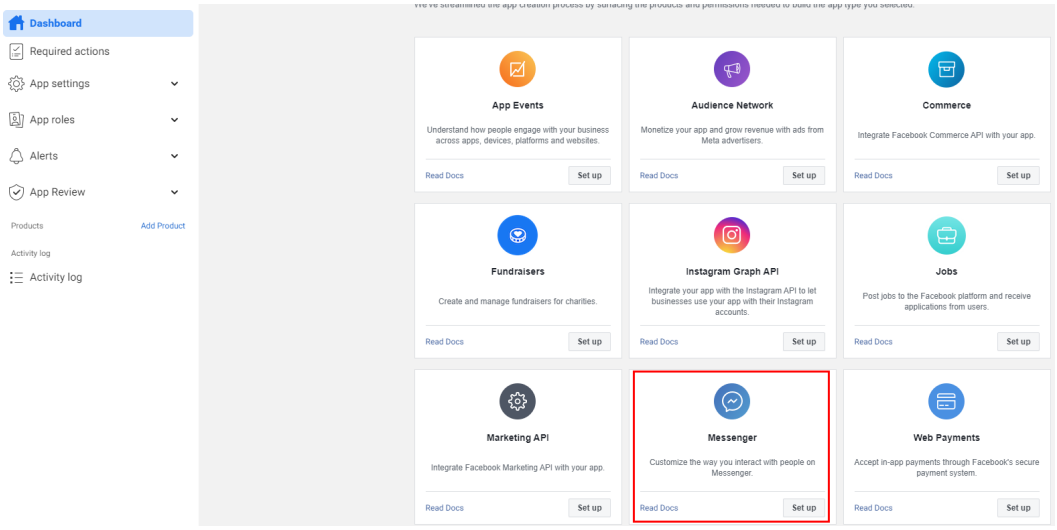


6. Enter the password of the Facebook account and click **Submit**.



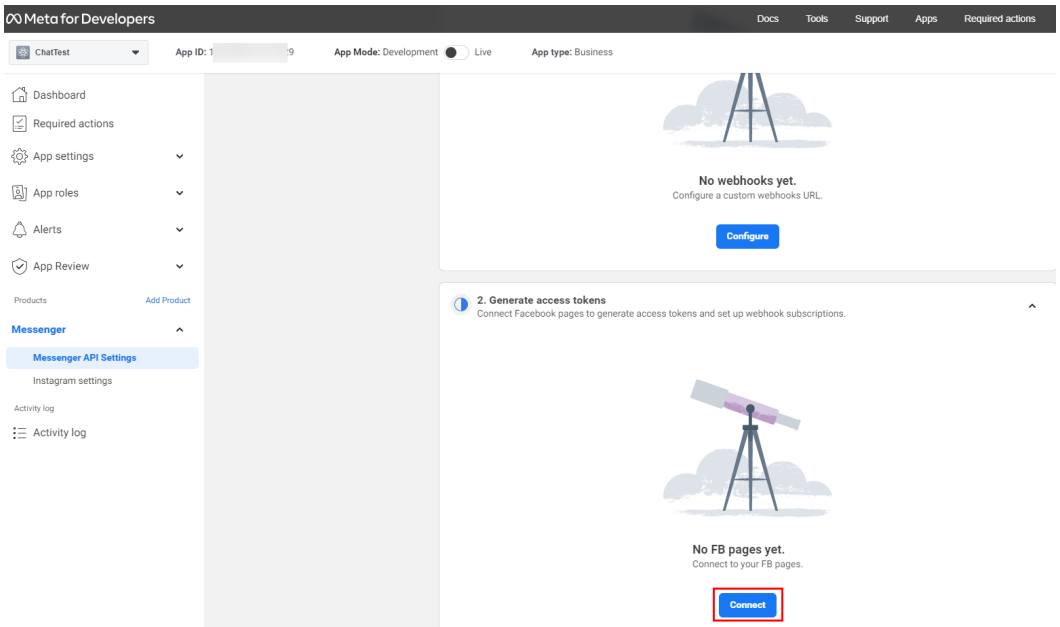
Step 4 Configure the app.

1. After the app is created, the app configuration page is displayed. Click **Set up** corresponding to **Messenger** to add the product for the app.



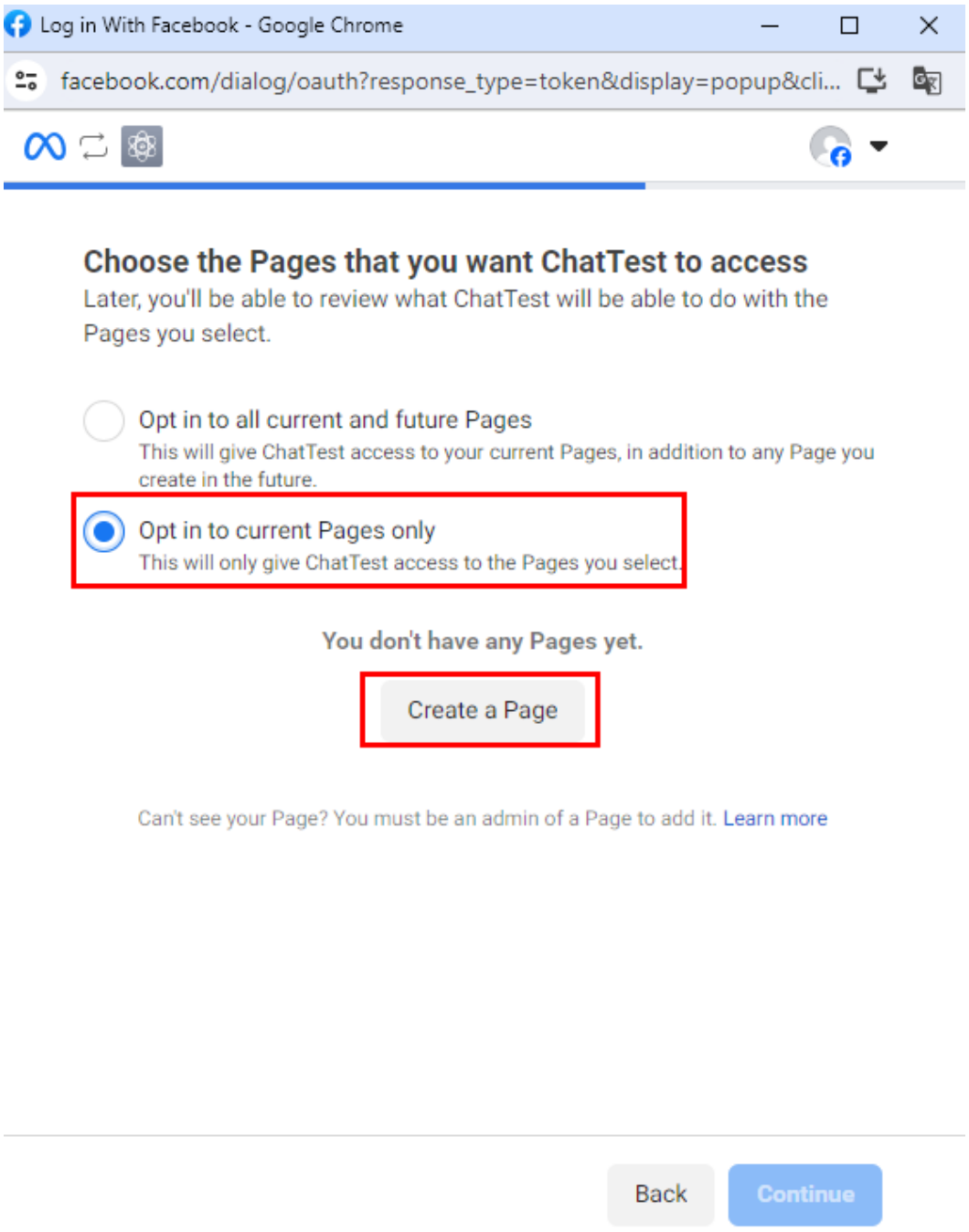
2. In the navigation pane, choose **Messenger** > **Messenger API Settings**. Click **Connect** under **Generate access tokens** to add a public home page for the app.

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3. Select an option, as shown in the following figure, and click **Create a Page**. The page for creating a public home page is displayed.

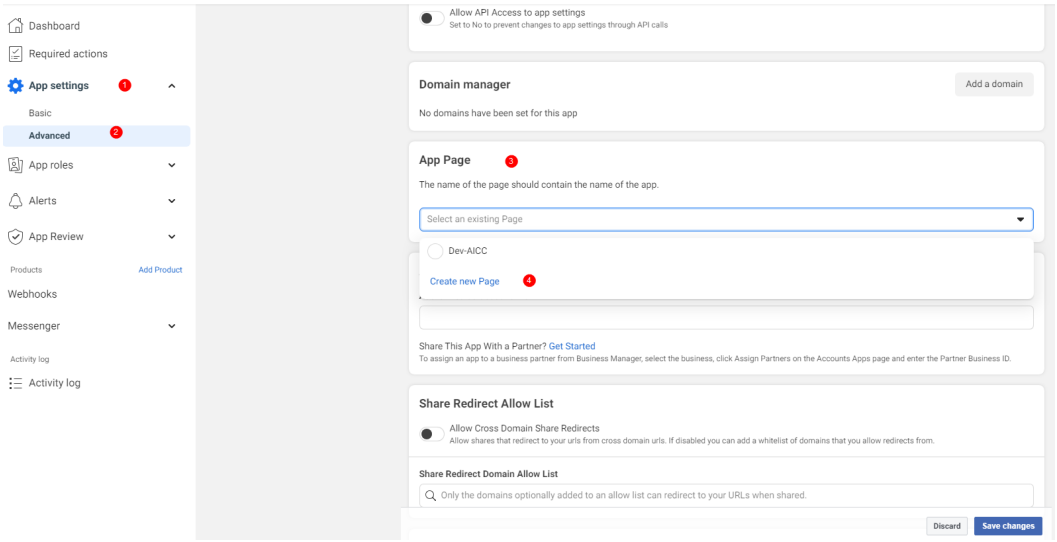
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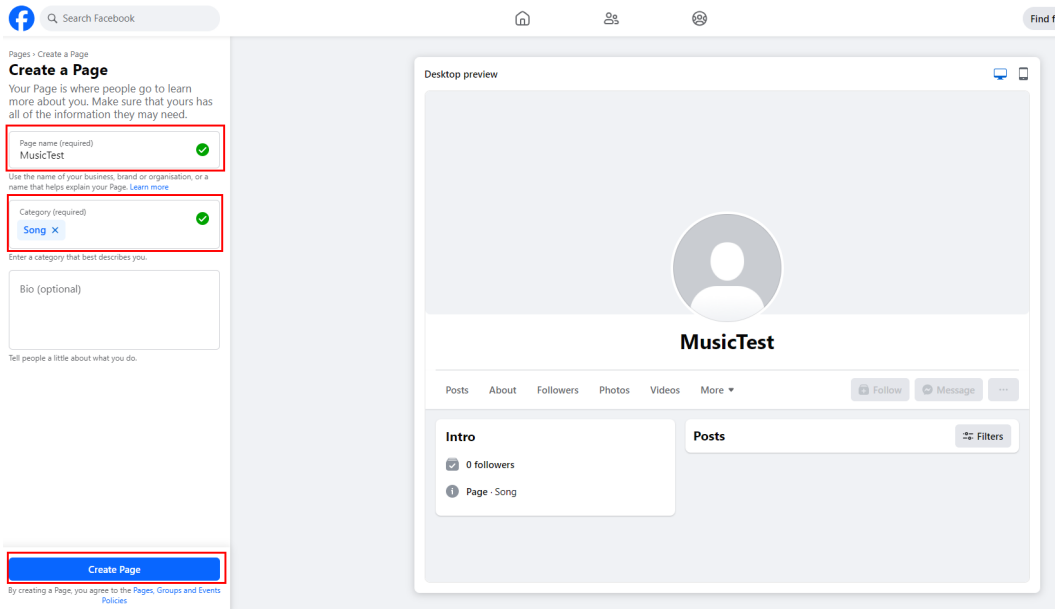
If a page has been added, perform the following operations to create another page:

Choose **App settings** > **Advanced** > **App Page** and click **Create new Page**.

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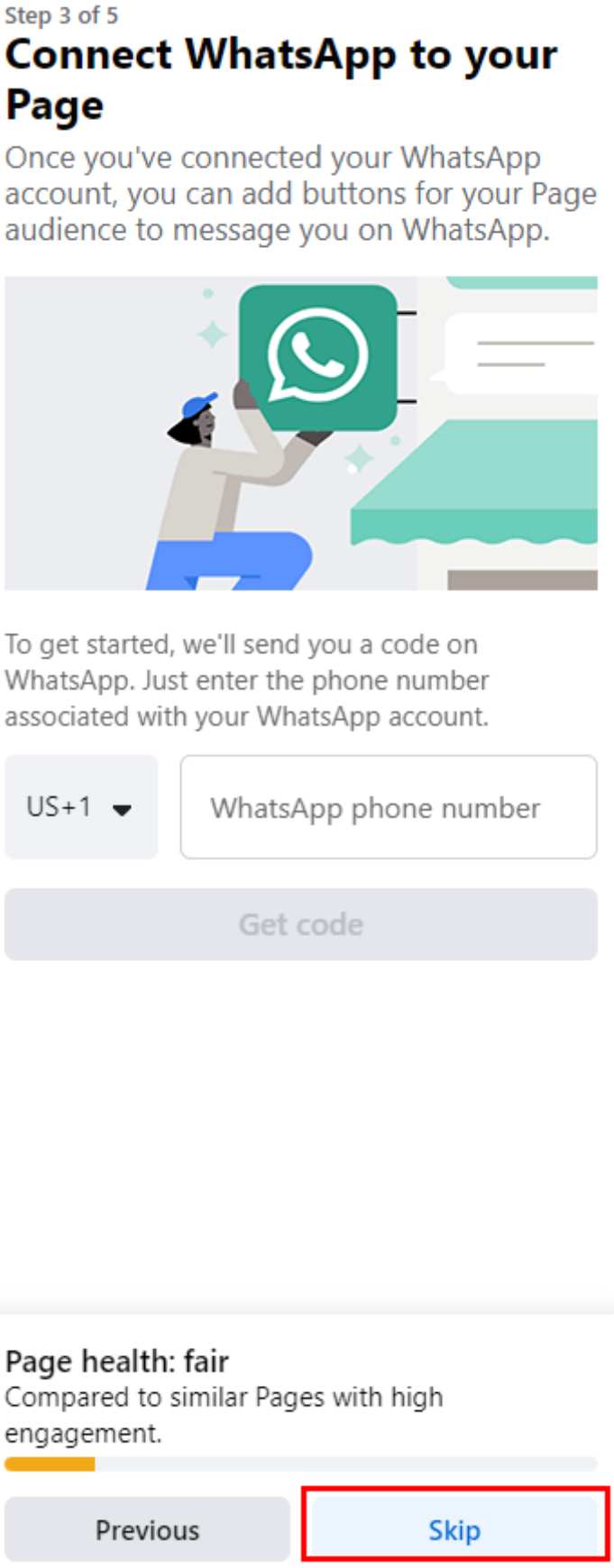


4. Customize the name and category of the public home page and click **Create Page**.



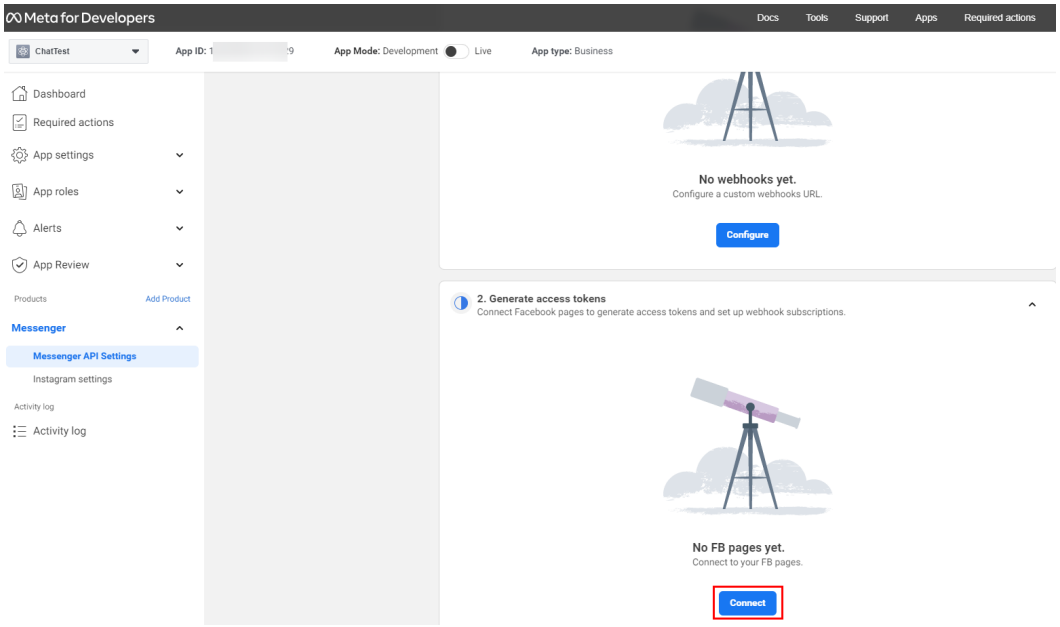
5. Configure the public home page as prompted and click **Next**.
6. In the **Connect WhatsApp to your Page** step, click **Skip**. In the last step, click **Done** to complete the public home page configuration.

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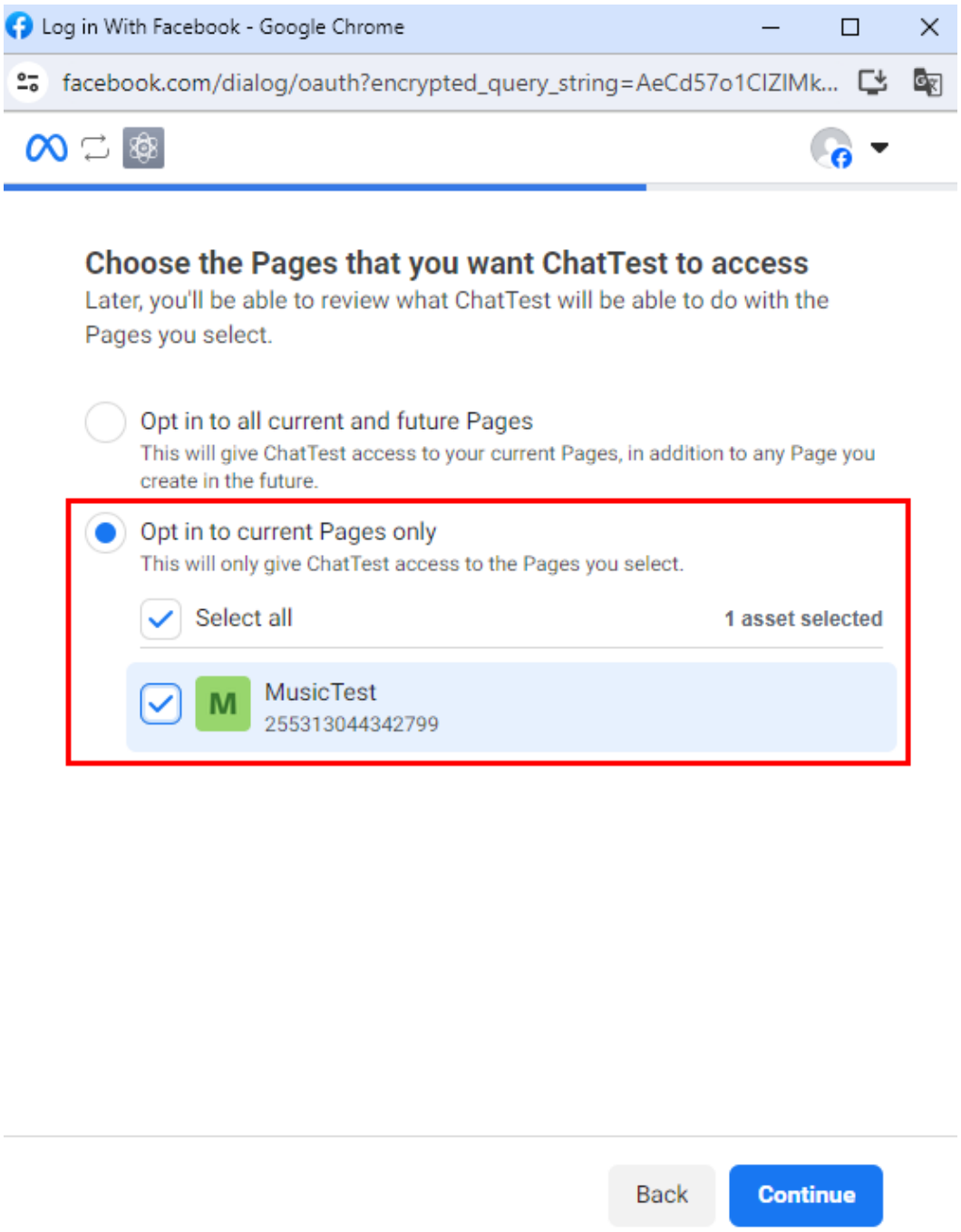
7. Return to the **Messenger** > **Messenger API Settings** page. Click **Connect** under **Generate access tokens** to add the public home page to the app.



In the dialog box that is displayed, click **Continue as** ***. *** indicates that you continue the operation as the *** user.

8. Select the added public home page and click **Continue**.

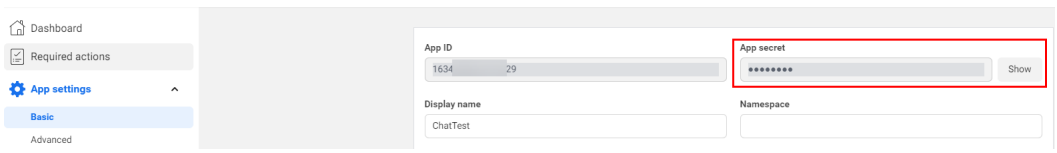
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9. Click **Save**. The public home page is added to the app.

Step 5 Obtain the app secret.

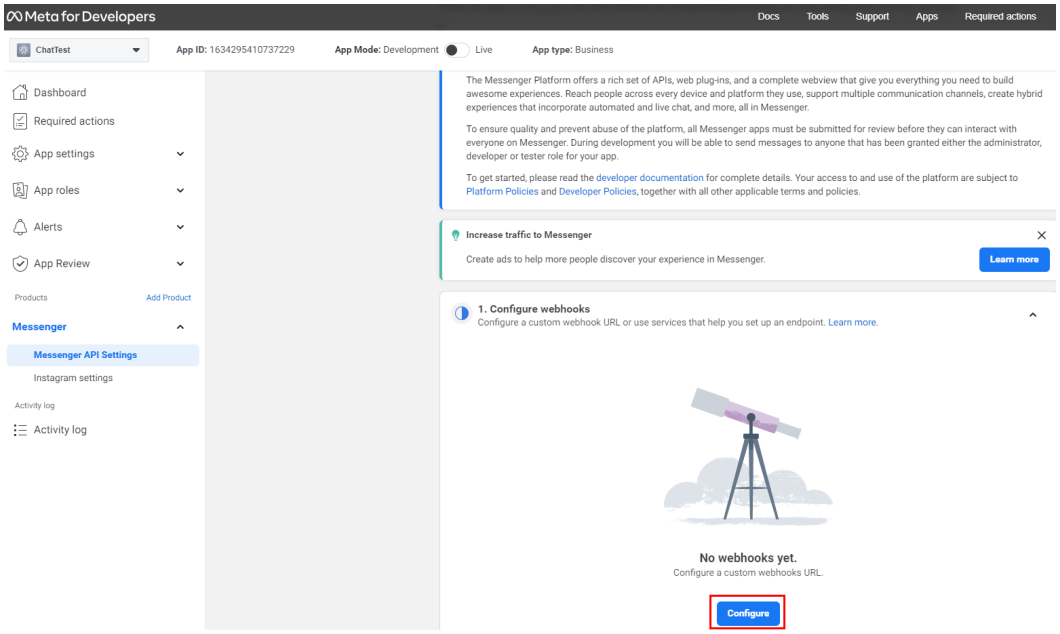
Choose **App settings** > **Basic**, click **Show**, and view and record the value of **App secret** for configuration later.



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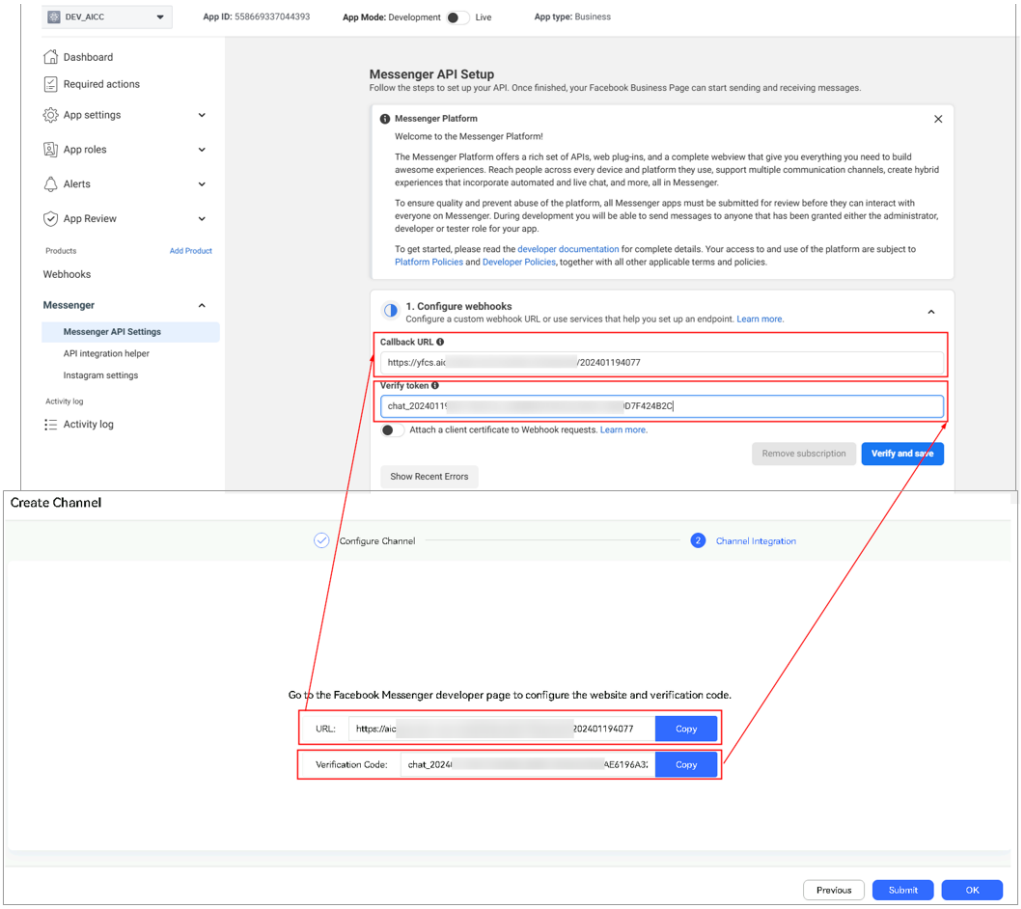
Step 6 Configure the AICC callback URL. Before performing this step, ensure that you have configured the Facebook channel in the AICC.

1. Choose **Messenger** > **Messenger API Settings** and click **Configure** under **Configure webhooks**.



2. Set **Callback URL** and **Verify token** to the values of **URL** and **Verification Code** generated on the channel configuration page of the AICC, respectively, and click **Verify and save**.

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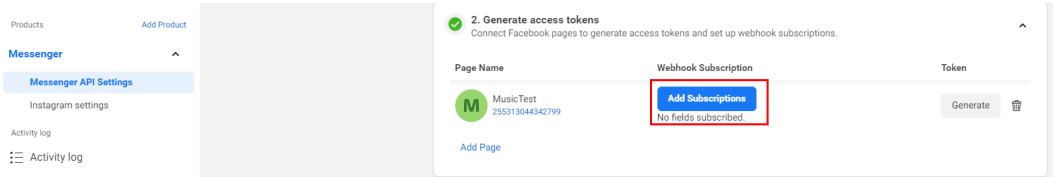


NOTE

You must set **Callback URL** to a domain name.

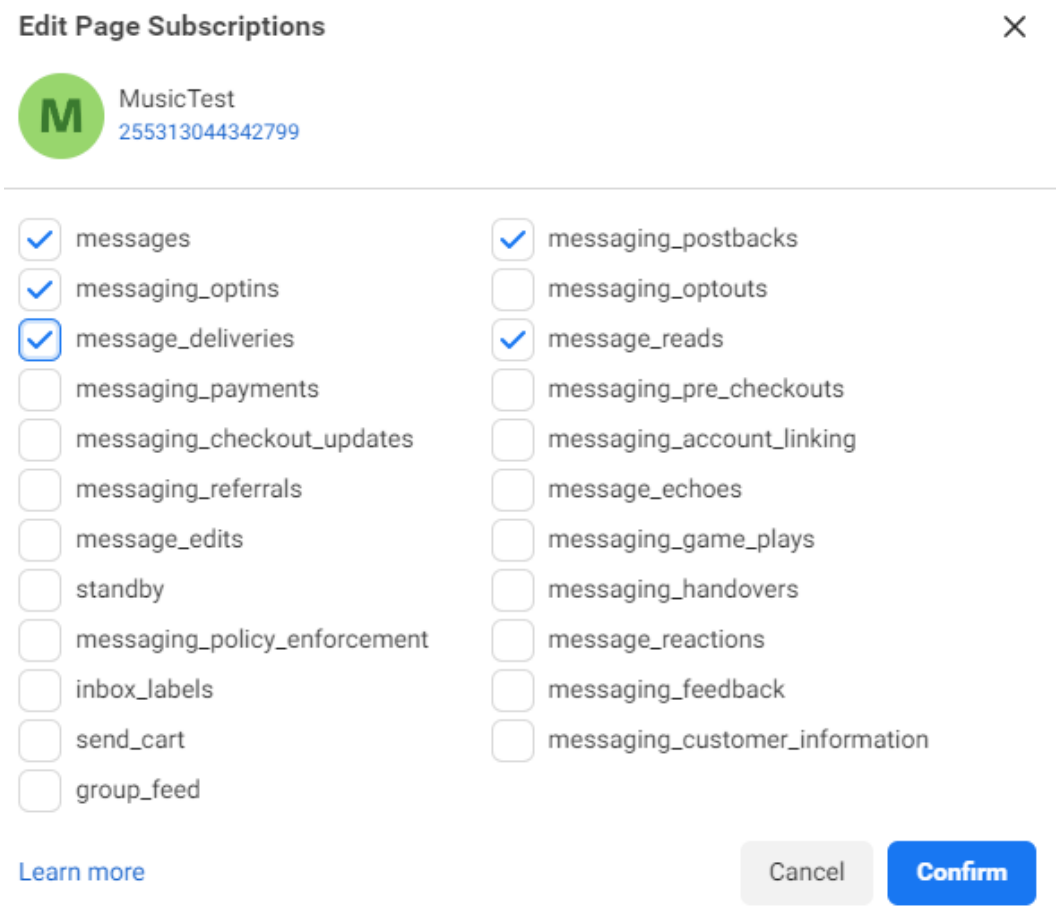
Step 7 Add subscriptions. Before performing this step, ensure that you have configured the Facebook channel in the AICC.

1. Choose **Messenger** > **Messenger API Settings** and click **Add Subscriptions**.



2. Select the **messages**, **messaging_postbacks**, **messaging_optins**, **message_deliveries**, and **message_reads** fields.

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3. Click **Confirm** to complete the subscription configuration.

----End

2.5.4.2 Configuring AICC Information

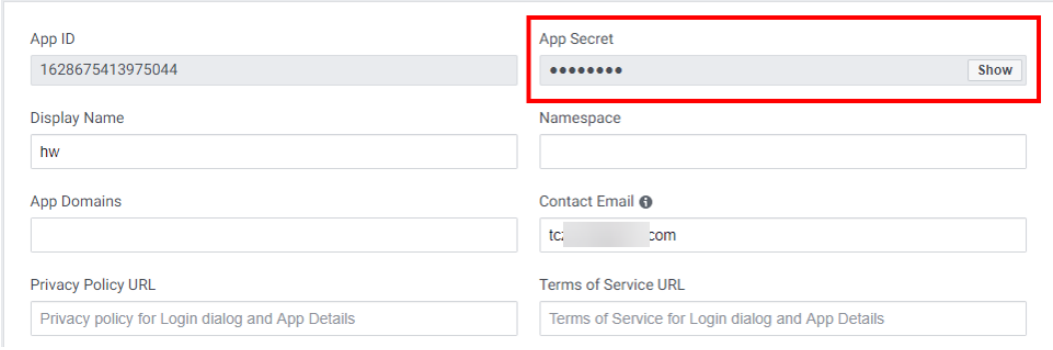
A tenant administrator can configure the Facebook channel for customers to access.

Prerequisites

- The system administrator has uploaded the Facebook authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have obtained developer information from Meta for Developers.

  Visit Meta for Developers at https://developers.facebook.com/ to apply for a developer account. View the account information on the page shown in the following figure.

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Context

- Facebook allows an application to connect to multiple systems, but the AICC requires that one Facebook application connect to one channel to prevent duplicate messages.
- If the app secret and token secret provided by Facebook are changed on Facebook, you need to modify the involved Facebook channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the value of **App Secret**. After saving the channel configuration, click **Configuration** in the **Operation** column corresponding to the involved channel, and update the value of **Token Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-55 Channel information parameters

Parameter	Description
Channel Selection	Select **Facebook**.
App Secret	App secret on Meta for Developers.
Interconnection Encryption Algorithm	Encryption algorithm used for Facebook interconnection. The options are as follows: • **SHA-1** • **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.

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Step 4 Set basic configuration parameters.

Table 2-56 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in Configuring OUs to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see Configuring Called Routes. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**

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Parameter	Description
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see How Do I Enable the Last Agent Mode?
Session End Due to No Customer Reply	For details, see How Do I Set Session End Due to No Customer Reply?
Session Transfer Due to No Agent Reply	For details, see How Do I Set Session Transfer Due to No Agent Reply?
Session Transfer	For details, see How Do I Set Session Transfer?

Step 5 Set robot configuration parameters.

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Table 2-57 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see How Do I Enable Connection to the Intelligent Robot?
Access Robot Assistant	For details, see How Do I Enable Connection to the Robot Assistant?

Step 6 Click **Next** and go to Meta for Developers to configure the URL and verification code.

The URL corresponds to the callback URL of Meta for Developers of the Facebook.

The verification code is the same as the value of **Verify token** on Meta for Developers.

NOTE

If the Facebook release channel of the social media is created based on **2.20.1.2 Creating a Facebook Channel**, **Callback URL** and **Verify token** are automatically configured on Meta for Developers. In this case, you do not need to configure them on Meta for Developers.

Step 7 Visit the URL and click **Submit** to perform token authentication. If the token passes the authentication, the access is successful. Return to the AICC and click **Submit**. The **Successful access** page is displayed.

NOTE

If the Facebook release channel of the social media is created first based on **2.20.1.2 Creating a Facebook Channel**, token authentication is complete. Click **OK** without clicking **Submit**.

----End

Follow-up Procedure

- The Facebook channel supports multiple Facebook home pages, and each Facebook home page can be configured only for one Facebook channel.
  a. Click **Create** to configure multiple home pages for the Facebook channel so that multiple Facebook home pages can be connected to agents.
     i. **Page ID**: home page ID on Meta for Developers
     ii. **TokenSecret**: token secret on Meta for Developers
  b. Click **Save**.
- Export channel information.

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NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

a. Return to the channel list.

b. Select the new channel and click to export the channel information.

c. Click and confirm that **Status** of the export task is **Success**.

d. Click **Download** to obtain the exported channel information.

2.5.4.3 Applying for the Facebook Permission

After applying for the permission, other Facebook users (non-developers) can chat with AICC customer service representatives online through the configured Facebook public home page.

2.5.5 Configuring the 5G RCS Channel

A tenant administrator can configure the 5G RCS channel for customers to access.

Prerequisites

- You have obtained the authentication certificate provided by 5G RCS and uploaded it in **2.17.6 Managing Certificates**.
- After you enter information on the chatbot service platform (CSP) portal or provide enterprise information offline for chatbot registration, the CSP submits an application to China Mobile. After the application is approved, the CSP allocates the chatbot address, app ID, and app secret for enterprise access.

Context

If the chatbot address, app ID, and app secret provided by 5G RSC are changed, you need to modify the involved 5G RCS channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **Chatbot Address**, **App Id**, and **App Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Configure Channel** page is displayed.

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Step 3 Set channel information parameters.

Table 2-58 Channel information parameters

Parameter	Description
Channel Selection	Select **5G RCS**.
Chatbot Address	Unified service address of industry messages. The client can display all notifications based on this address.
App ID	App ID allocated by the developer market.
App Secret	Password allocated by the developer market to the app access key.
Certificate File	Select the uploaded 5G certificate.

Step 4 Set basic configuration parameters.

Table 2-59 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.

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Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	

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Parameter	Description
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**

Step 5 Set robot configuration parameters.

Table 2-60 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 Click **The next step** and go to the 5G RCS configuration page to configure the URL.

----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.

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2. Select the new channel and click  to export the channel information.
3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

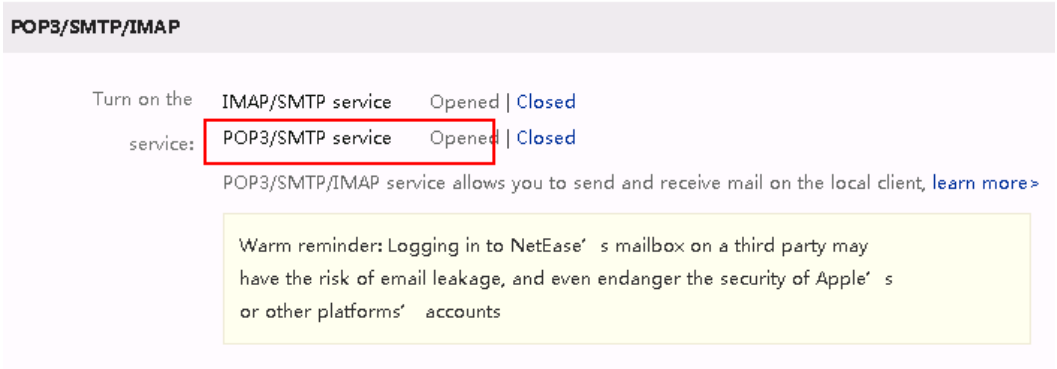
2.5.6 Configuring the Email Channel

A tenant administrator can configure the email channel for customers to access.

Prerequisites

- The AICC can use the SMTP and POP3 services to send and receive emails. Before configuring the email channel, ensure that the SMTP and POP3 services are enabled and the authorization password is correct.

  For example, perform the following setting on the official website of the mailbox service and obtain the authentication password for configuring the connection to the mailbox client.

- The AICC can use the M365 service to send and receive emails. Before configuring the email channel, ensure that the M365 service is enabled, and contact O&M personnel to confirm that the Microsoft Azure account has been applied for and configured during email channel access.

Procedure

Step 1 (Optional) Obtain the certificate file of the email server and upload the certificate.

Dedicated email service providers support the secure SMTP for email sending, POP3 for email receiving, and M365 service for email sending and receiving. Certificate authentication must be enabled for secure email sending and receiving protocols. Therefore, use the secure port provided by the email server provider for security purposes.

Obtain the certificate and upload it by referring to **Managing Certificates**. Set **Certificate Type** to **DER** based on the file name extension.

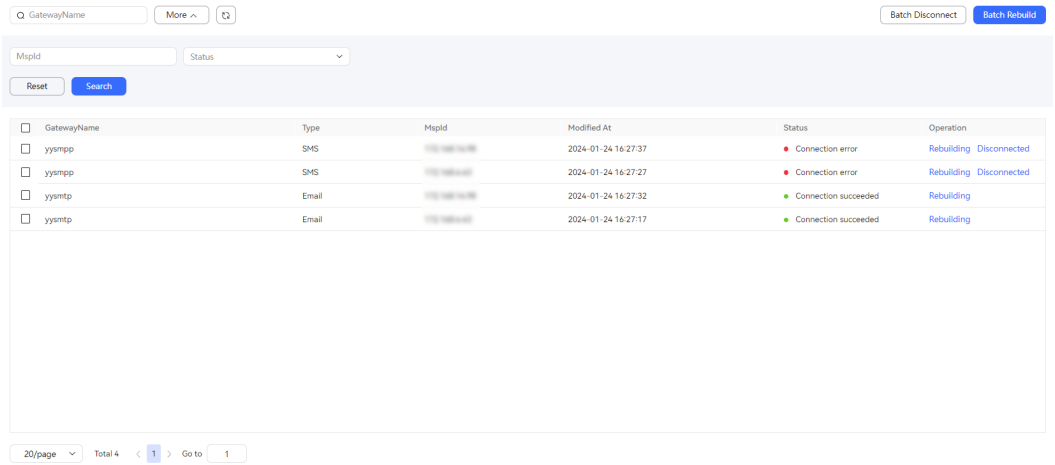
Step 2 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and set parameters.

- The gateway protocol type for email receiving is POP3, and the status of the gateway must be displayed as **Connection succeeded** on the **Gateway Monitoring** page.

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- The gateway protocol type for email sending is SMTP, and the status of the gateway must be displayed as **Connection succeeded** on the **Gateway Monitoring** page.
- The M365 email gateway protocol can be used to send and receive emails. For details about gateway configuration, see **2.11.4.3 Configuring M365 Email Gateways**.

  Note: The M365 email gateway configuration is not displayed on the **Gateway Monitoring** page.



Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 4 Click **New**. The **Configure Channel** page is displayed.

Step 5 Set channel information parameters.

Table 2-61 Channel information parameters

Parameter	Description
Channel Selection	Select **Email**.
Email receiving gateway	Select a configured email receiving gateway. For details about gateway configuration, see **2.11.4.2 Configuring Email Gateways** or **2.11.4.3 Configuring M365 Email Gateways**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the email gateway can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the email gateways under the current OU.

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Parameter	Description
Email sending gateway	Select a configured email sending gateway. For details about gateway configuration, see **2.11.4.2 Configuring Email Gateways** or **2.11.4.3 Configuring M365 Email Gateways**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the email gateway can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the email gateways under the current OU. The default email address of an email sending gateway cannot be the same as the email address of a recipient.
Max. Recipients	Maximum number of recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of recipients forwarded by email agents**. **NOTE** The sum of the values of the three parameters in the **Email Address Quantity Configuration** area cannot exceed 100.
Max. Cc Recipients	Maximum number of Cc recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of Cc by email agents**.
Max. Bcc Recipients	Maximum number of Bcc recipient email addresses. If this parameter is not set, the maximum number is determined by the tenant parameter **Maximum number of Bcc by email agents**.
Reply with Personal Email	This function is disabled by default. If the employee account is set to an email address, the employee account can be used to reply to emails after this function is enabled.
Email Signature	This function is disabled by default. For details about email signature configuration, see **2.11.6 Managing Email Signatures**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the email signature can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the email signatures under the current OU.

Step 6 Set basic configuration parameters.

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Table 2-62 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**

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Parameter	Description
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**
Auto Reply	For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?** Automatic email reply can be configured through the intelligent robot. For details, see **2.5.12.13 How Do I Set Automatic Email Reply?**
Auto-reply interval	Set the auto reply interval. Value range: a positive integer ranging from 0 to 168

Step 7 Set robot configuration parameters.

Table 2-63 Robot configuration parameters

Parameter	Description
Robot Configuration	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**

Step 8 Click **Save**.

NOTE

In addition, the system automatically creates a message route based on the selected email receiving gateway on the **Configuration Center** > **Access Configuration** > **Notification Route** page.

----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.

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3. Click  and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.7 Configuring the LINE Channel

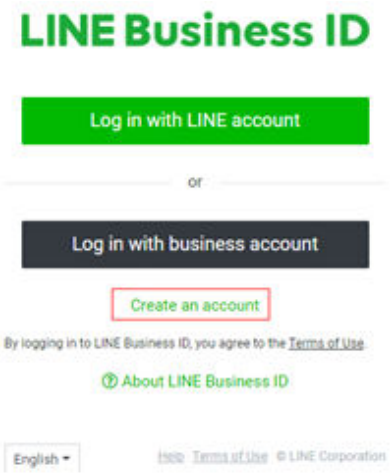
A tenant administrator can configure the LINE channel for customers to access.

Prerequisites

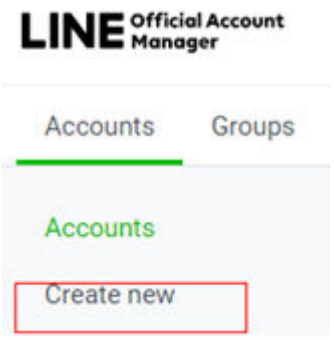
NOTE

This feature applies only to regions outside the Chinese mainland.

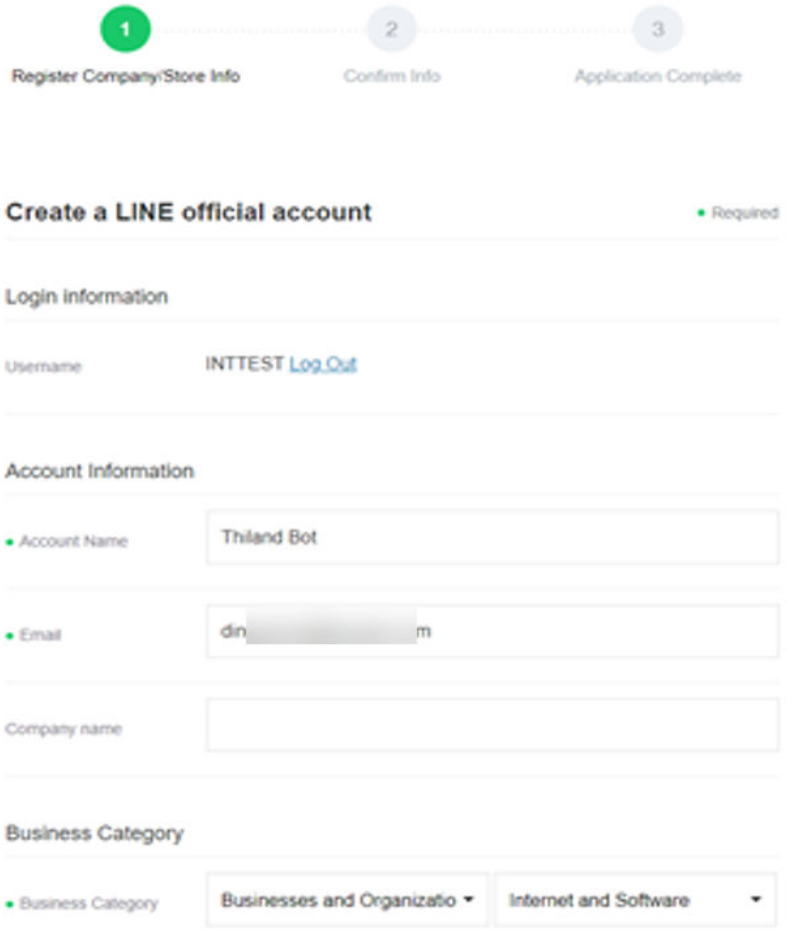
- The system administrator has uploaded the LINE authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have applied for a LINE account (used to bind a payment method for package purchase).
  a. Access the LINE Official Account Manager (**https://manager.line.biz/**) and register a LINE business account.



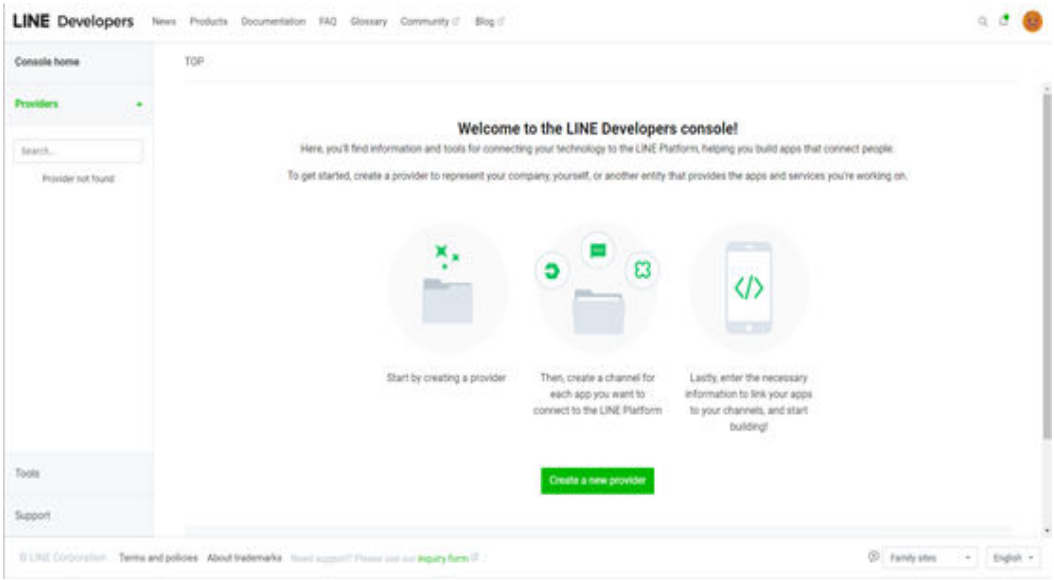
  b. Create an official account in the LINE Official Account Manager (**https://manager.line.biz/**).



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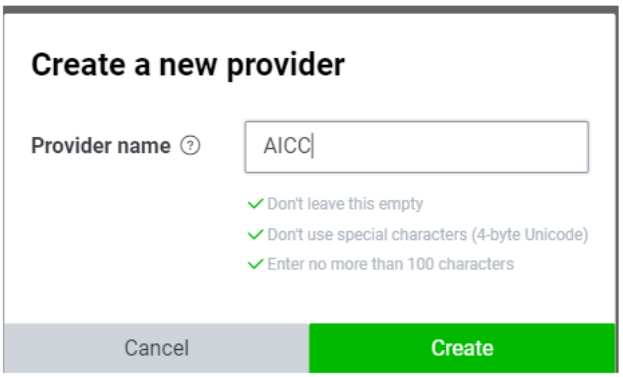


c. Use the LINE business account to log in to the LINE Developers console (**https://developers.line.biz/console/**) to create a provider.



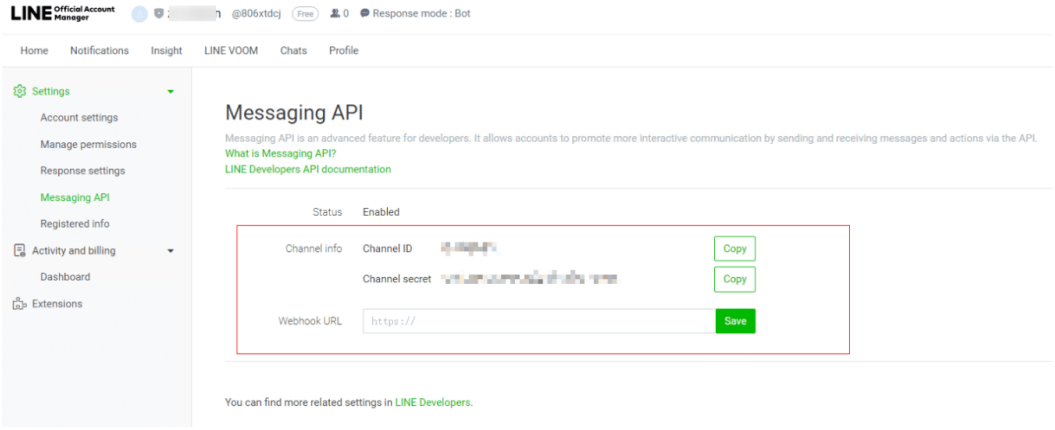
d. Click **Create a new provider** to create a provider.

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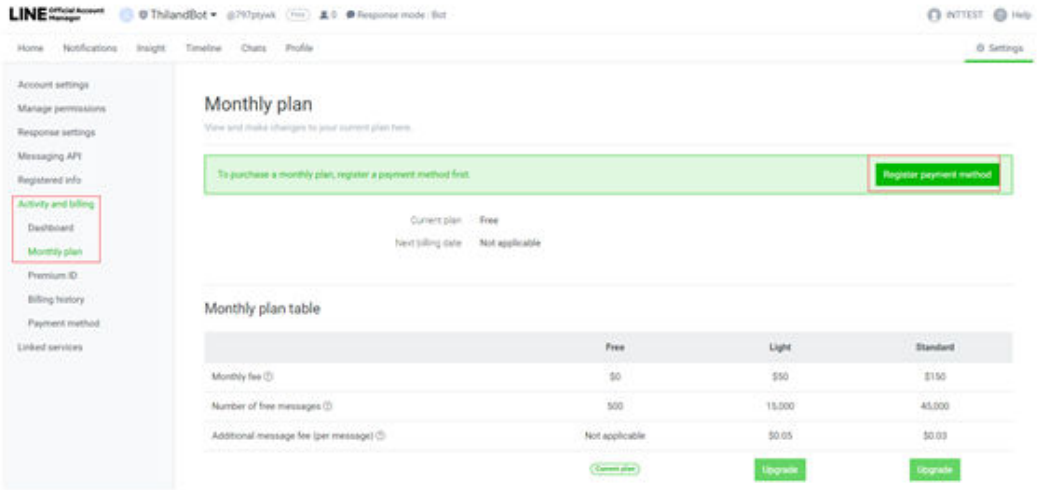


e. In the LINE Official Account Manager (**https://manager.line.biz/**), click **Settings** in the upper right corner, choose **Messaging API** from the navigation pane, and select the provider created in the previous step when enabling the messaging API.

   Record the values of **Channel ID** and **Channel Secret**, which will be used for configuring the LINE channel in the AICC.



f. In the LINE Official Account Manager (**https://manager.line.biz/**), bind a payment method and purchase a package.

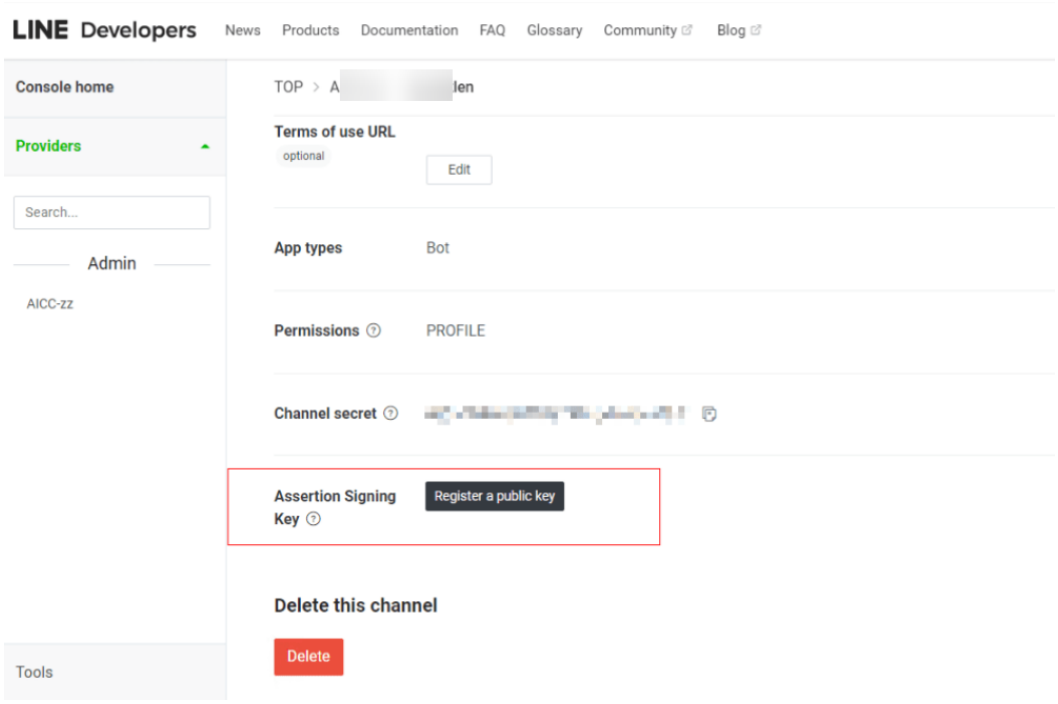


g. On the LINE Developers console (**https://developers.line.biz/en/docs/messaging-api/generate-json-web-token/#create-an-assertion-**

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signing-key), generate **private.key** and **public.key** by referring to "Generate using browser" and save them to the local PC.

h. On the LINE Developers console (**https://developers.line.biz/console/**), click **Register a public key** and enter the **public.key** value generated in the previous step to generate a key ID.

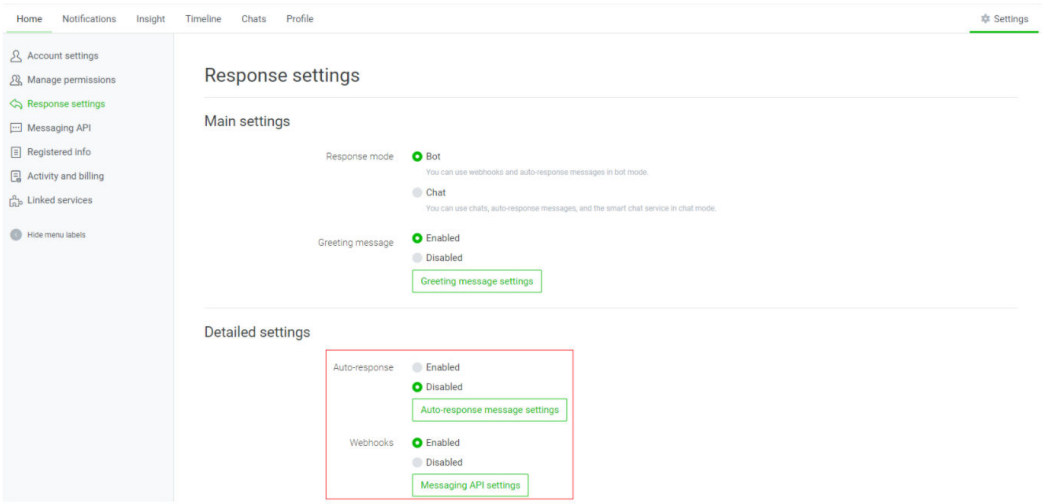


Save the generated kid value to the JSON structure of **private.key**. The following is an example of the JSON content. Record the JSON structure content, which will be used for configuring the LINE channel in the AICC.

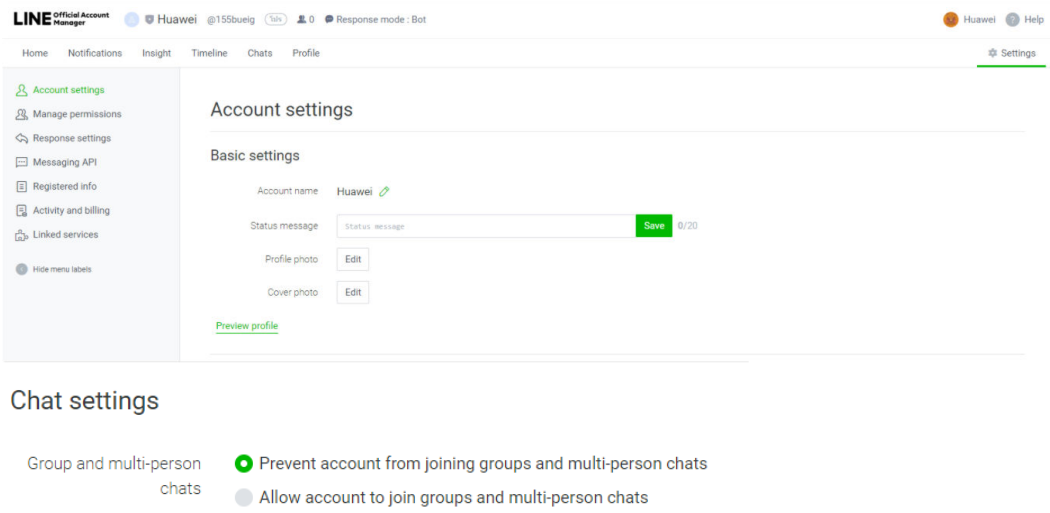
```
{
"alg": "RS256",
"d": "FeBYAkika**********gF_oQ",
"dp": "Xx3YZ**********bRo03E",
"dq": "f8hijP**********SOBWmqE",
"e": "AQAB",
"ext": true,
"key_ops": [
"sign"
],
"kty": "RSA",
"n": "wOaQQ5n**********wLTkY6oWQ",
"p": "-_yu-Tea**********NdFo--2Dk",
"q": "w_j-Lkd**********BhESE",
"qi": "ppVDVR**********IR9EoxbI",
"kid": "2b3599**********4aed014"
}
```

i. In the LINE Official Account Manager, disable **Auto-response** and enable **Webhooks**.

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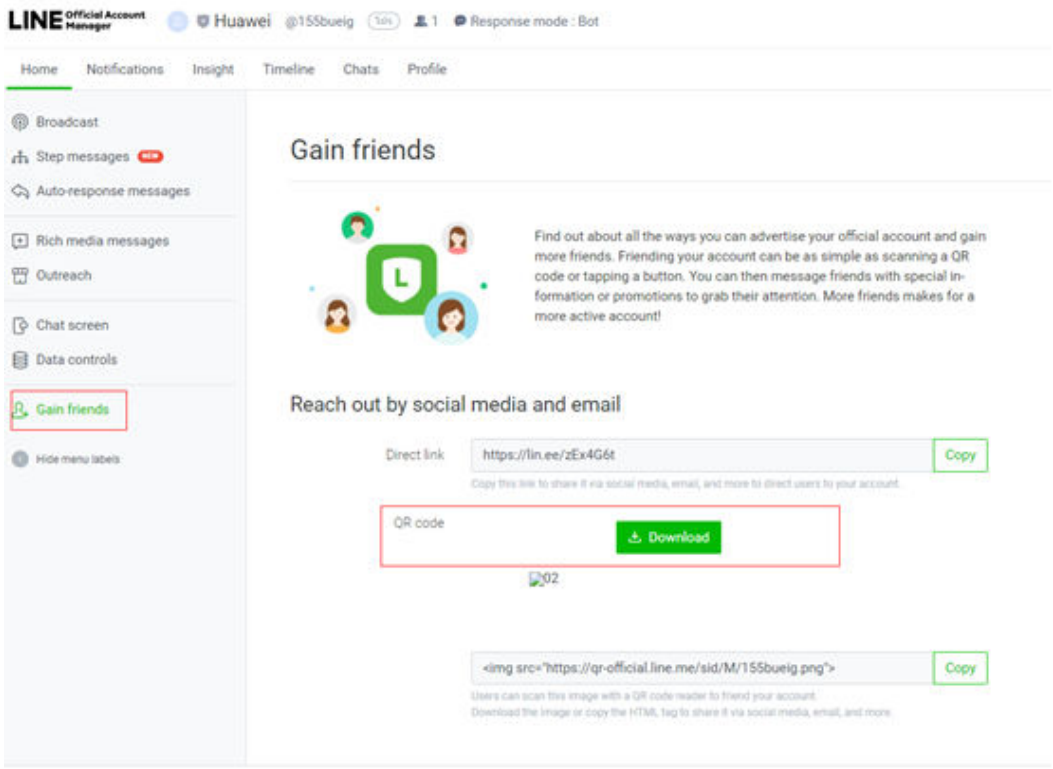


j. In the LINE Official Account Manager, disable **Group and multi-person chats**.

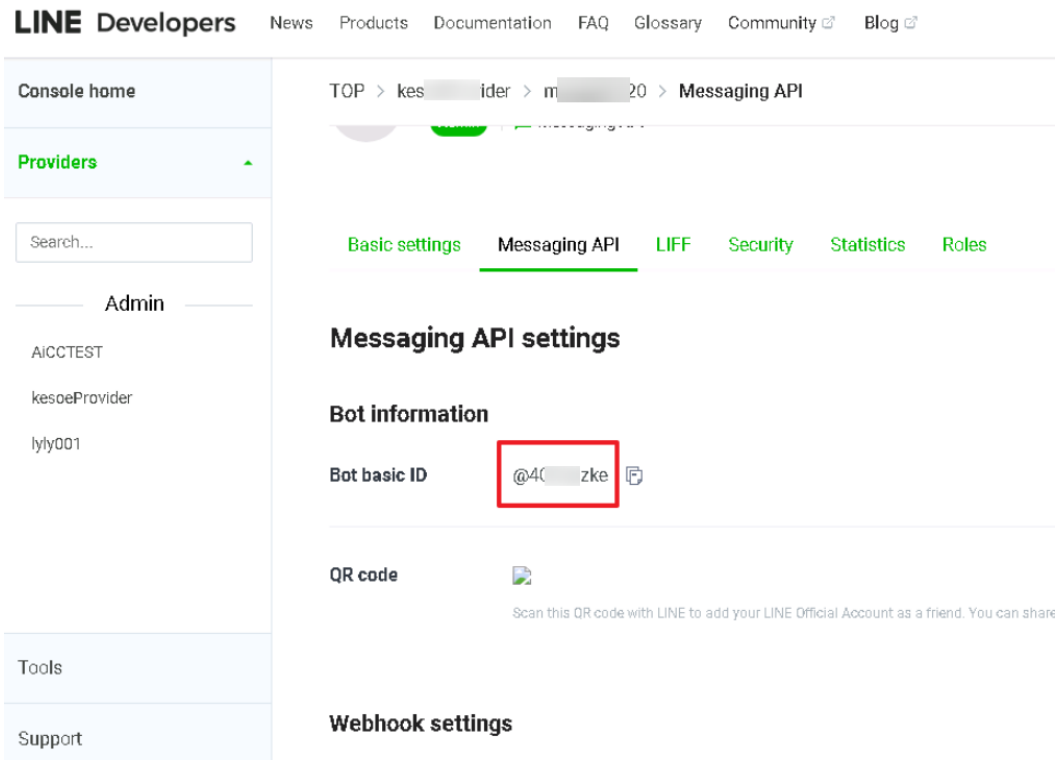


k. Unauthenticated official accounts cannot be found. You can download the QR code from the LINE Official Account Manager and scan the QR code on a mobile phone to add an official account.

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You can also view **Bot basic ID** of the official account by referring to the following figure. The LINE user can search for the value of **Bot basic ID** in **Search** to initiate a chat to the official account.



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Context

If the channel ID, channel secret, and assertion signing key provided by LINE are changed, you need to modify the involved LINE channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **Channel ID**, **Channel secret**, and **Assertion Signing Key**

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Create Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-64 Channel information parameters

Parameter	Description
Channel Selection	Select **LINE**.
Channel ID	Enter the value of **Channel ID** obtained from the LINE.
Channel secret	Enter the value of **Channel Secret** obtained from the LINE.
Assertion Signing Key	Enter the JSON structure of **private.key** obtained from LINE after the kid value is added.
Interconnection Encryption Algorithm	Encryption algorithm used for LINE interconnection. The options are as follows: • **SHA256WithRSA** • **SHA256WithPSS** **NOTE** SHA-256 with RSA is not strong enough, which poses security risks. If the platform supports SHA-256 with PSS, you are advised to use this algorithm, which is stronger.

Step 4 Set basic configuration parameters.

Table 2-65 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.

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Parameter	Description
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.

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Parameter	Description
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**

Step 5 Set robot configuration parameters.

Table 2-66 Robot configuration parameters

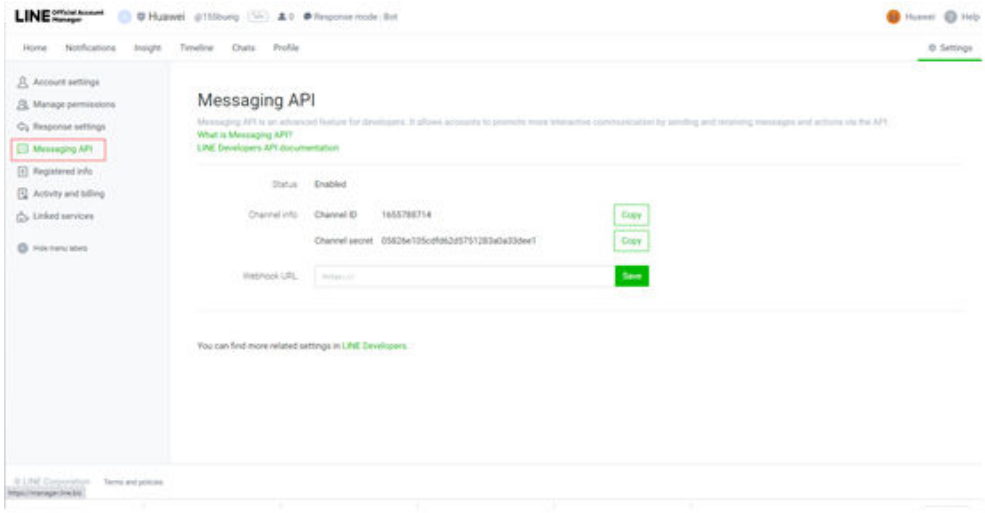
Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

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Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 Configure the Webhook URL in LINE.

After the LINE channel is created on the channel configuration page in the AICC, the Webhook URL can be obtained. In the LINE Official Account Manager (**https://manager.line.biz/**), select the official account to be configured, click **Settings** in the upper right corner, choose **Messaging API** from the navigation pane, and set **Webhook URL**.



----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.8 Configuring the WhatsApp Channel

A tenant administrator can configure the WhatsApp channel for customers to access.

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Prerequisites

NOTE

- This feature applies only to regions outside the Chinese mainland.
- The network between the WhatsApp service provider and the AICC is normal.

You have obtained the following information from the WhatsApp service path supplier:

- **infobip**
  - Phone number for registering a WhatsApp service path provider user
  - Username for registering with the WhatsApp service path provider
  - Password for registering with the WhatsApp service path provider
  - API URL prefix provided by the WhatsApp service path provider. An application has been submitted to the system administrator and approved to add the API URL prefix to the address trustlist.

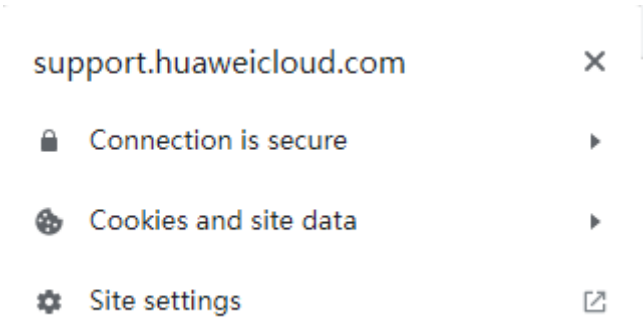
    This information corresponds to the value of **BaseUrl** in the AICC.
  - Account key provided by the WhatsApp service path provider for authentication
  - Webhook password, which is the authentication password for the channel to receive messages. The webhook password is customized by channel configuration personnel. After the channel is configured, you need to notify Infobip of the webhook password, which corresponds to the account key of the webhook API in Infobip.
  - Authentication certificate. To obtain the authentication certificate, perform the following steps:

    i. Visit the following website:

    - **https://api.infobip.com/**
    - API URL prefix provided by Infobip, for example, https://***.api-us.infobip.com/

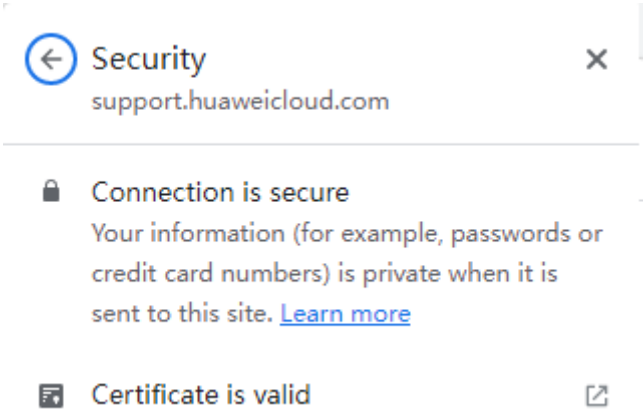
    ii. Export a certificate from the browser. The following describes how to export a certificate from **https://api.infobip.com/**.

    1) Click  in the address box. The following information is displayed.

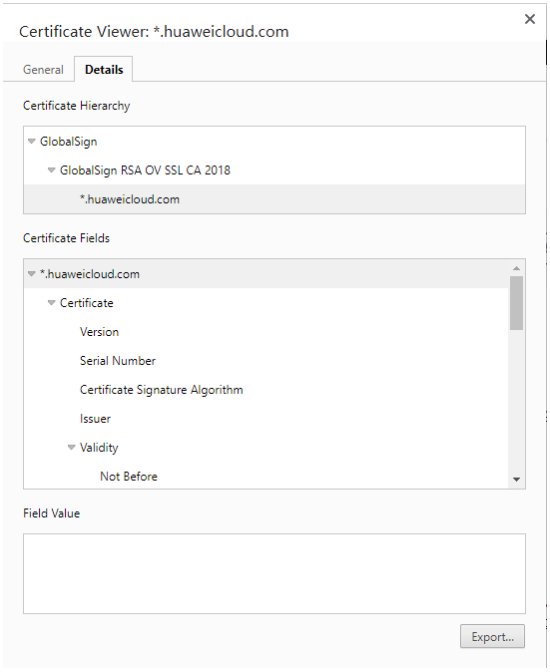


    2) Choose **Connection is secure** > **Certificate is valid** to view certificate information.

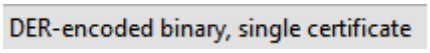
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3) Click **Export** and select a local path to save the certificate.



Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.



4) Click **Save** to export the certificate to the local PC.

iii. Repeat the preceding operations to export a certificate from https://***.api-us.infobip.com/.

iv. Combine the two certificates into a JKS certificate. You can use the certificate combination tool Portecle to combine the certificates.

Download URL: **https://sourceforge.net/projects/portecle/**

Procedure: The Java running environment must be available.

1) Open the CLI and go to the directory where **portecle.jar** is stored.
2) Run the **java -jar portecle.jar** command to run Portecle.
3) Choose **File** > **New Keystory Type**, select **JKS**, and click **OK**.

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4) Click  and upload an obtained browser certificate to Portecle.

You need to run the command twice.

5) Click  , enter a new certificate password, and click **OK**.

6) Enter a new certificate name, which is customized, and click **Save**.

v. Upload the authentication certificate by referring to **2.17.6 Managing Certificates**.

- **other**: The customer implements the BSP to connect to WhatsApp. The current version supports only ITAU.

  NOTE

  When **WhatsApp Business Solution Provider** is set to **other**, the options of **Verification Method** are as follows:

  - **basic**: direct authentication of the WhatsApp service path provider
  - **oAuth**: authentication of the WhatsApp service path provider using an API

  The information to be obtained varies according to the value of **Verification Method**.

  – Phone number for registering a WhatsApp service path provider user

    This item is not required when **Verification Method** is set to **oAuth**.

  – Username for registering with the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, you need to contact the system administrator to obtain the app key of the app that has subscribed to the sendWhatsappMessage API and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app key in the **UserName** text box.

  – Password for registering with the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, you need to contact the system administrator to obtain the app secret of the app that has subscribed to the sendWhatsappMessage API and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret in the **Password** text box.

  – API URL prefix provided by the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, the API URL prefix must be **https://***IP address:Port number*/**apiaccess/rest/ccmessaging**, where *IP address:Port number* indicates the IP address and port number for signing in to the AICC and can be replaced with a domain name.

  – Authentication key provided by the WhatsApp service path provider

    This item is not required when **Verification Method** is set to **oAuth**.

  – Authentication password for the channel to receive messages

  – Trust certificate provided by the WhatsApp service path provider. You have uploaded it by referring to **2.17.6 Managing Certificates**.

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- Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing Certificates**.

  This item is not required when **Verification Method** is set to **oAuth**.

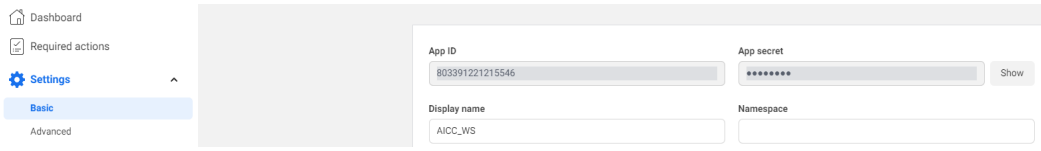
- **cloud-api**
  - Information about the app created on Meta for Developers

    i. Log in to Facebook using a Meta for Developers account and access https://developers.facebook.com/apps to create an app.

    Click **Other**, select the **Business** type, customize the app name, and retain other default settings.

    ii. Return to https://developers.facebook.com/apps, find the new app, copy the app ID, access https://developers.facebook.com/apps/*App ID*/settings/basic, and view the app information. *App ID* is the copied app ID.

    Figure 2-109 Obtaining app information

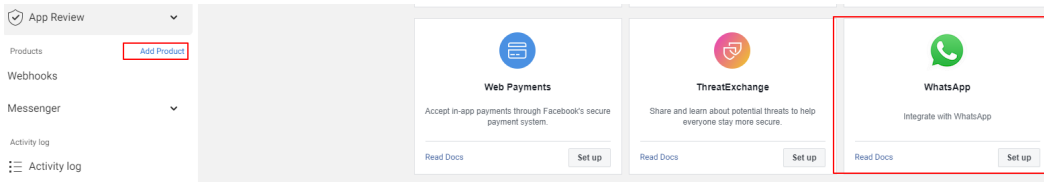
    

    The app ID corresponds to the value of **APP Key** in the channel configuration in the AICC.

    The app secret corresponds to the value of **APP Secret** in the channel configuration in the AICC.

    iii. Add the WhatsApp product to the app.

    Figure 2-110 Adding the product

    iv. Choose **WhatsApp** > **Quickstart** to configure the quick start.

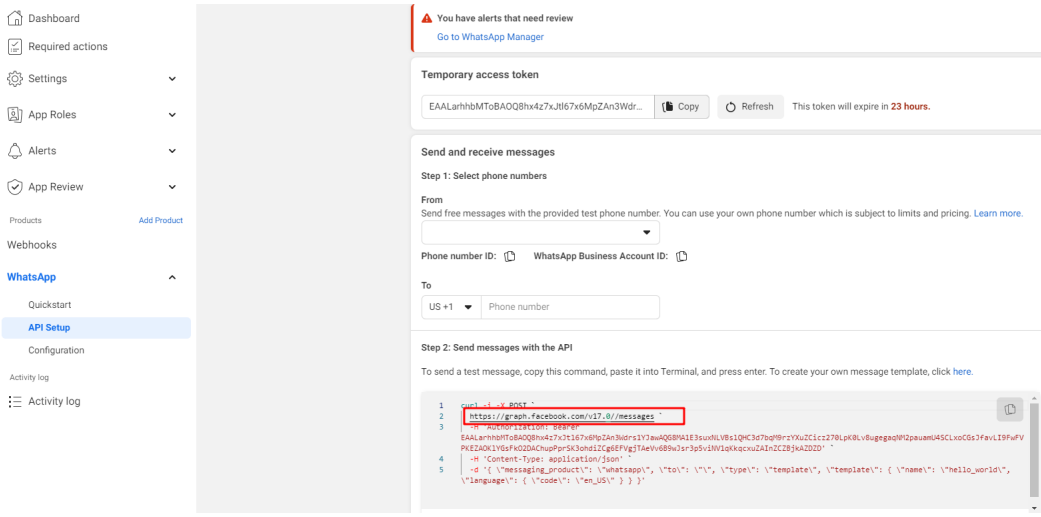
    If the advertisement placement function is disabled for the Facebook account, you need to apply for enabling the function.

    v. Choose **WhatsApp** > **API Setup** and obtain the phone number and base URL.

    - The test number corresponds to the value of **Phone Number** in the AICC.
    - The URL in the red box corresponds to the value of **BaseUrl** in the AICC.
    - The recipient number is the mobile number of an object served through the WhatsApp channel and is a mobile number. The recipient number needs to be manually added so that the customer can access the WhatsApp channel.

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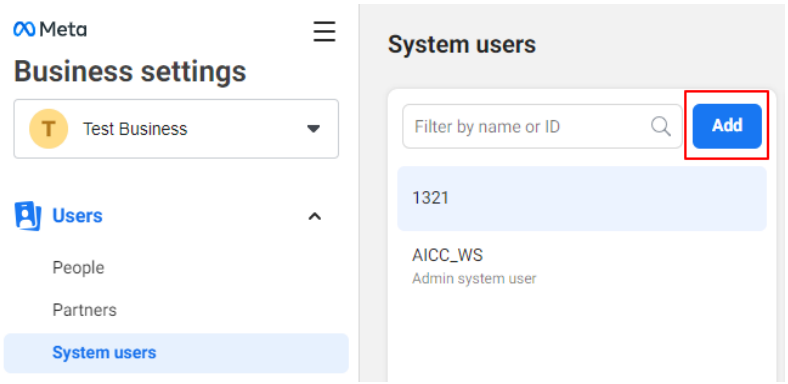
Figure 2-111 Obtaining the phone number and base URL



vi. Access https://business.facebook.com/settings/system-users, select the business of the app, choose **Users** > **System users**, and add an administrator.

Customize **System user name** and set **System user role** to **Employee**.

Figure 2-112 Adding an administrator



vii. Add assets and generate a new token.

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Figure 2-113 Adding assets

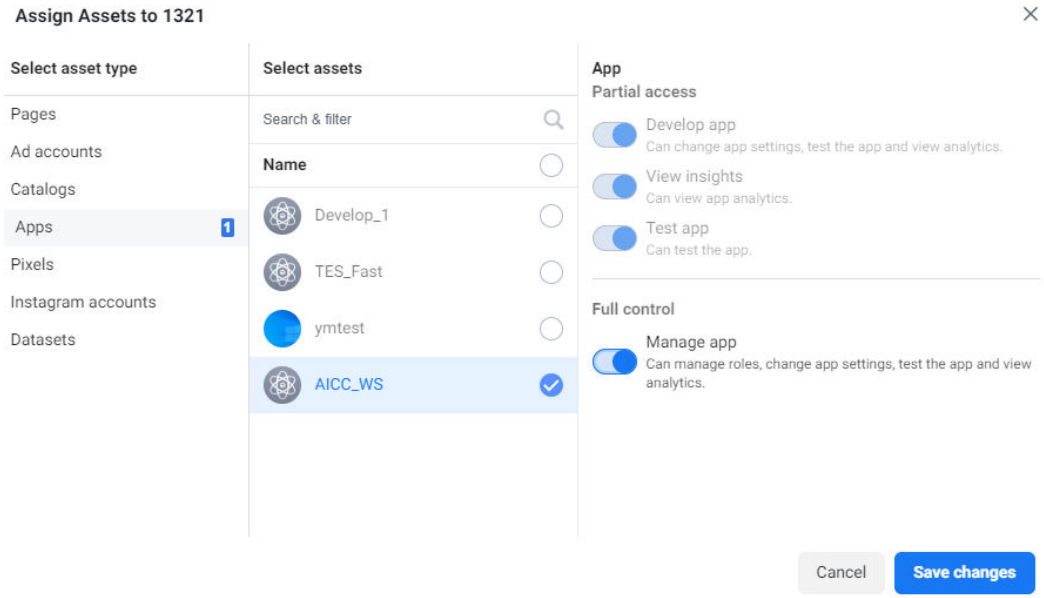
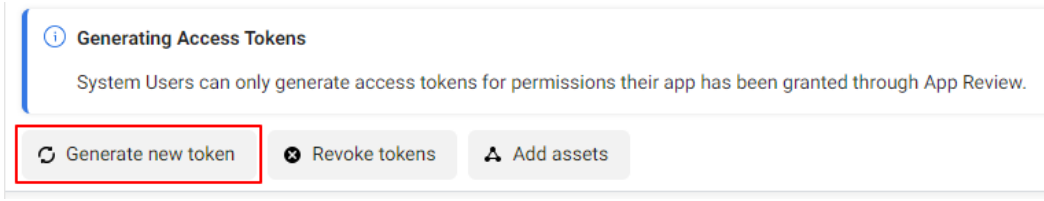


Figure 2-114 Generating a new token



The generated token must have the **whatsapp_business_messaging** and **whatsapp_business_management** permissions.

The generated token corresponds to the value of **access token** in the channel configuration in the AICC.

When generating the token, you need to select a validity period, which corresponds to the token validity period in the AICC.

- Trust certificate. You have uploaded it by referring to **2.17.6 Managing Certificates**.
  - In China: Direct access to https://graph.facebook.com/v8.0 is restricted. You need to configure a proxy server and obtain the trust certificate of the proxy server. The certificate must be in .der format.
  - Outside China: Access https://graph.facebook.com/v8.0 and export the certificate using a browser. The certificate must be in .der format.
- Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing Certificates**.

  Access the current system and export the certificate using a browser.

- **Twilio**:
  - Phone number for registering a WhatsApp service provider user
  - **API Key SID** for registering a WhatsApp service provider

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- **API Key Secret** for registering a WhatsApp service provider
- API URL prefix provided by the WhatsApp service provider. An application has been submitted to the system administrator and approved to add the API URL prefix to the address trustlist.

  This information corresponds to the value of **BaseUrl** in the AICC, for example, **https://api.twilio.com/2010-04-01**.
- **Account SID** provided by the WhatsApp service provider for authentication
- Webhook user, which is the authenticated user for the channel to receive messages. The webhook user is customized by channel configuration personnel. After the channel is configured, you need to notify Twilio of the webhook user, which corresponds to the username of the webhook API in Twilio.
- Webhook password, which is the authentication password for the channel to receive messages. The webhook password is customized by channel configuration personnel. After the channel is configured, you need to notify Twilio of the webhook password, which corresponds to the password of the webhook API in Twilio.
- Authentication certificate. To obtain the authentication certificate, perform the following steps:

  i. Visit the following website:
     - https://api.twilio.com/

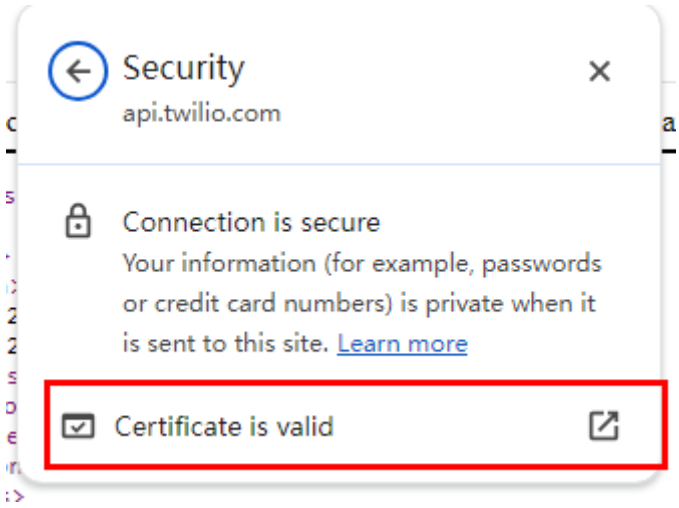
  ii. Export a certificate from the browser. The following describes how to export a certificate from https://api.twilio.com/.

     1) Click  in the address box. The following information is displayed.



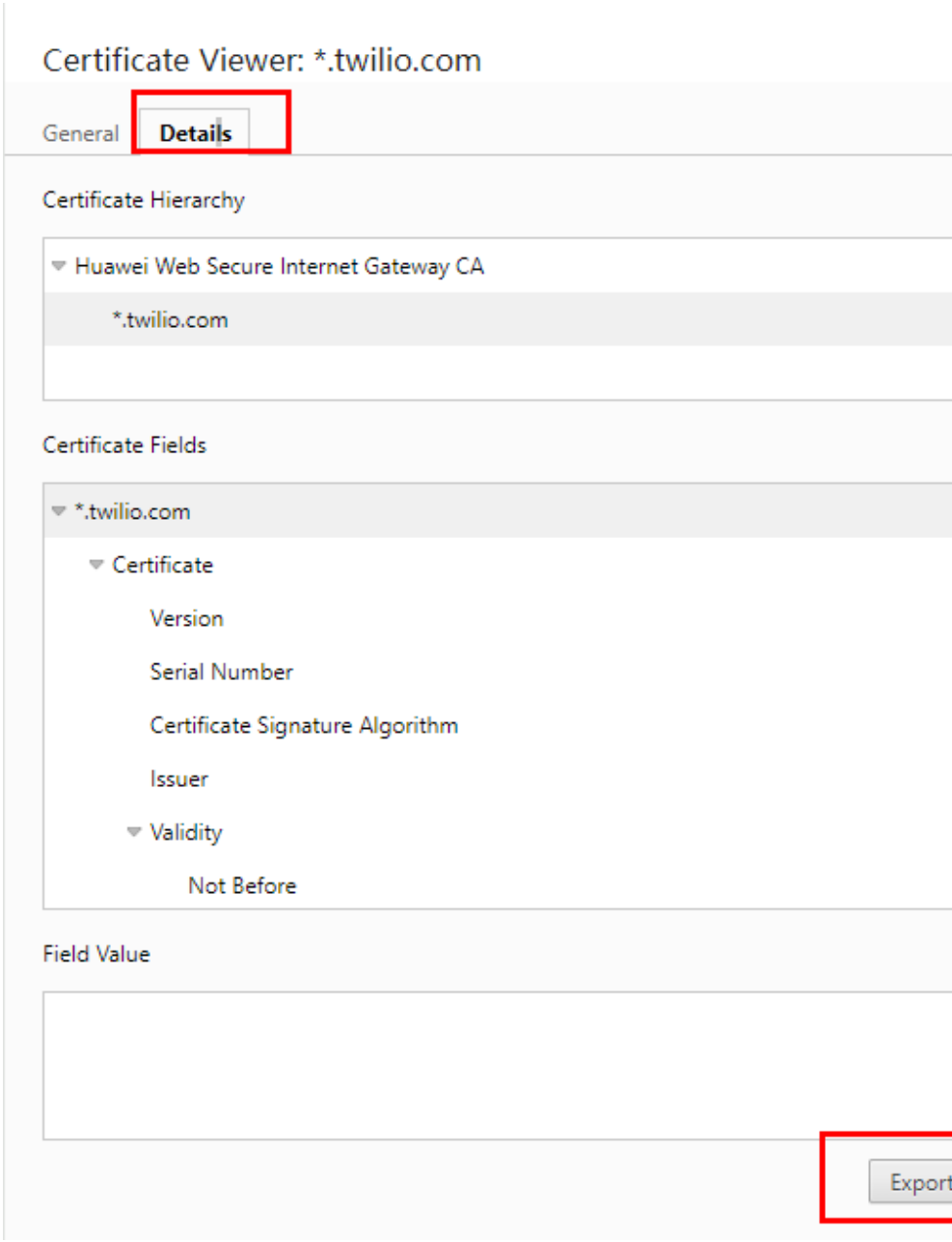
     2) Choose **Connection is secure** > **Certificate is valid** to view certificate information.

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3) Click **Export** and select a local path to save the certificate.

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Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.

DER-encoded binary, single certificate

4) Click **Save** to export the certificate to the local PC.

iii. Upload the authentication certificate by referring to **2.17.6 Managing Certificates**.

Access the current system and export the certificate using a browser.

- **gupshup**
  - Phone number for registering a WhatsApp service provider user
  - App name of the registered WhatsApp service provider.
  - App ID of the registered WhatsApp service provider.

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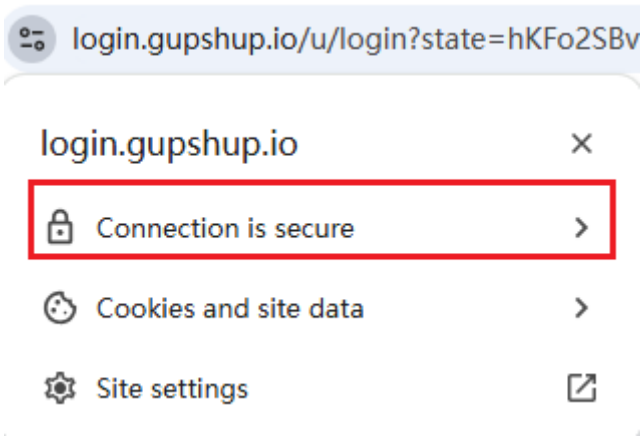
- API URL prefix provided by the WhatsApp service provider. An application has been submitted to the system administrator and approved to add the API URL prefix to the address trustlist.

  The value corresponds to the BaseUrl on the AICC, for example, **https://api.gupshup.io**.
- API key provided by the WhatsApp service provider for authentication.
- Webhook name defined by the channel configuration personnel.
- Webhook password/Webhook confirm password, which is the authentication password for the channel to receive messages and is defined by the channel configuration personnel.
- Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing Certificates**.
- Trust certificate provided by the WhatsApp service path provider.

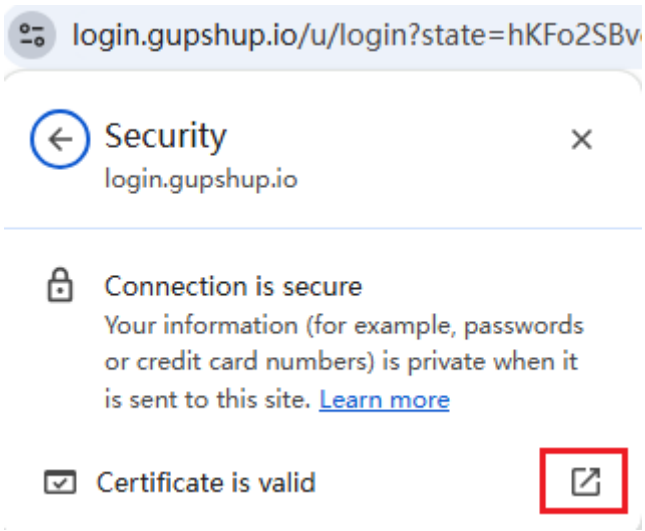
  i. Visit the website: https://login.gupshup.io/u/login.

  ii. Export a certificate from the browser.

  1) Click in the address box. The following information is displayed.

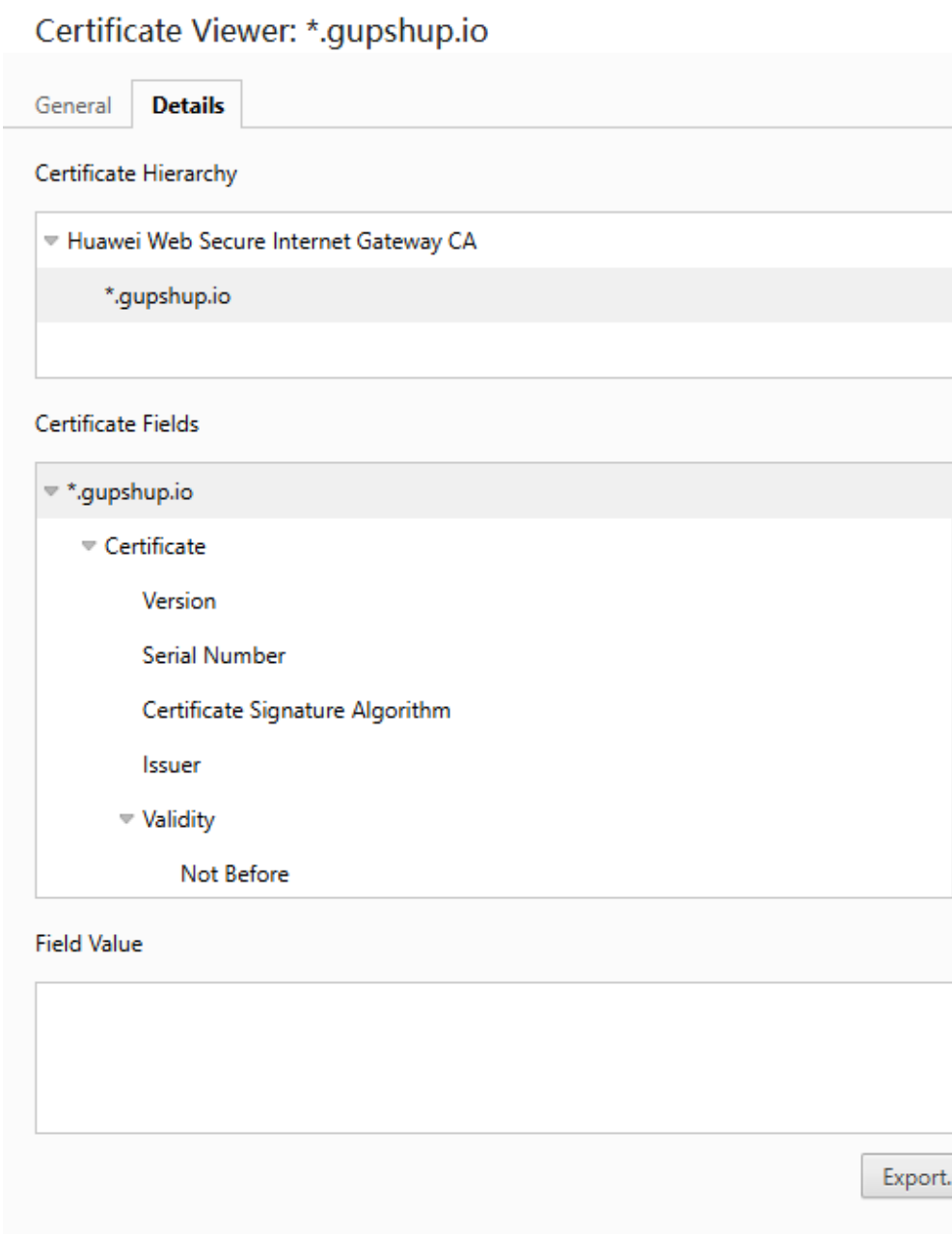


  2) Choose **Connection is secure** > **Certificate is valid** to view certificate information.



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3) Click **Export** and select a local path to save the certificate.



Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.



4) Click **Save** to export the certificate to the local PC.

iii. Upload the authentication certificate by referring to **2.17.6 Managing Certificates**.

- **KooMessage**

  a. The channel configuration personnel have the permission of a Huawei Cloud IAM user and have passed the enterprise authentication.

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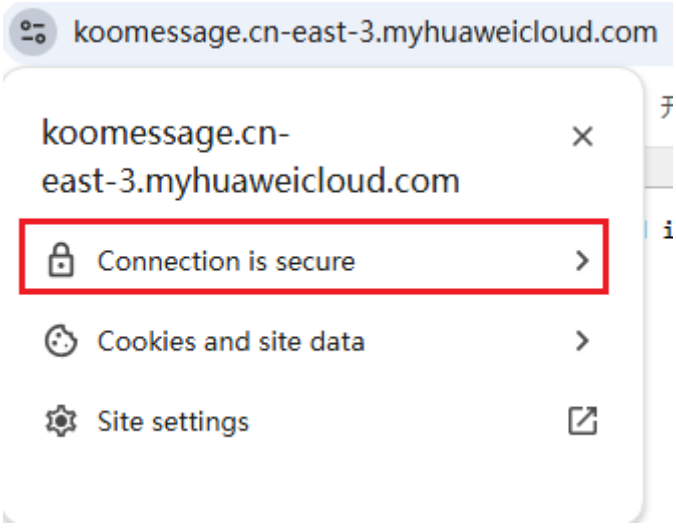
b. You have purchased KooMessage and enabled the service for interconnecting with WhatsApp.

c. KooMessage and channel configuration personnel provide the following information:

- Tenant name of the Huawei Cloud enterprise user, that is, **Domain** in the AICC.
- Huawei Cloud enterprise user name: **IAM user name** in the AICC.
- The URL for Huawei Cloud enterprise user login authentication, that is, **IAM Url** in the AICC. The URL has been applied for and approved by the system administrator, and added to the address trustlist.
- Endpoint of Huawei Cloud KooMessage: **BaseUrl** in the AICC. It has been applied for and approved by the system administrator, and added to the address trustlist.
- Sender number of the user: **Phone Number** in the AICC.
- Password of the Huawei Cloud enterprise user: **IAM user password** in the AICC.
- **Webhook Password**/**Webhook Confirm Password**, which is the authentication password for the channel to receive messages and is defined by the channel configuration personnel.
- **Trust certificate**: Obtain the trust certificate in the following way:

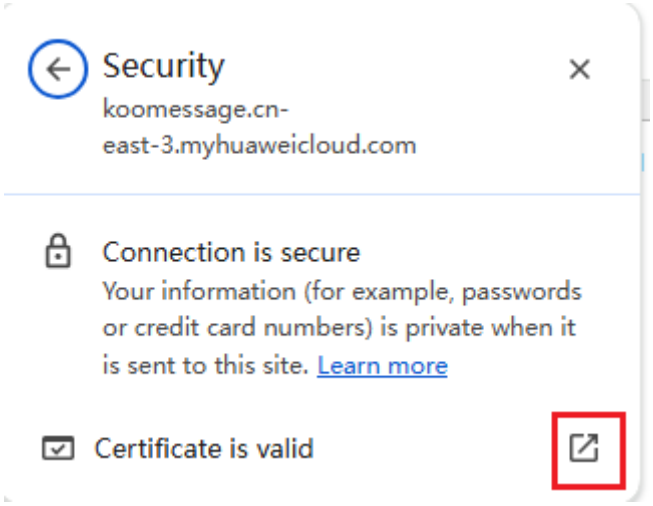
  1) Access the endpoint of Huawei Cloud KooMessage using a browser. An example address is https://koomessage.cn-east-3.myhuaweicloud.com.

  2) Click  in the address box. The following information is displayed.

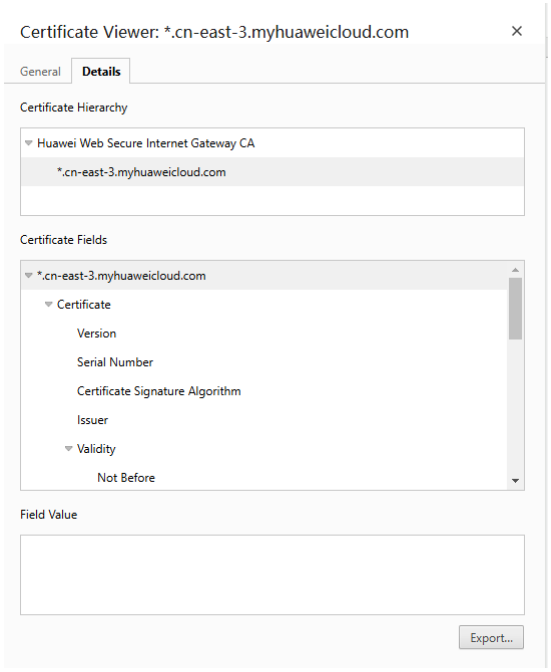


  3) Choose **Connection is secure** > **Certificate is valid** to view certificate information.

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4) Click **Export** and select a local path to save the certificate.



Customize the value of **File name** and set **Save as type** to **DER-encoded binary, single certificate**.



5) Click **Save** to export the certificate to the local PC.
6) Upload the authentication certificate by referring to **2.17.6 Managing Certificates**.

- **Identity certificate**: Access the current system, export the certificate using a browser, and upload the certificate in **2.17.6 Managing Certificates**.

Context

If the information provided by the WhatsApp service path provider is changed, you need to modify the involved WhatsApp channel as follows: Sign in as a tenant

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administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **UserName**, **Password**, **BaseUrl**, and **AccountKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **New**. The **Configure Channel** page is displayed.

Step 3 (Optional) Configure WhatsApp Twilio Webhook.

NOTE

For the Twilio channel, after the tenant parameter **Indicates whether to enable tenant-level WhatsApp Twilio Webhook configuration.** is enabled, tenant-level webhook information can be configured independently. For details, see **2.17.3 Setting Tenant Parameters**.

1. On the **Configuration Center** > **Employee Center** > **Role** page, check whether the current user has the **Edit WhatsApp Twilio Webhook Configuration** permission. If no, add the permission.
2. Click **WhatsApp Twilio Webhook Configuration**.
3. Configure webhook information.

Table 2-67 Webhook configuration information

Parameter	Description
Webhook User	Enter a webhook user.
Webhook Password	– These two parameters are user-defined. After changing the value, you need to notify Infobip offline. To set the password validity period, the tenant administrator can choose **Configuration Center** > **System Management** > **Tenant Parameter** and change the value of **WhatsApp Webhook Password Authentication Validity Period**. The value ranges from 7 to 365, in days. The default value is **90**. – This parameter is not displayed on the page when **Indicates whether to enable tenant-level WhatsApp Twilio Webhook configuration.** is set to **Yes**.
Webhook Confirm Password	

4. Click **OK**.

   When the password expires, the tenant administrator receives an internal message indicating that the password has expired.

Step 4 Set channel information parameters.

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Table 2-68 Channel information parameters

Parameter	Description
Channel Selection	Select **WhatsApp**.
Business Solution Provider	Value options: • **infobip** • **other** • **cloud-api** • **twilio** • **gupshup** • **KooMessage**

Set other parameters based on the information obtained in **Prerequisites**.

Step 5 Set basic configuration parameters.

Table 2-69 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in Configuring OUs to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see Configuring Called Routes. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.

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Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	

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Parameter	Description
Last Agent Mode	For details, see How Do I Enable the Last Agent Mode?
Session End Due to No Customer Reply	For details, see How Do I Set Session End Due to No Customer Reply?
Session Transfer Due to No Agent Reply	For details, see How Do I Set Session Transfer Due to No Agent Reply?
Session Transfer	For details, see How Do I Set Session Transfer?
Offline Messages	For details, see How Do I Enable Offline Messages?

Step 6 Configure electronic name card information.

Figure 2-115 Electronic name card switch

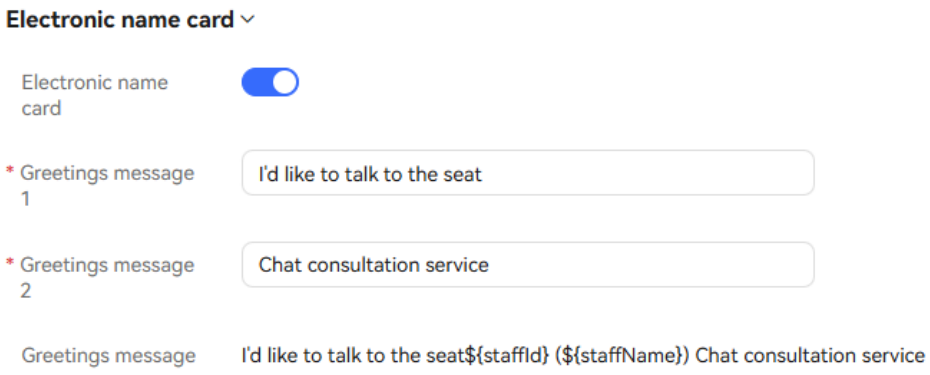


Table 2-70 Electronic name card configuration parameters

Parameter	Description
Electronic name card	Switch indicating whether to enable the electronic name card. It is disabled by default. Value options: • : disabled • : enabled
Greetings message 1	Customized greeting message 1.

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Parameter	Description
Greetings message 2	Customized greeting message 2.
Greetings message	This field is read-only and contains variable values. It consists of greetings message 1, greetings message 2, and preset variable placeholders for preview by configuration personnel. For example, **I'd like to talk to the seat*${staffId}* (*${staffName}*) Chat consultation service**. The total length of the field (including the variable values and the parentheses and spaces before and after the variable values) cannot exceed 255 characters.

Step 7 Set robot configuration parameters.

Table 2-71 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 8 Click **The next step**. The **Channel Integration** page is displayed.

- If the WhatsApp service provider is **infobip**, the following page is displayed.

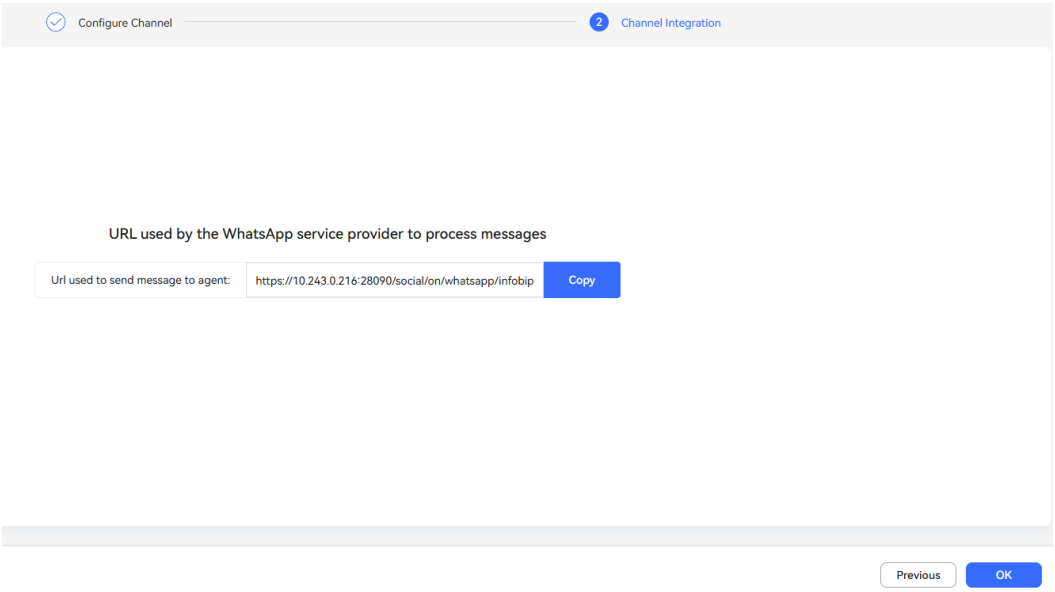
  The page varies according to the value of the tenant parameter **Whether to enable the infobip API of the new version**.

  NOTE

  The Infobip API in use is not maintained or updated by Infobip. You are advised to use the new Infobip API.

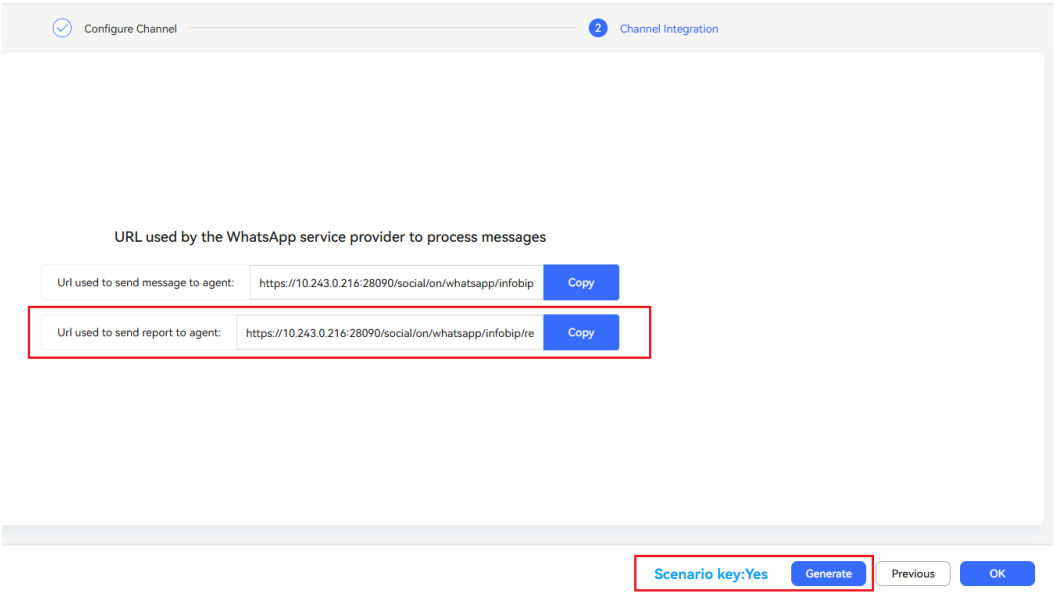
  – When this parameter is set to **Yes**, the following information is displayed.

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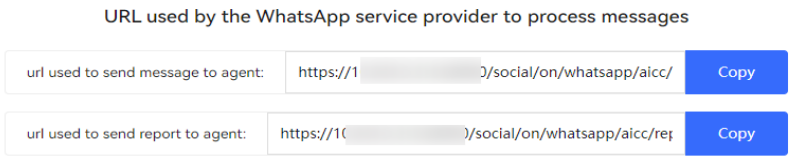
Obtain the values of **Url used to send message to agent** and **Url used to send report to agent** generated on the **Channel Integration** page and notify Infobip of them offline.

– When this parameter is set to **No**, the following information is displayed.



Obtain the values of **Url used to send message to agent** and **Url used to send report to agent** generated on the **Channel Integration** page and notify Infobip of them offline.

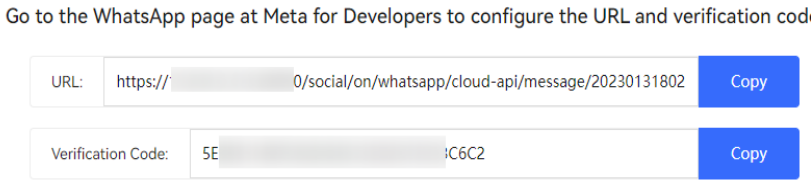
- If the WhatsApp service provider is **other**, the following page is displayed.



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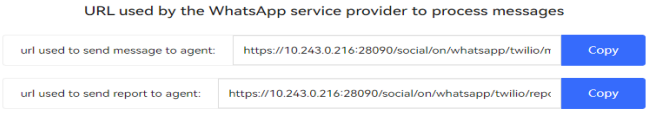
Obtain the values of **url used to send message to agent** and **url used to send report to agent** generated on the **Channel Integration** page and notify the WhatsApp service provider of them offline.

- If the WhatsApp service provider is **cloud-api**, the following page is displayed.



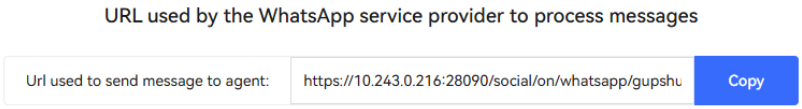
Obtain the values of **URL** and **Verification Code** and configure them at https://developers.facebook.com/apps/*App ID*/webhooks.

- If the WhatsApp service provider is **Twilio**, the following page is displayed.



Obtain the values of **url used to send message to agent** and **url used to send report to agent** generated on the **Channel Integration** page and notify the WhatsApp service provider of them offline.

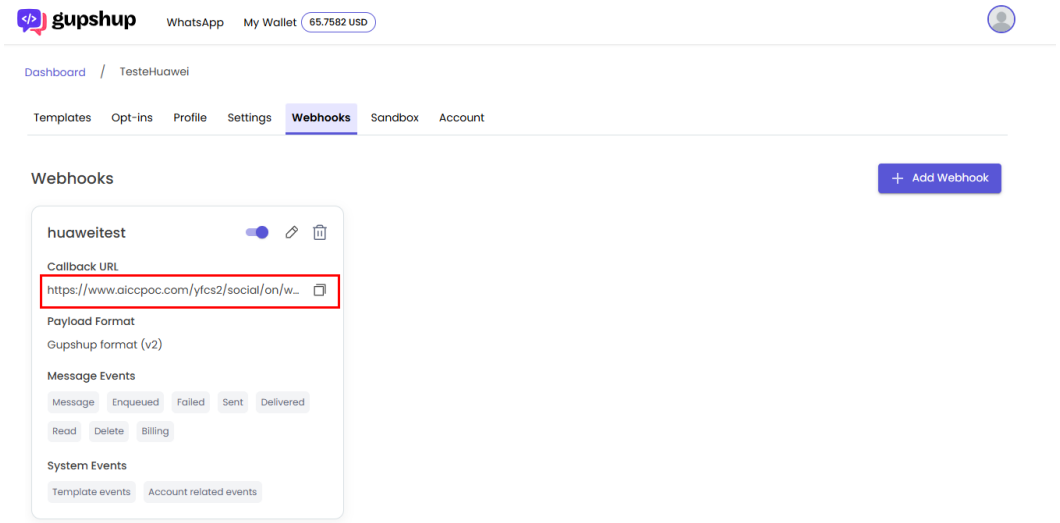
- If the WhatsApp service provider is **gupshup**, the following page is displayed.



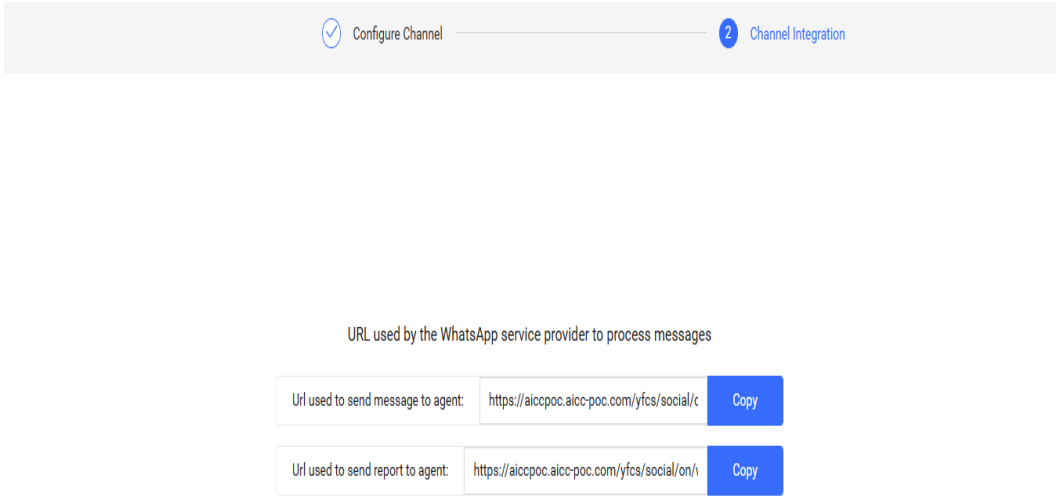
Access Gupshup and check whether the values of **Webhook Name (Tag)** and **Callback URL** of the automatically created webhook are the same as those configured and generated in the AICC at https://www.gupshup.io/whatsapp/overview?appId=*app ID*.

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Figure 2-116 Gupshup



- If the WhatsApp service provider is **KooMessage**, the following page is displayed.



Access KooMessage, choose **Service Console** > **WhatsApp Messages** > **Senders**, find the sender number configured in the channel configuration, click **Set Receipt** in the **Operation** column, and check whether the values of **Inbound Message Webhook Address** and **Outbound Message Status Webhook Address** are the same as those configured and generated in the AICC.

Step 9 If **scenario key:NO** is displayed, click **Generate**.

Skip this step if the WhatsApp service provider is **cloud-api**.

----End

Follow-up Procedure

Export channel information.

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NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.9 Configuring the SMS Channel

A tenant administrator can configure the SMS channel for customers to access.

Prerequisites

The AICC can use the SMPP service to send and receive SMS messages. Before configuring the SMS channel, ensure that the SMPP service is enabled. For details, see **2.11.4.1 Configuring SMS Gateways**.

Procedure

Step 1 (Optional) Obtain the certificate file of the SMS server and upload the certificate.

Dedicated SMS service providers support the secure SMPP protocol and require certificate authentication. Therefore, to ensure system security, use the secure port provided by the SMS server provider.

Obtain the certificate and upload it by referring to **Managing Certificates**. Set **Cert Type** to **CER** based on the file name extension.

Step 2 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and set parameters. The status of the configured gateways must be displayed as **Connection succeeded** on the **Gateway Monitoring** page.

The protocol type for SMS gateways is **smpp**.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 4 Click **New**. The **Configure Channel** page is displayed.

Step 5 Set channel information parameters.

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Table 2-72 Channel information parameters

Parameter	Description
Channel Selection	Select **SMS**.
SMS gateway	Select a configured SMS receiving gateway. For details about gateway configuration, see **2.11.4.1 Configuring SMS Gateways**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the SMS gateway can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the SMS gateways under the current OU.

Step 6 Set basic configuration parameters.

Table 2-73 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.

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Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**

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Parameter	Description
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**
Auto Reply	For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**
Non-Working Day Reply	

Step 7 Set robot configuration parameters.

Table 2-74 Robot configuration parameters

Parameter	Description
Robot Configuration	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**

Step 8 Click **Saved**. A message is displayed, indicating that the saving is successful.

NOTE

In addition, the system automatically creates a message route based on the selected SMS gateway on the **Configuration Center** > **Access Configuration** > **Notification Route** page. The message route record changes with the SMS gateway in the channel configuration. When the channel is deleted, the message route record is also deleted.

----End

Follow-up Procedure

Export channel information.

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NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.10 Configuring the Instagram Channel

2.5.10.1 Configuring Instagram Information

This section describes Instagram-related configurations and applications to enable Instagram customers to chat with AICC agents online. If some pages or configurations on Instagram are different from those described in this section, the pages or configurations on Instagram prevail.

Prerequisites

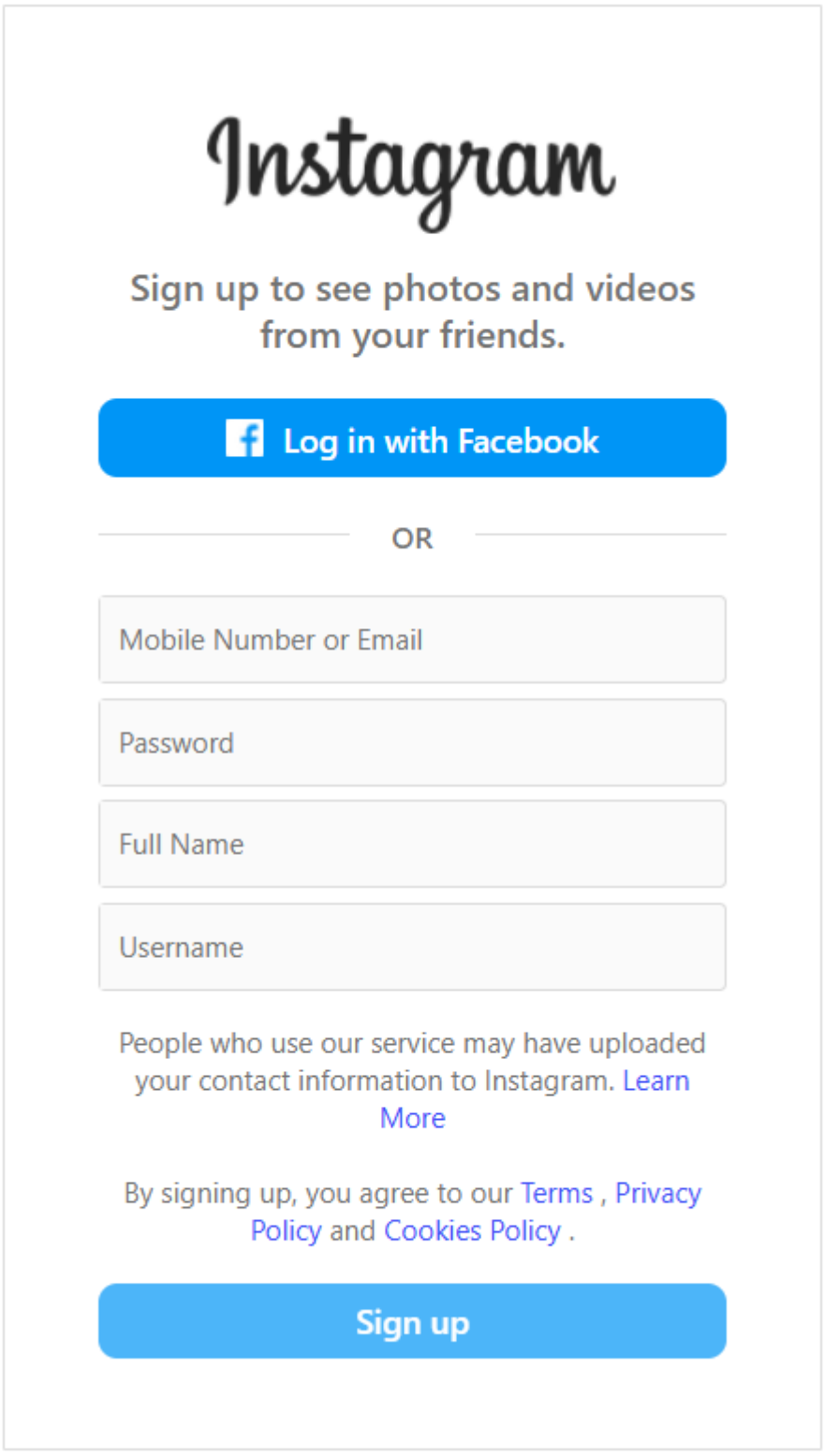
None

Procedure

Step 1 Sign up for an Instagram personal account.

Sign-up address: https://www.instagram.com/

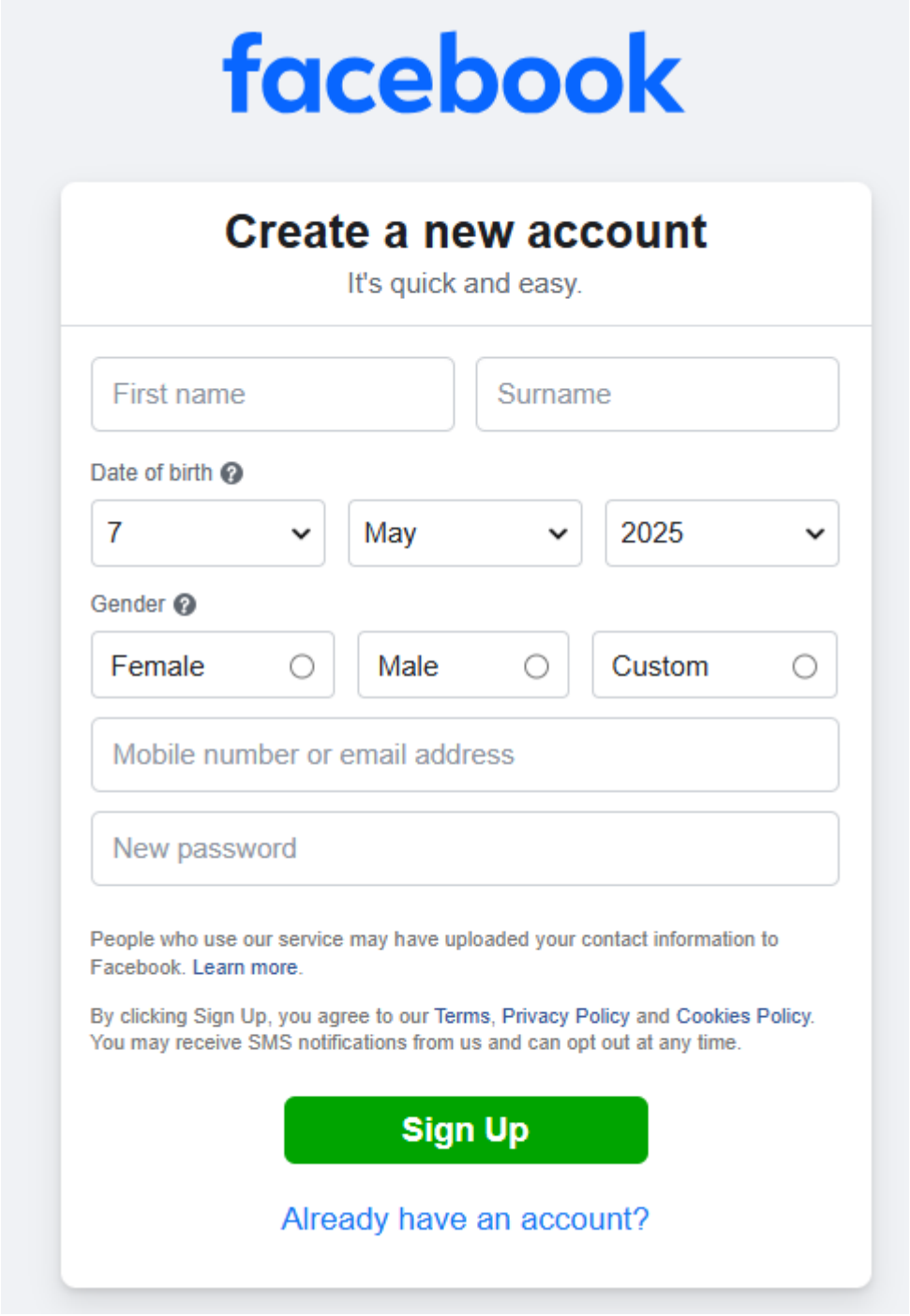
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Step 2 Sign up for a Facebook personal account.

Sign-up address: https://www.facebook.com/

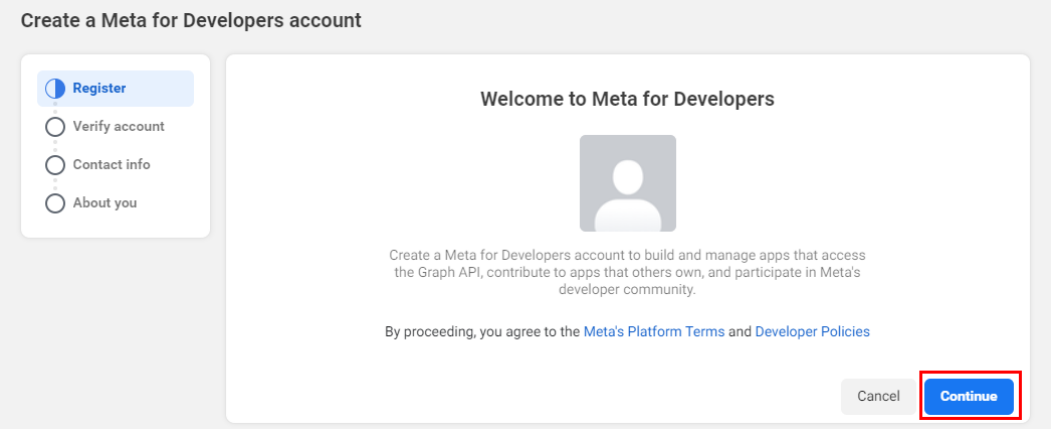
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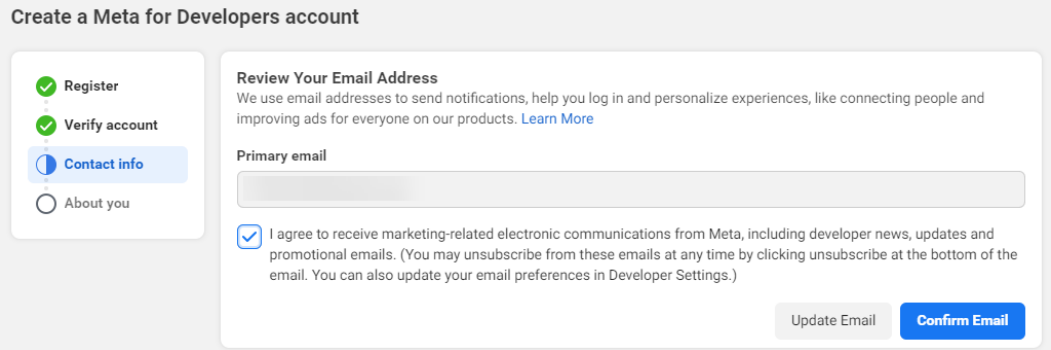
Step 3 Log in to Meta for Developers and apply for a Meta for Developers account.

1. Use the Facebook personal account to log in to https://developers.facebook.com/.
2. Click **Get Started** in the upper right corner.
3. Create a Meta for Developers account as prompted.

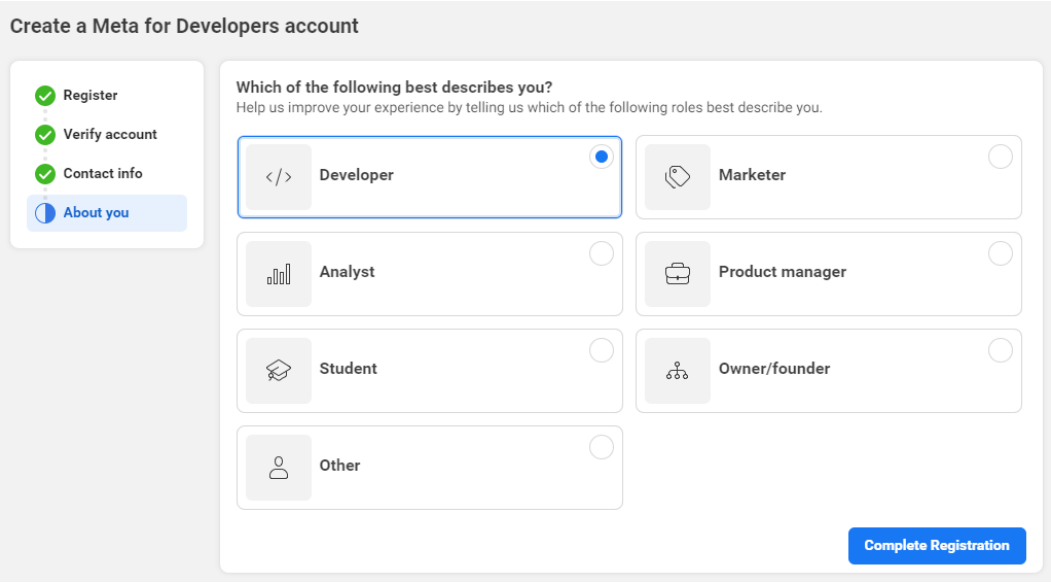
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4. Verify the account. If the account has been verified during registration, skip this step.
5. Check the mailbox information.



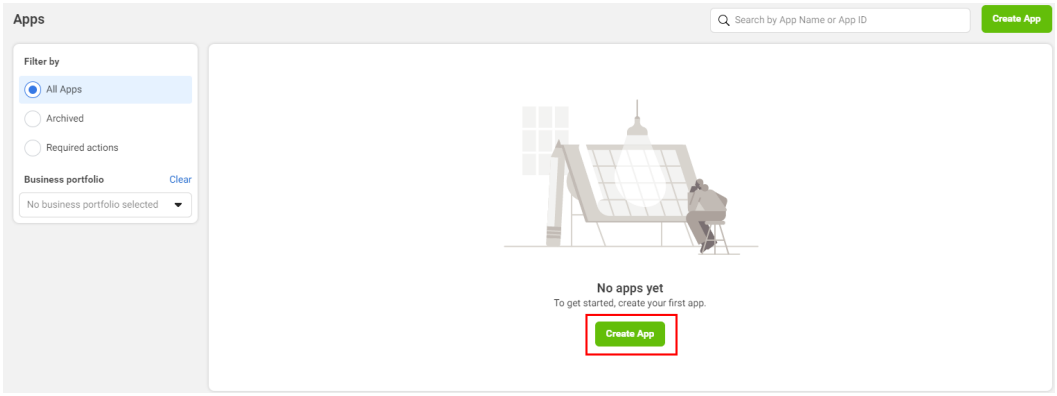
6. Select **Developer** and click **Complete Registration**.



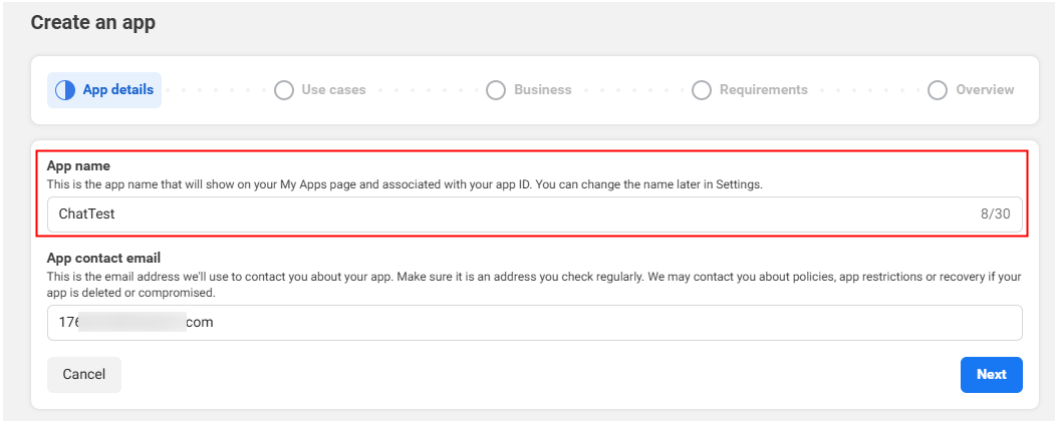
Step 4 Create an app. If you already have a Meta for Developers account, you can create an app by referring to **2.5.12.12 Creating an App Using a Facebook Developer Account**.

1. After the Meta for Developers account is registered, the **Create an app** page is displayed. Click **Create App**.

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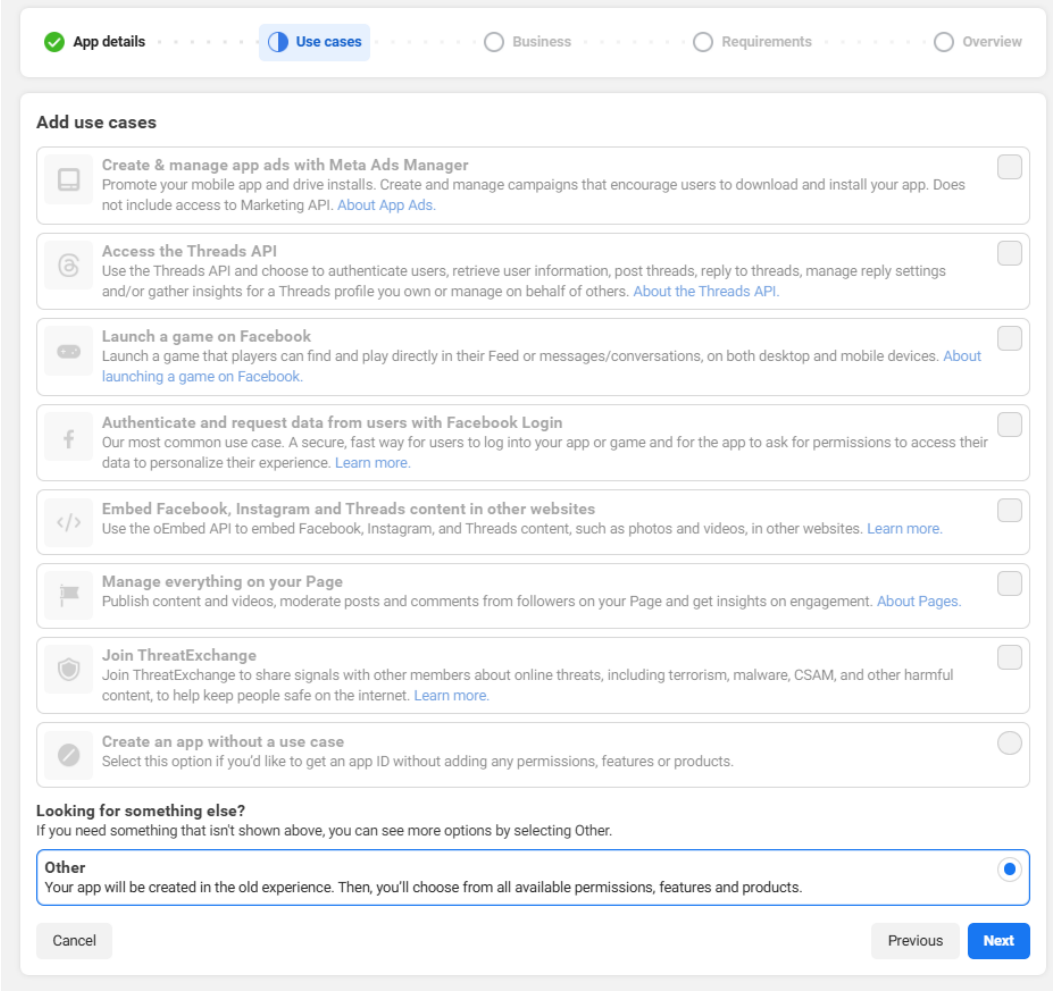


2. Enter a customized app name and click **Next**.

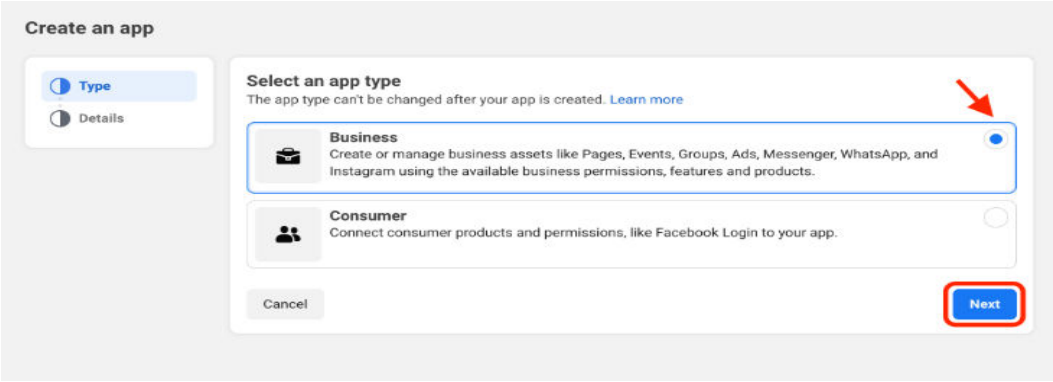


3. Select **Other** and click **Next**.

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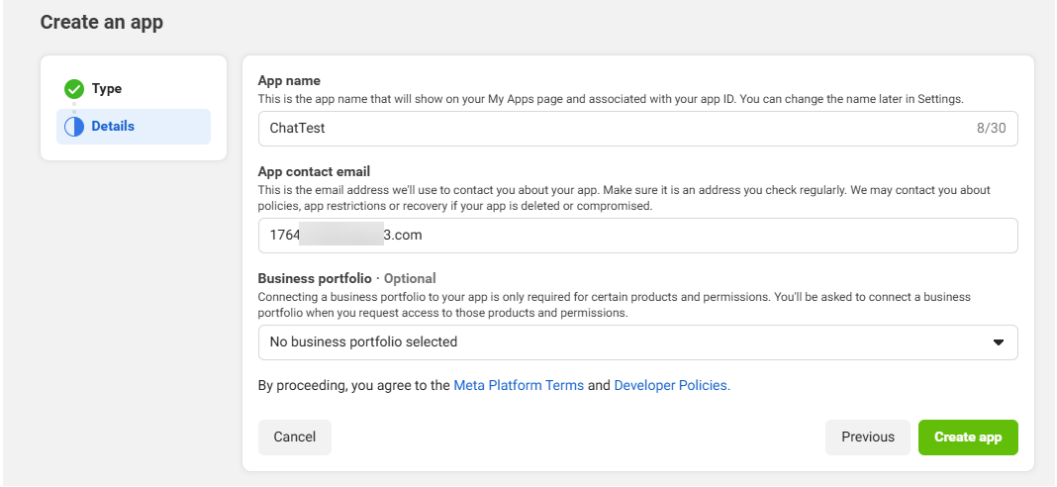


4. Select **Business** and click **Next**.

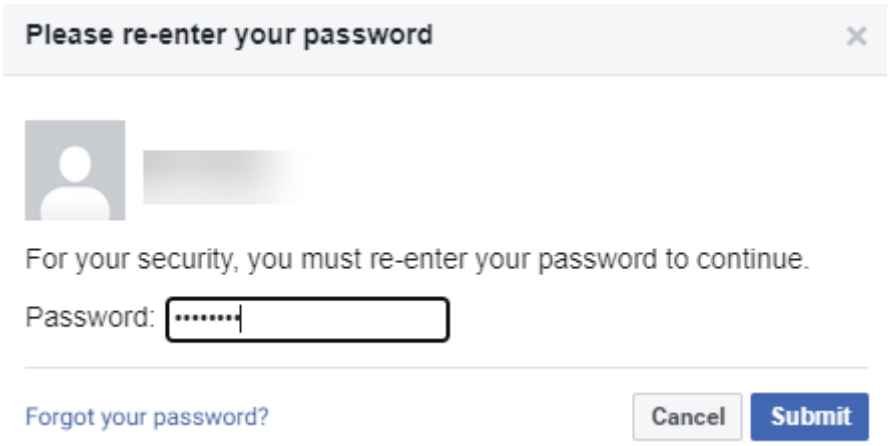


5. Check the application information and click **Create app**.

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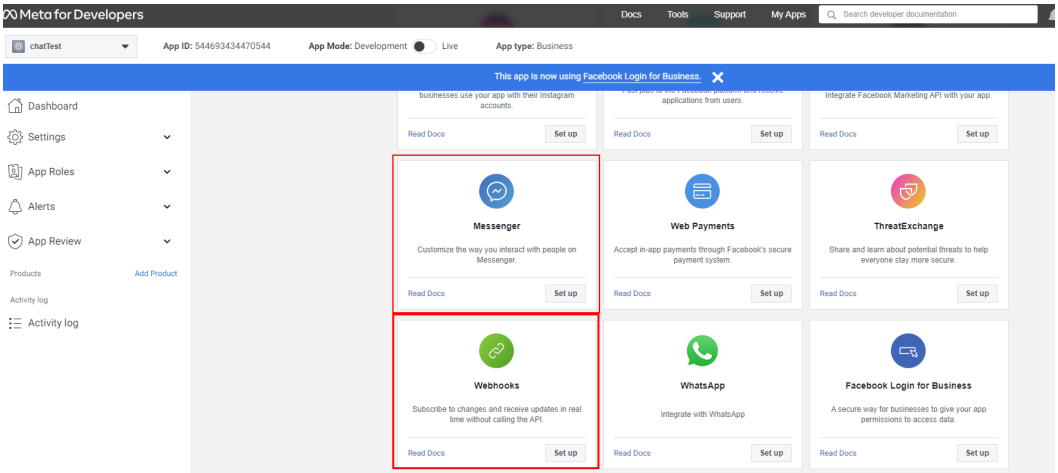


6. Enter the password of the Facebook account and click **Submit**.



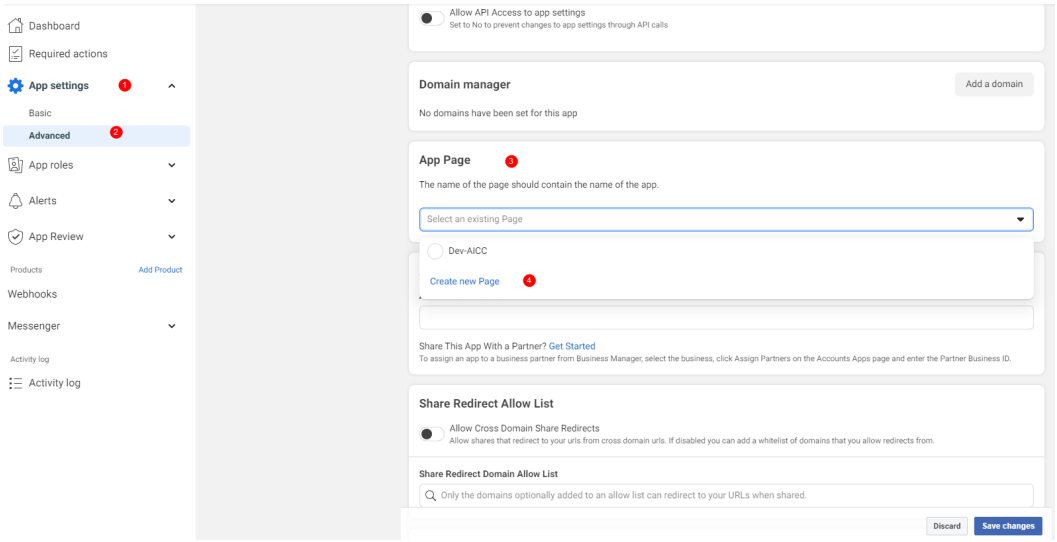
Step 5 Configure an application.

1. After the application is created, the application configuration page is displayed. Click **Set up** corresponding to Messenger and Webhooks.

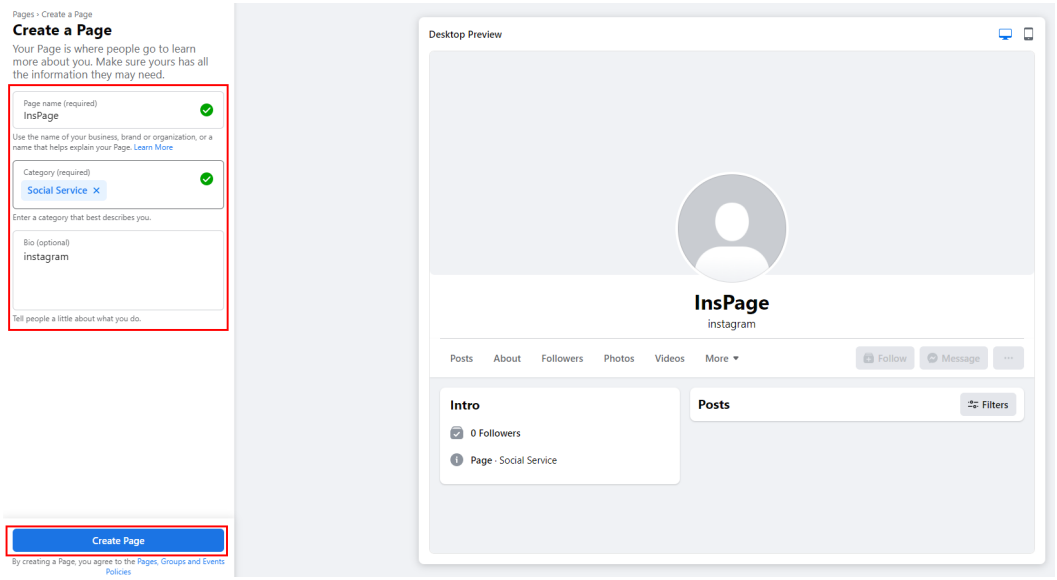


2. Choose **App settings** > **Advanced** > **App Page** and click **Create new Page**.

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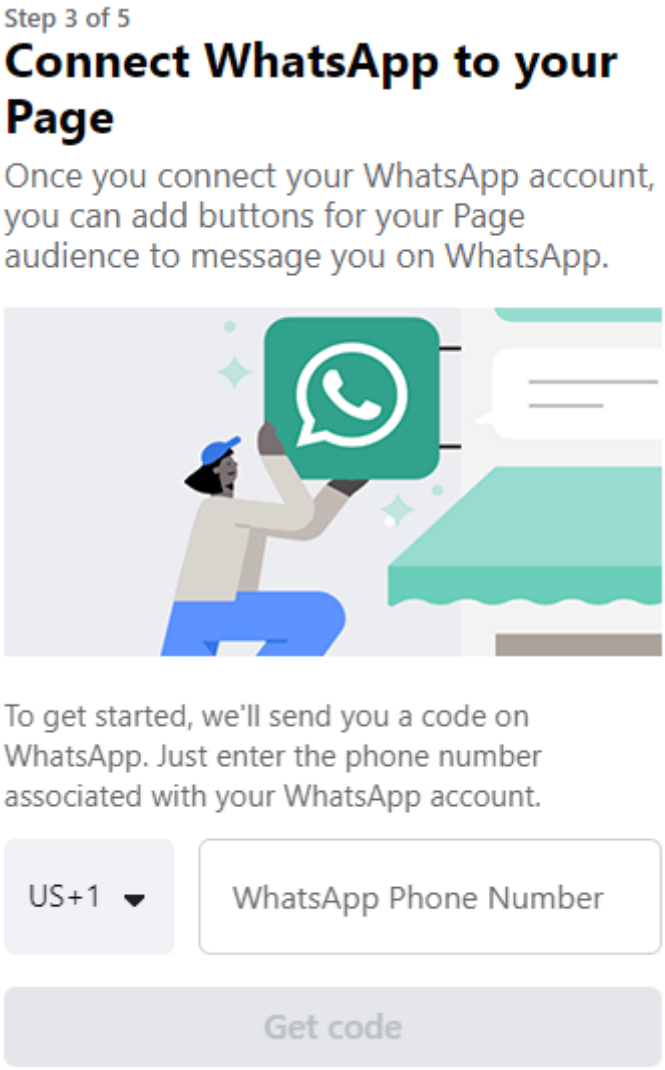


3. Create a public home page. Set the name and category of the public home page and click **Create Page**.



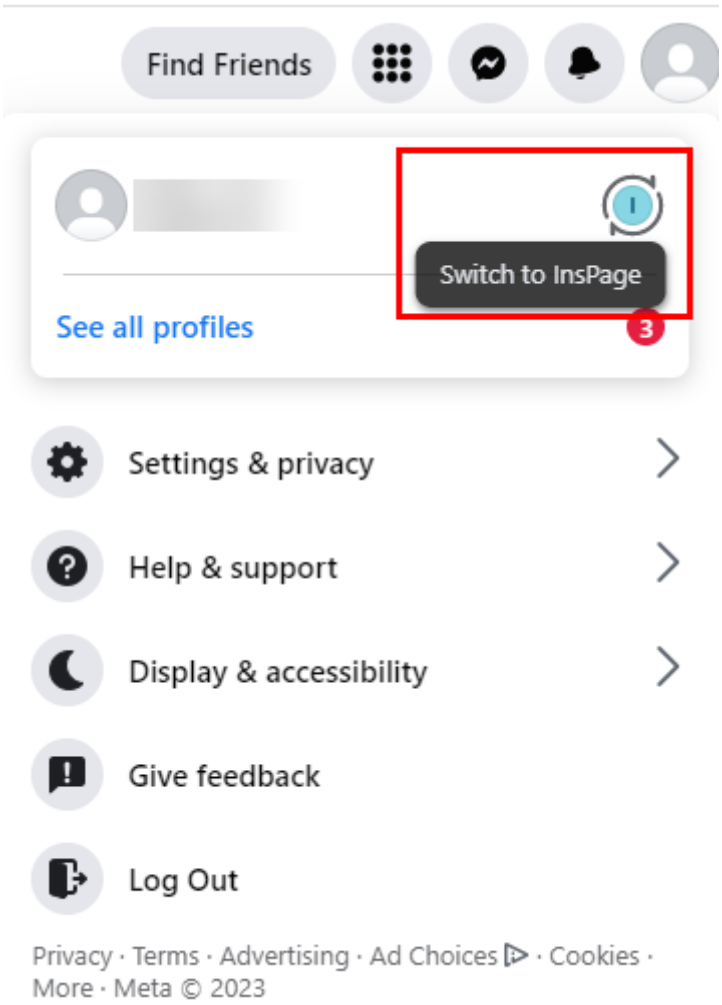
You can skip the step for binding the public home page to WhatsApp.

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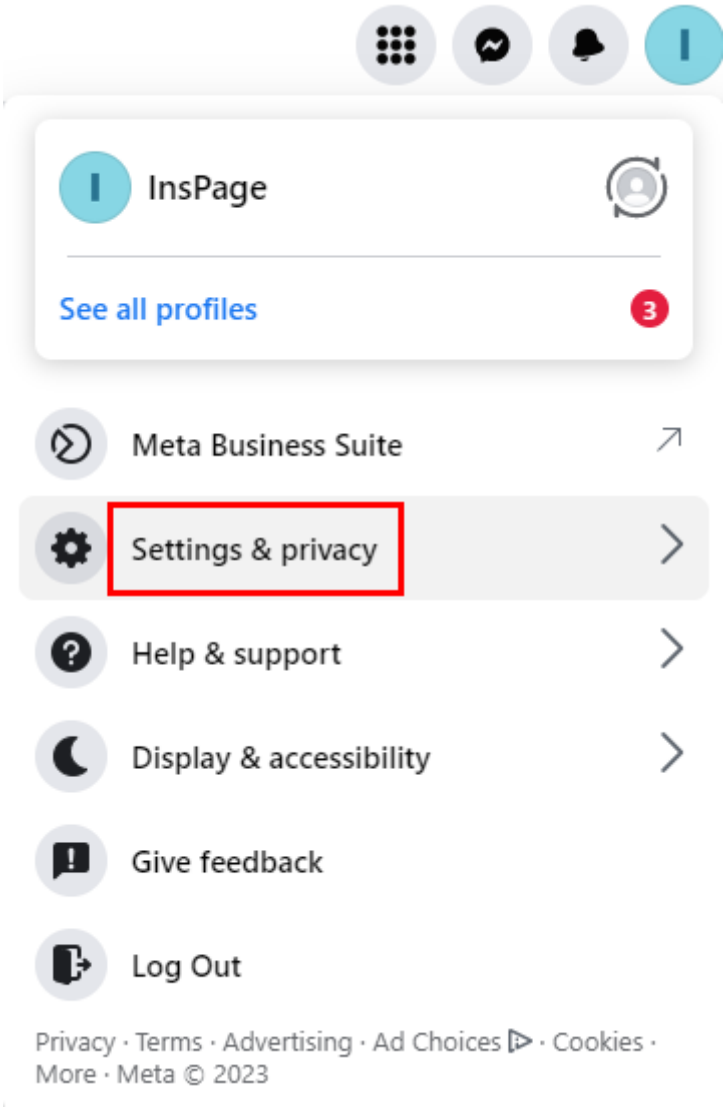


4. After the home page is created, click the avatar in the upper right corner to switch to the home page.

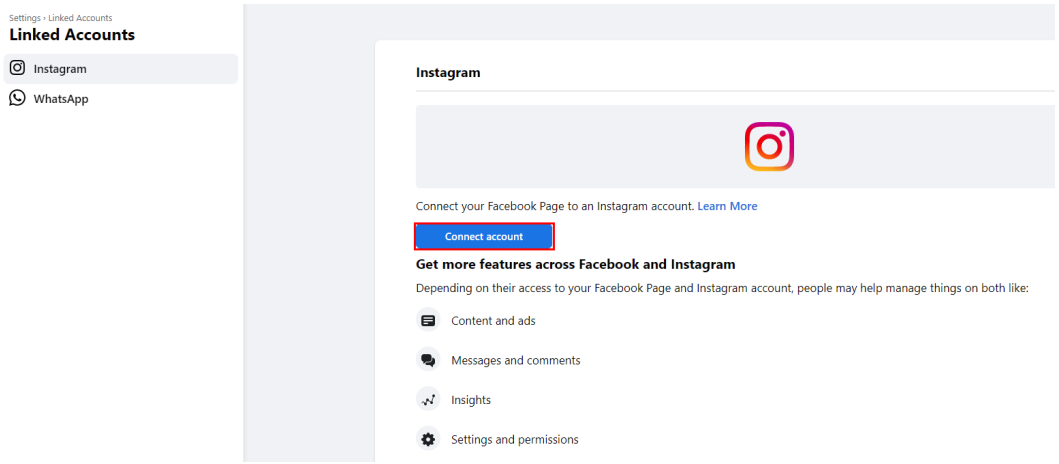
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5. Select **Settings & privacy** > **Settings**.

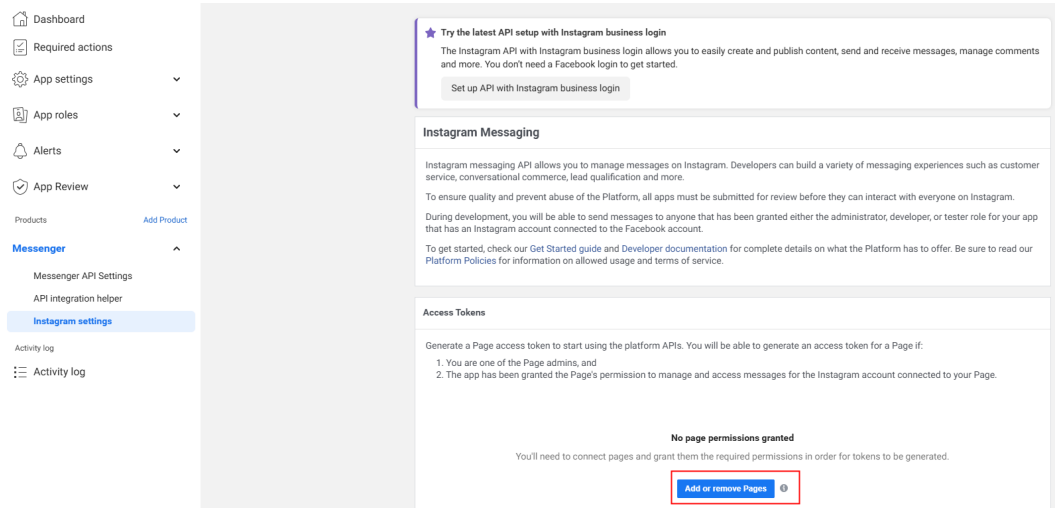


6. Click **Linked Accounts** and bind the home page to your Instagram account.



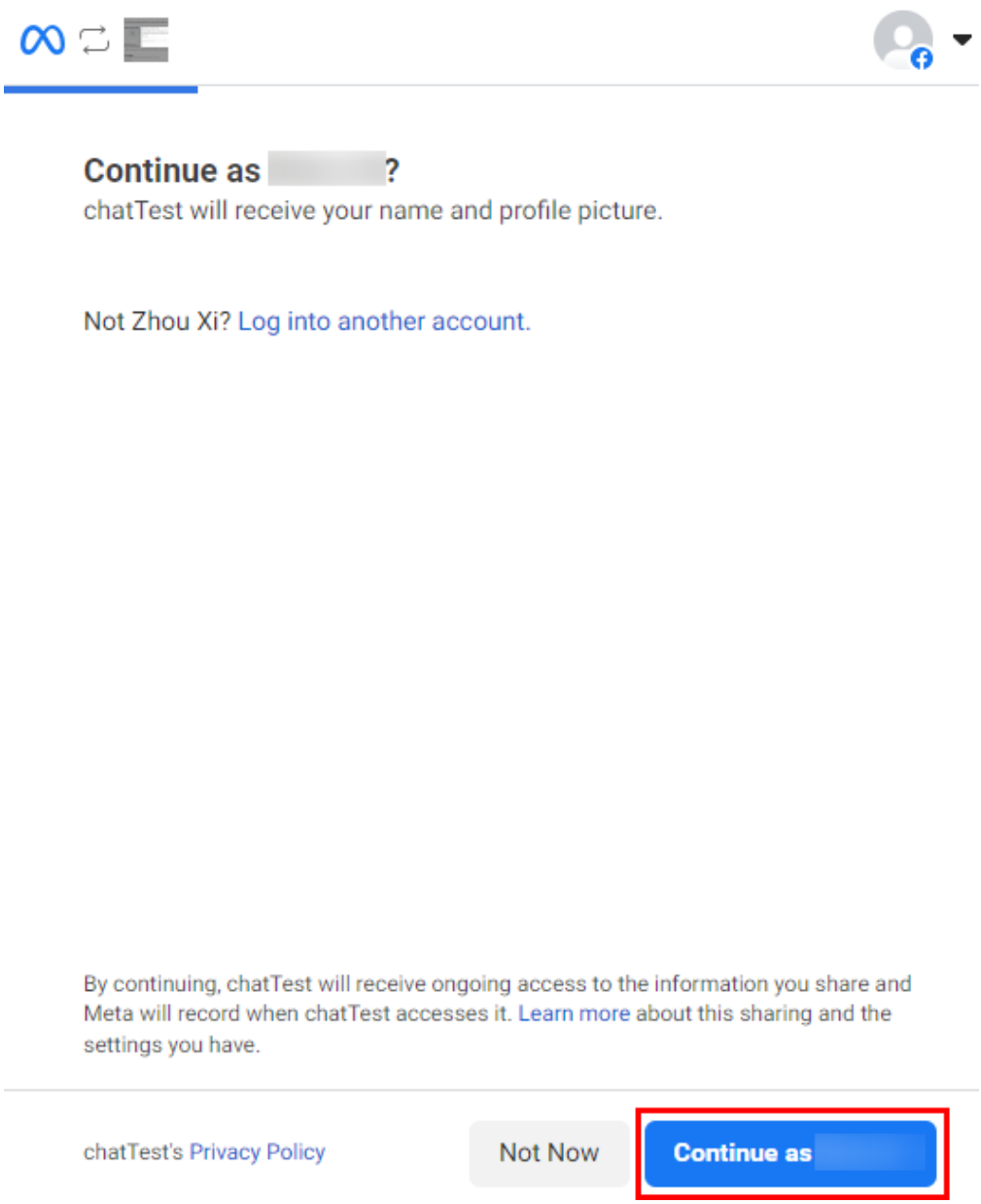
7. Return to the **Messenger** page, choose **Instagram settings**, and click **Add or remove Pages**.

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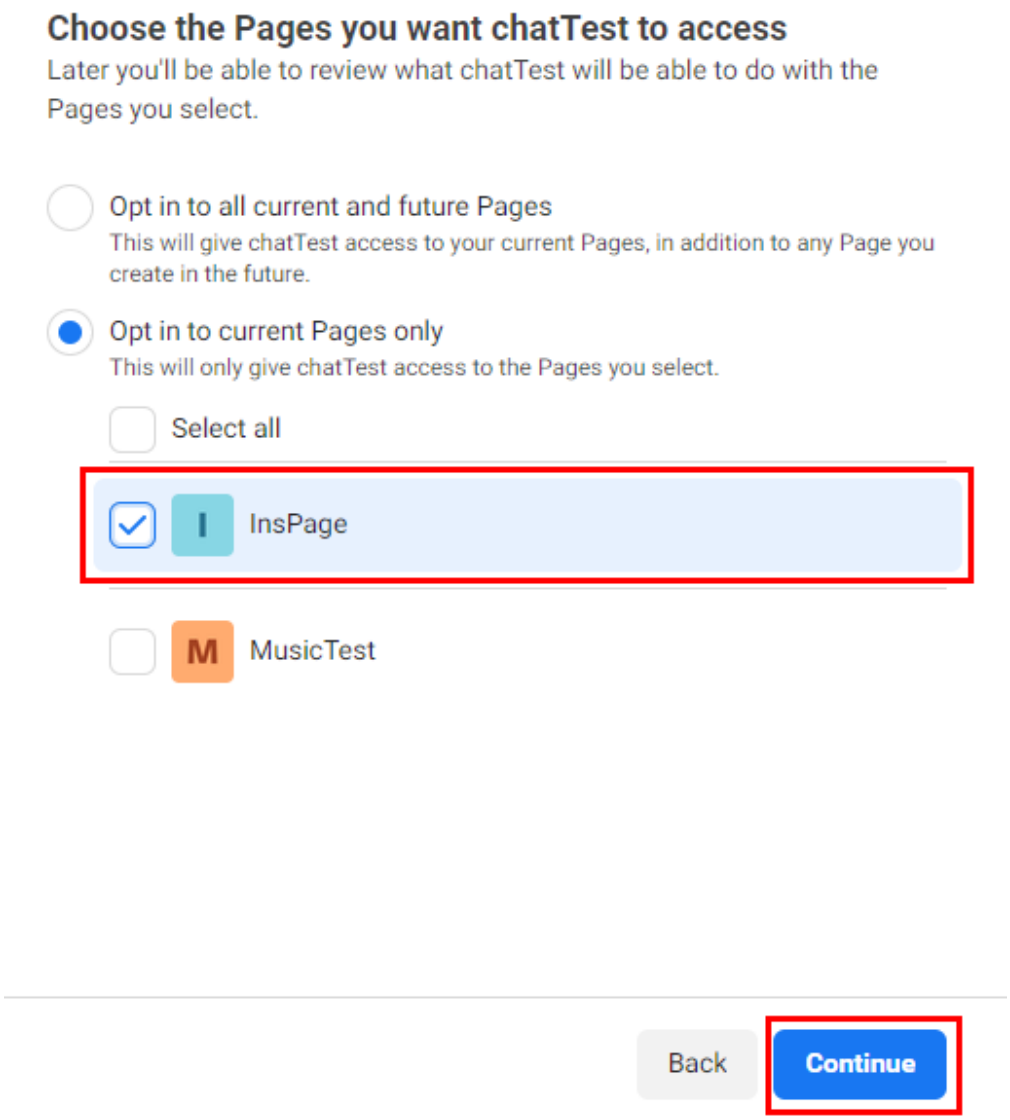
Click **Continue as *****.

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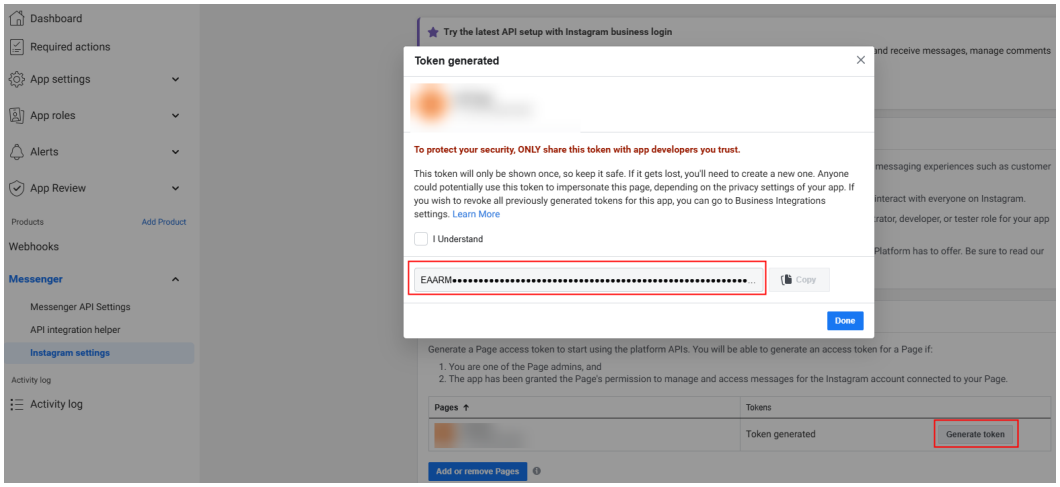
8. Select the home page to be added and click **Continue**.

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Step 6 Generate a token.

1. Click **Generate token** on the added home page.

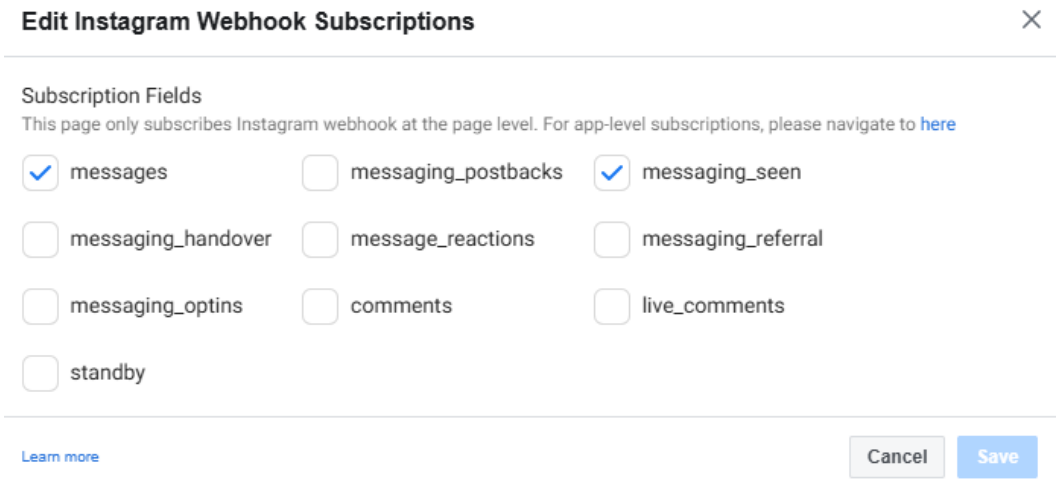


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2. Record the generated token, which will be used in subsequent operations. Then, click **Done**.

Step 7 Add subscriptions. Before performing this step, ensure that you have configured the Instagram channel in the AICC.

1. Return to the **Messenger** page, choose **Instagram settings** > **Webhooks**, and click **Edit Subscriptions**.
2. Select the following options:



3. Click **Save**.

----End

2.5.10.2 Configuring AICC Information

A tenant administrator can configure the Instagram channel for customers to access.

Prerequisites

- You have contacted the system administrator to obtain the app key and app secret of the app that has subscribed to the instagram_north - v1.0.0, ccmessage_north - v1.0.0, and file_donload_get-v1.0.0-manual - v1.0.0 APIs and bound to the tenant space for which the Instagram channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page.
- You have obtained the authentication certificate provided by the API Fabric and the identity certificate of the current system, and have uploaded them by referring to **2.17.6 Managing Certificates**. To obtain the authentication certificate, perform the following steps:

  a. Contact O&M personnel to log in to the system backend and run the following command on the active container node to generate a certificate:

  ```
  openssl s_client -showcerts -connect IP address:28090 </dev/null 2>/dev/null|openssl x509 -outform PEM >mycertfile.pem
  ```

  Set *IP address* to the IP address for logging in to the system frontend or the IP address of the server where the NSLB is located.

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b. Convert the certificate format to obtain the authentication certificate.

```
openssl x509 -in mycertfile.pem -outform der -out mycert.cer
```

Context

If the app ID and app secret provided by the API Fabric are changed, you need to modify the involved Instagram channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **APP Key** and **APP Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-75 Channel information parameters

Parameter	Description
Channel Selection	Select **Instagram**.
APP Key	App ID information obtained from the API Fabric, which is the AK.
APP Secret	App secret information obtained from the API Fabric, which is the SK.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing Certificates**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **Managing Certificates**.

Step 4 Set basic configuration parameters.

Table 2-76 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.

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Parameter	Description
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.

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Parameter	Description
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Offline Messages	For details, see **2.5.12.7 How Do I Enable Offline Messages?**

Step 5 Set robot configuration parameters.

Table 2-77 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**

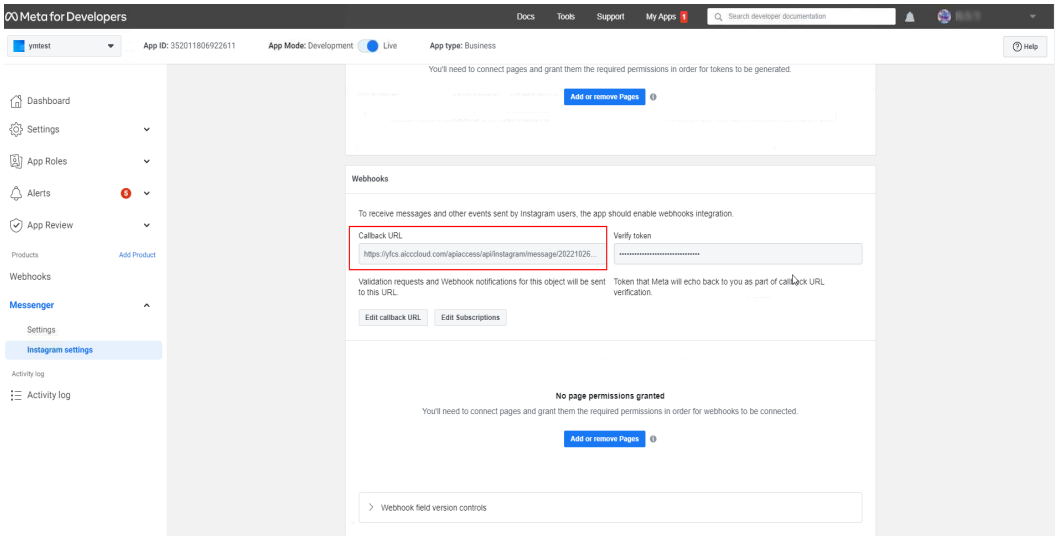
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Parameter	Description
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

Step 7 Configure the Webhook URL in Instagram.

After the Instagram channel is created on the channel configuration page, the Webhook URL can be obtained. In Meta for Developers, set **Callback URL** to the IP address of the API Fabric and the Webhook URL.



----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

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2.5.11 Configuring the Telegram Channel

2.5.11.1 Configuring Telegram Information

This section describes Telegram-related configurations and applications to enable Telegram customers to chat with AICC agents online. If some pages or configurations on Telegram are different from those described in this section, the pages or configurations on Telegram prevail.

Prerequisites

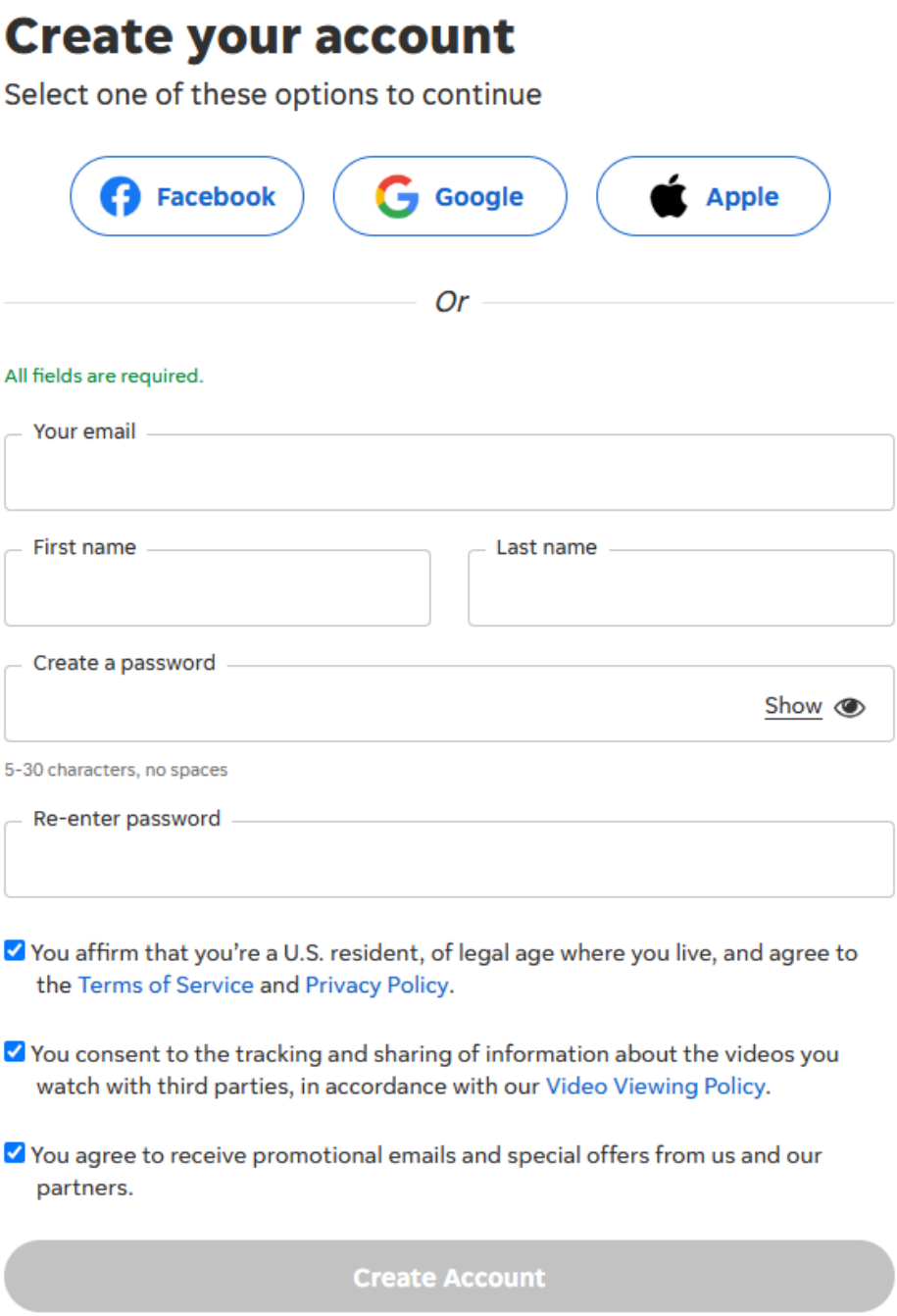
The Telegram client can be accessed or downloaded. If the Telegram client cannot be accessed, configure a proxy.

Procedure

Step 1 Sign up for a Telegram account. You can install and register with Telegram on the web page or mobile phone.

- Web-based registration address: https://www.telegram.com/
- To register on your mobile phone, download the application at https://telegram.org, and then register with Telegram.

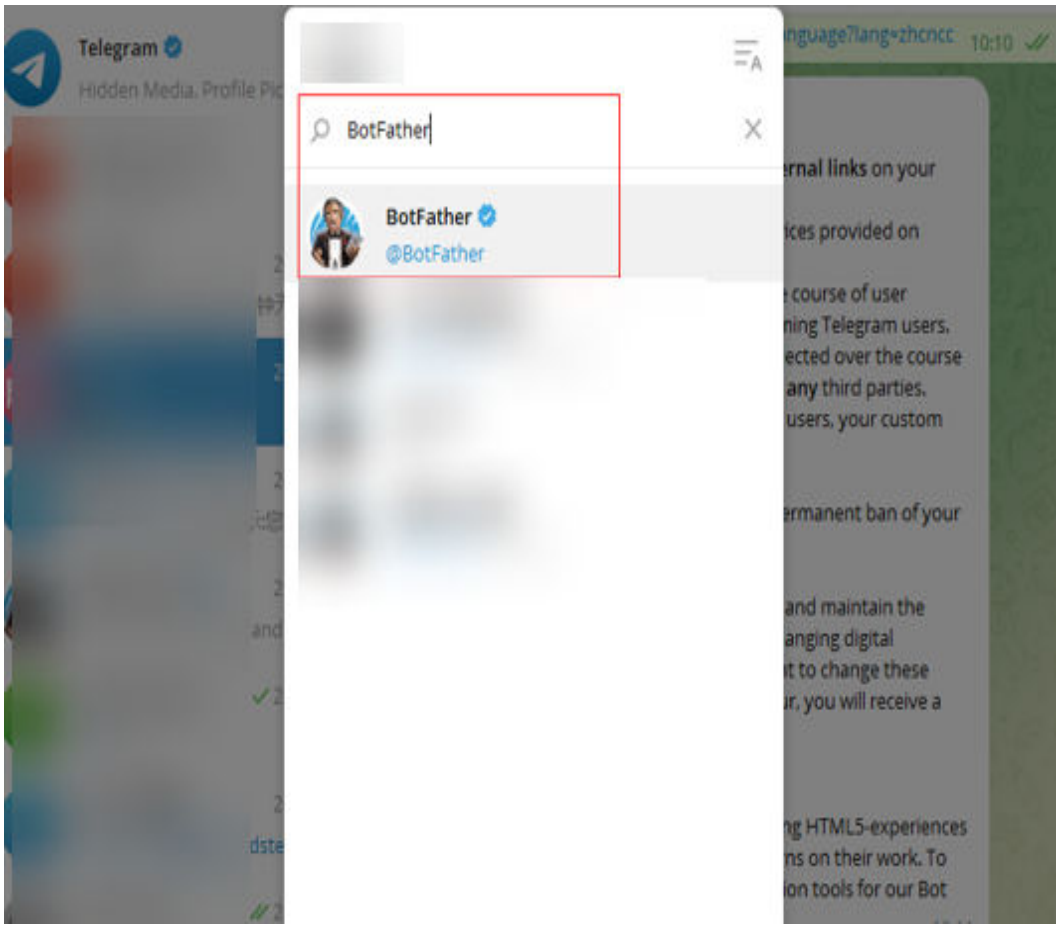
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Step 2 Create a Telegram chatbot.

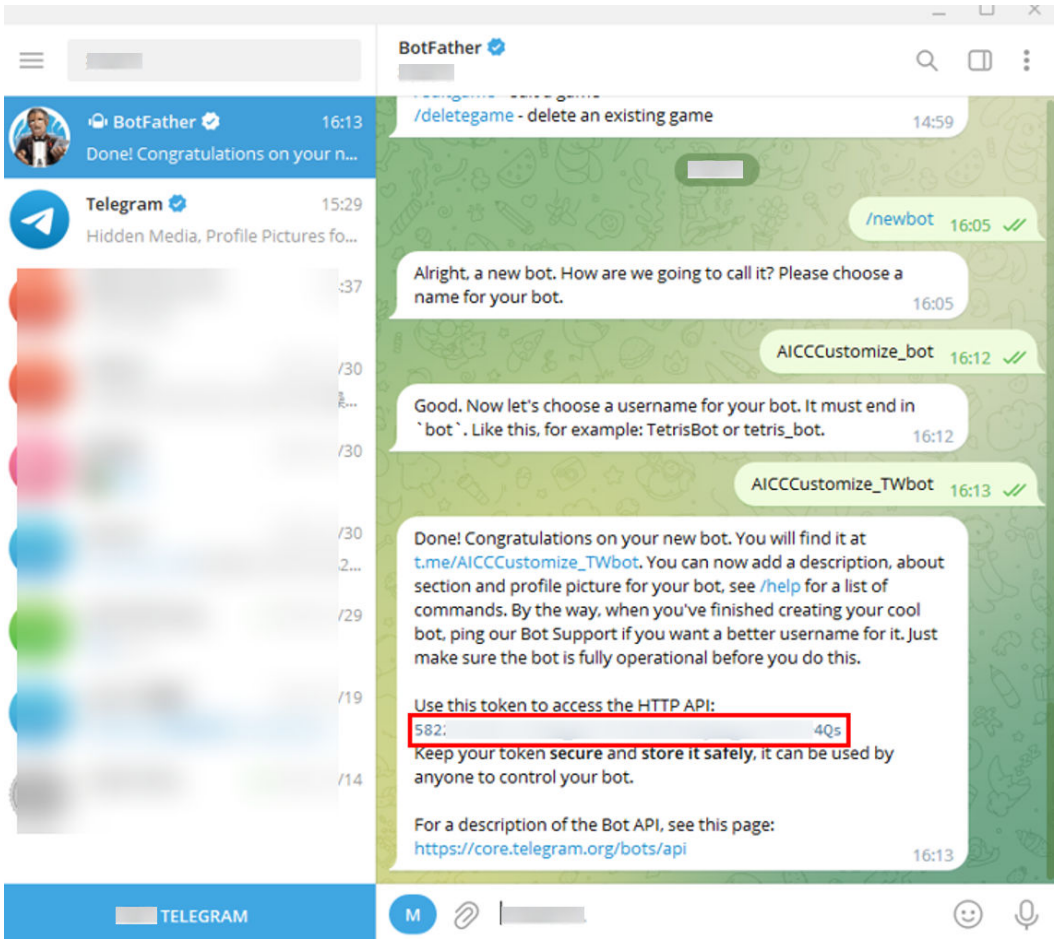
1. Log in to the Telegram client using the registered account.
   - To log in to the Telegram web client, visit https://web.telegram.org.
   - To log in to the Telegram mobile client, download the application at https://telegram.org first.
2. Search for **@BotFather** and add it as a contact.

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3. Click **BotFather**, send the **/newbot** command, send a chatbot name and username, and save the generated token.
   - The name is customized, for example, **AICCCustomize_bot**.
   - The username is customized and ends with **bot**, for example, **AICCCustomize_TWbot**.
   - The token is automatically generated by the system and displayed on the page, for example, **582**************4Qs**. Save it for subsequent configuration.

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----End

2.5.11.2 Configuring AICC Information

A tenant administrator can configure the Telegram channel for customers to access.

Prerequisites

- You have contacted the system administrator to obtain the app key and app secret of the app that has subscribed to the ccmessage_telegram_north_v1.0.0, telegram_north_v1.0.0, and file_donload_get-v1.0.0-manual - v1.0.0 APIs and bound to the tenant space for which the Telegram channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page.
- You have obtained the authentication certificate provided by the API Fabric and the identity certificate of the current system, and have uploaded them by referring to **2.17.6 Managing Certificates**. To obtain the authentication certificate, perform the following steps:
  a. Contact O&M personnel to log in to the system backend and run the following command on the active container node to generate a certificate:
  ```
  openssl s_client -showcerts -connect IP address:28090 </dev/null 2>/dev/null|openssl x509 -outform PEM >mycertfile.pem
  ```

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Set *IP address* to the IP address for logging in to the system frontend or the IP address of the server where the NSLB is located.

b. Convert the certificate format to obtain the authentication certificate.

```
openssl x509 -in mycertfile.pem -outform der -out mycert.cer
```

- You have installed the Telegram software.

Context

If the app ID and app secret provided by the API Fabric are changed, you need to modify the involved Telegram channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** in the **Operation** column corresponding to the involved channel, and update the values of **APP Key** and **APP Secret**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 2 Click **Newly created**. The **Configure Channel** page is displayed.

Step 3 Set channel information parameters.

Table 2-78 Channel information parameters

Parameter	Description
Channel Selection	Select **Telegram**.
APP Key	App ID information obtained from the API Fabric, which is the AK.
APP Secret	App secret information obtained from the API Fabric, which is the SK.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing Certificates**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **2.17.6 Managing Certificates**.

Step 4 Set basic configuration parameters.

Table 2-79 Basic configuration parameters

Parameter	Description
Channel Name	The channel name must be unique. The code can contain a maximum of 64 characters, including only letters, digits, and underscores (_), and can start only with a letter or an underscore (_).

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Parameter	Description
OU Configuration	Select an OU created in **2.2.1 Configuring OUs** to assign it to channel resources.
Skill Queue	The options are all multimedia called routes of the current tenant space. For details about how to configure a called route, see **2.3.1.2 Configuring Called Routes**. The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.
Keyword for Transfer to Agent	Keywords for switching from robot service to manual service. After a customer enters any of the keywords on the client, robot service is switched to manual service. **NOTE** If the intelligent robot is enabled, this parameter must be set.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. Non-working days are set on the **Configuration Center** > **Workbench Configuration** > **Service Time** page.
Non-Working Time Notification	When a customer call is connected to an agent in non-working time, this message is displayed to notify the customer that the agent is in rest state.
Queue Reminder	Queue reminder mode. • **All Reminders** • **Queue Reminder** • **Queue Progress Reminder** • **Close Reminder**
Queue Reminder Content	Queue reminder content. The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Reminder**.

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Parameter	Description
Queue Progress Reminder Content	Queue progress reminder content. • The value can contain a maximum of 256 characters and cannot contain the following special characters: <>'"/\ • Variables can be set. The bound variables can only be user ID (*${userId}*), username (*${nickName}*), queue position (*${position}*), and estimated waiting time (*${waitTime}*, in seconds). • Default value: **You are currently in the queue, in position ${position}, and are expected to wait for ${waitTime} seconds** This parameter is mandatory when **Queue Reminder** is set to **All Reminders** or **Queue Progress Reminder**.
Call Transfer Interaction Times	The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value. When the value is **0** or empty, the agent can use the call transfer function at any time.
More	
Last Agent Mode	For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**
Session End Due to No Customer Reply	For details, see **2.5.12.3 How Do I Set Session End Due to No Customer Reply?**
Session Transfer Due to No Agent Reply	For details, see **2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?**
Session Transfer	For details, see **2.5.12.5 How Do I Set Session Transfer?**
Offline Messages	For details, see **How Do I Enable Offline Messages?**

Step 5 Set robot configuration parameters.

Table 2-80 Robot configuration parameters

Parameter	Description
Connecting to the Intelligent Robot	For details, see **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**

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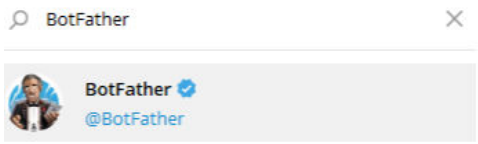
Parameter	Description
Access Robot Assistant	For details, see **2.5.12.11 How Do I Enable Connection to the Robot Assistant?**

Step 6 Click **The next step**. The **Channel Integration** page is displayed.

View and copy the value of **url used to send message to agent** to the local PC.

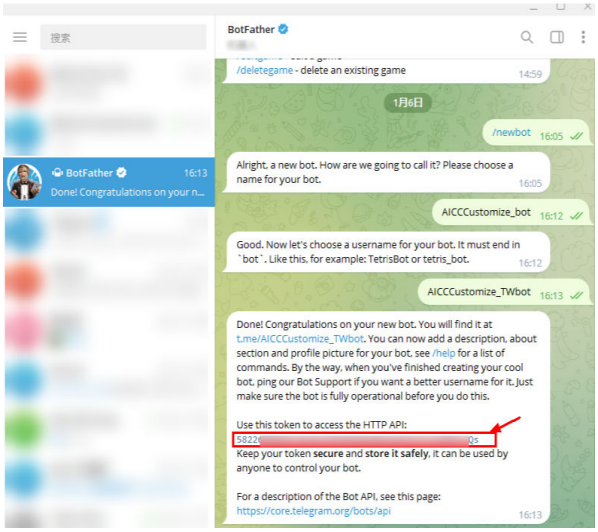
Step 7 Use the Telegram software to generate a token.

1. Use any account to log in to Telegram.
2. Search for **@BotFather** and add it as a contact.



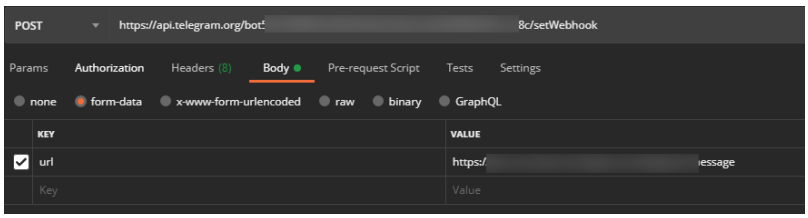
3. Send the **/newbot** command.
4. Send the robot name **AICCCustomize_TWbot**.

   The value must end with **bot**.
5. Save the generated token.



Step 8 Set the callback URL for message forwarding.

Invoke the https://api.telegram.org/bot*Token*/setWebhook API.



Token: Enter the token generated in **Step 7**.

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Request parameter: Enter the value of **url used to send message to agent** obtained in **Step 6**.

----End

Follow-up Procedure

Export channel information.

NOTE

- All information under **Basic Configuration** and **Robot Configuration** can be exported. Passwords and keys cannot be exported.
- A maximum of 100,000 channel records can be exported at a time, and a maximum of 2000 records are allowed in an exported file.
- If no channel is selected, all channel information is exported by default.
- Enter a compression password and click to view the plaintext password.

1. Return to the channel list.
2. Select the new channel and click to export the channel information.
3. Click and confirm that **Status** of the export task is **Success**.
4. Click **Download** to obtain the exported channel information.

2.5.12 FAQ

This section describes the common problems that may occur during channel configuration.

2.5.12.1 How Do I Set the Click-to-Dial Called Route?

After **Click To Call** is enabled, a customer can initiate a voice or video call during a text chat with an agent.

Prerequisites

A click-to-dial called route has been configured.

Procedure

Step 1 Click to enable **Click To Call**.

Step 2 Set **CTD Called Party Configuration**. The options are as follows:

- **Audio and video agent**
- **IVR**

The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured

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with the OU permission can search for only the called routes under the current OU.

Step 3 Select a configured called route.

Step 4 Click **The next step** to complete the configuration.

----End

2.5.12.2 How Do I Enable the Last Agent Mode?

After **Last Agent Mode** is enabled, when a customer is connected to an agent through a channel, the session is preferentially assigned to the agent who chats with the customer last time.

Procedure

Step 1 Click  to enable **Last Agent Mode**.

Step 2 Select a mode for filtering last agents and set the corresponding parameter.

- **Time range**: an integer ranging from 1 to 168, in hours
- **Current day**: 00:00 on the current day to the current time

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.3 How Do I Set Session End Due to No Customer Reply?

After **Session End Due to No Customer Reply** is enabled, the timeout period for no customer reply and session end message can be customized.

Context

You do not need to set the session end message (**Conclusion**) for the email and SMS channels.

Procedure

Step 1 Click  to enable **Session End Due to No Customer Reply**.

Step 2 Set **Customer Reply Timeout Period** and **Conclusion**.

- **Customer Reply Timeout Period**: The value ranges from 1 to 1440, in minutes.

  The default value is **60** for the email channel and **20** for other channels.

  NOTE

  The period specified by **Customer Reply Timeout Period** must be longer than that specified by **Max. Waiting Time (s)** of the multimedia skill queue.

- **Conclusion**: The value can contain a maximum of 256 characters.

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

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2.5.12.4 How Do I Set Session Transfer Due to No Agent Reply?

After **Session Transfer Due to No Agent Reply** is enabled, the timeout period for session transfer due to no agent reply and prompt message for agent reassignment can be customized.

Procedure

Step 1 Click to enable **Session Transfer Due to No Agent Reply**.

Step 2 Set **Agent Reply Timeout Period** and **Prompt for Agent Reassignment**.

- **Agent Reply Timeout Period**: The value is an integer ranging from 1 to 1440 and must be less than or equal to that of **Customer Reply Timeout Period**.
- **Prompt for Agent Reassignment**: The value can contain a maximum of 256 characters.

  NOTE

  You do not need to set this parameter for the email and SMS channels.

Step 3 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.5 How Do I Set Session Transfer?

You can set **Session Transfer** to configure multimedia skill queues displayed on the transfer page.

Procedure

Step 1 Click  to enable **Session Transfer**.

-  : When an agent transfers a session, multimedia skill queues of the current channel type and non-subtype multimedia skill queues are displayed on the transfer page.
-  : When an agent transfers a session, skill queues of the current channel type are displayed on the transfer page.

Step 2 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.6 How Do I Set the Third-Party Authentication Key?

Context

- Only the web channel supports this function.
- If the third-party authentication key provided by the third party is changed in the third-party system, you need to modify the key in the AICC by referring to the following procedure. Set **secretKey** to the new third-party authentication key.

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Procedure

Step 1 Click  to enable **Third-party authentication key**.

Step 2 Set **secretKey**.

Step 3 Click **The next step** to complete the configuration.

----End

2.5.12.7 How Do I Enable Offline Messages?

After **Offline Messages** is enabled, an agent can receive offline messages sent by a customer during non-working time or when the agent fails to be connected. The agent can also proactively contact the customer.

Prerequisites

None

Context

- If the page or interface is integrated into a web client, offline messages cannot be automatically pushed. You need to manually invoke the interface described in Proactively Polling Messages Sent by Agents (poll) to assign offline messages. The push mode is recommended. That is, enable **Message Push** in the channel configuration. For details, see **2.5.12.8 How Do I Enable Message Push?**
- Only the web, email, WhatsApp, SMS, Instagram, and Telegram channels support this function.

Procedure

Step 1 Click  to enable **Offline Messages**.

Step 2 Customize **Offline Message Prompt**.

The value can contain a maximum of 256 characters and cannot contain the following special characters: '"/<>\;

You do not need to set this parameter for the email and SMS channels.

Step 3 Set **Offline Message Routing Time Limit**.

The value is an integer ranging from 1 to 60. The default value is **30**.

Step 4 Set **Agent Outbound Call Time Limit**.

The value is an integer ranging from 0 to 10080. The default value is empty, indicating that the timeout period is not limited. The value **0** indicates that agents are not allowed to reply to offline messages.

Step 5 Set **Called Customer Reply Timeout Period**.

The value is an integer ranging from 1 to 5. The default value is **5** for the email channel and **3** for other channels.

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The value of **Called Customer Reply Timeout Period** must be less than that of **Customer Reply Timeout Period**.

Step 6 Set **Routing Mode**. The options are as follows:

- **Skill Queue Routing**
- **Last Agent Mode**
- **Connect to Chatbot**

To select **Last Agent Mode**, enable the last agent mode first and ensure that the configuration is the same as that under **Last Agent Mode**. For details, see **2.5.12.2 How Do I Enable the Last Agent Mode?**

To select **Connect to Chatbot**, set the chatbot access code. For details, see **2.6.2 Configuring an Intelligent Robot**.

When **Connect to Chatbot** is selected, the search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the intelligent chatbot can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the intelligent chatbots under the current OU.

Step 7 Click  to enable **Automatically reply to each email**.

After this function is enabled, the templates specified in **Automatic reply during working hours** and **Automatic reply during non working hours** are used to reply. For details, see **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**

Only the email channel is involved.

Step 8 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.8 How Do I Enable Message Push?

Prerequisites

To use the message push function, you need to prepare a message push API. For details about the API specifications, see **2.5.12.8.1 Message Push Interface Specifications**. After the API is developed, you need to submit an application to the system administrator to add the message push address (*{baseUrl}*/webhooks/v1/messages) to the address trustlist.

If *{baseUrl}* is an HTTPS URL, you also need to prepare an authentication certificate. Only a JKS, DER, or PEM certificate is supported.

NOTE

HTTP has security risks. You are advised to use the secure HTTPS protocol.

If two-way authentication is enabled for the message push address, you also need to prepare the identity certificate of the current system.

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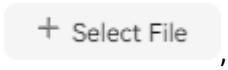
Context

- Only the web and WhatsApp channels support message push.

  For the WhatsApp channel, the system automatically pushes messages. No manual configuration is required.
- If the message push key provided by the message pusher is changed, you need to modify the key in the AICC by referring to the following procedure. Enter the new message push key.

Procedure

Step 1 (Optional) If *{baseUrl}* is an HTTPS URL, upload the push address trust certificate and system identity certificate.

1. Choose **Configuration Center** > **System Management** > **Certificate**.
2. Click **New** and set the certificate name and password as prompted.
3. Select the type of the certificate to be uploaded.
4. Click 

, select the trust certificate and identity certificate from the local PC, and click **Open**.
5. Click **Save**.

Step 2 Go to the web channel configuration page.

Step 3 Click  to enable **Message Push**.

Step 4 Enter the prepared message push address, which is *{baseUrl}*.

Step 5 Upload the certificates. Perform this step when the push address is an HTTPS address.

1. (Optional) Click **Trust certificate** and select the certificate uploaded in **1**.
2. (Optional) Click **Identity certificate** and select the certificate uploaded in **1**.

Step 6 Select an authentication mode. The options are **Signature Authentication** and **OAuth Authentication**.

- If **Signature Authentication** is selected, messages are directly pushed to customers. In this case, you need to set the following parameter:

  Key: The value is a string of 43 characters and can contain only letters and digits.
- If **OAuth Authentication** is selected, messages are pushed to the API Fabric, and then the API Fabric pushes the messages to customers. In this case, you need to set the following parameters:

  App ID: Contact the system administrator to obtain the app key of the app that has subscribed to the pushMsg API and bound to the tenant space for which the web channel needs to be configured on the **Online Studio** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.

  App Secret: Contact the system administrator to obtain the app secret of the app that has subscribed to the pushMsg API and bound to the tenant space for which the web channel needs to be configured on the **Online Studio** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.

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Step 7 Click **The next step** to complete the configuration.

----End

2.5.12.8.1 Message Push Interface Specifications

Scenario

AICC will invoke this API to push messages which replied by agents or system messages.

Method

POST

URI

{baseUrl}/webhooks/v1/messages

Request Description

Table 2-81 Request header parameters

No.	Name	Type	Mandatory or Not	Description
1	Authorization	string	True	Used for authentication. Value is auth-v2/{accessKey}/{timestamp}/{SignedHeaders

Table 2-82 Request body parameters

No.	Name	Type	Mandatory or Not	Description
1	messages	list[**DownLinkMsg**]	True	Messages and events.
2	timestamp	long	True	Send time, and it will be used to generate authentication signature.

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Table 2-83 Parameter structure of DownLinkMsg

No.	Name	Type	Mandatory or Not	Description
1	channel	string	True	Message Channel Type,Such as WEB.
2	isOfflineStatus	Boolean	False	It is used in client to judge whether can send message in next step. When user wait timeout, AICC will push a message, if async switch is on, the value will be true. If async switch is off, the value will be false.
3	content	string	True	Content of the MT message sent to the customer. If controlType is CHAT, and If mediaType is TEXT, the value is text content. If mediaType is IMAGE/VIDEO/AUDIO, the value is id of resource, client should use downloadFileStream API to get resource. If mediaType is LOCATE, the value is location information, format is latitude/longtitude/description. If controlType is READ, the value is messageId array which already be read.
4	from	string	True	ID of the message sender. Channel ID.

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No.	Name	Type	Mandatory or Not	Description
5	mediaType	string	True	Message media type, for example, text type (TEXT), image (IMAGE), video (VIDEO), voice (AUDIO), and location (LOCATE).
6	senderNickname	string	False	Nickname of the message sender.
7	sourceType	string	True	Message sender, for example, agent (AGENT), robot (ROBOT), and system (SYSTEM).
8	controlType	string	True	Message control type, such as connect(CONNECT) chat (CHAT) and disconnect (DISCONNECT),Transfer to manual service(TRANS2AGENT),Read report(READ)
9	timestamp	long	True	Message sending timestamp.
10	to	string	True	userId
11	simQuestions	string	False	Similarity Question Content.
12	messageCode	string	False	A Unique value which is used to identify the message agent sent. Max length is 64.

Response Description

Status code: 200

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Table 2-84 Response body parameters

No.	Name	Type	Mandatory or Not	Description
1	resultCode	String	True	0 is success, If returns not HTTP 200 or resultCode is not 0, it means push message failed.
2	resultDesc	String	False	Customization

Example

- Request header:

```
Content-Type: application/json
Authorization: Bearer XXXXXXXXXXXXXXXXXXXXXXX
```

- Request parameters:

```
{
   "timestamp": 1625898453913,
   "messages": [//1connected{
       "from": "202105284494222653",
       "channel": "WEB",
       "to": "44444444",
       "controlType": "CHAT",
       "mediaType": "TEXT",
       "content": "The call is connected to an agent.",
       "simQuestions": null,
       "senderNickname": "SYSTEM",
       "timestamp": 1625898453913,
       "sourceType": "SYSTEM",
       "callId": null,
       "messageCode": null,
   },
   //queuing{
       "from": "202105284494222653",
       "channel": "WEB",
       "to": "44444444",
       "controlType": "CHAT",
       "mediaType": "TEXT",
       "content": "Queuing...",
       "simQuestions": null,
       "senderNickname": "SYSTEM",
       "timestamp": 1625898453913,
       "sourceType": "SYSTEM",
       "messageCode": null,
   },
   //disconnect because of agent
{
       "from": "202105284494222653",
       "channel": "WEB",
       "to": "44444444",
       "controlType": "DISCONNECT",
       "mediaType": null,
       "content": null,
       "simQuestions": null,
       "senderNickname": null,
       "timestamp": 1625898871961,
       "sourceType": "AGENT",
       "messageCode": null,
   },
   //disconnect because of timeout, and async switch is off
```

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```
{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "DISCONNECT",
        "mediaType": null,
        "content": null,
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "SYSTEM",
        "messageCode": null,
    },
//disconnect because of timeout, and async switch[D1]  is on
{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "DISCONNECT",
          "isOfflineStatus":true,
        "mediaType": "TEXT",
        "content": "{TIPS}",
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "SYSTEM",
        "messageCode": null,
    },
//read{
        "from": "202105284494222653",
        "channel": "WEB",
        "to": "44444444",
        "controlType": "READ",
        "mediaType": null,
        "content": "messageId1,messageId2[D2] ",
        "simQuestions": null,
        "senderNickname": null,
        "timestamp": 1625898871961,
        "sourceType": "AGENT",
        "messageCode": null,
    }
]
}
```

- Response parameters:

```
{
   "resultCode": "0",
   "resultDesc": "success."
}
```

2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?

After the functions are enabled, emails or SMS messages can be automatically replied to customers based on the configured notification template.

Prerequisites

For the email channel, you have created an auto reply email template and non-workday reply email template. For details about how to create the templates, see **Step 3**.

For the SMS channel, you have created an auto reply SMS template and non-workday reply SMS template. For details about how to create the templates, see **Step 2**.

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Context

Only the email and SMS channels support the auto reply and non-workday reply functions.

Procedure

Step 1 Configure the auto reply function of the email channel.

1. Click  to enable the auto reply function.
2. Select an email sending gateway.

   The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the email gateway can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the email gateways under the current OU.

   The default email address of an email sending gateway cannot be the same as the email address of a recipient.
3. Select a configured auto reply template.

   For the email channel, select an email template.

   The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the reply template can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the reply templates under the current OU.
4. Select a configured non-workday auto reply template.

   For the email channel, select an email template.

   The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the reply template can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the reply templates under the current OU.
5. Click **Save**.

Step 2 Configure the auto reply and non-workday reply functions of the SMS channel.

1. Enable the auto reply function.
   a. Click  to enable the auto reply function.
   b. Select a configured auto reply template.

      For the SMS channel, select an SMS gateway template.

      The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the reply template can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the reply templates under the current OU.

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2. Enable the non-workday reply function.
   a. Click  to enable the non-workday reply function.
   b. Select a configured non-workday reply template.

      For the SMS channel, select an SMS gateway template.

      The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the reply template can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the reply templates under the current OU.
3. Click **Save**.

----End

2.5.12.10 How Do I Enable Connection to the Intelligent Robot?

After **Connecting to the Intelligent Robot** is enabled, a customer communicates with the robot after accessing the system through a channel.

Context

For the email and SMS channels, only the following parameters are available: **Avatar**, **Name**, **Gender**, and **Robot**.

Procedure

Step 1 Click  to enable **Connecting to the Intelligent Robot**.

Step 2 Set the avatar. Click **Update** to change the avatar. Seven system avatars are available.

Step 3 Set the robot name and gender.

Step 4 Select a robot. The robot is configured in the intelligent IVR. For details, see **2.6.2 Configuring an Intelligent Robot**.

When **Connect to Chatbot** is selected, the search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the intelligent chatbot can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the intelligent chatbots under the current OU.

NOTE

When configuring the intelligent IVR, you need to configure the call transfer diagram element. The call transfer type cannot be **31**, **32**, or **33**.

Step 5 Customize the default reply, timeout reply, and prompt for transferring calls to the manual service.

Step 6 Configure a silent agent skill queue. After the configuration, when the robot encounters a problem that cannot be resolved during the conversation with a customer, the robot can seek help from an agent in the skill queue.

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The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the called route can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the called routes under the current OU.

Step 7 Click **The next step** or **Saved** to complete the configuration.

----End

2.5.12.11 How Do I Enable Connection to the Robot Assistant?

Context

Only the email and SMS channels do not support the robot assistant.

Procedure

Step 1 Click to enable **Access Robot Assistant**.

Step 2 Select a robot assistant. The robot assistant is configured in the intelligent IVR. For details, see **2.6.4.2 Configuring the Intelligent Agent Assistant**.

The search criterion **All accessible organizations** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the robot assistant can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the robot assistants under the current OU.

Step 3 Click **Next**.

----End

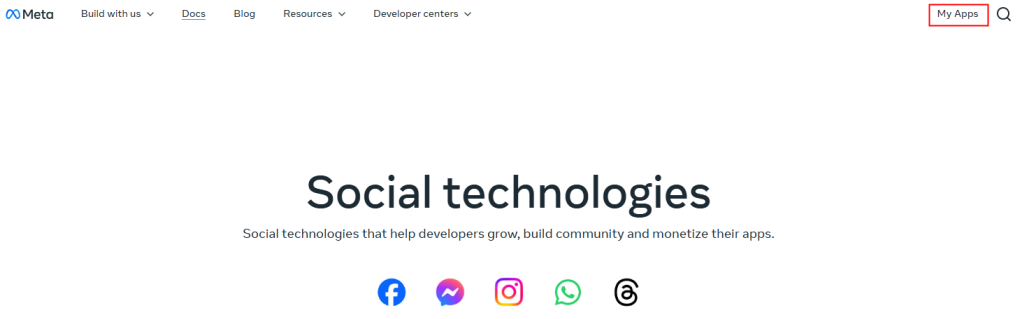
2.5.12.12 Creating an App Using a Facebook Developer Account

Question

If I have a Facebook developer account, how can I directly create an app?

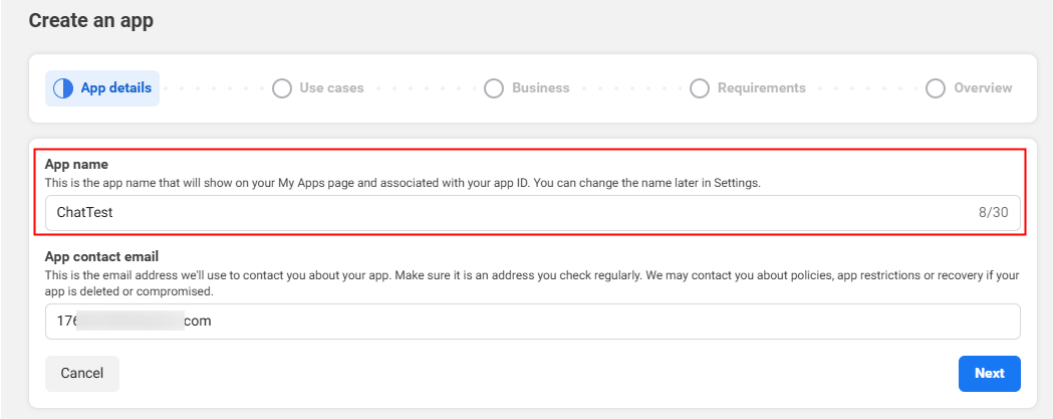
Answer

1. Use a Facebook account to log in to https://developers.facebook.com/.
2. Click **My Apps** in the upper right corner.

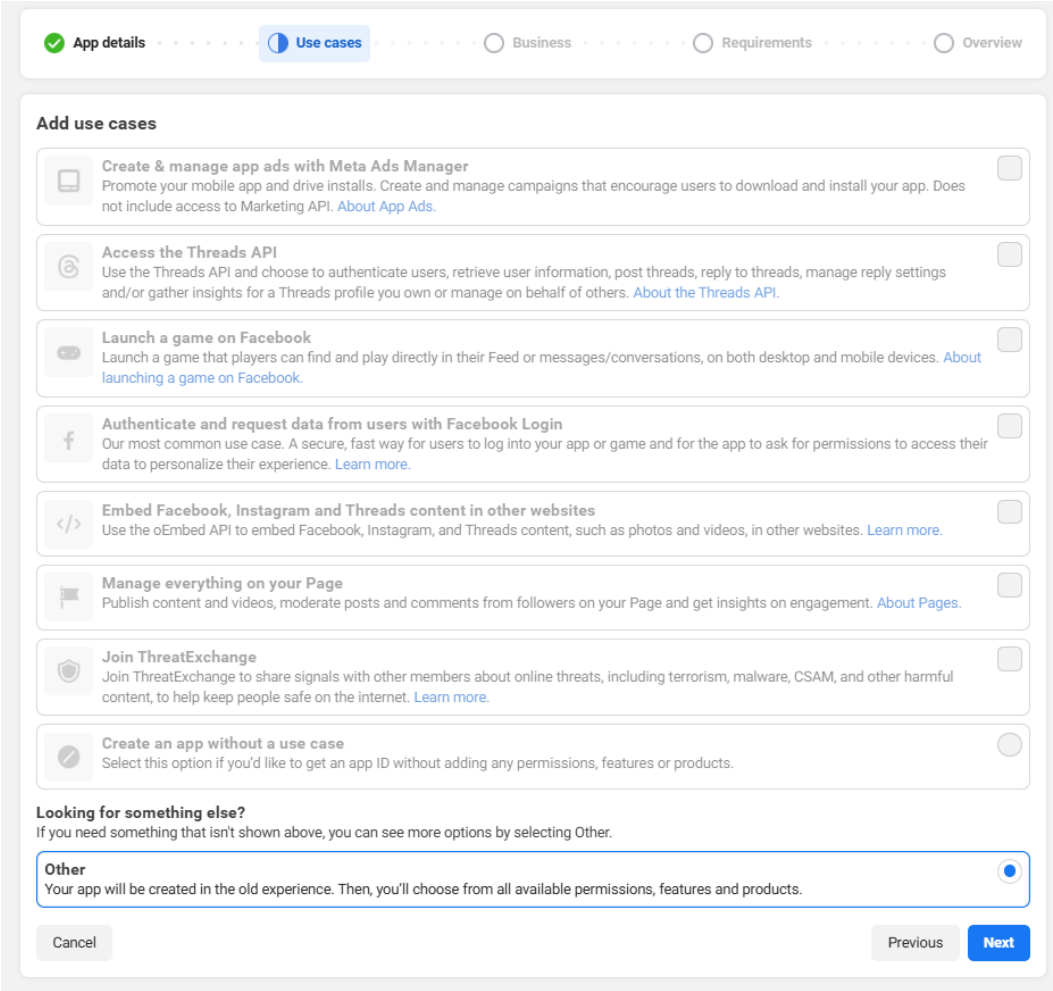


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3. On the **Apps** page, click **Create App** in the upper right corner.
4. Enter a customized app name and click **Next**.

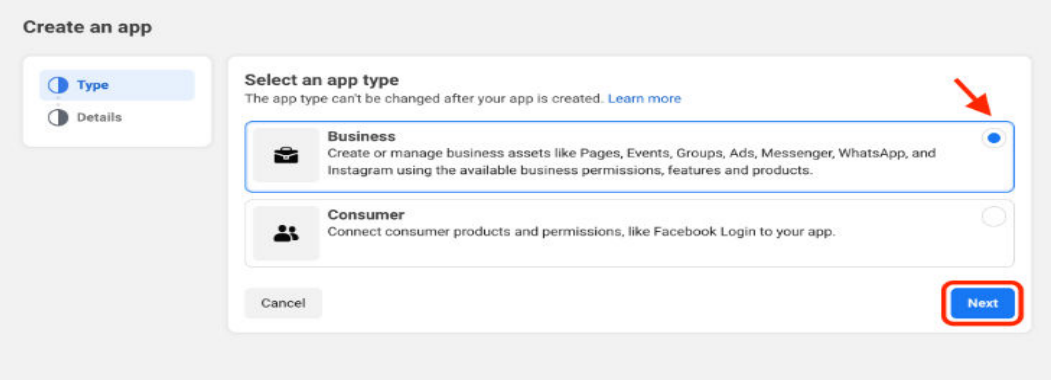


5. Select **Other** and click **Next**.

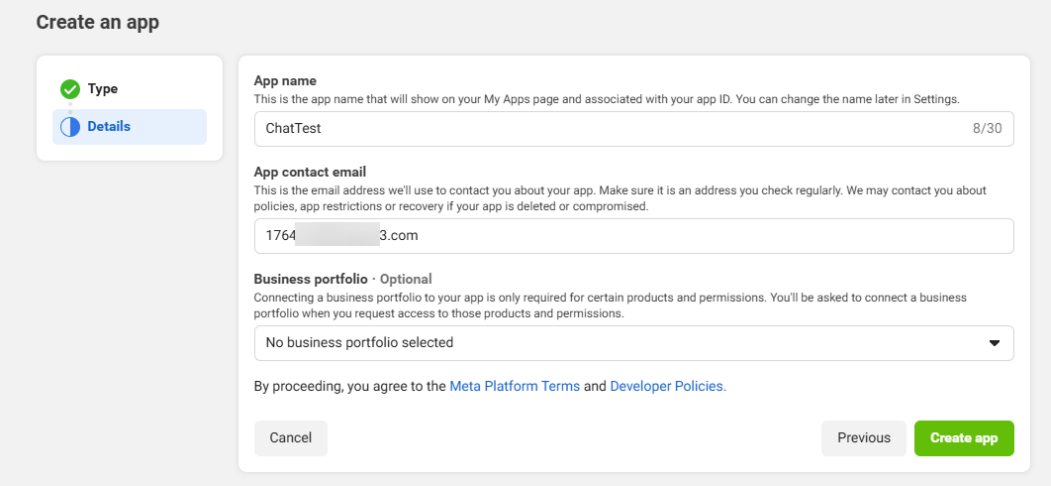


6. Select **Business** and click **Next**.

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7. Check the application information and click **Create app**.



2.5.12.13 How Do I Set Automatic Email Reply?

The email channel supports automatic email reply using the intelligent robot.

Prerequisites

You have created an automatic email reply template by referring to **Step 3**.

Procedure

Step 1 Enable automatic reply for the email channel by referring to **2.5.12.9 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**

Step 2 Configure an intelligent robot for automatically replying to emails by referring to **2.6.2 Configuring an Intelligent Robot**.

- Create a variable and set **Data Type** to **Character** and **Default Value** to a value in *Automatic reply email template ID*,*Personal email address* format. Use commas (,) to separate multiple items.

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NOTE

Obtain *Automatic reply email template ID* on the **Notification Template** page after you create an email template by referring to **Step 3**.

- 24.200 and earlier versions: Press **F12** on the **Notification Template** page to query the email template ID.
- Versions later than 24.200: Directly obtain the template ID on the **Notification Template** page.

- Create an intelligent robot flow and drag the **Robot Reply** diagram element to the canvas.
  - Set **Reply Way** to **TTS**.
  - Set **Reply Source** to **Reply Variable**.
  - Set **Reply Variable** to the flow variable created in the previous step (the options are global and flow variables).
  - Set **Reply Mode** as required.

Step 3 Enable **Connecting to the Intelligent Robot** for the email channel by referring to **2.5.12.10 How Do I Enable Connection to the Intelligent Robot?**

Set **Robot** to the robot created in the previous step.

----End

2.6 Robot Management and Configuration Guide

2.6.1 Getting Started

Online Intelligent Assistant Platform (OIAP) provides intelligent self-services. It is an enhanced version of the traditional interactive voice response (IVR). (If the OIAP is used with the IVR, voice enhancement can be implemented. If the OIAP is used alone, intelligent text reply can be implemented.) Based on the enhanced version of the IVR, customers can perform self-service operations in voice dialogs, meeting customers' requirements on self-service and intelligence of customer service systems. Enterprises can use SaaS-based OIAP services to reduce customization difficulty and costs for building self-service customer service centers.

Before using the OIAP to develop your dialog flow and configure dedicated chatbots for your customers, you need to understand the following concepts and prepare the following environment.

2.6.1.1 Common Concepts

Table 2-85 Concept list

Concept	Description
Task-oriented chatbot	Completes tasks with clear objectives such as booking flight tickets, ordering meals, and subscribing to the RBT service.

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Concept	Description
Q&A chatbot	Provides answers based on users' questions. The content of the answer is more knowledge-based rather than user-oriented. The main feature of Q&A-oriented chatbots is one question and one answer. Even though the matching scope can be expanded through similar questions and answers.
Intention	An intention can be understood as a question of a customer. The customer achieves a certain goal such as air ticket booking using one or a group of intentions.
Corpus	A corpus refers to language texts that a user may say or enter. By analyzing the questions that a user may ask when performing a task and adding them as a corpus to an intention template for semantic recognition model training, a chatbot can better understand the user's language.
Slot	Slots are parameters to be collected during dialogs. For example, to implement a train ticket booking intention, a user needs to provide information such as the departure location, arrival location, and departure time. Such information is called slots.
Entity	An entity refers to a word that can be understood as a parameter value in text content of a user. For example, such words can be "3 kilograms" and "apple" in the sentence "I want to buy 3 kilograms of apples", or "one", "tomorrow", and "Beijing" in the sentence "One train ticket to Beijing tomorrow."
Flow	A flow represents an intelligent voice navigation task. You need to connect your intentions and voice replies in the entire flow to provide the self-service voice service for customers. Flows are classified into main flows and subflows. No obvious business logic division is available for main flows and subflows. A recommended scenario is as follows: Only one main flow can be configured for a tenant space. If no flow is associated with the access code in **2.6.2.2.10 Configuring a Robot**, the customer is connected to the main flow directly. Subflows can be used in other scenarios.

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2.6.1.2 Environment Preparation

Table 2-86 Environment requirements

Item	Requirement
Access address	• In the public cloud scenario, use the URL and access account provided by the operation personnel. The URL format is as follows: **https://servicestage.besclouds.com/service-cloud/sm/login/login.html?redirectUrl=%2Fsm%2Fportal%2Fhome.html%3Ftimestamp%3D1582247986428&logoutReason=SessionInvalid**. • In the private cloud and on-premises scenarios, obtain the OIAP login URL from the environment maintenance personnel.
Client configuration requirements	Set the resolution to 1280 pixels x 1024 pixels or higher. The height must be 1024 pixels or more; otherwise, the menu may fail to be completely displayed on a page.
Voice file	Static voice files must be recorded in advance, uploaded on the **Configuration Center** > **Resource Management** > **Audio and Video** page of the AICC, and approved by the AICC system administrator.
Interface invocation	• If you need to invoke the interface provided by the third-party system to obtain the response information in the robot flow, the AK/SK authentication information and interface specifications of the third-party system are required. • If you require a third-party system to invoke the interface of this system, provide the AK/SK and interface document of this system to the third-party system. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the AK/SK on the **Third-party password** tab page. • If you require AppCube to invoke the API of this system, provide the AK/SK and API document of this system to AppCube. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the AK/SK on the **AppCube Password** tab page.
RPA interface invocation	If the agent workbench needs to use the intelligent case robot to automatically create cases, collect data, and fill in case information, the OIAP must be connected to the RPA system. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and configure and view the settings on the **RPA Settings** tab page.

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2.6.1.3 Greeting the Robot

NOTICE

- The OIAP can be deployed independently or integrated with the AICC on the public cloud. Therefore, the navigation paths vary depending on the environment.
- In this document, all the navigation paths are those selected when the OIAP is deployed independently. In the AICC public cloud scenario, you can choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** to access the OIAP.
- To use the intelligent robot (intelligent IVR) on the public cloud, ensure that you have subscribed to intelligent IVR, TTS, and ASR resources for the tenant space.

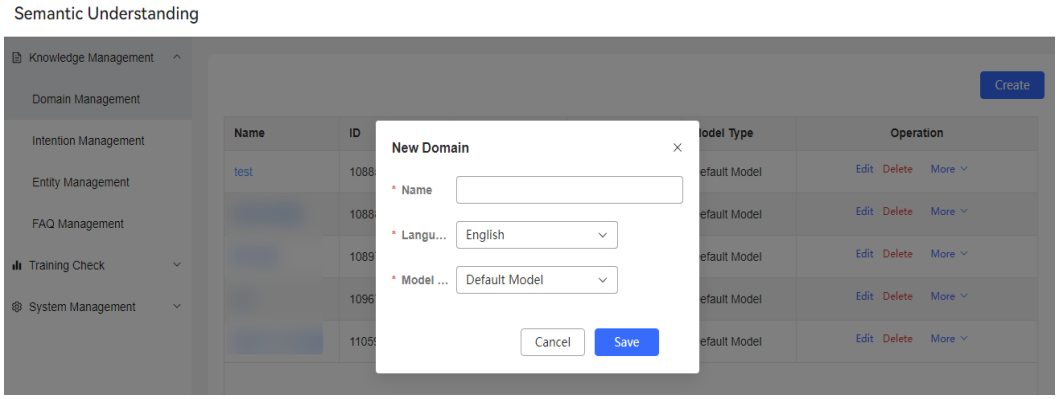
  For how to check whether IVR, TTS, and ASR resources have been subscribed to, do as follows:

  Log in to the Huawei Cloud console and choose ☰ > **Business Applications** > **Cognitive Engagement Center**. On the **Cognitive Engagement Center** page, choose **Instance Management** and click **Details** corresponding to the desired call center instance. On the **IVR** tab page, check whether intelligent IVR resources have been subscribed to. On the **TTS&ASR** tab page, check whether TTS and ASR resources have been subscribed to.

You can configure your dedicated robot online using flowcharts. To help you understand the entire configuration process, this section describes the configuration of a robot who replies with "Hello" to your greeting.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management**, click Create in the upper right corner, enter a name, and click Save.



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Step 2 Choose **Intention Management**, click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-117 Corpus

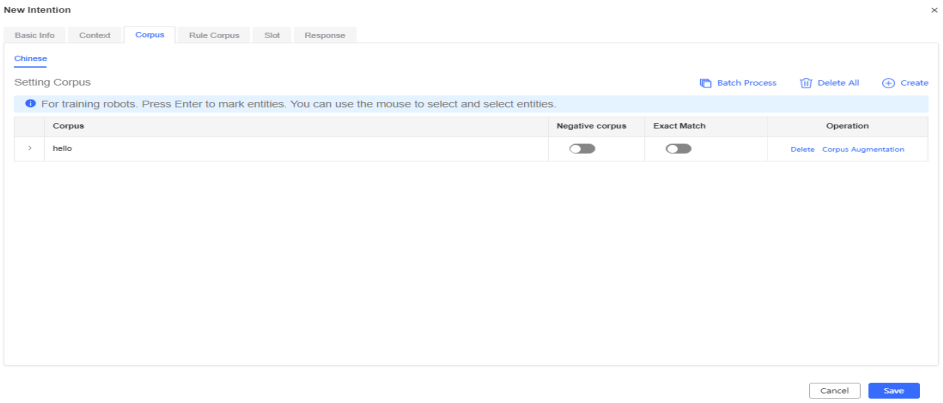
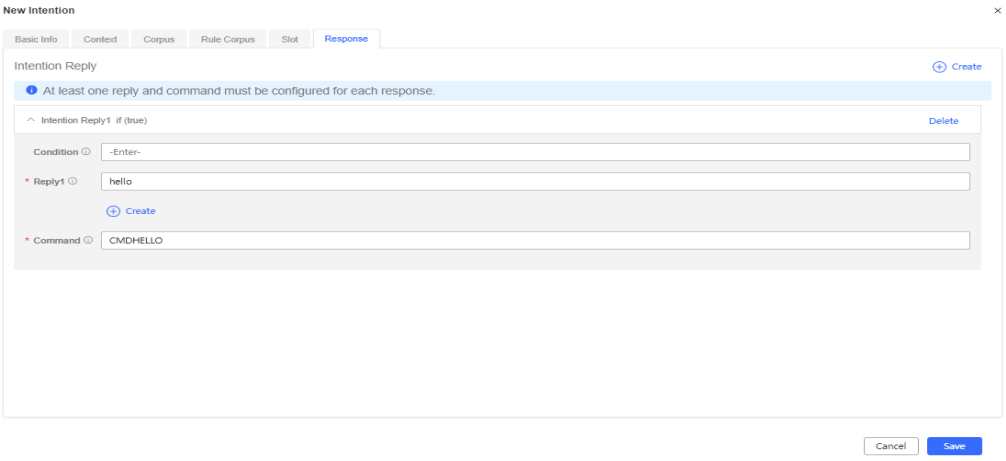


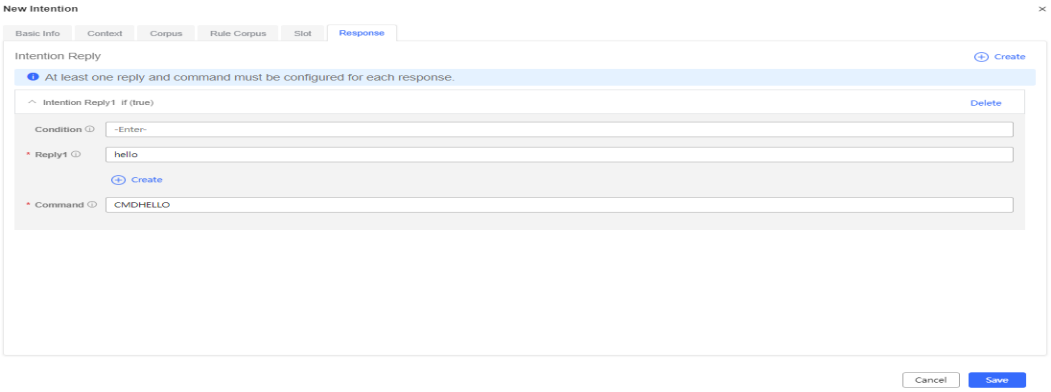
Figure 2-118 Response



Step 3 In the upper right corner of the **Intention Management** page, click **Train**.

Step 4 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management** and click **Active**.

Figure 2-119 Activating a domain

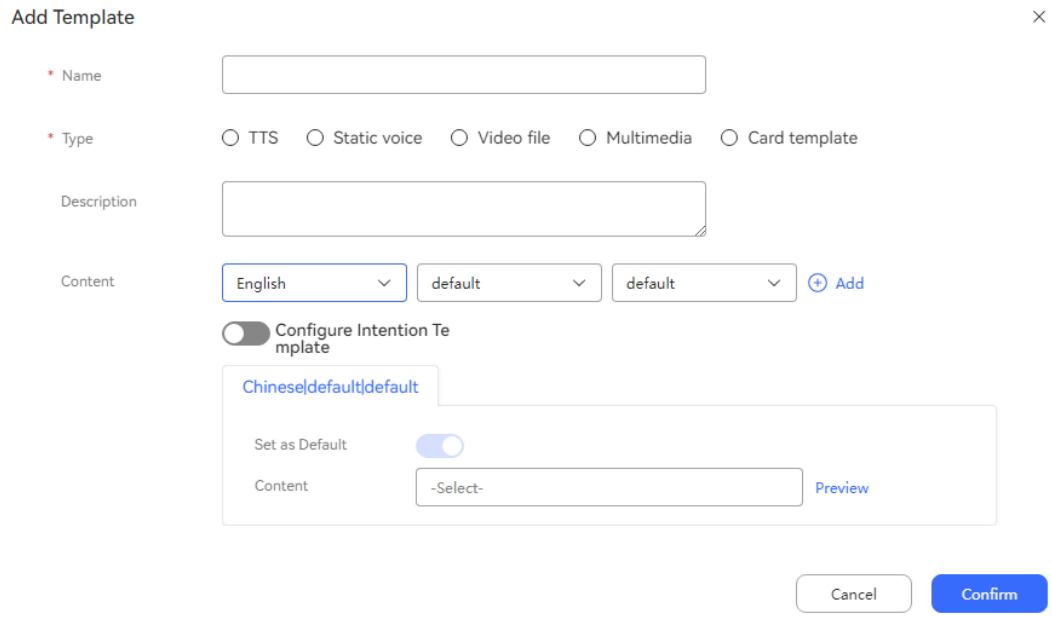


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Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template**.

In the integration environment, after the template type is set to **TTS**, the template content is selected from a drop-down list. You need to choose **Configuration Center** > **Resource Management** > **Audio and Video**, add a TTS text, and submit the text for approval. After the system administrator approves the text, you can select the text from the drop-down list.

Figure 2-120 Maintaining a resource template



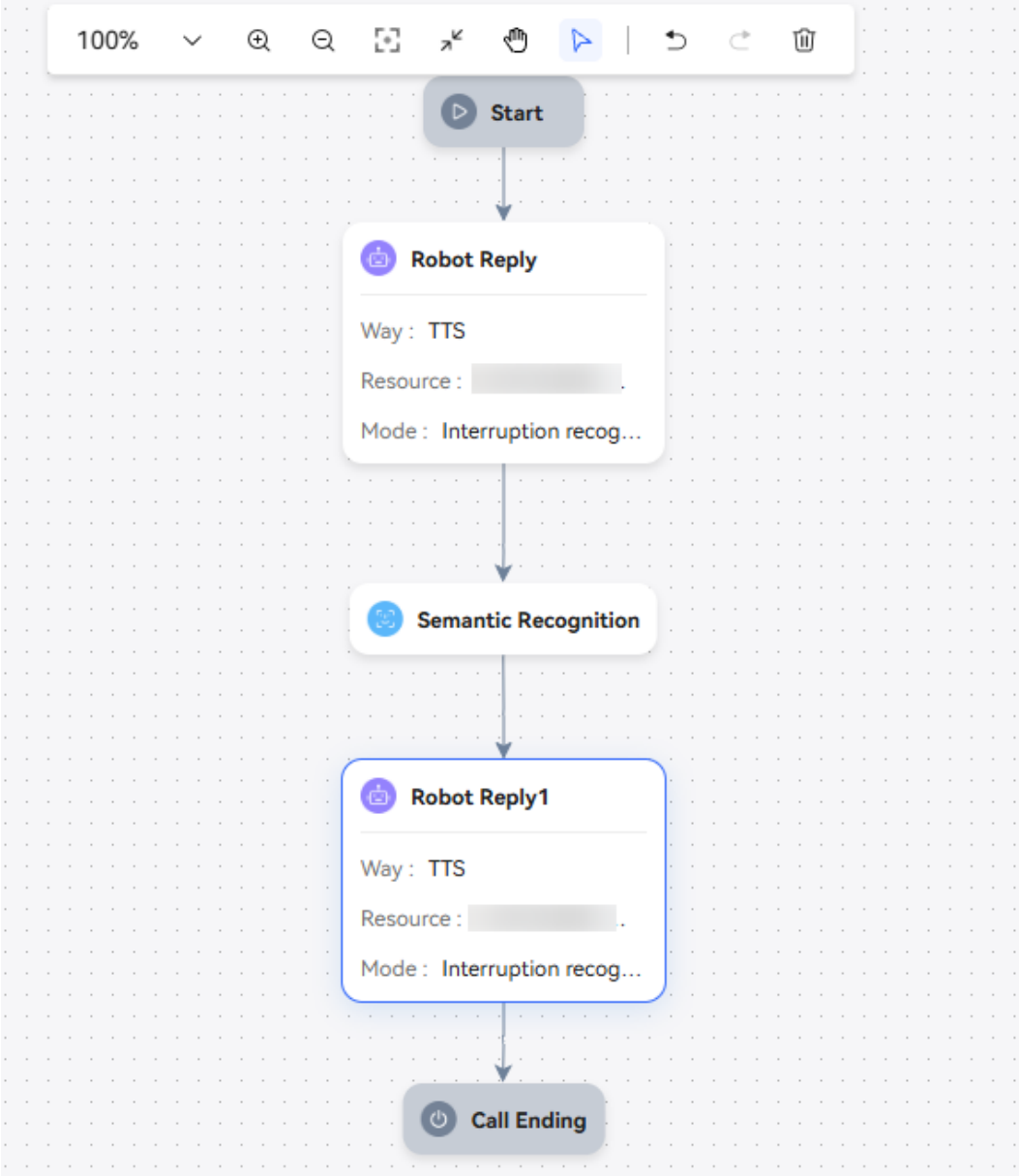
Step 6 Choose **Flow Management** > **Flow Orchestration**, click **Add** in the upper part, and set the robot script flow.

The script flow is as follows: After a call is connected, the customer hears "Hello" from the robot, then the customer says "Hello", and finally the robot replies with "Hello" again.

1. Select **Blank Flow**.
2. Drag diagram elements on the left to the canvas and connect them with lines.

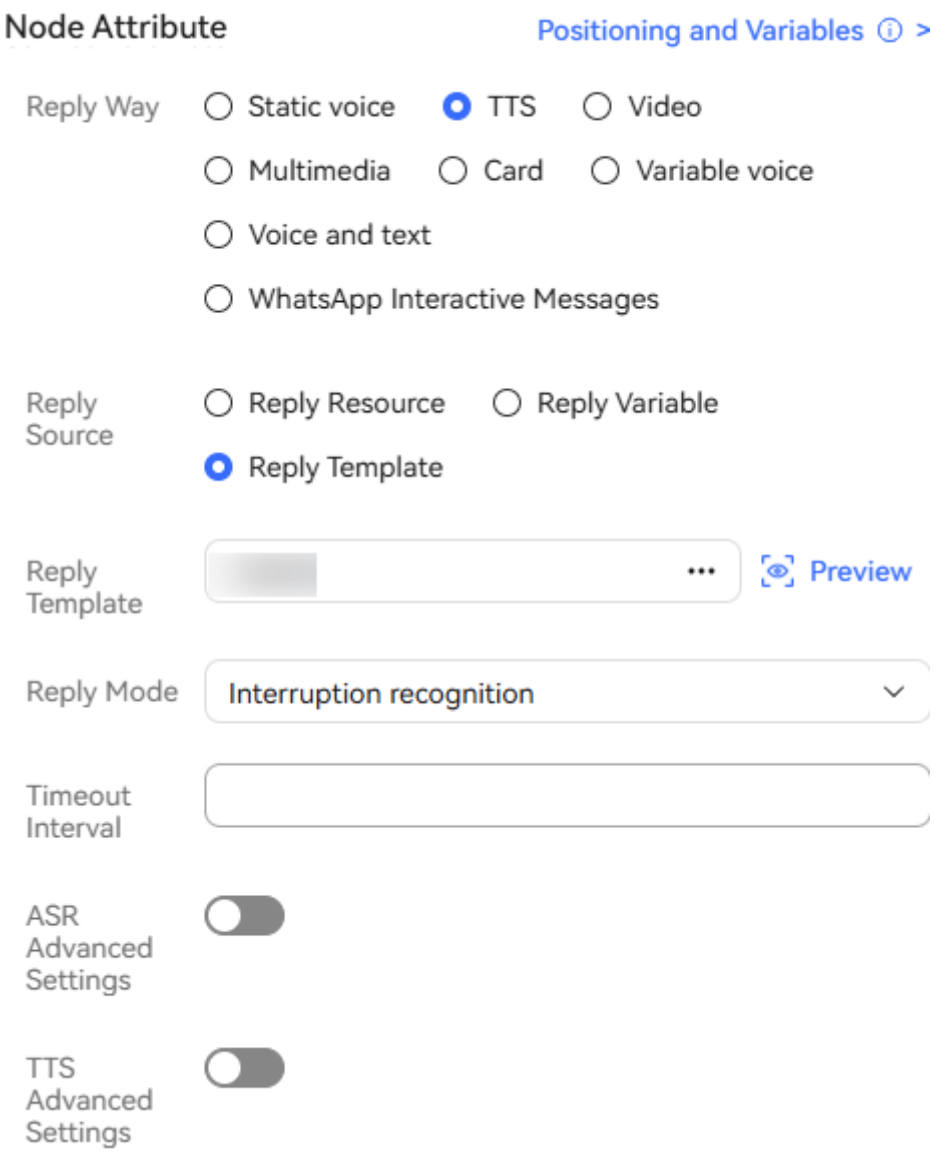
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Figure 2-121 Dragging diagram elements



3. Click the **Robot Reply** diagram element and set **Reply Template**.

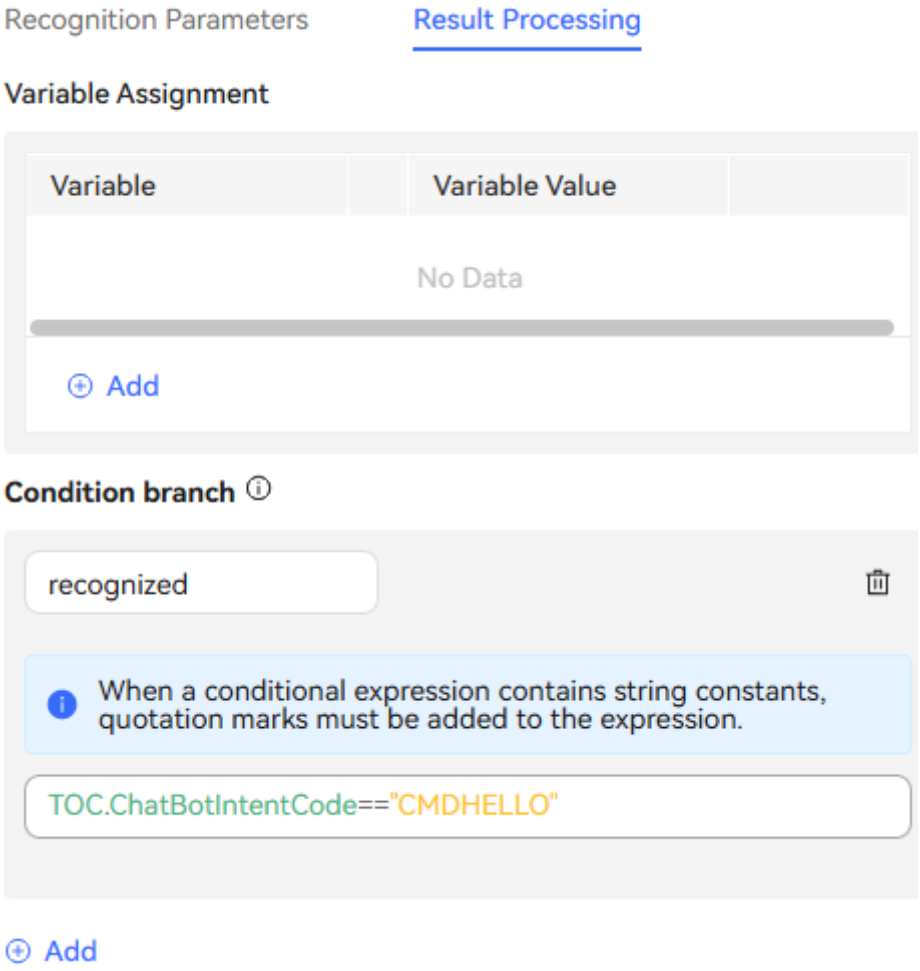
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4. Click the **Semantic Recognition** diagram element and set the recognition condition to **TOC.ChatBotIntentCode=="CMDHELLO"**.

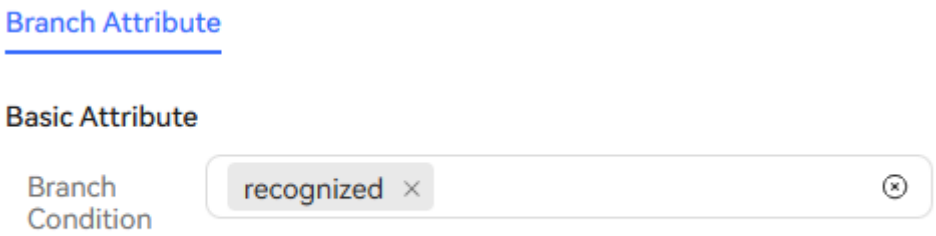
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Figure 2-122 Configuring the Semantic Recognition diagram element



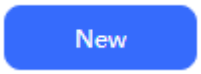
5. Click the connection line between the **Semantic Recognition** diagram element and the last **Robot Reply** diagram element, and select a branch condition.

Figure 2-123 Setting a branch



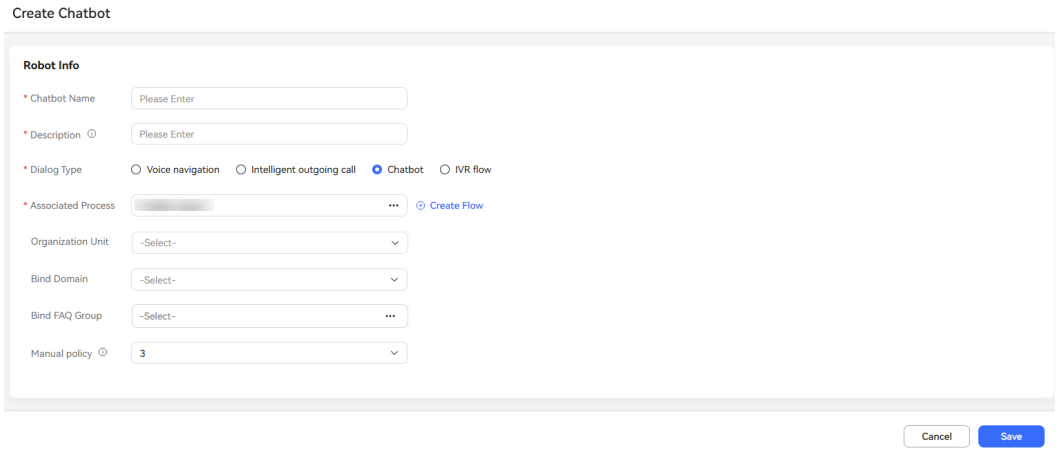
6. Click the last **Robot Reply** diagram element and set **Reply Template** to the template the same as that in the first **Robot Reply** diagram element.
7. Click Save on the top of the canvas.
8. Click Save and Publish on the top of the canvas. In the **Publish** dialog box, click Confirm.

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Step 7 Choose **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot**, and click 

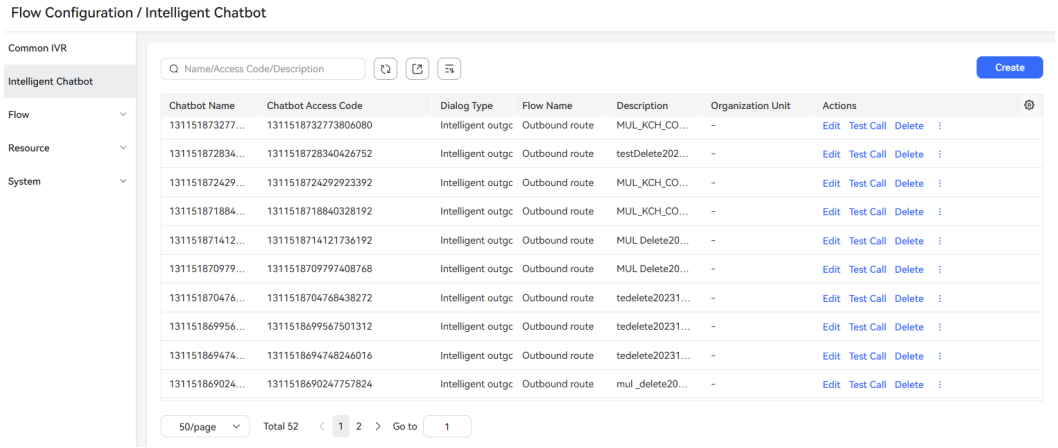
to associate a flow access code with the new flow.

Figure 2-124 Create Chatbot page



Step 8 Click **Test Call** on the right of the intelligent robot and enter **Hello**. The chatbot replies with **Hello**.

Figure 2-125 Test Call button



Step 9 If **Dialog Type** is set to **Chatbot**, configure a channel.

1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.
2. Click **New**. In the **Robot Configuration** area, enable **Connecting to the Intelligent Robot** and select the published robot.

Step 10 If **Dialog Type** to **Voice navigation** or **IVR flow**, configure a called route.

1. Choose **Configuration Center** > **Access Configuration** > **Called Party**.
2. Click **New**, select the organization unit to which the called party belongs, set **Access Code** and **Extension Code**, set **Device Type** to **IVR**, and select a published robot.

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3. Click **Save**.

----End

Summary

What is the general process for configuring a robot?

1. Add a voice or video resource template.
2. Configure the intentions to be recognized.
3. Orchestrate a script flow and publish it.
4. Configure a robot and associate it with the corresponding script flow.

2.6.2 Configuring an Intelligent Robot

You can drag diagram elements to draw a flow and configure a task-type multi-round robot and a Q&A robot.

2.6.2.1 Overview

The OIAP supports the configuration of the chatbots listed in the following table.

Chatbot Type	Function	Industry-specific	Example
Q&A-oriented chatbot	Provides answers based on customers' questions. The content of the answer is more knowledge-based rather than customer-oriented.	In vertical domains, technical emphases are placed on the technology of replying to questions directly using the knowledge base and knowledge graph.	Customer: I am in Tianhe District. Where can I request social security handling? Chatbot: (Query the FAQ knowledge base and find the corresponding answer.) B: Hello, the addresses of service centers of Social Security Bureau are as follows: XXX in Baiyun East Road in Baiyun District; No.101 of Tianhe Building in Tianhe District; XXX in Yuexiu District...

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Chatbot Type	Function	Industry-specific	Example
Task-oriented chatbot	Completes tasks with clear objectives such as booking flight tickets, ordering meals, and subscribing to the RBT service.	In vertical domains (limited information), technologies such as multi-round dialogs and slot extraction are required.	Customer: I want to subscribe to a data package. B: We have 5 GB and 10 GB monthly data packages and unlimited data package. Which do you prefer? Customer: 5 GB monthly data package. B: Are you sure you want to subscribe to the 5 GB monthly data package? Customer: Yes. B: (Transfer the service number and 5 GB monthly data package parameter to invoke the service interface for subscribing to the package and receive a success result.) B: OK. You have successfully subscribed to the 5 GB monthly data package. The package takes effect 10 minutes later. B: Do you need other services?

2.6.2.2 Configuring an Appointment Chatbot (Task-oriented Robot)

This section uses a simple configuration example to describe how to configure a task-oriented robot.

2.6.2.2.1 Configuration Scenario

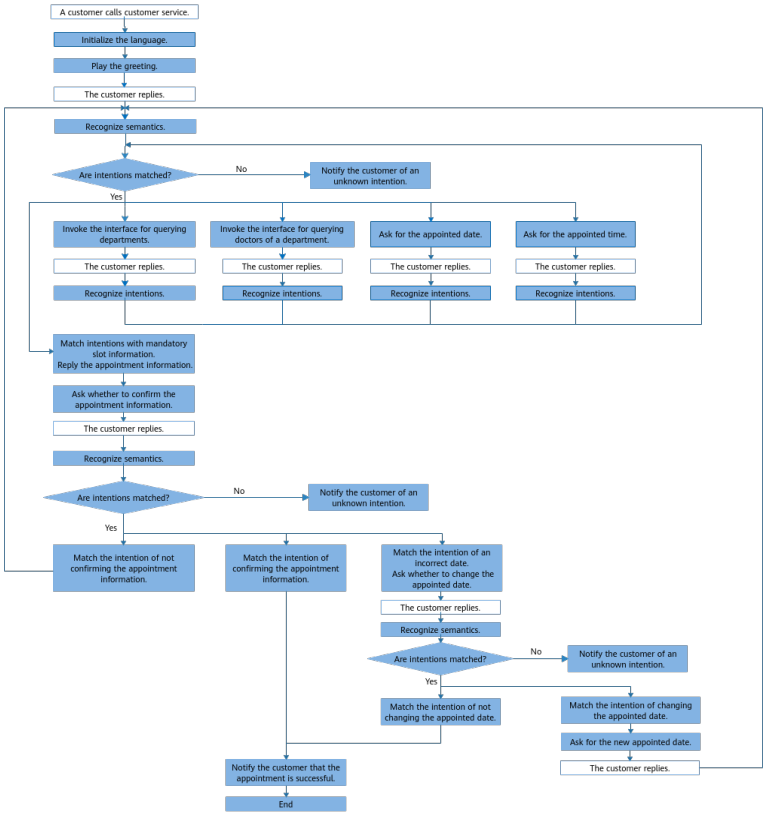
This section describes how to configure a task-oriented robot.

Scenario

The following flowchart shows a scenario where a hospital uses the intelligent voice navigation (IVN) to complete a simple robot-based appointment flow.

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Figure 2-126 Robot-based appointment flow



Note: The blue steps are performed by the IVN.

1. A customer dials the hospital customer service hotline 123456.
2. Initialize the language (Chinese or English).
3. Play the greeting.
4. The customer speaks.
5. Match the customer's words with existing intentions. If no appointment intention is matched, notify the customer of an unknown intention.
6. If the appointment intention (with four mandatory slots: appointed department, doctor, date, and time) is matched, ask the customer for the appointed department, doctor, date, and time.
7. If the customer replies the preceding information, notify the customer of the appointment information and ask the customer whether to confirm the appointment.
8. The customer replies.
9. Match the customer's words with existing intentions (whether to confirm the appointment).
   a. If the intention of confirming the appointment is matched, go to the next step and notify the customer that the appointment is successful.
   b. If the intention of not confirming the appointment is matched, return the previous appointment information to the intention recognition in **5**.
   c. If the intention of an incorrect date is matched:

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i. Ask the customer whether to change the appointed date.
ii. The customer replies.
iii. Match the customer's words with existing intentions (whether to change the date).
iv. If the intention of not changing the date is matched, go to the next step and notify the customer that the appointment is successful. If the intention of changing the date is matched, ask the customer for the new date.
v. The customer replies.
vi. Return the customer's reply and the previous appointment information to the intention recognition in **5**.

d. If no intention is matched, notify the customer of an unknown intention.

10. Notify the customer that the appointment is successful.
11. The customer hangs up.

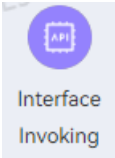
Requirement Analysis

Based on the preceding flow, the following resources and configurations are required.

Table 2-87 Requirement analysis

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Start	-		-	-

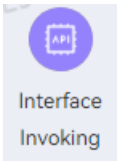
 Copyright © Huawei Technologies Co., Ltd.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Initialize the language.	Business interface for initializing the language		Variable name: **GLOBAL.language** Variable value: **"en_US"**	In the actual application scenario, you can invoke a real interface to determine the language. In this robot configuration example, this diagram element is used to assign a value. You can directly add a cache variable and assign a value to it to initialize the language, without selecting an interface to be invoked. For example, to initialize English, set **Response Attribute** to the

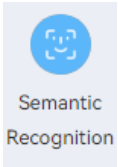
Copyright © Huawei Technologies Co., Ltd.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
				following value: **"en_US"**
Play the greeting.	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.welcome**. Set **Reply Mode** to **Recognition after playback**.	Add a flow variable as follows: Set **Variable Name** to **welcome**. Set **Data Type** to **Character**. Set **Default Value** to **Welcome to the self-service appointment system**.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the customer's reply.	Business interface for caching the dialog interaction result.		Variable name: **FLOW.ask** Variable value: **IVRREQUEST.input**	You can directly add a variable without selecting an interface to be invoked. Add a flow variable as follows: Set **Variable Name** to **ask**. Set **Data Type** to **Character**. Set **Default Value** to **Appoint ${FLOW.docSlot}'s ${FLOW.roomSlot} at ${FLOW.timeSlot} on ${FLOW.dateSlot}**.

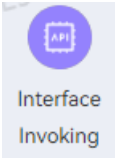
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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Recognize intentions (whether intentions are matched).	Intention template for appointment		Set **Semantic Recognition Content** to **FLOW.ask**. Set the following variables: • Variable for obtaining the department that matches intentions – Variable name: **FLOW.roomSlot** – Variable value: **TOC.ChatBotroom** • Variable for obtaining the doctor that matches intentions – Variable name: **FLOW.docSlot** – Variable value: **TOC.ChatBotdoctor** • Variable for obtaining the date that matches intentions – Variable name: **FLOW.dateSlot** – Variable value: **TOC.ChatBotdate** • Variable for obtaining the time that matches intentions – Variable name: **FLOW.timeSlot** – Variable value: **TOC.ChatBottime** In **Judgment Conditions**, set the following conditions: • Condition when the configured appointment intention is matched – Set **Condition** to **finish**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='finish'**.	Add flow variables as follows: Set **Variable Name** to **roomSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **docSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **dateSlot**. Set **Data Type** to **Character**. Set **Variable Name** to **timeSlot**. Set **Data Type** to **Character**.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
			• Condition when the command word of the mandatory department slot of the configured appointment intention is matched – Set **Condition** to **room**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='room'**. • Condition when the command word of the mandatory doctor slot of the configured appointment intention is matched – Set **Condition** to **doctor**. – Set **Condition Expression** to **TOC.ChatBotIntentCode=='doctor'**.	

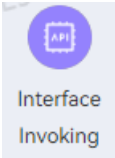
 Copyright © Huawei Technologies Co., Ltd.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the department that the customer needs to appoint. (The **room** condition is matched.)	Business interface for querying departments		Variable name: **FLOW.answer** Variable value: **FLOW.room +TOC.ChatBotRespContent**	You can directly add a variable without selecting an interface to be invoked. Add flow variables as follows: Set **Variable Name** to **answer**. Set **Data Type** to **Character**. Set **Variable Name** to **room**. Set **Data Type** to **Character**. Set **Default Value** to **Currently, the available departments are Internal Medicine and Surgery**.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Recognition after playback**.	-

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the doctor that the customer needs to appoint. (The **doctor** condition is matched.)	Business interface for querying doctors in a department		Variable name: **FLOW.answer** Variable value: **FLOW.doctor +TOC.ChatBotRespContent**	You can directly add a variable without selecting an interface to be invoked. Add flow variables as follows: Set **Variable Name** to **answer**. Set **Data Type** to **Character**. Set **Variable Name** to **doctor**. Set **Data Type** to **Character**. Set **Default Value** to **Dr. Liu and Dr. Li are on duty in the current department**.

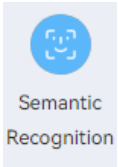
Copyright © Huawei Technologies Co., Ltd.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Recognition after playback**.	-
Notify the customer of the appointment information. (The **finish** condition is matched.)	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **TOC.ChatBotRespContent**. Set **Reply Mode** to **Playback only**.	-
Send the default reply. (No condition is matched.)	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **TOC.ChatBotRespContent**. Set **Reply Mode** to **Playback only**.	**NOTE** If no condition is matched on a connection line, the flow goes to the default branch.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Ask whether to confirm the appointment information.	-		Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.check**. Set **Reply Mode** to **Interruption recognition**.	Add a flow variable as follows: Set **Variable Name** to **check**. Set **Data Type** to **Character**. Set **Default Value** to **Are you sure you want to confirm the preceding information?**

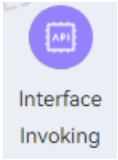
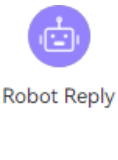
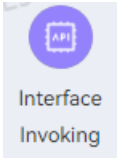
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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Recognize intentions (whether intentions are matched).	Intention template for confirmation		In **Judgment Conditions**, set the following conditions: • Condition when the intention of confirming the appointment information is matched – Set **Condition** to **yes**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='yes'**. • Condition when the intention of not confirming the appointment information is matched – Set **Condition** to **no**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='no'**. • Condition when the intention of an incorrect date is matched – Set **Condition** to **part**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='incorrect date'**.	-
Use a cache variable to cache data and recognize semantics to confirm the customer's appointment information. (The **no** condition is matched.)	-		Variable name: **FLOW.ask** Variable value: **'Appoint '**	You can directly add a variable without selecting an interface to be invoked.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Confirm whether the customer wants to change the date. (The **part** condition is matched.)	Reply template for confirming whether to change the date	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Template**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Template** to **redate**. Set **Reply Mode** to **Interruption recognition**.	Add a reply template.
	Intention template for confirmation	 Semantic Recognition	In **Judgment Conditions**, set the following conditions: • Condition when the intention of not changing the date is matched – Set **Condition** to **yes**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='yes'**. • Condition when the intention of changing the date is matched – Set **Condition** to **no**. – Set **Condition Expression** to **TOC.ChatBotconfirm=='no'**.	-

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	Ask for the new date and recognize semantics to confirm the appointment information. (The **no** condition is matched.)		Variable name: **FLOW.dateSlot** Variable value: **''** Variable name: **FLOW.answer** Variable value: **'What date would you like to appoint?'** '	You can directly add a variable without selecting an interface to be invoked.
			Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.answer**. Set **Reply Mode** to **Interruption recognition**.	-
			Variable name: **FLOW.dateSlot** Variable value: **IVRREQUEST.input** Variable name: **FLOW.ask** Variable value: **'Appoint '+FLOW.docSlot+''s '+FLOW.roomSlot+' at '+FLOW.timeSlot+' on '+FLOW.dateSlot**	You can directly add a variable without selecting an interface to be invoked.

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Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Notify the customer of the appointment information and play a thank-you message. (The **yes** condition is matched.)	-	 Robot Reply	Set **Reply Way** to **TTS**. Set **Reply Source** to **Reply Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Reply Variable** to **FLOW.thanks**. Set **Reply Mode** to **Playback only**.	Add a flow variable as follows: Set **Variable Name** to **thanks**. Set **Data Type** to **Character**. Set **Default Value** to **The appointment is successful. Thank you. Goodbye**.
End	-	 Call Ending	-	-

NOTICE

To ensure fault tolerance, you need to configure an unknown intention for situations where no intention is matched.

In intention recognition, the following information needs to be further analyzed. The following takes the appointment intention as an example. Other intentions can be analyzed using a similar method.

- Statements that the customer may use to reply appointment information. (corpus)
  - I want to see a doctor.
  - Appointment
  - I want to make an appointment.
  - I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon.

  Consider as many scenarios as possible to ensure the accuracy of intention matching.
- Information that needs to be obtained from the customer's reply. (slot and entity)

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For example, if the customer replies "Appoint 16:00", "16:00" is the slot information that needs to be obtained. You need to add the slot information to the intention. The slot information needs to be associated with a time entity, so you need to check whether a similar entity exists in entity configuration. In this example, you can use the system entity **@system.time**.

If the customer replies "Appoint Dr. Li", "Dr. Li" is the slot information that needs to be obtained. You need to add the slot information to the intention. The slot information needs to be associated with a doctor entity but the entity does not exist among system entities, so you need to manually add the entity.

- Command word used for intention matching, that is, the value of **TOC.ChatBotIntentCode** required by the **Semantic Recognition** diagram element, which must be globally unique. (response)

  Branch conditions can be set for responses in the intention. You can directly add branches to reply different values of **TOC.ChatBotIntentCodes**.

2.6.2.2.2 Adding Business Interfaces

Business interfaces are encapsulated from third-party interfaces, and are then associated and invoked by the **Interface Invoking** diagram element. The IVN supports RESTful interfaces.

According to the analysis in **2.6.2.2.1 Configuration Scenario**, you need to add multiple business interfaces. All the business interfaces are used in cache variable mode, and no real interface is invoked. If you need to invoke a real interface in actual scenarios, refer to this section.

NOTICE

The business interface orchestration capability is insufficient. Therefore, in actual applications, the interface adaptation team must provide the invoked interfaces to prevent the interface definition differences between different systems.

For example, if we need to invoke an interface to obtain the values of two parameters from two interfaces in the actual business system, the interfaces need to be orchestrated to one interface for invocation.

Prerequisites

- You have contacted the system administrator to add the IP address or domain name of the third-party interface to be invoked to the trustlist.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

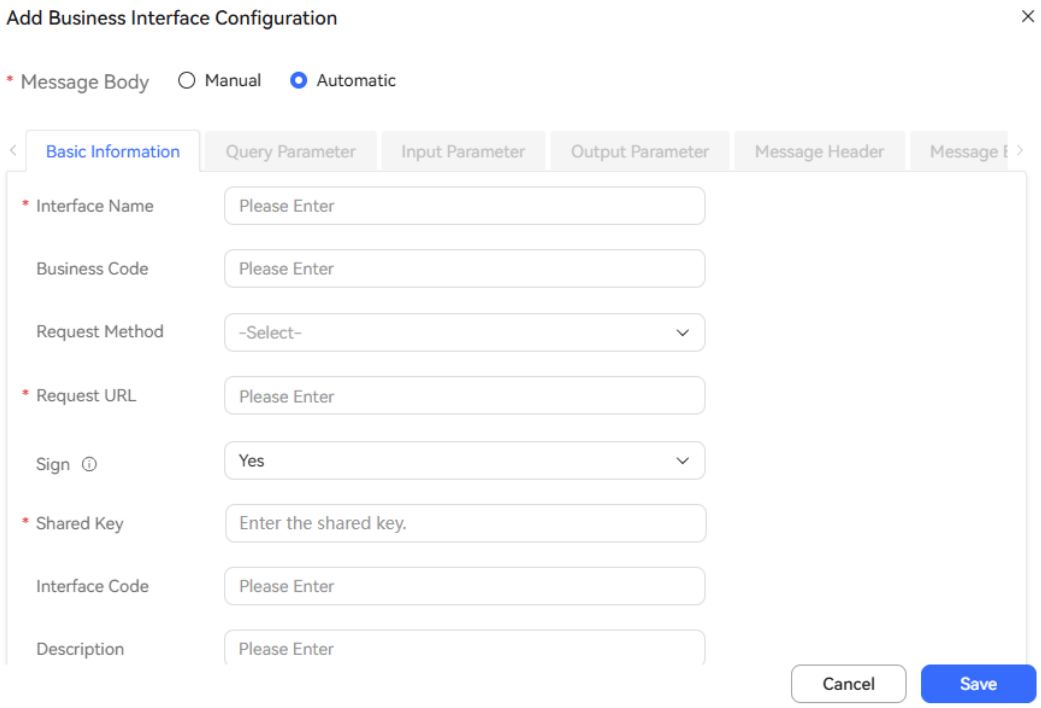
Step 2 Choose **Resource** > **Business Interface**. Click **New**.

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Step 3 Add an interface by automatically generating a message body or manually entering a message body. The following describes how to add an interface in either of the two ways.

Step 4 Add an interface by automatically generating a message body.

1. Set **Message Body** to **Automatic**, set basic information about the interface to be invoked, including the interface name, request method, and request URL.



– When **Request Method** is set to **TUC**, enter one of the following URLs in the **Request URL** text box based on site requirements. For details about the input and output parameters of the interface, see **2.6.2.5.3 TUC Interfaces**.

Table 2-88 Request URLs when Request Method is set to TUC

URL	Description
/chatbot/rest/tuc/v1/nlp/detectRegularEntity	Rule entity detection used in the case flow.
/chatbot/rest/tuc/v1/nlp/identify	Language interface.
/chatbot/rest/tuc/v1/recommendFaq	FAQ recommendation interface.
/chatbot/rest/tuc/v1/qualityInspection/qiOnline/recognize	Interface for intelligent assistant real-time inspection.
/chatbot/rest/tuc/v1/nlp/feedback	Satisfaction feedback interface.
/chatbot/rest/tuc/v1/nlp/textClassify	Text classification interface.

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URL	Description
/chatbot/rest/tuc/v1/nlp/detectEntity	Entity recognition interface.
/chatbot/rest/tuc/v1/qualityInspection	Intelligent training interface.

NOTICE

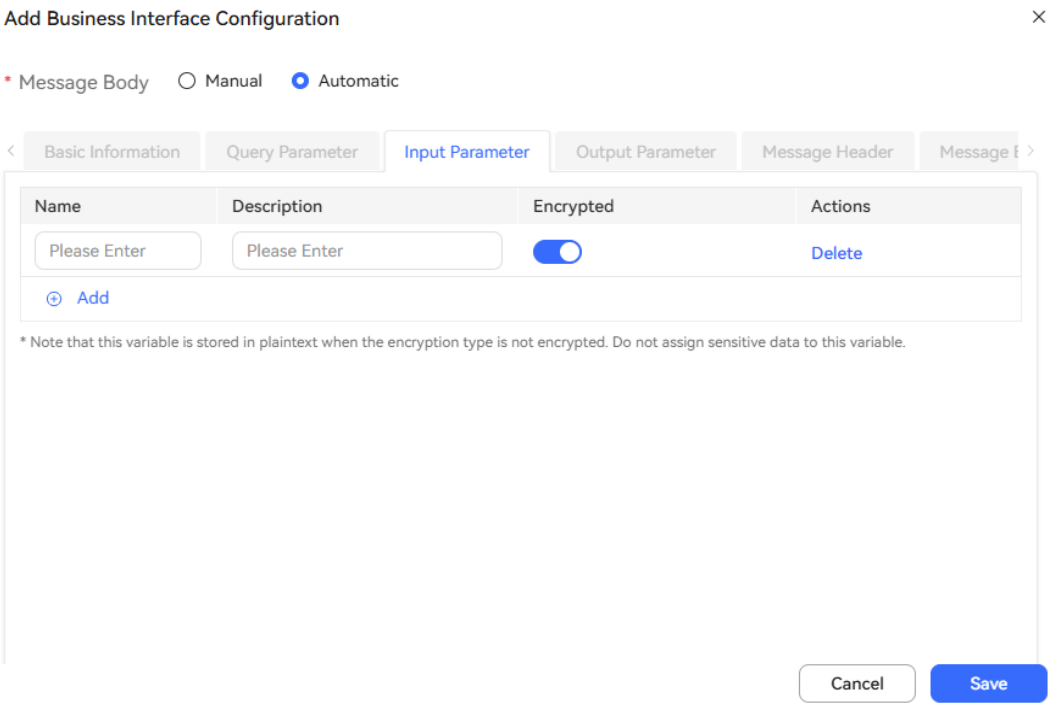
HTTP is not secure and may cause security risks. HTTPS is recommended.

- **Sign**: Set this parameter based on whether signature verification is performed on the third-party interface. If signature verification is enabled, contact the third party to provide the shared key.

  NOTE

  - If signature verification is disabled, security risks exist. You are advised to enable signature verification.
  - If signature verification is enabled, after the shared key provided by the third party is changed periodically, change the shared key on this page accordingly.

2. (Optional) If the interface has query parameters, add the query parameters, that is, *Interface request URL*?*Path parameter 1*=*Parameter value*&*Path parameter 2*=*Parameter value*.
3. Add interface input parameters. On the **Input Parameter** tab page, click **Add**. Generally, the input parameters of the interface are the same as those of the third-party system interface specifications.

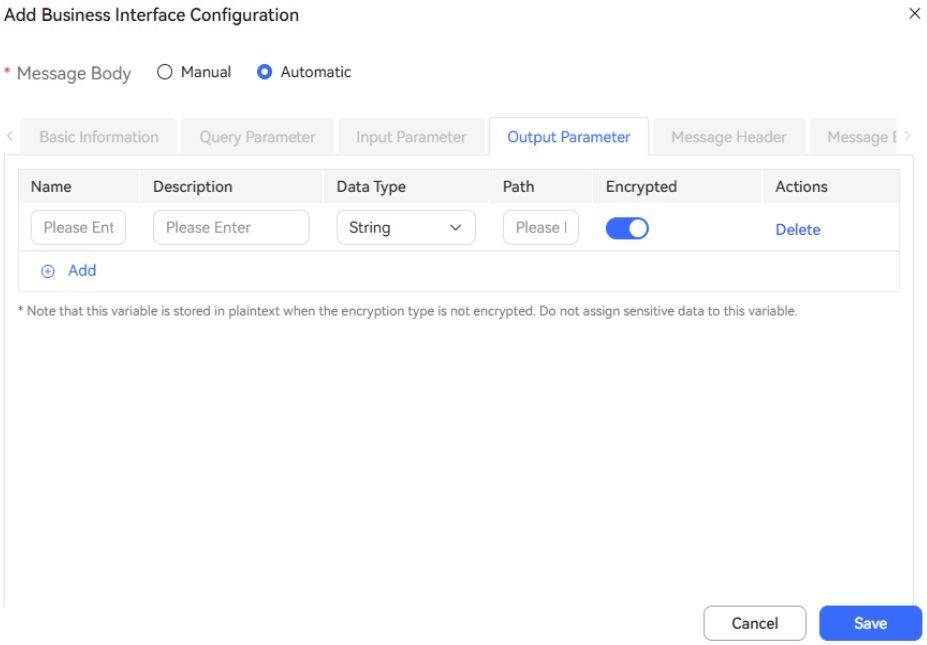


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NOTICE

For security purposes, set **Encrypted** to  if the input parameter contains personal data, such as the customer ID card number.

4. Add interface output parameters. On the **Output Parameter** tab page, click **Add**. The output parameters of the interface are the same as those of the third-party system interface specifications.



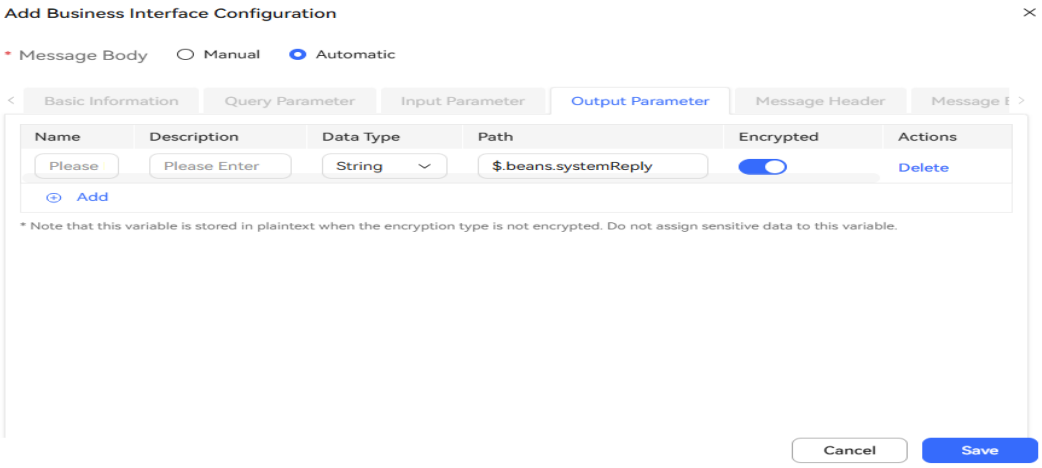
NOTICE

For security purposes, set **Encrypted** to  if the output parameter contains personal data, such as the customer ID card number.

The following figure shows how to set **Path**. To obtain the entire return result, set **Path** to **$**. To obtain a field, add **$** at the beginning and use periods (.) to separate each level. The level structure must be the same as the structure of the return result. Otherwise, the parsing fails, or the required field cannot be obtained.

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Figure 2-127 Output parameter configuration example



5. (Optional) Add an interface message header. On the **Message Header** tab page, add the authentication information required by the interface. If the information does not exist, ignore this step. The authentication information is configured based on the specifications of the third-party system.

NOTICE

For security purposes, set **Encrypted** to **YES** if the interface message header contains personal data, such as the customer ID card number.

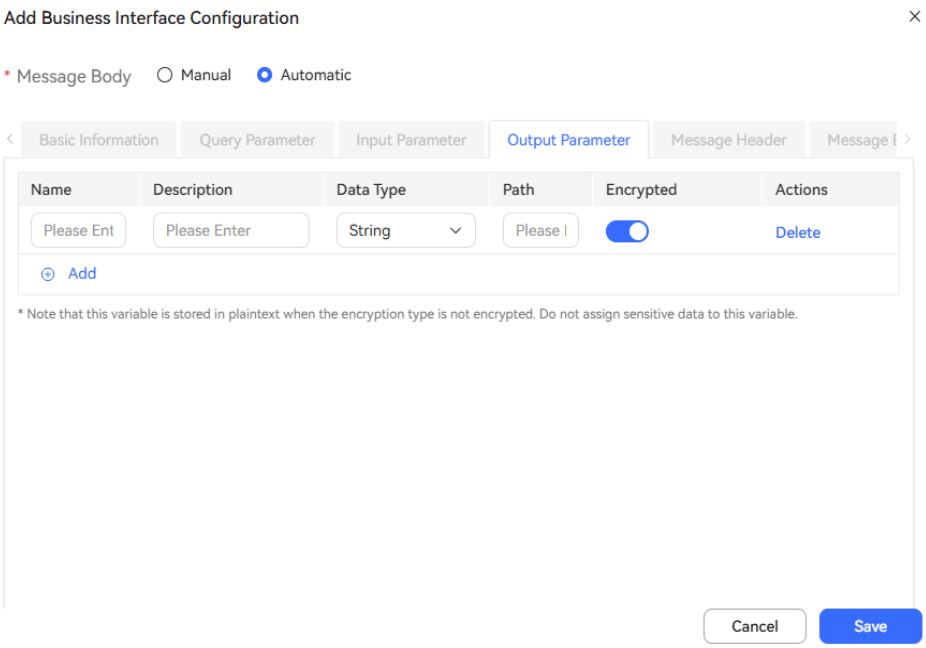
---

6. On the **Message Body** tab page, view the automatically generated message body. You can copy the generated message to the commissioning tool to check whether the interface can be invoked successfully.
7. Click **Confirm**.

Step 5 Add an interface by manually entering a message body.

1. Click the **Manual Message Body** tab. Set basic information about the interface to be invoked, including the interface name, request method, and request URL. For details about the parameters, see **Step 4.1**.
2. (Optional) If the interface has query parameters, add the query parameters, that is, *Interface request URL*?*Path parameter 1*=*Parameter value*&*Path parameter 2*=*Parameter value*.
3. Add interface output parameters. On the **Output Parameter** tab page, click **Add**. The output parameters of the interface are the same as those of the third-party system interface specifications.

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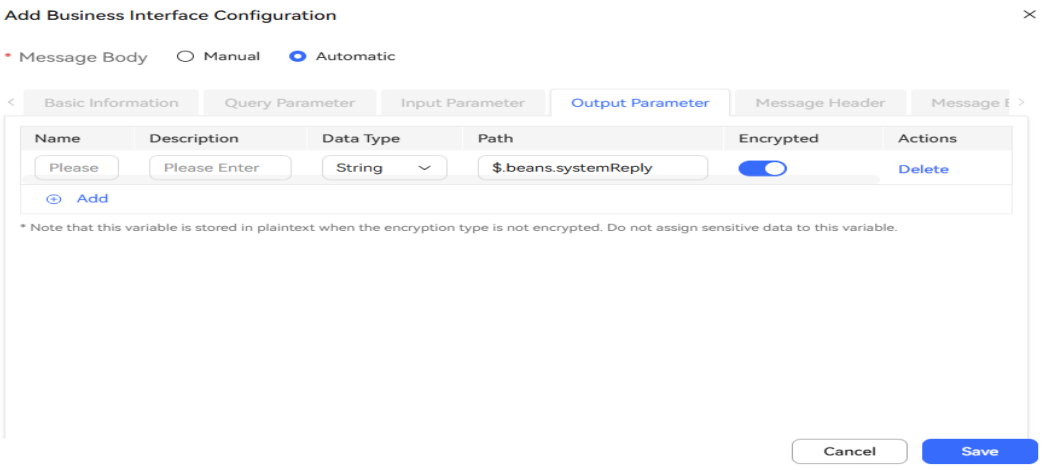


NOTICE

For security purposes, set **Encrypted** to  if the output parameter contains personal data, such as the customer ID card number.

The following figure shows how to set **Path**. To obtain the entire return result, set **Path** to **$**. To obtain a field, add **$** at the beginning and use periods (.) to separate each level. The level structure must be the same as the structure of the return result. Otherwise, the parsing fails, or the required field cannot be obtained.

Figure 2-128 Output parameter configuration example



4. (Optional) Add an interface message header. On the **Message Header** tab page, add the authentication information required by the interface. If the information does not exist, ignore this step. The authentication information is configured based on the specifications of the third-party system.

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NOTICE

For security purposes, set **Encrypted** to **YES** if the interface message header contains personal data, such as the customer ID card number.

5. Add a message body. On the **Message Body** tab page, enter the request message body. The following is an example:

```
{
   "callId": "${businessReqId}",
   "provId": "202205130514",
   "busiType": "0",
   "params": {
      "tenantId": "${tenantId}"
   }
}
```

If a message body is manually entered, the input parameters cannot be manually added. Instead, the input parameters are automatically generated by parsing the message body content. In the preceding example, two input parameters **businessReqId** and **tenantId** are generated. The input parameters **businessReqId** and **tenantId** can be variables that need to be transferred when the interface is invoked in the subsequent flow.

6. Click **Confirm**.

----End

2.6.2.2.3 Adding Resource Templates

Resources include static voice files, TTS voice files, and SMS messages. Before orchestrating flows, you need to add the involved resources, including voice and SMS templates, to the system.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Context

Table 2-89 Resources that can be added

Template Type	Description	Configuration Prerequisites
TTS	When **Reply Way** of the **Robot Reply** diagram element is set to **TTS**, the resource is configured for playing the configured text information using the TTS.	If the text contains parameters, ensure that the parameters to be used have values in the current step. For example, when a slot of a certain intention is used as a variable, the related value must be obtained before the step.
SMS	When the **SMS Sending** diagram element is used, you need to select a content template for sending SMS messages.	If the text contains parameters, ensure that the parameters to be used have values in the current step. For example, when a slot of a certain intention is used as a variable, the related value must be obtained before the step.
Static voice	When **Reply Way** of the **Robot Reply** diagram element is set to **Static voice**, the resource is configured for directly using the voice file on the server. The configuration here is for reference only.	Parameter variables cannot be configured. You need to upload the voice file with the same name of the template to the UAP file server first.

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Template Type	Description	Configuration Prerequisites
Video file	When **Reply Way** of the **Robot Reply** diagram element is set to **Video**, the resource is configured for directly using the video file on the server. The configuration here is for reference only.	Parameter variables cannot be configured. You need to upload the video file with the same name of the template to the UAP file server first.
Card template	When **Reply Way** of the **Robot Reply** diagram element is set to **Card**, the resource is configured for directly using the card on the server.	You can select a card template only after it has been configured under **Configuration Center** > **Resource Management** > **Multimedia Library** in the AICC.
Multimedia	When **Reply Way** of the **Robot Reply** diagram element is set to **Multimedia**, the resource is configured for directly using the multimedia content on the server.	You can select a rich text, image, location, or other templates only after it has been configured under **Configuration Center** > **Resource Management** > **Multimedia Library** in the AICC.

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Template Type	Description	Configuration Prerequisites
WhatsApp Interactive Messages	When **Reply Way** of the **Robot Reply** diagram element is set to **WhatsApp Interactive Messages**, the resources configured here need to be used.	To set the template content, you can choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Interactive Messages**.
Email	When **Reply Way** of the **Robot Reply** diagram element is set to **Email**, the resources configured here need to be used.	To set the template content, you can create an external email template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page.

According to **Table 2-87**, you need to add a reply template for the **Robot Reply** diagram element. The following describes how to add a reply template for determining whether to change the date.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Resource Template**. Click **New**.

Step 3 Set **Name**, set **Type** to **TTS**, set **Content** as follows, and click **Confirm**.

In the integration environment, after the template type is set to **TTS**, the template is selected from a selection box. You need to choose **Configuration Center** > **Resource Management** > **Audio and Video**, add a TTS text, and submit the text for approval. After the system administrator approves the text, you can select the text from the selection box. Only IVR voice files in the current language are displayed in the selection box.

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Figure 2-129 Resource template configuration page (integration environment)

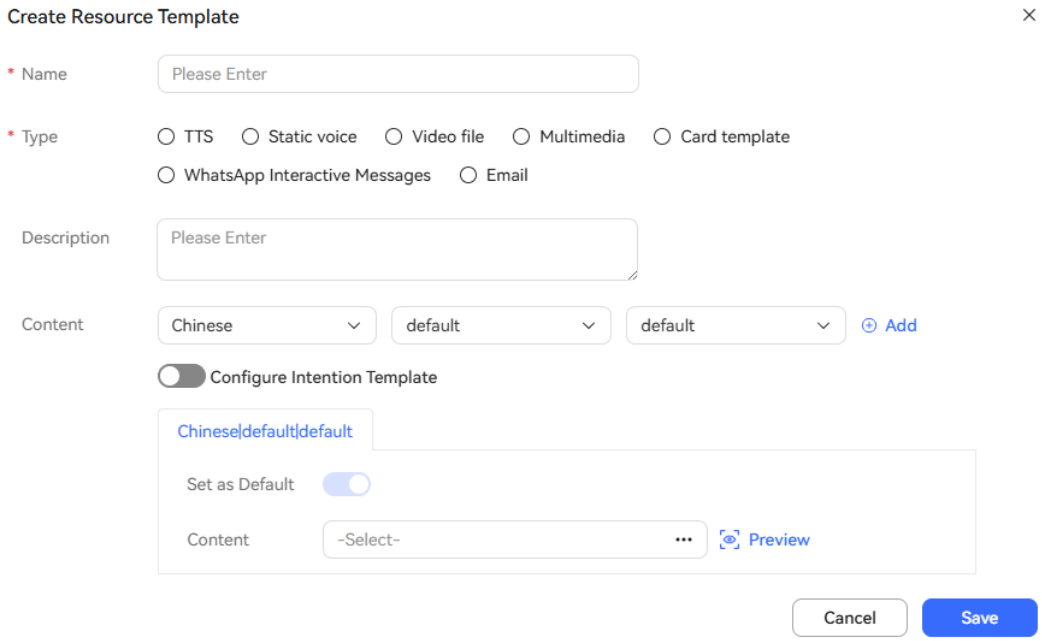
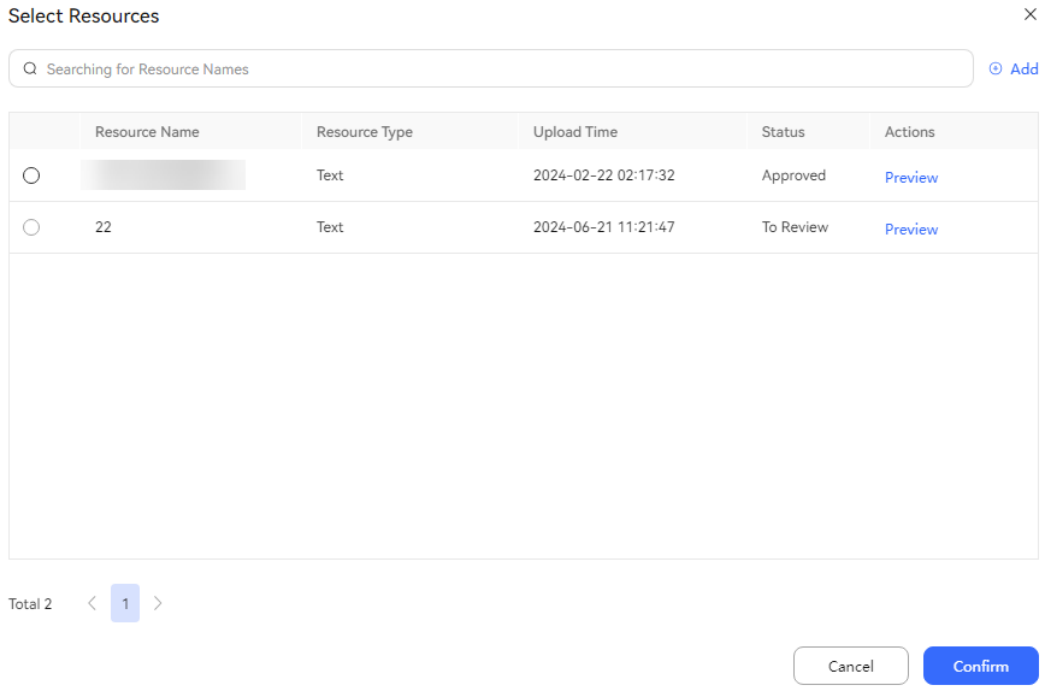


Figure 2-130 Selecting the template content



NOTE

The **Configure Intention Template** switch provides a simple tree-structured intention adding entry for guiding flow configurations in the intelligent agent assistant scenario. This function is not enabled in the current version.

----End

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Reference

To configure the dialog template for intelligent recommendation, you can obtain required information by querying customers with the intention list in the resource template.

2.6.2.2.4 Adding an Intention

An intention can be understood as a question of a customer. The customer can achieve a certain goal such as seat booking using one or a group of intentions. During IVR flow orchestration, if the semantic recognition service diagram element is selected, the intention template needs to be configured for the semantic recognition diagram element to recognize customer intentions.

Intentions can be classified into the following types:

- General Intention: intention driven by corpora. The general intention is the most commonly used. It is usually configured when the **Semantic Recognition** diagram element is used to recognize the semantic content in the customer statements in a dialog flow.
- Unknown Intention: intention selected when customer input is not recognized. Each domain needs this type for the intentions not matched in the domain. The unknown intention is preset.
- Event Intention: intention selected when a specific event is triggered. For example, if a sensitive word configured in the system exists in customer statements, the **Sensitive Word** event is triggered. The event intention is usually used to match specific events and return the matched events. The **Sensitive Word** and **Clear Context** event intentions are preset.

NOTE

What are the differences between a general intention and an unknown intention?

A general intention is a common intention that contains corpus information. For example, queries about weather and air tickets are general intentions. An unknown intention is an intention that is not recognized and contains no corpus information. It contains only response information.

You need to understand the following concepts during the intention configuration:

- Corpora are all possible statements of customers for an intention. For example, you need to prepare a template for playing music for customers. In this template, all possible statements related to music playback need to be listed, for example, "Play music for me" and "Play a song".
- For details about how to add a common corpus, see **Step 3.4**. For details about how to add a rule corpus, see **2.6.2.6.12 How Do I Use a Rule Corpus?**.

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NOTE

Corpora are classified into corpora and rule corpora. What are the differences between a corpus and a rule corpus?

- Corpus: all possible statements of customers for an intention.

  Slots can be marked in a corpus. When marking slots directly, use a corpus.

- Rule corpus: corpus that is configured to match the customer input. A rule corpus cannot mark slots, but can be applicable to all expressions of the same sentence. When expressing statements in fixed sentence patterns, use a rule corpus. For example, in **[Help me|I want to] (subscribe to a data package|subscribe to the broadband service)**, the square bracket defines optional rules, the vertical bars (|) indicate multiple choices, and the parentheses define mandatory parts. In this case, **subscribe to a data package** and **subscribe to the broadband service** can be recognized through the **Semantic Recognition** diagram element.

- **Slots** are parameters to be collected during dialogs. For example, to implement a train ticket booking intention, a customer needs to provide information such as the departure city, arrival city, and departure time. Such details are called slots. To obtain a customer intention, you can obtain customer information, such as the time, location, and category, and add the information as slots.
- **Entities** refer to words that can be understood as parameter values in the voice content of a customer. For example, such words can be **3 kilograms** and **apple** in the content **I want to buy 3 kilograms of apples** or **one**, **tomorrow**, and **Beijing** in the content **One train ticket to Beijing tomorrow**. The difference of the entity and slot is as follows: A slot represents the nature of an intention. An entity is not dedicated to an intention but used to fill a slot. In this way, modeling is performed for parameters and values separately.

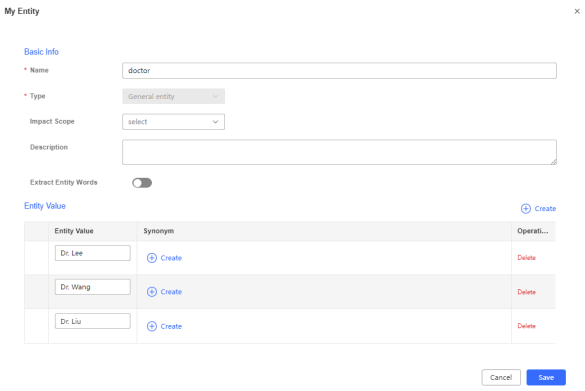
Based on **Table 2-87**, you need to add two intentions and two entities. You can use the two preset entities. The following describes how to add an appointment intention.

Procedure

Step 1 Add a domain. For details, see **2.6.2.4.6 Adding Domains**.

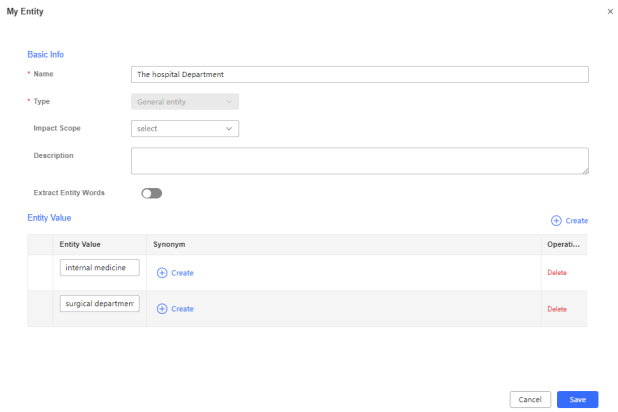
Step 2 Add a doctor entity and department entity. For details, see **2.6.2.4.7 Adding Entities**.

Figure 2-131 Adding a doctor entity



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Figure 2-132 Adding a department entity



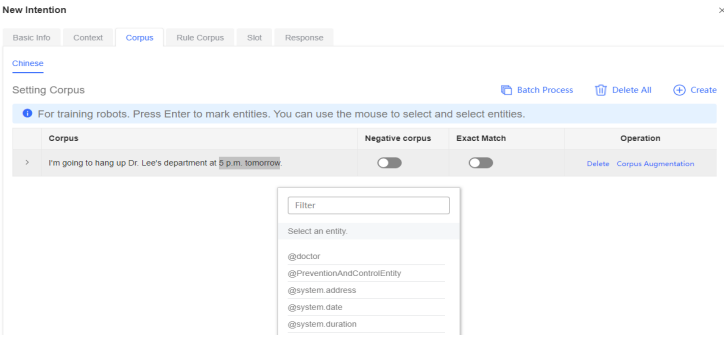
Step 3 Add an appointment intention.

1. Go to the new domain, click **Create**, and choose **General Intent**.
2. Enter an intention name, for example, **Appointment**.
3. On the **Context** tab page, click **Create** in the **Input Context** area to add a context for the current intention. In this example, no context is added.

   Context indicates that the robot processes multiple groups of statements as the same round of dialogs based on the value in a multi-round dialog. When an intention is specified, character strings configured in the context can be used to locate it.

   An intention context can be understood as the dialog memory of a robot. A robot identifies and handles multiple rounds of dialogs that have the same context as one task. For example, by multiple rounds of Q&A, a robot successively obtains the departure time, departure location, and destination for flight reservation. When the robot receives other contexts in the flight reservation context, such as a weather query context, the robot switches to a new intention that corresponds to the customer's questions. In this way, multi-intention conversion is realized.
4. On the **Corpus** tab page, click **Create**.

   Analyze the customer's possible answers and add the answers to the corpus. For example, if the customer may answer "I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon", double-click the text box and enter **I want to appoint Dr. Li's Internal Medicine at 16:00 tomorrow afternoon**. Then, select **tomorrow afternoon** and choose **@system.date** from the displayed menu, and select **16:00** and choose **@system.time** from the displayed menu.



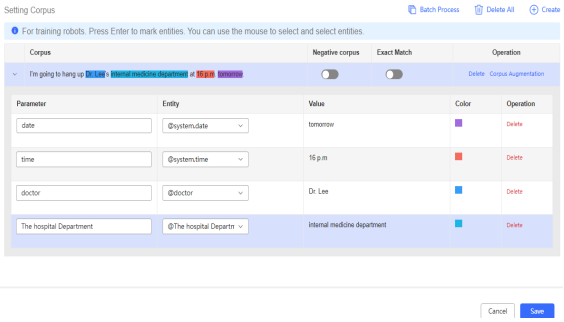
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NOTE

How to mark a slot?

After the corpus is entered, press **Enter** to automatically mark the slot. However, some corpora are special (such as this example), that is, the slot that is automatically marked after you press **Enter** does not meet the requirements. Therefore, you need to manually mark the slot.

You can add the following corpus information.

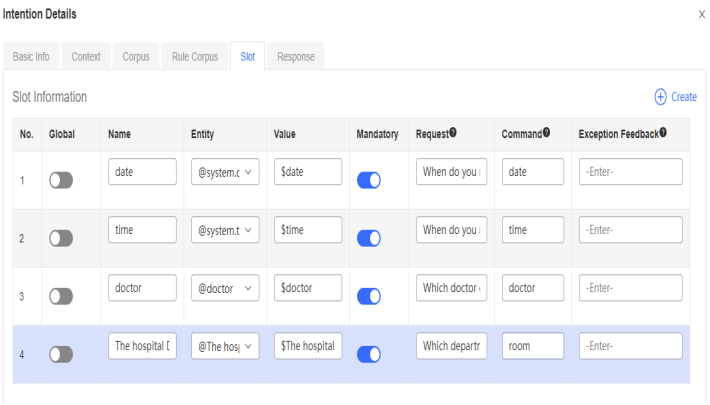


5. On the **Slot** tab page, set the slot name, whether the slot is mandatory, and the question information provided by the system when the slot information is missing.

   The name of the slot will be part of the slot variable name used during flow orchestration.

NOTICE

The complete time, date, department, and doctor must be provided to confirm an appointment. Therefore, the four slots are mandatory. Enable **Mandatory** for them.



6. On the **Response** tab page, click **Add**, and configure the command word returned after the intention matching succeeds.

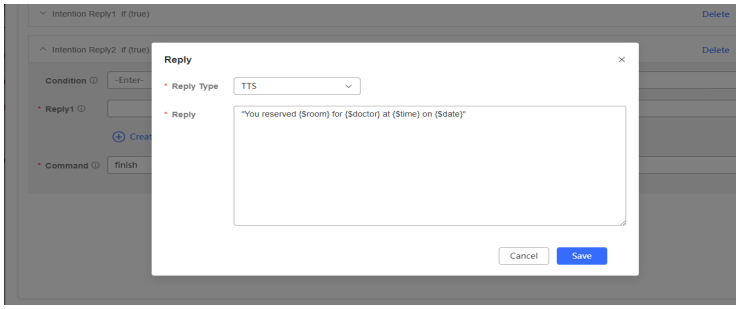
   Response means the text or command word to be reported when the intention is matched. A response can return different texts or command words depending on the condition expressions. When you need a matched intention to return prompt information to the customer, configure the TTS. When you need a matched event to be written into *TOC.IntentCode* and returned to the invoker (for example, the dialog flow), configure the command word.

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Click the **Command** text box, and set it to **finish**.



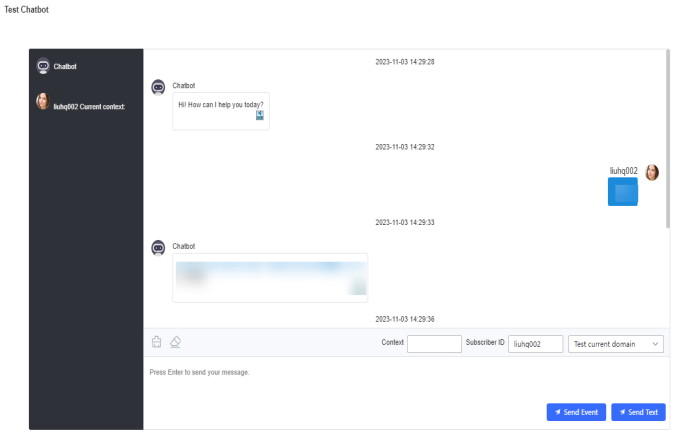
Click Create, set **Reply Type** to **TTS**, and set **Reply** to **You have appointed {$doctor}'s {$room} at {$time} on {$date}**.



7. Click **Save** in the lower right corner.
8. Click **Train** in the upper right corner. A message is displayed, indicating that the training is successful.
9. Click **Test** in the upper right corner to test the current intention.

   If you have configured the context when adding an intention, enter the configured context in the context text box on the chat page before asking the robot. Otherwise, you do not need to enter the context.

   During the test, ask the robot based on your corpus and check the robot reply. If the following information is displayed, the matching is successful.



----End

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2.6.2.2.5 Adding Flows

A flow represents an intelligent voice navigation task. You need to connect your intentions and voice replies in the entire flow to provide the self-service voice service for customers.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

Flows are classified into main flows and subflows. No obvious business logic division is available for main flows and subflows. A recommended scenario is as follows:

Only one main flow can be configured for a tenant space. If no flow is associated with the access code in **2.6.2.2.10 Configuring a Robot**, the customer is connected to the main flow directly.

Subflows can be used in other scenarios.

For details about the description and usage of each node in the flow, see **2.6.2.5.1 Diagram Elements**.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **New**.

Step 3 Set the flow template to **Blank Flow**. A blank template is used as an example to describe the usage of common diagram elements.

NOTE

What are the benefits of using a flow template?

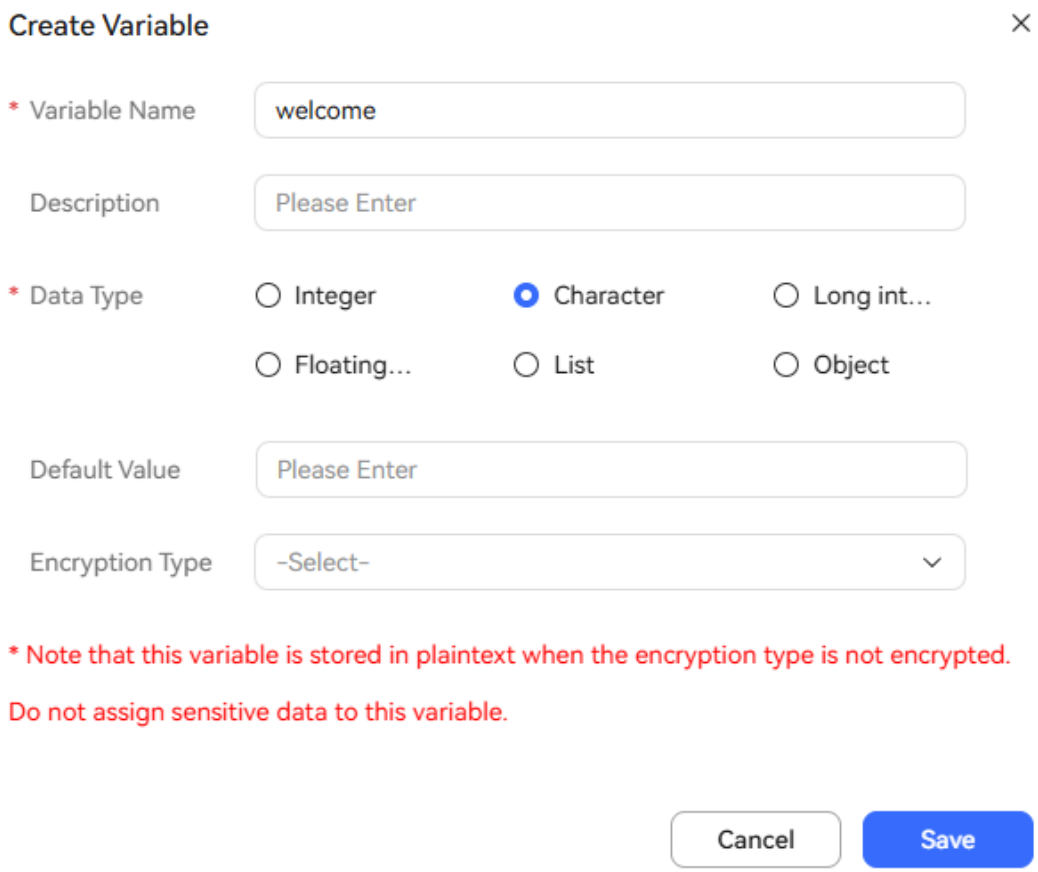
The flow templates for inbound and outbound calls are preset, including complete recognition nodes, recognition parameters, and branch conditions for processing logic that fails to recognize an intention for three times. You only need to add the corresponding reply templates, variables, and branch condition values for the flows. You can use a template to quickly configure a robot in corresponding scenarios.

In the Thai environment, the inbound call flow template and outbound call flow template cannot be selected.

Step 4 Set flow parameters.

1. Click Positioning and Variables > . The variable area is displayed on the right.
2. Click Create . The **Create Variable** dialog box is displayed.
3. In the dialog box that is displayed, set **Variable Name** and **Data Type**.

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This variable is used to store data in other diagram elements. According to the plan, you also need to add the following variables:

- **welcome**: greeting. The value is a string. The default value is **Welcome to the self-service appointment system**.
- **answer**: reply variable for the question asking for the appointed department or doctor or the new date. The value is a string. There is no default value.
- **room**: variable for asking for the appointed department. The value is a string. The default value is **Currently, the available departments are Internal Medicine and Surgery**.
- **doctor**: variable for asking for the appointed doctor. The value is a string. The default value is **Dr. Liu and Dr. Li are on duty in the current department**.
- **check**: variable for asking whether to confirm the appointment information. The value is a string. The default value is **Are you sure you want to confirm the preceding information?**
- **docSlot**: appointed doctor. The value is a string. There is no default value.
- **roomSlot**: appointed department. The value is a string. There is no default value.
- **dateSlot**: appointed date. The value is a string. There is no default value.
- **timeSlot**: appointed time. The value is a string. There is no default value.
- **ask**: customer reply, which is used for semantic recognition and intention matching. The value is a string. The default value is **Appoint $**

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{FLOW.docSlot}'s ${FLOW.roomSlot} at ${FLOW.timeSlot} on ${FLOW.dateSlot}.

- **default**: default reply when no intention is matched. The value is a string. The default value is **Excuse me, please say it again**.
- **thanks**: thank-you message. The value is a string. The default value is **The appointment is successful. Thank you. Goodbye**.

4. Select an encryption type and click **Save**.

NOTICE

For security purposes, set **Encryption Type** to **Encrypted for storage and decrypted upon retrieval** or **Encrypted for storage and retrieval** if the flow variable contains personal data, such as the customer ID card number.

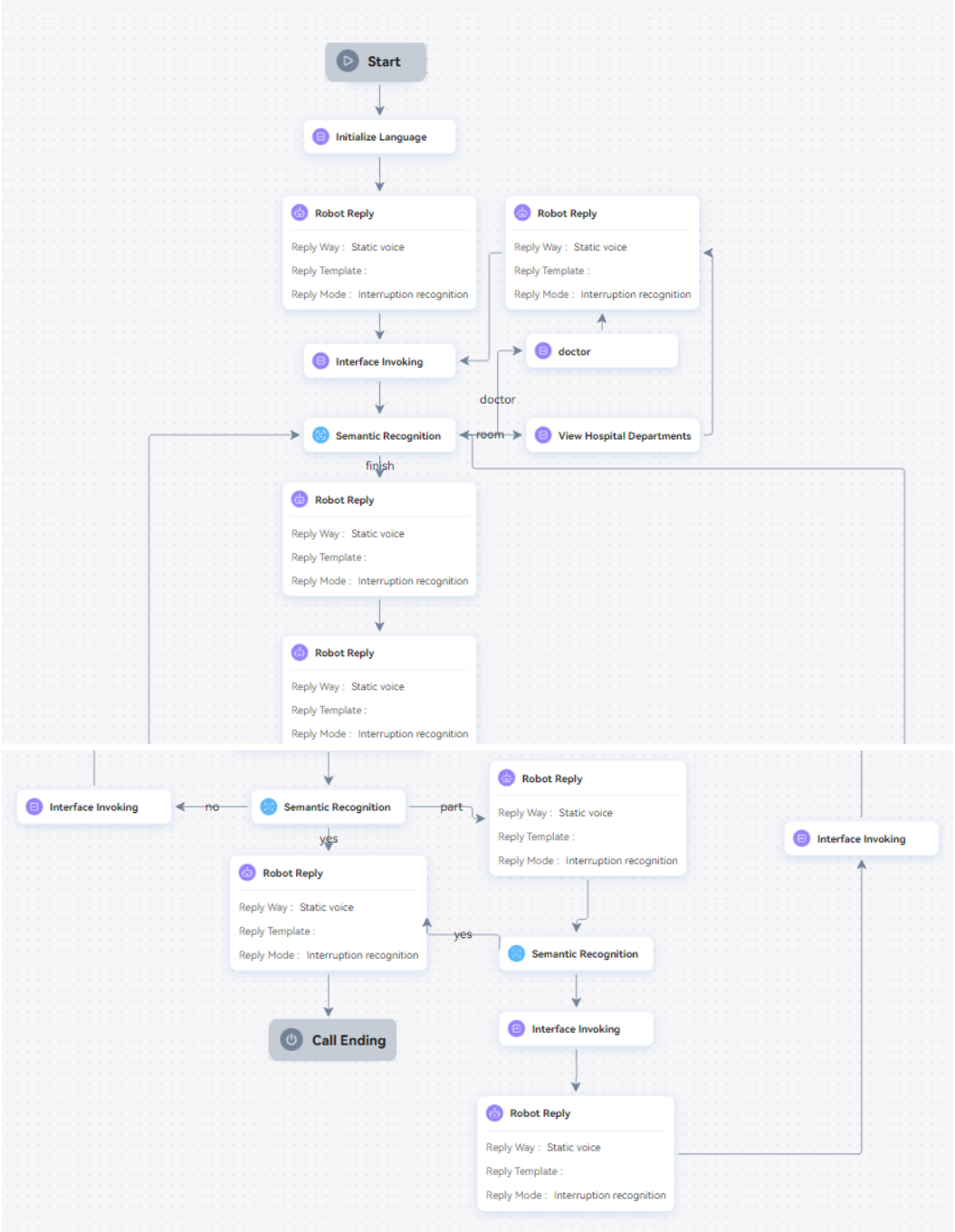
Step 5 Drag the corresponding diagram elements to the canvas on the right and connect the diagram elements based on **Figure 2-126** and **Table 2-87**.

The following figure shows the flow after the configuration is complete. When configuring a flow, you can right-click the canvas to move the canvas on the page.

NOTE

After condition judgment is performed on a diagram element, you need to add a branch without selecting a condition name, that is, the default branch. Ensure that the IVR flow can find the next node when other conditions are not met.

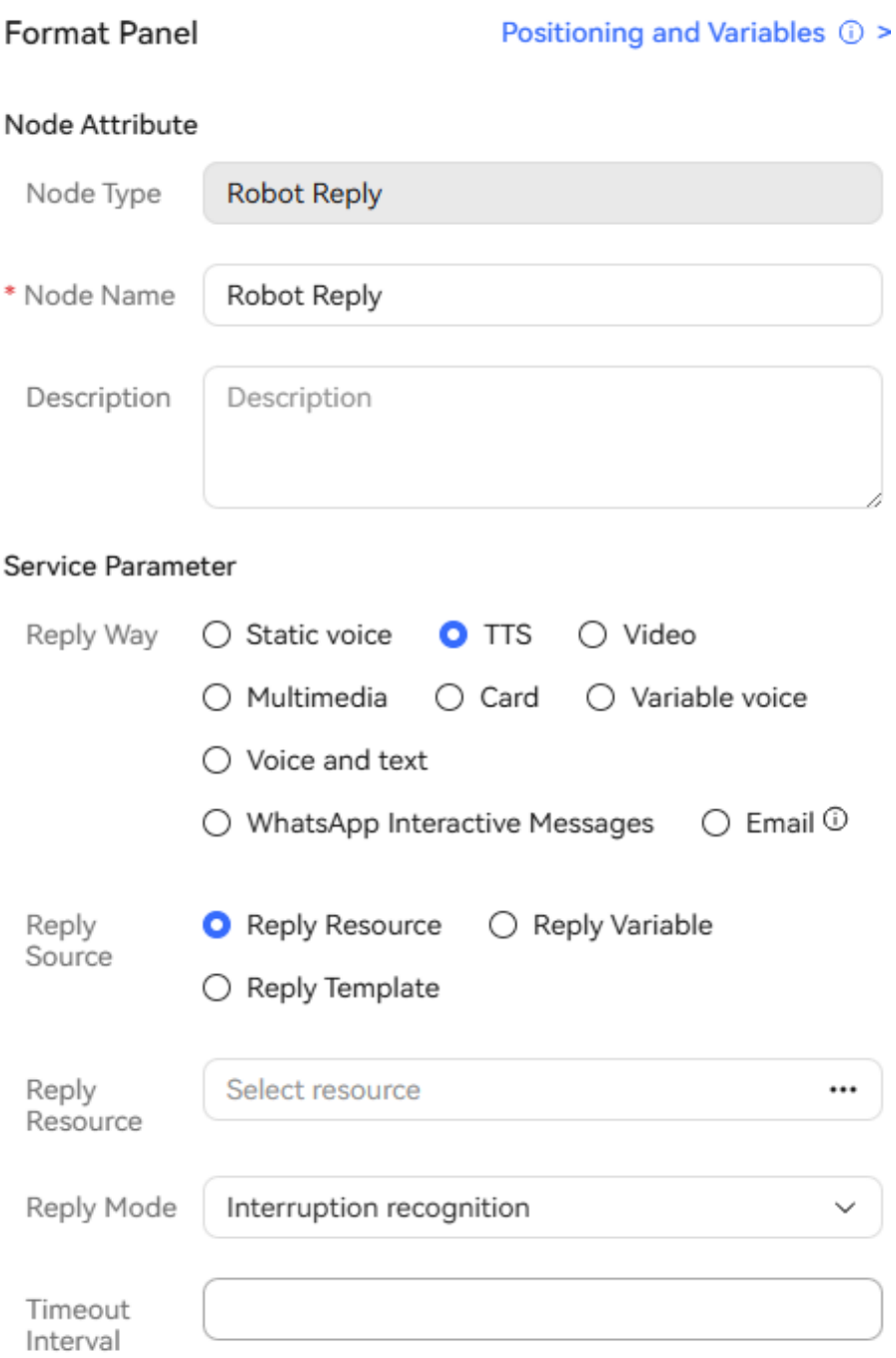
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Step 6 Configure information for each node and connection in sequence. The configuration methods of diagram elements of the same type are similar. This section describes only one diagram element of each type. For other configurations, complete them based on **Table 2-87**.

1. Configure a flow to ask whether to change the appointed date.

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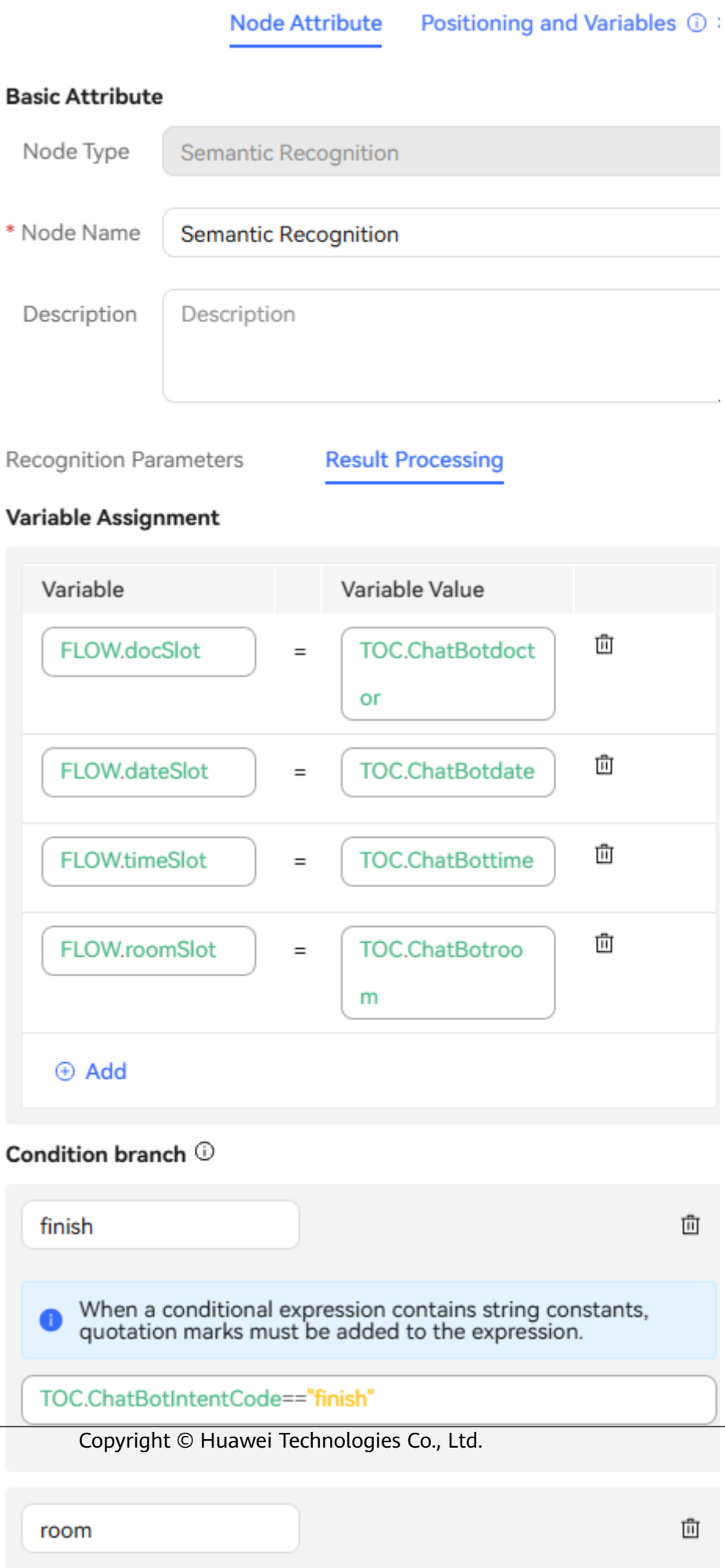


Set **Reply Way** to **TTS**, and select the template configured in **2.6.2.2.3 Adding Resource Templates** for **Reply Template**.

If **Reply Mode** is set to **Interruption recognition**, the customer can speak before the voice playback ends, which saves the service time.

2. Configure the **Semantic Recognition** node.

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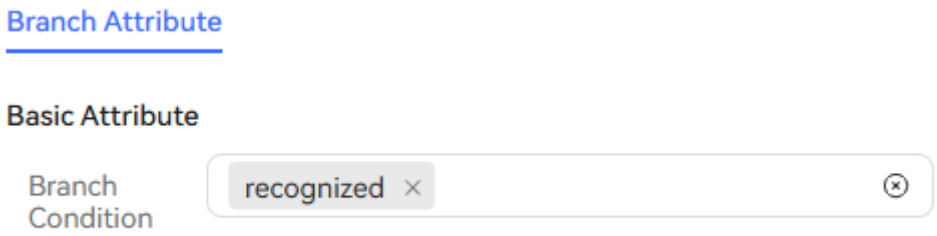
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The configuration indicates that the diagram element has a branch based on the returned result. That is, the branch whose intention code is **finish** is matched successfully, and the values of the slot variables **doctor**, **date**, **time**, and **room** in the matched intention are assigned to the flow variables **docSlot**, **dateSlot**, **timeSlot**, and **roomSlot**.

NOTICE

If an intention has multiple slots (for example, book time query node), you need to set **Event** to **Clear Current Context Cache** during semantic recognition setting. Besides, judgment control needs to be performed in the flow. For details, see **2.6.2.6.4 How Do I Configure the Scenario Where Multiple Slots Are Filled Repeatedly?**. In this example, for ease of understanding, the case of multiple rounds of slot filling is not considered.

3. Click the connection line between the **Semantic Recognition** and **Robot Reply** diagram elements (the voice recognition matches the reply information configured in the intention response), and select the branch corresponding to the connection line as the branch configured in the previous step.

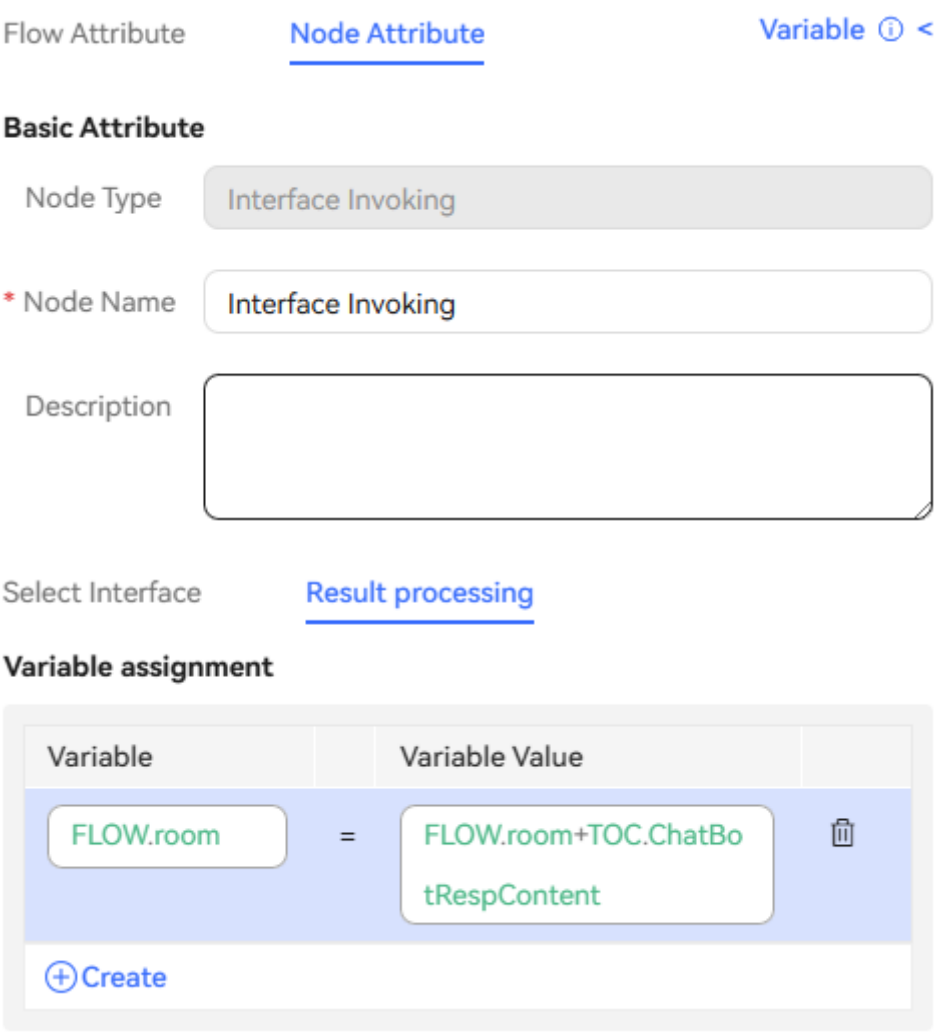


4. Configure the **Interface Invoking** node.

   If the **Business Interface Invocation** diagram element is applied to the interface invocation scenario, you need to select an interface configured in **2.6.2.2.2 Adding Business Interfaces**. Set input parameters of the interface.

   In this scenario, real interfaces do not need to be invoked. The **Business Interface Invocation** diagram element is used to add cache variable names.

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Step 7 After diagram elements are configured and connection lines and branches are correctly selected, click **Save** on the top of the canvas.

----End

2.6.2.2.6 Importing Flows

In the following scenarios, importing flows is more convenient, efficient, and secure than manually adding flows:

Business scenario 1: Import historical data. When the company introduces a new system, the retained data of previous years needs to be imported into the system.

Business scenario 2: Import summary data. Due to permission issues, not everyone can use the system. Therefore, data needs to be summarized level by level and imported into the system by a specific person.

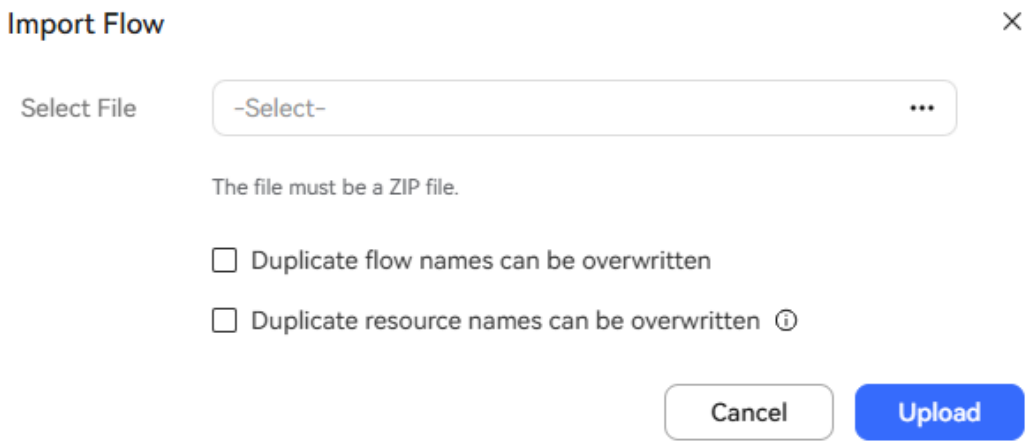
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Flow** > **Orchestration** and click **Import Flow**. The **Import Flow** dialog box is displayed.

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Figure 2-133 Import Flow



Step 3 Click **Select File**, select the file to be imported, click **Upload**, and click **Confirm**.

NOTE

1. In the ZIP package, each file must be in JSON format, and its size cannot exceed 4 MB. Otherwise, the import fails.
2. The size of the ZIP package must be less than 20 MB. Otherwise, the import fails.
3. In a JSON file, the request URL of the business interface and the database URL in the stored procedure must be added to the trustlist. Otherwise, the import fails. Contact the administrator to configure the trustlist.
4. Duplicate multimedia resource names and access code names cannot be overwritten.
5. After a multimedia resource is imported, the multimedia library is updated synchronously, but the value of **Resource Status** is **Ineffective**. You need to choose **Configuration Center** > **Resource Management** > **Multimedia Library**, click the **Edit** button in the **Operation** column of the corresponding data record, and upload the multimedia resource again.
6. After the flow is imported to another environment, if the robot reply diagram element contains an email, you need to manually set the email template, email resources, and email variables.

----End

2.6.2.2.7 Commissioning a Flow

You can test an adjusted flow to ensure that it can be executed normally after being referenced.

Prerequisites

The flow has been bound to an intelligent robot. For details about how to bind an intelligent robot, see **2.6.2.2.10 Configuring a Robot**.

Procedure

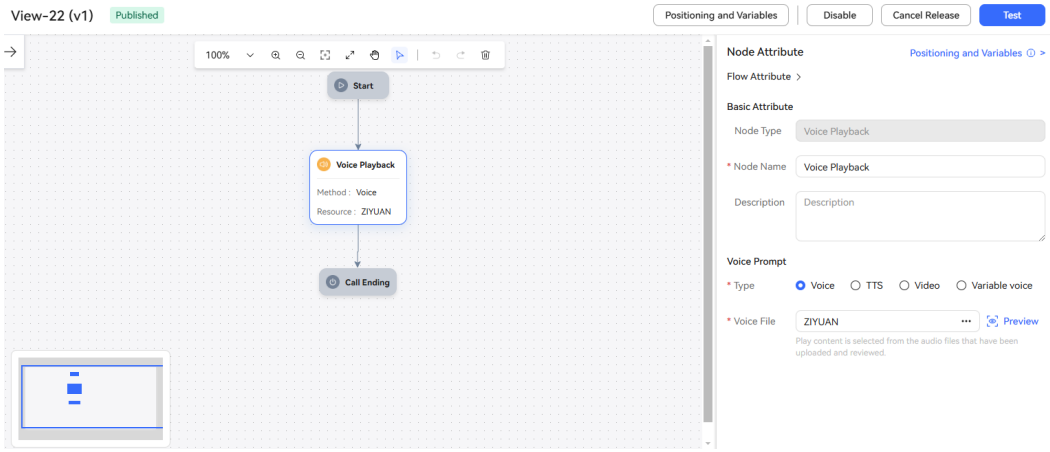
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**.

Step 2 Select a released flow and click the blue version number hyperlink. The flow details page is displayed.

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Step 3 Click Test in the upper right corner. The **Test Call** page is displayed.

Figure 2-134 Test Call page



Step 4 Click Start Call. If the dialog is normal, the flow is normal.

----End

2.6.2.2.8 Adding Gray Rules

A gray rule indicates that a publishing rule can be specified when a flow is published so that a customer who meets the rule can experience the flow. A number segment can be specified for the current gray rule, which is used in the test phase.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Gray Rule** and click **Create**.

Step 3 Configure a number segment for the gray rule and click **Confirm**.

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----End

2.6.2.2.9 Publishing a Flow

The newly added flow is in draft state. You need to publish the flow for the flow to take effect. To modify a published flow, you need to bring the flow offline, edit the flow, and publish the flow again.

Currently, the system supports gray release and official release. The difference is that only customer numbers that meet the gray rules can use the flow after the gray release is complete.

Currently, the flow of the silent agent system can be connected. When the silent agent system is connected, you can set **Work Mode** to **Monitor** (silent agents only view the replies of the robot), **Insert** (silent agents assist the robot in replying), or **Common** (default).

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

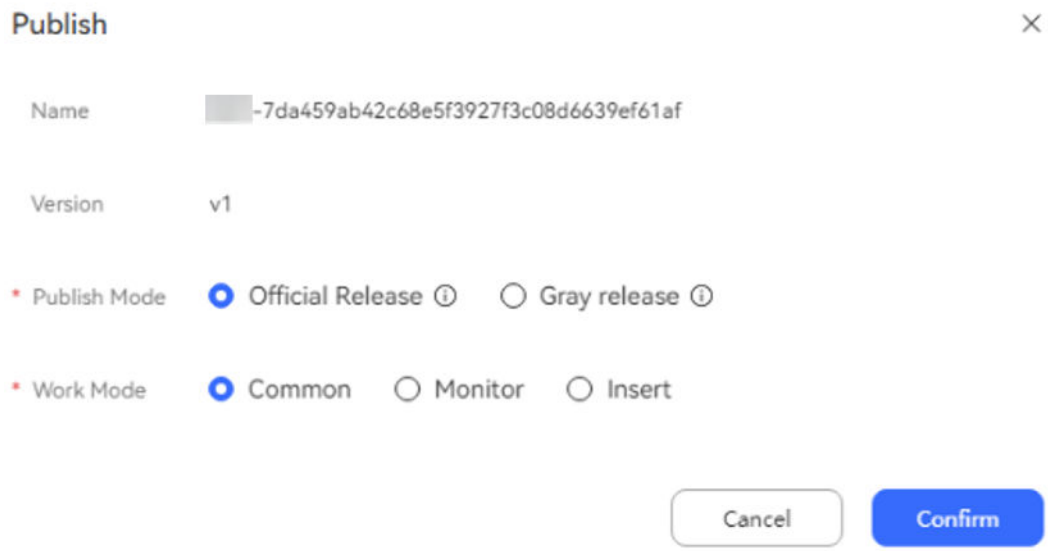
Step 2 Choose **Flow** > **Orchestration** and click **Publish** corresponding to the flow to be published.

NOTE

You can also go to a specific flow page and click **Save and Publish** on the top of the canvas to publish a flow.

Step 3 Set publishing parameters and click **Confirm**, as shown in the following figure.

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----End

If features need to be modified in a published flow, you are advised to click **Upgrade** to save the current flow as a new version. After the new version is modified, bring the old version offline and publish the new version.

2.6.2.2.10 Configuring a Robot

After the flow is published, associate your flow with the robot to generate the robot access code. Then, choose **Configuration Center** > **Access Configuration** > **Called Party** to bind the robot access code. Your customer service hotline consists of the access code and extension code.

Context

The OIAP supports the access in the following scenarios:

- **Voice navigation**: applicable to the general voicebot scenario.
- **Intelligent outgoing call**: applicable to the scenario where a flow is automatically triggered during outbound calls.
- **Chatbot**: applicable to the scenario where a chatbot is used.
- **IVR flow**: applicable to the scenario where the AICC is connected.

In this example, the first scenario is used.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

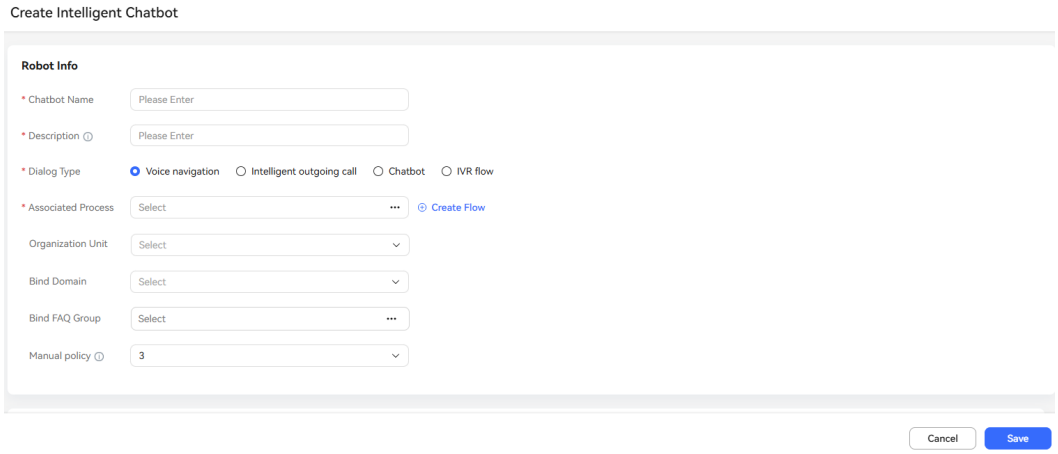
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

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Step 2 Choose **Intelligent Chatbot**. Click **Create**.

Step 3 Set parameters and click **Save**.

Figure 2-135 Create Intelligent Chatbot page



- **Chatbot Name**: Enter a customized name.
- **Description**: The value is the same as the value of **Chatbot Name** by default.
- **Chatbot Access Code**: Enter an identifier for associating with the flow when a called route is added in the IVR or AICC.
  - In the public cloud scenario where the OIAP is integrated with the AICC, this code is automatically generated. The system automatically synchronizes the flow access code information to the web configuration console.
- **Dialog Type**: Select **Voice navigation**.

  The mappings between dialog types and scenarios are as follows:
  - When the robot interacts with a customer using voices, set **Dialog Type** to **Voice navigation**.
  - When the robot is connected to text chat platforms of the AICC as an intelligent robot, set **Dialog Type** to **Chatbot**.
  - When a robot survey is required for outbound calls, set **Dialog Type** to **Intelligent outgoing call**. This function is not enabled in the current version.
  - When the traditional key pressing function is required on the AICC, set **Dialog Type** to **IVR flow**. This function is not used on the OIAP. You can choose **Configuration Center** > **Flow Configuration** > **Flow** in the AICC to configure flows.
- **Associated Process**: Select a flow that has been orchestrated and released. If a flow has been upgraded for multiple times, that is, the same flow code has multiple versions, the drop-down list displays only one flow and does not display the version information. When a customer initiates a call, the backend selects a flow version based on the calling number of the customer. If the calling number of the customer is within the number range specified by the gray rule of a version, the flow of this version is preferentially selected. Otherwise, the default flow is selected.

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- **Organization Unit**: All organization units in the tenant space are available.
- **Bind Domain**: Set a domain range for the robot.
- **Bind FAQ Group**: Bind Q&As to the robot. The robot preferentially matches the result of the Q&As.
- **Manual policy**: This parameter is used to distinguish the maximum number of calls directly transferred to manual service from the maximum number of calls transferred to manual service after consultation during report statistics. The default value is **3**.
- **Enable Call History Recording**: When the system parameter **CHATRECORDFLAG** is set to **Bot-level control**, you can toggle this switch on or off to determine whether the robot records the call history.
- **Enable Process Call Recording**: When the system parameter **FLOWRECORDFLAG** is set to **Bot-level control**, you can toggle this switch on or off to determine whether the robot requires recording.
- **Enable Business Interface Invocation Logging**: When the system parameter **RECORDTHIRDAPI** is set to **Bot-level control**, you can toggle this switch on or off to determine whether to record invoking logs for the business interfaces in the flow associated with the robot.
- **Enable Call Statistics**: When the system parameter **CALLDASHBOARDREPORTRECORDSWITCH** is set to **Bot-level control**, you can toggle this switch on or off to determine whether to enable call statistics for the robot.

NOTE

- How to match the flow only with the intention in the specified domain?

  When configuring the access code, set the ID of the specified domain. Ensure that the configured domain has been activated.

----End

2.6.2.2.11 Testing a Robot

You can test your robot to determine whether your configuration is correct.

Procedure

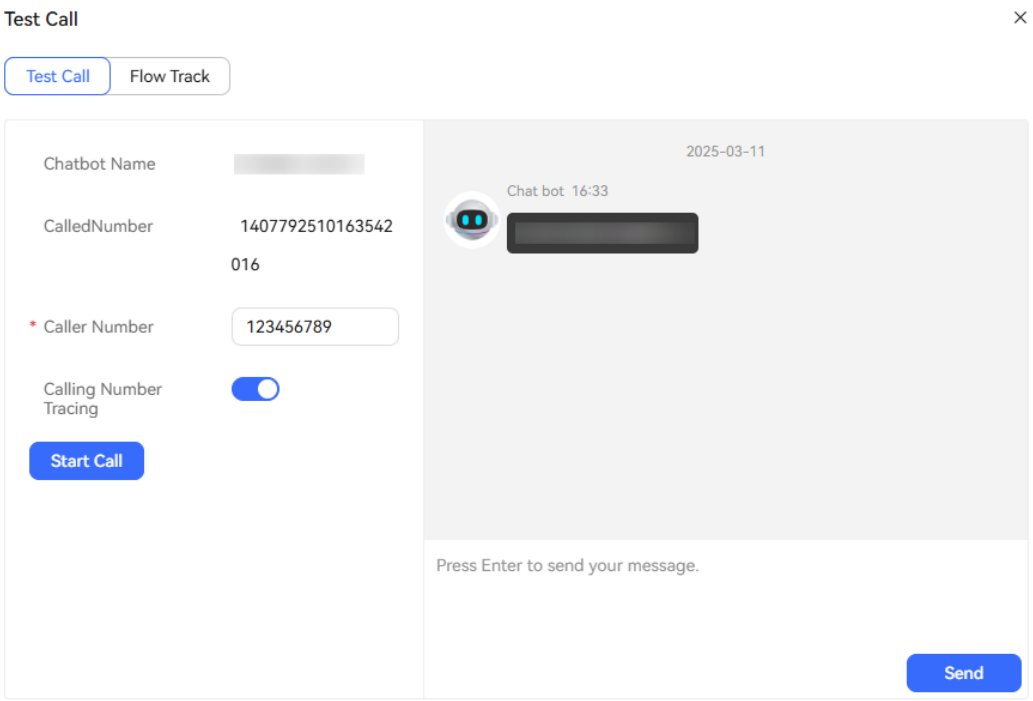
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Click **Intelligent Chatbot**. Click **Test Call** of the corresponding access code in the **Actions** column.

Step 3 In the test dialog box that is displayed, click **Start Call**.

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Figure 2-136 Testing a robot



----End

2.6.2.2.12 Viewing Flow Tracks

A flow track refers to the flow nodes that a call passes through after the call accesses the flow on the OIAP and the information returned by each node. When an error occurs in the test robot, you can use the test number to view the value change on each node in the flow track and locate the cause of the error.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

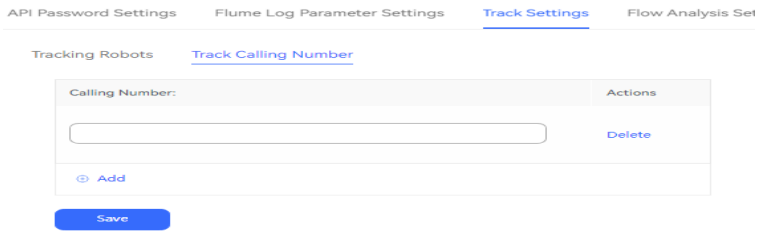
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Add the test number to the tracking trustlist.

1. Choose **System** > **System Settings**. Click the **Track Settings** tab.
2. Click **Track Calling Number**, add a calling number, and click **Save**, as shown in the following figure.

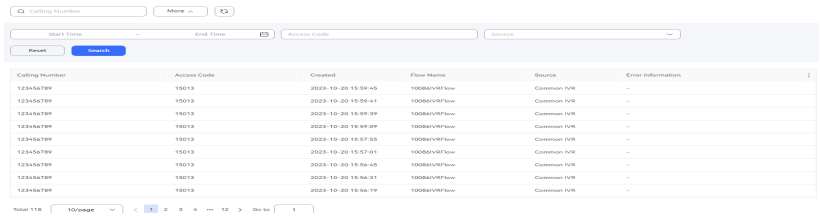
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3. Alternatively, click **Tracking Robots** and add a robot to track the flow based on the robot access code.

Step 3 Choose **Flow** > **Flow Tracking**.

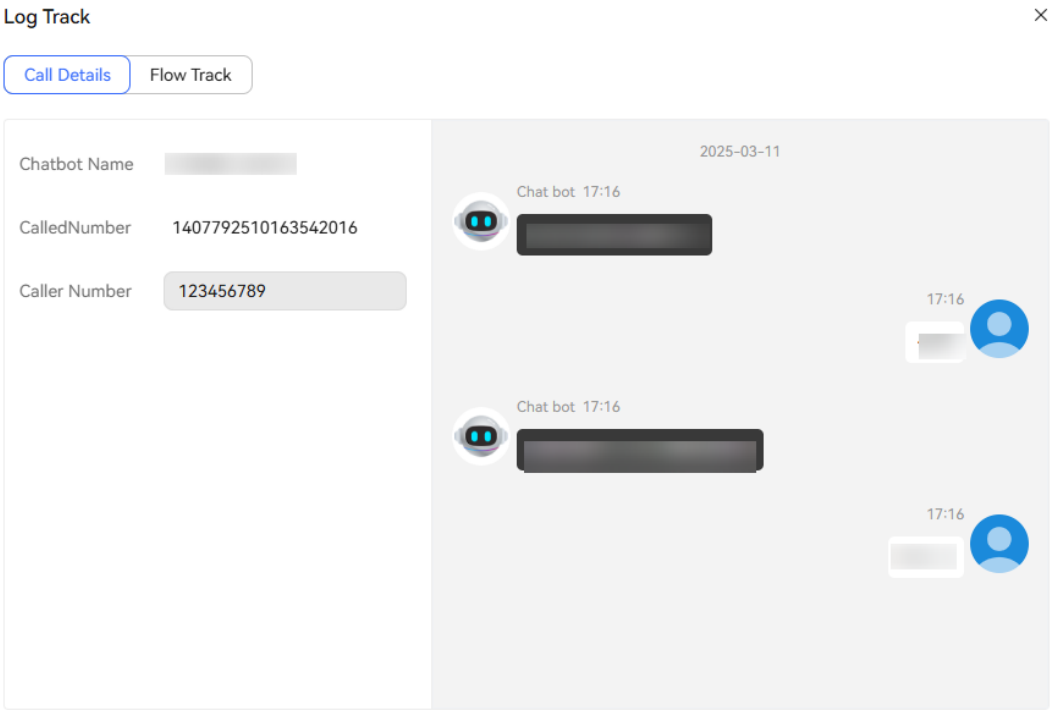
Step 4 Enter a calling number, set the tracking time range, and select an access code.



Step 5 Test the robot again by referring to **2.6.2.2.11 Testing a Robot**.

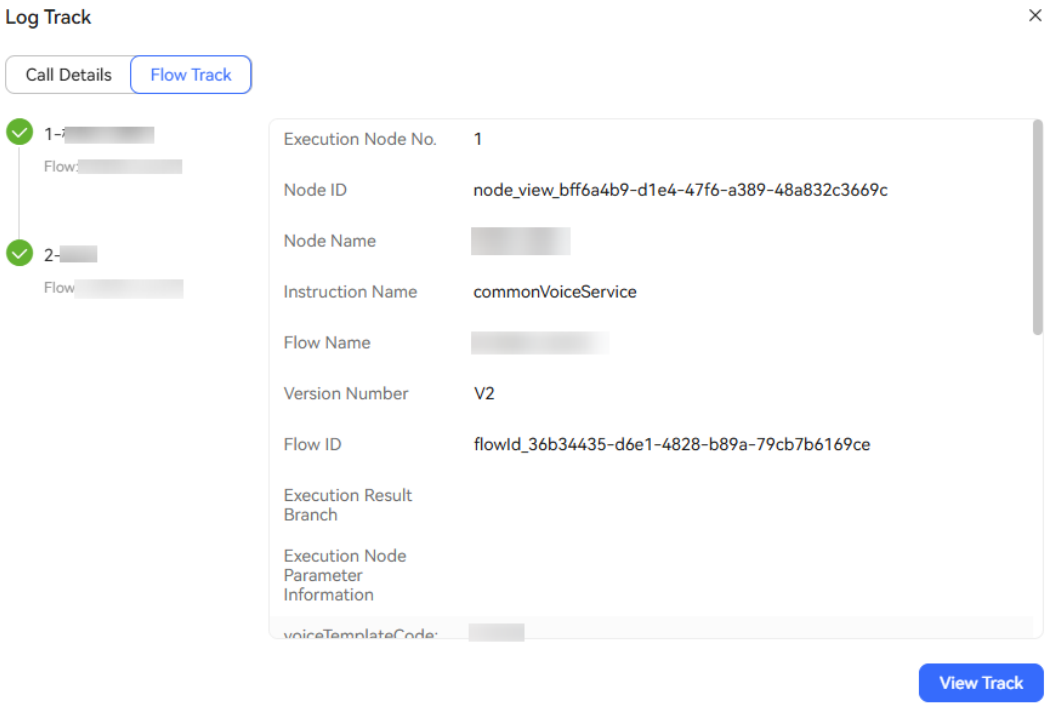
Step 6 Return to the **Flow Tracking** page, click **Search**, and click the record that is displayed.

Step 7 Click **Call Details** to view the dialog details.



Step 8 Click **Flow Track**, click the faulty node in the flowchart, and view the log and error information.

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- Or click **View Track** below. On the page that is displayed, view the configurations of flow nodes.

----End

Follow-up Procedure

Choose **System** > **System Settings**. On the **Track Settings** tab page, delete the added calling number.

2.6.2.2.13 Performing Dialog Tests

If you already have a large number of intelligent robots and need to frequently test whether these robots function properly, you can create dialog test cases, execute them in batches, and check whether functions are normal based on the results.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

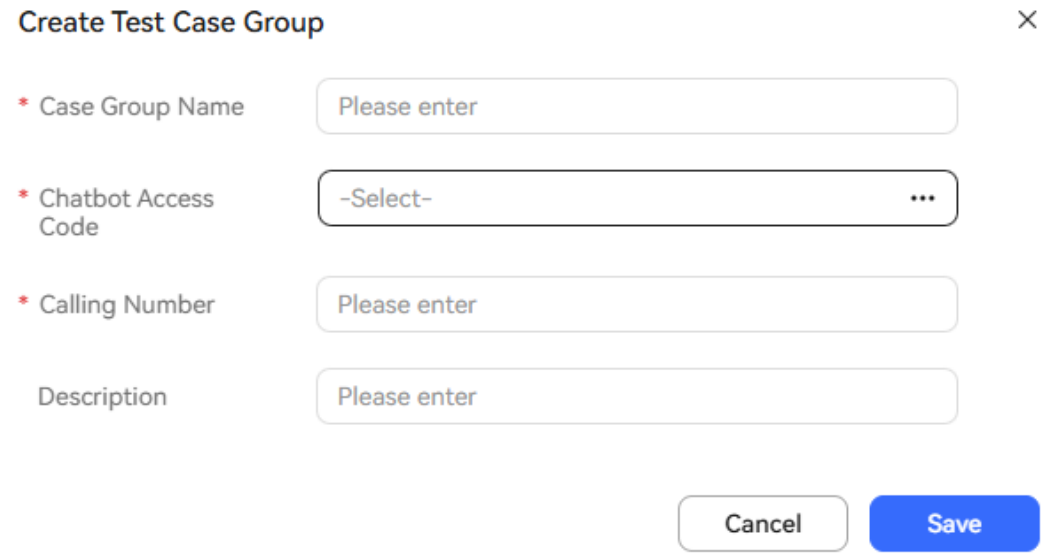
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Dialog Test**.

Step 2 Create a test case group.

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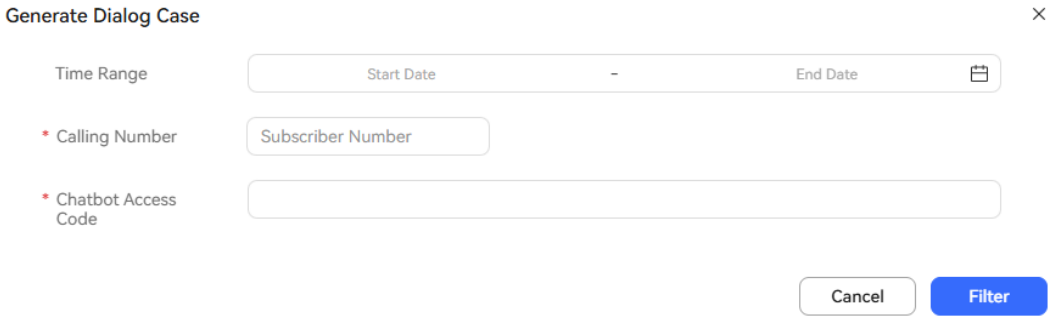
1. Click Create, enter test case group information, and click Save. A test case group is successfully created.

Figure 2-137 Create Test Case Group page



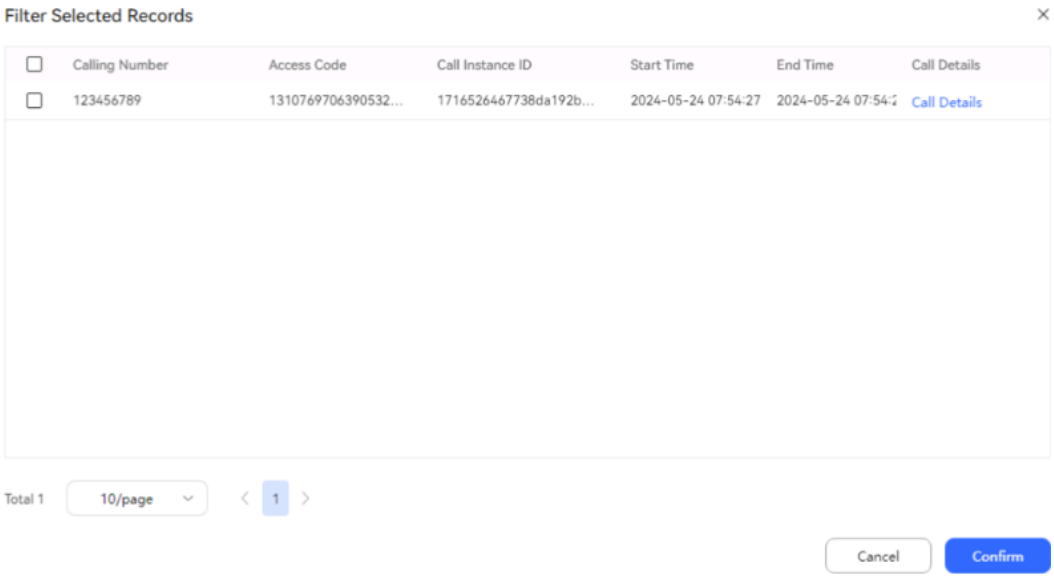
2. Alternatively, click **Batch operation** and choose **Generate Case** to generate a test case group in the **Initialize** state. Click Filter to filter existing records.

Figure 2-138 Generate Dialog Case page



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Figure 2-139 Filter Selected Records



NOTE

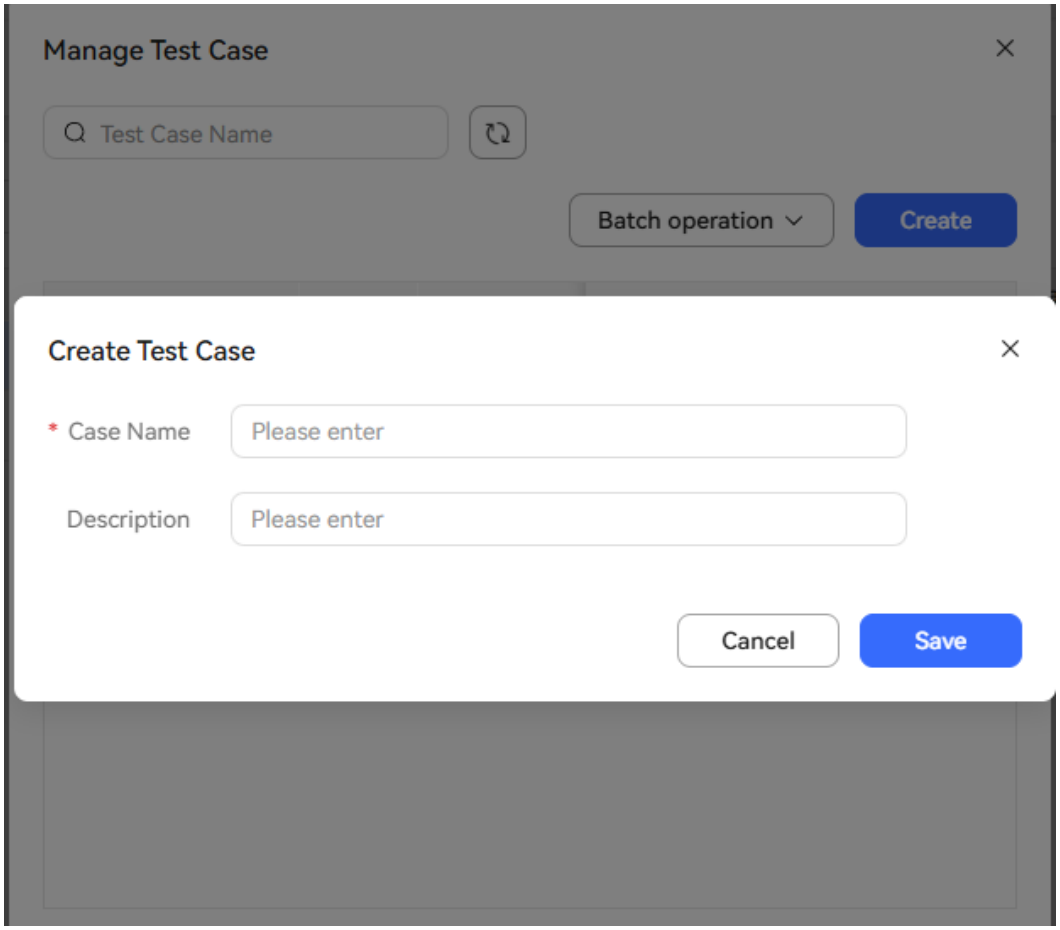
The filtering function can be used only if the **oifde.chatrecord.switch** parameter in the configuration file is enabled.

Step 3 Create a test case.

1. Click **Manage** corresponding to the new test case group. The **Manage Test Case** dialog box is displayed.

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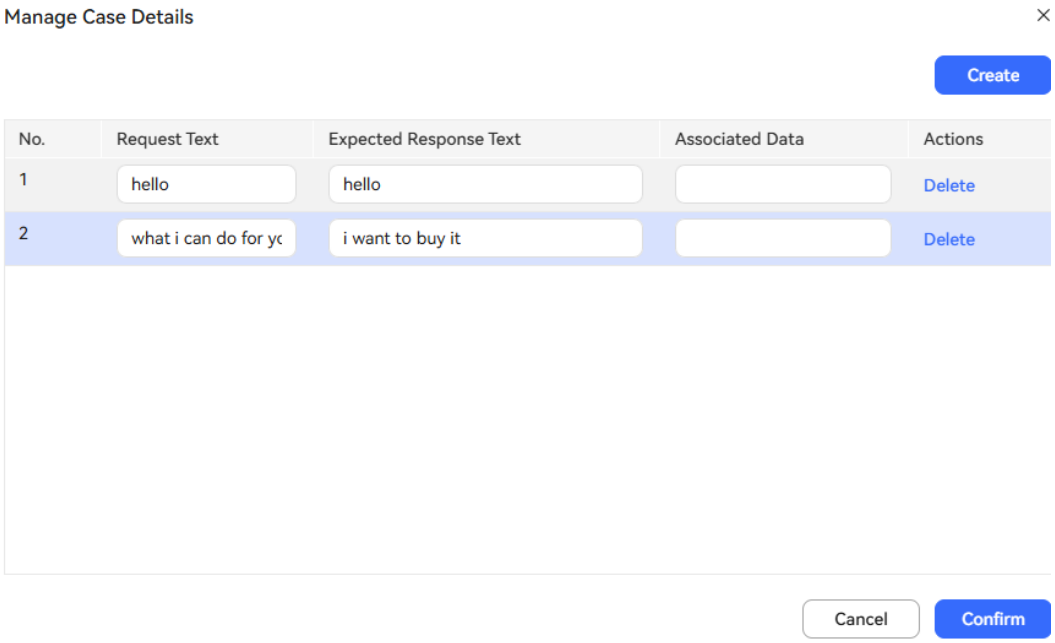
Figure 2-140 Add Test Case page



2. Click Create to create a test case.
3. After a test case is created, in the **Manage Test Case** dialog box, click **Manage** corresponding to the new test case, create call content information, and click Confirm.

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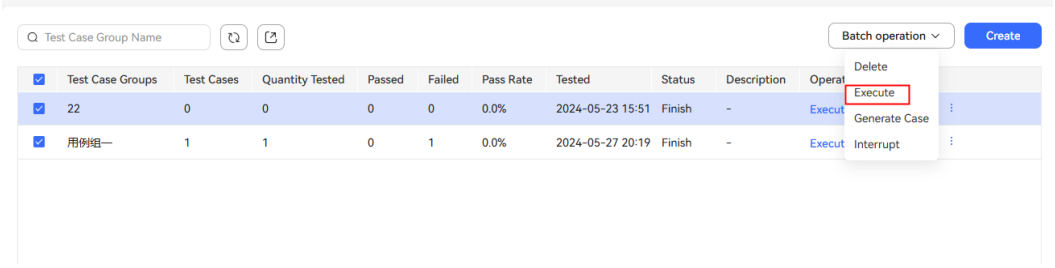
Figure 2-141 Manage Case Details page



Step 4 Perform a dialog test.

- Return to the **Dialog Test** page, and click **Execute** in the **Operation** column on the right of the new case group to execute the entire case group. After the execution is successful, **Status** changes to **Finish**.
- Select some case groups, click **Batch operation**, and choose **Execute** to execute the selected case groups in batches. After the execution is successful, **Status** changes to **Finish**.

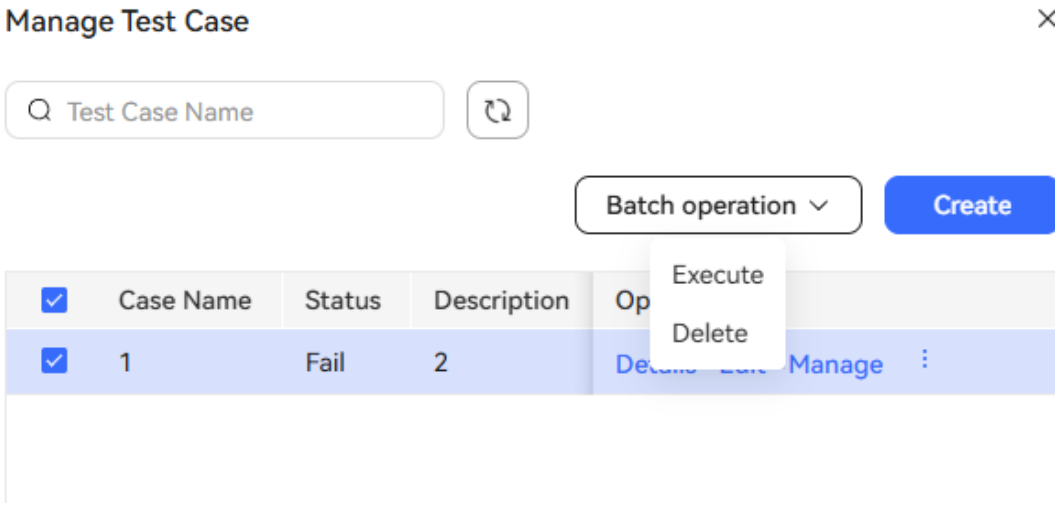
Figure 2-142 Executing some case groups



- In the **Manage Test Case** dialog box, select some test cases, click **Batch operation**, and choose **Execute** to execute the selected test cases in batches. After the execution is successful, **Status** changes to **Success**.

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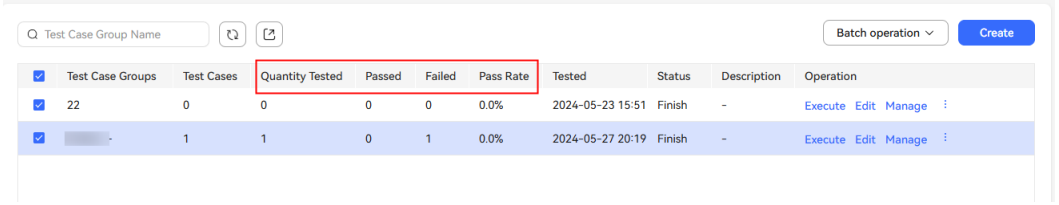
Figure 2-143 Executing some test cases



Step 5 View the execution result and export the test report.

1. After executing a test case group, view the number of tested cases, number of passed cases, number of failed cases, and pass rate.

Figure 2-144 Page for viewing execution results



2. Select the test case group that has been executed and click  to export the test report.

----End

2.6.2.3 Adding a Q&A-oriented Robot

If there is a large number of Q&A corpora, and complex scenarios such as invoking an interface to dynamically obtain information or performing multiple interactions do not need to be implemented, you can use a Q&A-oriented robot to quickly add questions and answers.

A Q&A-oriented robot answers a customer's questions based on knowledge rather than the customer's objective.

Before adding a Q&A-oriented robot, you need to add an FAQ group, which is similar to a domain used in a task-oriented robot. An FAQ group is used to answer specific business questions, such as a product tariff question.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **FAQ Management**.

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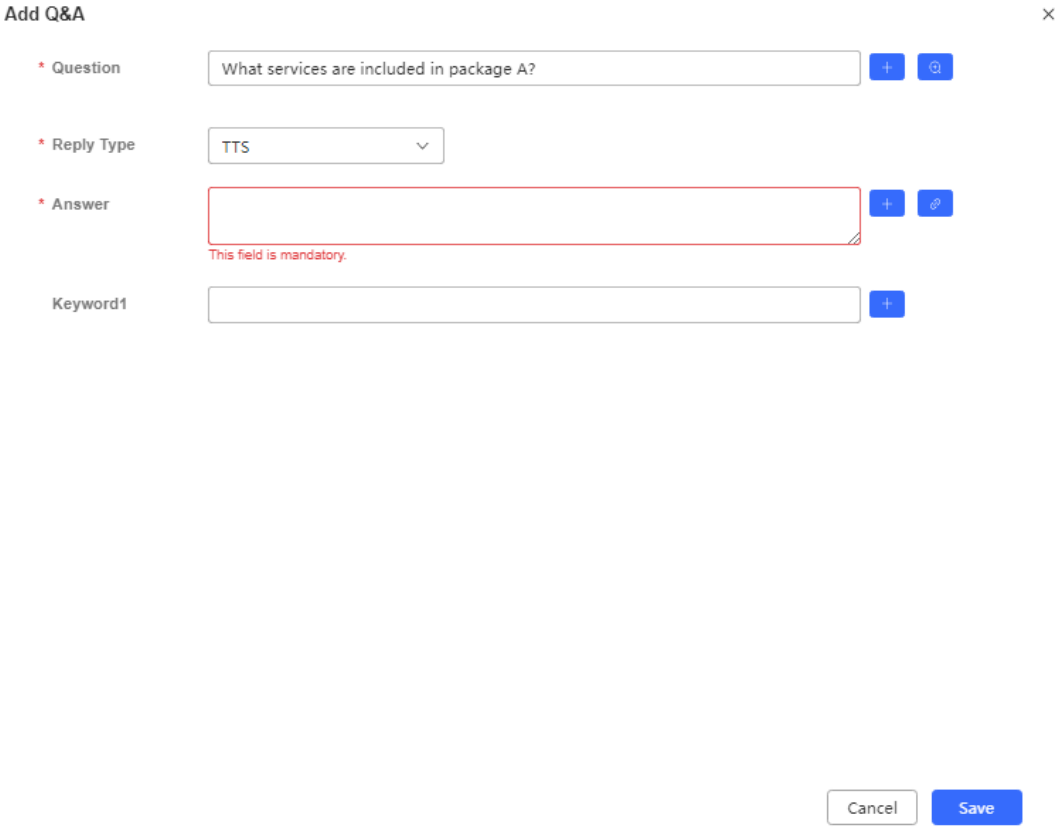
Step 2 Click Create.

Step 3 Enter an FAQ group name and click Confirm.

Step 4 Enter a question and click  to check whether a similar question has been added to the current FAQ group. If no, go to the next step.

Step 5 Click the number in the **Quantity** column. The **Manage FAQ Group** dialog box is displayed.

Step 6 Click Create and set the question, standard answer, and reply type (**TTS** or **Resource template**), as shown in the following figure.



Step 7 To improve the answer matching accuracy, click  next to **Question** or  next to **Keyword1** to add a similar question or keyword.

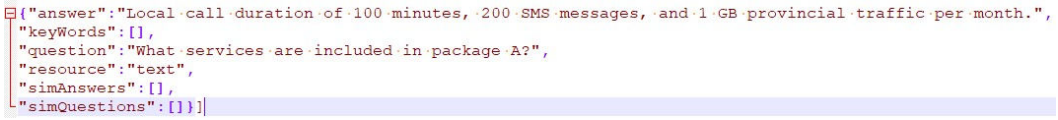
Step 8 Click Save.

Step 9 (Optional) To improve efficiency in managing Q&As, enter them in a specified format and import them into the system in batches.

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1. Select a Q&A and click  .

   The system exports a .json file, as shown in the following figure.

   Multiple records are supported for **simQuestions**, **simAnswers**, and **keyWords**. They must be entered in formats provided in the preceding figure.

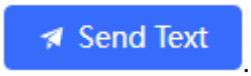
2. After entering all Q&A records, click  , click 

   , select the .json file on the local PC, and click 

   .

   If certain questions to be uploaded exist in the FAQ group, when you select **Overwrite Existing Configuration**, they overwrite the existing ones. Otherwise, they will be imported as new records.

Step 10 Test the Q&A-oriented robot.

1. Click **Active** in the **Status** column to activate the Q&A-oriented robot.
2. Close the **Manage FAQ Group** *dialog box, click **More** corresponding to the new FAQ group, choose **Test**, and select **Test activated FAQ group** to activate the FAQ group.
3. In the input area, enter a question or keyword, and click 

   .

   The Q&A-oriented robot returns an answer and a list of similar questions.

----End

2.6.2.4 Other Operations

This section describes other operations related to an IVR flow.

2.6.2.4.1 Modifying Resources Associated with a Robot

To improve the configuration efficiency, the flow administrator can modify the resources associated with the flow, such as global variables, voice and video resources, work calendars, transfer policies, resource templates, and data tables, for the robot associated with a published flow. If the flow contains subflows or composite diagram elements, the flow administrator can also modify the information on this page.

Prerequisites

- The flow associated with the robot has been published.
- The current operator has the flow resource management permission.

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Context

On the flow resource management page, the following resources of the current flow, subflows of the current flow, or composite diagram elements associated with the current flow can be modified:

- Global variables: The effect of editing the global variables is the same as that of directly editing the information in **2.6.2.4.2 Managing Variables**.
- Voice and video resources: The effect of editing the voice and video resources is the same as that of directly editing the information in **2.6.3.2 Managing Voice and Video Resources**.
- Work calendars: The effect of editing the work calendars is the same as that of directly editing the information in **2.6.2.4.4 Creating Work Calendar Templates**.
- Transfer policies: The effect of editing the transfer policies is the same as that of directly editing the information in **2.6.2.4.20 Configuring a Transfer Policy**.
- Resource templates: The effect of editing the resource templates is the same as that of directly editing the information in **2.6.2.2.3 Adding Resource Templates**.
- Data tables: The effect of editing the data tables is the same as that of directly editing the information in **2.6.2.4.5 Adding Data Tables**.

The preceding resources are global resources and may be referenced by other flows associated with the robot. Therefore, check the reference relationship before modifying the resources to ensure that the modification does not affect other flows.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Intelligent Chatbot**.

Step 2 Click **Process Resource Mgmt** next to the robot to be modified.

NOTE

This button is displayed only when the flow associated with the robot is an officially published flow and the current operator has the flow resource management permission.

If the system displays a message indicating that the flow associated with the robot is associated with another flow, evaluate the impact and determine whether to continue.

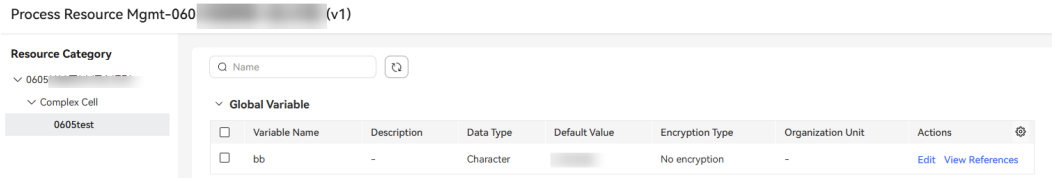
Step 3 In the resource tree on the left, select the object whose resource ownership needs to be modified.

In the resource tree, the top node indicates the associated flow. If the flow is associated with composite diagram elements or subflows, the composite diagram elements or subflows are displayed separately.

Note that the resources of composite diagram elements or subflows are displayed separately only after the corresponding nodes are selected in the resource tree. They are not displayed in the resource list under the top node.

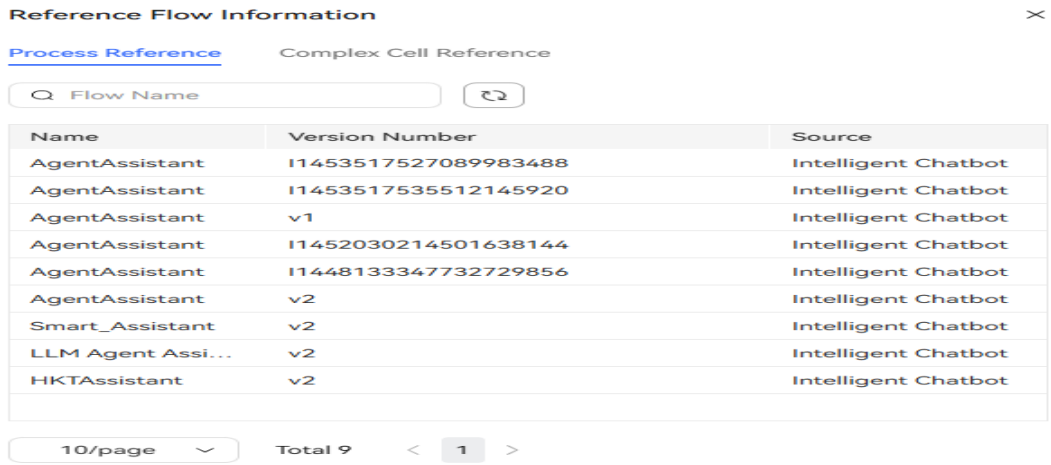
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Figure 2-145 Selecting a resource tree



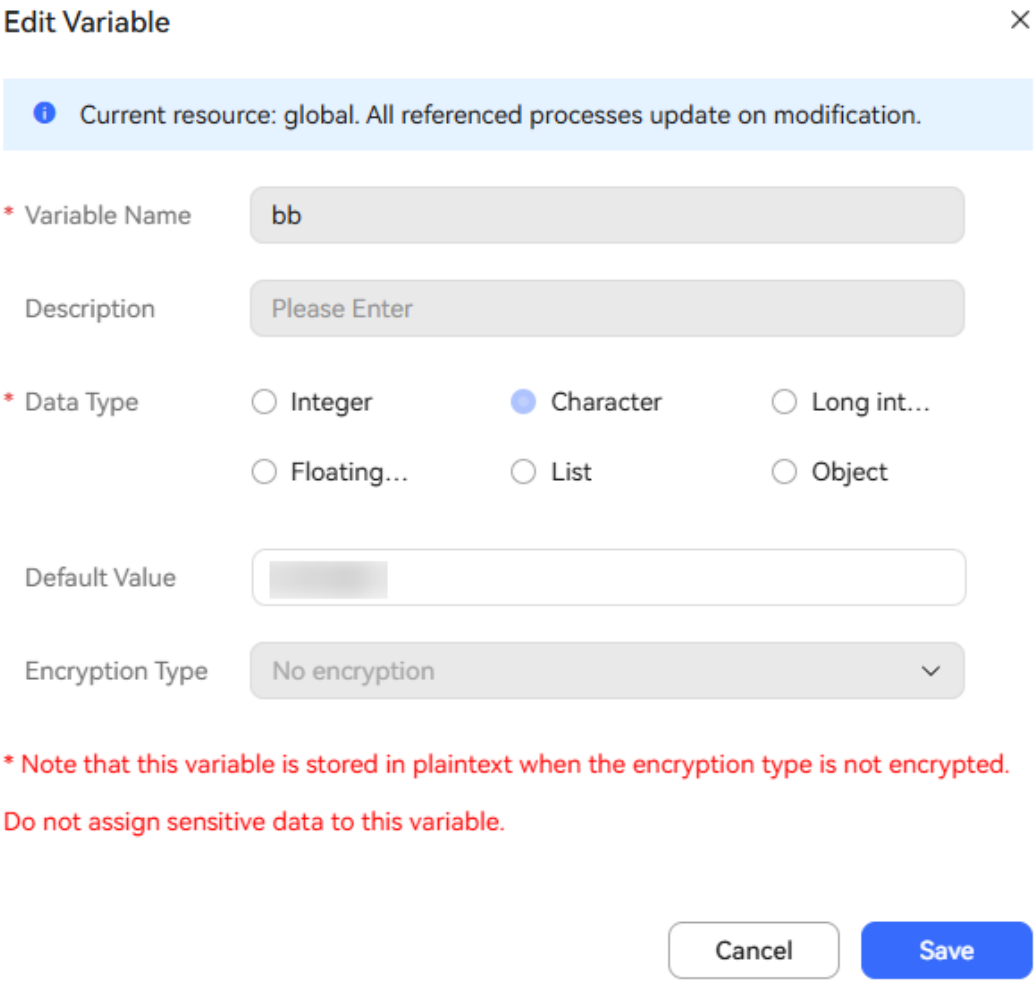
Step 4 View the reference relationship of the resources to be modified.

Take the global variable **messageRounds** referenced by a flow as an example. Click **View References** next to the global variable to check whether the resource is associated with other flows.



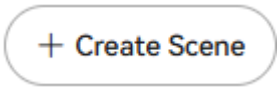
Step 5 Close the flow reference information window, click **Edit** on the flow resource management page, and modify the resource, for example, change the default value.

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- To modify voice and video resources, click **Update**.
- To update the data table, click **Data**.

Step 6 Click **Save**.

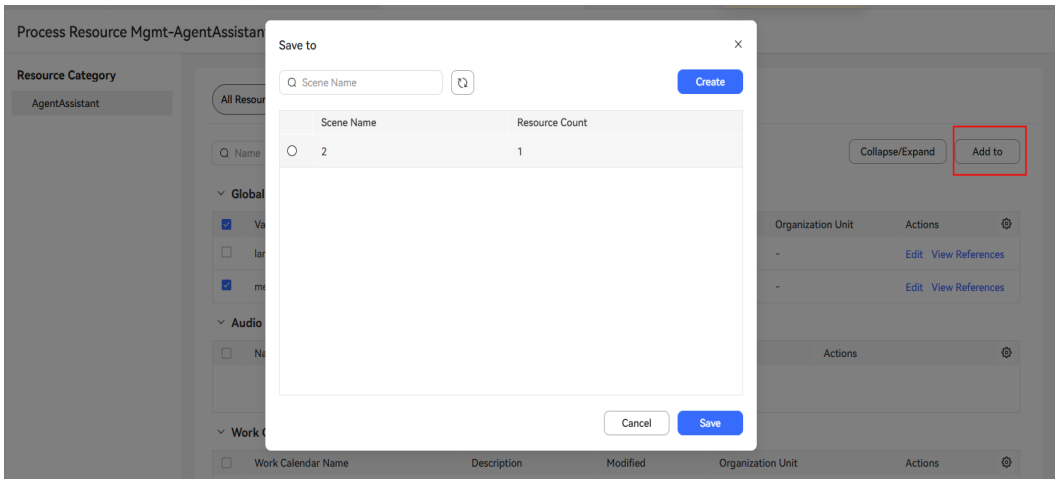
Step 7 Click 

to distinguish resources referenced in the current flow and composite diagram element by scenario. A maximum of 10 scenarios (excluding the default scenario) can be added.

Step 8 Select a resource and click **Add to** to add the selected resource to a scenario. The resource can be added to only one scenario.

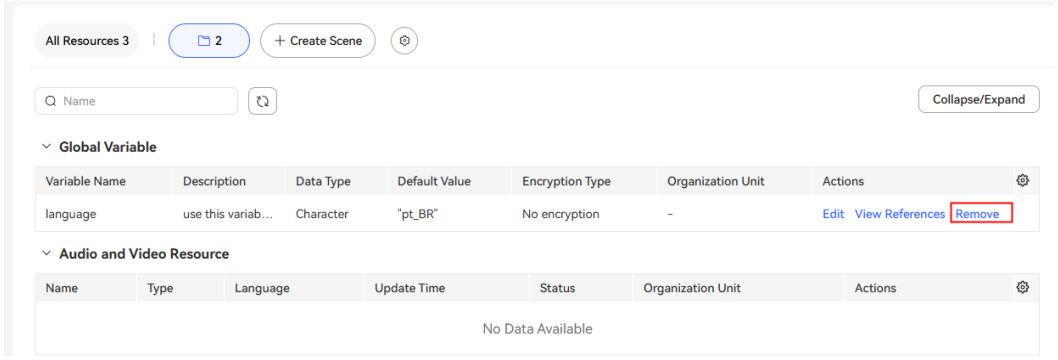
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Figure 2-146 Add to button



Step 9 Click the **Scenario** tab, select a resource, and click **Remove** to remove the resource from the scenario.

Figure 2-147 Removing a resource from a scenario



----End

Follow-up Procedure

The change takes effect immediately. The flow administrator can directly test the current robot to check whether the resource change takes effect.

For details about the test method, see **2.6.2.2.11 Testing a Robot**.

2.6.2.4.2 Managing Variables

Variables are used in dialog flows to store data generated during flow execution. Variables defined in a flow can be used only in this flow. If a variable is involved in multiple flows, you need to define the variable as a global variable. Global variables can be referenced by all flows. Global variables are used in flows. The format of a global variable is **${GLOBAL.***ParamName***}**.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations

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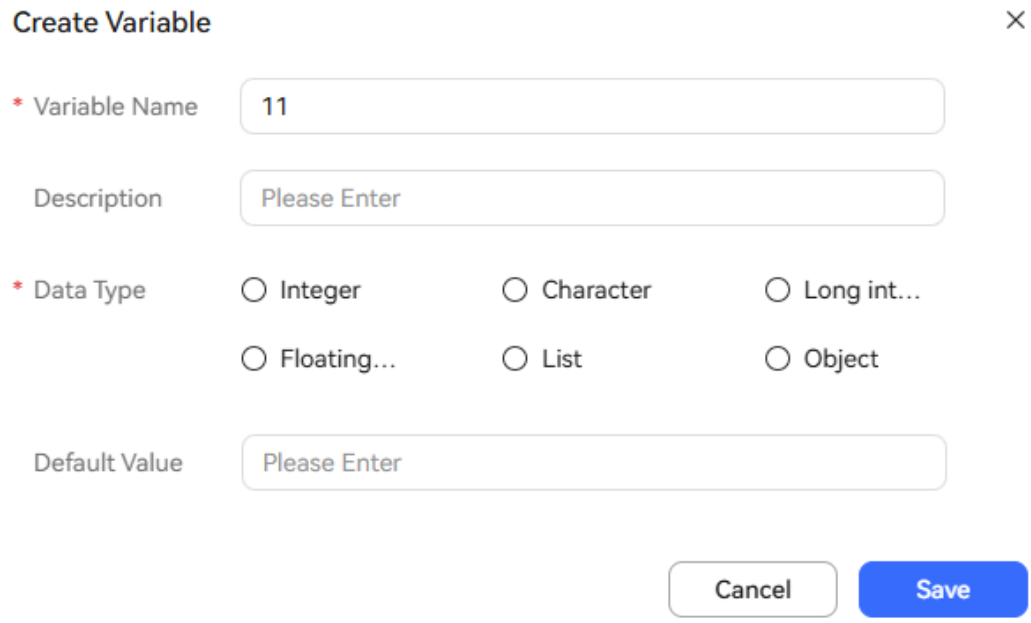
are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Adding a Global Variable

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Variable** and click Create. In the dialog box that is displayed, set **Variable Name** and **Data Type**, and click **Save**.

Figure 2-148 Create Variable page



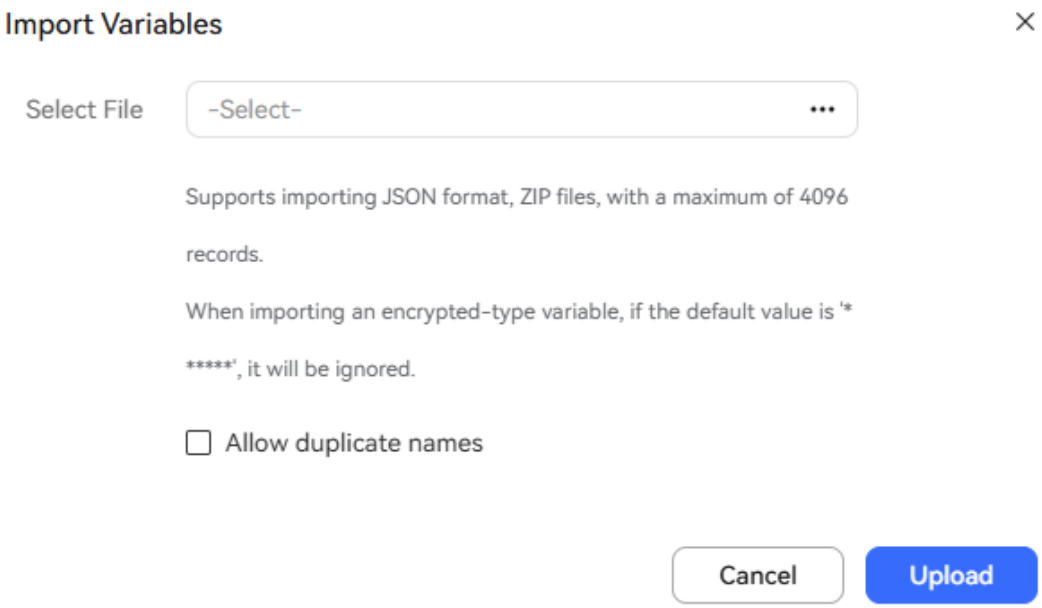
NOTE

For security purposes, set **Encryption Type** to **Encrypted for storage and decrypted upon retrieval** or **Encrypted for storage and retrieval** if the variable contains personal data, such as the customer ID card number.

Step 3 Click  to import a ZIP file in JSON format.

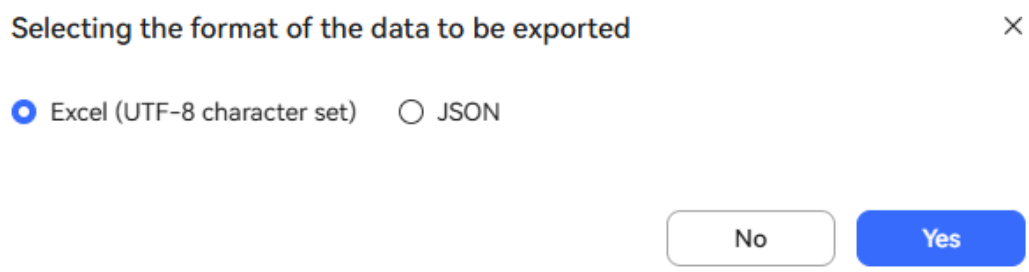
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Figure 2-149 Import Variables page



Step 4 Click  to export variables.

Figure 2-150 Page for exporting variables



----End

Modifying a Built-in Variable

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource Management** > **Variable Management** and click the **Built-in Variable** tab.

Step 3 Click **Edit** in the **Actions** column of one of the following built-in variables and change the default value based on site requirements.

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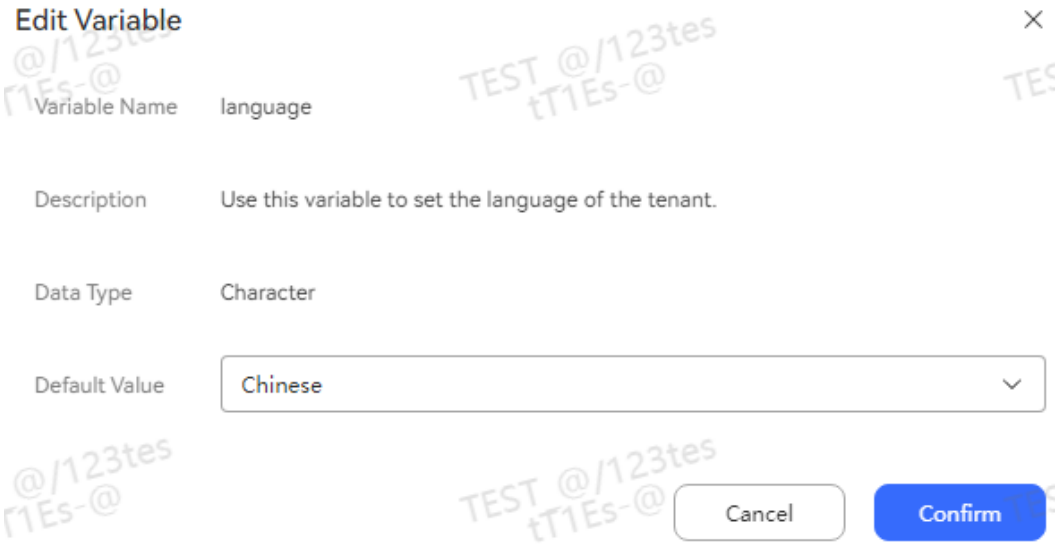


Table 2-90 Built-in variables

Variable Name	Description	Data Type	Value Range	Default Value
language	Use this variable to set the language of the tenant.	Character	• **Chinese** • **English** • **Spanish** • **Arabic** • **Thai** • **Portuguese** • **French**	**Chinese**
timezone	Use this variable to set the offset of the time zone in which the tenant resides.	Floating-point number	–12 to 12	None
channeltype	Use this variable to set the channel of the tenant.	Character	**default**	**default**
responsestyle	Use this variable to set the style of the tenant.	Character	**default**	**default**
ttsSpeed	Use this variable to set the TTS speech speed of the tenant.	Integer	–500 to 500	**0**
ttsVolume	Use this variable to set the TTS volume of the tenant.	Integer	0 to 100	**50**

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Variable Name	Description	Data Type	Value Range	Default Value
ttsPitch	Use this variable to set the TTS fundamental frequency of the tenant.	Integer	–500 to 500	**0**
voiceName	Use this variable to set the TTS speaker of the tenant.	Character	• **Graceful** • **Mature** • **Soft** • **Sweet** • **Natural**	**Graceful**

Step 4 After the modification is complete, click Confirm.

----End

2.6.2.4.3 Maintaining Stored Procedures

When deploying and running the OIAP system independently, a carrier can use stored procedures to interact with a third-party system database to obtain or update data, for example, to query the case types defined by the third-party system.

Prerequisites

- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- The system supports the MySQL, Oracle, and GaussDB stored procedures. The stored procedures must be predefined.
- The administrator has added the domain name or IP address to the trustlist under **Call Center** > **Address Trustlist** in the AICC.

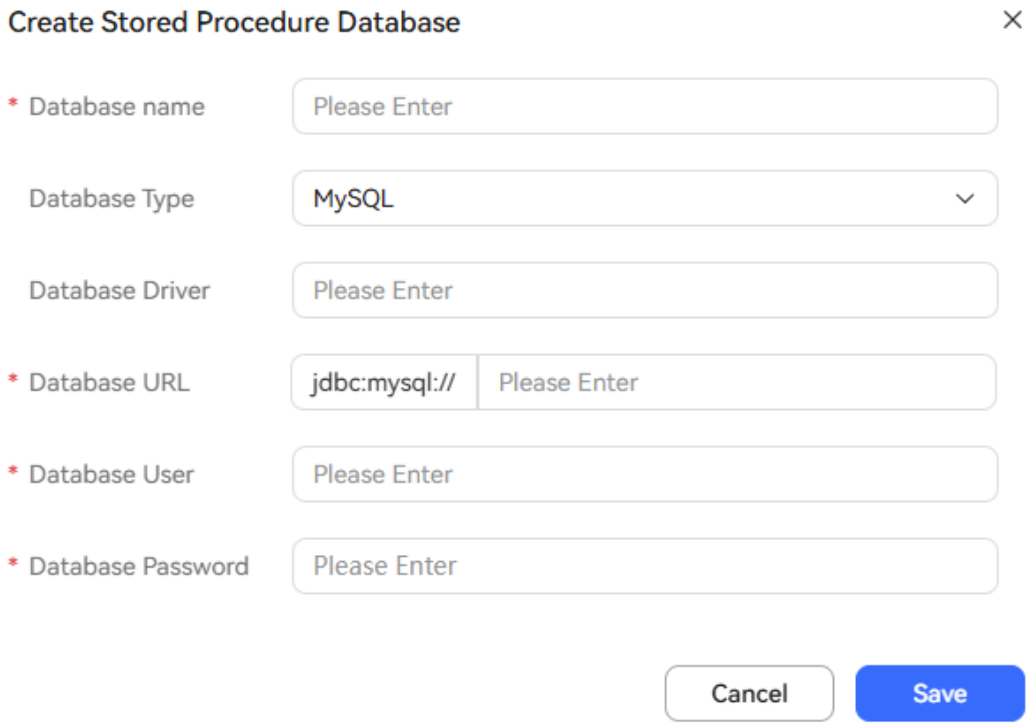
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click Create to configure the database connection information of stored procedures. If this information has been configured, click **Edit**. A maximum of 200 records are allowed.

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Figure 2-151 Create Stored Procedure Database page



- **Database Name**: Database name. The value can contain only letters, digits, spaces, underscores (_), and single quotation marks (').
- **Database Type**: The options are **MySQL**, **GaussDB**, and **Oracle**. Select a value based on site requirements.
- **Database Driver**: Driver used for connecting to the database. Generally, you do not need to set this parameter.
- **Database URL**: Database connection string, which is a JDBC connection string and can be an IP address or a domain name. Contact the administrator to add it to the trustlist.

Table 2-91 Configuration format of the database connection string

Database	Configuration Format	Configuration Example
MySQL	– jdbc:mysql://ip:port/SID – jdbc:mysql:domain name	– jdbc:mysql://IP:PORT/oiap?useUnicode=true&characterEncoding=utf-8&useSSL=false – service-cloud.huawei.com:3306/aicc_isales

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Database	Configuration Format	Configuration Example
GaussDB	– jdbc:zenith:@ip:port – jdbc:zenith:domain name	– jdbc:zenith:@IP:PORT – service-cloud.gaussdb.com:1888
Oracle	– jdbc:oracle:thin:@host:port:SID – jdbc:oracle:thin:domain name	– jdbc:oracle:thin:@IP:PORT:oiap – service-cloud.oracle.com:1521/ora19c

- **Database User** and **Database Password**: Username and password for connecting to the database.
- If the database password provided by the third-party system is changed periodically, return to this page and click **Edit** to change the database password correspondingly.

  NOTE

  Do not use the URL of the production database of the AICC solution as the database URL.

Step 3 Choose **Resource** > **Stored Procedure** and click Create in the upper right corner of the **Stored Procedures** tab page.

Step 4 Enter the basic information about the stored procedure.



- **Stored Procedure**: Enter a customized value based on the function of the stored procedure.
- **Value**: Enter the name of an existing stored procedure in the database.
- **Database Connection**: Select the database created in 2.

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Step 5 Click the **Input Parameter** tab. Click **Add** and configure the input parameters of the stored procedure one by one.

The input parameters of a stored procedure are usually in the same line as **CREATE PROCEDURE** and are identified by **IN**. For example, four input parameters are defined in the following stored procedure definition, where **varchar** corresponds to the **Character** data type in the system.

```
CREATE PROCEDURE p_modify_column_name (in tableName varchar(128), in oldName varchar(128), in newName varchar(128), in incolumnType varchar(128))
```

Step 6 Click the **Output Parameter** tab. Click **Add** and configure the output parameters of the stored procedure one by one.

Step 7 Click 

.

----End

2.6.2.4.4 Creating Work Calendar Templates

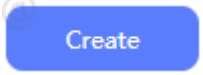
A tenant administrator can create a work calendar template to directly reference it in the **Time Selection** diagram element to reduce the workload.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

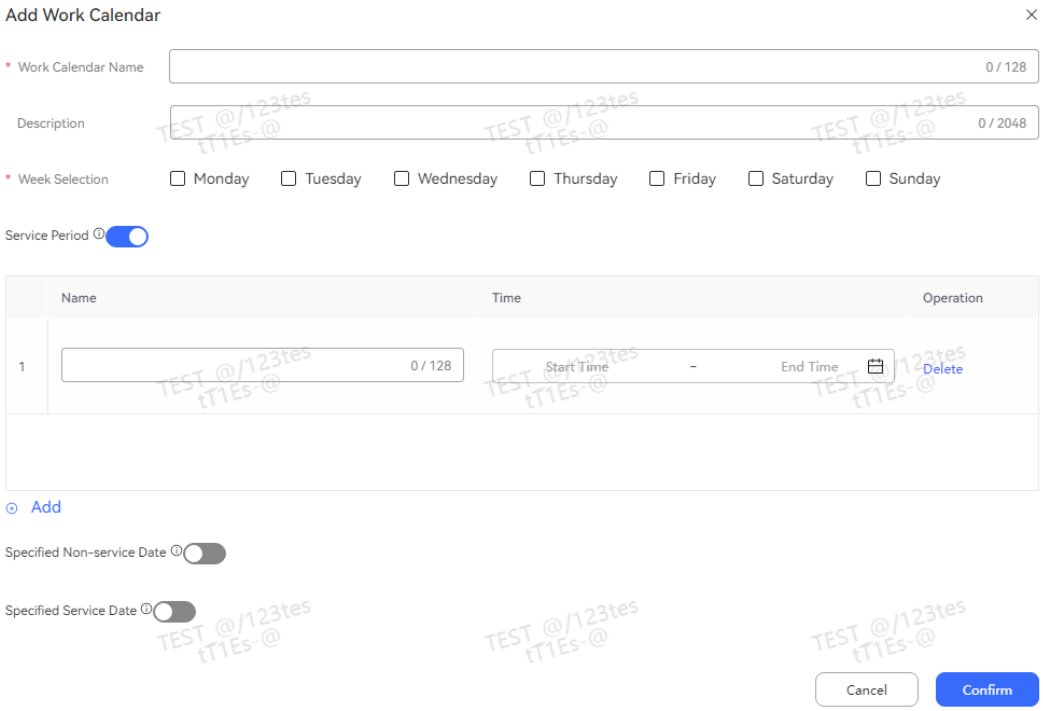
Step 2 Choose **Resource** > **Work Calendar** and click 

.

Step 3 Configure work calendar information.

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Figure 2-152 Add Work Calendar



- **Work Calendar Name**: (Mandatory) Field displayed in the **Time Selection** diagram element. The value must be unique and can contain a maximum of 128 characters, including only letters, digits, spaces, underscores (_), and single quotation marks (').
- **Description**: (Optional) The value can contain a maximum of 2048 characters.
- **Week Selection**: (Mandatory) At least one day must be selected. After a day is selected, it is regarded as a working day.
- **Service Period**: (Mandatory) 1 to 10 service periods must be configured. This parameter is used with **Week Selection**, both of which are mandatory.
- **Specified Non-service Date**: (Optional) A maximum of 50 records are allowed. After a date is specified as a non-service date, it is regarded as a non-working day. This parameter has the highest priority. If a date is specified as both a non-service date and a service date, it is regarded as a non-service date.
- **Specified Service Date**: (Optional) A maximum of 50 records are allowed. This parameter is used to specify service dates that are not within the working days specified by **Week Selection**. After a date is specified as a service date, it is regarded as a working day.

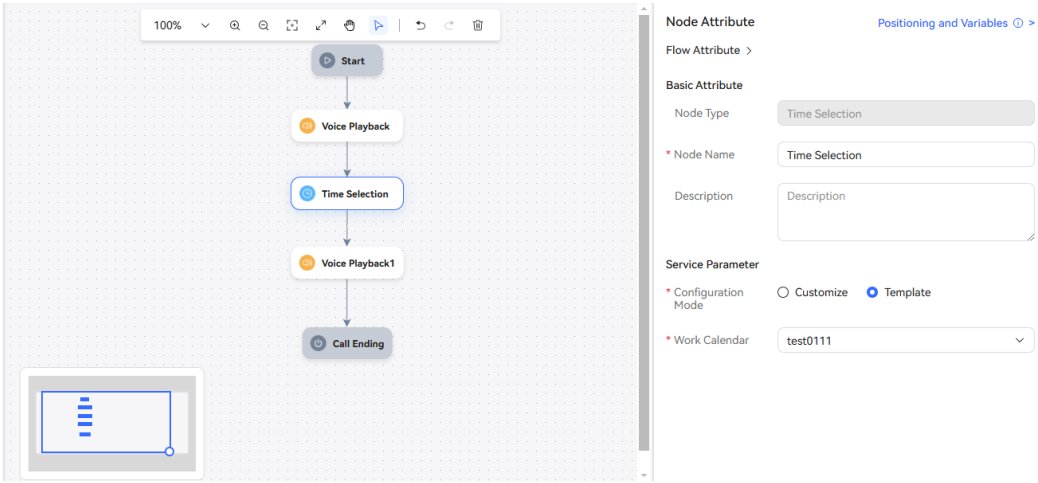
Step 4 Click **Confirm** to save the information.

Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 6 Choose **Flow** > **Orchestration** and add a flow. The created work calendar template can be referenced in the **Time Selection** diagram element.

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Figure 2-153 Time Selection diagram element



----End

2.6.2.4.5 Adding Data Tables

If customized data is required in a flow, you can add a customized data table and then add or import data to it. When editing a flow, you can use the **Data Table** diagram element to use data in a customized data table.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

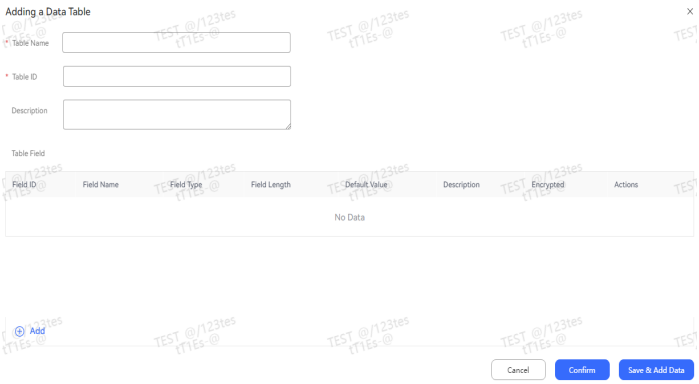
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **Resource** > **Data Table** and click New. The **Adding a Data Table** dialog box is displayed.

Step 3 Enter basic data table information.

Figure 2-154 Adding a Data Table



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- **Table Name**: Enter a globally unique table name. The value can contain a maximum of 64 characters.
- **Table ID**: Enter a globally unique table ID. The value can contain a maximum of 32 characters, including letters, digits, and underscores (_), and cannot start with a digit.
- **Description**: Enter a table description. The value can contain a maximum of 255 characters.

Step 4 Click Add. The **Adding a Table Field** dialog box is displayed.

Step 5 Enter basic table field information.

Figure 2-155 Adding a Table Field



- **Field ID**: Enter a unique field ID in the data table. The value can contain a maximum of 32 characters, including letters, digits, and underscores (_), and cannot start with a digit.
- **Field Name**: Enter a unique field name in the data table. The value can contain a maximum of 64 characters.
- **Field Type**: Select a field type. The options are **Character**, **Integer**, and **LogTime**.
- **Field Length**: Enter a field length. The total length of all fields cannot exceed 10,000 characters. This parameter needs to be set only when **Field Type** is set to **Character** or **Integer**.
- **Default Value**
  - When **Field Type** is set to **Character**, enter a maximum of 255 characters as the default value.
  - When **Field Type** is set to **Integer**, enter an integer as the default value.
  - When **Field Type** is set to **LogTime**, select a date as the default value.
- **Description**: Enter a field description. The value can contain a maximum of 255 characters.
- **Encrypted**: Determine whether a field needs to be encrypted for storage.

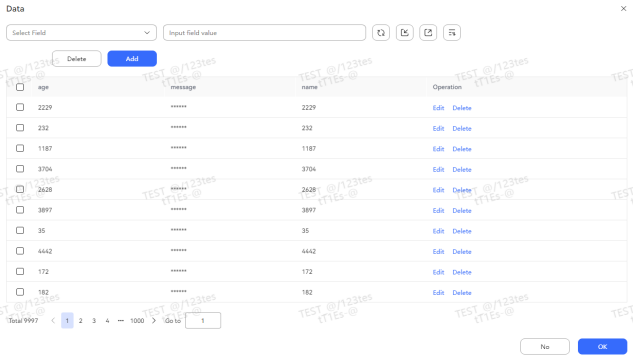
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Step 6 In the **Adding a Table Field** dialog box, click **Confirm** to save the table field.

Step 7 In the **Adding a Data Table** dialog box, click **Confirm** to save the data table.

Step 8 Click **Data** to add table data.

Figure 2-156 Data



Step 9 Click **Add** to add data.

Figure 2-157 Add Data



Step 10 In the **Add Data** dialog box, click **Save** to save the data.

Step 11 Click **Edit** to edit data.

Figure 2-158 Edit Data



Step 12 Click **Delete**. In the **Confirm deletion** dialog box, click 

. The data is deleted successfully.

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----End

2.6.2.4.6 Adding Domains

A domain is considered as an independent task-oriented robot, which recognizes and replies to a group of intentions.

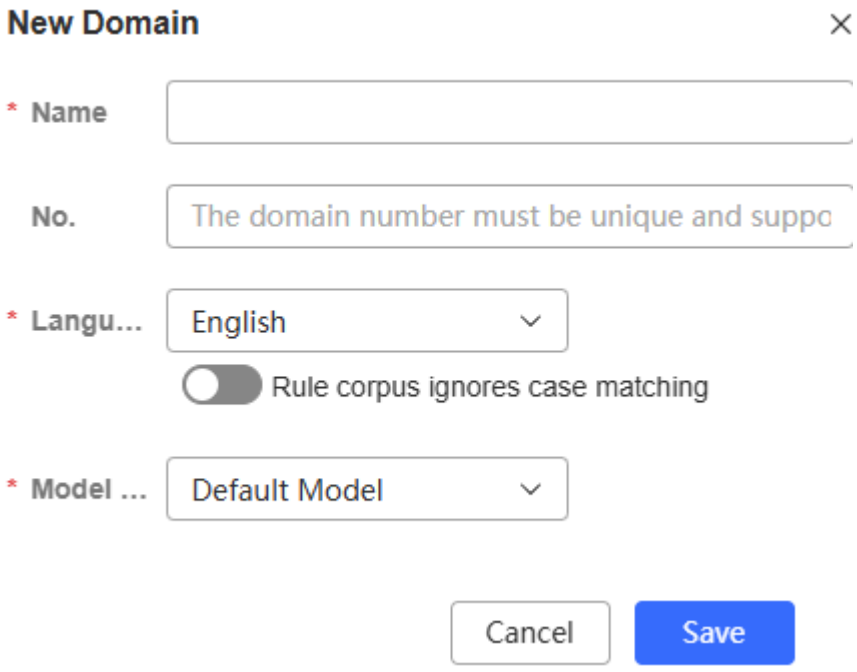
Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Domain Management**, and click **Create**.

Step 3 Set **Name** and **Language**, and click **Save**.

Figure 2-159 New Domain



Step 4 Save the settings and click **Active** in the **Status** column to activate the domain.

----End

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NOTE

How to divide domains?

A domain is considered as a robot that handles a business. Therefore, domains are usually divided based on business scenarios. For example, the telecom field can have call fee query, service provisioning, and other robots.

2.6.2.4.7 Adding Entities

Entities are variables or parameters, which can be used to configure multiple dialogs of a task-oriented robot to recognize specific customer purposes. They can also be used to temporarily store parameter values in interfaces for future calculation. For example, when a customer needs to purchase a flight ticket, you need to know the departure city, destination city, departure time, and flight company for the flight. The departure city, arrival city, departure time, and flight company can be considered as entities.

Context

Entities can impose specification constraints on the values filled in a slot, similar to defining data types for variables. Some entities are preset, such as **system.date**, **system.time**, **system.number**, and **system.phonekeyboard**. You can view entities on **SYSTEM ENTITY** and **ENVIRONMENT ENTITY** (by choosing **Template Management > Entity Management**). You can also click **Test Entity** under **My Entity** to check whether the variables that you need can be recognized. If the preset entities do not meet your requirements, customize your entities. Customer entities are classified into the following types:

- General entity: entity corresponding to a single variable. For example, a departure city, a destination city, and a flight company are general entities. For customized general entities, only enumerated values and their synonyms can be set. Complex functions such as fuzzy match cannot be implemented.
- Composite entity: combination of multiple entities. For example, an identity entity, a city entity, a region entity, and a street entity form a mailing address entity together. Composite entities are usually used to define complex and structured texts.
- Rule entity: entity that defines a fixed format (prefix and suffix), and part-of-speech rules. When a type of entity has fixed features in sentence expressions, for example, all entities have the same prefix or suffix, you can define a rule entity to expand the capture range of this entity.

During the application of an entity, the system matches the entity values with customer statements. If the matching is successful, the system considers that the entities are contained in the customer statements and uses the entity values for subsequent processing.

Configuring a General Entity

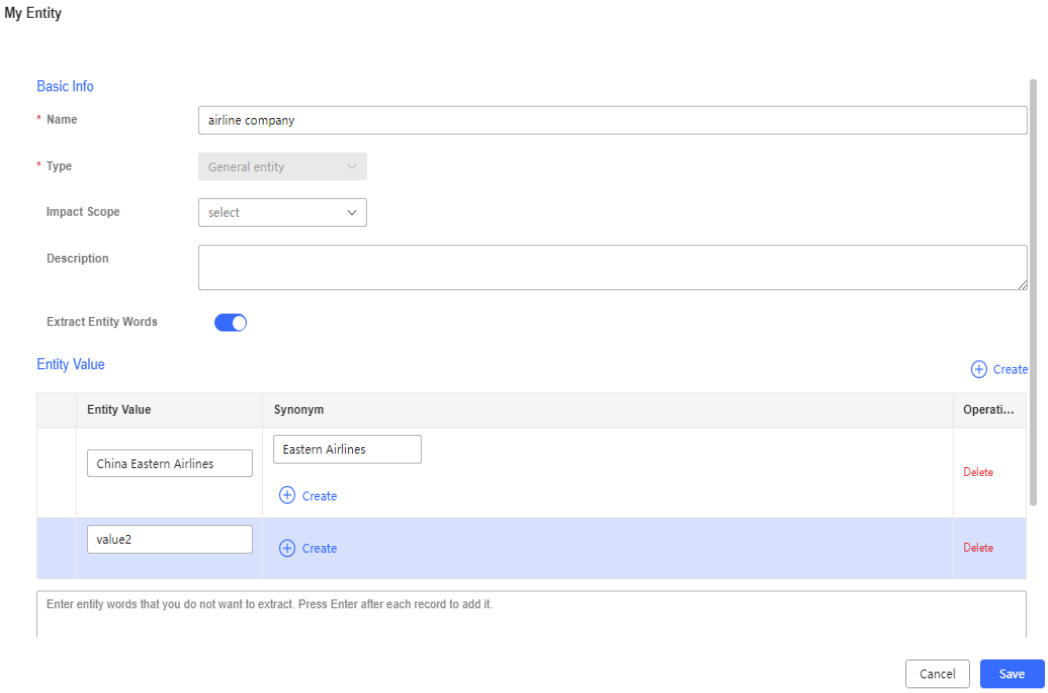
To add a flight company entity, perform the following steps:

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

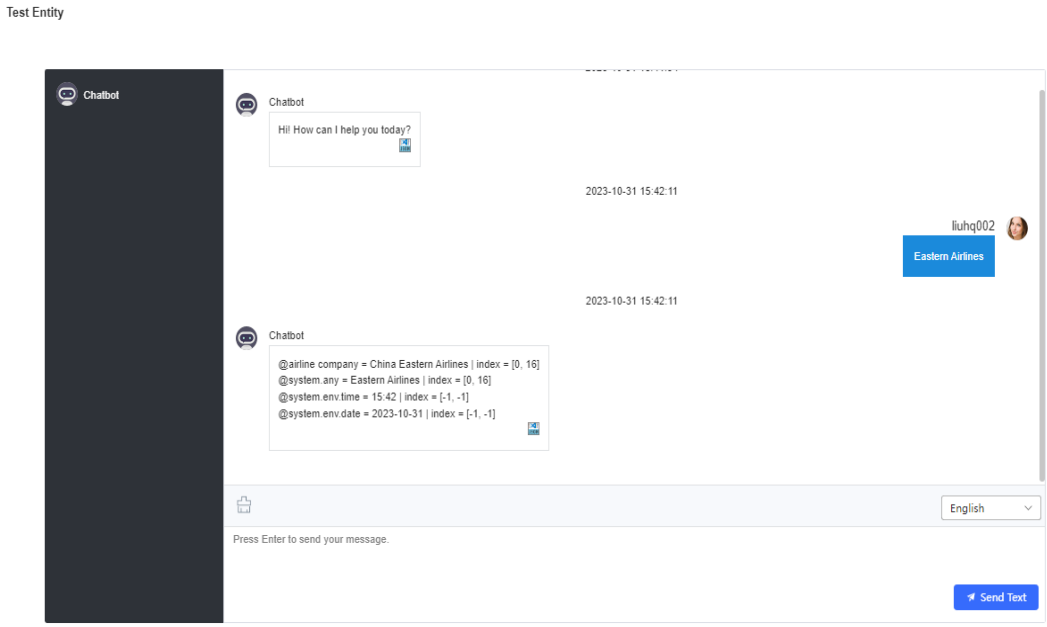
Step 2 Choose **Knowledge Management** > **Entity Management**. Click **Create**, and choose **General entity**.

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Step 3 Set **Name**, click **Create** to add entity values and their synonyms, and click **Save**.



Step 4 Click **Test Entity** in the upper right corner, and enter an entity value or synonym in the text box. If the AI robot returns **@Flight Company=Emirates**, the configuration takes effect.



----End

Configuring a Composite Entity

You need to add a location entity that indicates the direction and distance, for example, 100 meters eastwards.

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Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

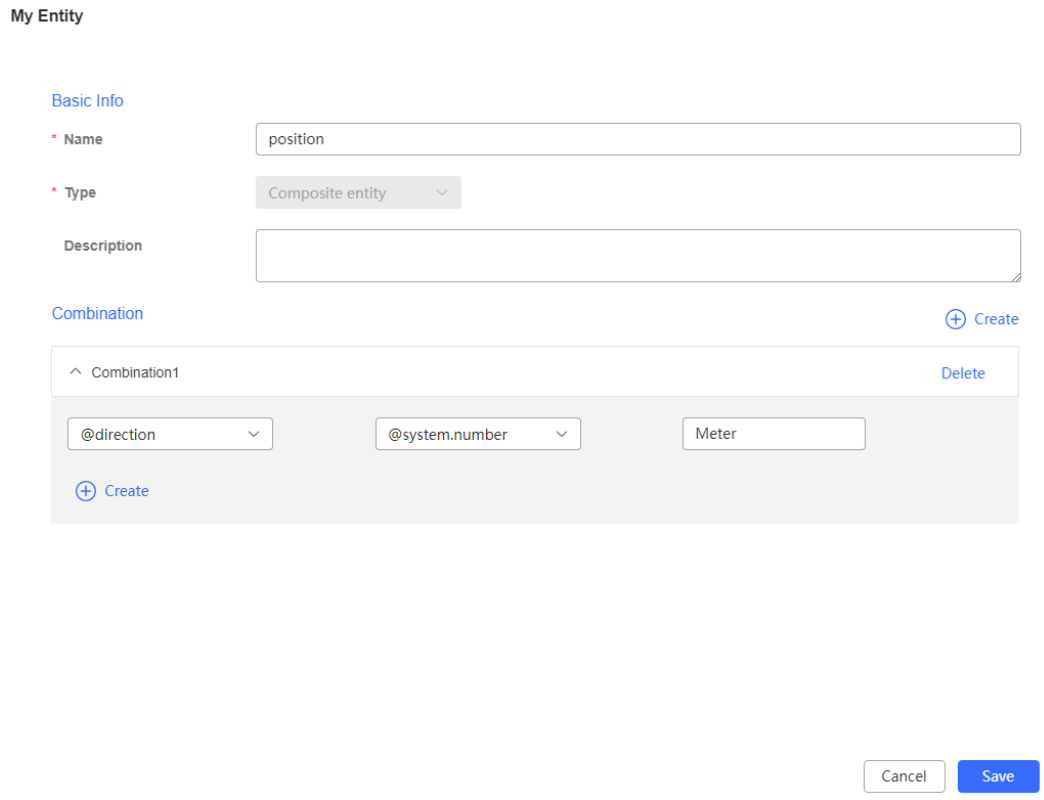
Step 2 Choose **Knowledge Management** > **Entity Management**. Add a general entity that indicates a direction by referring to **Configuring a General Entity**. A direction entity includes four elements: **East**, **West**, **South**, and **North**.

Step 3 Click **Create**, and choose **Composite entity**.

Step 4 Set **Name**, and click Create.

Step 5 Configure a composite entity.

1. Select the entity added in **2** from the drop-down list.
2. Click Create to add the second drop-down list, and select **@system.number** (indicating a number) from the drop-down list.
3. Click Create to add the third drop-down list, hover the pointer over the drop-down list, click next to the drop-down list to switch from the entity selection mode to the text input mode, and enter **Meter**.



Step 6 Click **Save**.

----End

Configuring a Rule Entity

You need to add a rule entity to identify a company name entity of *XXX* Co., Ltd.

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Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Entity Management**. Click **Create**, and choose **Rule entity**.

Step 3 Set **Name**.

Step 4 Set parameters as follows:

A rule supports the following filtering of a character string:

- If both **Part-of-speech** and **Suffix** are set, the character string that meets the part-of-speech requirement is obtained after the suffix is matched. The length of the character string cannot exceed the value of **Maximum length**.

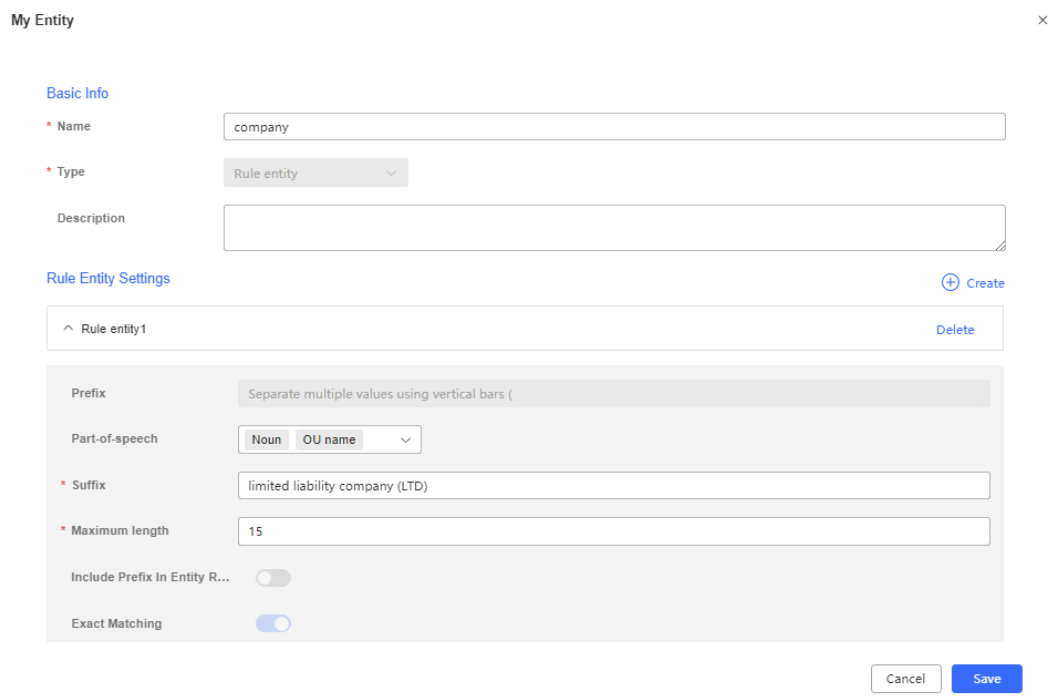
  In addition to common adjectives, nouns, numbers, and quantifiers, special nouns are further classified into the following types.

  - Gerund: If you use phrases that can be used as verbs to compose the name of an entity, for example, *XX* Daily Wholesale Co., Ltd., you can set **Part-of-speech** to **Gerund** to better match the entity.
  - Localizer: Without the prefix and suffix, the remaining characters indicate a localizer such as front, back, upper, and lower.
  - OU name: Without the prefix and suffix, the remaining characters indicate an OU group.
  - Place name: Without the prefix and suffix, the remaining characters indicate a city and province.
- If **Part-of-speech** is not set, characters between the prefix and suffix are used. The length cannot exceed the value of **Maximum length**.

  Exact Matching determines whether the prefix and suffix are used for matching.

  Include Prefix In Entity Result and **Include Suffix In Entity Result** determine whether information corresponding to the prefix and suffix is used as the entity content. For example, in this example, **Include Suffix in Entity Result** needs to be enabled. The matched entity is *XX* **Co., Ltd**.

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Step 5 Click **Save**.

----End

2.6.2.4.8 Adding Sensitive Words

Sensitive words are configured to check customer input. If the customer input contains a sensitive word, the robot receives a sensitive word triggering event for further processing.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Knowledge Management** > **Entity Management** and click the **Sensitive Word** tab.

Step 3 Click  in the category area on the left to add a category for sensitive words, for example, **Forbidden Words**, and click **Save**.

Step 4 Select the new category on the left and click **Create** on the right to add sensitive words. Press **Enter** to add multiple records.

----End

2.6.2.4.9 Adding Knowledge Gray Rules

The system supports the configuration of knowledge gray rules to restrict users who use intentions. You can configure a group of usernames. After an intention is associated with a knowledge gray rule, the intention can be accessed only by users configured in the gray rule.

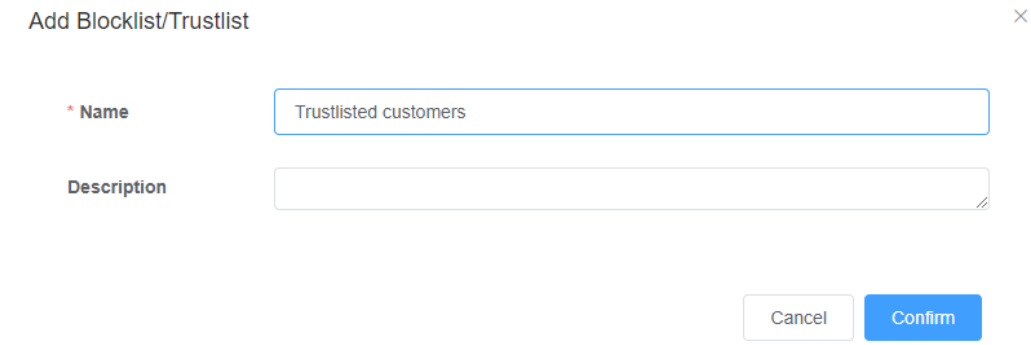
 Copyright © Huawei Technologies Co., Ltd.

Procedure

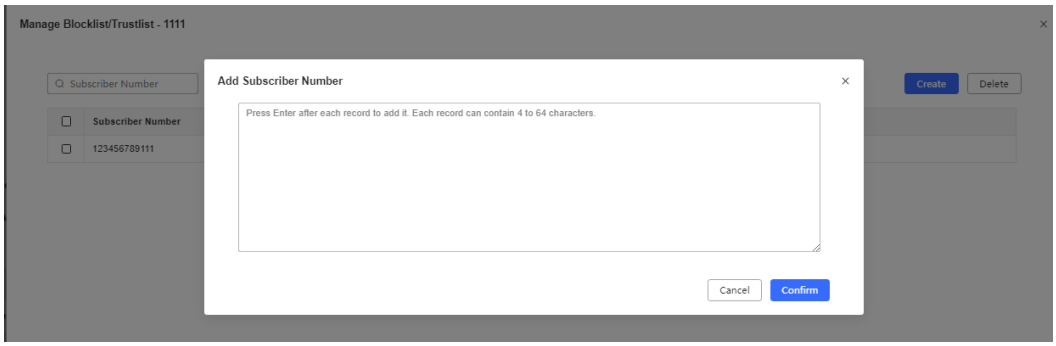
Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **System Management** > **Knowledge Gray Rule**. Click **Create**.

Step 3 Set **Name** and click **Confirm**.

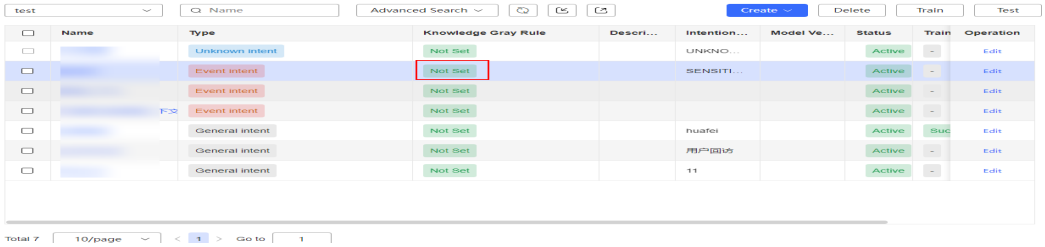


Step 4 Click the number in the **Quantity** column. In the **Manage Blocklist/Trustlist** dialog box, click Create to add a customer name. To enter multiple customer names, press **Enter** after each record to add them. Click Confirm.



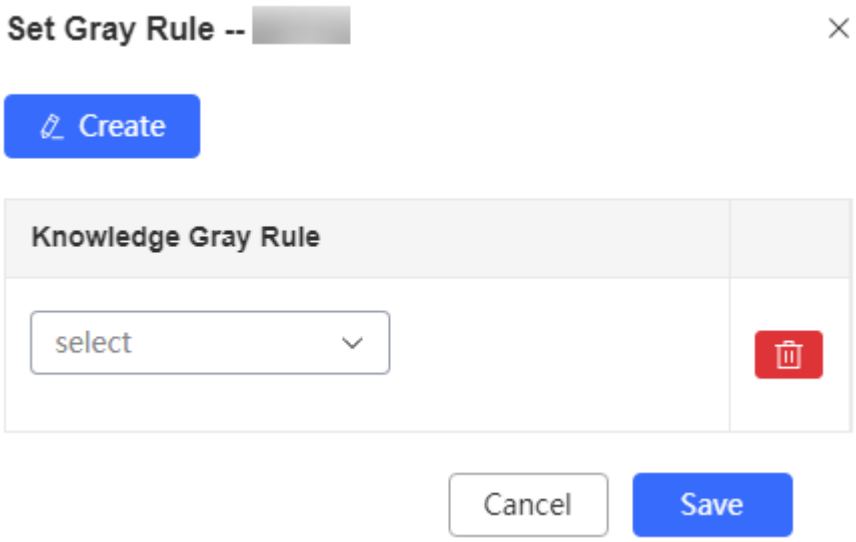
Step 5 Choose **Knowledge Management** > **Intention Management** and click **Not Set** corresponding to the intention to be associated.

Figure 2-160 Setting gray rules



Step 6 Click **Create**, select knowledge rules, and click Save.

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----End

2.6.2.4.10 Managing Models

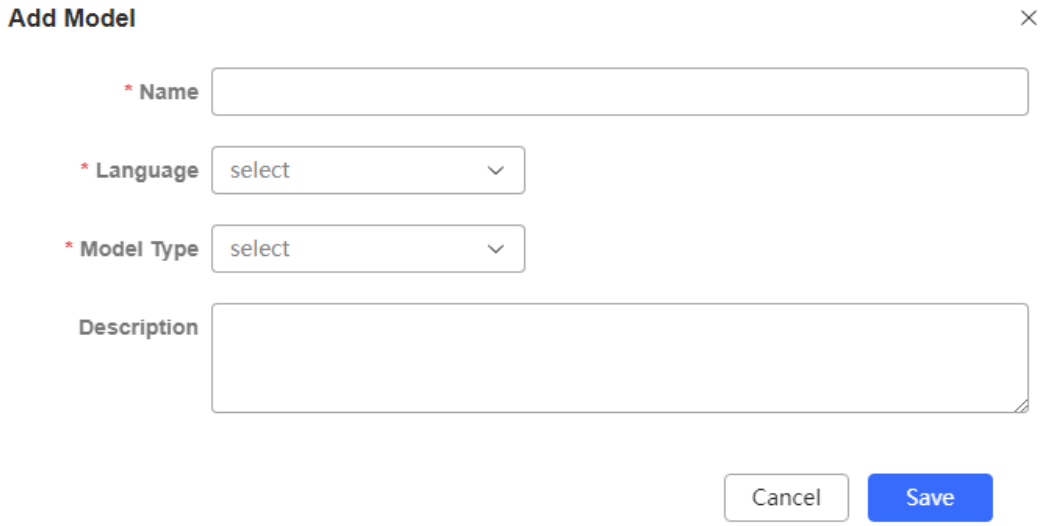
A tenant administrator can manage models.

Step 1 Sign in to the AICC as a tenant administrator.

Step 2 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **System Management** > **Model Management**.

Step 3 Click **Create** and set **Name**, **Language**, **Model Type**, and **Description**.

Figure 2-161 Add Model



Step 4 Click **Save**.

----End

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2.6.2.4.11 Managing Robot Test Cases

You can maintain commonly used sentences in test cases, and periodically execute the test cases to verify that a robot can respond properly.

Prerequisites

You have configured the dialog flow and robot by referring to **2.6.2.2 Configuring an Appointment Chatbot (Task-oriented Robot)**.

NOTE

What are the benefits of managing test cases?

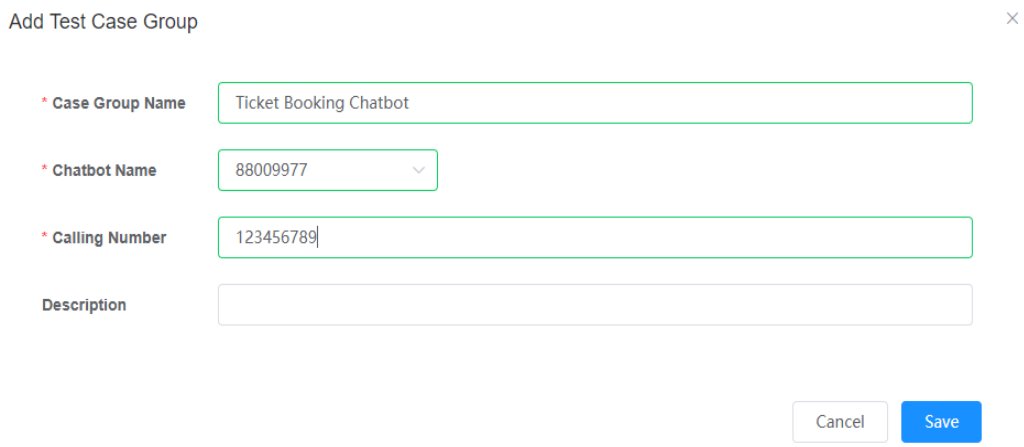
You can test conversations in batches with automated texts to verify that the robot's responses meet expectations, and to reduce the workload of verifying that the corpus is correct.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Choose **Training Check** > **Knowledge Test**. Click **Create**.

Step 3 Enter a test case group name, for example, **Ticket Booking Chatbot**, select a robot, and set the calling number.



Step 4 Click **Save**.

Step 5 Click the link in the **Test Cases** column corresponding to the new test case group. The **Manage Test Case** page is displayed.

Step 6 Click **Create** and enter the case name.

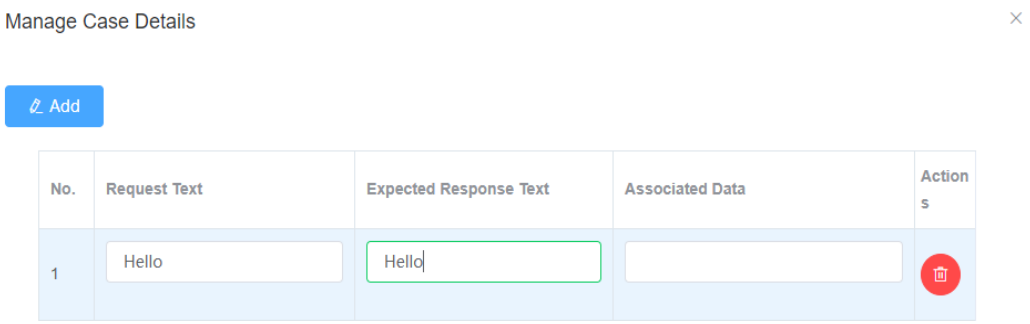
Step 7 Click **Manage Case Details**. The details page is displayed.

Step 8 Click **Add** and set the parameters.

NOTE

If a large number of questions need to be tested, click **Download Template** to obtain a batch template, enter test case information in the template, and click **Import** to add test cases in batches.

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Step 9 Click **Confirm**. On the **Add Test Case** page, click **Save**.

Step 10 On the **Manage Test Case** page, select the desired test case and click **Execute Test**.

The system then automatically executes the test case in the activated domain and generates the test result.

----End

For a failed case, you can click **Call Details** to view the actual response text or click the flow link in the **Flow Track** column to view the session track.

2.6.2.4.12 Reviewing a Historical Message

The OIAP records historical sessions to the table of a corresponding time period at an interval (24 hours by default) specified by **History Dialog Table Division Interval**. You can query the session records in a specified time period, and process historical messages.

On the **Historical Message Review** page, intention matching is recorded. If an error occurs in intention matching, check the contents recognized by automatic speech recognition (ASR), and the command words matched by the intention.

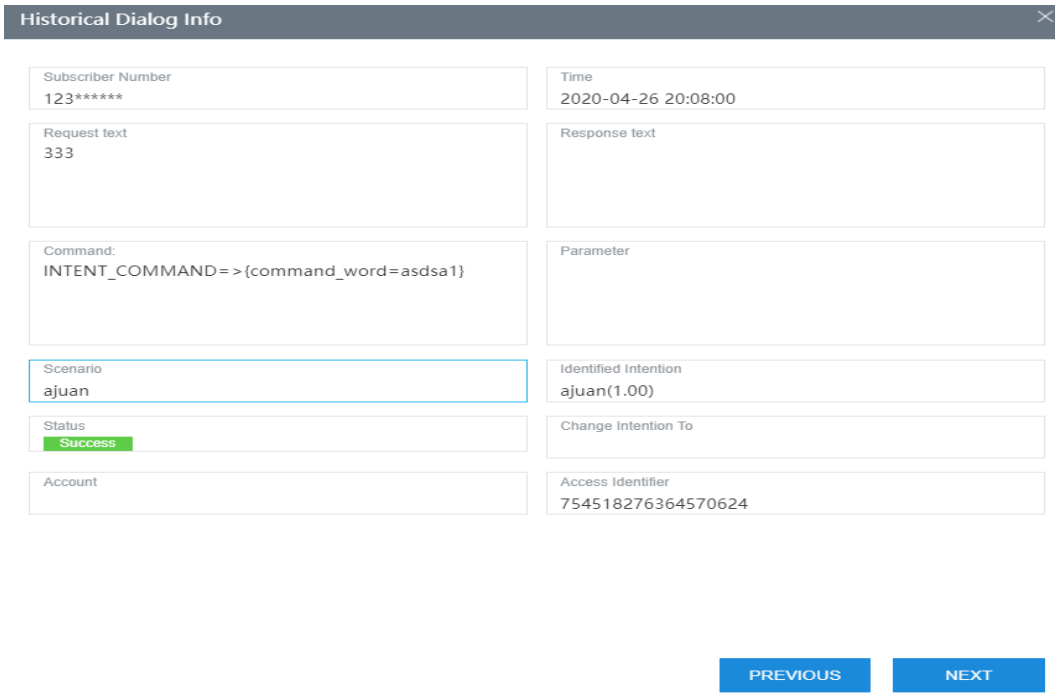
Step 1 Choose **Training Check** > **Historical Message Review**.

Step 2 Select a time period, and click **Query**. Generally, select the first record, which indicates the latest one.

In the search criteria, you can also query a session based on **Status** (whether the intention is successfully matched), **Start Time**, **End Time**, **Access Identifier**, and **Subscriber Number**.

Step 3 Click **Subscriber Number**, and view the action that matches the current intention, as shown in the following figure.

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In the preceding instance where **Access Code** is *110112*, if a customer enters (or says) *4 Persons*, **Identified Intention** is completely matched, and the intention returns *4* in **Response text** and *NUMBER* as the command word.

Step 4 Perform the following operations for an intention that is not identified or correctly matched:

Add unidentified texts (or events), or incorrectly identified texts (or events) as corpora to the existing intentions.

Create unidentified texts (or events), or incorrectly identified texts (or events) as corpora to the new intentions.

The following describes how to add them to an existing intention:

1. Click **Request text**.
2. Select **Add To Existing Intention**.
3. Select a domain or enter a domain name, and click **Query**.
4. Click **+** next to the intention to which a corpus needs to be added.
5. On the page that is displayed, select **Corpus**, and check whether the new corpus is listed.
6. Click **SAVE**.
7. Go to the **Domain** page, and click **Train** for the configuration to take effect.

----End

2.6.2.4.13 Processing a Question Clustering Task

Perform a question clustering analysis periodically on sessions in a specified time period, and collect statistics on subscriber questions and their occurrence frequencies in the time period for corpus analysis.

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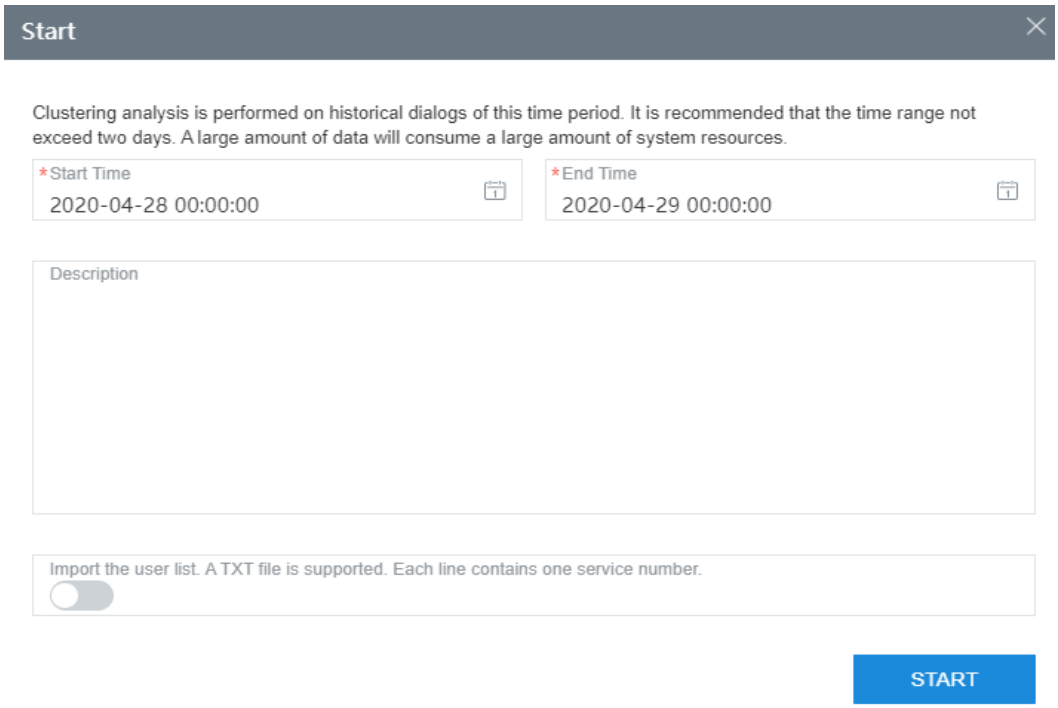
Step 1 Choose **Training Check** > **Question Clustering Task**.

Step 2 Click **Start**, set **Start Time** and **End Time**, and click **START**.

NOTICE

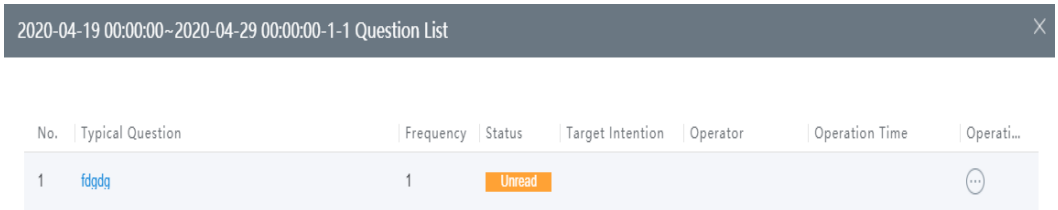
Ensure that the selected time period contains session records that can be used for analysis.

After the subscriber list is imported, the clustering task analyzes only the session records corresponding to the number.



Step 3 Set the time period to be queried in the search criteria, and click **Query**.

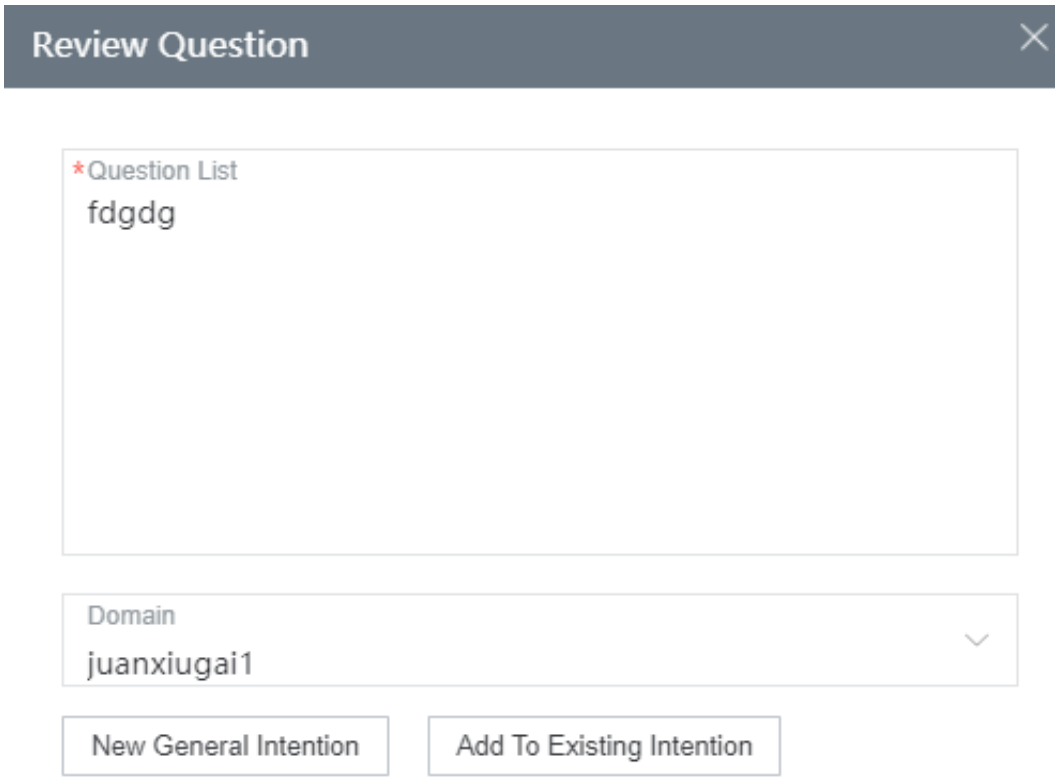
Step 4 Click the task link, and view the analysis.



You can click **Frequency** to sort the questions by the number of times they occur.

Step 5 Click the question link, and check whether to add the question to the intention as a corpus.

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You can click **New General Intention** or **Add to Existing Intention** to add the question as a corpus.

Step 6 Click next to the question, and set **Status**. For example, set this parameter to **Marked**.

Step 7 Return to the question list, and click next to the main task. If **Status** is set to **Marked**, the task is completed.

----End

2.6.2.4.14 Setting Intelligent Engine Parameters

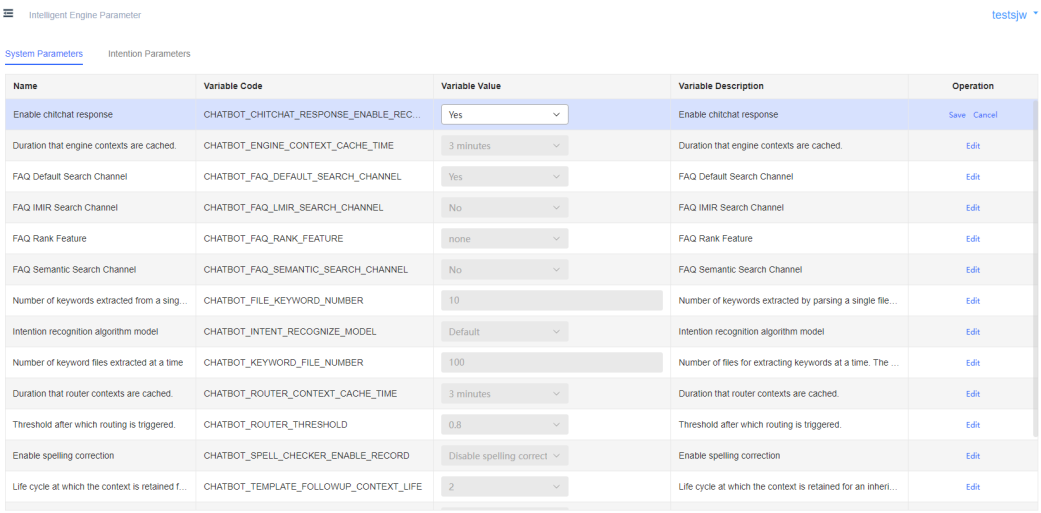
Configuration personnel can modify system parameters and intention parameters of the current tenant as required. However, the modification of these parameters will affect services. Therefore, ensure that you understand the parameter functions before performing operations.

Procedure

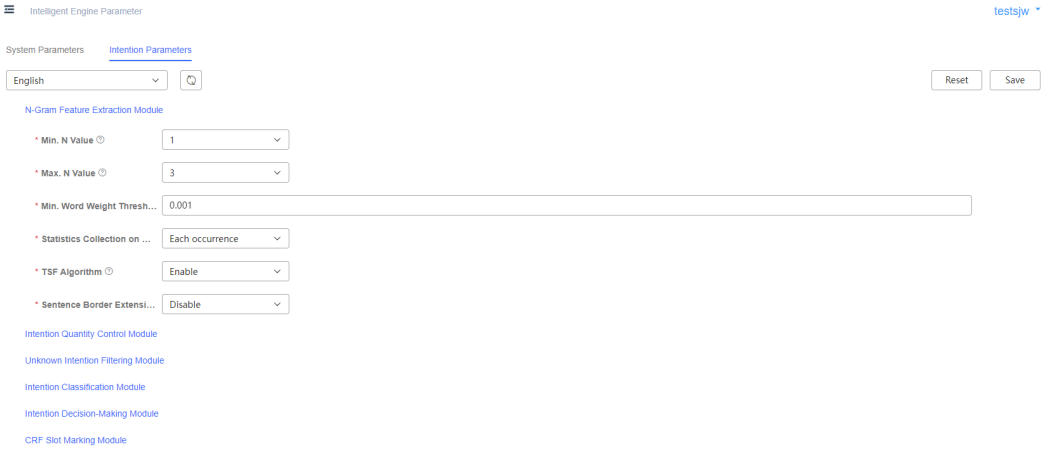
Step 1 Choose **Configuration Center > Flow Configuration >** > **Intelligent IVR**. The Intelligent IVR Management page is displayed.

Step 2 Choose **System Management** > **Intelligent Engine Parameter**. On the **System Parameters** tab page, click **Edit** in the row that contains the parameter to be modified, select a variable value, and click **Save**.

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Step 3 On the I**ntention Parameters** page, select the language to be modified, modify the parameters to be modified, and click **Save**.



----End

2.6.2.4.15 Managing the Call History

Tenant administrators can query and manage historical customer service call records.

Querying the Call History

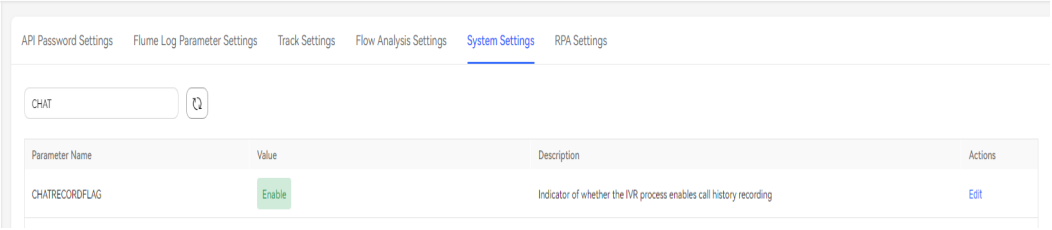
An agent can view historical calls and their details.

Prerequisites

1. You have contacted the tenant space administrator to access the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** page and set **CHATRECORDFLAG** to **On** or **Bot-level control**.
2. If **CHATRECORDFLAG** is set to **Bot-level control**, you need to enable the historical call record feature when creating an intelligent robot or a common IVR.

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Figure 2-162 Setting CHATRECORDFLAG



Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Call History** tab.

Step 3 Set the search criteria. The period is mandatory, and the calling number and robot access code are optional.

Step 4 Click the refresh icon to search for all records that meet the criterion.

Step 5 Click **Call Details** to view the details of a single call record.

NOTE

1. You can use either of the following methods to view the historical call details of the intelligent robot:

   Method 1: Contact a tenant space administrator to access the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** page and set **FLOWRECORDFLAG** to **On**.

   Method 2: Set **FLOWRECORDFLAG** to **Bot-level control**, and enable flow call recording in feature parameter settings when creating an intelligent robot.

2. You can use either of the following methods to view the historical call details of a common IVR call:

   Method 1: Contact a tenant space administrator to access the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** page and set **CCIVRRECORDFLAG** to **On**.

   Method 2: Set **CCIVRRECORDFLAG** to **Bot-level control**, and enable flow call recording in feature parameter settings when creating an IVR flow.

3. After the tenant space administrator enables the intelligent IVR recording parameter **FLOWRECORDFLAG** in the system settings, **sys_err** may be displayed in the call record details after a user hangs up, which does not affect businesses.

----End

Querying the Call Statistics Dashboard

An operator can view robot call statistics, including the number of inbound calls, number of calls disconnected without consulting the robot, number of calls transferred to agents without consulting the robot, number of calls that consult the robot without transferring to agents, number of calls transferred to agents after consulting the robot, net self-service resolution rate of the robot, number of dialog rounds, average number of dialog rounds, total number of interface invocations, number of successful interface invocations, and interface invocation success rate.

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Prerequisites

You can view call statistics when either of the following conditions is met:

- The system parameter **CALLDASHBOARDREPORTRECORDSWITCH** has been set to **On**.
- The system parameter **CALLDASHBOARDREPORTRECORDSWITCH** has been set to **Bot-level control**, and the call statistics function has been enabled when a robot is created.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Call Statistics Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and robot access code are mandatory.
- If you select **By day**, the robot access code is mandatory.

Step 4 Click  .

NOTE

By hour: The hourly statistics of the access code on the specified day are queried.

By day: The daily statistics in the last 30 days are queried.

----End

Querying the Service Capability Dashboard

An operator can view robot service capability statistics, including the total number of replies, number of successful replies, number of unknown replies, success reply rate, total amount of feedback, amount of satisfied feedback, and satisfaction rate.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Service Capability Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and robot access code are mandatory.
- If you select **By day**, the robot access code is mandatory.

Step 4 Click the refresh icon.

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Figure 2-163 By hour

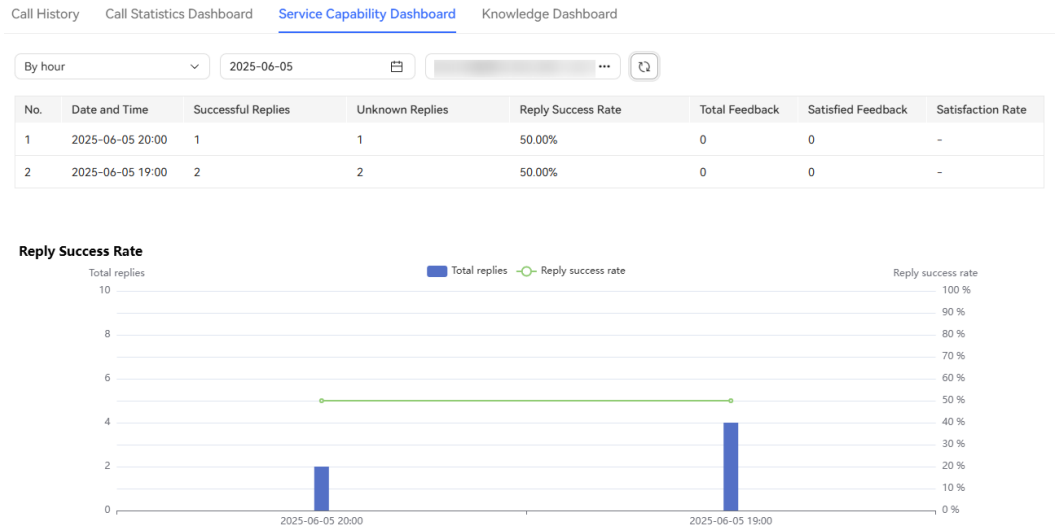
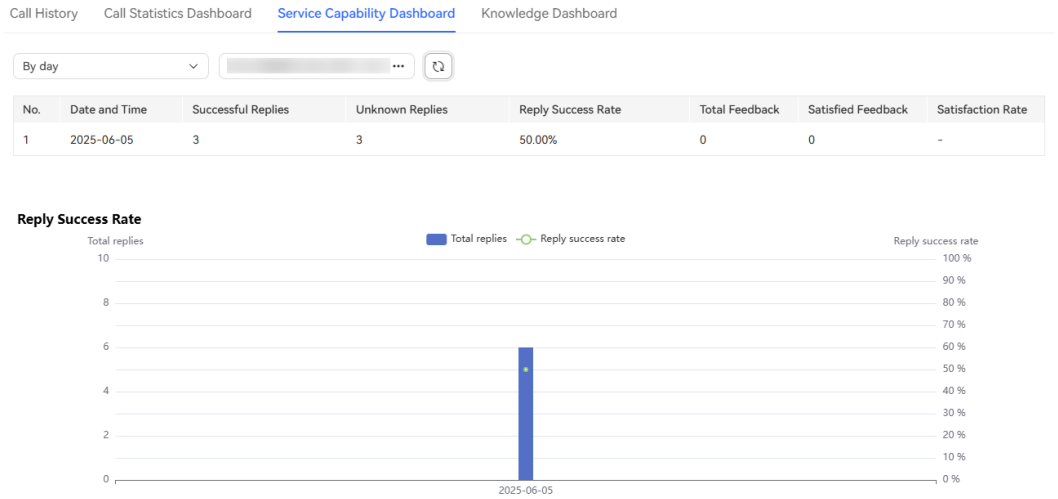


Figure 2-164 By day



NOTE

By hour: The hourly statistics of the access code on the specified day are queried.

By day: The daily statistics in the last 30 days are queried.

----End

Querying the Knowledge Dashboard

An operator can view the robot knowledge statistics, including the valid knowledge statistics and hit knowledge distribution.

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **Historical Call** and click the **Knowledge Dashboard** tab.

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Step 3 Set the search criteria.

- If you select **By day**, the date is mandatory.
- If you select **Last 30 days**, data in the last 30 days is queried.

Step 4 Click **Search**.

Figure 2-165 By day

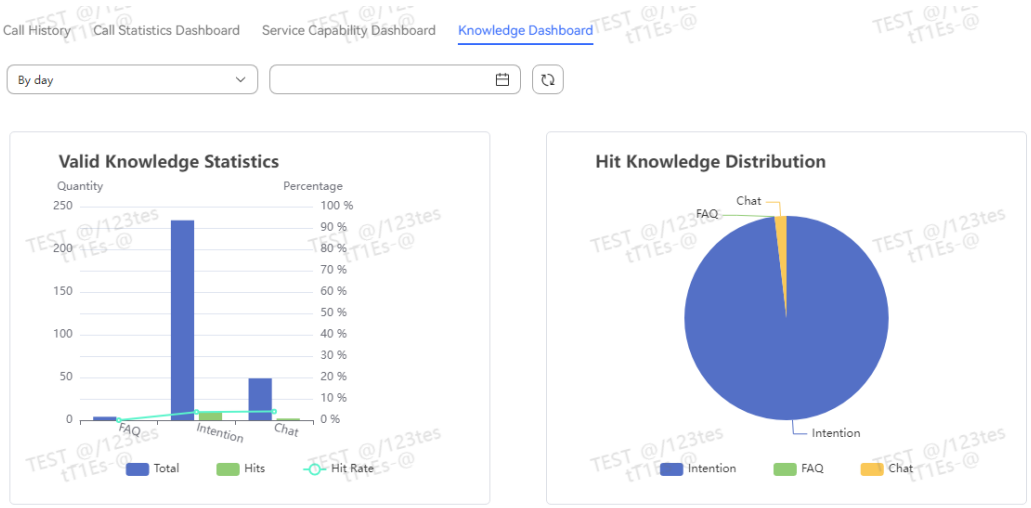
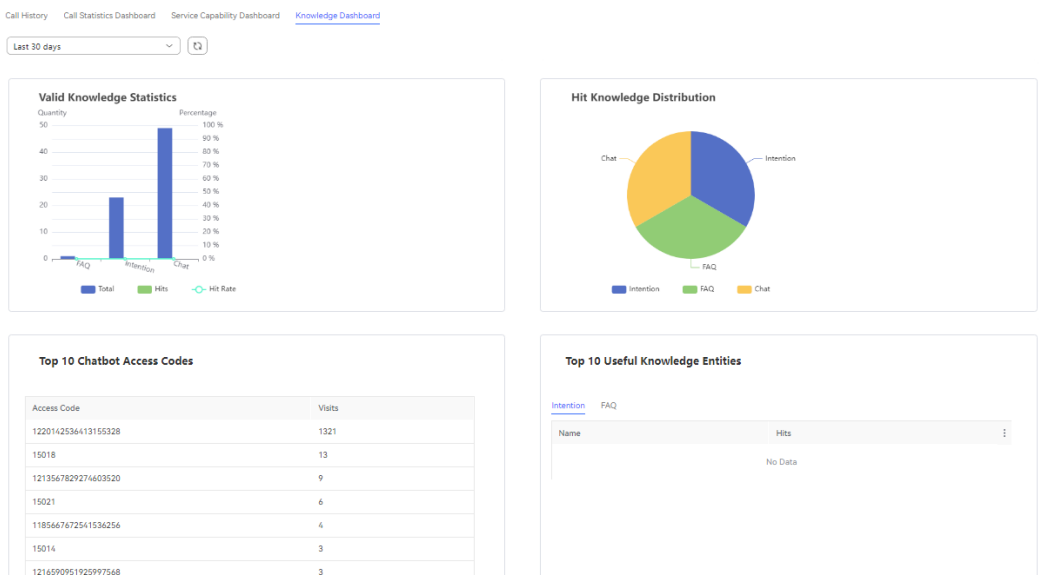


Figure 2-166 Last 30 days



NOTE

By day: The statistics of the specified day are queried.

Last 30 days: The total statistics of the last 30 days are queried.

----End

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2.6.2.4.16 Viewing Flow Analysis

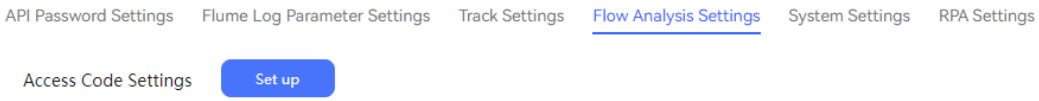
You can collect statistics on the IVR key usage through flow analysis, which provides data reference for subsequent IVR hot key analysis and menu analysis.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings**, click the **Flow Analysis Settings** tab, and add the robot access code to be analyzed.

Figure 2-167 Access Code Settings



Step 3 Run the robot. The branch execution statistics of the flow are collected by hour.

----End

2.6.2.4.17 Checking Flows

You can check the usage of composite diagram elements, business interfaces, stored procedures, gray rules, resource templates, global variables, and flows variables in all flows.

Prerequisites

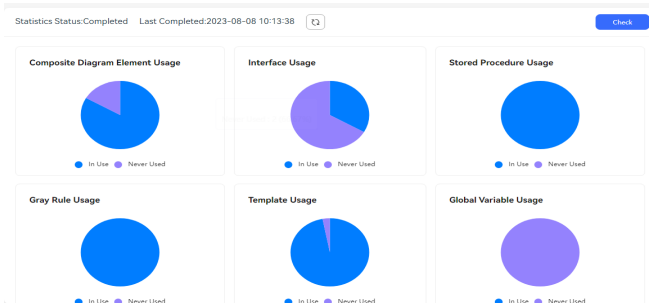
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

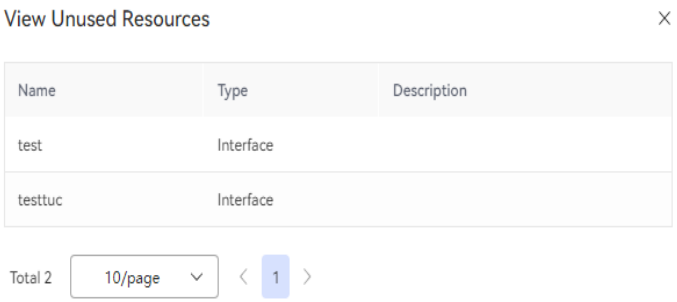
Step 2 Choose **Flow** > **Flow Check** and click Check to obtain the latest statistics.

Figure 2-168 Flow Check page



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Step 3 Click the **Never Used** sector or legend in the pie chart to view details about unused resources.



----End

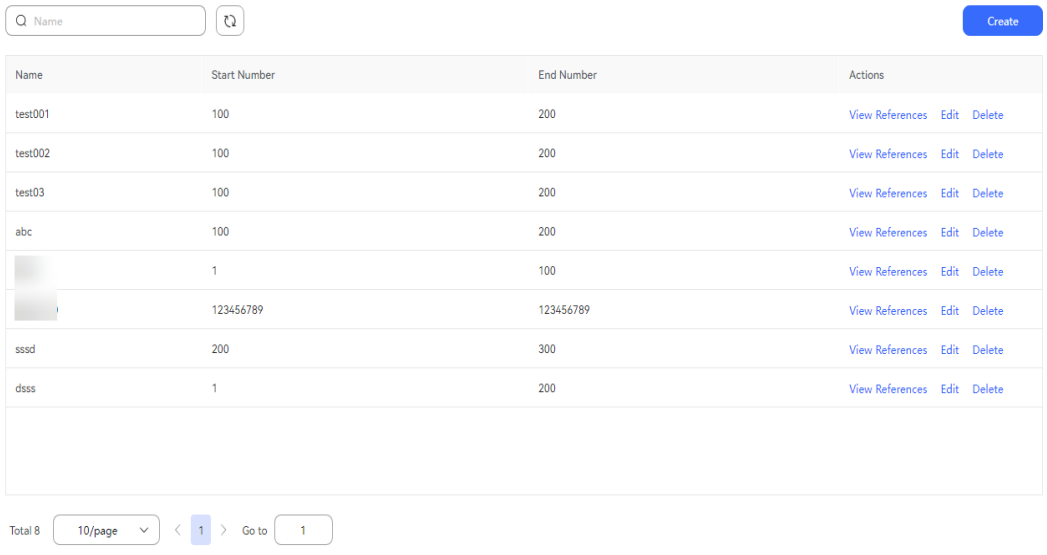
2.6.2.4.18 Adding Gray Rules

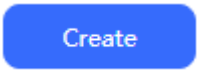
A gray rule defines the adaptation rules for customer numbers in a number segment by configuring the start number and end number. After a gray rule is configured, it takes effect only after it is associated with a published IVR flow. When a voice call is transferred to an IVR flow, calls that meet the gray rules will be automatically transferred to the corresponding gray release flow.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System**.

Step 2 Choose **Gray Rule**. The rule configuration page is displayed.

Figure 2-169 Gray rule list



Step 3 Click 

. The dialog box for adding a rule is displayed.

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Figure 2-170 Adding a gray rule



- **Rule Name**: name of a rule. The value can contain a maximum of 128 characters and cannot contain special characters.
- **Begin Number** and **End Number**: strings of a maximum of 32 digits. The number of digits in the start number must be the same as that in the end number, and the end number must be greater than or equal to the start number.

Step 4 Click **Complete** to save the rule configuration.

Step 5 (Optional) In the gray rule list, click a rule record to expand the rule. You can view the flow information bound to the current gray rule. You can perform the following operations on gray rules:

- Click **Edit** corresponding to a gray rule to modify the rule information.
- Click **Delete** corresponding to a gray rule to delete the rule.
- Click **View References** corresponding to a gray rule to view the flows bound to the rule.

  NOTE

  Gray rules that have been used in flows cannot be deleted.

----End

2.6.2.4.19 Configuring 2D Virtual Humans

A tenant administrator can configure virtual humans to select one when configuring the **Avatar Reply** diagram element in an IVR flow later.

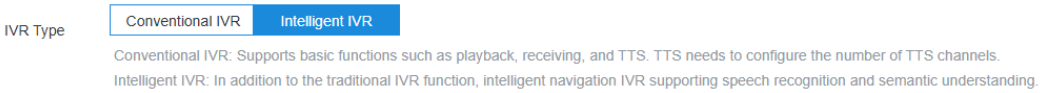
Prerequisites

- The **2D Digital Man** feature has been enabled.



- The **Intelligent IVR** feature has been enabled.

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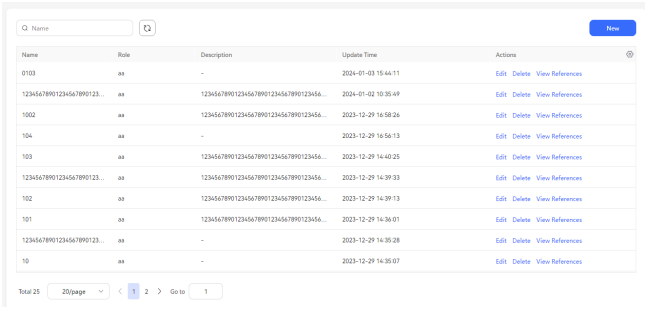
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

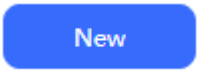
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource**.

Step 2 Choose **Virtual Human**. The **Virtual Human** page is displayed.

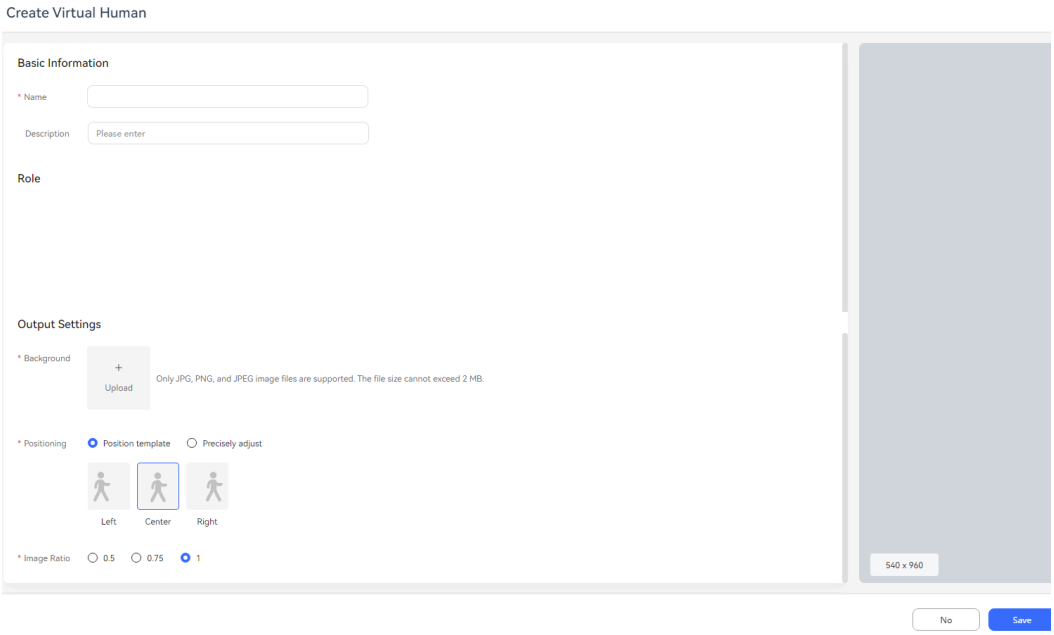
Figure 2-171 Virtual Human



Step 3 Click 

. The **Create Virtual Human** page is displayed.

Figure 2-172 Create Virtual Human



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- **Name**: Enter a name. The value can contain a maximum of 64 characters and cannot contain special characters.
- **Description**: Enter a description. The value can contain a maximum of 255 characters and cannot contain special characters.
- **Role**: Select a role for the virtual human. To add role data, contact the system administrator.
- **Background**: Upload a background image corresponding to the role resolution.
- **Positioning**: Select a positioning setting mode.
  a. **Position template**: If this option is selected, you need to select a template.
  b. **Precisely adjust**: You can drag the virtual human to accurately adjust the positioning. Hover the pointer over the virtual human. When  is displayed, hold down the left mouse button, keep the pointer in the image, and drag the virtual human to adjust the positioning.
- **Image Ratio**: Set the ratio of the virtual human image to the original image.

Step 4 Click **Save** to save the configuration.

Step 5 (Optional) In the 2D virtual human list, you can perform the following operations on a 2D virtual human:

- Click **Edit** to edit the 2D virtual human.
- Click **Delete** to delete the 2D virtual human.

----End

2.6.2.4.20 Configuring a Transfer Policy

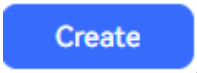
A tenant administrator can modify the transfer policy to update the routing policy in an IVR flow without reconfiguring the IVR flow.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

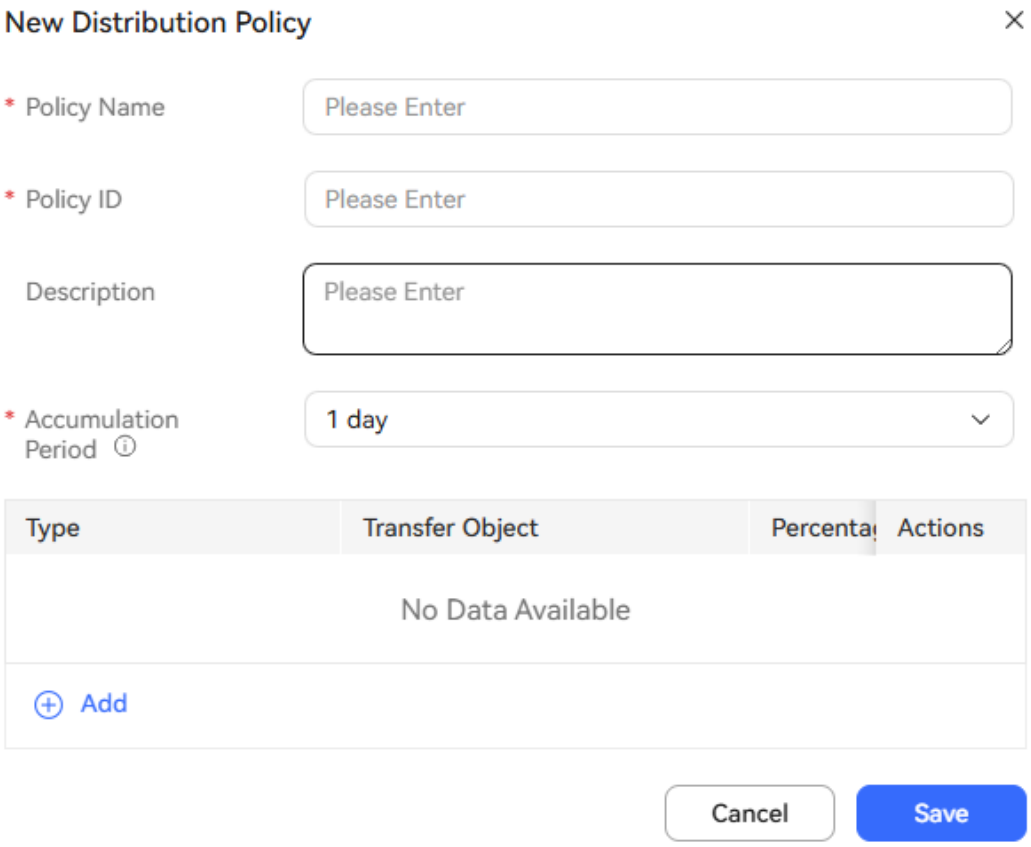
Step 2 Choose **Resource** > **Distribution Policy** and click 

. The **New Distribution Policy** dialog box is displayed.

Step 3 Enter the basic information about the transfer policy.

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Figure 2-173 New Distribution Policy page



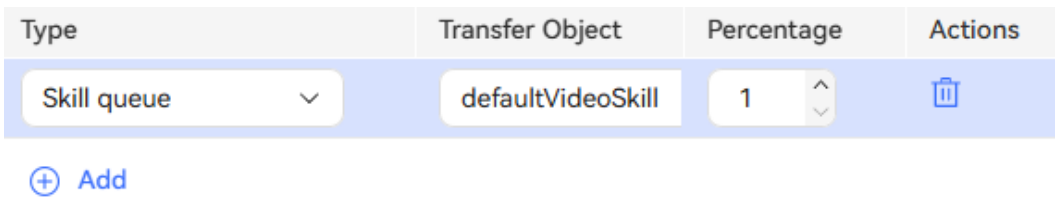
- **Policy Name**: The value is globally unique and can contain a maximum of 64 characters.
- **Policy ID**: The value is globally unique and can contain a maximum of 20 characters, including only letters, digits, and underscores (_).
- **Description**: The value can contain a maximum of 1024 characters.
- **Accumulation Period**: The default value is **1 day**. The value can be **15 min**, **30 min**, **1 hour**, **1 day**, or **1 week**.

  NOTE

  The routing percentage is calculated based on the allocated statistical quantity. The period indicates the retention duration of the statistical quantity data.

Step 4 Click Add to open a new rule branch data line and enter the basic information about the rule branch.

Figure 2-174 Adding a rule branch



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- **Type**: **Skill queue** and **Robots** are supported.

> **CAUTION**
>
> Multimedia channels do not support the **Robots** type.

- **Transfer Object**: Select a skill queue alias or robot code in the **Select Skill Queue** dialog box.
- **Percentage**: Enter an integer ranging from 1 to 100. The sum of percentages must be **100**.

Step 5 Click Save.

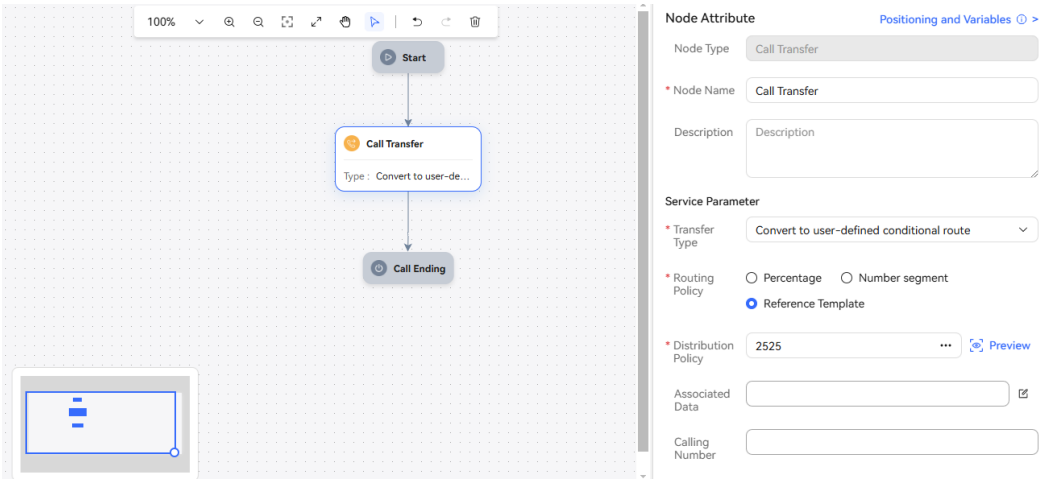
Step 6 Click Delete. In the **Confirm** dialog box, click Yes. The data is deleted successfully.

Step 7 Click **View Reference** to view the policy reference details.

Step 8 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**.

Step 9 Click Create and create a flow. Select the **Call Transfer** diagram element as shown in the following figure, set **Transfer Type** to **Convert to user-defined conditional route**, **Routing Policy** to **Reference Template**, and **Distribution Policy** to the transfer policy created in **Step 3**.

Figure 2-175 Call Transfer



----End

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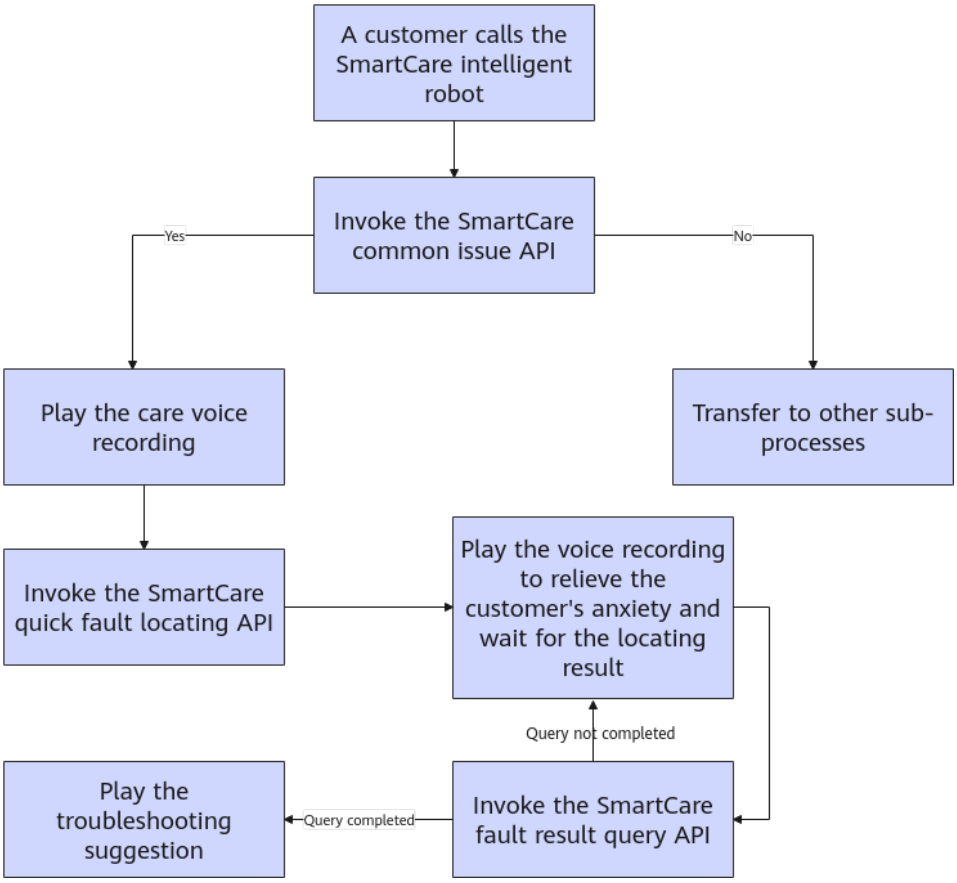
2.6.2.4.21 Configuring the SmartCare Intelligent Robot

Scenario Description

When a network fault occurs in some regions or cells of a carrier's system, customers may need to call the carrier's service hotline for consultation or complaint. The AICC and SmartCare integration aims to improve user experience and help voice agents and case agents process their own services, thereby reducing the user complaint rate and improving the user satisfaction with carrier services.

Business Process

Figure 2-176 SmartCare intelligent robot scenario



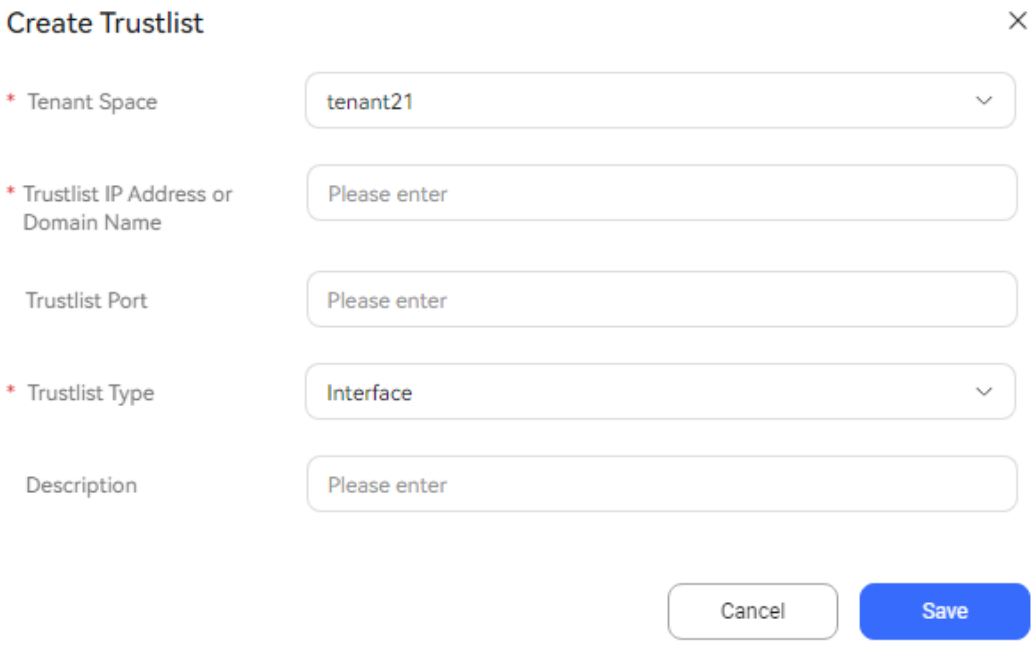
Configuring an Intelligent IVR Flow

Procedure

Step 1 Sign in to the AICC as a system administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **Trustlist**.

Step 2 Click **Create**. On the page that is displayed, add the IP address and port number for invoking the SmartCare API to the whitelist of the corresponding tenant space.

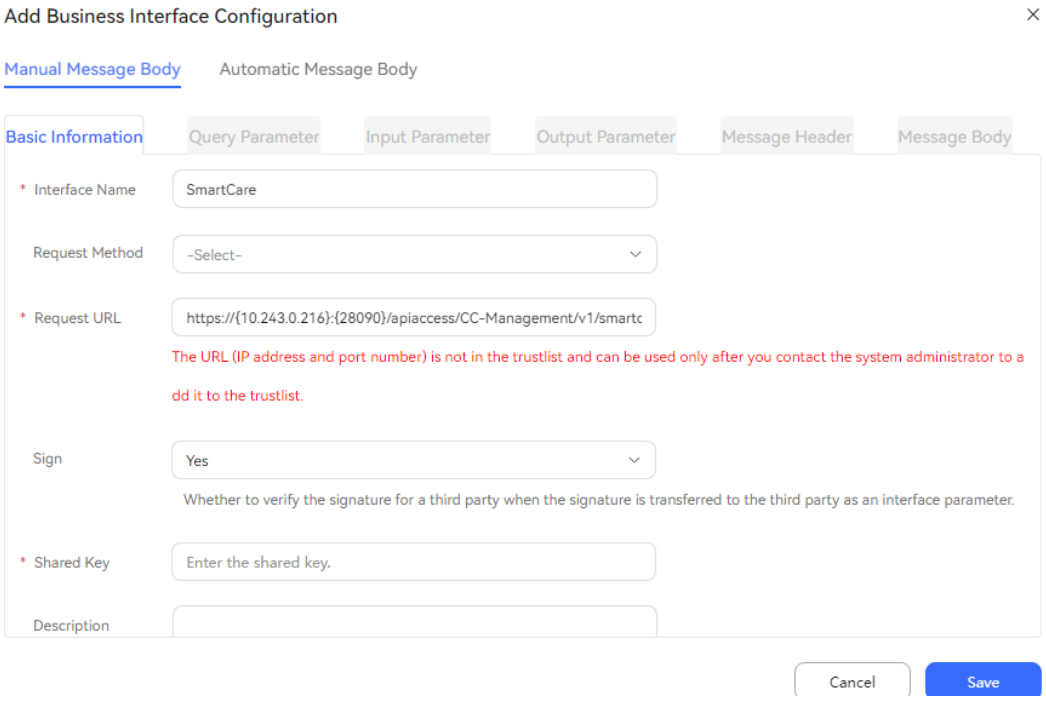
 Copyright © Huawei Technologies Co., Ltd.



Step 3 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 4 Choose **Resource** > **Business Interface** and click **Create**. The **Add Business Interface Configuration** page is displayed.

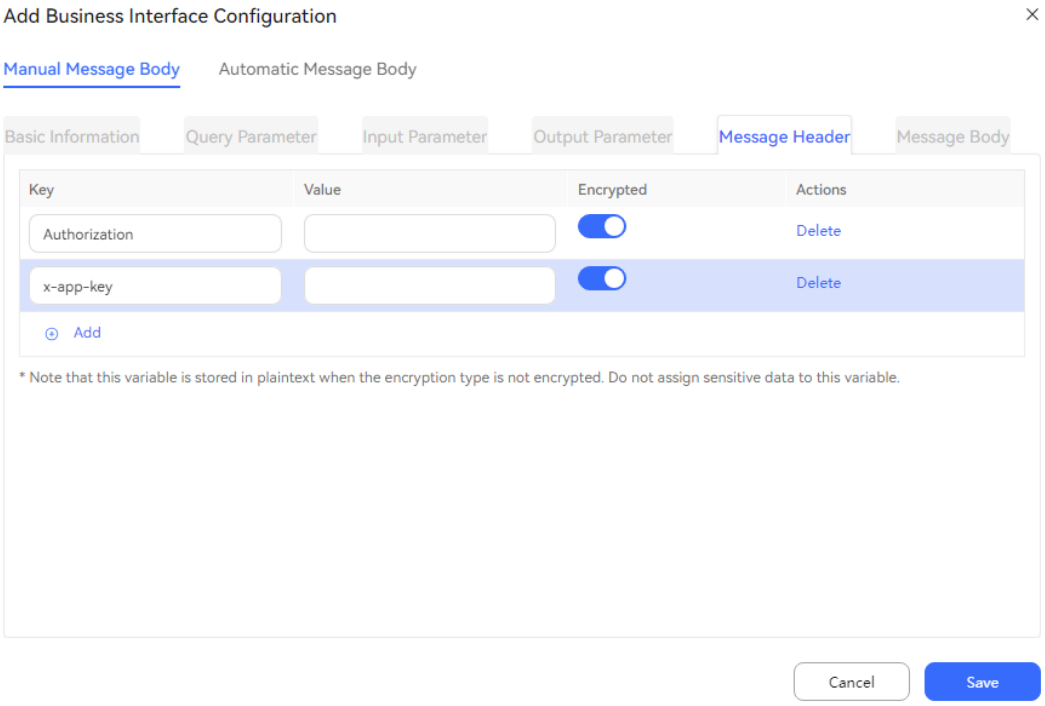
1. Configure the SmartCare API for querying users with common issues.
   a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/queryfaultyuser



   b. Message header example:

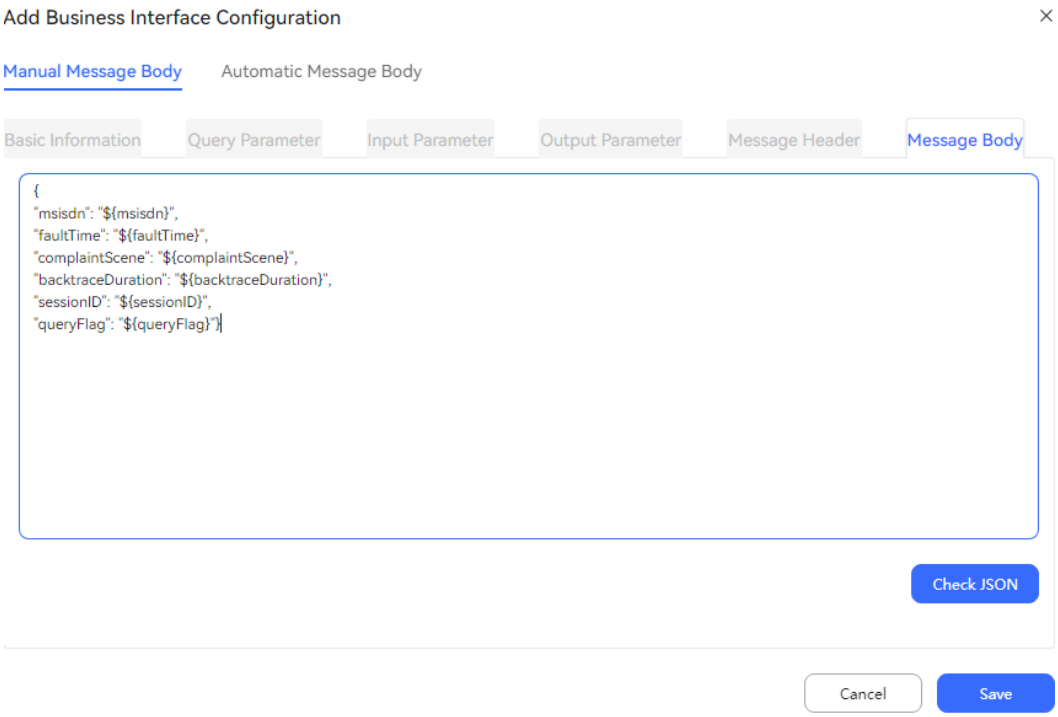
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```
x-app-key:9 ****************************3
Authorization:Bearer e ****************************e
Content-Type:application/json
```



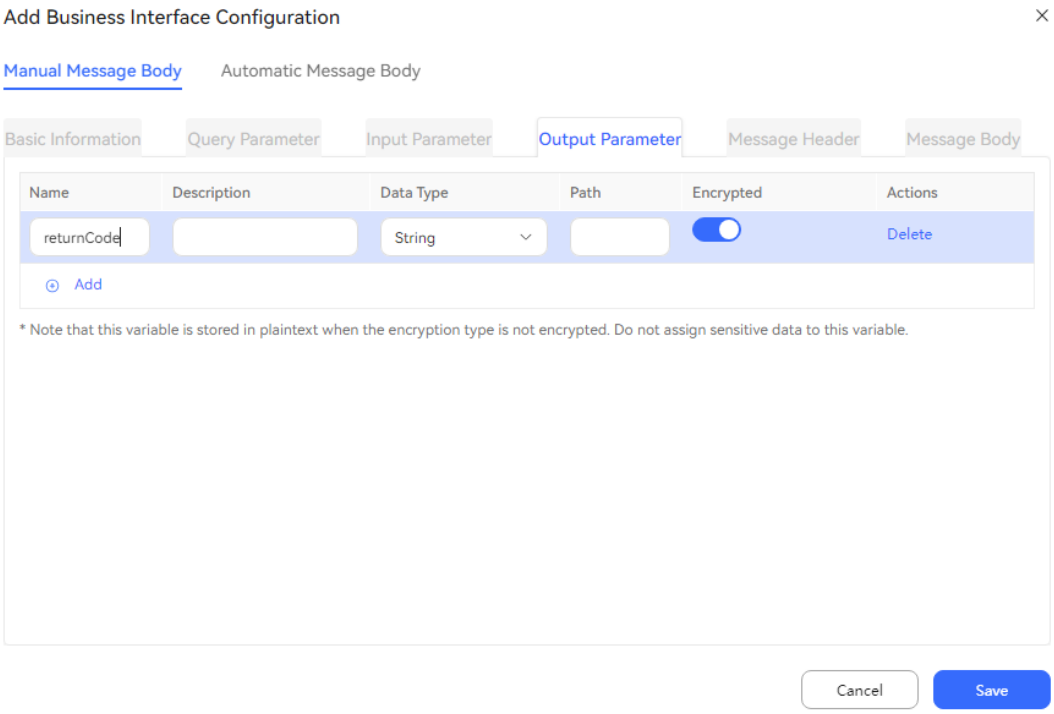
c. Message body example:

```
{
"msisdn": "${msisdn}",
"faultTime": "${faultTime}",
"complaintScene": "${complaintScene}",
"backtraceDuration": "${backtraceDuration}",
"sessionID": "${sessionID}",
"queryFlag": "${queryFlag}"
}
```



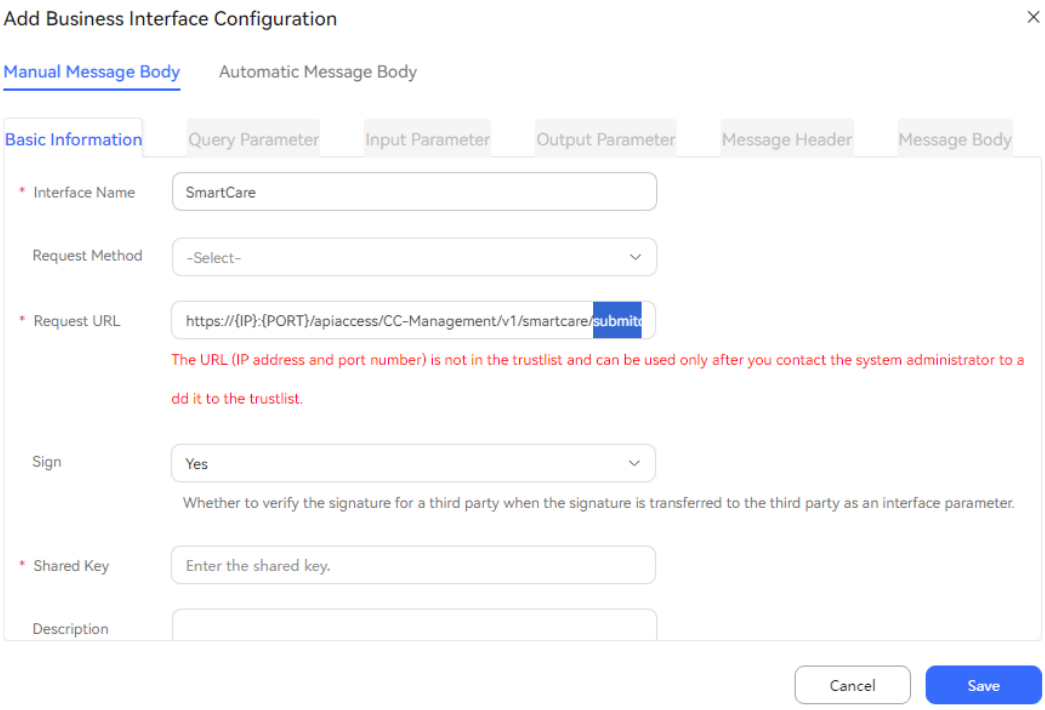
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d. Output parameter:



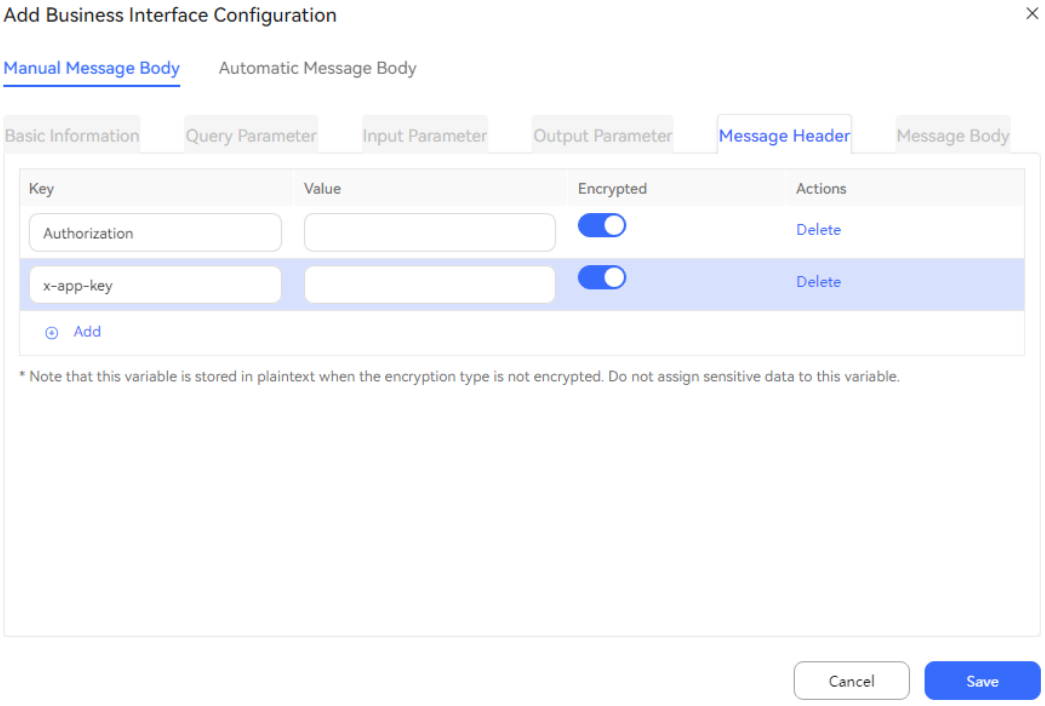
2. Configure the SmartCare quick fault demarcation API.

a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/submitquickdelimit



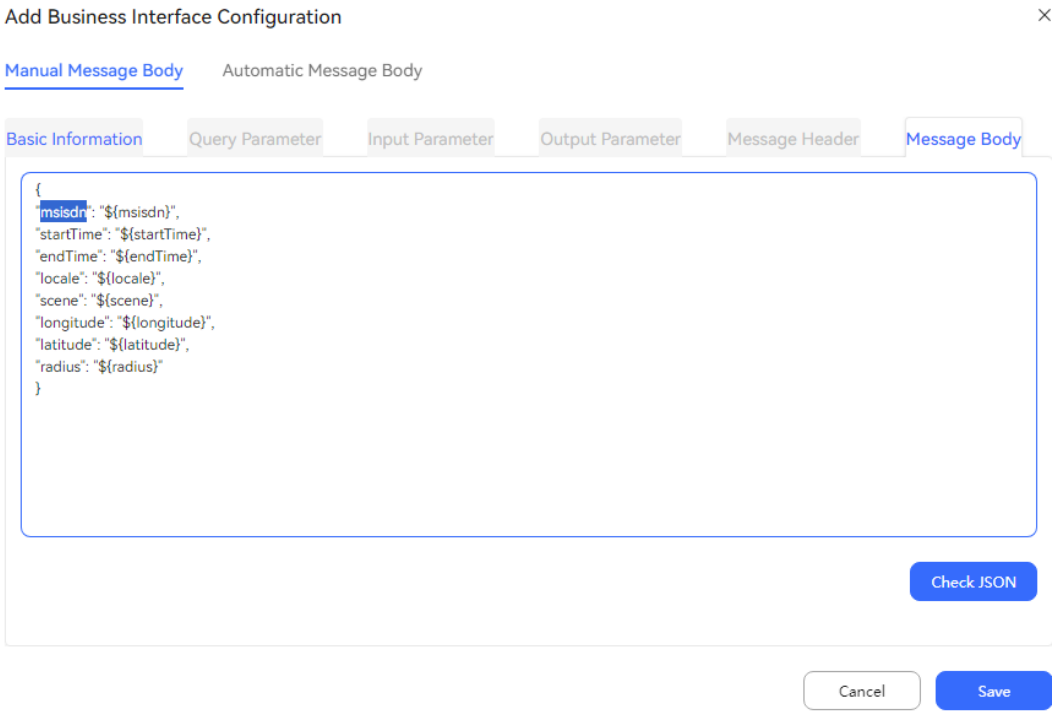
b. Message header: **Authorization** and **x-api-key**

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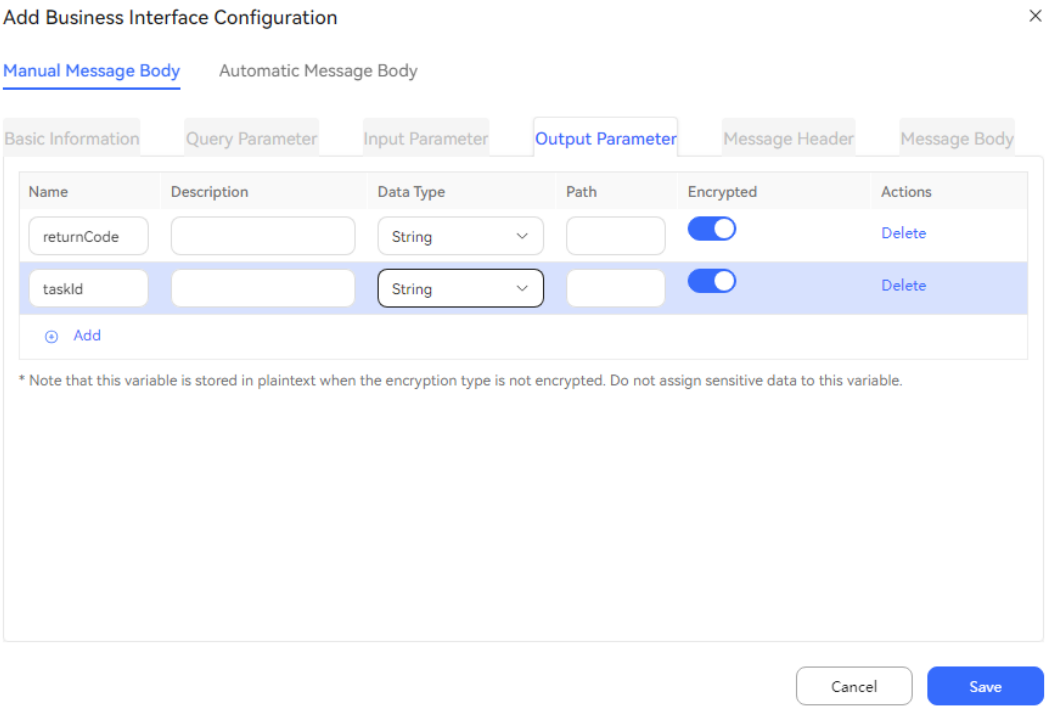
c. Message body example:

```
{
"msisdn": "${msisdn}",
"startTime": "${startTime}",
"endTime": "${endTime}",
"locale": "${locale}",
"scene": "${scene}",
"longitude": "${longitude}",
"latitude": "${latitude}",
"radius": "${radius}"
}
```



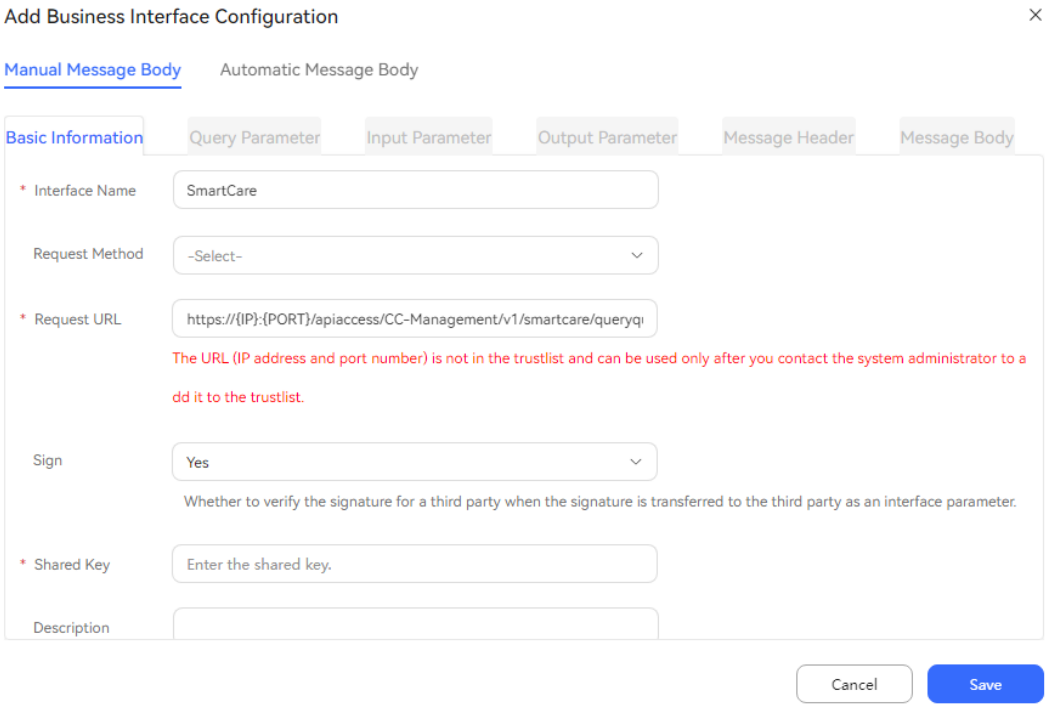
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d. Output parameter: **taskId** of the demarcation task



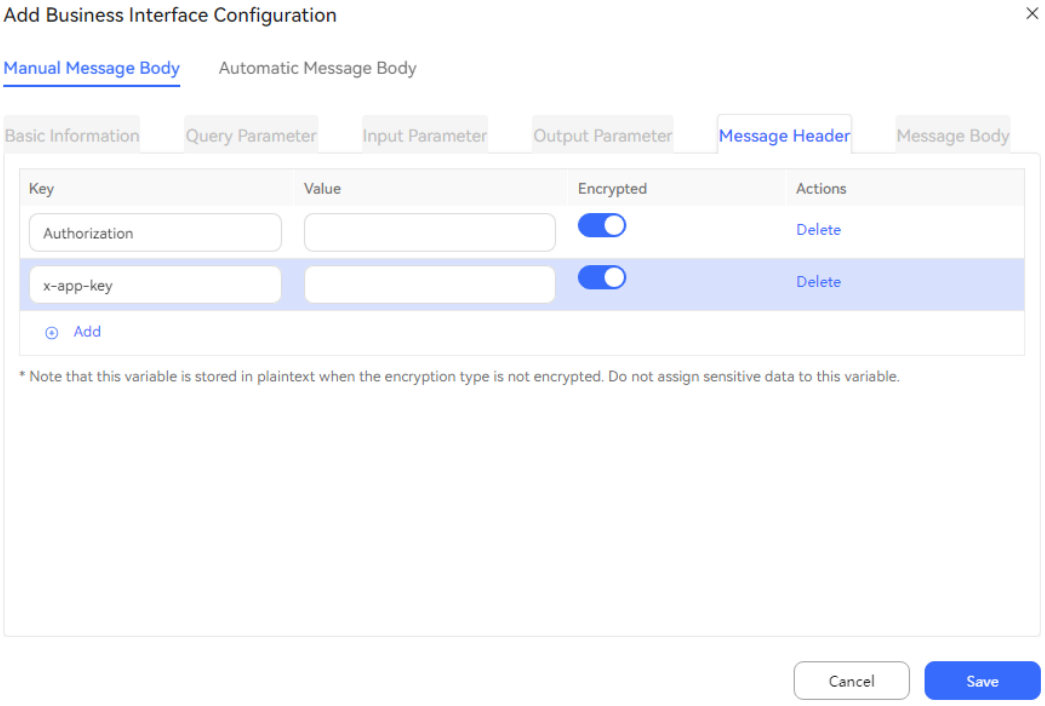
3. Configure the SmartCare API for quick demarcation result query.

a. Basic information: request URL: https://*{IP}*:*{PORT}*/apiaccess/CC-Management/v1/smartcare/queryquickresult



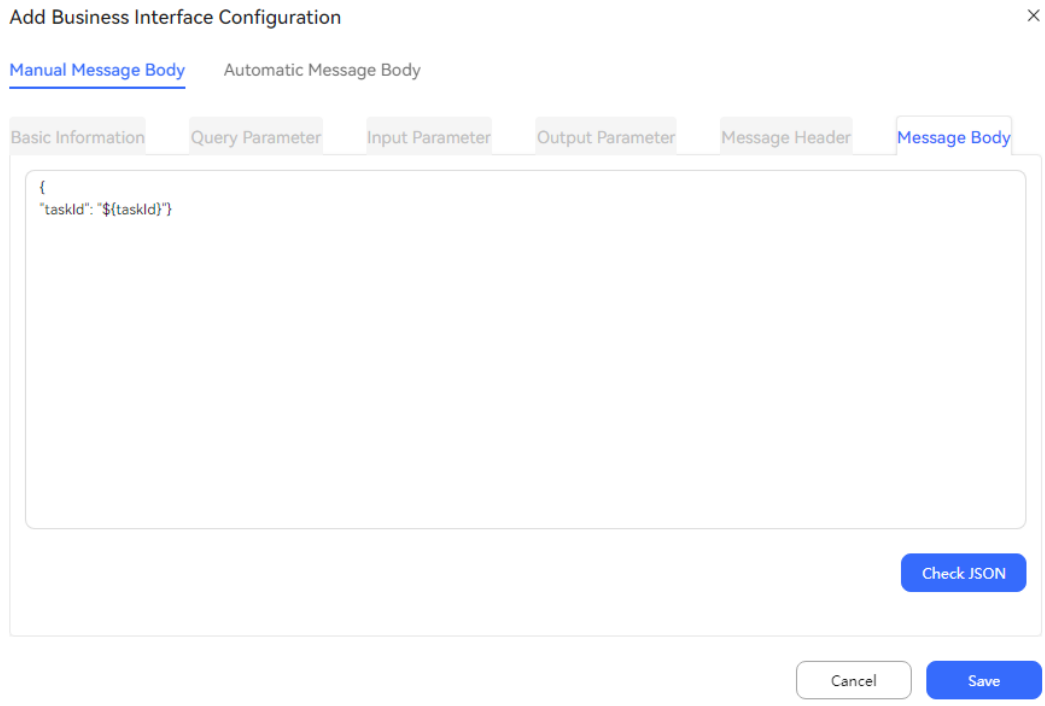
b. Message header: **Authorization** and **x-api-key**

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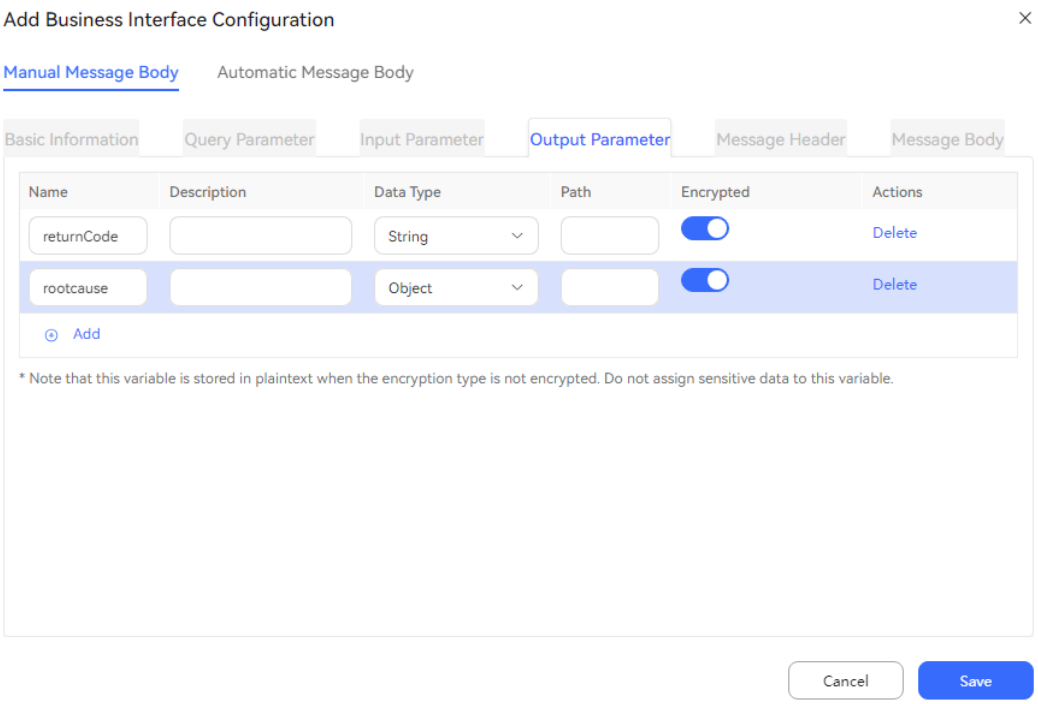
c. Message body:

```
{
"taskId": "${taskId}"
}
```



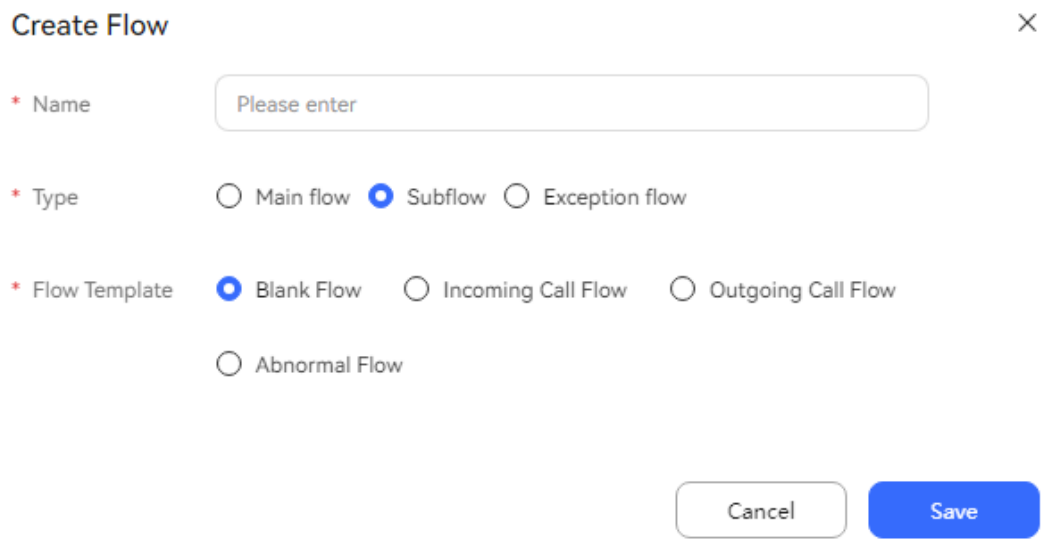
d. Output parameter: **rootcause** returned by the API

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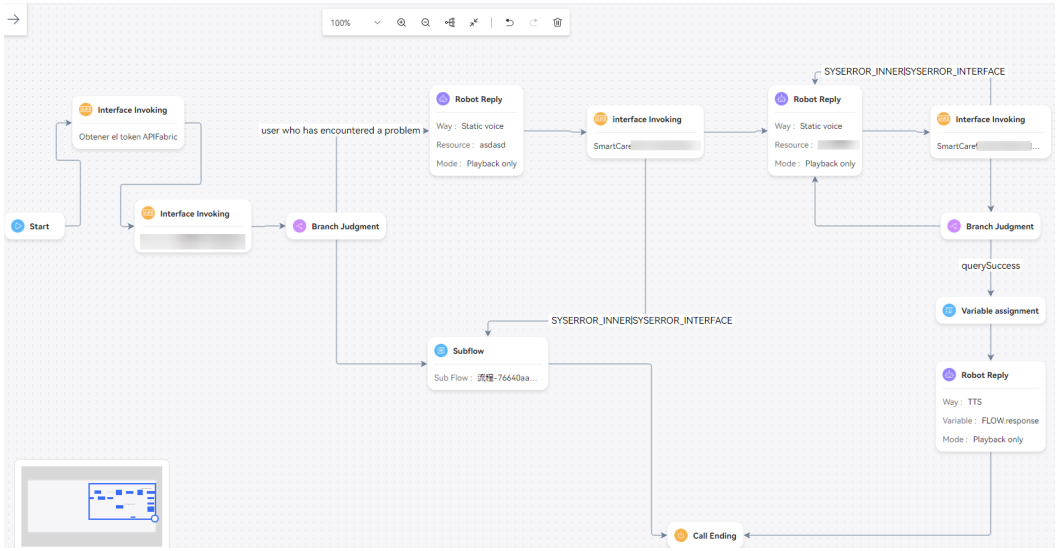


Step 5 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration** and click **Create**. The **Create Flow** page is displayed.

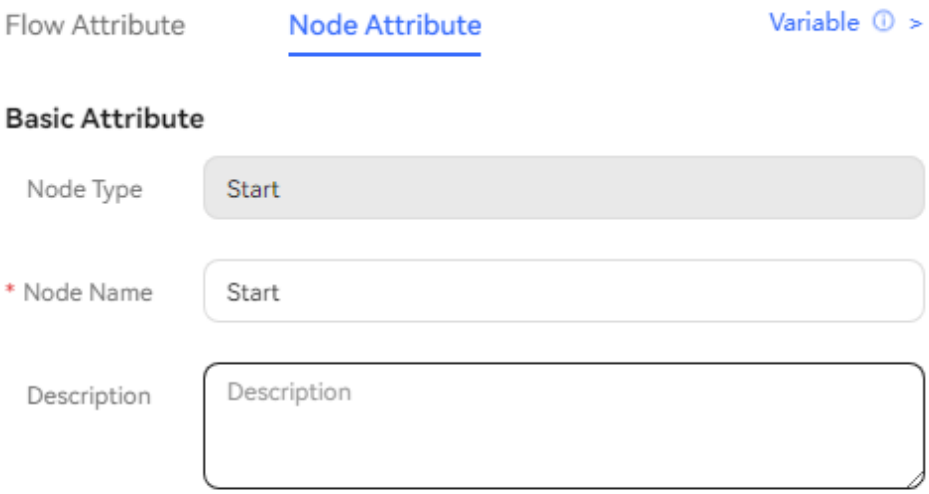
1. Create a flow.



2. Edit the IVR flow.
   a. IVR flow configuration overview:

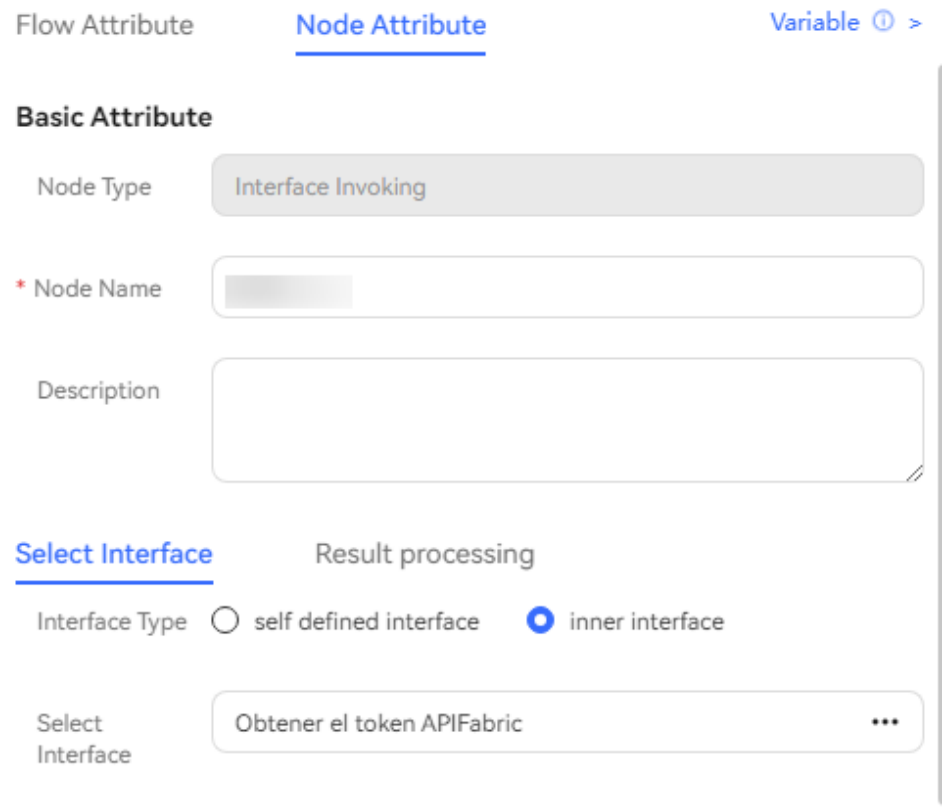


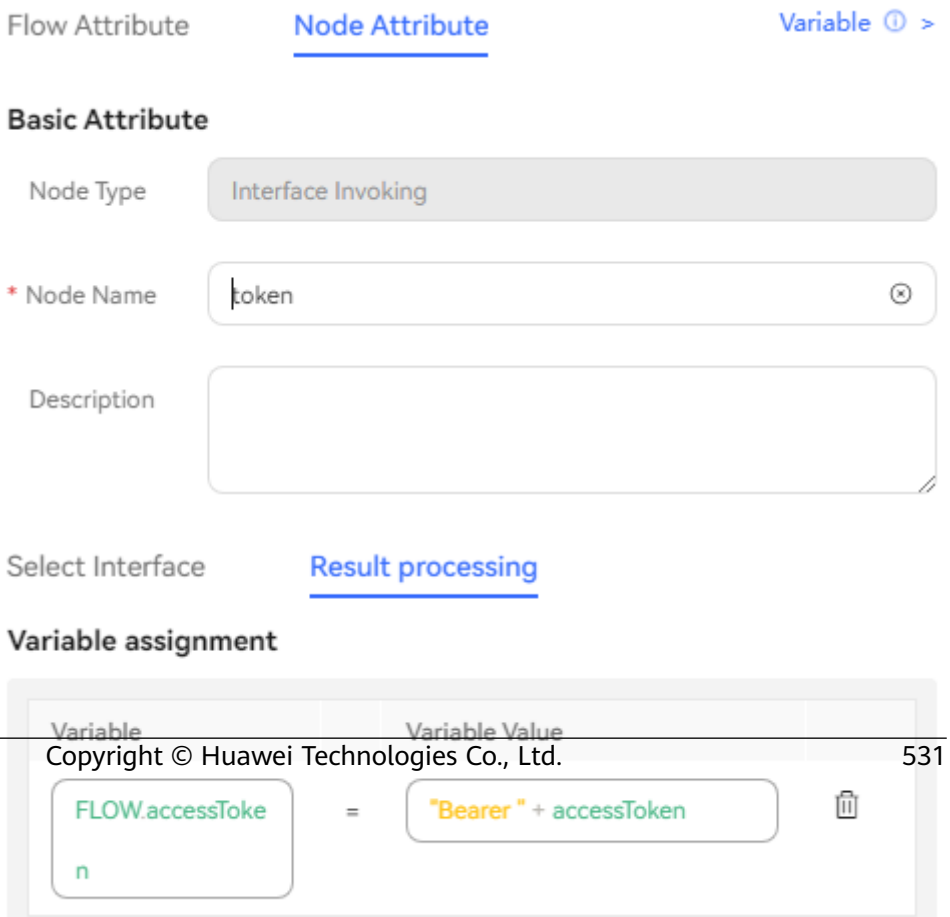
b. Configure the start diagram element, as shown in the following figure.



c. Configure the token query API diagram element, as shown in the following figure.

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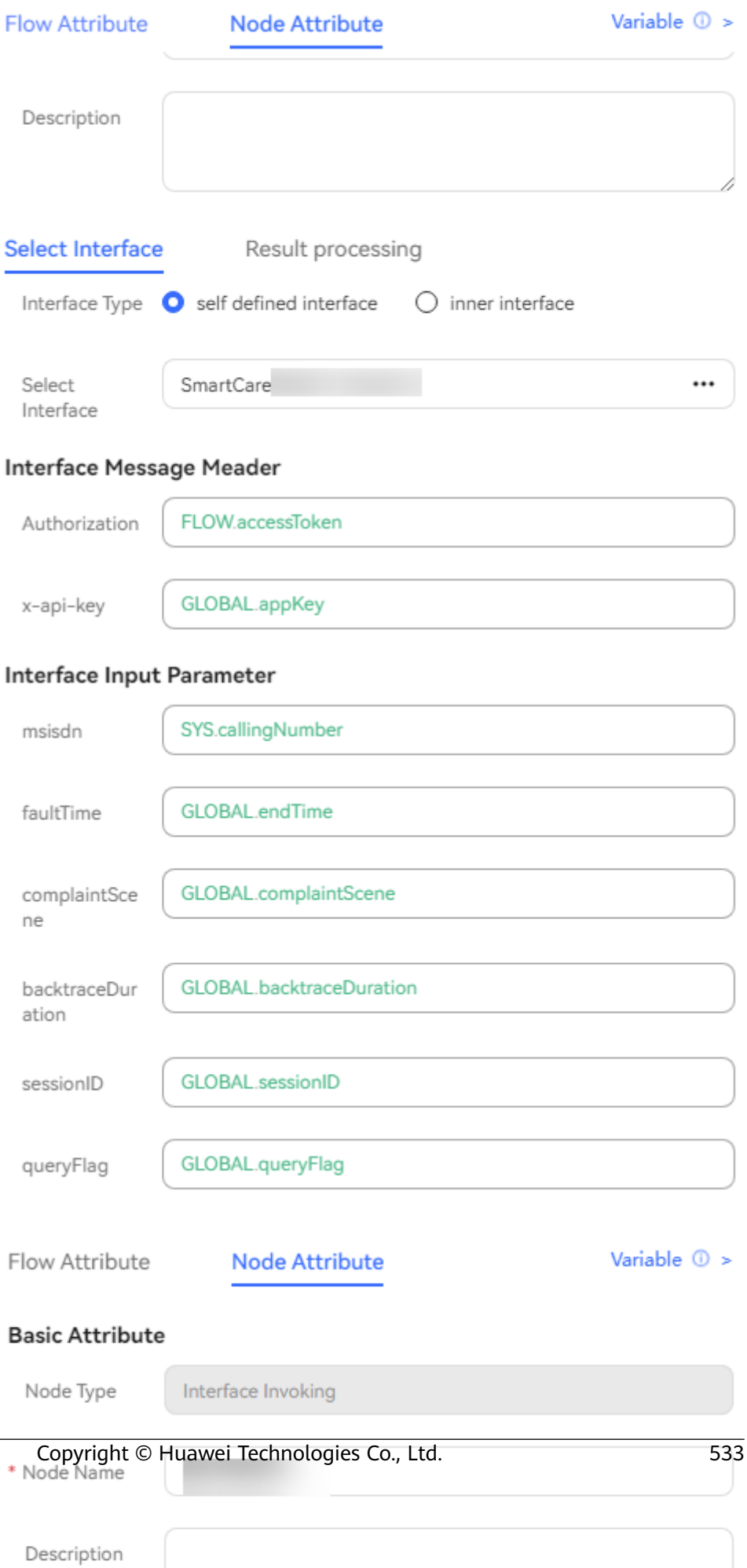




Copyright © Huawei Technologies Co., Ltd.

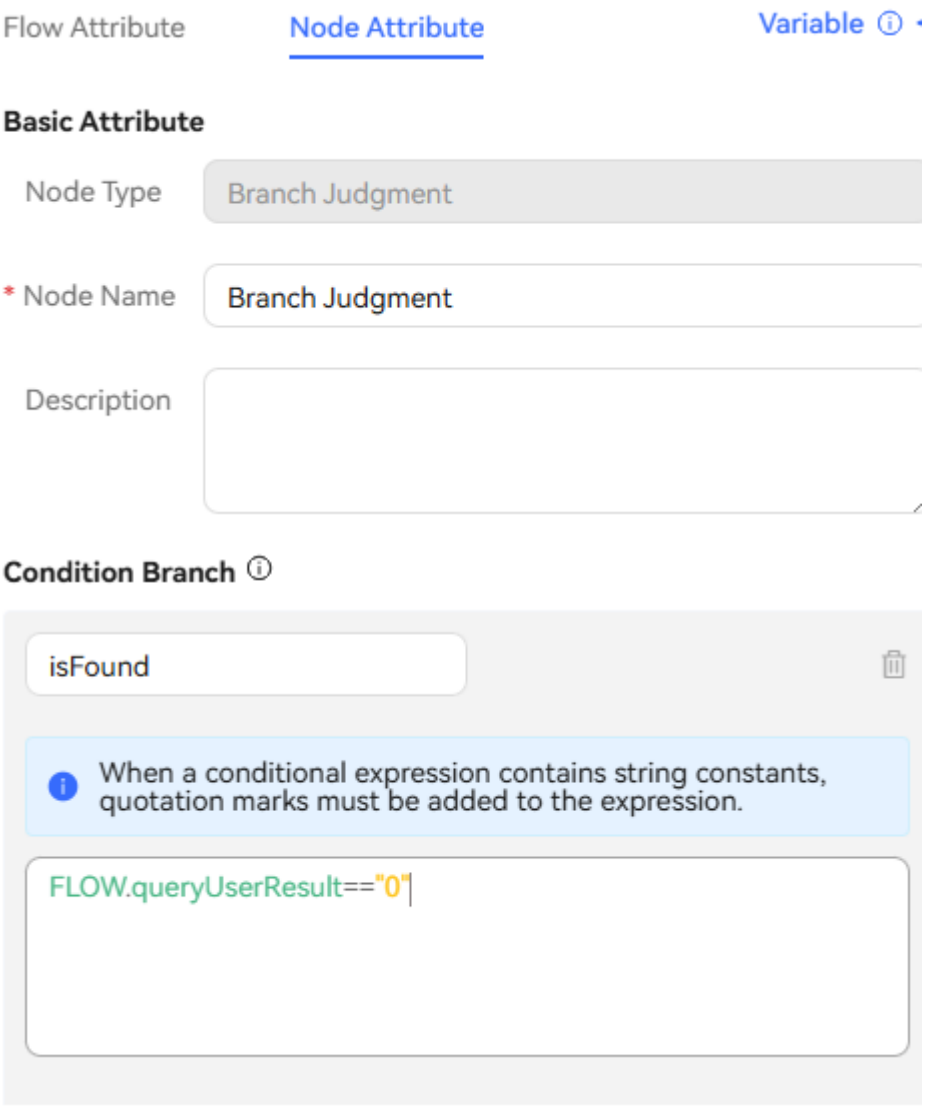
d. Configure the diagram element of the SmartCare API for querying users with common issues. (By default, the fault time is the current system timestamp, and the MSISDN is the calling number.)

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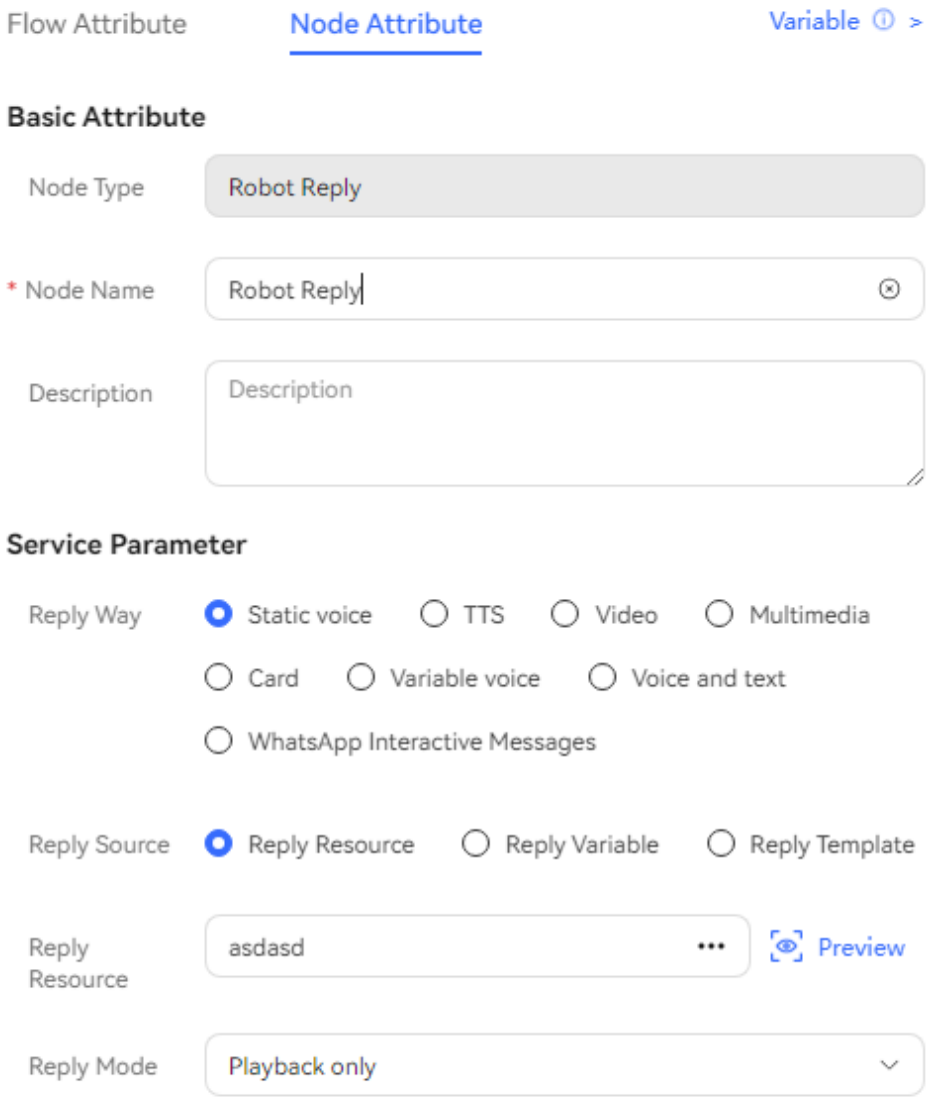
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e. Configure the branch judgment diagram element, as shown in the following figure.



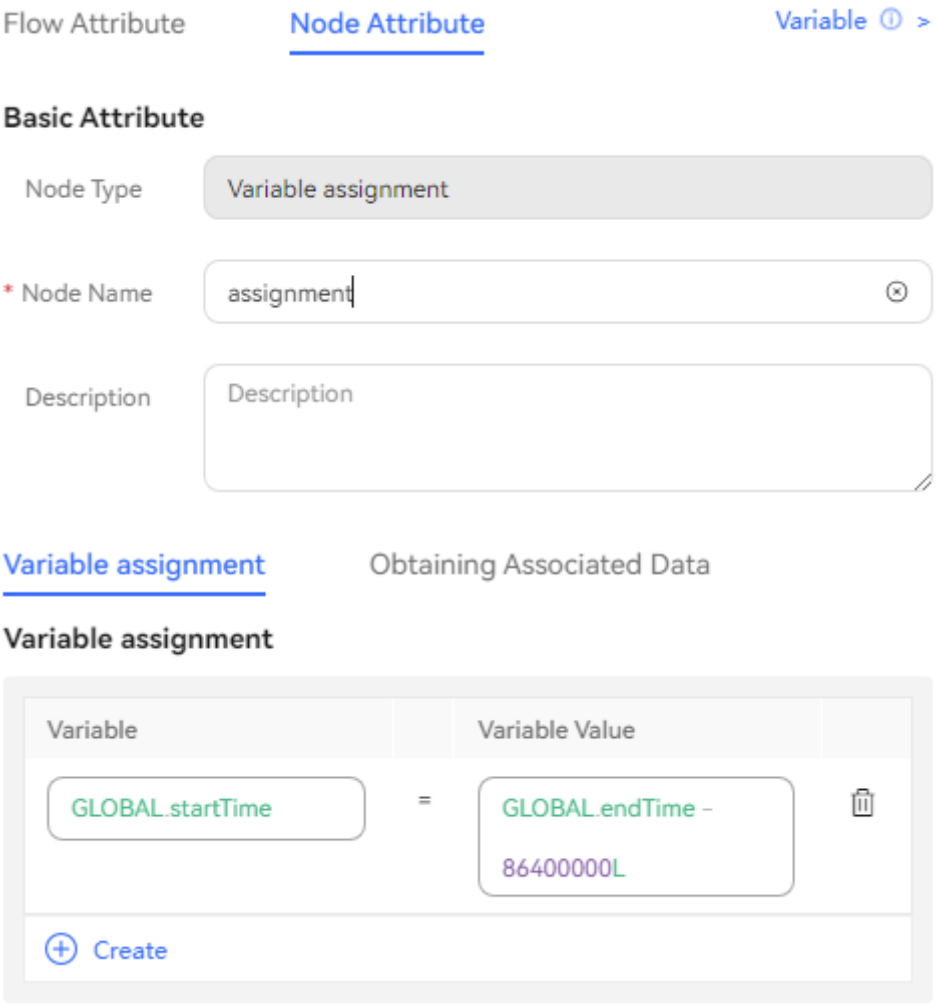
f. Configure the robot reply diagram element, as shown in the following figure.

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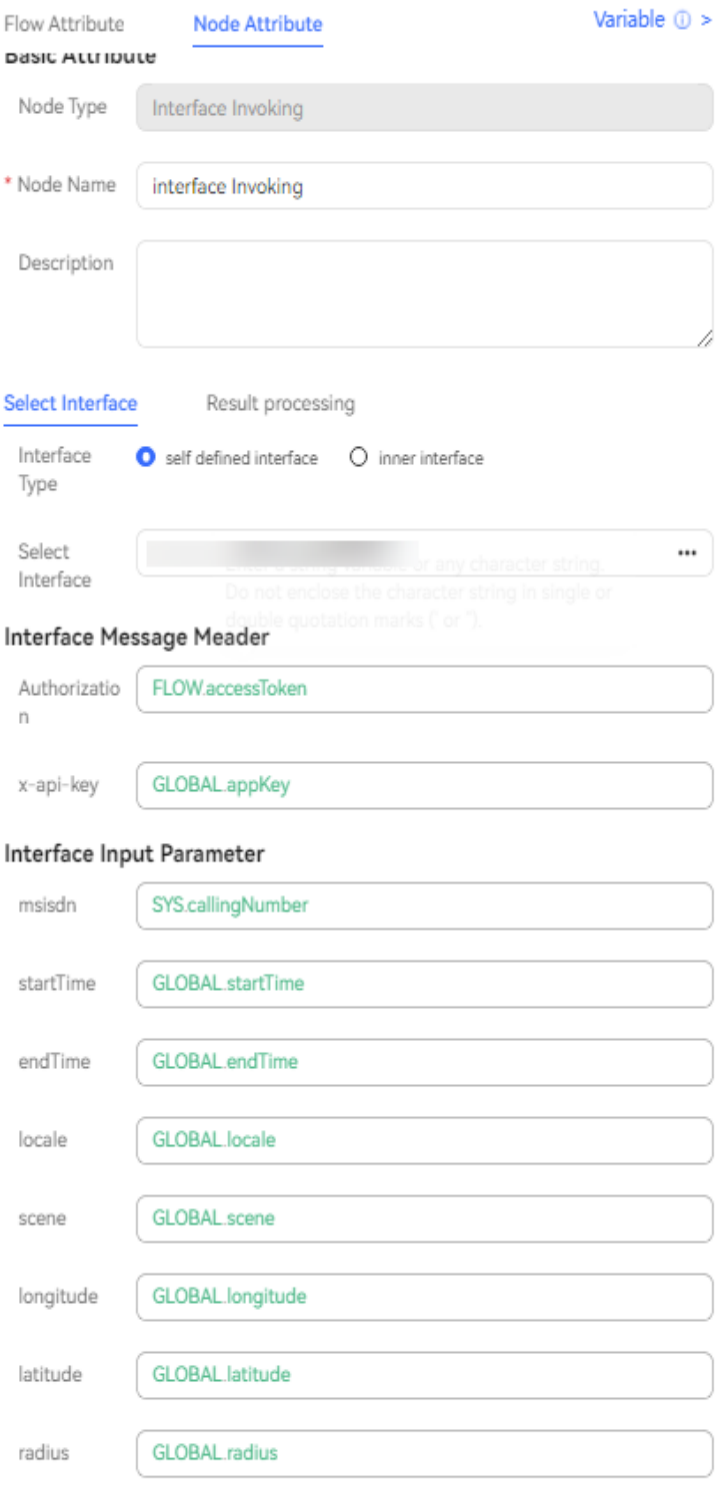
g. As shown in the following figure, you can use the **Variable assignment** diagram element to set the fault start time for query. (The start time is the system time minus one day.)

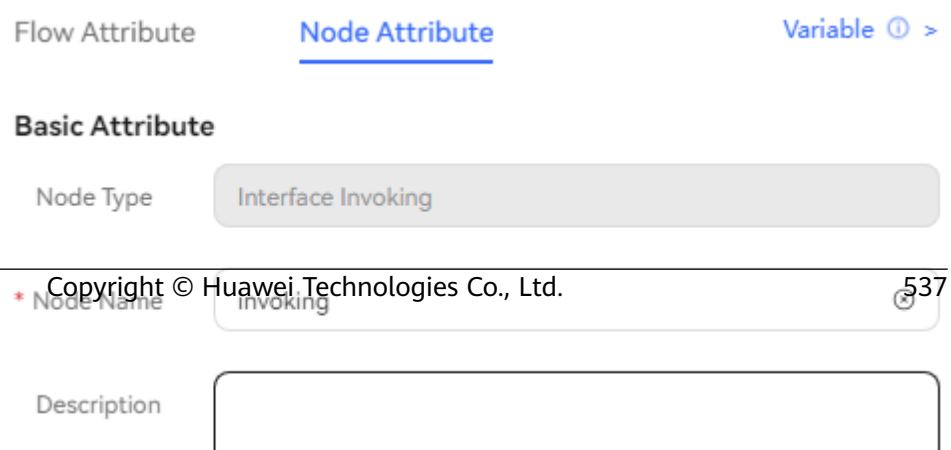
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h. Configure the SmartCare quick fault demarcation API, as shown in the following figure.

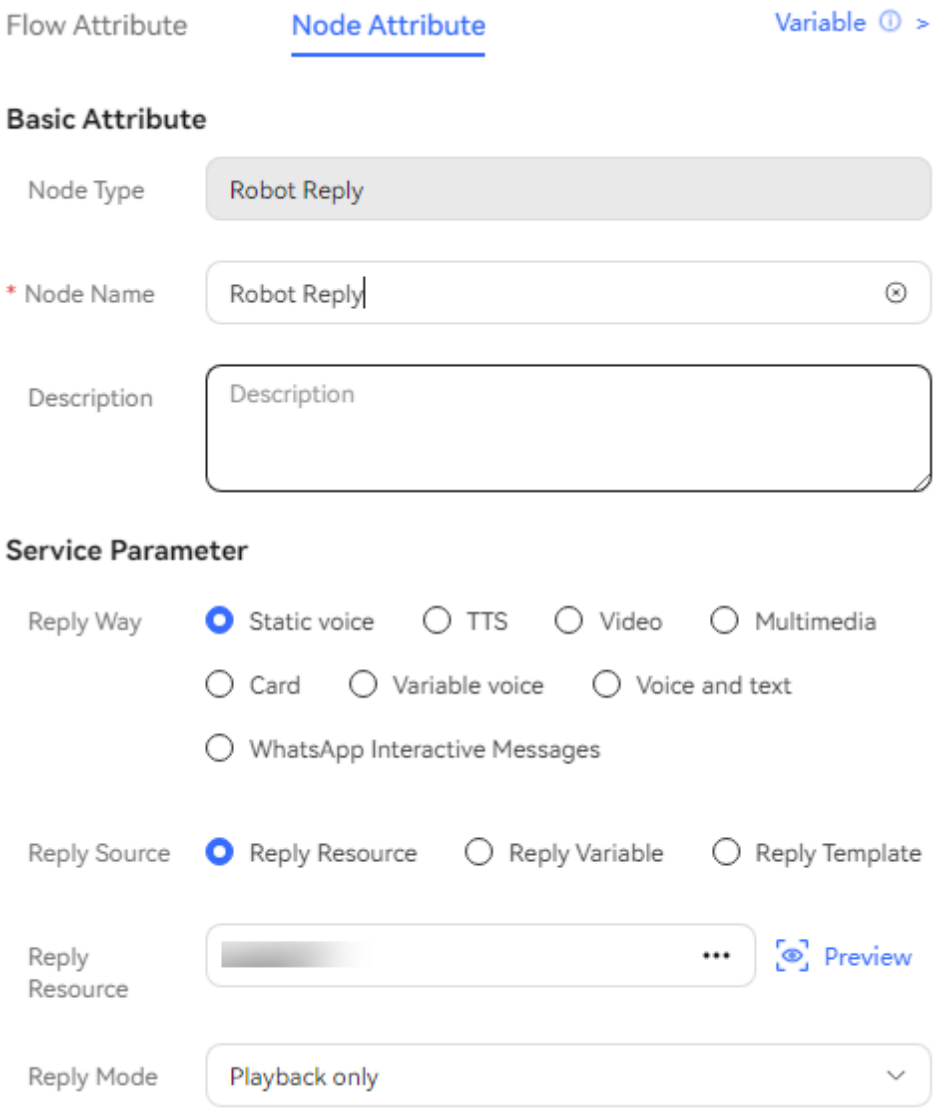
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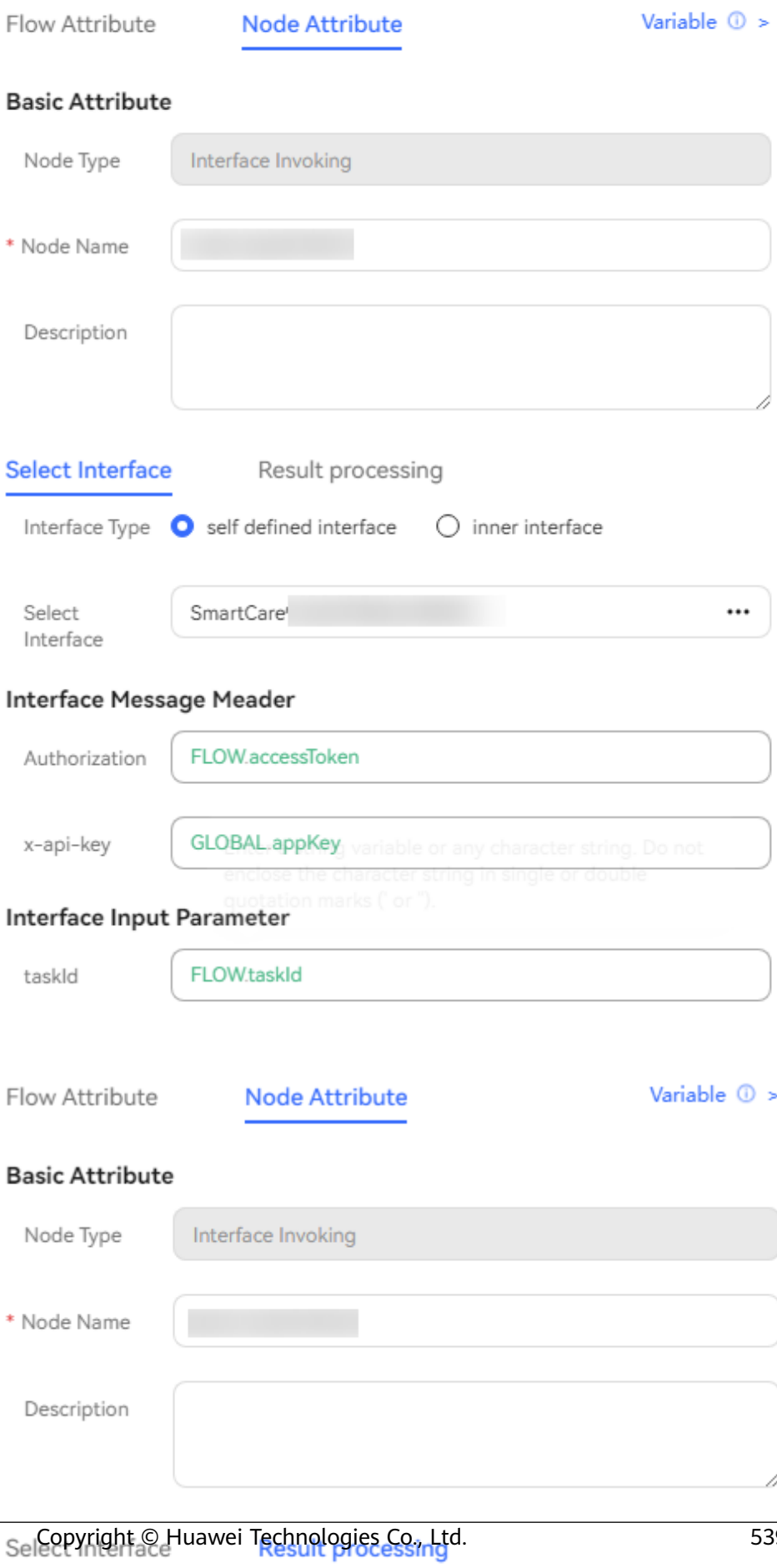
Copyright © Huawei Technologies Co., Ltd.

i. Configure the robot reply diagram element, as shown in the following figure.



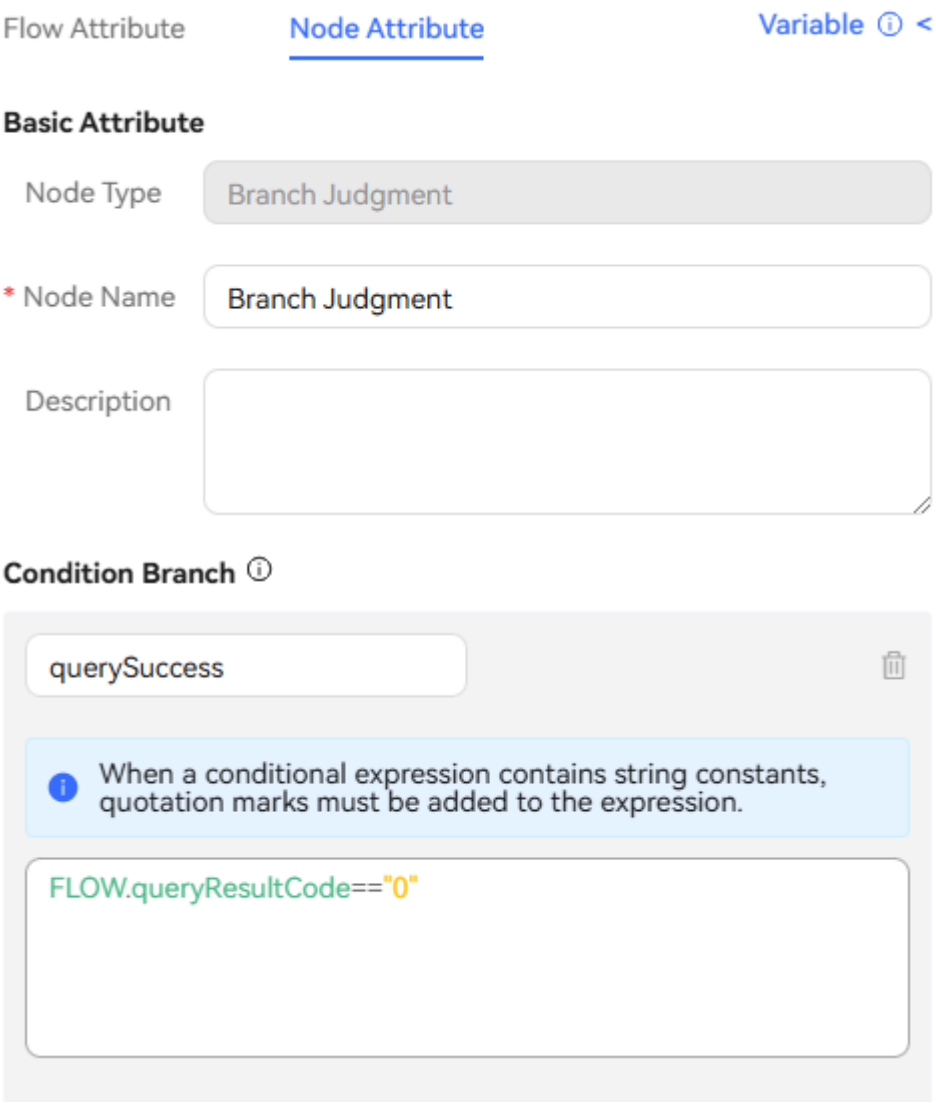
j. Configure the SmartCare API for quick demarcation result query, as shown in the following figure.

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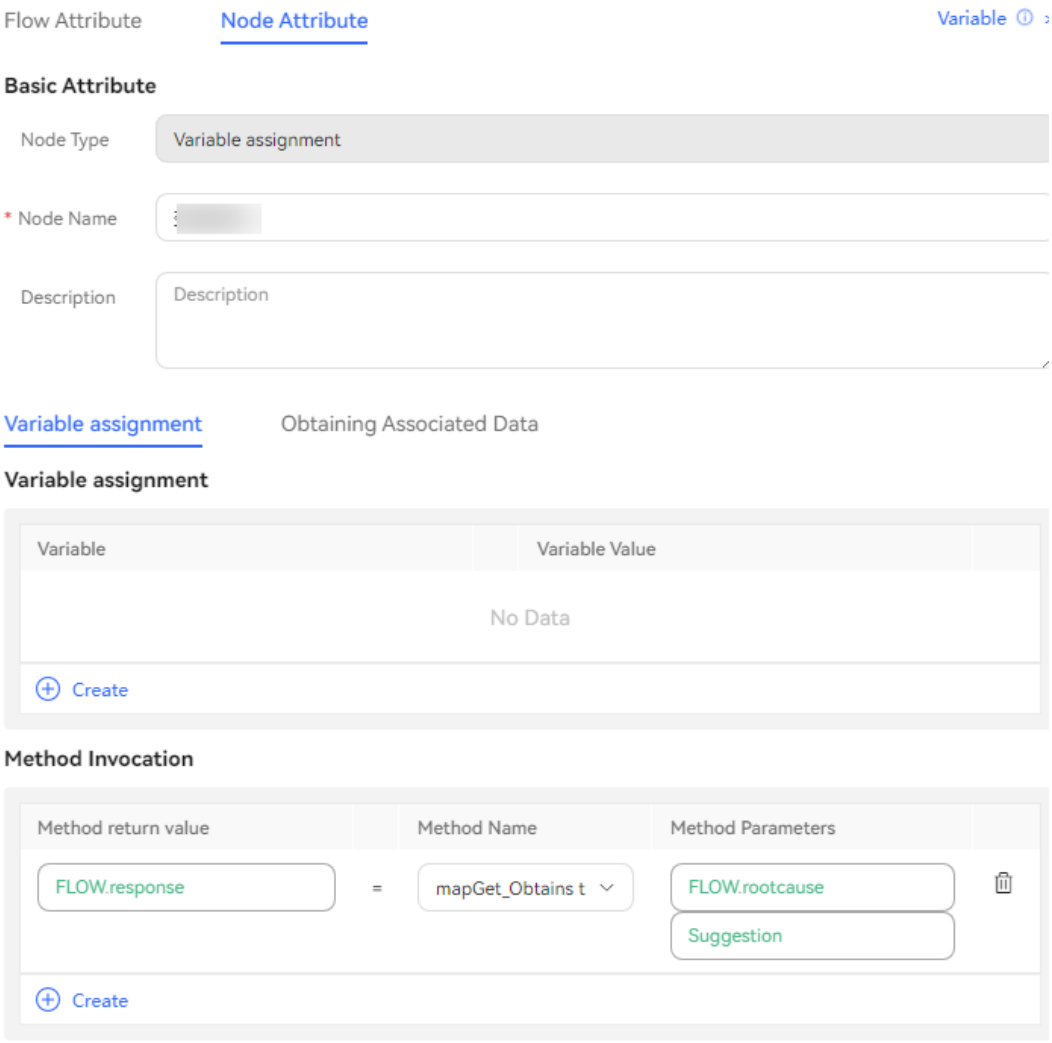
Copyright © Huawei Technologies Co., Ltd.

k. Configure the branch judgment diagram element, as shown in the following figure.

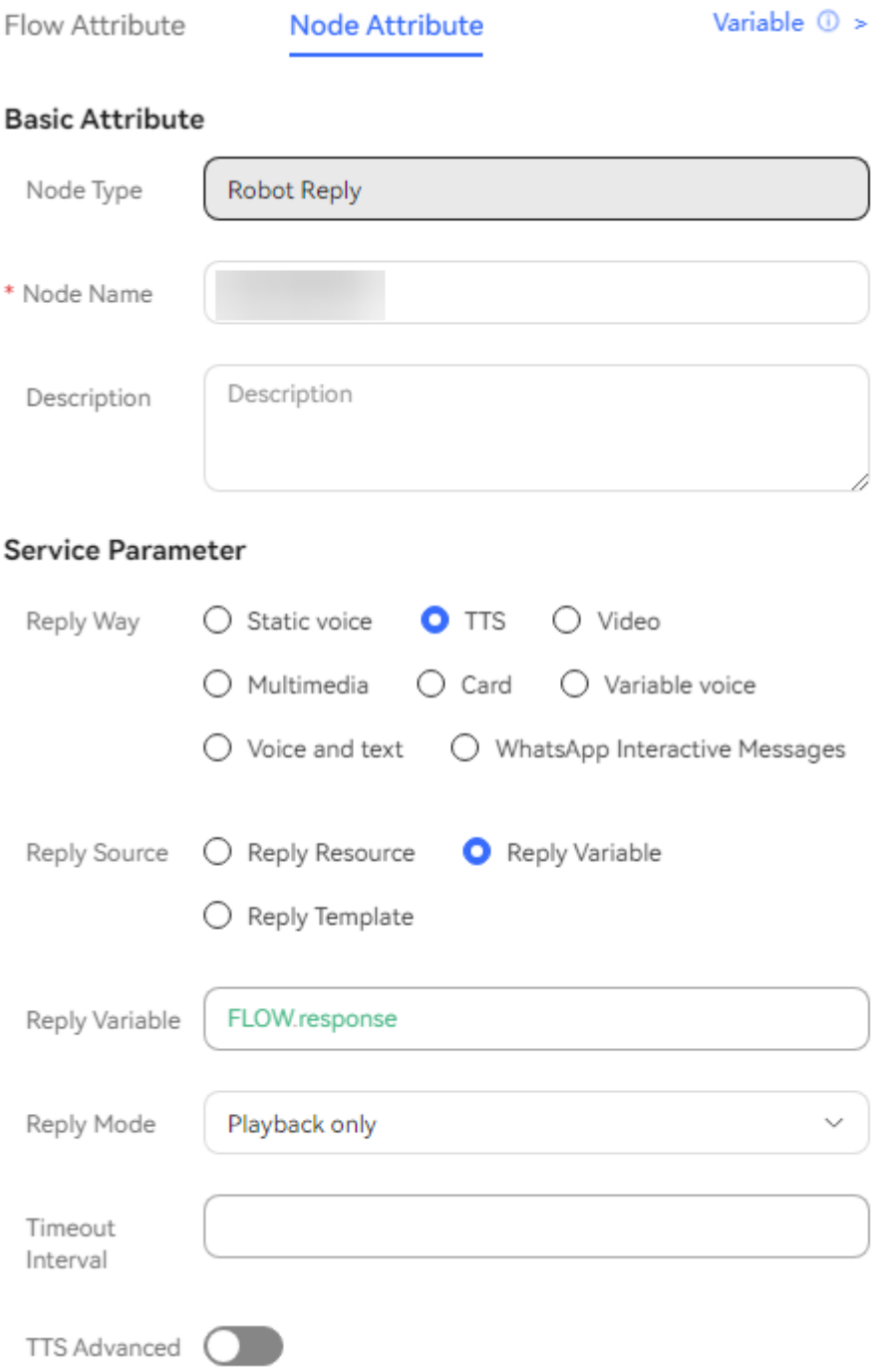


l. Configure the variable assignment diagram element, as shown in the following figure.

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m. Configure voice playback for troubleshooting suggestion result processing, as shown in the following figure.



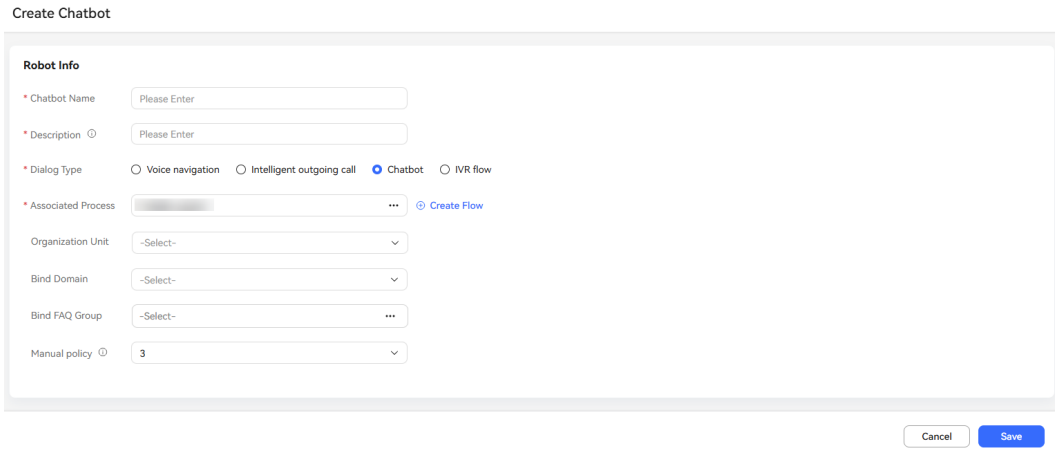
----End

Testing the Intelligent Robot

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Intelligent Chatbot**, and click **Create**.

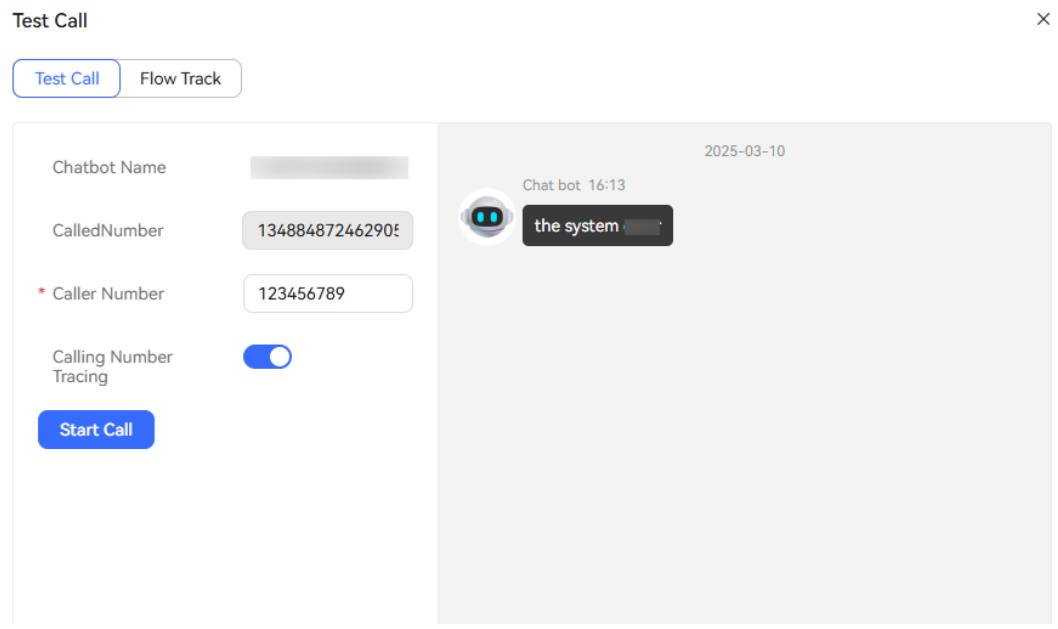
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- **Chatbot Name**: Enter a user-defined name, for example, **SmartCare intelligent robot**.
- **Dialog Type**: Select a robot.
- **Flow Name**: Select the flow created in **Step 5**.
- **Organization Unit** (optional): Select an organization unit to which the current login user belongs.

Step 2 Click **Save**. The intelligent robot is created successfully.

Step 3 Click **Test Call** to start the call verification flow.



----End

2.6.2.5 Reference

This section describes the references, including the diagram element reference, parameter reference, and TUC interface reference, in an intelligent IVR flow.

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2.6.2.5.1 Diagram Elements

The ODFS provides diagram elements for configuring a flow. You can drag a diagram element to the canvas on the right or click a diagram element to use it on the canvas.

NOTE

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

What are the tips for drawing a flowchart?

- When dragging a diagram element, observe the line between the new diagram element and the existing one on the canvas, and align the diagram elements based on the tips.
- Drag a diagram element to the canvas, and then click to drag it.
- In a diagram element, a cache object cannot be duplicate. The cache variable name must be unique. Otherwise, the latest cache variable name is used.

Start

This diagram element is used to mark the beginning of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Using the Diagram Element

You do not need to add this diagram element. By default, it is available in a new flow. A flow can have only one **Start** diagram element.

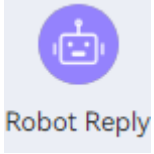
Typical Application Scenario

None

Robot Reply

This diagram element is used to respond to customers in the IVN. It is used to play voices to customers in a flow.

Diagram Element



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Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Reply Way**: The options are **Static voice**, **TTS**, **Video**, **Multimedia**, **Card**, **Voice and text**, **Variable voice**, **WhatsApp Interactive Messages**, and **Email**.

  NOTE

  Currently, variable voices do not support recording in IVR flows.

  - **Static voice**: The voice file on the voice file server is played directly. This type is used in scenarios where the context is unchanged. Make sure that the voice file exists on the UAP file server.
  - **TTS**: The configured text is provided for the TTS for conversion and playback. Variables can be added to the reply text, and the TTS dynamically plays a voice based on the return values of the variables. In this case, you can configure the attributes of the ASR and TTS, for example, setting the sound effect and speed of the TTS.
  - **Video**: name of a video file on the file server.
  - **Multimedia**: The configured multimedia information is provided for the corresponding player through a channel gateway. This option is displayed only in the integration environment.
  - **Card**: The configured card information is provided for a channel gateway for playback. This option is displayed only in the integration environment.
  - **Voice and text**: Voice files and texts are combined and then played. In this case, you can configure the attributes of the ASR and TTS, for example, setting the sound effect and speed of the TTS.
  - **WhatsApp Interactive Messages**: Interactions between robots and WhatsApp are supported.
  - **Email**: Email template information can be selected. This option is used in the email channel and is displayed only in the integration environment. When the email and IVR flows are exported to other tenant spaces, the email template, email resources, and email variables need to be manually reset.
  - **Variable voice**: Set **Language**, **Type**, and **Reply Variable** to dynamically play a UAP voice package.

    i. **Language**: Multiple languages are available.

    ii. **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.
- **Reply Source**: source of the voice content to be played. The options are **Reply Template**, **Reply Variable**, and **Reply Resource**.
- **Reply Template**: This parameter is displayed when **Reply Source** is set to **Reply Template**. Select a content template configured on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template** page.

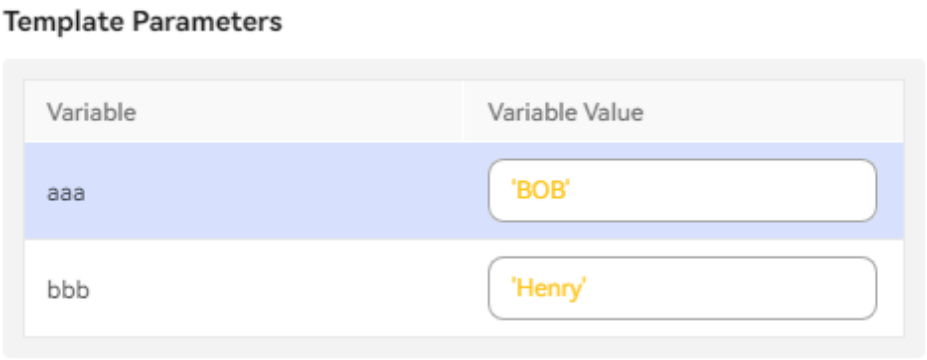
  a. If **Reply Way** is set to **Multimedia** and **Reply Template** is set to **Plain Text**, the corresponding parameter values are displayed. To set the plain text content, choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Plain Text**.

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b. If **Reply Way** is set to **WhatsApp Interactive Messages**, only the WhatsApp interactive message template configured under **Resource** > **Resource Template** can be used as the reply template. To set the template content, choose **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Interactive Messages**. Then, the parameter values to be set are displayed on the right.

c. The parameter values in the reply template must be enclosed in quotation marks, as shown in the following figure. If the variable values come from the global variables, flow variables, IVRRequest variables, or system variables, ensure that the default value has been set. Otherwise, WhatsApp cannot receive the message.

Figure 2-177 Variable values



- **Reply Variable**: This parameter is displayed when **Reply Source** is set to **Reply Variable**. Select a reply variable.
  a. If **Reply Way** is set to **Voice and text**, set this parameter in *{Recording file URL}*~**$***{Text}***$**~*{Recording file URL}*~**$***{Text}***$** format, for example, **/xxx/xx1.wav~abc~/xxx/xx2.wav**. In the format, *{Text}* cannot contain variables. The value can contain a maximum of five voice and text records.
  b. When **Reply Way** is set to **Static voice**, set this parameter in the *{Voice file URL}* format, for example, **/xxx/xx1.wav**.
- **Reply Resource**: This parameter is displayed when **Reply Source** is set to **Reply Resource**. Select a resource configured on the **Configuration Center** > **Resource Management** > **Audio and Video** or **Configuration Center** > **Resource Management** > **Multimedia Library** page.
- **Reply Mode**: This parameter is mandatory. The options are as follows:
  – **Playback only**: Only the voice or video is played, and customer input does not need to be received. Generally, this option is selected for static voice playback.
  – **Interruption recognition**: The customer needs to answer by voice. Generally, this option is selected for replying to text.
  – **Interruption by key presses**: The keys pressed by the customer need to be obtained. If **Reply Mode** of the **Robot Reply** diagram element is set to **Interruption by key presses** and the key interaction result needs to be obtained, the **Robot Reply** diagram element cannot be directly connected to the **Call Ending** diagram element, and the **Key Recognition** and

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Semantic Recognition diagram elements cannot be directly connected before the **Call Ending** diagram element.

- **Recognition and key presses**: Both voice and key information can be received. The information received first is used for matching.
- **Recognition after playback**: The system starts to identify the voice or video only after the voice or video is played. If a customer speaks during the playback, the system does not receive the voice.
- **Recognition and key presses after playback**: The system starts to identify the voice or video and collect digits only after the voice or video is played. If a customer speaks or presses a key during the playback, no information can be received. If a customer speaks or presses a key after the playback, the information that is received first is used for matching.
- **No interruption after digit collection**: Keys can be pressed when the voice or video is played, but the playback is not interrupted.
- **Custom Variable Value**: whether voice playback can be interrupted. If voice playback can be interrupted, set **Minimum Voice Playing Duration**.

  String **true** -- Voice playback can be interrupted during recognition, and the minimum voice playback duration can be passed.

  String **false** -- Recognition is performed after voice playback.

- **Timeout Interval**: timeout period, in seconds. If this parameter is not set, the default value **15** is used. If the duration exceeds the value of this parameter, the system determines that timeout occurs. The value range of this parameter varies with vendors. Currently, the maximum value is **180**. The timeout interval must be less than the value of **SESSIONDTIMEOUT**. You can choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and view the value of **SESSIONDTIMEOUT**.
  - If **Reply Mode** is set to **Recognition after playback**, the duration starts from the time when the TTS voice playback ends to the time when the recognition stops.
  - If **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, the duration starts from the time when the voice playback ends. For example, if a customer does not speak after the TTS voice playback ends, the robot goes to the next diagram element when the timeout period ends.
  - If **Reply Mode** is set to **Playback only**, the timeout period does not take effect.

  NOTE

  Pay attention to the setting of the timeout period in the following scenarios: long TTS voice playback, many keys (such as an ID card) to be pressed by a customer, and many opinions to be said by a customer. When **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, if the timeout period is short, the recognition may start before the voice playback ends, or the recognition may end before the customer starts key pressing. If the timeout period is long, there may be a long-time silence after the customer completes key pressing, and a timeout notification is displayed after a long time.

  Robot Message Reply Timeout Processing

  - **waitFlag**: session identifier. If the value of **timeout** is less than the remaining timeout period of the current session, the value of **waitFlag** is **true**. Otherwise, the value is **false**.

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  - **waitTimeout**: message timeout period.
  - **waitBeginTime**: When the value of **waitFlag** is **true**, the value of **waitBeginTime** is set to the current time.
  - When the value of **waitFlag** is **true**, reply timeout is processed. When the value of **waitFlag** is **false**, the original message processing logic is used.
  - Processing logic: After a message times out, the CC-Messaging triggers the timeout flow and pushes the robot response to the customer.

- **Extended Parameter**: Enter the data required by the IVR, for example, the vendor information. The value is sent back to the IVR using the **vendor** parameter of the dialog interface. This interface is available only to the **Robot Reply** diagram element in historical flows. If an old flow uses this parameter, you are advised to enter the value of this parameter in the **ASR Extended Parameter** text box.
- **Number of Collected Digits**: maximum number of collected digits in the IVR system. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **Timeout interval for digit collection**: Timeout interval for pressing a key. For example, if this parameter is set to 2 seconds, the flow proceeds when the key pressing interval exceeds 2 seconds, even though the number of collected digits does not reach the specified value.
- **Cancel Key**: whether to use the star key (*) as the cancel key during IVR digit collection. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **Confirm Key**: whether to use the pound key (#) as the confirm key during IVR digit collection. This parameter is displayed when **Reply Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **TTS Advanced Settings**: Enable or disable this function. By default, this function is disabled.
- **Voice**: The options are **Male**, **Female**, and **Custom Sound Effect**. **Voice** is set to **System Default** by default. This parameter is configurable when **TTS Advanced Settings** is enabled.
- **Voice Speed**: The options are **Slow**, **Medium**, **Fast**, and **Custom Speed**. **Voice Speed** is set to **System Default** by default. This parameter is configurable when **TTS Advanced Settings** is enabled.
- **TTS Extended Parameter**: Enable or disable this function. By default, this function is disabled.
- **TTS extended parameter**: Enter the data required by the TTS business on the IVR side, for example, the vendor information. The value is sent back to the IVR using the **ttsMRCPVendor** parameter of the dialog interface. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.

  The extended parameters of the TTS server are set based on the requirements of the TTS server vendor. The values can be **GLOBAL** and **FLOW** variables of the character type or any string.

  The default values are as follows:

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speed=*GLOBAL.ttsSpeed*;pitch=*GLOBAL.ttspitch*;volume=*GLOBAL.ttsVolume*;voice_name=*GLOBAL.voiceName*;

NOTE

- To use the TTS function, you need to contact the system administrator to sign in to the AICC, choose **Configuration Center** > **Chatbot Management** > **Flow Management** > **System** > **TTS/ASR**, and configure a TTS server for your tenant space.
- To set the default values of extended parameters of the TTS server, contact the tenant administrator to sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Variable** > **Built-in Variable**.

- **Number Pronunciation**: This parameter is reserved.
- **ASR Advanced Settings**: Enable or disable this function. By default, this function is disabled.
- **Recognition Type**: The option is **Common**. The default value is **Common**. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Subscriber Silence Timeout Interval**: The default value is empty, in seconds. The value ranges from 0 to 32000. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Recognition Timeout Interval**: The default value is empty, in seconds. The value ranges from 0 to 600. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Subscriber Pause Timeout Interval**: The default value is empty, in milliseconds. The value ranges from 300 to 2000. This parameter is configurable when **ASR Advanced Settings** is enabled.
- **Vendor-defined parameters**: Enter the data required by the ASR business on the IVR side, for example, the vendor information. The value is sent back to the IVR using the **vendor** parameter of the dialog interface.

NOTE

Vendor-defined parameters: This parameter takes effect only when the ASR service is connected using the MRCP protocol. The corresponding parameter is **Vendor-Specific-Parameters**.

- **Hot word vocabulary**: Enter the hot word vocabulary ID, which is the hot word vocabulary ID configured on the WebUI. If the hot word vocabulary is empty, do not set this field.

Using the Diagram Element

- Click the diagram element or drag it to the canvas. Before setting response parameters, maintain the resource templates related to voice and video resources, and then select a reply template that you has maintained in the **Service Parameter** area.
- The **Robot Reply** diagram element is used by the robot in the email channel to automatically reply to customers' emails. In this case, configure the diagram element as follows:
  - Set **Reply Way** to **TTS**.
  - Set **Reply Source** to **Reply Variable**.
  - Set **Reply Variable** to a global variable or a flow variable. The value of the variable must be in the following format:

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Auto reply email template ID

The auto reply email template ID can be created in Configuring Notification Templates as an Administrator.

- Set **Reply Mode** as required.

Typical Application Scenario

The following describes how to use the **Robot Reply** diagram element to play a welcome tone to customers.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-178 Adding a flow variable

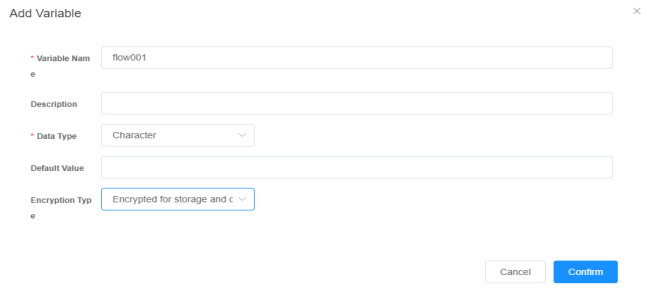
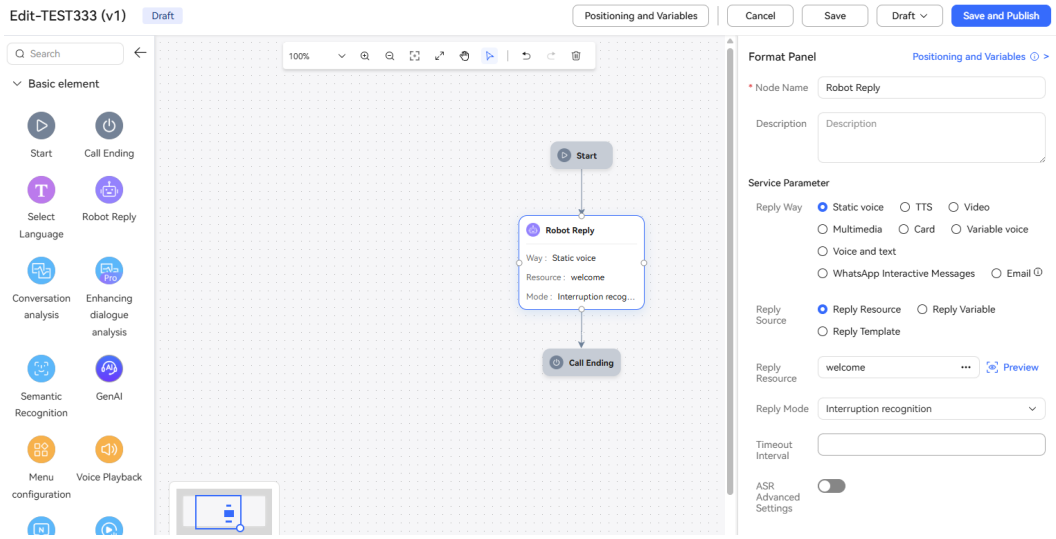


Figure 2-179 Flow orchestration example

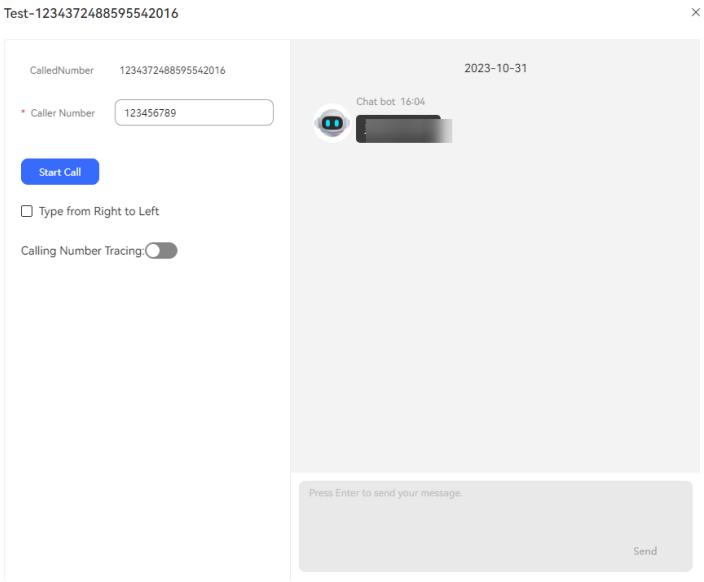


3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

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Step 4 Choose **Intelligent Chatbot** and click **Test Call** in the last column corresponding to the robot. In the **Test** dialog box, click **Start Call** to test the robot. If the robot automatically answers the variable value in the flow orchestration, the configuration is successful.

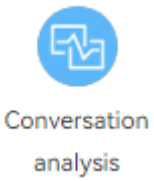


----End

Conversation Analysis

This diagram element is used to invoke a large language model workflow to obtain the semantic recognition, sentiment analysis, and Q&A search results in dialog content.

Diagram Element



Parameter Description

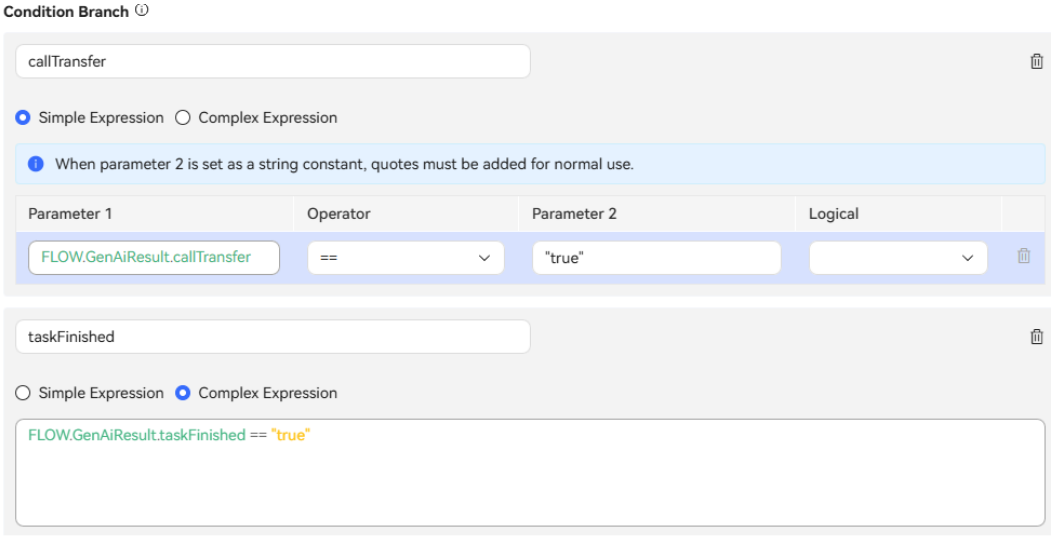
- **Node Name**: name displayed on the diagram element, which can be customized.
- **Description**: details of a node.
- **Function**: check box. The semantic recognition, sentiment analysis, and Q&A search functions are provided.
- **Conversation Content**: request parameter for invoking the selected function. If this parameter is left empty, the **IVRREQUEST.input** parameter is used by default.
- **Timeout Interval**: timeout interval for invoking an API function, in seconds. The value ranges from 1 to 60. The value of this parameter is the smallest

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one among the value of the current parameter, the API invoking timeout interval, and session timeout interval configured in the system. Default value: **5**

- **Extended Data**: request parameter for invoking the selection function. This parameter is a reserved extended field like call-associated data.
- **Result Processing** - **Variable assignment**: The content returned by the diagram element is stored in the intent variable **TOC.DialogAnalysis**. Variable assignment is supported. The value entered on the right is assigned to the variable entered on the left.
- **Result Processing** - **Condition branch**: defines the branches of the current diagram element exit. The options are **Simple Expression** and **Complex Expression**. Simple expressions use the following relational operators to return a value of the Boolean type (**true** or **false**): **>**, **>=**, **<**, **<=**, **==**, and **!=**.

Figure 2-180 Simple Expression and Complex Expression



Using the Diagram Element

This diagram element is used together with agent assistant services.

Typical Application Scenario

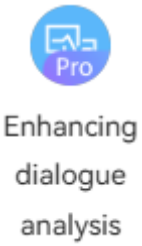
For details about how to use the conversation analysis diagram element, see the archiving flow in **2.6.4.2.5 Intelligent Agent Assistant Flow Description**.

Enhancing Dialogue Analysis

This diagram element is used to configure the dialog analysis model by invoking workflows of the foundation model. The LLM Engine feature must be enabled for the tenant space.

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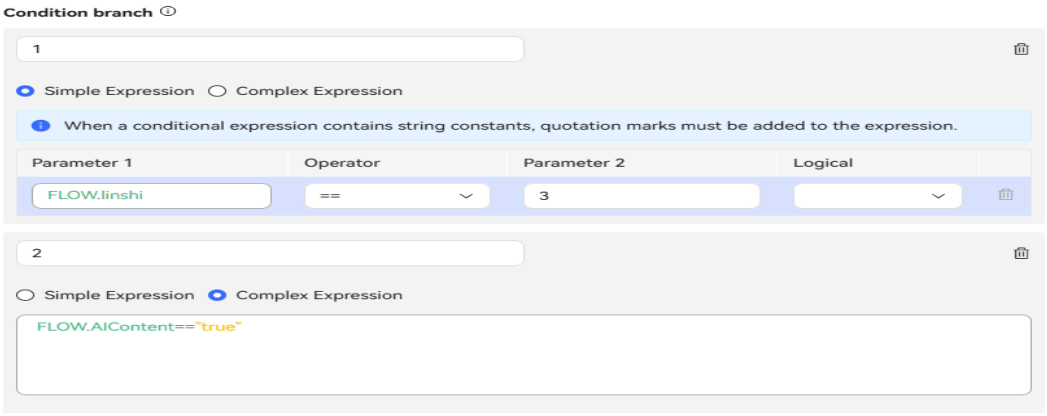
Diagram Element



Parameter Description

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Description**: details of a node.
- **Selecting function**: add a workflow.
- **Result Processing** - **Condition branch**: defines the branches of the current diagram element exit. The options are **Simple Expression** and **Complex Expression**. Simple expressions use the following relational operators to return a value of the Boolean type (**true** or **false**): **>**, **>=**, **<**, **<=**, **==**, and **!=**.

Figure 2-181 Simple Expression and Complex Expression



Using the Diagram Element

This diagram element is used together with agent assistant services.

Typical Application Scenario

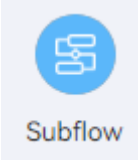
For details about how to use the dialog analysis diagram element, see Commissioning the Virtual Agent (Naive Agent) Based on the Pangu Model.

Subflow

This diagram element is used to transfer the current flow to the specified node of another flow for execution.

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Diagram Element



Parameter Description

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Description**: details of a node.
- **Target Flow**: code of a target flow. You can select an existing flow from the drop-down list, including flows that are not published. This parameter is mandatory.
- **Target Node**: ID of a target node. You can select a node in the selected flow from the drop-down list. If this parameter is left empty, the flow is executed from the **Start** node of the selected flow.

Using the Diagram Element

The **Subflow** diagram element is used to associate the flows that are split from a long and complex flow. It is also used when all or part of the steps in other flows can be reused. Note that it cannot pass parameters. To pass parameters, use a composite diagram element.

Click the diagram element or drag it to the canvas, and select the desired subflow and node.

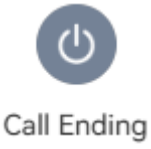
Typical Application Scenario

For details about how to use the **Subflow** diagram element, see **Figure 2-183**. The typical application scenario of the **Call Ending** diagram element involves the **Subflow** diagram element.

Call Ending

This diagram element is used to mark the end of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.

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- **Start Time** and **End Time**: start time and end time during which an interface can be invoked. The configured interface will be invoked to execute related tasks only in the specified time period.

  The time format is HH:MM:SS. For example, if **Start Time** is set to **00:00:00** and **End Time** is set to **23:59:59**, the configured interface is invoked when the **Call Ending** diagram element is reached at any time of a day. This field cannot be empty after the interface is invoked.
- **Sending Interval**: interval for invoking the interface, in days. The value is an integer and cannot exceed 365. If this parameter is set to **-1**, the interface is not invoked periodically. The invocation is triggered when the **Call Ending** diagram element is reached at any time.
- **Stored Procedure**: If the **Stored Procedure** diagram element is not used in the flow, sudden flow interruption may cause data loss. To avoid this problem, the **Call Ending** diagram element also supports data storage operations. You can select stored procedures under **Resource** > **Stored Procedure**.

Using the Diagram Element

Click the diagram element or drag it to the canvas.

Typical Application Scenario

If you need to invoke a third-party interface to implement a specific business when using the **Call Ending** diagram element, you can perform the following operations to ensure that the **Call Ending** diagram element can be reached in any case:

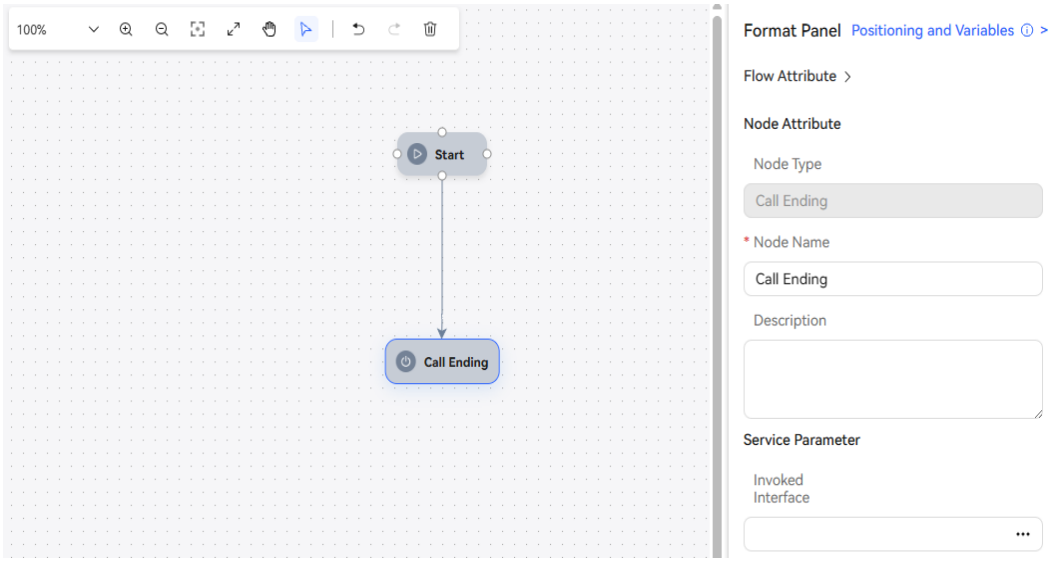
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and add a normal end flow that contains only the **Start** and **Call Ending** diagram elements, as shown in the following figure. You do not need to configure the invoked interface for the **Call Ending** diagram element.

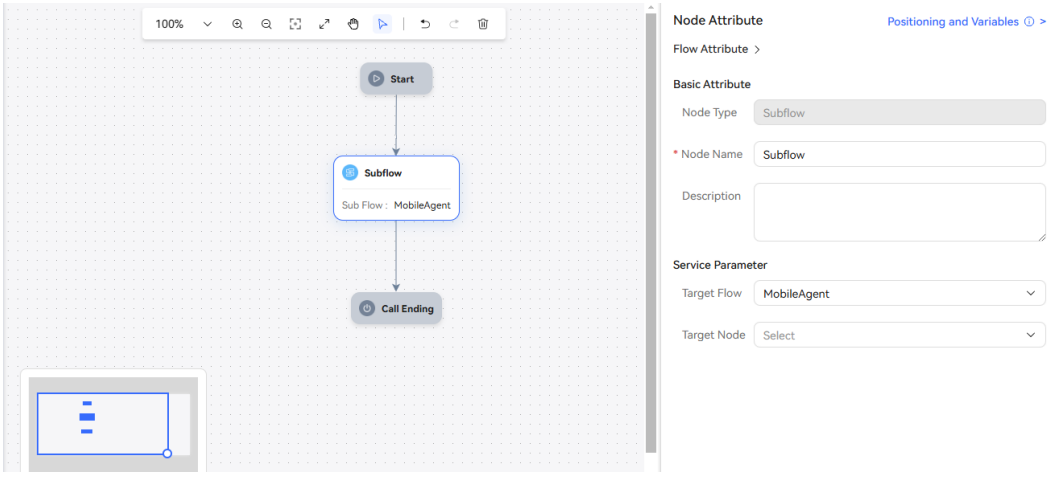
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Figure 2-182 Normal end flow



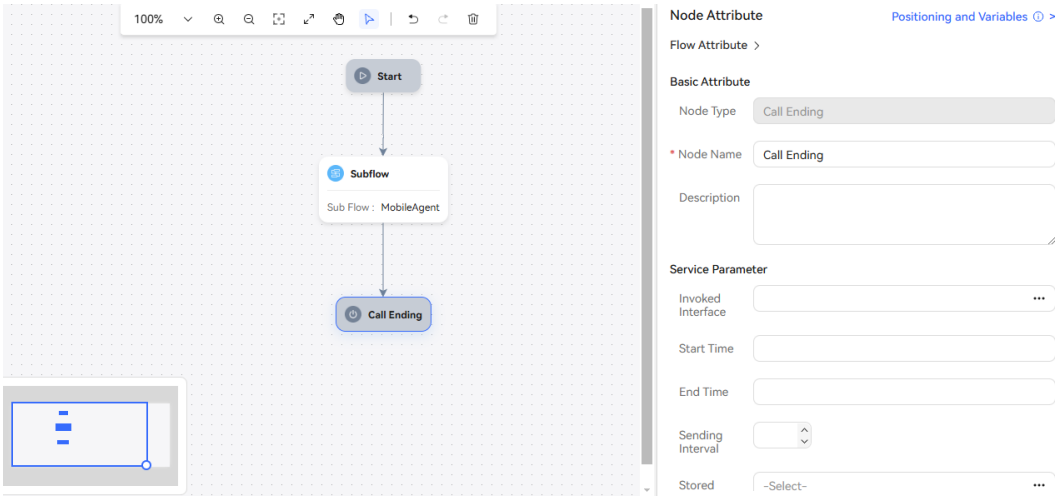
2. Save and publish the flow.
3. Choose **Flow** > **Orchestration** and add an actual business flow. Do not directly connect a **Call Ending** diagram element as the last diagram element of the flow. Instead, connect a **Subflow** diagram element to transfer the flow to the normal end flow added in **Step 2.1**. In this way, the **Call Ending** diagram element can be reached in any case, including after the flow is transferred.

Figure 2-183 Actual business flow (Subflow diagram element)



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Figure 2-184 Actual business flow (Call Ending diagram element)



4. Save and publish the flow.

   NOTE

   When the flow execution passes through the **Call Transfer** diagram element and the transfer is successful, the third-party interface configured in the **Call Ending** diagram element is not invoked.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box, click **Trace Settings** and enable **Calling Number Tracing**. Click **Start Call** to test the robot.

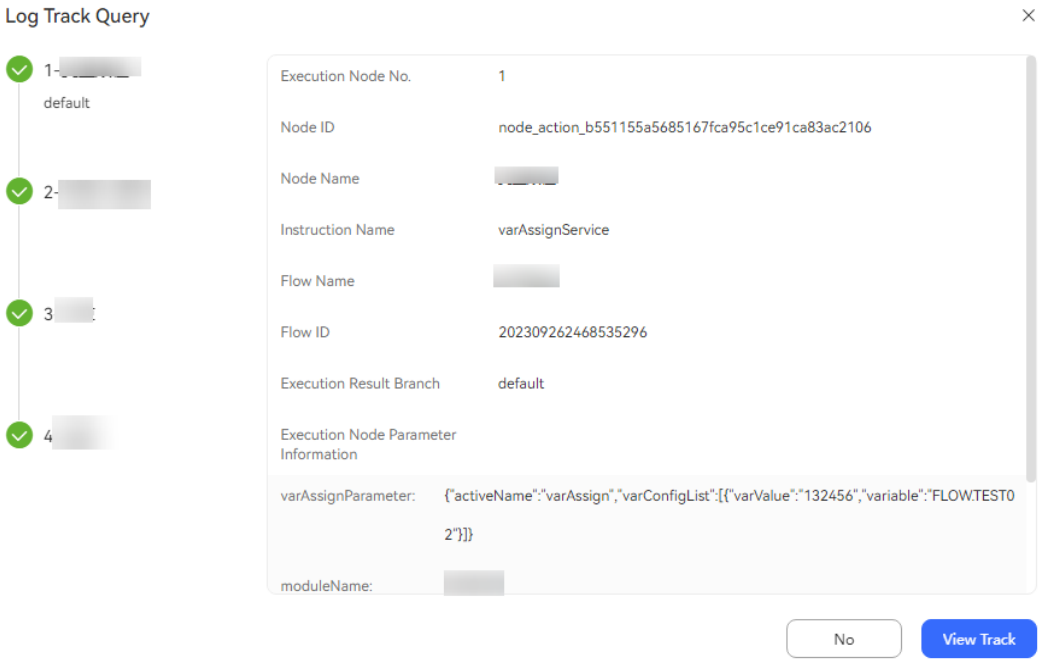
NOTE

If you do not set **Calling Number** before making a call, the default calling number 123456789 is used.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. The following figure shows that the flow has reached the **Call Ending** diagram element through the **Subflow** diagram element.

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Figure 2-185 Flow track log page

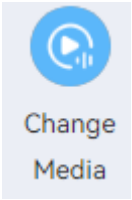


----End

Switching Between Voice and Video Calls

During a customer's call to the IVR, you can switch between voice and video calls.

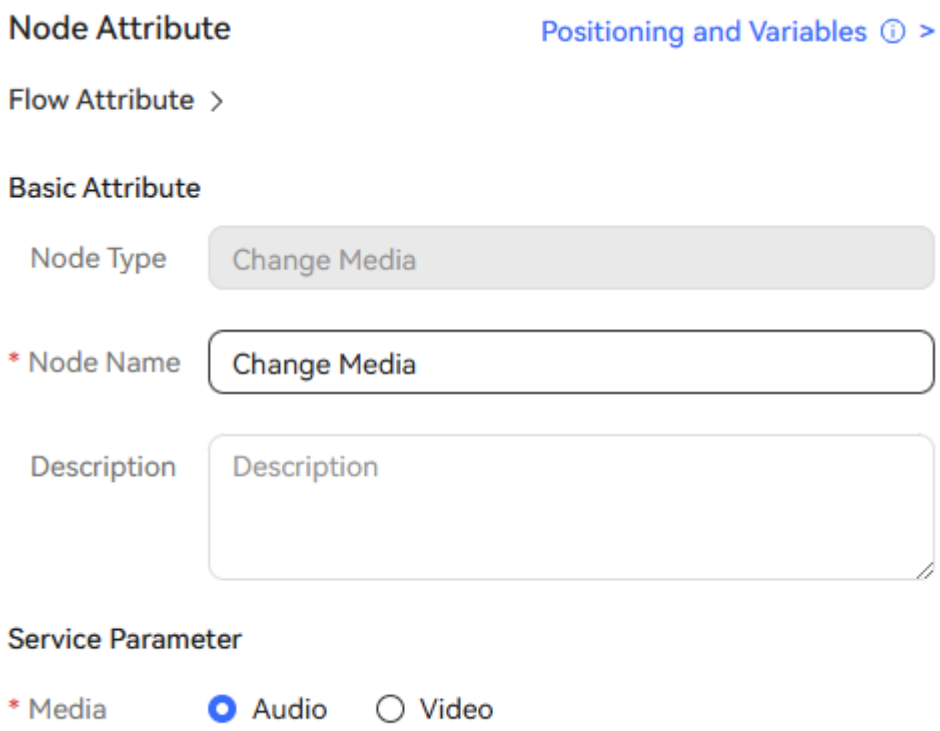
Diagram Element



Parameter Description

The following figure shows the parameters of the **Change Media** diagram element.

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The parameters are described as follows:

- **Node Name**: Enter a diagram element name.
- **Media**: Select a target media type. The options are **Audio** and **Video**.

Condition Branch Description

Table 2-92 Condition branch description

Condition Branch	Description	Usage
Switching failure	Failure to switch from a voice call to a video call or from a video call to a voice call	Triggered upon a switching failure.

Typical Application Scenario

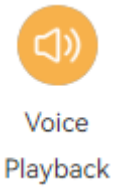
Voice and video calls need to be switched between each other when businesses are handled for a customer. The corresponding media capabilities are used to intuitively display businesses.

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Voice Playback

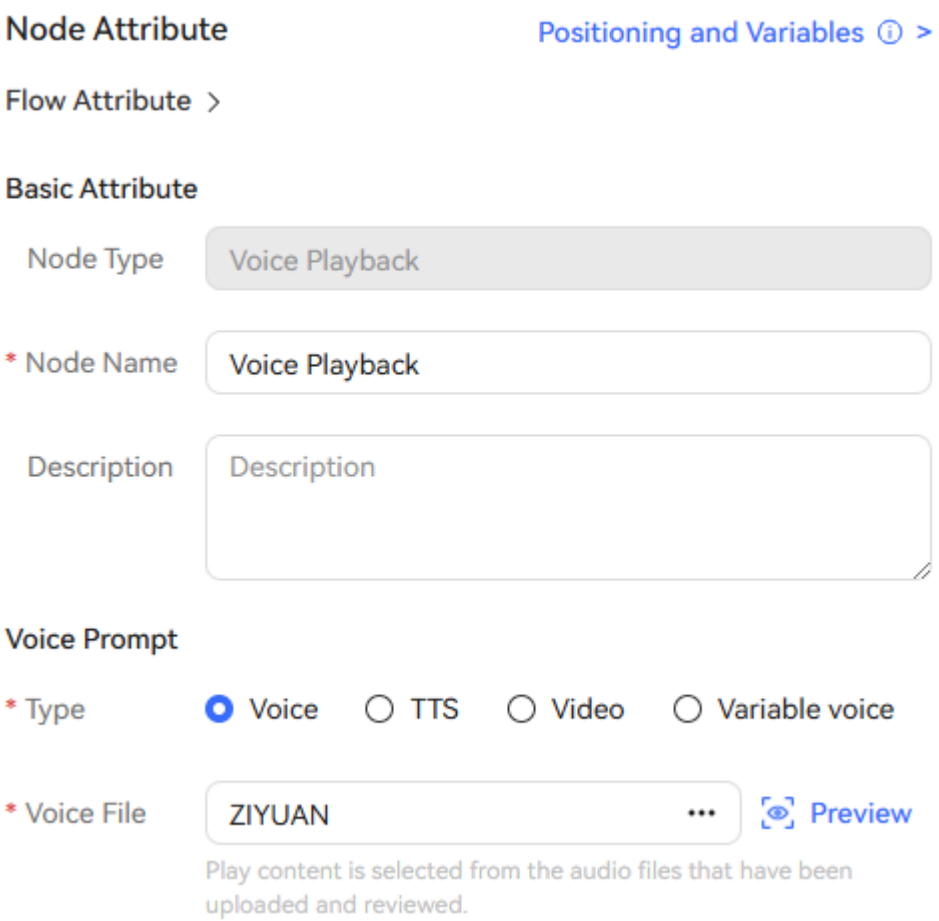
This diagram element is used to play a voice (for example, welcome voice) or video segment without interacting with the customer. The system supports WAV (8 kHz, 8 bits) voice files, TTS files, and video files.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Voice Playback** diagram element.

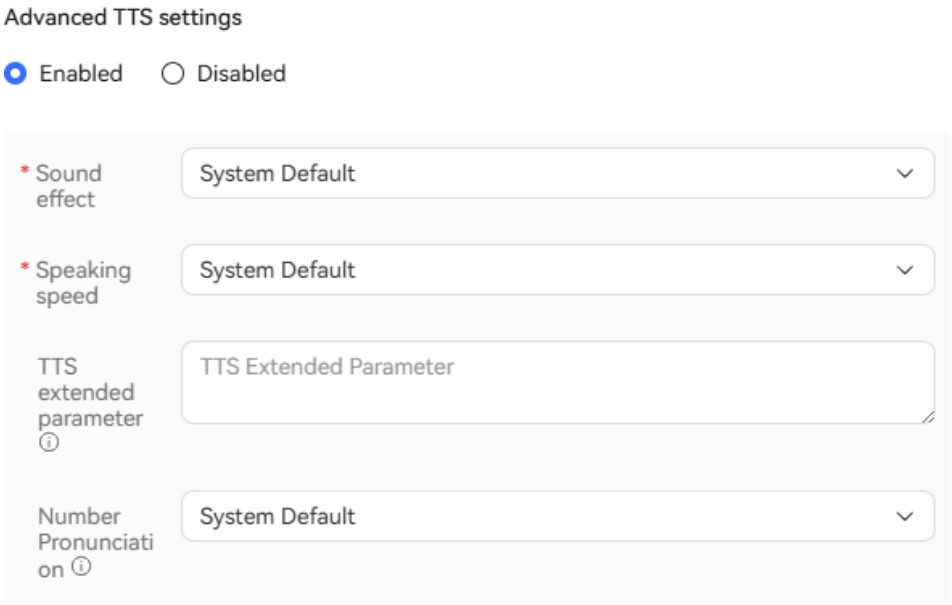


The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.

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- **Voice Prompt**: Select **Voice**, **TTS**, **Video**, or **Variable voice**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  - **TTS**: Generate a voice file in TTS mode. TTS channels must have been configured. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

    - **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
    - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to Vendor-Specific-Parameters.

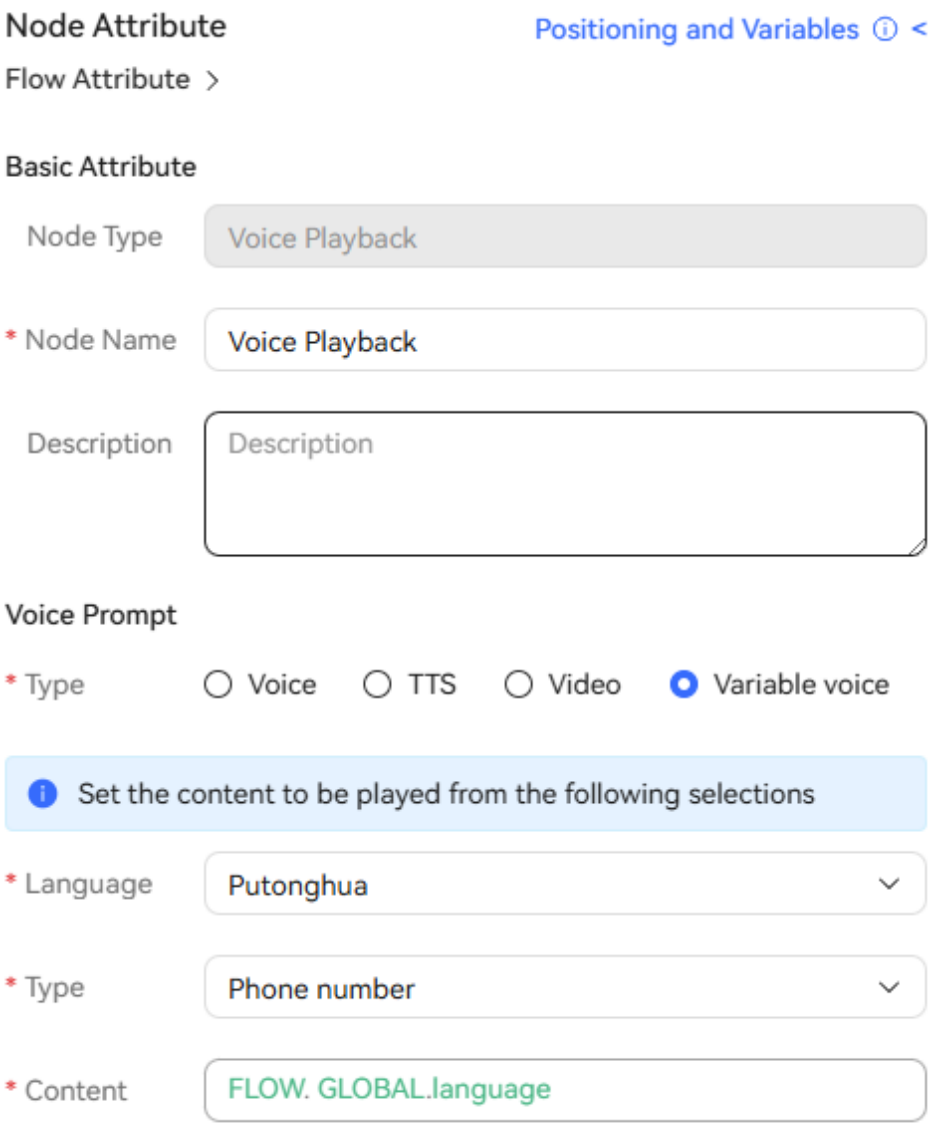
      NOTE

      To use the TTS function, you need to contact the system administrator to sign in to the AICC, choose **Configuration Center** > **Chatbot Management** > **Flow Management** > **System** > **TTS/ASR**, and configure a TTS server for your tenant space.

    - **Number Pronunciation**: This parameter is reserved.
  - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

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- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list. You can click and select a required file.
- **Variable voice**: Voices can be customized by setting the language, type, and content.



  - **Language**: Select a voice playback language.

    NOTE

    If you select a non-Mandarin or non-English language for the variable voice, contact O&M personnel to customize the syntax package and voice file.

  - **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.
  - **Content**: Select the content defined by the global variable (**GLOBAL.***) or flow variable (**FLOW.***).

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NOTE

If **Type** is set to date or time, the format of the selected variable must be consistent with that in the brackets.

- Click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-93 Condition branch description

Condition Branch	Description	Usage
Voice playback failure	Failure to play a voice, video, TTS, or variable voice	Triggered upon a playback failure.

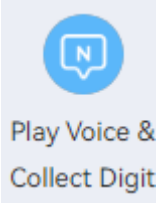
Typical Application Scenario

- When a voice call is transferred to an IVR flow, the system plays the welcome voice.
- During execution of an IVR flow or when an IVR flow is about to end, the system plays a voice prompt.

Voice Playback and Digit Collection

This diagram element is used to play a voice or video segment to interact with a customer, for example, to play the voice "Please enter *xx*."

Diagram Element



Parameter Description

The following figure shows the parameters of the **Play Voice & Collect Digit** diagram element.

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Figure 2-186 Play Voice & Collect Digit

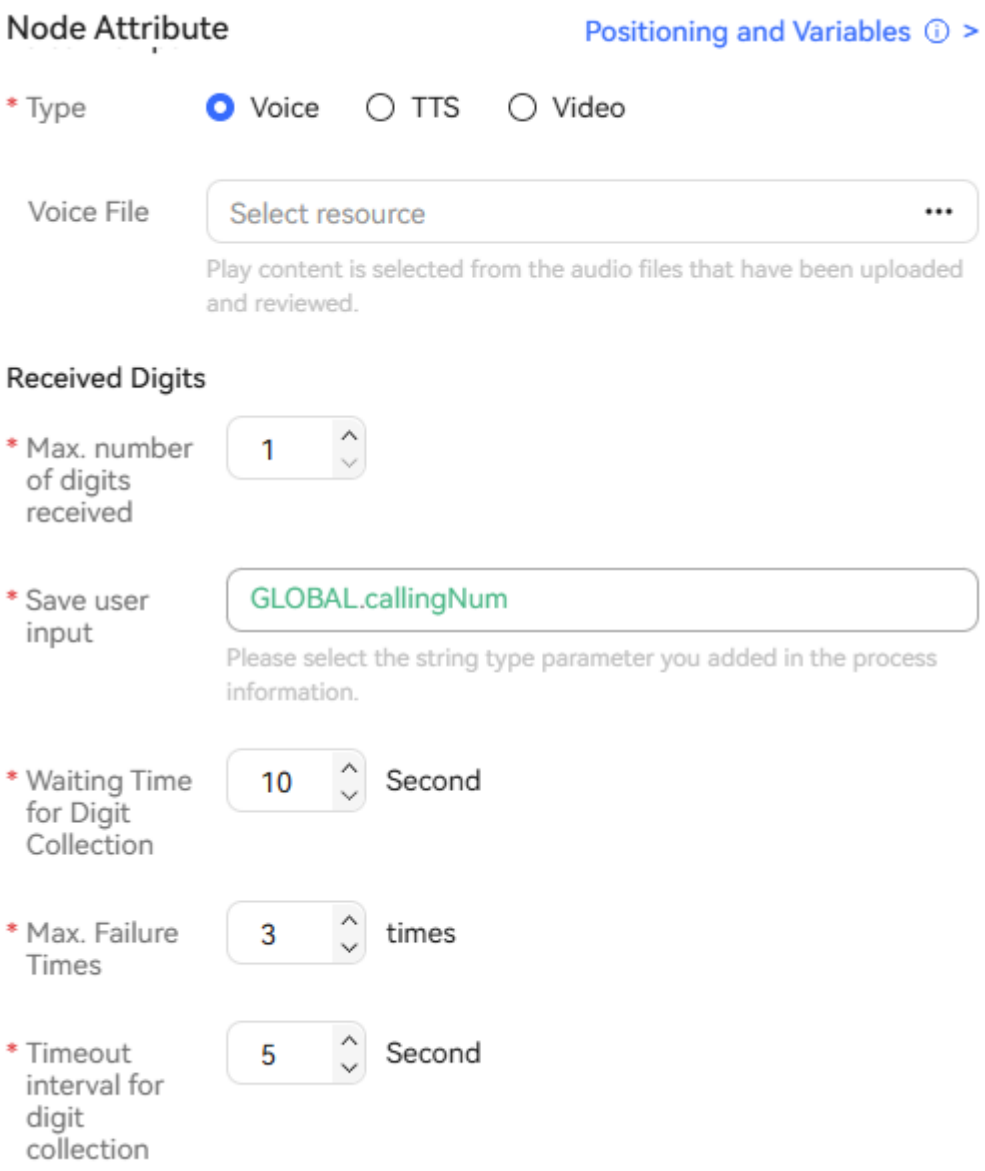
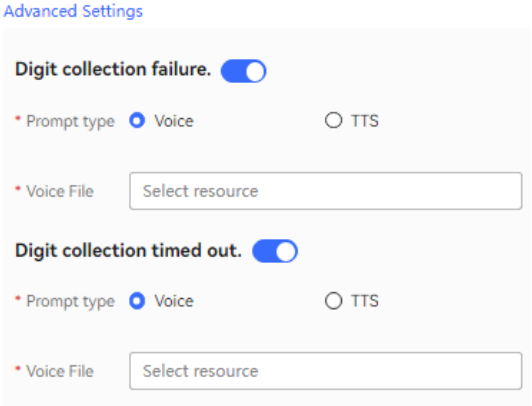


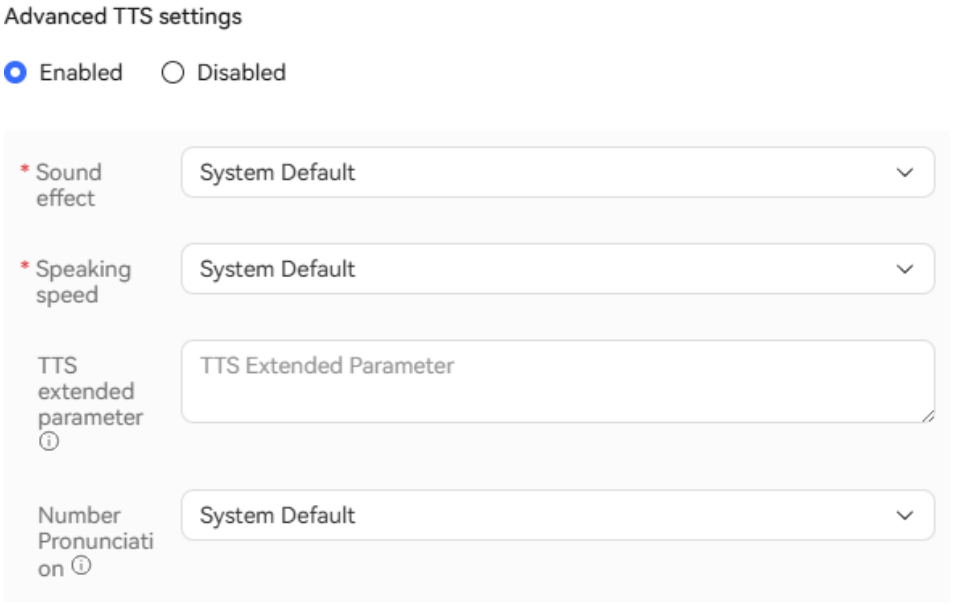
Figure 2-187 Advanced Settings



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The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files. You can click the text box and select a voice file in the dialog box that is displayed. The options are approved voice files of the current tenant.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

    - **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
    - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.
    - **Number Pronunciation**: This parameter is reserved.
  - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.

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- **Received Digits**: This area displays parameters used to receive the external input.
  - **Max. number of digits received**: maximum number of input digits that can be received. The default value is **24**. If this parameter is set and the number of digits entered by a customer reaches the maximum value, the system automatically goes to the next step.
  - **Save user input**: parameter for carrying information required by the diagram element. Click the text box. In the displayed dialog box, select a global variable or flow variable as required, for example, **FLOW.IDNumber**. The system saves the customer input by using a variable of the string type. Therefore, you can select only a variable of the string type.

    CAUTION

    In a security subflow scenario, the variables used to save the customer input must be saved after being encrypted.

  - **Waiting Time for Digit Collection**: waiting time for receiving the external input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
  - **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
  - **Timeout interval for digit collection**: Timeout interval for pressing a key. For example, if this parameter is set to 2 seconds, the flow proceeds when the key pressing interval exceeds 2 seconds, even though the number of collected digits does not reach the specified value.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.
  - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
  - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

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NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-94 Condition branch description

Condition Branch	Description	Usage
Voice playback or digit collection failure	Voice playback or digit collection failure	Triggered upon a voice playback or digit collection failure.

Typical Application Scenario

The system needs to interact with a customer and continue with the subsequent flow based on the input of the customer. For example, the system can handle a business only after a customer enters an identification number.

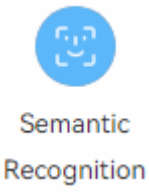
Language Selection

This diagram element is a public diagram element. For details, see **2.6.3.10.7 Language Selection**.

Semantic Recognition

This diagram element is used to submit customer voices to the TUC dialog engine for intention matching.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Context**: used to filter intentions to be matched to improve the matching speed.

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- **Semantic identification content**: content to be matched for semantic identification. The value can be a character string or an existing variable of the current node. If it is left empty, the system directly identifies the customer voice.
- **Event**: whether to clear the slot data in the matched intention if the node is not entered for the first time in the flow. Generally, the value is **Clear Current Context Cache** if you need to allow customers to modify information in the halfway.
  - **Clear Session Cache**: used to clear the values of all variables in the current flow instance.
  - **Clear Current Context Cache**: used to clear the variable value of the current intention. Generally, it is used to execute the same semantic recognition for multiple times, and to clear the intention data retained previously.
- **Intention Quantity**: number of intentions. This applies to the scenario where multiple intentions can be returned. The value needs to be a positive integer. If this parameter is left blank, the value is the same as that of **Max. Intentions(1,5)** set on the **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **System Management** > **Intelligent Engine Parameter** > **Intention Parameters** page by default.
- **Confidence Interval**: maximum confidence difference between each intention and the first intention. This applies to the scenario where multiple intentions are returned.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The response parameters or slot parameters of the intention can only be valid on the current node. If you want to use the value in subsequent flow nodes, define a cache variable and assign the value of the response parameter or slot parameter in the intention to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, the intention matching success and failure can be configured as two branches. Different subsequent flows can be specified for each branch.

Condition Branch Description

Table 2-95 Condition branch description

Condition Branch	Description	Usage
timeout1	First timeout	Triggered when a third-party system (for example, the IVR system) determines that a timeout occurs in receiving the customer feedback and sends a message whose **input** is **timeout** to the OIAP. This branch is generally used on the connection line between the **Semantic Recognition** diagram element and subsequent node, indicating that semantic recognition times out before a response is received from the customer.

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Condition Branch	Description	Usage
timeout2	Second timeout	Triggered when the trigger condition of **timeout1** occurs for the second time during a call. During script flow design, a flow retry is required when the first timeout occurs. If the second timeout occurs, the current step is skipped, and the subsequent steps are performed.
nomatch1	First recognition failure	Triggered in either of the following scenarios: • The **Semantic Recognition** diagram element does not match a result (that is, the diagram element returns the command word indicating an unknown intention). • A third-party system (for example, the IVR system) returns a message whose **input** is **nomatch**. In this scenario, the ASR system fails to recognize the intention and sends a failure response to the IVR system.
nomatch2	Second recognition failure	Triggered when the trigger condition of **nomatch1** occurs for the second time during a call.
error3	Third error	Triggered when the trigger condition of **timeout1** or **nomatch1** occurs for the third time during a call. If the number of error times does not need to be accumulated, use the **Error Count Clearance** diagram element to clear the number of error times before using this branch.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
SYSERROR_INTERFACE	Business interface invocation failure	Triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.
slientInsertReply	Direct reply by a silent agent	Used only when the silent agent system is configured for the **Semantic Recognition** diagram element. After an agent directly replies to a customer, the flow can continue to go to other expected business flows.

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Using the Diagram Element

The **Semantic Recognition** diagram element is used when intention matching needs to be performed for customer voices to identify customer requirements.

Click the diagram element or drag it to the canvas. Before using this diagram element, add an intention or Q&A to **TUC management**.

Typical Application Scenario

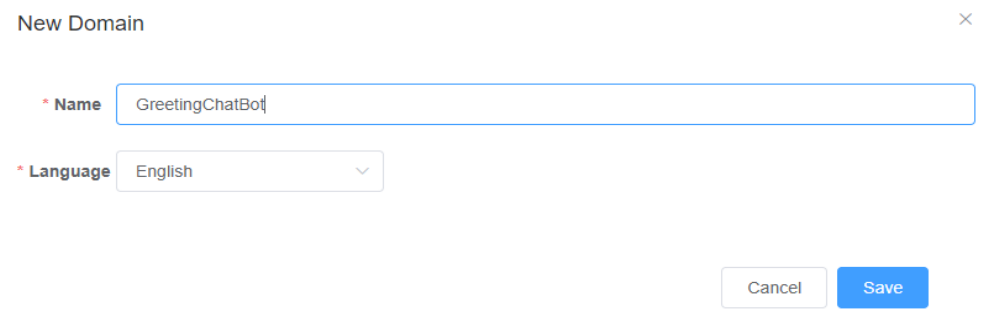
The following describes how to use the **Semantic Recognition** diagram element to interact with a robot.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

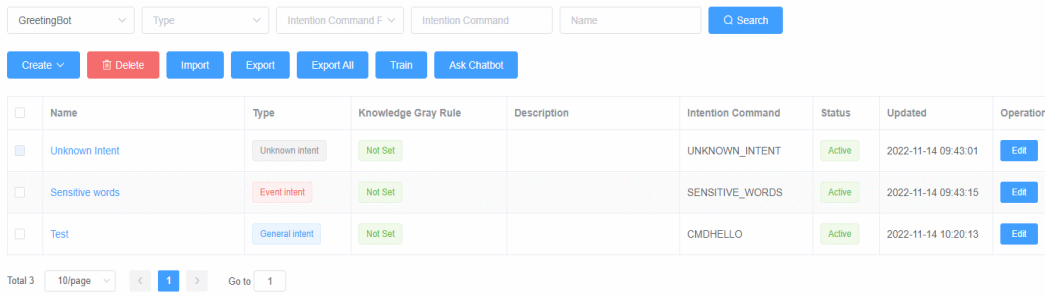
1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

   Figure 2-188 Creating a domain

2. Click the name of the new domain. The **Intention Management** page is displayed.
3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

   Figure 2-189 Creating an intention

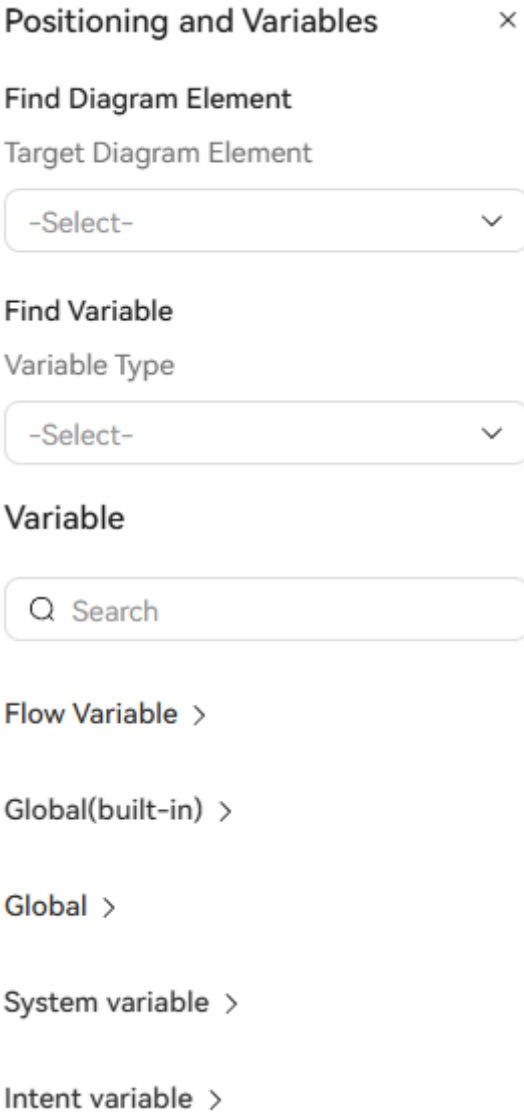
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4. Select the new intention and click **Active** to activate the new intention.

Step 3 Configure an intelligent IVR flow. The flow orchestration scenario is as follows: After a customer is connected to the robot, the customer hears that the robot says "Hello". After the customer says "Hello", the robot recognizes the customer voice and says "Hello" again.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click Positioning and Variables > . The **Figure 2-190** is displayed. Click Create in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. You need to add the **welcome** variable to play the default value (for example, **Hello**) of the variable to a customer after the customer is connected, and add the **default** variable to send the default reply (for example, **Intention not identified**) when semantics are not identified.

Figure 2-190 Positioning and Variables page



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Figure 2-191 Adding a flow variable

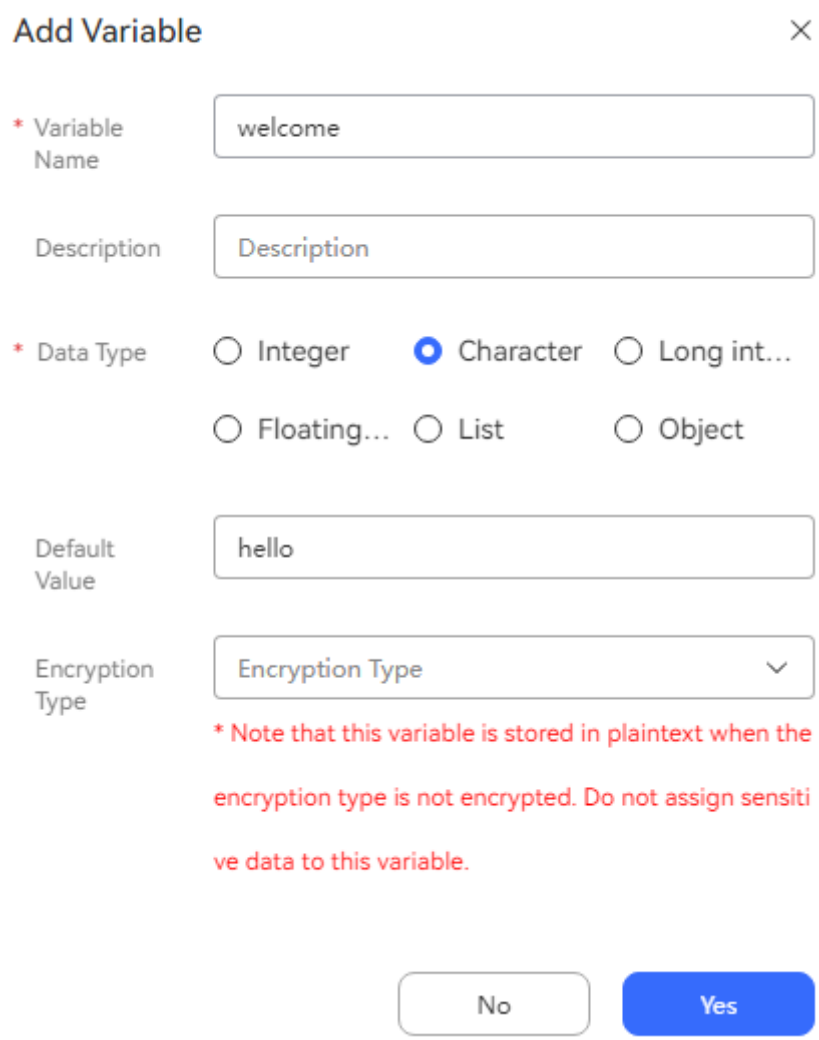
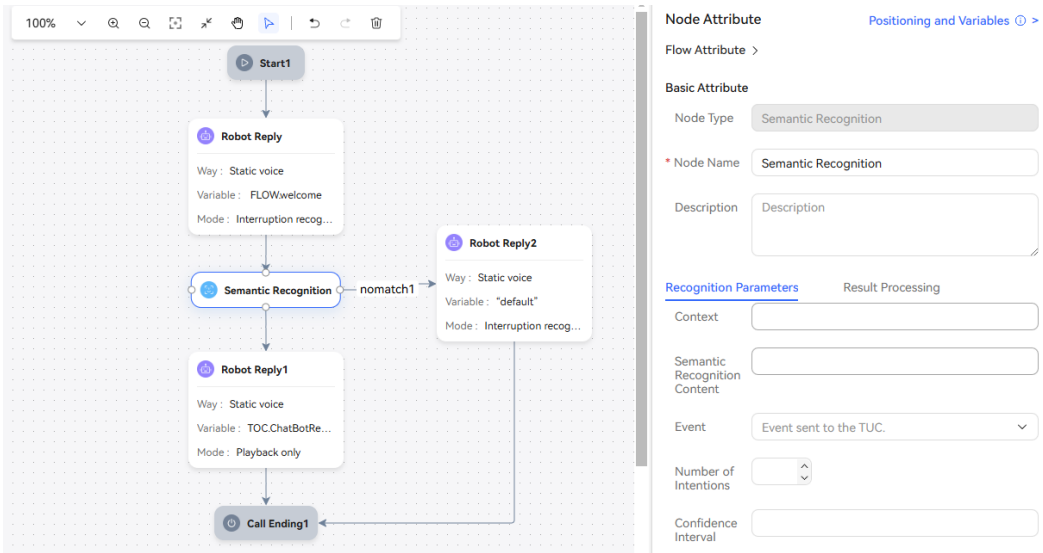


Figure 2-192 Flow orchestration example



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- Use the reply variable **FLOW.ChatBotRespContent** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to reply "Hello" to the customer after the customer says "Hello".
- Use the reply variable **default** for the **Robot Reply** diagram element on the right of **Semantic Recognition** diagram element to reply "Intention not identified" when no "Hello" said by the customer is matched.

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **More** and choose **Bind Domain** to bind an active domain.

Step 6 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. Enter "Hello". If the robot replies "Hello", semantic recognition is successful.

----End

GenAI

This diagram element is used to invoke copilots of the foundation model. The LLM Engine feature must be enabled for the tenant space.

Diagram Element

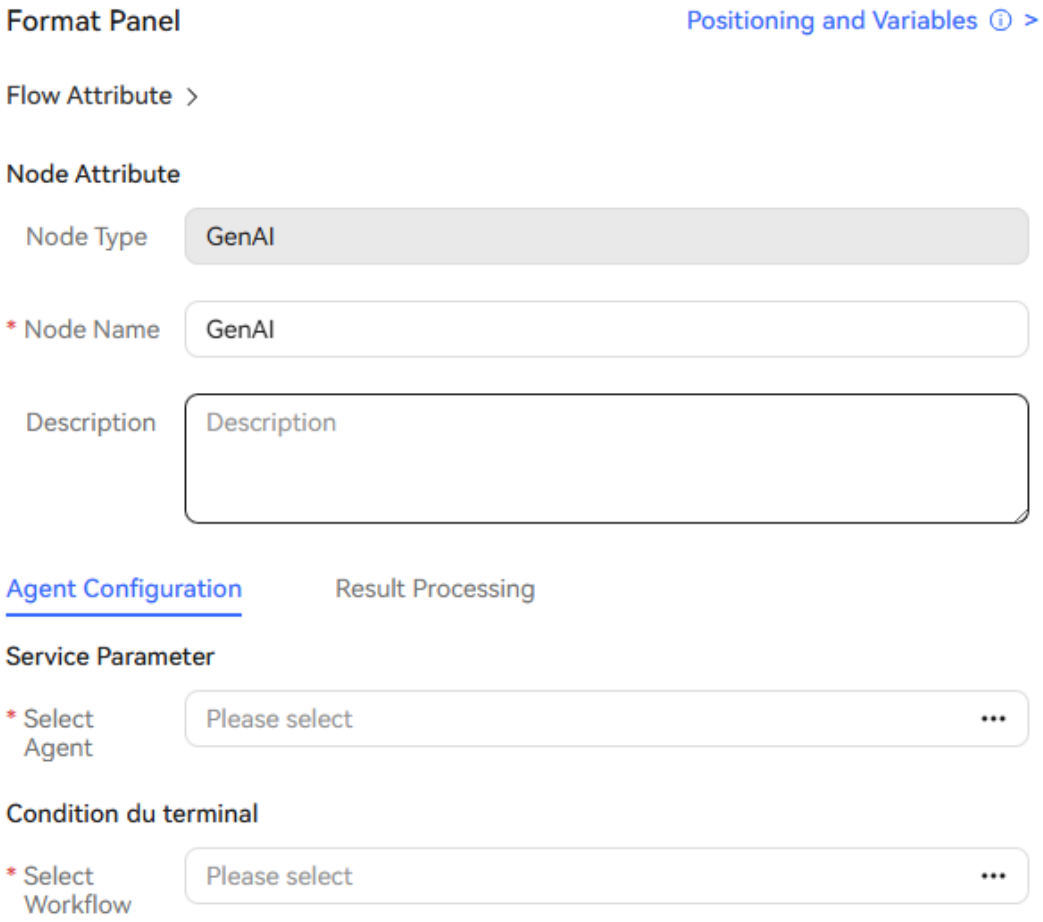


Parameter Description

The following figure shows the parameters of the **GenAI** diagram element.

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Figure 2-193 Parameters of the GenAI diagram element



- **Node Type**: **GenAI**.
- **Node Name**: name of a node, which can be customized.
- **Description**: details of a node.
- **Select Agent**: The value is obtained from a published agent on the **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Agent Zone** > **Agent Management** page.
- **Select Workflow**: The value is obtained from a published workflow on the **Configuration Center** > **Chatbot Management** > **Large Model Service** > **Workflow Management** > **Workflow Orchestration** page.

Typical Scenario

After the conversation between the user and the virtual agent ends, the user selects an agent to obtain help.

Procedure

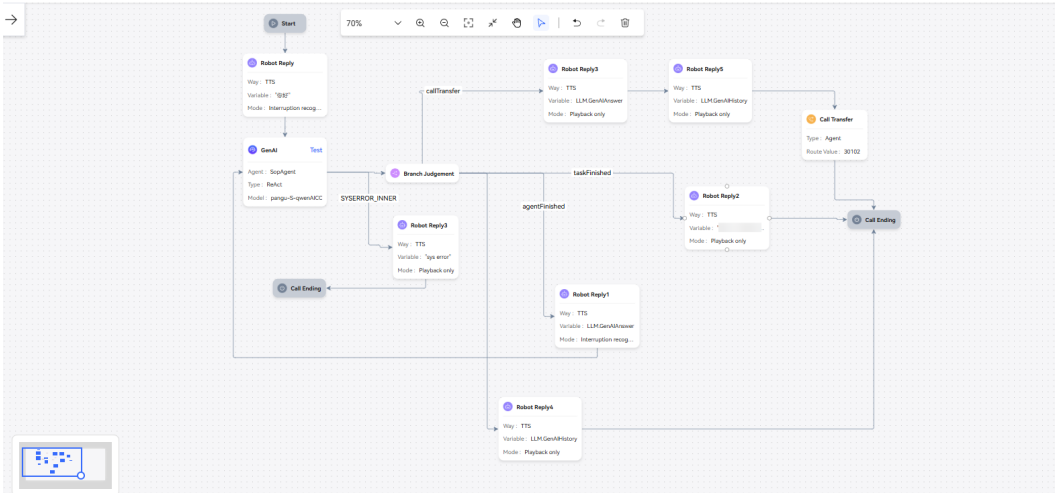
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

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Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **Create**. Add a flow by referring to the following figure.

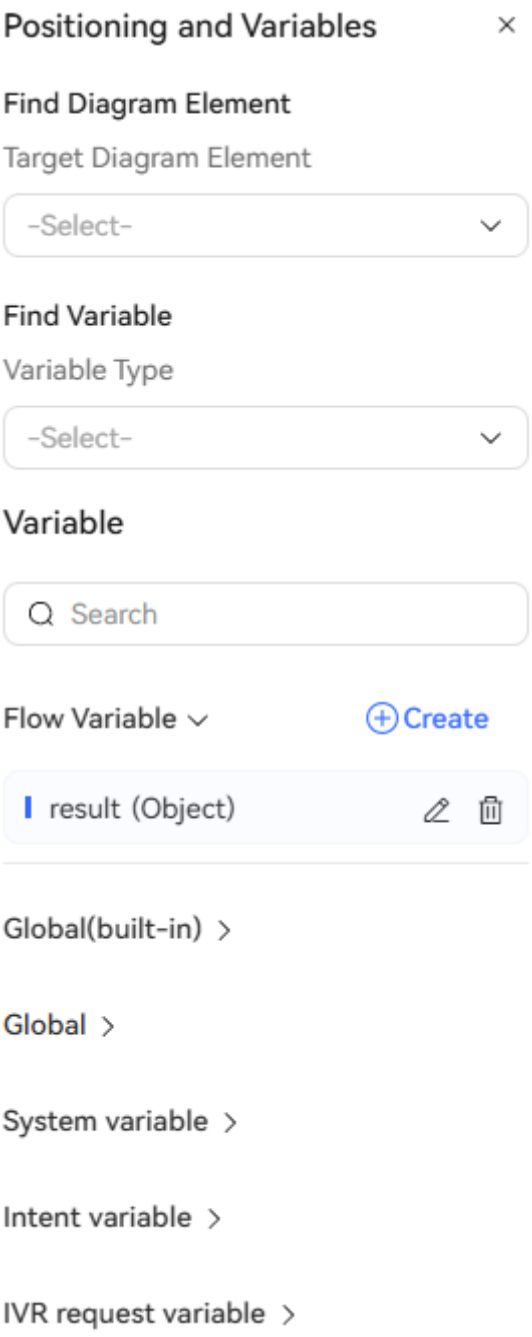
   Figure 2-194 Adding a flow



2. Click Positioning and Variables ⓘ <. In the right pane, enter the variable name and data type, as shown in the following figure.

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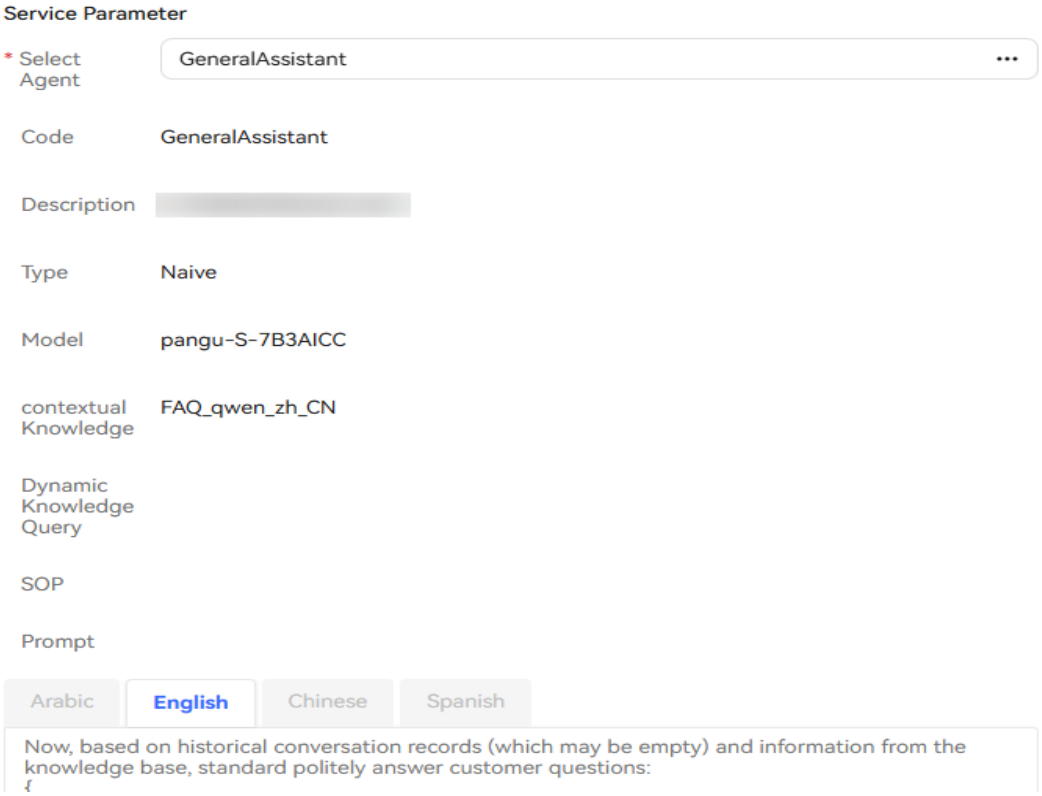
Figure 2-195 Variable



3. Set diagram element parameters by referring to the following figure.

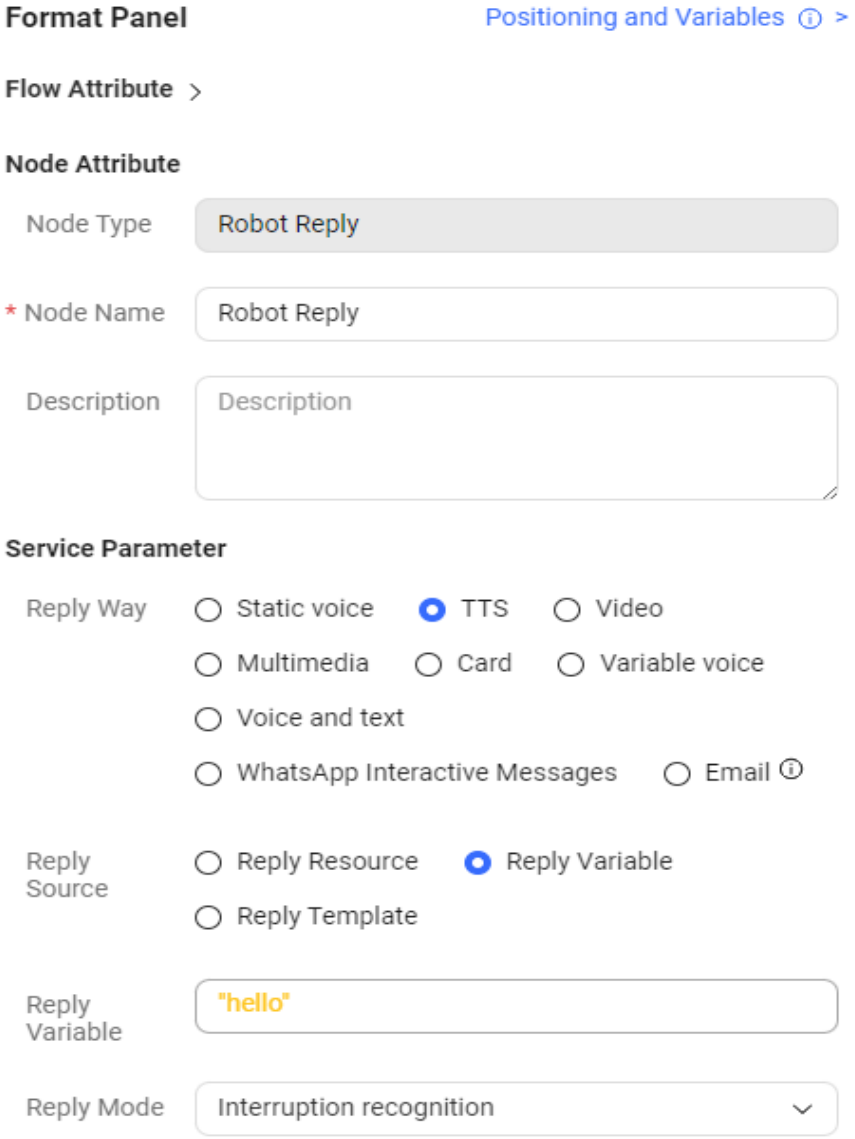
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Figure 2-196 Copilot settings



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Figure 2-197 Parameters of the Robot Reply diagram element



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Figure 2-198 Parameters of the Robot Reply diagram element 1

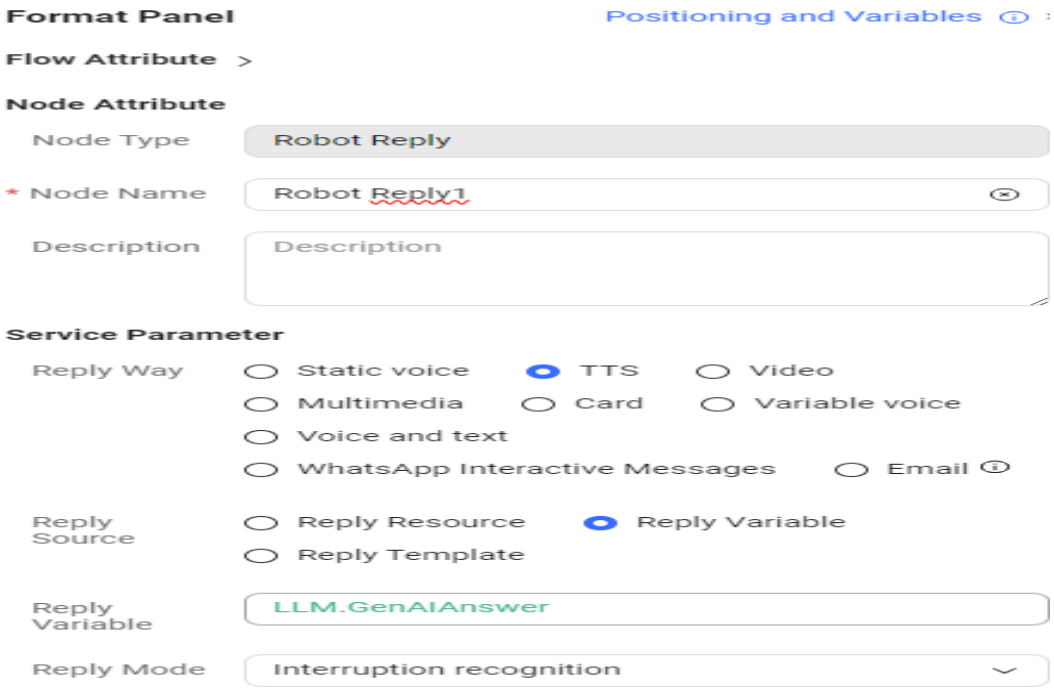
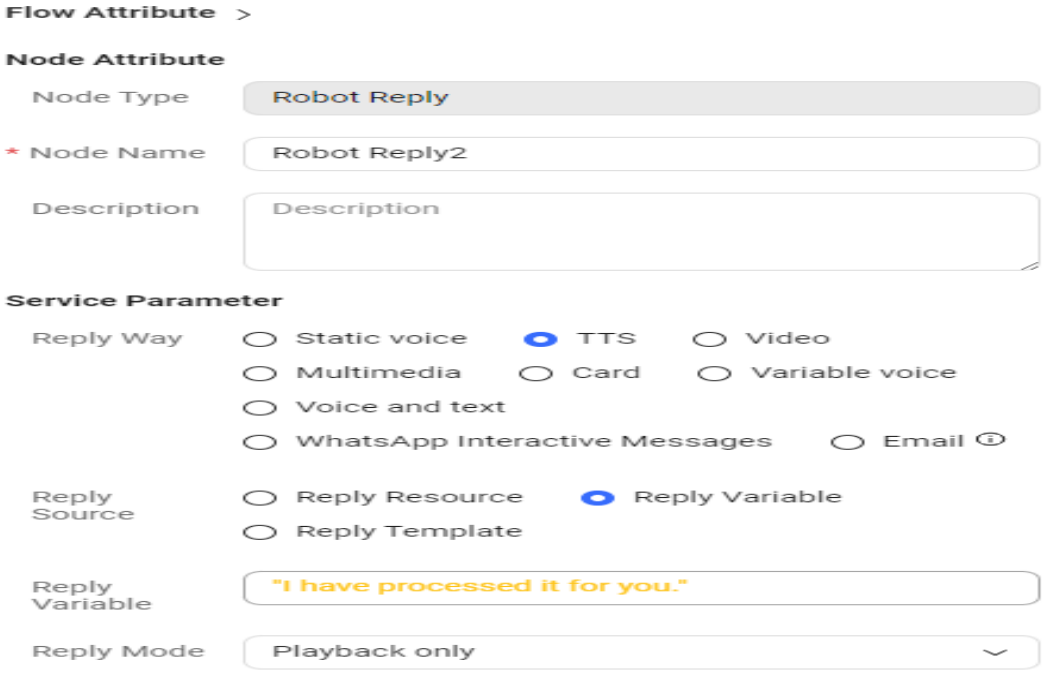
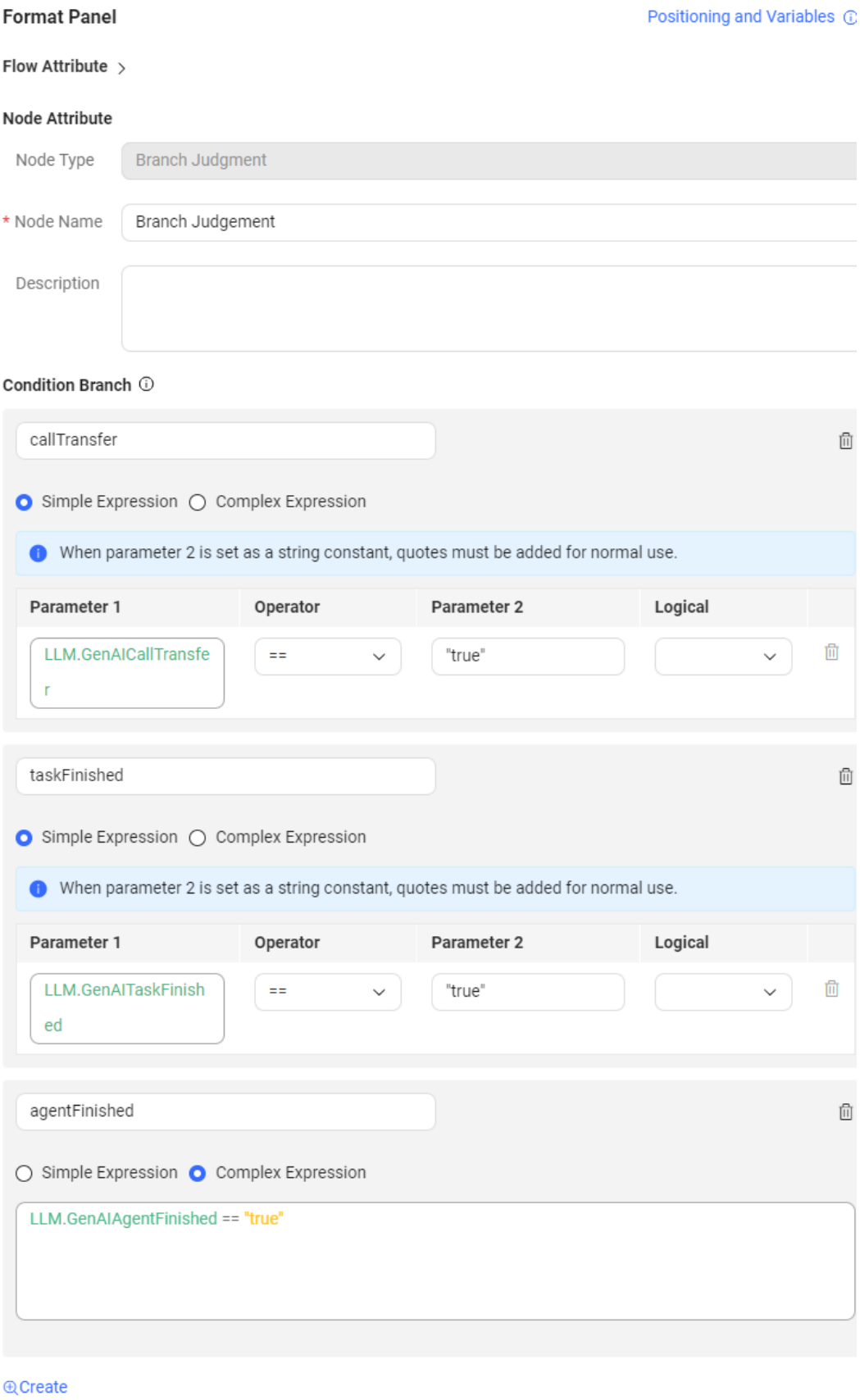


Figure 2-199 Parameters of the Robot Reply diagram element 2



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Figure 2-200 Parameters of the Branch Judgment diagram element



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Figure 2-201 Parameters of the Robot Reply diagram element 3

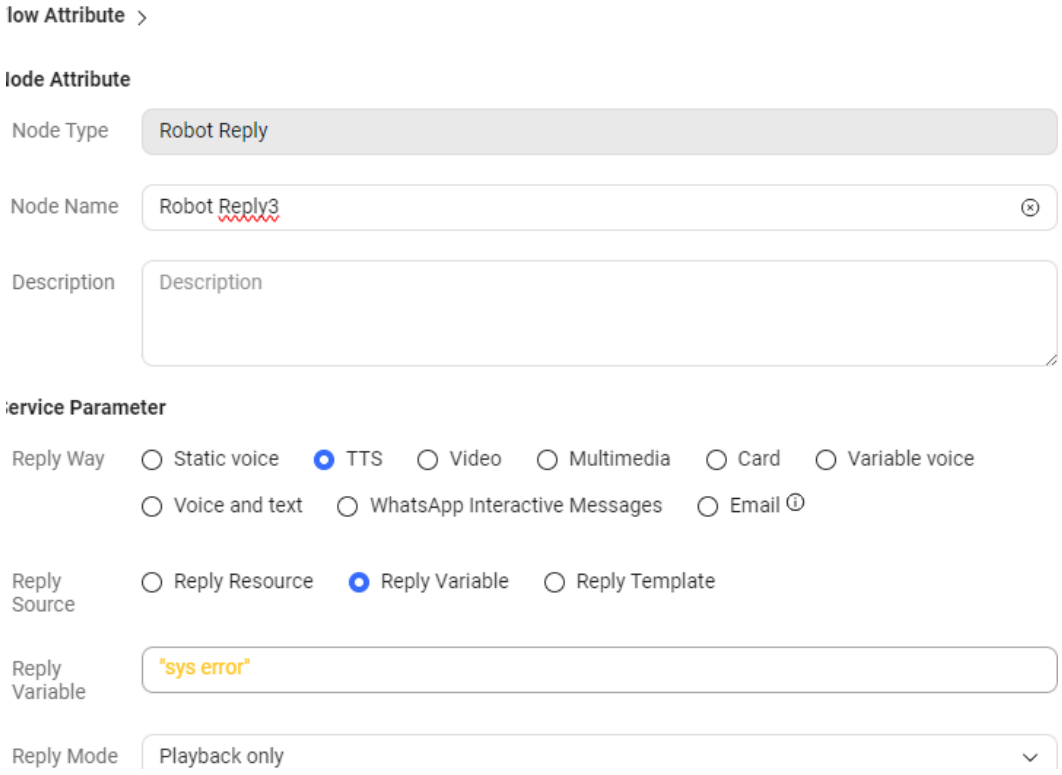
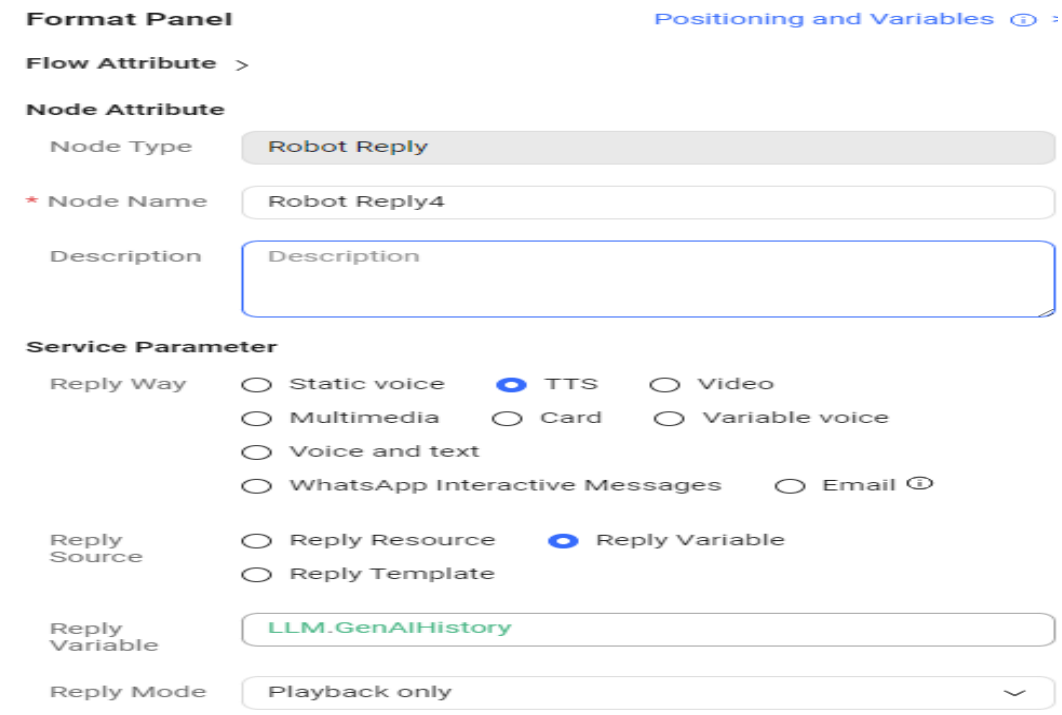
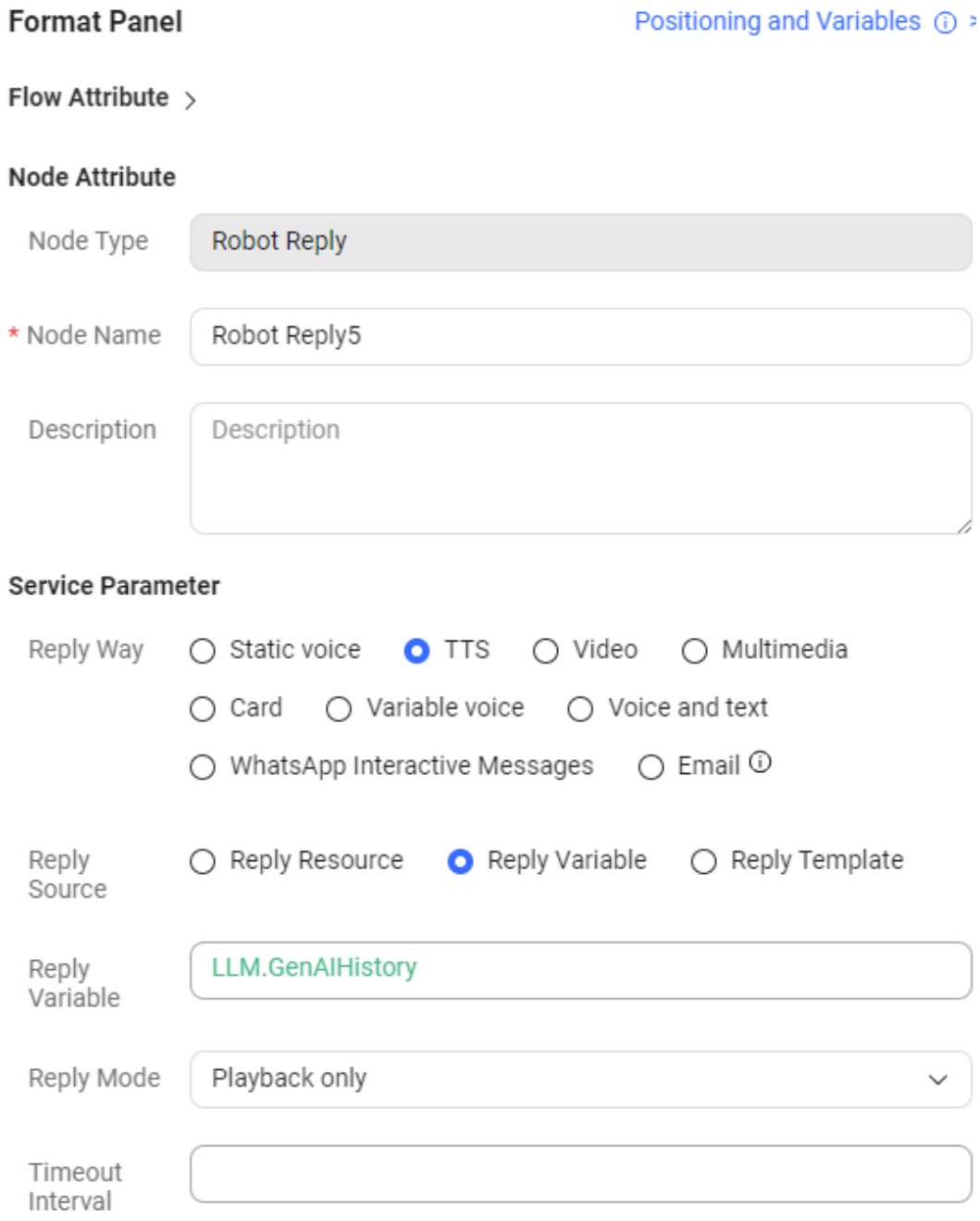


Figure 2-202 Parameters of the Robot Reply diagram element 4



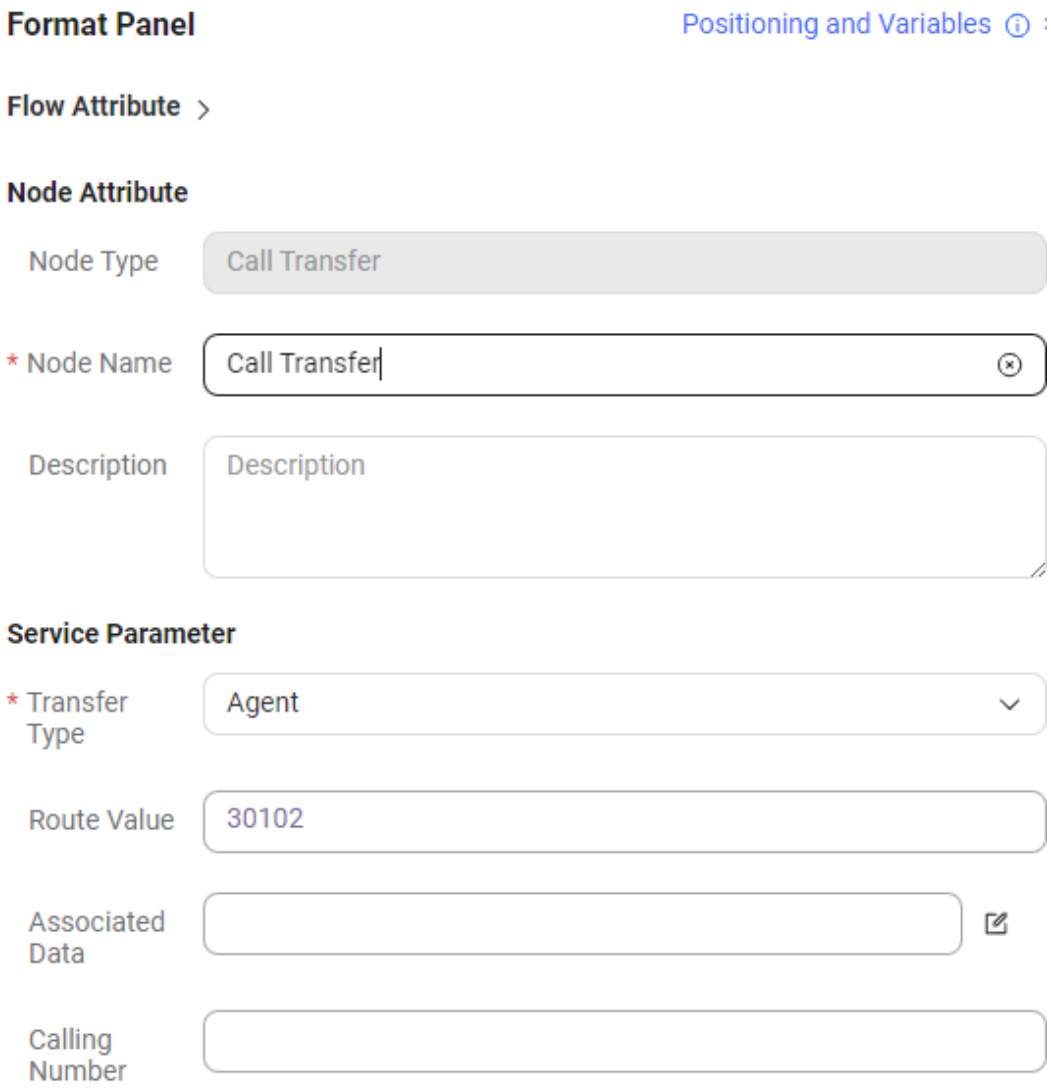
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Figure 2-203 Parameters of the Robot Reply diagram element 5



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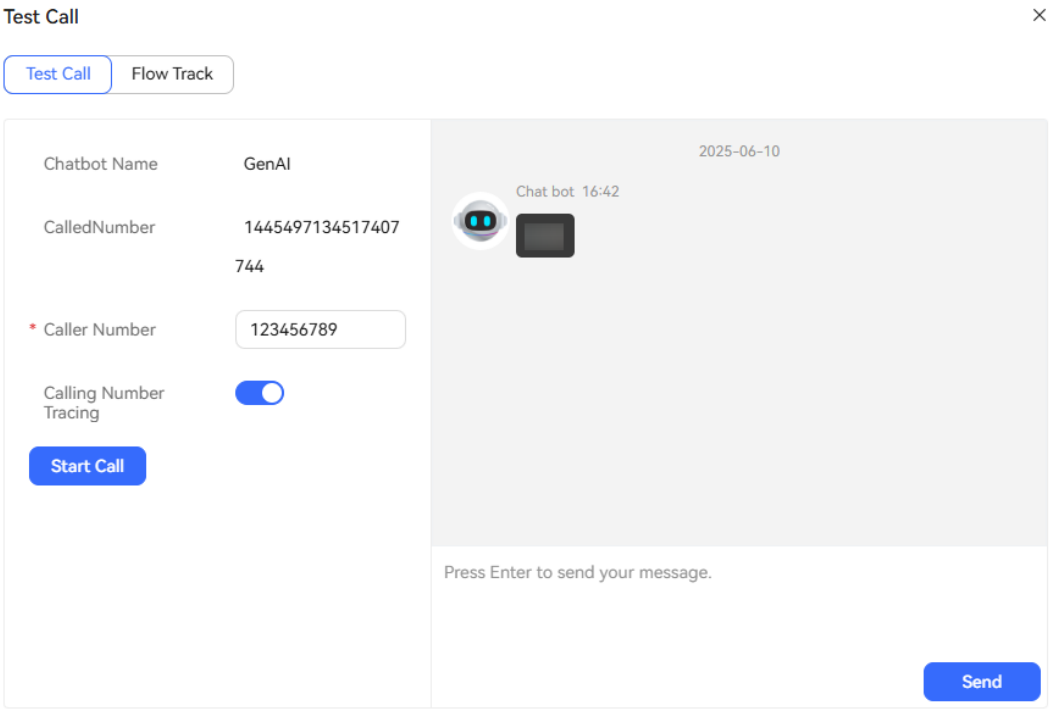
Figure 2-204 Parameters of the Call Transfer diagram element



4. Save and publish the flow.
5. Click **Test** to access the **Test Call** page.
6. Click **Start Call** to test the flow.

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Figure 2-205 Test Call page

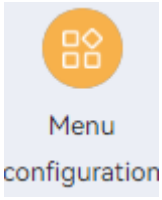


----End

Menu Configuration

This diagram element is used to prompt a customer to select a menu to enter the corresponding branch for processing a specific business.

Diagram Element

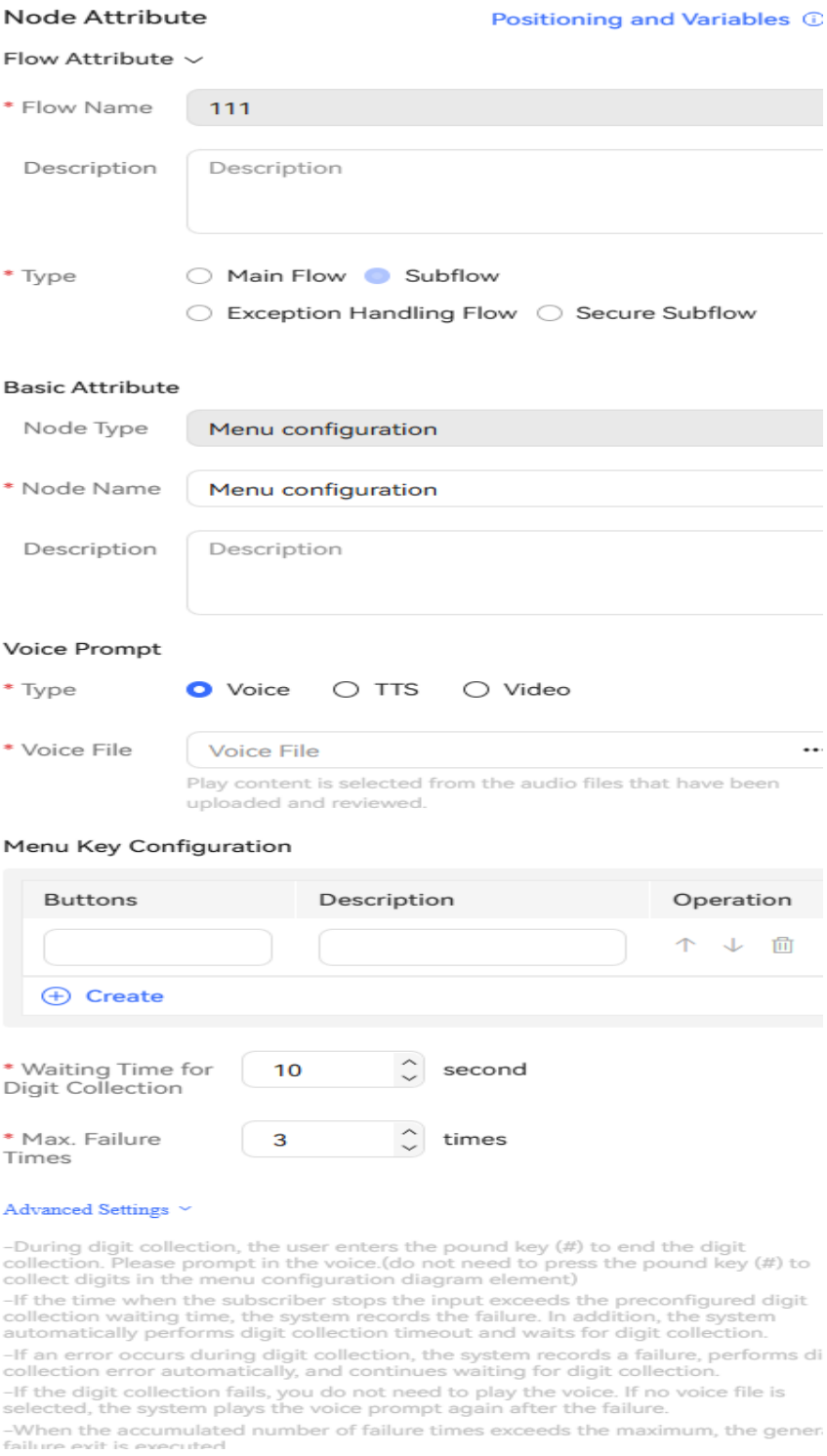


Parameter Description

The following figure shows the parameters of the **Menu configuration** diagram element.

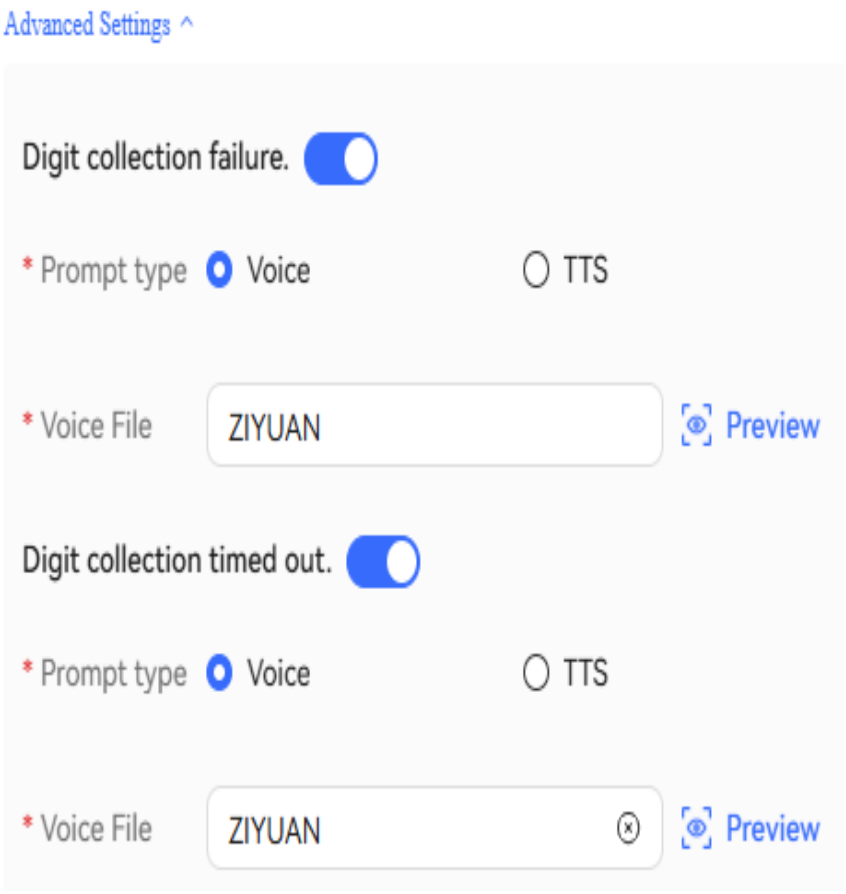
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Figure 2-206 Menu configuration



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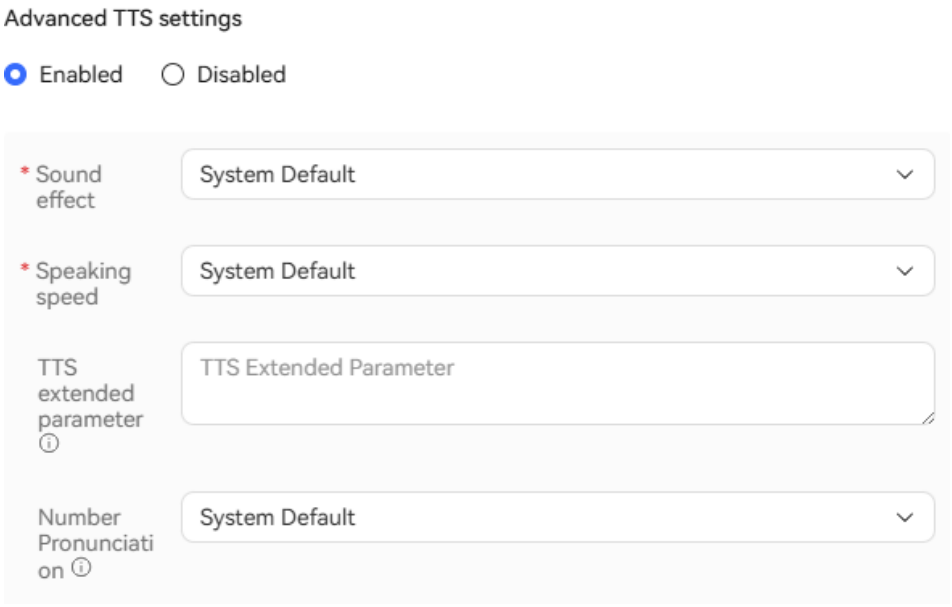
Figure 2-207 Advanced Settings



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice File**: Upload a WAV voice file. The UAP supports only the WAV voice files in the following format: 8 bit, 8000 Hz, 64 kbit/s, and mono.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

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  - **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
  - **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
  - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.
  - **Number Pronunciation**: This parameter is reserved.
- **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.
- **Menu Key Configuration**: service option provided in a flow. Each button maps a service option. You can click **Create** to add a service option. Multiple service options are allowed.
  - **Buttons**: number key or character button available on the keyboard or screen, such as **1**, **2**, **3**, *****, or **#**.
  - **Description**: service introduction of a key or button, which can be displayed in the menu. For example, if you set **Buttons** to **1** and **Description** to **Query member information**, a customer can press 1 to query member information.
  - **Operation**: You can click **New** to add a service option, click **Delete** to delete a service option, and click **Down** or **Up** to adjust the sequence of a service option.
- **Waiting Time for Digit Collection**: waiting time for receiving the external input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure,

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automatically executes **Digit collection timed out**, and continues to wait for the digit input.

- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.
  - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
  - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

- You can click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-96 Condition branch description

Condition Branch	Description	Usage
Timeout or other keys	Digit collection timeout or out-of-range key	Triggered when digit collection times out or the key is out of the range.

Typical Application Scenario

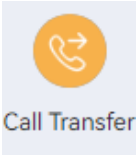
In a flow, multiple service options need to be provided for a customer to select. For example, a customer can press **1** to query member information, **2** to query traffic information, **3** to make complaints or provide suggestions, or **0** to obtain manual services.

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Call Transfer

This diagram element is used to transfer a call to an IVR flow (an existing key pressing flow) or an agent.

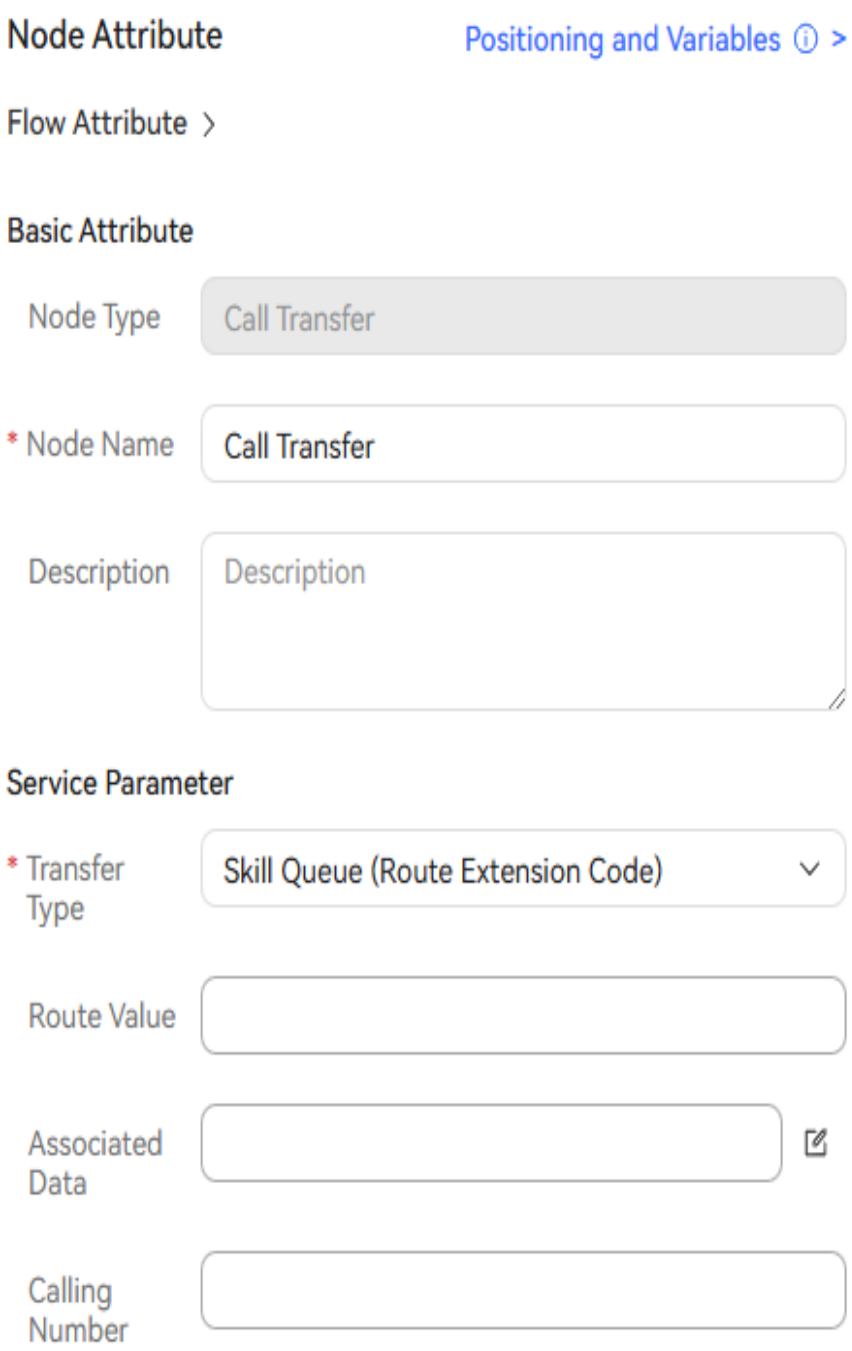
Diagram Element



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Parameter Description

Figure 2-208 Node Attribute

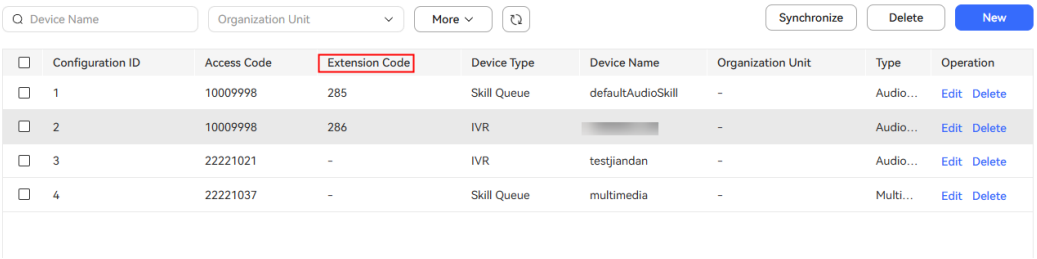


- **Node Name**: name of a node.
- **Description**: details of a node.
- **Transfer Type**: The options are as follows:
  - **Skill Queue (Route Extension Code)** (**1**)

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  - **IVR** (2)
  - **Skill Queue (Alias)** (3)
  - **Convert to user-defined conditional route** (10)
  - **Agent** (4)
  - **Third-party number** (5)
  - **Online Digital Assistant** (6)
  - **Audio and video familiar agents** (9)
  - **Multimedia familiar agents** (7)
  - **Skill queue (MAgent)** (8)
  - **Familiar agents message** (31)
  - **Skill queue message (Alias or access code)** (32)
  - **Message to an Agent** (33)
  - **Transfer to offline queue** (34)
- **Route Value**: Select a value from the drop-down list box.
  - If **Transfer Type** is set to **Skill Queue (Route Extension Code)**, set this parameter to the extension code for transferring to a skill queue. For this configuration, you need to ensure that the manual flow and the current flow are under the same system access code. The call is transferred to the manual skill queue through the extension code configured on the **Called Party** page.

    Figure 2-209 Extension Code

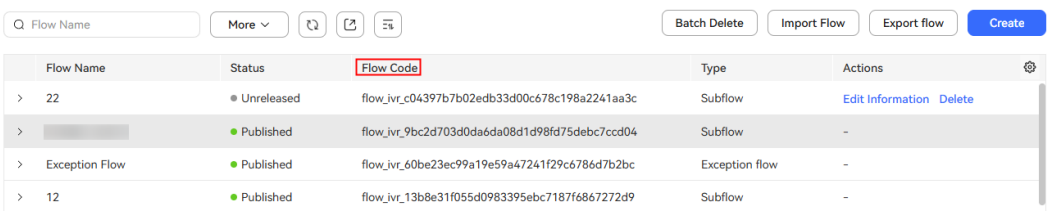
    

  - If **Transfer Type** is set to **IVR**, set this parameter to an IVR robot access code.

    The following figure shows robot access codes in the AICC integrated deployment mode.

    CAUTION

    Currently, multimedia channels do not support the **IVR** type.

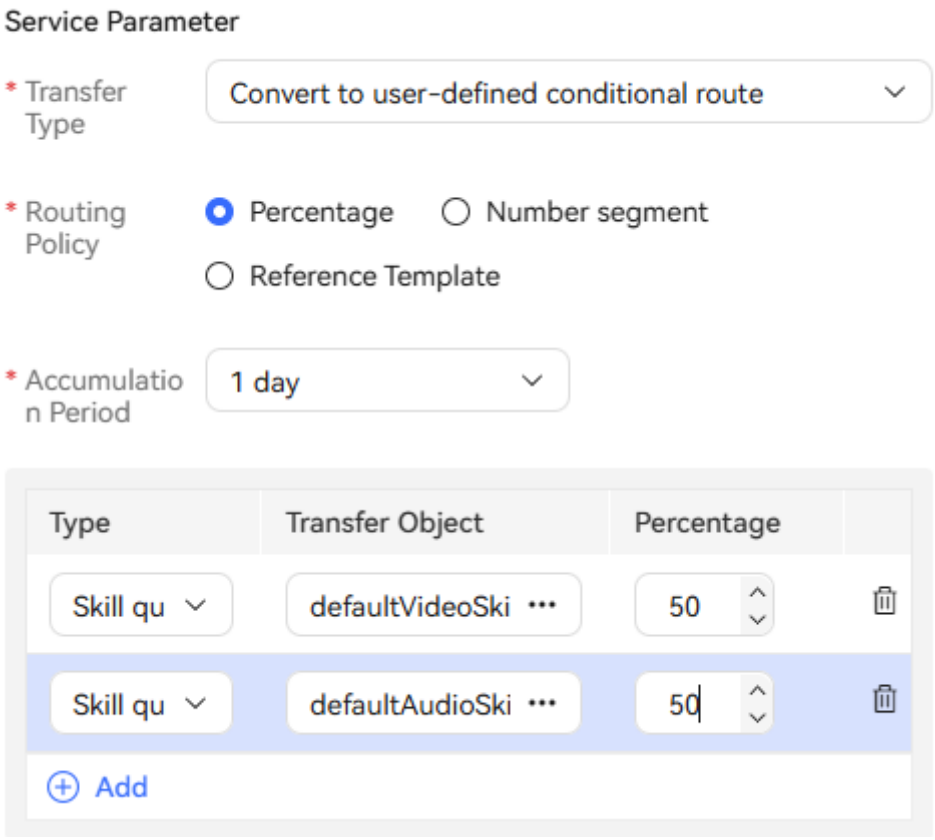
    

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  - If **Transfer Type** is set to **Skill Queue (Alias)**, set **Route Value** to the name of the skill queue where the agent to whom the call is transferred resides, for example, **Agent Group 1**. You can choose **Configuration Center** > **Employee Center** > **Skill** to view the skill queue name.
  - If **Transfer Type** is set to **Convert to user-defined conditional route**, set the corresponding routing policy.
  - If **Transfer Type** is set to **Agent**, set this parameter to the platform agent ID of the agent to whom the call is transferred.
  - If **Transfer Type** is set to **Third-party number**, set this parameter to the third-party number.
  - If **Transfer Type** is set to **Online Digital Assistant**, set this parameter to the flow route code agreed with the third-party intelligent system.
  - If **Transfer Type** is set to **Audio and video familiar agents**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 2-99**.
  - If **Transfer Type** is set to **Multimedia familiar agents**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 2-99**.
  - If **Transfer Type** is set to **Skill queue (MAgent)**, set this parameter to the name of the skill queue corresponding to the agent to whom calls are transferred.
  - If **Transfer Type** is set to **Familiar agents message**, you do not need to set **Route Value**, but you need to configure the call-associated data by referring to **Table 2-99**.
  - If **Transfer Type** is set to **Skill queue message (Alias or access code)**, set this parameter to the name or access code of the skill queue where the agent to whom the call is transferred resides.
  - If **Transfer Type** is set to **Message to an Agent**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.
- **Routing Policy**: This parameter needs to be set when **Transfer Type** is set to **Convert to user-defined conditional route**. The options are **Percentage**, **Number segment**, and **Reference Template**.

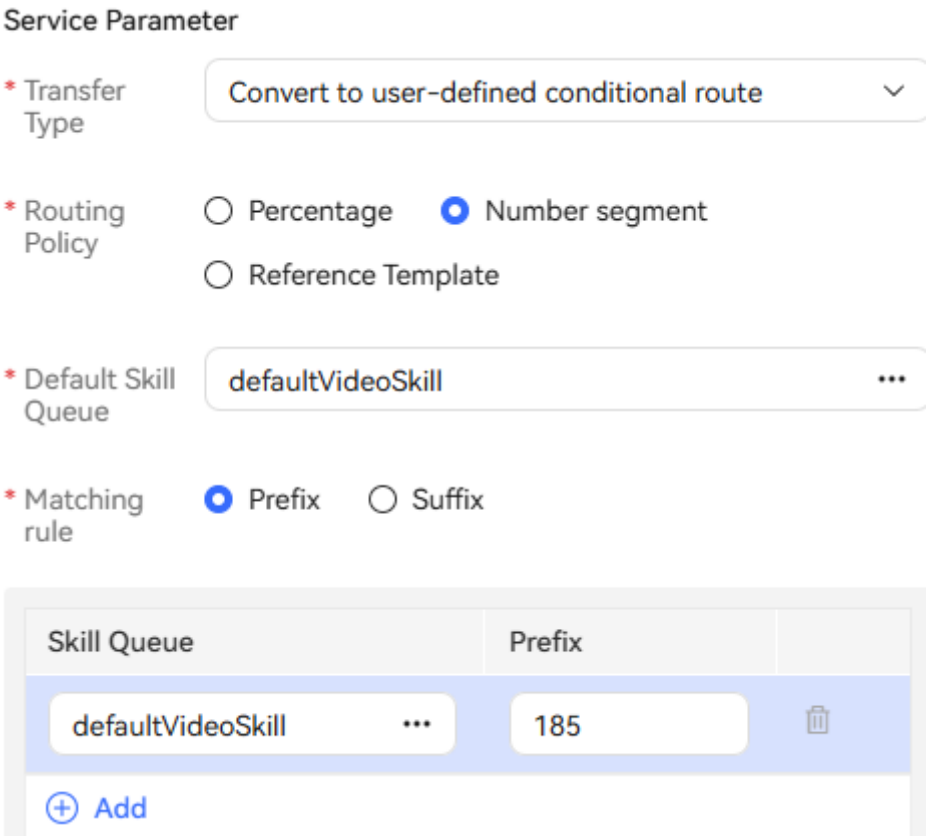
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Figure 2-210 Setting Routing Policy to Percentage



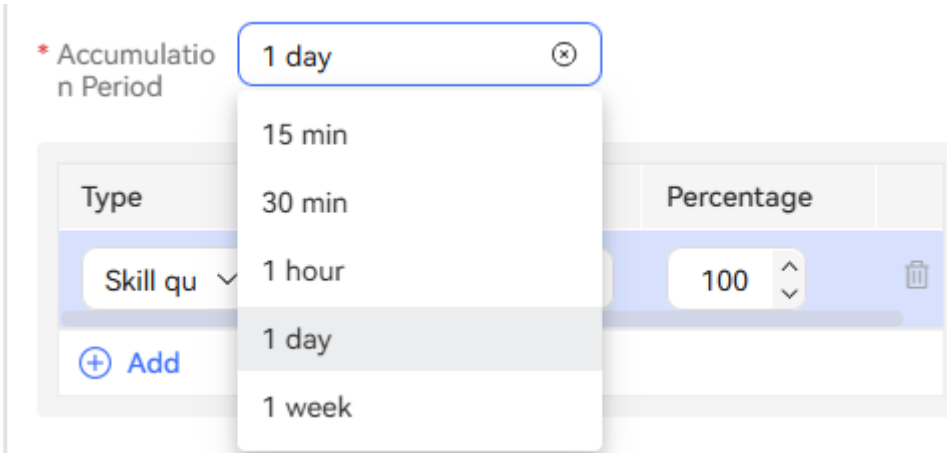
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Figure 2-211 Setting Routing Policy to Number segment



- **Accumulation Period**: When **Transfer Type** is set to **Convert to user-defined conditional route** and **Routing Policy** is set to **Percentage**, this parameter is displayed.

Figure 2-212 Accumulation Period area



- **Percentage**: When **Routing Policy** is set to **Percentage**, you need to configure multiple skill queues and their routing percentages. During call transfer, the system dynamically assigns calls to skill queues based on the value of **Percentage**.

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Table 2-97 GUI elements for the transfer object percentage configuration

Element/ Component	Type	Description	Value Range	Triggering Event	Remarks
Type	Drop-down list	Select the type of the transfer object.	• **Skill queue** • **Robots**	Click	Multimedia channels do not support the **Robots** type.
Transfer Object	Dialog box	Select a transfer object based on the type. The skill queues or robots to which calls are transferred are displayed.	• Skill queues • All robots except those in abnormal flows	Click	• A skill queue cannot be selected repeatedly. • A robot cannot be selected repeatedly.
Percentage	Text box	Percentage of calls transferred to a skill queue during transferred-to skill queue assignment.	1 to 100	Enter	The total percentage must be 100.
	Button	Delete a percentage setting.	-	Click	-
	Button	Add a percentage setting.	-	Click	A maximum of 20 skill queue percentages can be added.

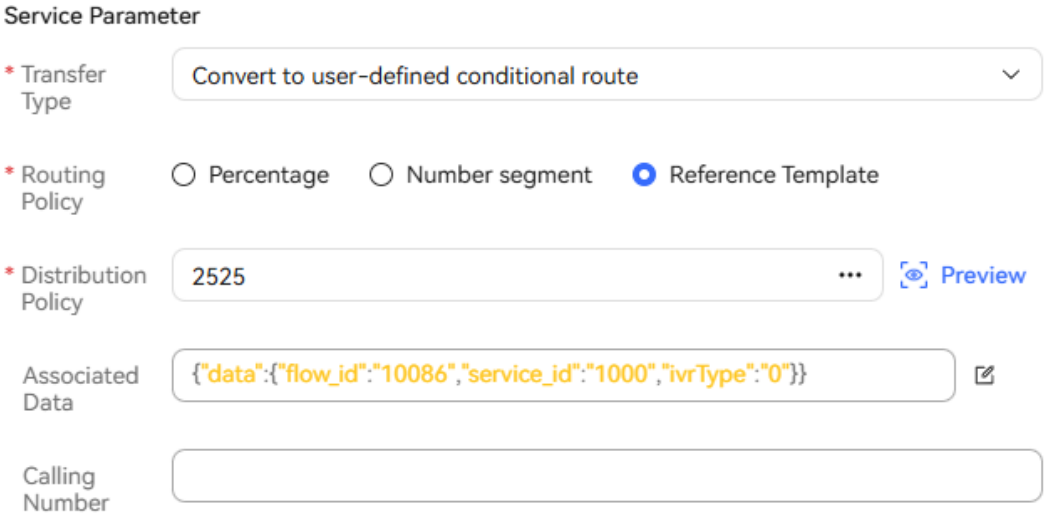
- **Default Skill Queue**: When **Routing Policy** is set to **Number segment**, you need to select a skill queue as the default skill queue to which calls are transferred when no skill queue is matched based on the number segment matching rule configuration.
- **Matching rule**: When **Routing Policy** is set to **Number segment**, you need to select a matching rule. The options are **Prefix** and **Suffix**.
- Number segment matching rule configuration: When **Routing Policy** is set to **Number segment**, you can select different skill queues and configure different prefixes or suffixes for them. During call transfer, the system transfers calls whose calling numbers exactly match the configured prefixes or suffixes to the corresponding skill queues.

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Table 2-98 GUI elements for the number segment matching rule configuration

Element/ Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Dialog box	Skill queue to which calls are transferred.	-	Select	• A skill queue cannot be selected repeatedly.
Prefix/ Suffix	Text box	Prefix/Suffix used for calling number matching during call transfer to a skill queue.	-	-	-
	Button	Delete a number segment setting.	-	Click	-
	Button	Add a number segment setting.	-	Click	A maximum of 20 number segments can be added.

Figure 2-213 Setting Routing Policy to Reference Template



- If **Routing Policy** is set to **Reference Template**, you can configure the transfer policies under **Resource** > **Distribution Policy**.
- **Associated Data**: The call-associated data can be in JSON format (flow variables and global variables are supported). Manually enter a value, or click the edit icon and add information in the **Set TransferData** dialog box.

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Figure 2-214 Set TransferData (transfer to a skill queue, including manual and multimedia skill queues)

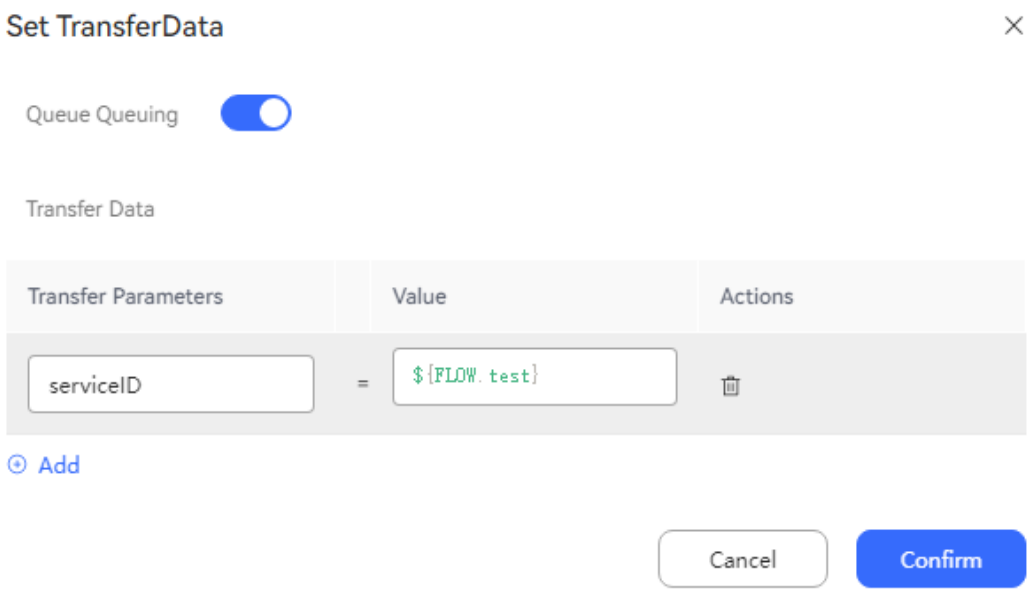
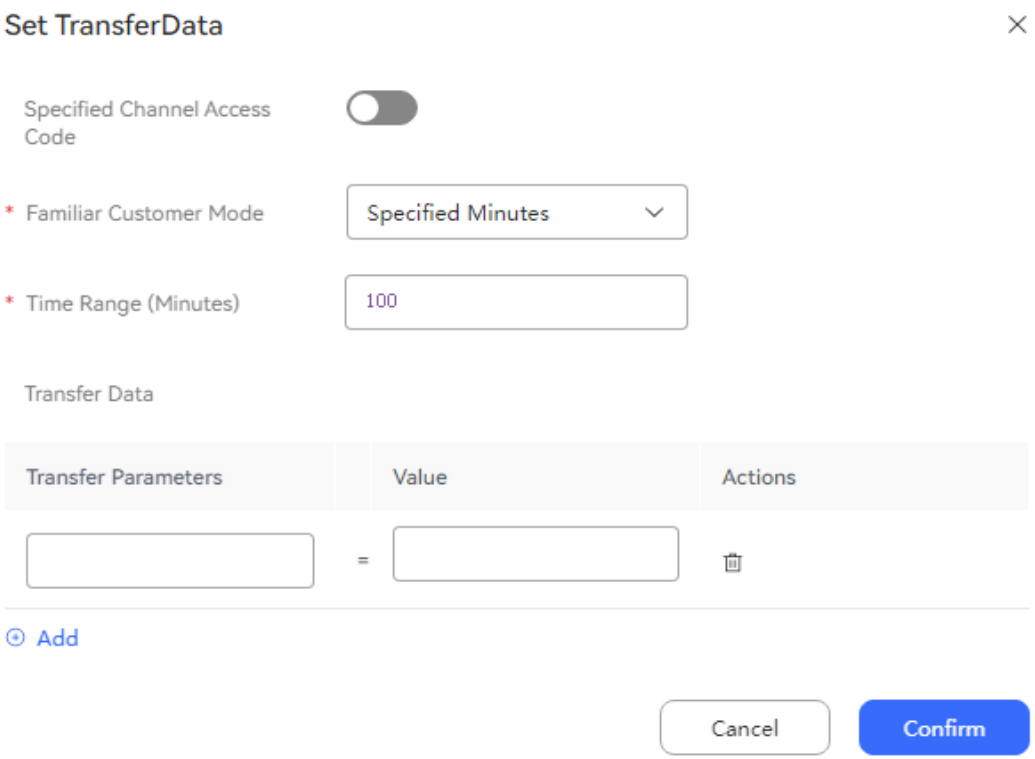
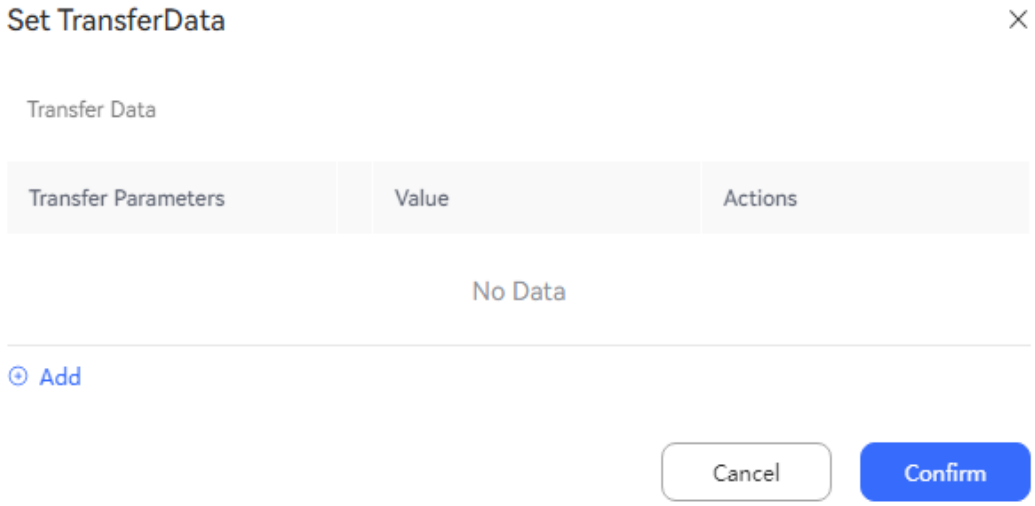


Figure 2-215 Set TransferData (transfer to the last agent, including manual and multimedia agents)



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Figure 2-216 Set TransferData (transfer to others)



The format of the generated complete JSON data is as follows:

```
{
  "wait": "Y",
  "isSpecifyAccessCode": "true",
  "type": "1",
  "time": "30",
  "starttime": ""
  "data": {
    "serviceId": ${FLOW.test},
    "yy": "bbb"
  },
}
```

Table 2-99 Call-associated data parameters

Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Queue Queuing	wait	Switch	Whether a call can wait in a skill queue until the session times out when the call is transferred to the skill queue.	• **Y** • **N**	Click	This parameter can be set only when a call is transferred to a skill queue, including manual and multimedia skill queues.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Specified Channel Access Code	isSpecifyAccessCode	Switch	Whether to transfer to the current channel when a call is transferred to the last agent.	• **true** • **false**	Click	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Familiar Customer Mode	type	Drop-down list	Mode of selecting the last agent.	**1**: agent within the specified minutes **2**: agent within the specified time range **3**: agent on the current day	Select	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Transfer Data	data	Table	Call-associated data that needs to be carried during call transfer.	-	-	-

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Transfer Parameters	Customized key	Textbox	Key in call-associated data.	-	Enter	• To obtain the customer type field, set the transferred parameter to **customerEntityName**. • To use a visualized service guidance flow, set the transferred parameter to **serviceRequest**.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Value	-	Textbox	Value of the key in call-associated data.	-	Enter	• Variables can be used, for example, **${FLOW.variable}**. • To obtain the customer type field, set the value to **account** or **contact**. • To use a visualized service guidance flow, set the value to the name of a visualized flow configured on the **Configuration Center** > **Workbench Configuration** > **Service Guidance** page, that is, the name of the flow created in **Step 7**.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Actions	-	Button	Delete a line of call-associated data.	-	Click	-
Add	-	Button	Add a line of call-associated data.	-	Click	-
Cancel	-	Button	Cancel the editing.	-	Click	-
Confirm	-	Button	Fill back the call-associated data in JSON format.	-	Click	-

- **Calling Number**
  - When **Transfer Type** is set to **Third-party number** (**5**), the number set here is used as the calling number.
  - When **Transfer Type** is set to **Audio and video familiar customers** (**9**), the variable set here is used as the calling number of the customer. The default value is **SYS.callingNumber**.
- **Enable Recording**: This check box is displayed only when **Transfer Type** is set to **Third-party number** (**5**). You can select this check box to enable recording during call transfer from an intelligent IVR to a third-party number. After you select this check box, set the following parameters:
  - **Recording File Name**: Enter a flow variable, for example, **FLOW.recordPath**.
  - **Recording Service Node ID**: Enter a flow variable, for example, **FLOW.serviceNo**.

    NOTE

    The recording files in the intelligent IVR can be played and downloaded on the **Contact History** > **Transfer Record** page.

Table 2-100 Parameters for setting the transfer type to offline queue

Element/Component	Description
Route Value	Customer number, which is optional. The value can be a constant or variable. If the value is empty, the customer number is used.

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Element/Component	Description
Queue skill identifier	Mandatory. Constants or variables are supported.
Offline queue timeout duration (minutes)	The value ranges from 1 to 720. The default value is **30**. This parameter is optional. Constants or variables are supported.
Offline call data	Offline queuing time (UTC), for example, **{"offlineQueueDate": "20240211111513"}**.

Condition Branch Description

Table 2-101 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Transfer success	Triggered when a call is transferred successfully.
FAILED	Transfer failure	Triggered when a call fails to be transferred. After this branch is triggered, the flow is not interrupted and does not automatically go to the exception handling flow.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

The **Call Transfer** diagram element is used when a call needs to be transferred to another destination device in the AICC, for example, to a common IVR self-service flow or an agent.

Click the diagram element or drag it to the canvas, and set **Transfer Type** and **Route Value** as prompted.

Typical Application Scenario

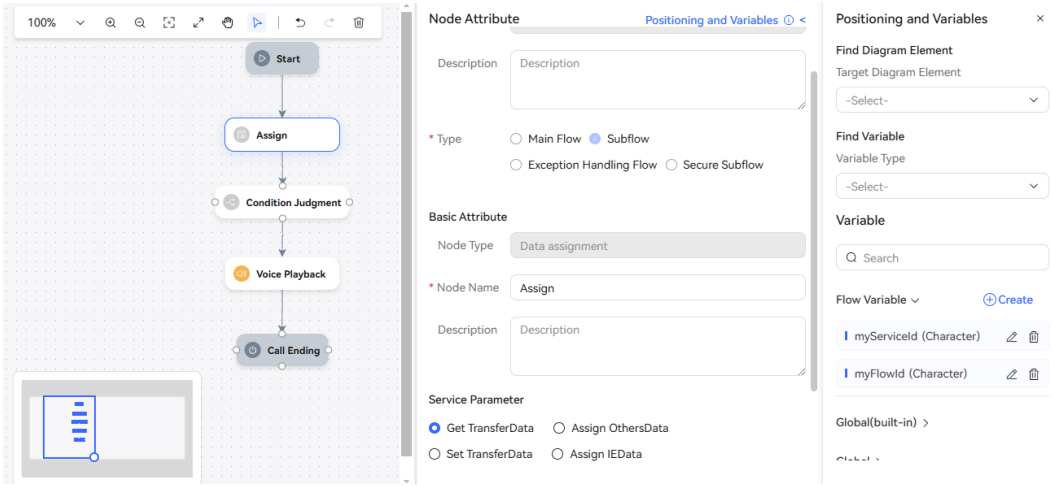
The following describes how to use the **Call Transfer** diagram element to transfer a call from an intelligent IVR flow to a common IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC.

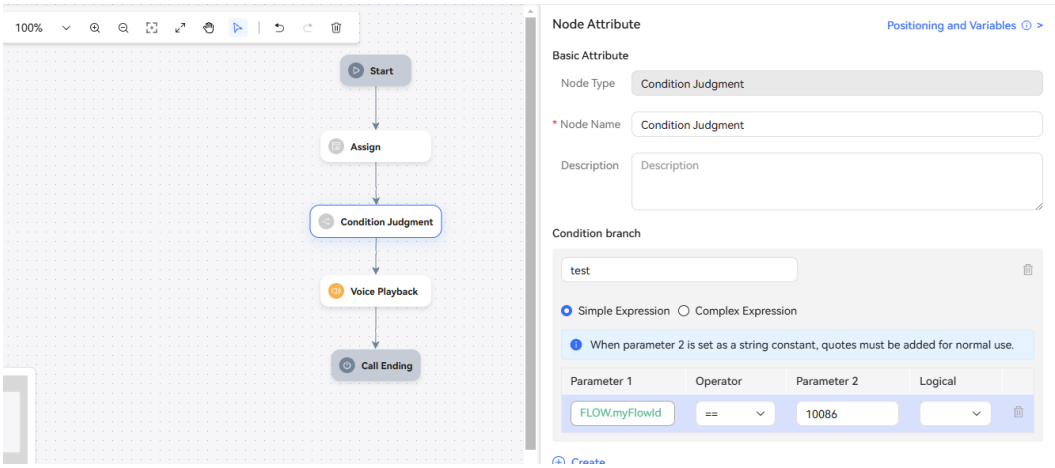
Step 2 Configure a common IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a common IVR flow.
2. Add flow variables, as shown in the following figure, and configure an **Assign** diagram element.

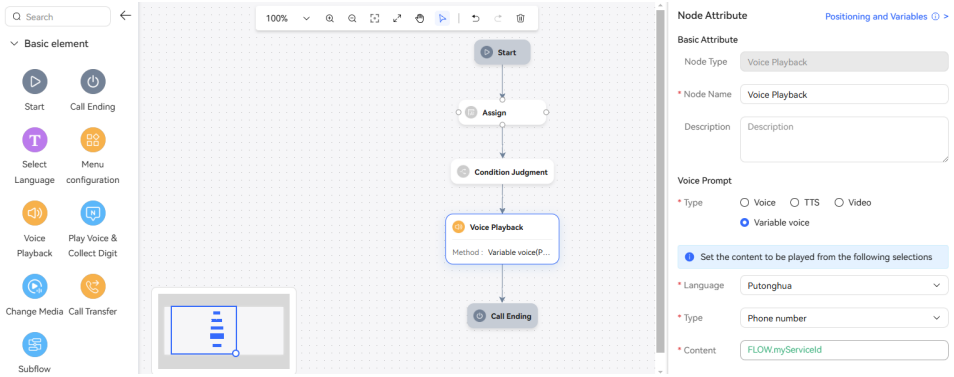
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3. Configure a **Condition Judgment** diagram element for conditional judgment based on the call-associated data.



4. Configure a **Voice Playback** diagram element for playing a variable voice.

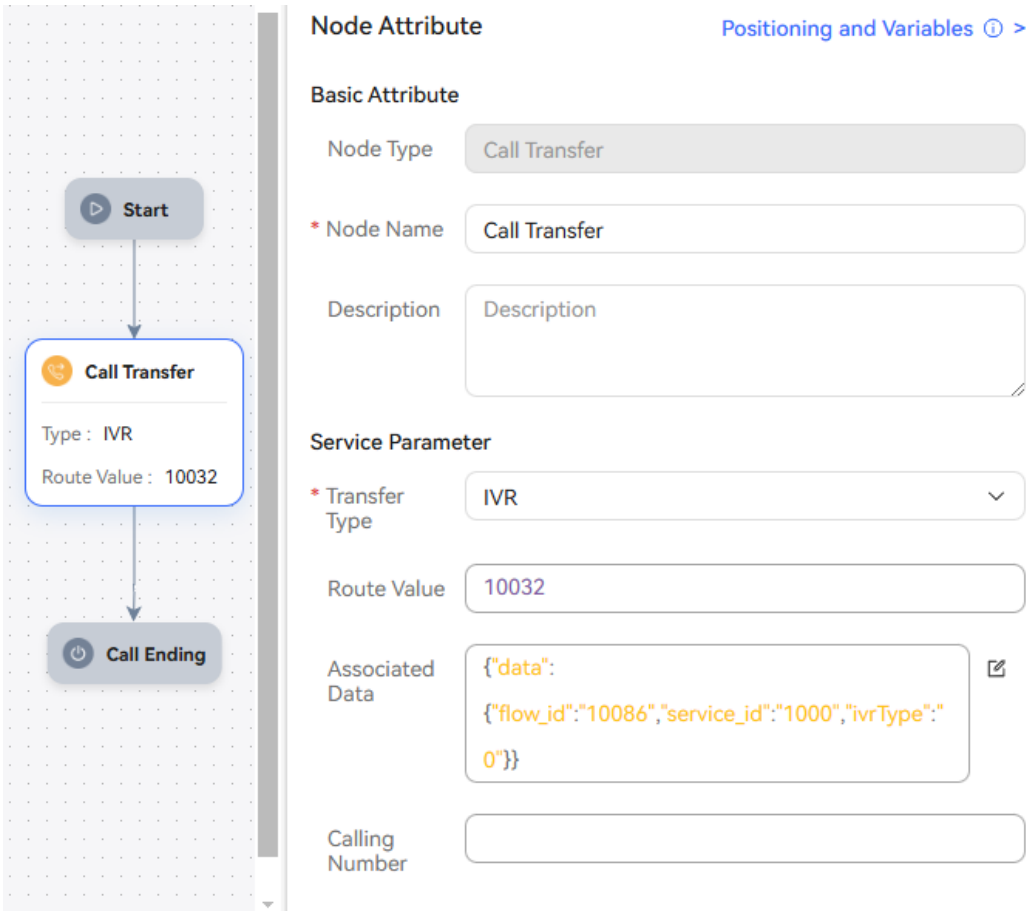


5. Save and publish the flow.

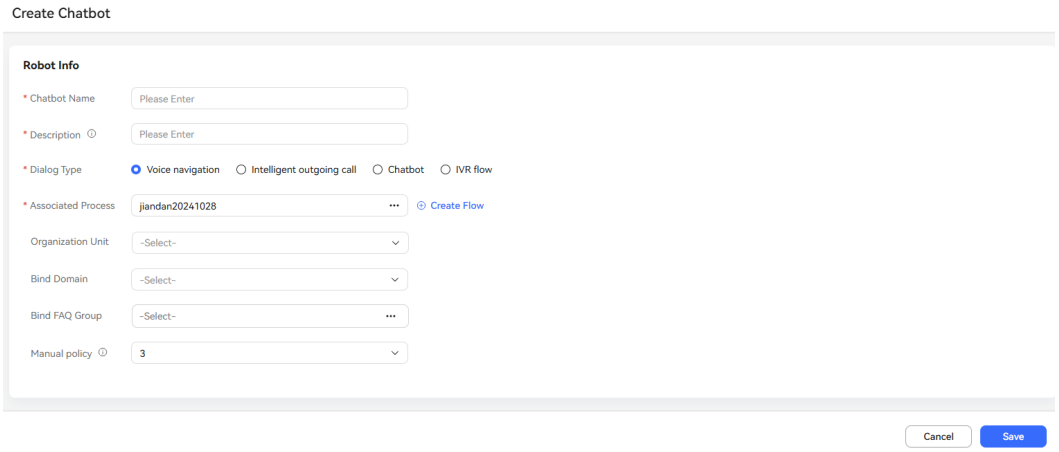
Step 3 Configure an intelligent IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, add a **Call Transfer** diagram element, and set service parameters of the diagram element, as shown in the following figure.

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3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 3**.

Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page. If "10000" is heard, the call-associated data (**service_id**: **10000**) transferred by the intelligent IVR is successfully obtained.

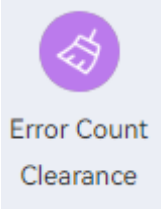
----End

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Error Count Clearance

This diagram element is used to clear previous error records when a customer needs to be transferred to another flow due to a number of intention matching errors.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Condition Branch Description

Table 2-102 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Error Count Clearance** diagram element is used when the number of semantic recognition and key pressing errors do not need to be accumulated.

Click the diagram element or drag it to the canvas.

Typical Application Scenario

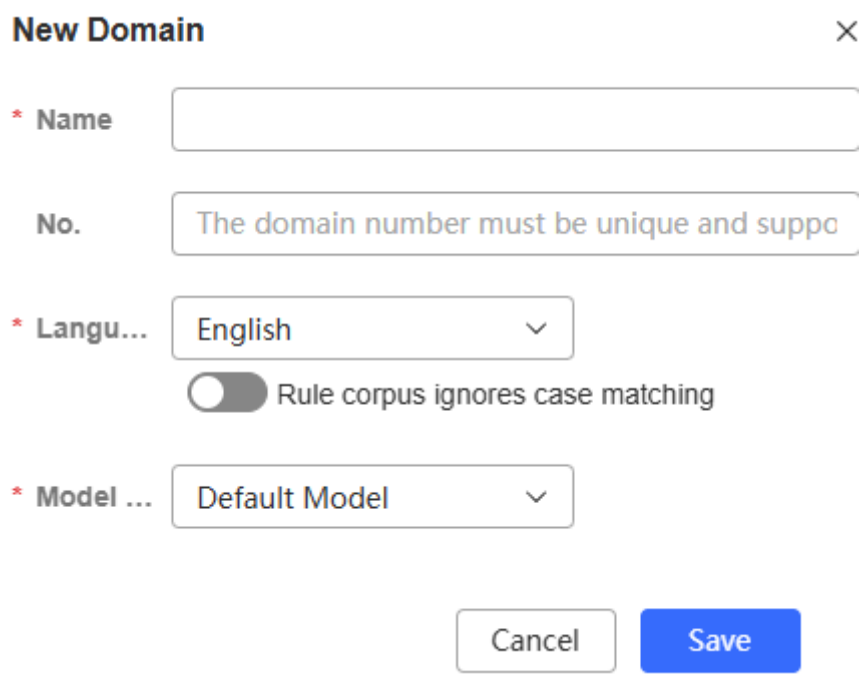
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

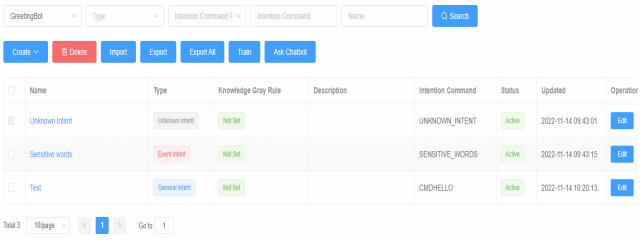
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Figure 2-217 Creating a domain



2. Click the name of the new domain. The **Intention Management** page is displayed.
3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-218 Creating an intention



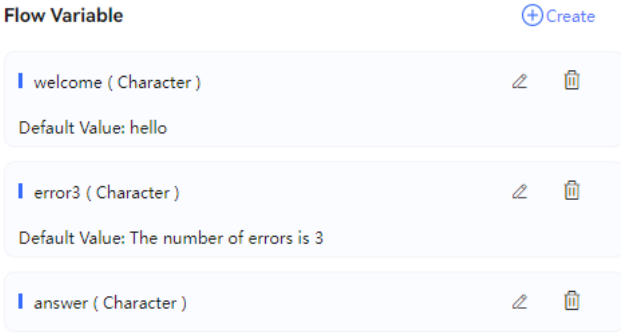
4. Click **Active** corresponding to the new intention to activate it.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

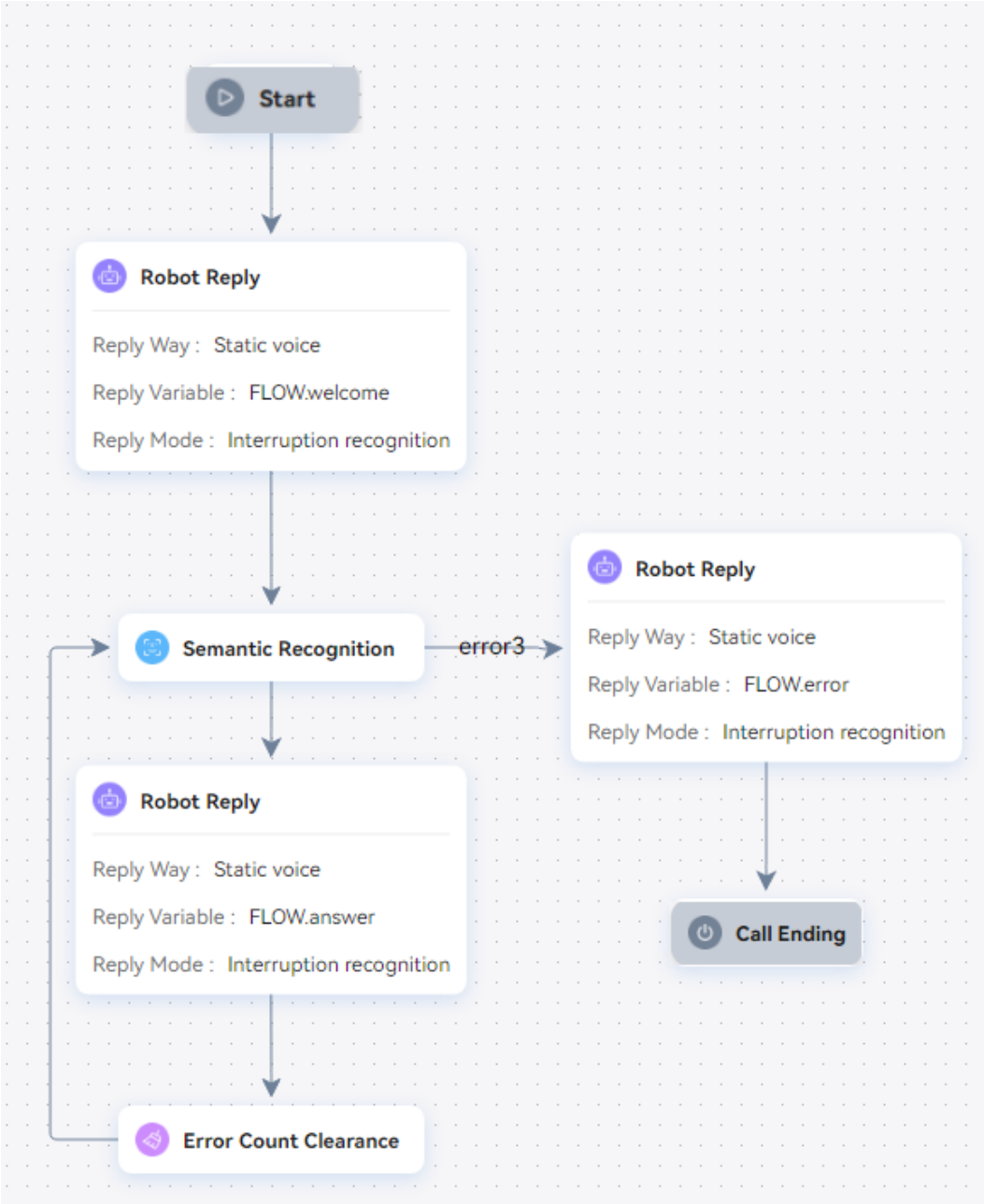
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Figure 2-219 Flow variables to be added



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Figure 2-220 Flow orchestration example (Semantic Recognition diagram element)



- Use the reply variable **FLOW.answer** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to send the reply to the matched intention.
- Use the reply variable **FLOW.error3** for the **Robot Reply** diagram element below the **error3** condition branch of the **Semantic Recognition** diagram element to send the reply "The number of errors is 3" for three semantic recognition errors.

3. Save and publish the flow.

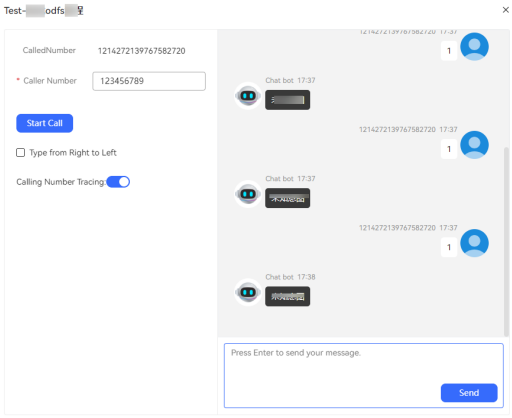
Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

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Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. Enter incorrect corpuses continuously. If the robot keeps replying "Unknown intent" and does not reply "The number of errors is 3" for more than three semantic recognition errors, the **Error Count Clearance** diagram element takes effect in the flow.

Figure 2-221 Testing the robot

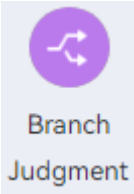


----End

Branch Judgment

This diagram element is used to judge branches.

Diagram Element

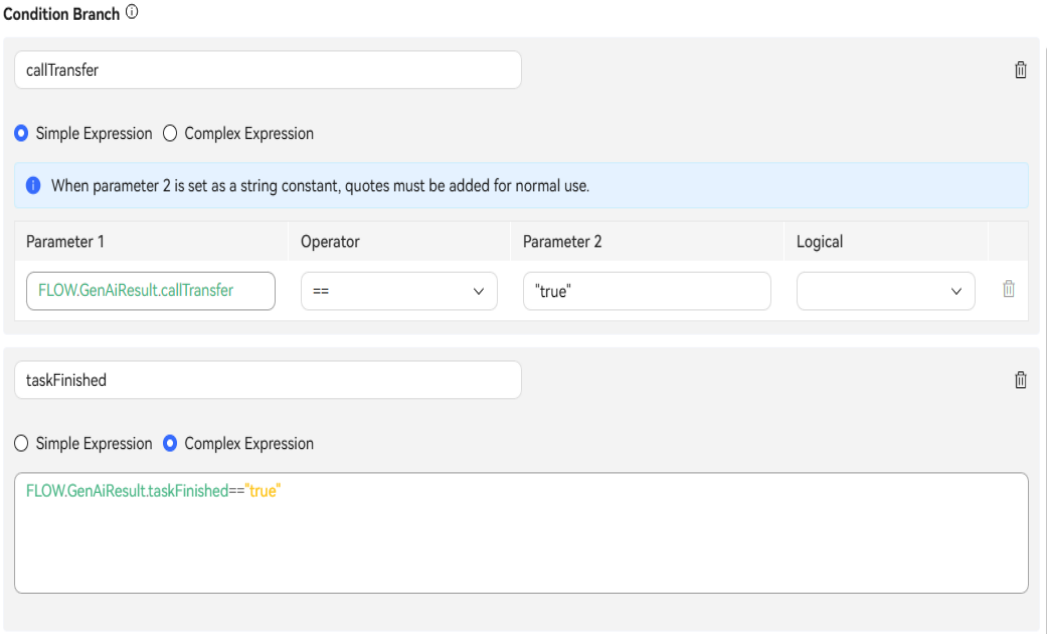


Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Condition Name**: Enter a condition name.
- Conditional expressions: define the branches of the exit of the current diagram element. The options are **Simple Expression** and **Complex Expression**.

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Figure 2-222 Simple Expression and Complex Expression



- Enter a conditional expression in the text box. The expression can contain the parameter name, value, and complex operation. After a series of operations, the complex expression returns a value of the Boolean type, for example, **true** or **false**.
  - The formats of flow variables, system variables, and global variables are as follows: **FLOW.***Parameter name*, **SYS.***Parameter name*, and **GLOBAL.***Parameter name*.
  - The priorities of operators in a complex expression are as follows: brackets > arithmetic operators > relational operators > logical operators. Except for the arithmetic operators *****, **/**, and **%**, which have higher priorities than **+** and **-**, the priorities of other operators at the same level are the same. The symbols of each type of operators are as follows:

    Parentheses: **()**

    Arithmetic operator: *****, **/**, **%**, **+**, and **–** (The priorities of operators *****, **/**, and **%** are higher than those of operators **+** and **-**.)

    Relational operators: **>**, **>=**, **<**, **<=**, **==**, and **!=**

    Logical operators: **&&** and **||**

    In addition to basic logical expressions, functions based on the mvel2 expression are also supported. For example, the flow variable **FLOW.testvalue** is set to **abc**, and the **contains** function is used to determine whether the **d** character is contained. If the determination result is **false**, the branch is not executed.

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Similarly, simple functions may be used as follows:

FLOW.testvalue.substring(0,1)=='d' checks whether the first character is **d**.

FLOW.testvalue.endsWith('c') checks whether the value ends with **c**.

If other functions are required, develop them under the guidance of Huawei engineers.

- You can click **Create** to add multiple conditions, which can map different branches.

  A maximum of 20 condition branches are allowed.

- Click  to delete a condition.
- Click **Save** to save all parameters set on the current page.
- **Branch Condition**: Click the connection line between a branch judgment diagram element and a branch diagram element, and select the condition to enter the branch from the drop-down list. If no condition is selected, the branch is used as a default branch, which is executed when none of the conditions are met.

Condition Branch Description

Table 2-103 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Condition Judgment** diagram element is used when branch flows need to be executed based on different conditions. It makes the flow logic clearer.

Click the diagram element or drag it to the canvas, and click Create under **Condition Branch** to add a conditional expression.

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Typical Application Scenario

For details about how to use the **Branch Judgment** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Key Recognition** diagram element involves the **Branch Judgment** diagram element.

Logic Loop

This diagram element is used to perform an operation on an object repeatedly until a certain condition is met.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Counter**: flow variable that stores the number of elements in a list.
- **Loops**: objects to be traversed. Generally, the object list is the value obtained by the previous node, for example, the customer list obtained by a stored procedure.
- **Loop Object**: flow variable that stores the value of the object obtained each time when the object list is traversed.

In addition to four variables, the **Logic Loop** diagram element provides two default branches: **inLoop** and **outLoop**. The **inLoop** branch executes the logic when a loop is entered, that is, some actions during object list traversal. The **outLoop** branch executes the actions after object list traversal.

Condition Branch Description

Table 2-104 Condition branch description

Condition Branch	Description	Usage
inLoop	Loop list traversing	Triggered when the loop list traversing is not completed.
outLoop	Completed loop list traversing	Triggered when the loop list traversing is completed.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Using the Diagram Element

The **Logic Loop** diagram element is used when an operation needs to be performed repeatedly until a certain condition is met.

Click the diagram element or drag it to the canvas, and set loop conditions and objects.

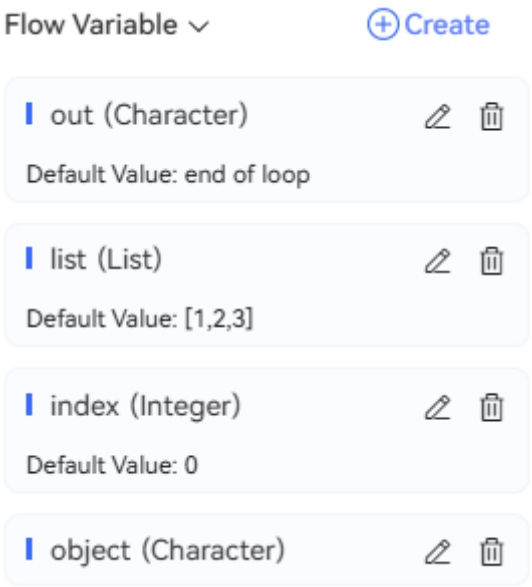
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

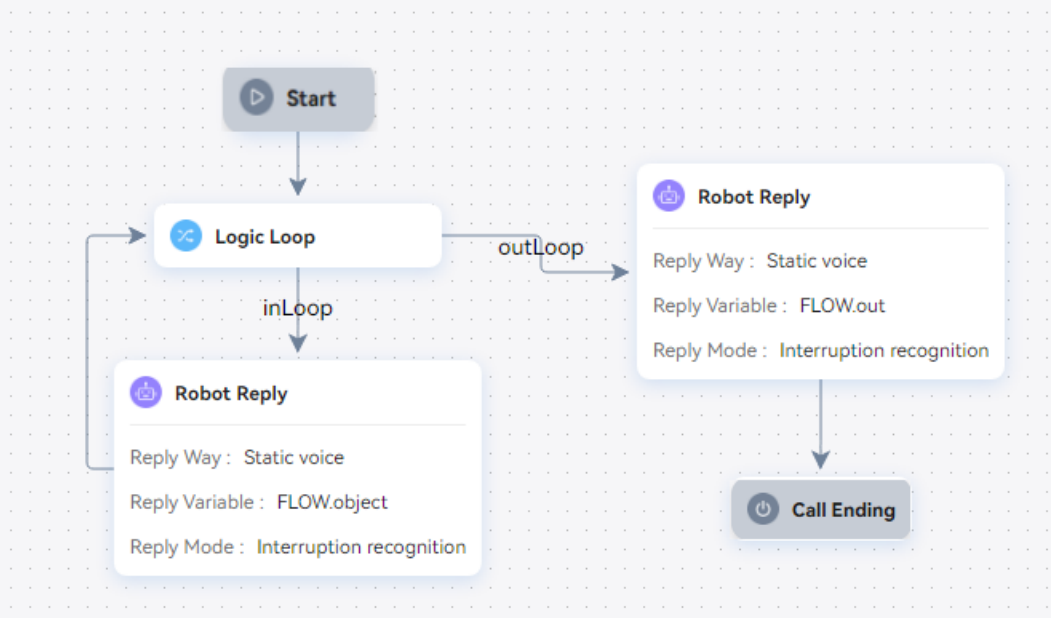
1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-223 Flow variables to be added



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Figure 2-224 Flow orchestration example (Logic Loop diagram element)



- The **Robot Reply** diagram element of the **inLoop** condition branch traverses **FLOW.list** and outputs the values in **FLOW.list**.
- The **Robot Reply** diagram element of the **outLoop** condition branch outputs **FLOW.out**, indicating that the loop ends.

3. Save and publish the flow.

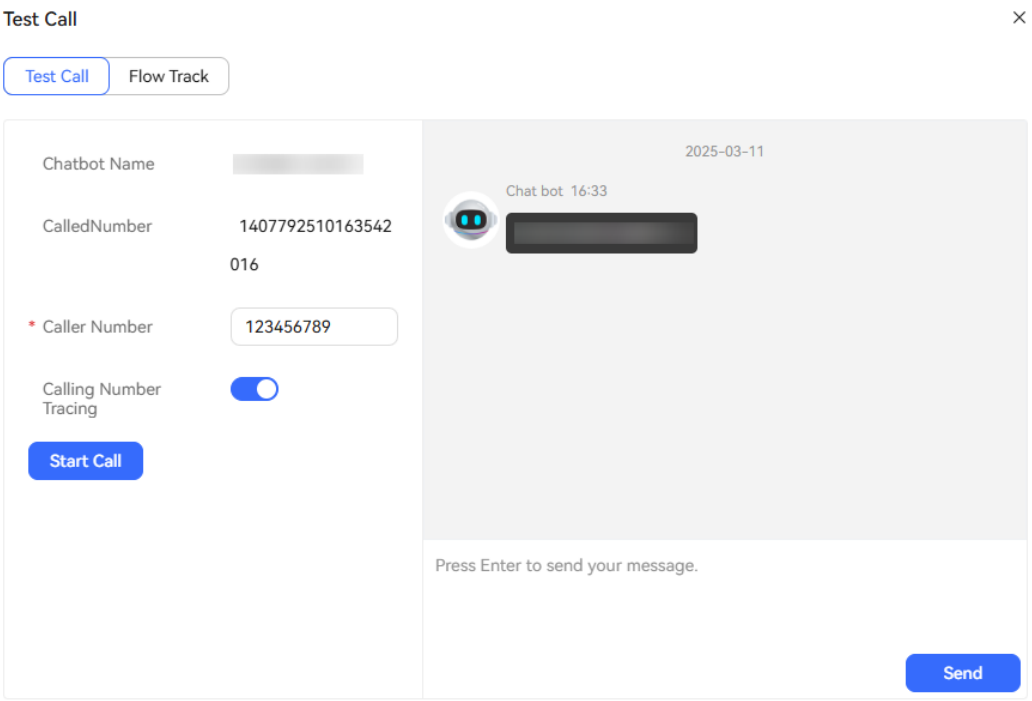
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot outputs results properly, the configuration is successful.

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Figure 2-225 Testing the robot

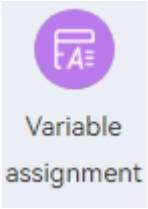


----End

Variable Assignment

Use this diagram element by referring to the **JSON Data Invoking** diagram element. This diagram element is used to obtain call-associated data and assign values.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.

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NOTE

In a security subflow scenario:

1. When the variable value is **IVRREQUEST.input**, the variable name must be a variable that is saved after being encrypted.
2. If the variable value contains a variable that is saved after being encrypted and the variable name is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

NOTE

In a security subflow scenario:

1. If the method parameter contains a variable that is saved after being encrypted and the return value is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

Condition Branch Description

Table 2-105 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

(1) When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

(2) Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

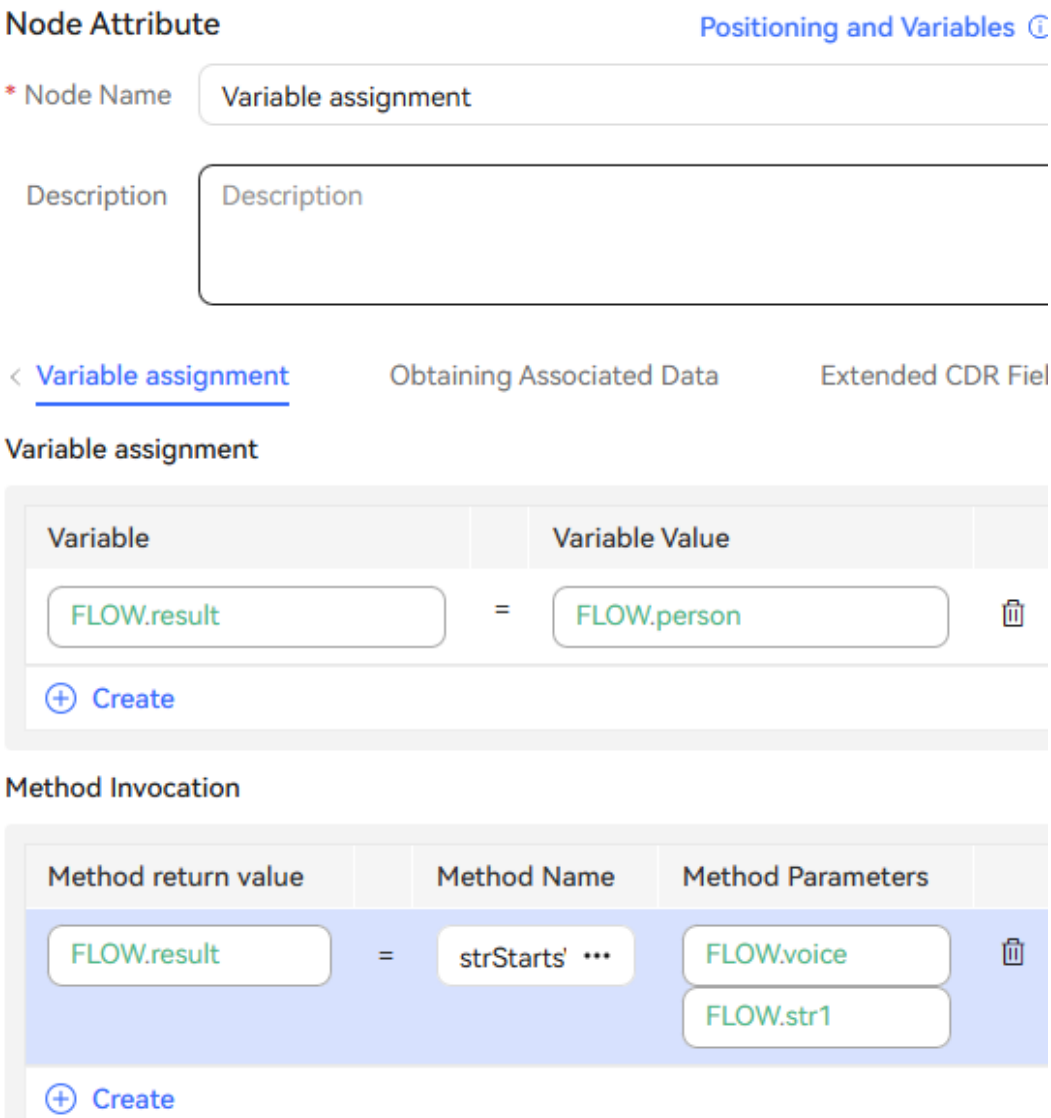
A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and

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play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Assigning Values to Variables

During data value assignment, in addition to string and integer data, expression calculation is also supported. Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**. Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when a slash (/) is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals. String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation. Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua+FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**



Scenario 2: Obtaining Call-associated Data

Step 1 Orchestrate a flow.

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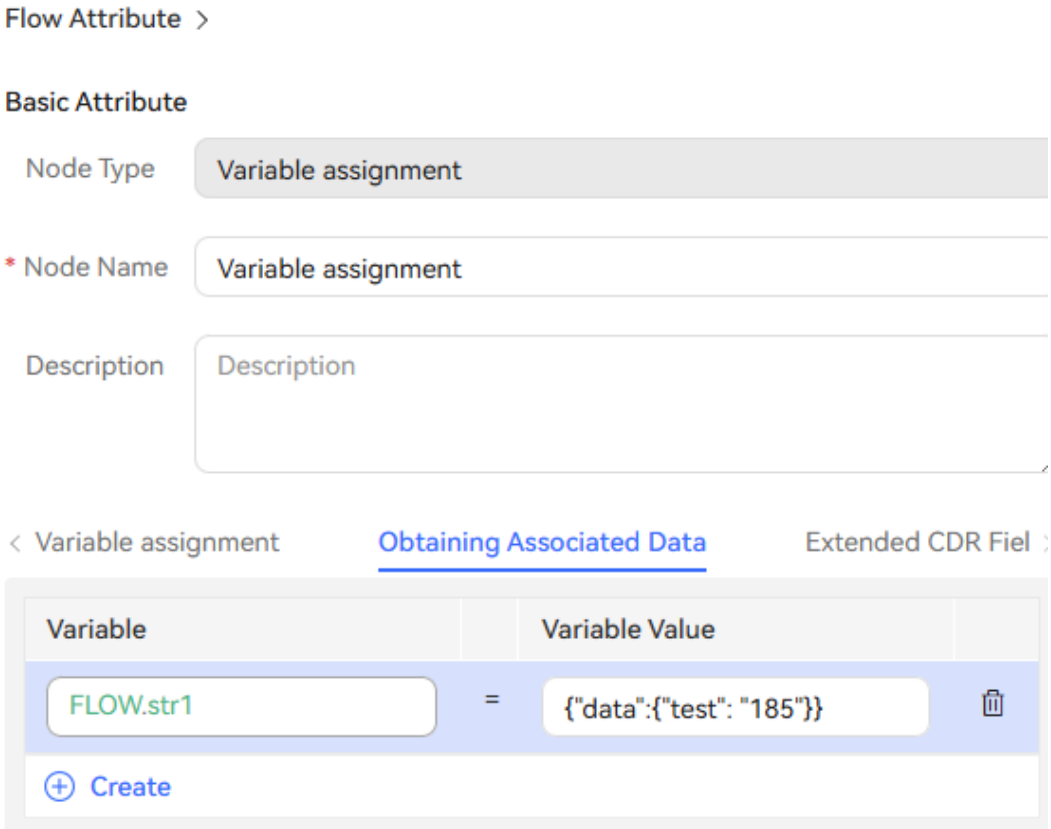
Example 1: Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Example 2: If the call-associated data of an outbound call task is **{"iSales": {"name":"Tom"}}**, the content **Tom** can be obtained by setting **iSales.name**.

The following figure shows the screenshot based on example 1.

Figure 2-226 Obtaining call-associated data



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.
2. Configure a common IVR, add the **Transfer** diagram element, select **Transfer to Intelligent IVR**, and configure call-associated data.
3. Add the **Variable assignment** diagram element to the intelligent IVR flow, and configure a variable on the **Obtaining Associated Data** tab page to receive call-associated data from the common IVR.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

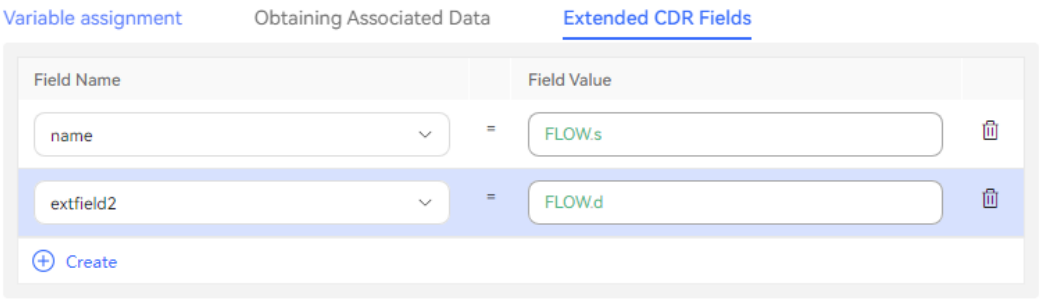
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. Check whether the call-associated data obtained in the intelligent IVR flow is correct.

----End

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Scenario 3: Extended CDR Fields

You can set 10 service information fields (extfield1 to extfield10) to collect customer information and customer operations to be saved in the IVR flow. These fields can be used only when the system parameter **IVRCDRCTRLPARAMS** is enabled. Do not assign values to encrypted variables. The values of encrypted variables are processed as ****** for storage.



Rule Validation V2

This diagram element is used to verify the customer input or output based on rules.

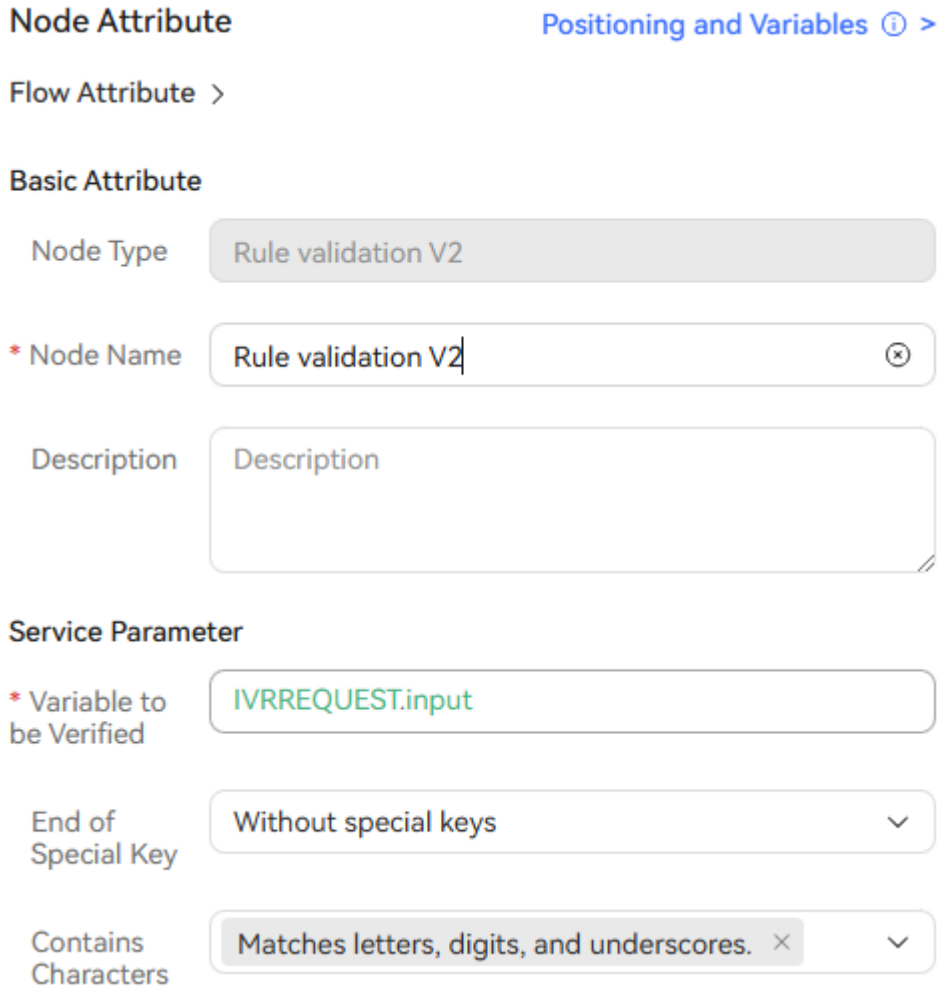
Diagram Element



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Parameter Description

Figure 2-227 Rule validation V2 parameters



- **Variable to be Verified**: Enter the variable corresponding to the parameter to be verified, for example, **IVRREQUEST.input**.
- **End of Special Key**: Specify the end character of the parameter to be verified. The options are as follows:
  - **With #**
  - **With ***
  - **With # or ***
  - **Without special keys**: The last digit is removed for verification and cannot be * or #.
- **Contains Characters**: Specify the characters that can be contained in the parameter to be verified. You can select multiple values. The options are as follows:
  - **Matches numbers**
  - **Matches uppercase letters**
  - **Matches lowercase letters**

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  - **Matches letters, digits, and underscores (_)**
  - **Empty character**

Verification Rules

- **Name**: Select a verification rule. The options are as follows:
  - **Minimum Length**
  - **Maximum Length**
  - **Length Range**
  - **Min.**
  - **Max.**
  - **Value Range**
  - **Email**
  - **URL**
  - **Time Format**
  - **Decimal Number**
  - **Positive Integer**
  - **IP Address**
  - **Alphanumeric Underscore (not starting with a number)**
- **Rule Parameters**: Enter rule parameters. Variables are supported.

Condition Branch Description

Table 2-106 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Successful verification	Triggered when the verification is successful.
FAILED	Verification failure	Triggered when the verification fails.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

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Typical Application Scenario

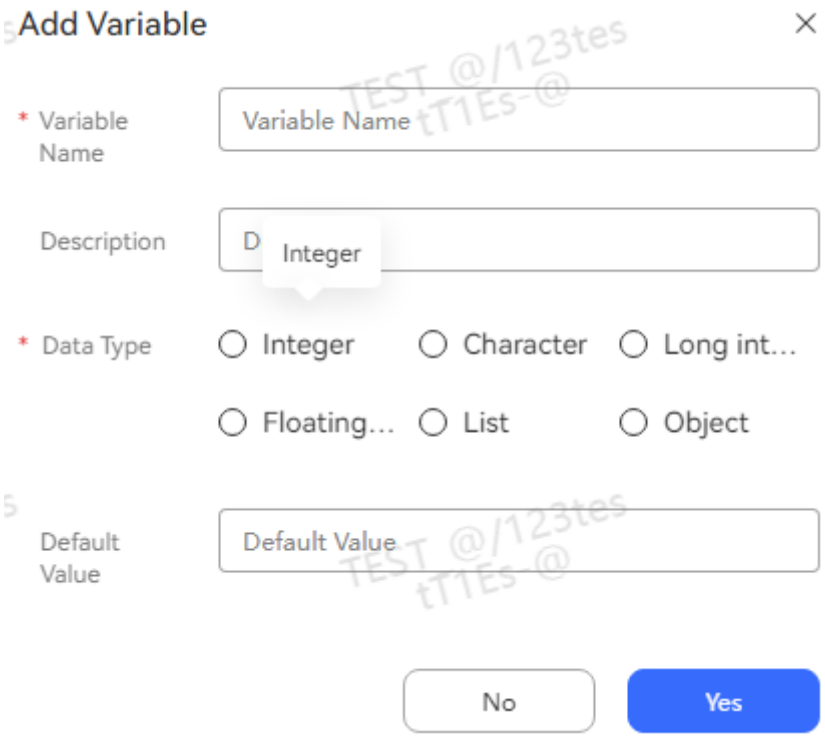
The following describes how to use the **Rule validation V2** diagram element to verify whether the customer input is a valid date.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

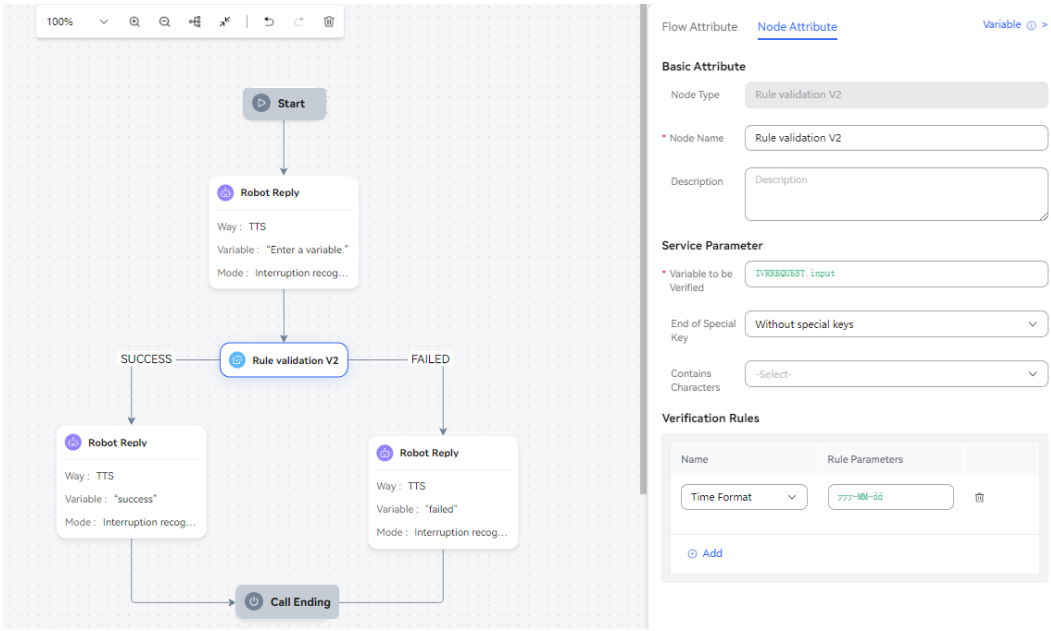
1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-228 Add Variable



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Figure 2-229 Flow orchestration example (Rule validation V2 diagram element)



- Select the reply text **SUCCESS** for the **Robot Reply** diagram element of the **SUCCESS** condition branch, indicating that the time meets the format requirements.
- Select the reply text **FAILED** for the **Robot Reply** diagram element of the **FAILED** condition branch, indicating that the time does not meet the format requirements.

3. Save and publish the flow.

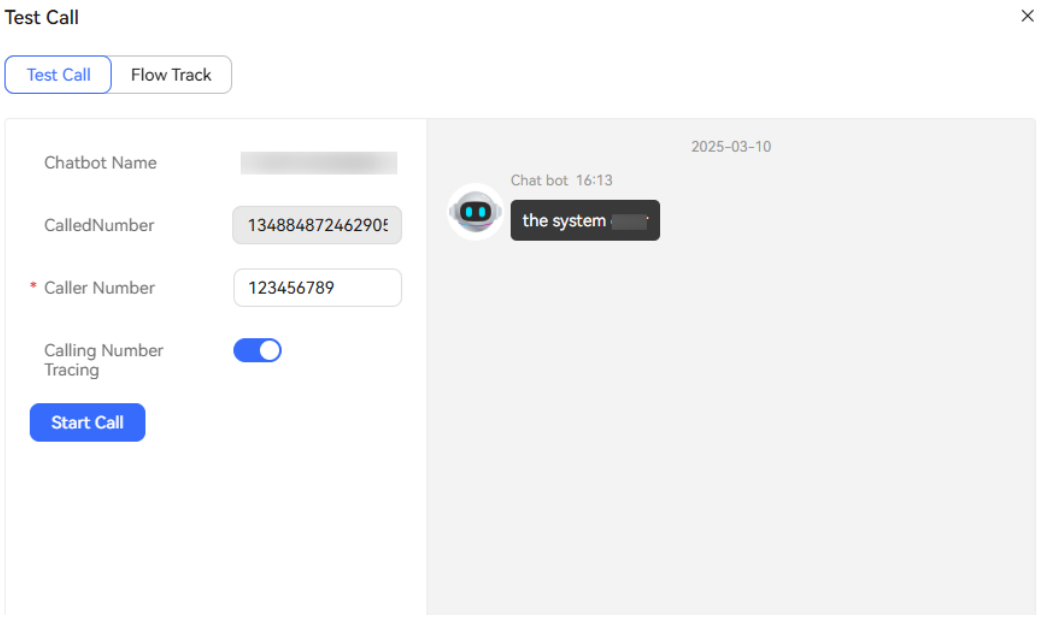
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers **SUCCESS** or **FAILED** based on the time entered by the customer, the configuration is successful.

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Figure 2-230 Testing the robot

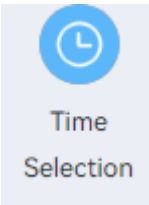


----End

Time Selection

The orchestration capability varies depending on the time. That is, the holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and working days.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Week Selection**: Select the working days of a week.
- **Service Period**: Select the start working time and end working time.
- **Specified Service Date**: Specify one or more dates as working dates.
- **Specified Non-service Date**: Specify one or more dates as non-working dates.

The time zone is that set by the system administrator when the tenant space is created. If the time zone is not set when the tenant space is created, the value of the built-in variable **timezone** is used.

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The configuration priority is as follows: **Specified Non-service Date** > **Specified Service Date** > **Week Selection**.

Condition Branch Description

Table 2-107 Condition branch description

Condition Branch	Description	Usage
NON_SPECIFIC_TIME	Non-working time	Triggered when the current time is non-working time.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and workdays.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

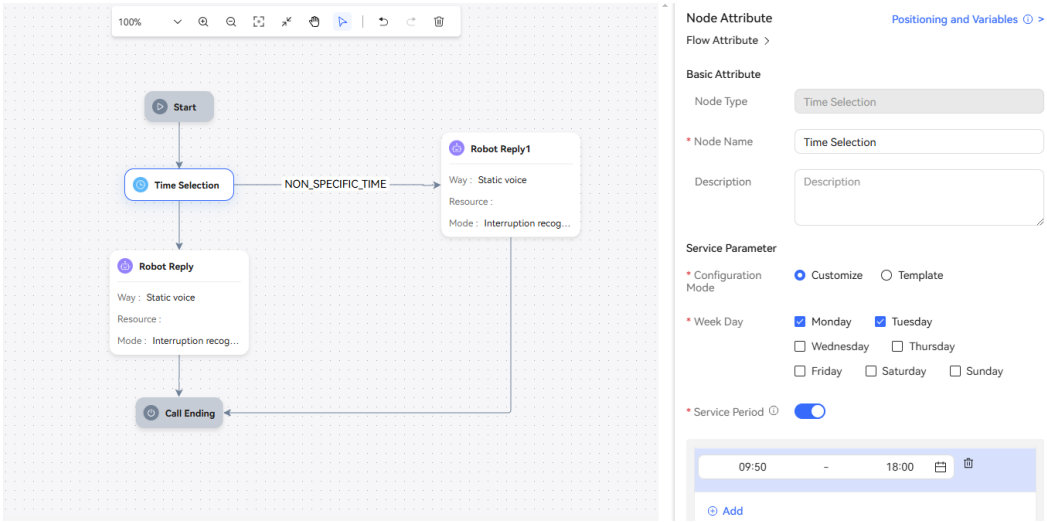
The following describes how to use the **Time Selection** diagram element to determine whether the current time is working time for subsequent business handling.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.

Figure 2-231 Flow orchestration example (Time Selection diagram element)



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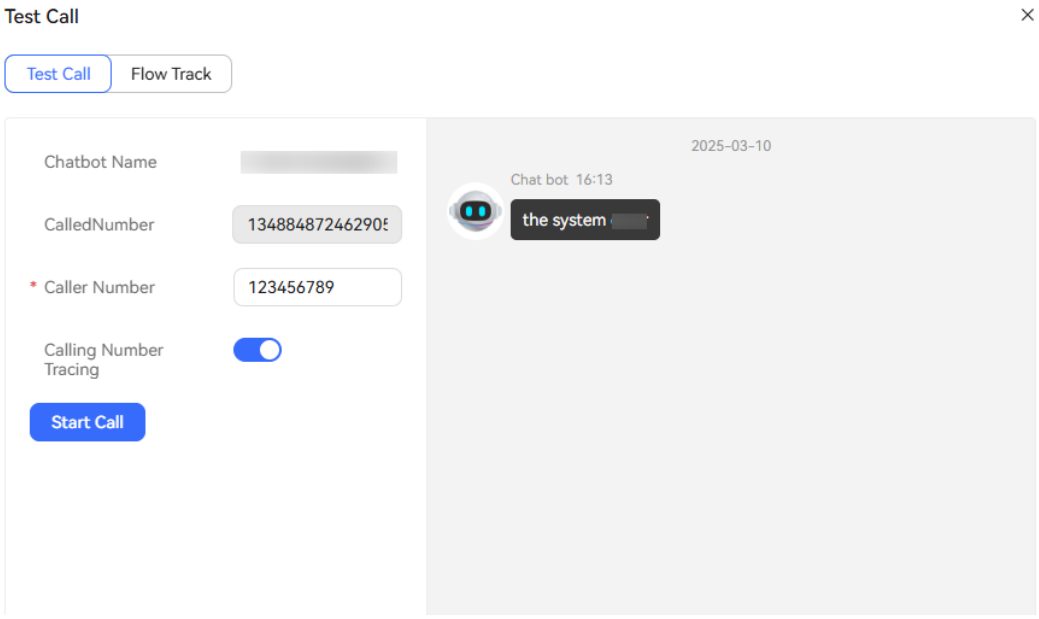
2. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot replies based on whether the current time is working time, the configuration is successful.

Figure 2-232 Test Call page

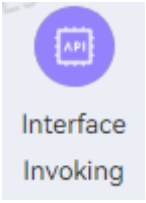


----End

Interface Invoking

This diagram element is used when a third-party system interface needs to be invoked to implement a function. If no interface is selected, you can directly add parameters and assign values to the parameters to implement the function of the diagram element.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

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- **Interface Type**: Select the type of the interface to be invoked. The options are **inner interface** and **self defined interface**. If **inner interface** is selected, the following three built-in interfaces are available:
  - **Record Q&A**: This interface used to record the survey ID, question title, user reply intention, original user reply, and other information.
  - **Obtain the APIFabric token**: This interface is used to obtain the API Fabric token. After a robot successfully invokes this interface, the token is recorded in the cache and can be directly obtained from the cache within the validity period. If the AK/SK is changed, the original cache is not cleared, and this interface fails to be invoked within the cache validity period. To invoke this interface immediately, you can bind the flow to a new robot.
  - **Sentiment Recognition**: This interface is used to recognize the emotion of a user or an agent and an emotion confidence level.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.

  CAUTION

  In a security subflow scenario:

  1. When the variable value is **IVRREQUEST.input**, the variable name must be a variable that is saved after being encrypted.
  2. If the variable value contains a variable that is saved after being encrypted and the variable name is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

- **Condition branch**: condition name and conditional expression. Define the branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter. Different subsequent flows can be specified for each branch.
- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

  CAUTION

  In a security subflow scenario:

  1. If the method parameter contains a variable that is saved after being encrypted and the return value is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

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Condition Branch Description

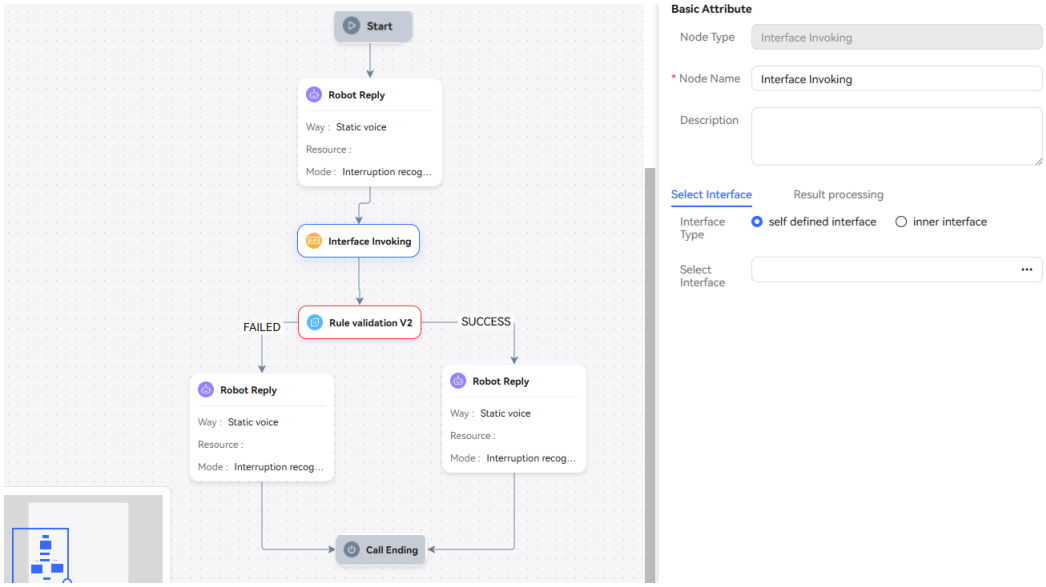
Table 2-108 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
SYSERROR_INTERFACE	Interface invocation failure	Triggered when an interface invocation exception occurs. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

Click the diagram element or drag it to the canvas, and select the interface to be invoked. The invoked interface needs to be configured on the **Resource** > **Business Interface** page in advance. Alternatively, in the dialog box that is displayed, click **Add** to add an interface. If you use this diagram element to assign a value, you do not need to select an interface. Instead, you can directly add a cache variable and assign a value to it. In this case, you need to maintain global variables in advance.

Typical Application Scenario



NOTE

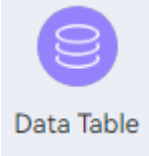
If the fields returned from the invoked interface contain **returnCode** and the value of **returnCode** is **0**, the operation is successful. Other values indicate that the operation fails.

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Data Table

This diagram element is used to search for configuration data. It is used with the **Branch Judgement** diagram element to determine which branch to go to or the next step to process data.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Data Table Name**: name of the data table to be searched.
- **Search Page**: page number of the data table to be searched. Enter an integer or a variable. If this parameter is left blank, the first page is searched by default. The page size is fixed at 10.
- **Search Criteria**: condition for searching a data table.
  - If the field is of the character type, the operator can be =, >, >=, <, <=, **!=**, **like**, or **in**. If the field value is of the character type, it does not need to be enclosed in quotation marks. If the operator is **in** and the field value is of the list type, each list item must be enclosed in double quotation marks, for example, **["watermelon","apple"]**.
  - If the field is of the integer type, the operator can be =, >, >=, <, <=, **!=**, or **in**.
  - If the field is of the date type, the operator can be =, >, >=, <, <=, or **!=**. Set **Field Value** to a timestamp, in milliseconds. A value or variable of the character type or long integer type is supported. A value or variable of the character type does not need to be enclosed in double quotation marks.
- **Return Records**: variable for saving search results. Enter a variable of the list type.
- **Total**: variable for saving the total number of search results. Enter a variable of the integer type.

Condition Branch Description

Table 2-109 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Using the Diagram Element

The **Data Table** diagram element is used when you need to search a customized data table for data.

Click the diagram element or drag it to the canvas. Select a data table and add search conditions.

Typical Application Scenario

Use the **Data Table** diagram element in an IVR flow to search for the milk brand, price, and inventory.

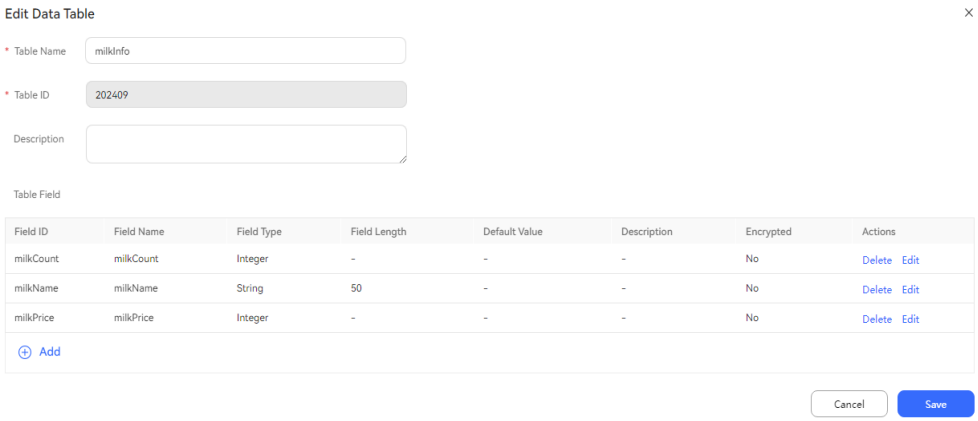
The following describes how to use the **Data Table** diagram element to search for data and then process the data.

Query data records with **milkCount** being greater than 10 from the **milkInfo** table. If the condition is not met, the robot returns a message indicating that no such data record is found. If the condition is met, the robot returns the total number of such data records, data records on the first page that meets the condition, and **milkName** of the first data record.

Prerequisites

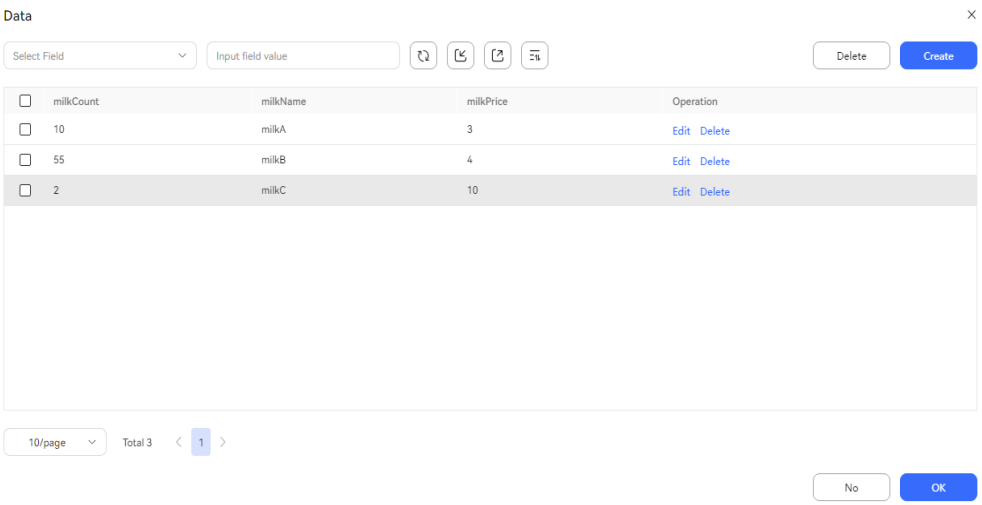
You have added a data table by referring to **2.6.2.4.5 Adding Data Tables**, as shown in the following figure.

Figure 2-233 Table fields



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Figure 2-234 Table data



Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.
3. Save and publish the flow.

Figure 2-235 Flow variables to be added



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Figure 2-236 Example of data table diagram element configuration

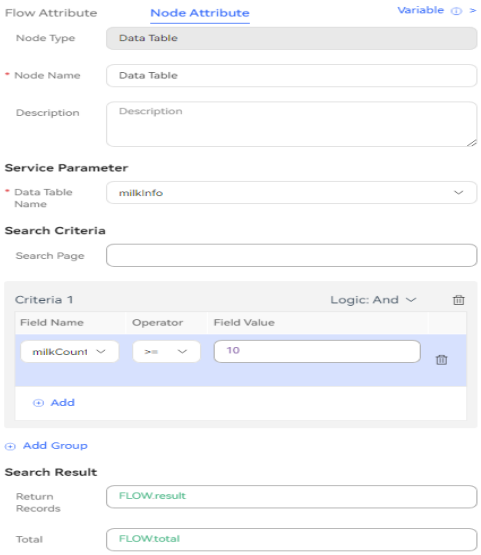
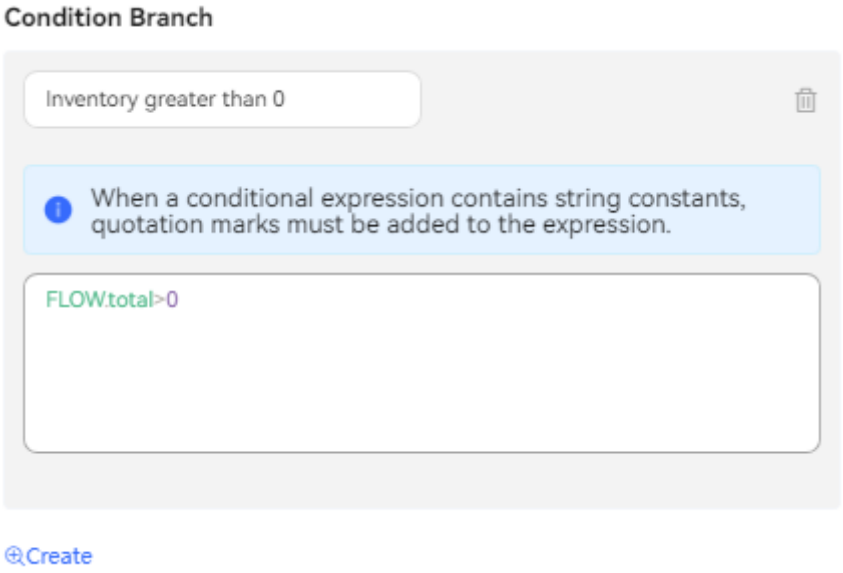


Figure 2-237 Example of branch judgment diagram element configuration



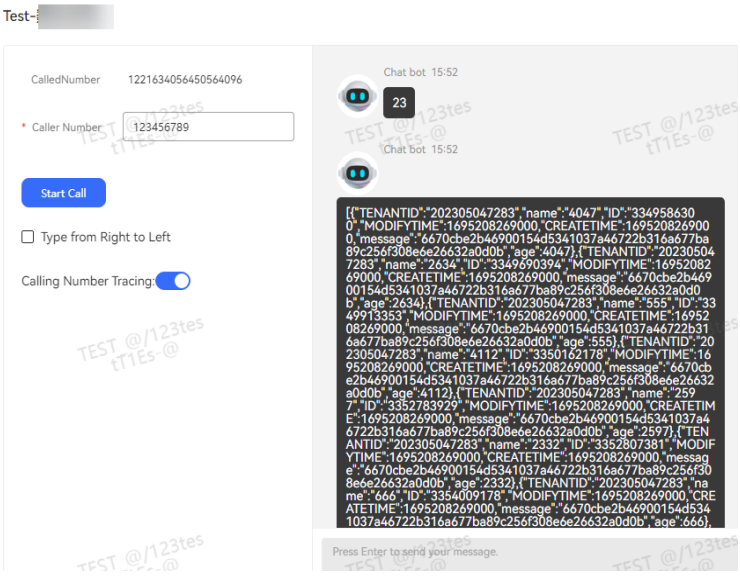
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Figure 2-238 Flow orchestration example



Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.



NOTE

Only 10 data records on the specified search page are queried. If no search criteria are specified, the first page is queried by default.

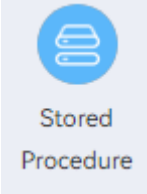
----End

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Stored Procedure

The **Stored Procedure** diagram element interacts with the database.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Stored Procedure**: stored procedure added on the **Configuration Center** > **Flow Configuration** > **Resource** > **Stored Procedure** page.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the stored procedure is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter in the stored procedure. Different subsequent flows can be specified for each branch.

Condition Branch Description

Table 2-110 Condition branch description

Condition Branch	Description	Usage
Custom condition branch	You can compile multiple condition branches.	This branch is triggered when the customized condition expression is met.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Condition Branch	Description	Usage
SYSERROR_INTERFACE	Business interface invoking failure	This branch condition is triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.

Using the Diagram Element

The **Stored Procedure** diagram element is used when data needs to be imported to the database. It cannot be used in public cloud scenarios. In scenarios where the OIAP is independently deployed, the database you access needs to be deployed in the same security zone as the OIAP for security purposes.

Currently, the stored procedure applications of the MySQL database, Oracle database, and GaussDB are supported.

Click the diagram element or drag it to the canvas, select the stored procedure to be invoked, set its input parameters, and add cache variables to temporarily save its output parameters. For the list type in output parameters, you need to set it separately based on rules.

Typical Application Scenario

The following describes how to use the **Stored Procedure** diagram element.

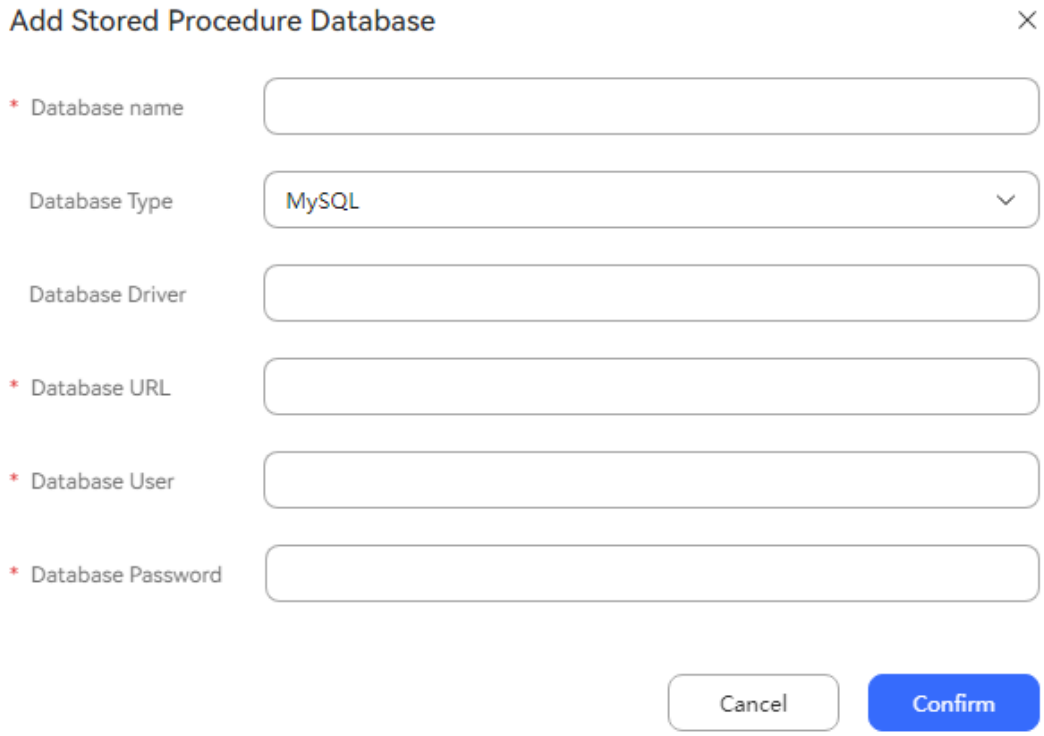
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure a database.

1. Contact the system administrator to add the database URL to the trustlist.
2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click **Create**.

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Figure 2-239 Configuring a stored procedure database



Step 3 Configure a stored procedure.

1. Obtain the developed stored procedure script. An example is as follows:

   Figure 2-240 Stored procedure script example

```
create table t_NumService(Calling_Num  varchar(60) primary key,  ADSL_Num  varchar(60));

DELIMITER //
drop procedure if exists p_addNum;
CREATE PROCEDURE p_addNum(
    IN callingNum varchar(60),
    IN adslNum    varchar(60),
    out Status    boolean)
BEGIN
    set Status = False;
    insert into t_NumService(Calling_Num, ADSL_Num)
    values(callingNum, adslNum);
    on Duplicate key update ADSL_Num = adslNum;
    commit;
    set Status = True;
END;
//

drop procedure if exists p_searchNum;
CREATE PROCEDURE p_searchNum(
    IN  callingNum    varchar(60),
    out oldNum        varchar(60))
BEGIN
    select min(ADSL_Num) into oldNum from t_NumService where Calling_Num = callingNum
END;
```

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedures** tab, and click **Create**.

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Figure 2-241 Basic Information page

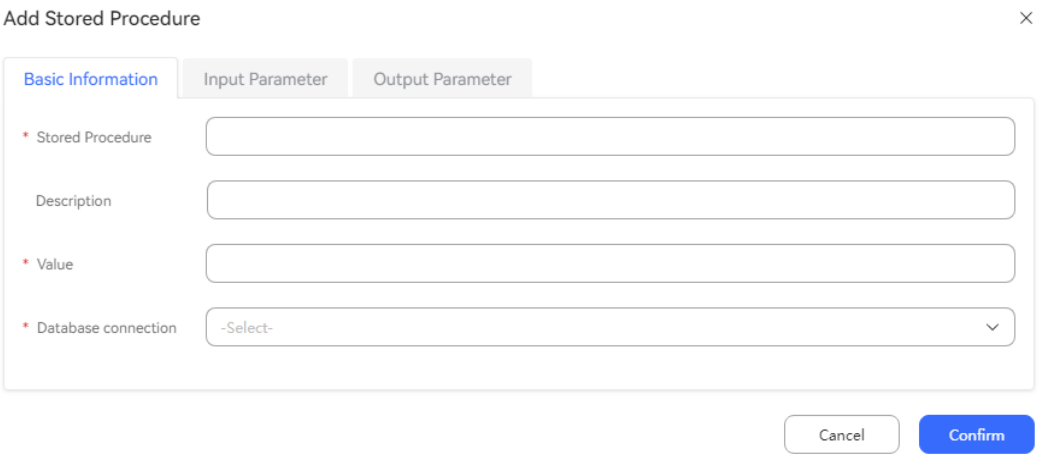
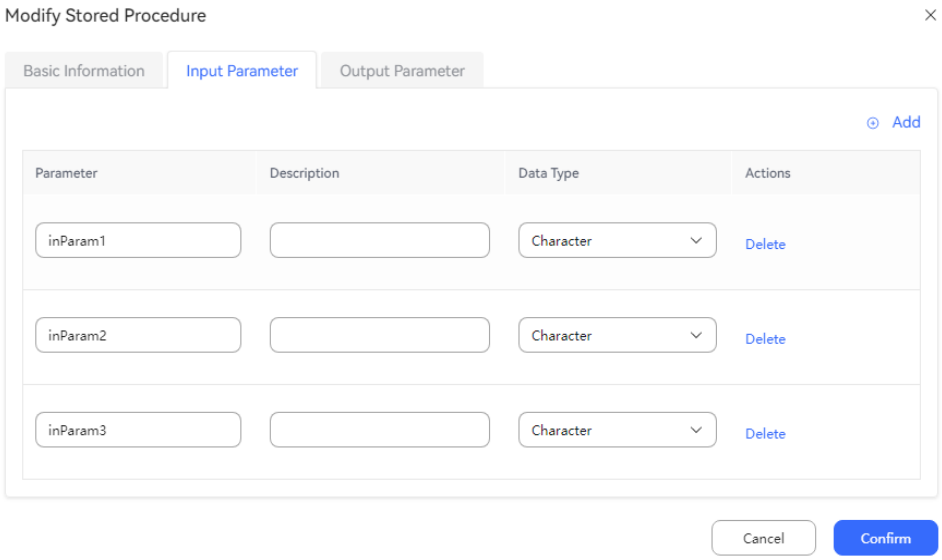
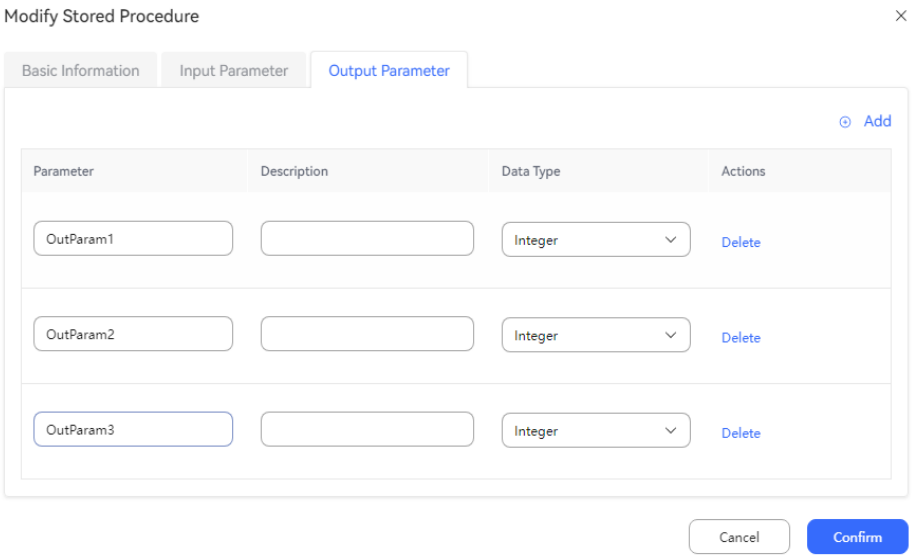


Figure 2-242 Input Parameter page



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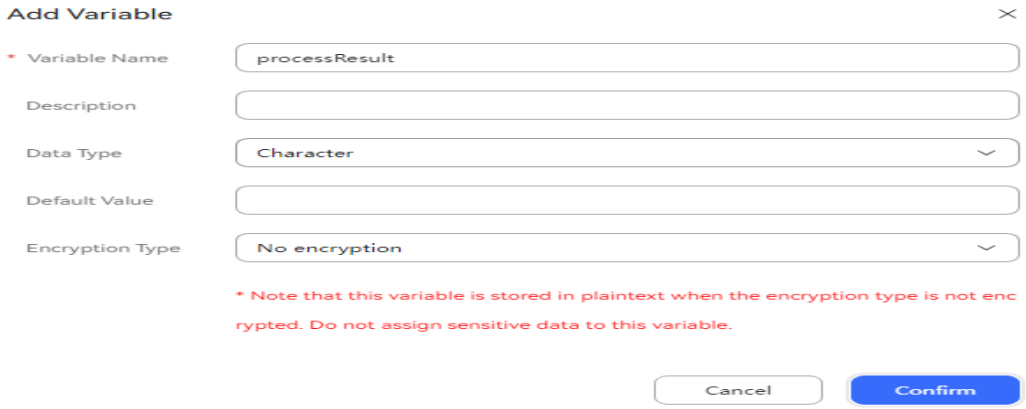
Figure 2-243 Output Parameter page



Step 4 Configure an intelligent IVR flow. The usage of the **Stored Procedure** diagram element is similar to that of the **Business Interface Invocation** diagram element. Select the configured stored procedure, set input parameters, and assign output parameters to variables as required.

1. Choose **Resource** > **Variable**, click the **Custom Variable** tab, and click **Create** to add a system variable for receiving the output parameters of the stored procedure.

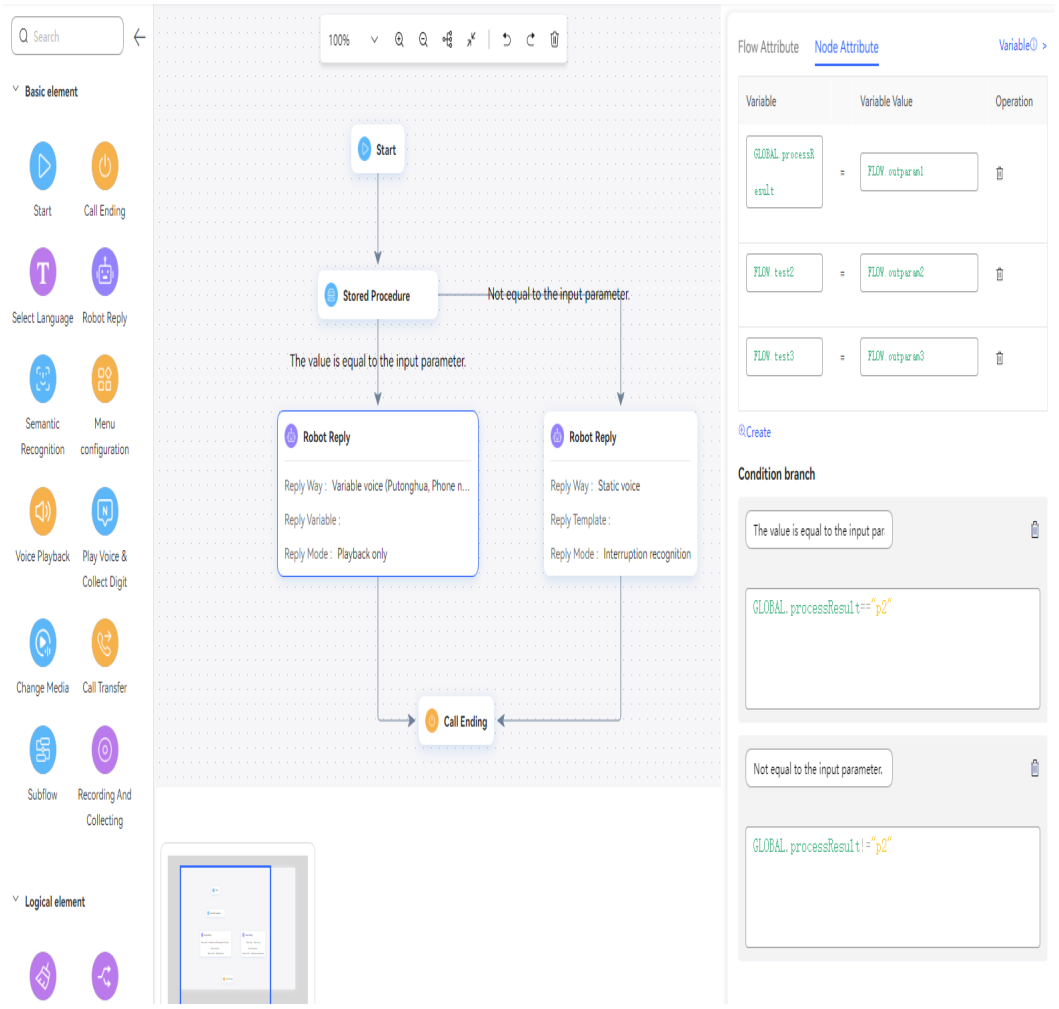
   Figure 2-244 System variable to be added

2. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

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Figure 2-245 Flow orchestration example (Stored Procedure diagram element)



Use the reply variable **GLOBAL.*xxxx*** for the **Robot Reply** diagram element to reply the number output by the stored procedure to the customer.

3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 6 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the robot can query the number output by the stored procedure based on the calling number and reply it to the customer, the configuration is successful.

----End

Information Query

This diagram element is used to query the status of the current customer in the queue. When all agents are busy, the system plays the waiting tone to the customer through the IVR.

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Currently, you can query the queuing position, the number of all online agents in a skill queue, and the estimated time required for accessing an agent.

This diagram element is used to query details about agents in configured skill queues.

This diagram element is used to query whether the customer is in the special list.

Queuing information of only voice and video businesses can be queried. Queuing information of multimedia businesses cannot be queried.

Diagram Element



Parameter Description

- Querying queuing information
  - **Query Type**: information type that can be queried using this diagram element. Currently, queuing information can be queried.

    The queuing information is queried using an IVR flow when a call is transferred to a skill queue.
  - **Query result**
    - **Queue Position**: position of a customer in the current skill queue, that is, the number of queuing customers in front of the customer. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a customer belongs. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated duration for connecting a call to an agent during queuing. This parameter is affected by **Queue Position** and **Number of online agents**. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.
    - **Skill Queue Identifier**: ID of the skill queue to which a user is queuing. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
- Querying queue information
  - **Query Type**

    Queue information: Query queue information before a call is transferred to a skill queue.

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  - **Request Parameter**

    Skill Queue: skill queue to which a call is transferred.

    Skill queue ID: ID of the skill queue to which a call is transferred. You can assign a value by using a variable.

  - **Query result**

    - **Number of queues**: number of customers in the current skill queue before a call is transferred to another skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of idle agents**: total number of online and idle agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.

- Querying the queue name
  - **Query Type**

    Queue name: The name of a skill queue to which an agent belongs can be queried based on the agent ID.

    The scenario is to query the skill queue name based on the agent ID before the call is transferred to the skill queue to which the agent belongs.

  - **Request Parameter**

    Agent ID: agent ID. Flow variables or constants are supported.

  - **Query result**

    Queue name: name of the voice skill queue with the highest weight in the skill queue to which the agent ID belongs. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    You can choose **Configuration Center** > **Employee Center** > **Agent Management** to configure the skill queue weight.

- Querying special list information
  - **Query Type**

    Special list information: Currently, the system can check whether a customer is in the special list based on the customer number. The next process varies depending on the special list query result.

    The special list refers to the blocklist.

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- **Query result**

  Identifier in the special list: whether the calling number exists in the special list. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

  The values of **Identifier in the special list** are as follows: **0** indicates that the calling number does not exist in the special list, and **1** indicates that the calling number exists in the special list.

Condition Branch Description

Table 2-111 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Information query** diagram element can be used to query information such as the queuing status and special list information of the current customer.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

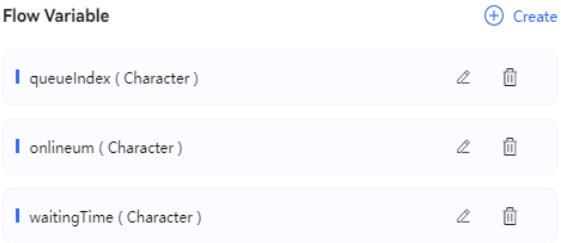
A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Query queuing information.

Step 1 Orchestrate a flow. In the flow, use the **Information query** diagram element to query data, including the number of online agents, queuing position, and estimated waiting time.

1. Create three flow variables to receive the query result.

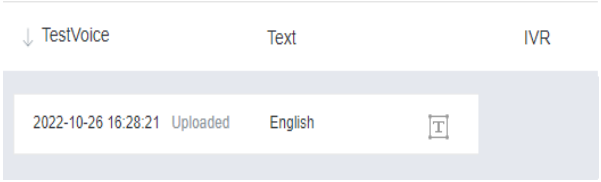
   Figure 2-246 Flow variables to be added

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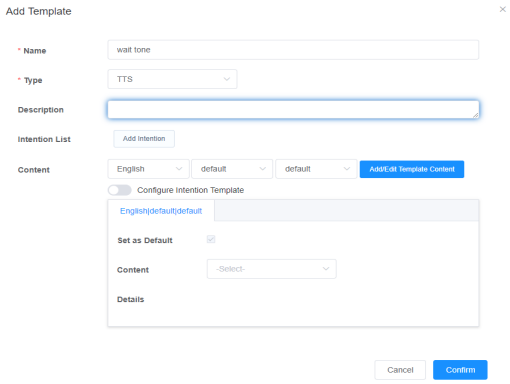
2. Configuring an IVR voice. Use the created flow variables in the IVR voice content.

Figure 2-247 Added IVR voice



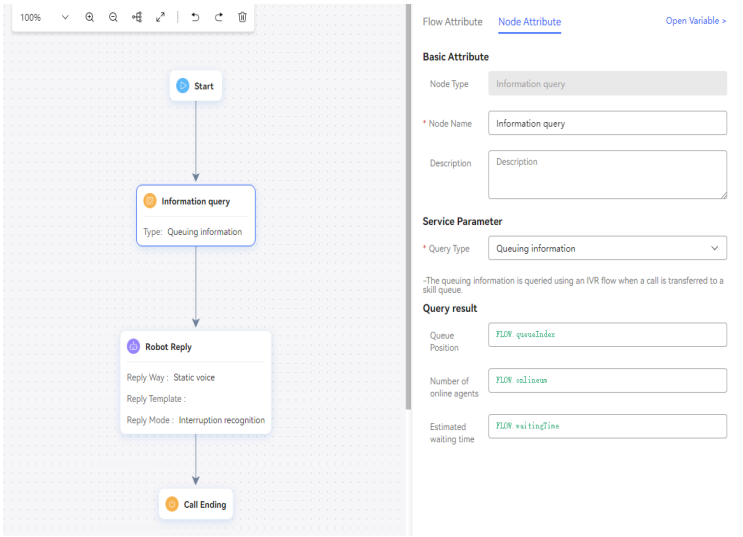
3. Configure a resource template.

Figure 2-248 Page for configuring a resource template



4. Create a flow, use the **Information query** diagram element to assign values to the three flow variables, and use the **Robot Reply** diagram element to select the configured resource template.

Figure 2-249 Flow orchestration example

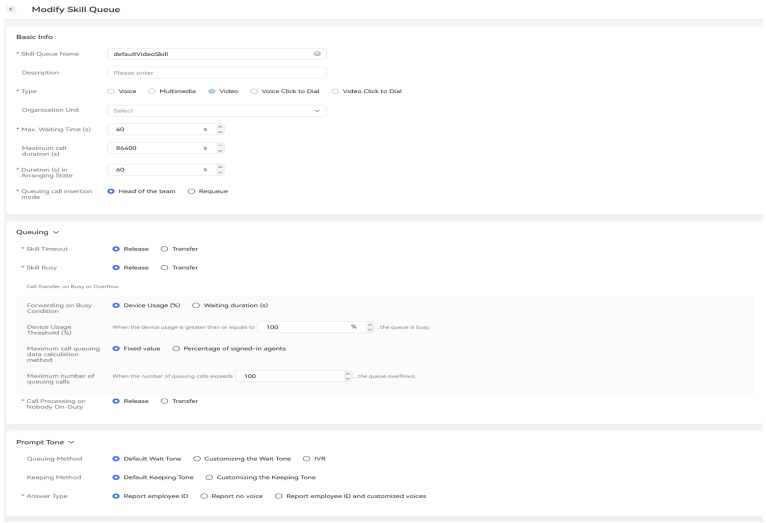


5. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** to **IVR** added in **Step 1**.

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Figure 2-250 Page for editing skill queue parameters



Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set **Skill Queue** to the skill queue added in **Step 2**.

Step 4 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added in **Step 3** on the **Called Party** page. If the current queue information is heard, the configuration is successful.

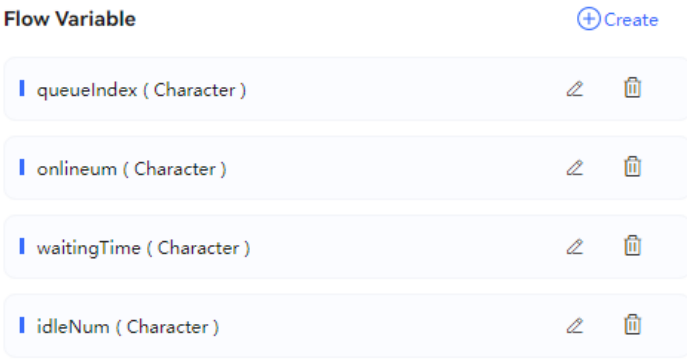
----End

Scenario 2: Query queue information.

Step 1 Orchestrate a flow.

1. Create four flow variables to receive the query result.

   Figure 2-251 Flow variables to be added

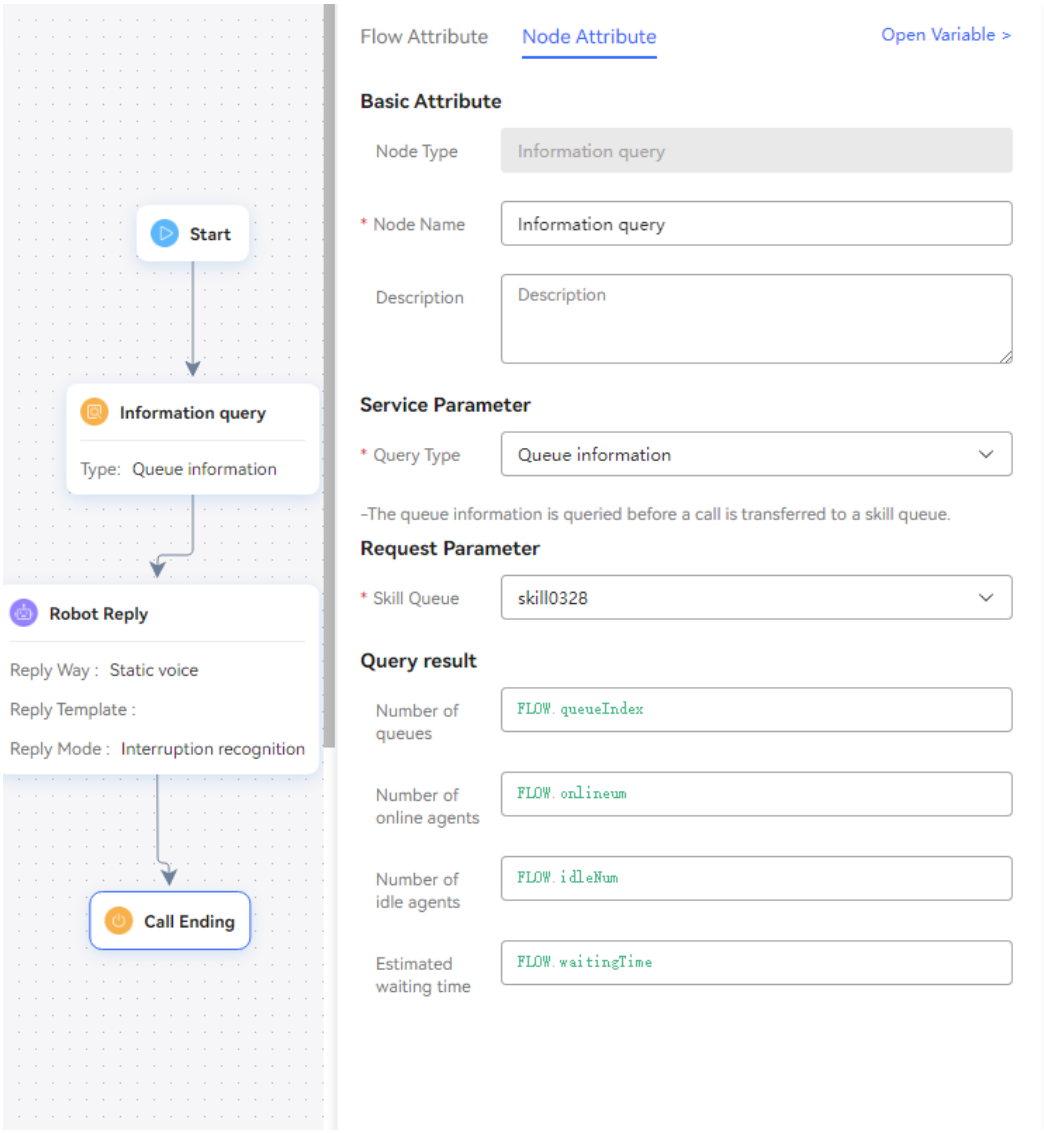
   

2. When using the diagram element to create a flow, if you want to transfer a call to a skill queue in the flow, you can query the information about the skill queue and then determine whether to transfer the call to the skill queue. The subsequent businesses are determined based on site requirements.

   The flow is shown in the following figure. You need to select a skill queue to be queried.

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Figure 2-252 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queue information is heard, the configuration is successful.

----End

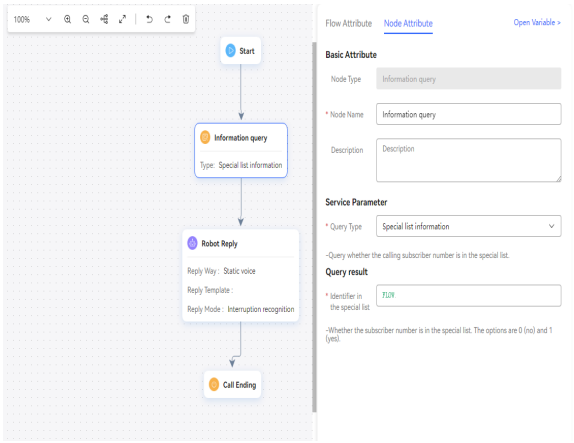
Scenario 3: Query special list information.

Step 1 Orchestrate a flow.

1. Create a flow variable to receive the query result.
2. Configure a flow by referring to the following figure. When the flow runs to the special list information query node, the flow invokes an interface to query special list information, obtains the query result, and enters different flows based on the query result.

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Figure 2-253 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

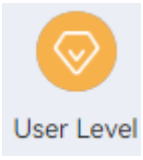
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current special list information is heard, the configuration is successful.

----End

User Level

The priority (user level) of a call can be set. The call of a user with a higher priority is transferred to an agent first.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **User Level**: Enter a non-negative integer or a string variable. The default value is **0**, and the maximum value is **14**. After calls are transferred to the manual service, the call from a high-level user is processed preferentially.

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Condition Branch Description

Table 2-112 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
fail	User level setting failure	Triggered when the call priority of a user fails to be set.

Using the Diagram Element

This diagram element is used when the priority (user level) of a call needs to be set and the call of a user with a higher priority is transferred to an agent first.

Click the diagram element or drag the diagram element to the canvas and set user level service parameters.

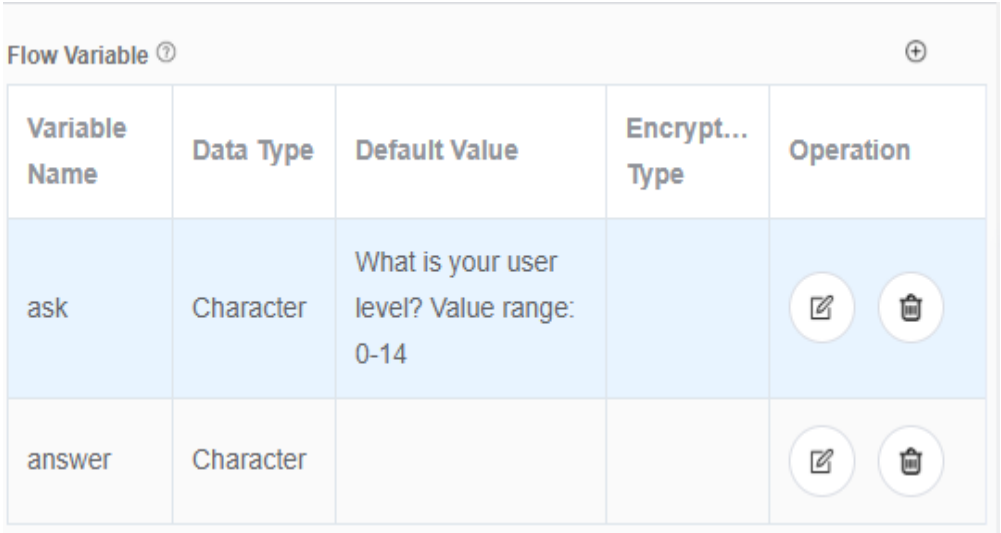
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-254 Flow variables to be added



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Figure 2-255 Flow orchestration example (User Level diagram element)

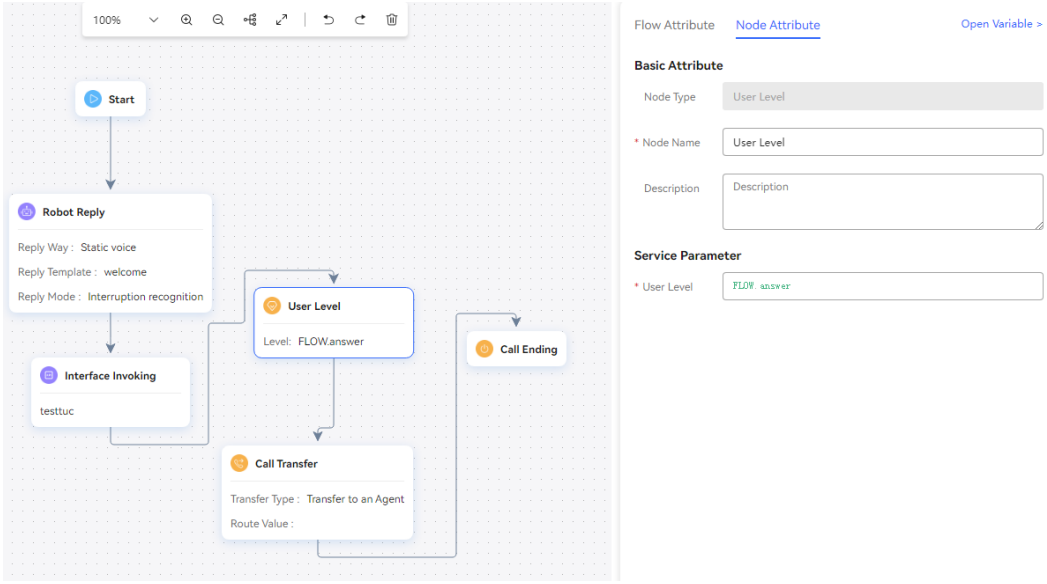
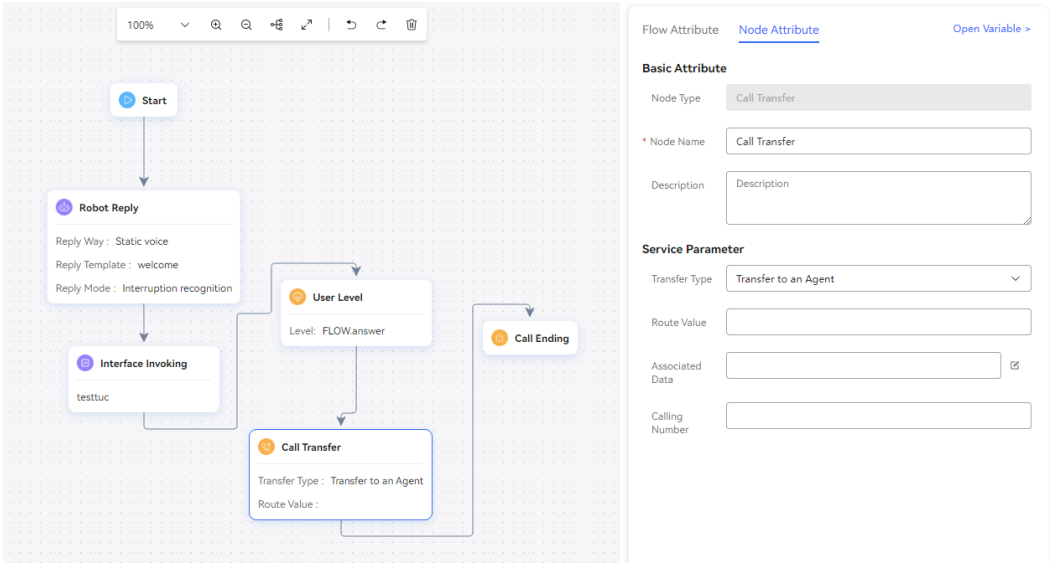


Figure 2-256 Flow orchestration example (Call Transfer diagram element)



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

Step 4 Set the current agent to the busy state, log in to the OpenEye using two softphone numbers to simulate two customers, and dial the access code added on the **Called Party** page at the same time. Answer the user level according to the voice prompt. You are advised to set different user levels for the two customers. Then, set the current agent to the idle state. If the customer of a higher level is connected to the agent first, the configuration is successful.

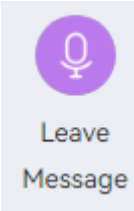
----End

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Message Leaving

The system records the message of a customer. After the recording is successful, the system returns the directory for storing the recorded message.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Leave Message** diagram element.

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- **Node Name**: name displayed on the diagram element, which can be customized.
- **Specifies the type**

  a. **Specified agent ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified agent ID. To obtain the agent ID, choose **Configuration Center** > **Employee Center** > **Agent Management**.

  b. **Specifies the alias of a skill queue**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue. **Specifies the skill queue ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue.

  c. **Specifies the skill queue ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue.

  If the specified agent ID or skill queue does not exist, the message status changes to allocation failure. If no agent is specified, messages will be allocated by the administrator.

  To obtain the skill queue alias and skill queue ID, choose **Configuration Center** > **Employee Center** > **Skill**.

- **Recording File**

  Save File Name (first text box): Click the text box. In the dialog box that is displayed, select a global variable or flow variable for saving the recording file name as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

  Saving the localtionID (second text box): Select the UAP node set during installation. This parameter is used in call center pool mode.

- **Recording Parameter**

  Max. Recording Duration: Enter the maximum duration of a recording. When the maximum recording duration is reached, the recording ends. The default value is **20**, in seconds.

- **Play the beep tone**: If the check box is selected, a beep tone is played before the recording starts. Otherwise, the recording is performed directly.

  By default, the recording is ended with the pound key (#).: After leaving a message, you can press the pound key (#) to end the recording. After the subscriber hangs up, the end diagram element is invoked directly.

- **Record message information.**: If this check box is selected, messages are saved as records. If this check box is not selected, messages cannot be queried on the message management page.
- Click **Save** to save all parameters set on the current page. When the recording is saved, the system automatically queries the recording directory information of the current tenant and combines the directory with the current date and a random digit string to form a file name. An example is *Recording drive letter:/VDNID/record/20190424/20190424153126*-**record.wav**. The recording file is in the .wav format by default.

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NOTE

- When a tenant is deleted, the Customer Service Cloud automatically deletes all recording files of the tenant.
- The retention period of recording files is the same as the recording storage period configured during tenant registration. The scheduled task scans recording files at a specified time every day and periodically deletes recording files that have been stored for a period longer than expected.

Condition Branch Description

Table 2-113 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

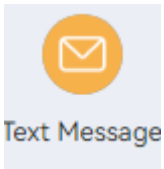
This diagram element is used in the scenario where a voice message needs to be stored in a recording file.

SMS

You can send common SMS messages and satisfaction survey SMS messages to the calling party. The SMS messages can be Huawei Cloud SMS messages or SMS gateway messages.

Diagram Element

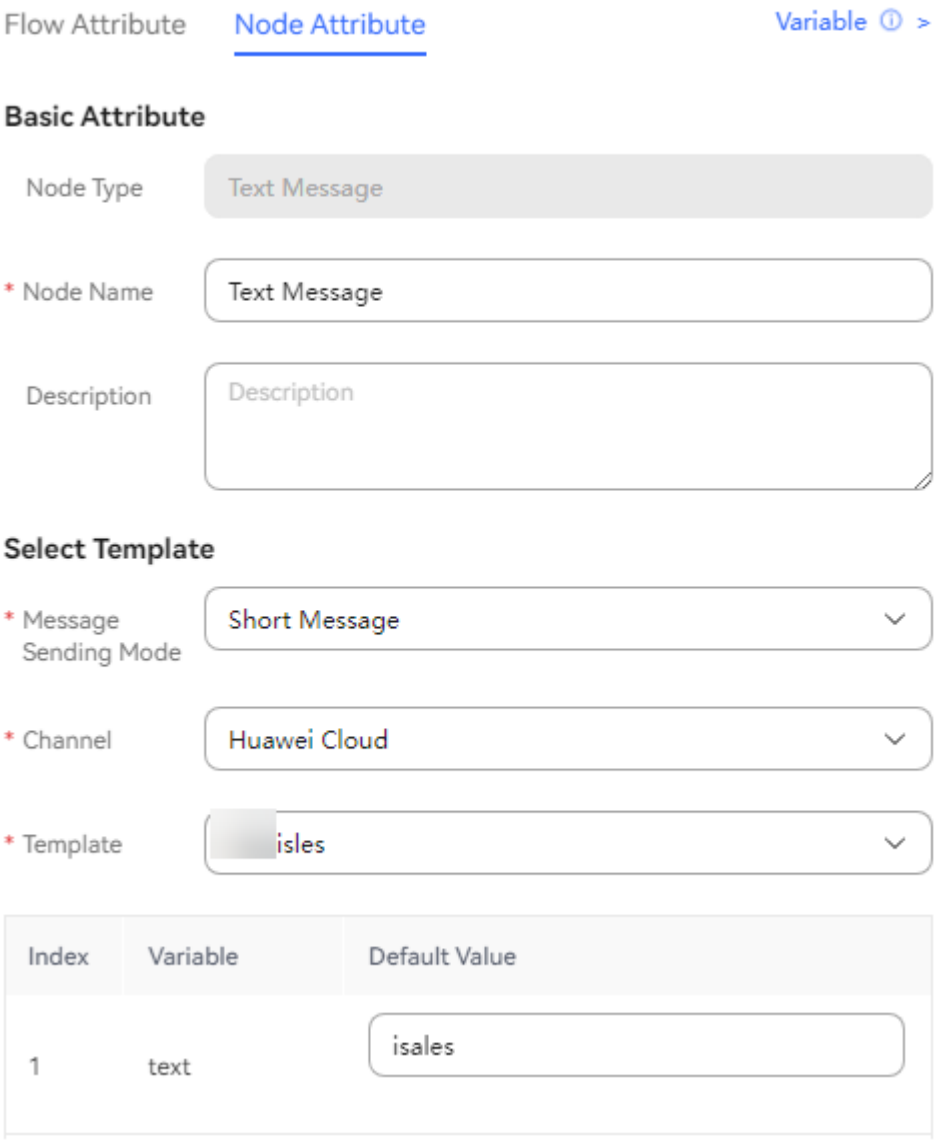
Figure 2-257 Text Message



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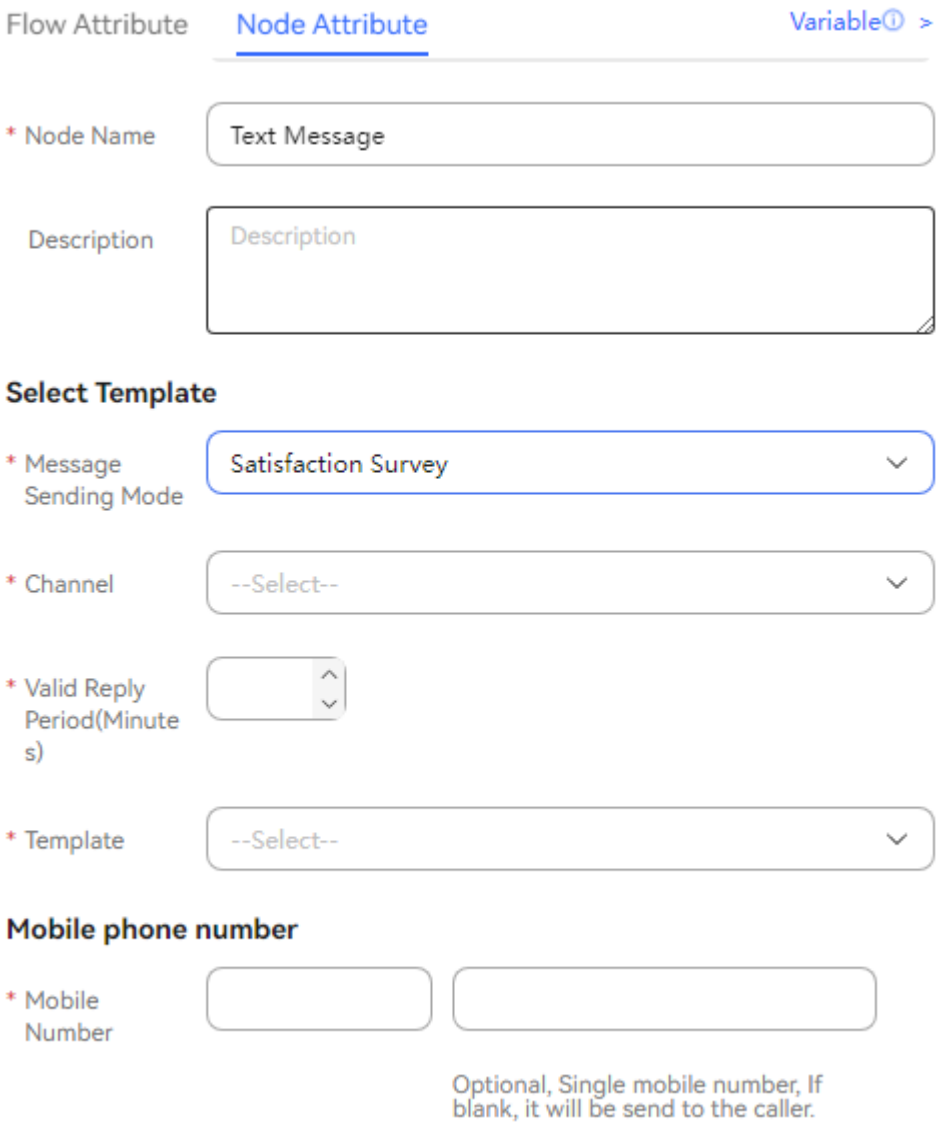
Parameter Description

Figure 2-258 Common SMS message parameters



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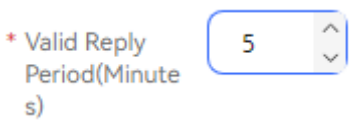
Figure 2-259 Satisfaction survey SMS message parameters



The parameters are described as follows:

- **Message Sending Mode**: Currently, **Short Message** and **Satisfaction Survey** are supported.
  - To send a satisfaction survey SMS message, you need to set **Valid Reply Period(Minutes)**. The value ranges from 1 to 1440.

    Figure 2-260 Valid Reply Period(Minutes)

- **Channel**: The options are **Huawei Cloud** and **SMS Gateway**.
  - **Huawei Cloud**: The SMS service provided by Huawei Cloud is used to send SMS messages.

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  - **SMS Gateway**: Huawei SMS gateway is used to send SMS messages.
- **Template**: This parameter is mandatory. The administrator SMS message templates that have been configured in the notification center are displayed based on the selected channel.
- **Country Code**: This parameter is mandatory. The country or region code is required for sending an SMS message. If the SMS message needs to be sent to a national number, the country or region code is also required. For example, the country code of China is **+86**.
- **Mobile Number**: This parameter is optional. If this parameter is left empty, the SMS message is sent to the calling party by default. If this parameter is set, the SMS message is sent to the specified number. Only one number is supported and the value cannot contain the country code.

Condition Branch Description

Table 2-114 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

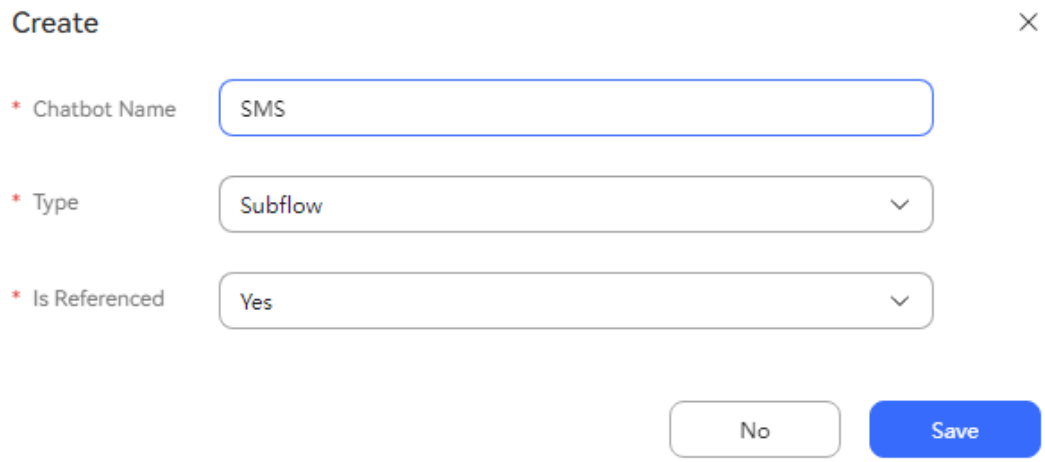
When a user calls the CEC and the call is routed to the IVR, if the IVR is configured with a **Short Message** diagram element, the **Short Message** diagram element is used to send an SMS message to the user.

The configuration method is as follows:

- **Application Scenario**

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Flow Management**, click **New**, set the flow name and type, and set **Is Referenced** to **Yes**.

Figure 2-261 Adding a flow



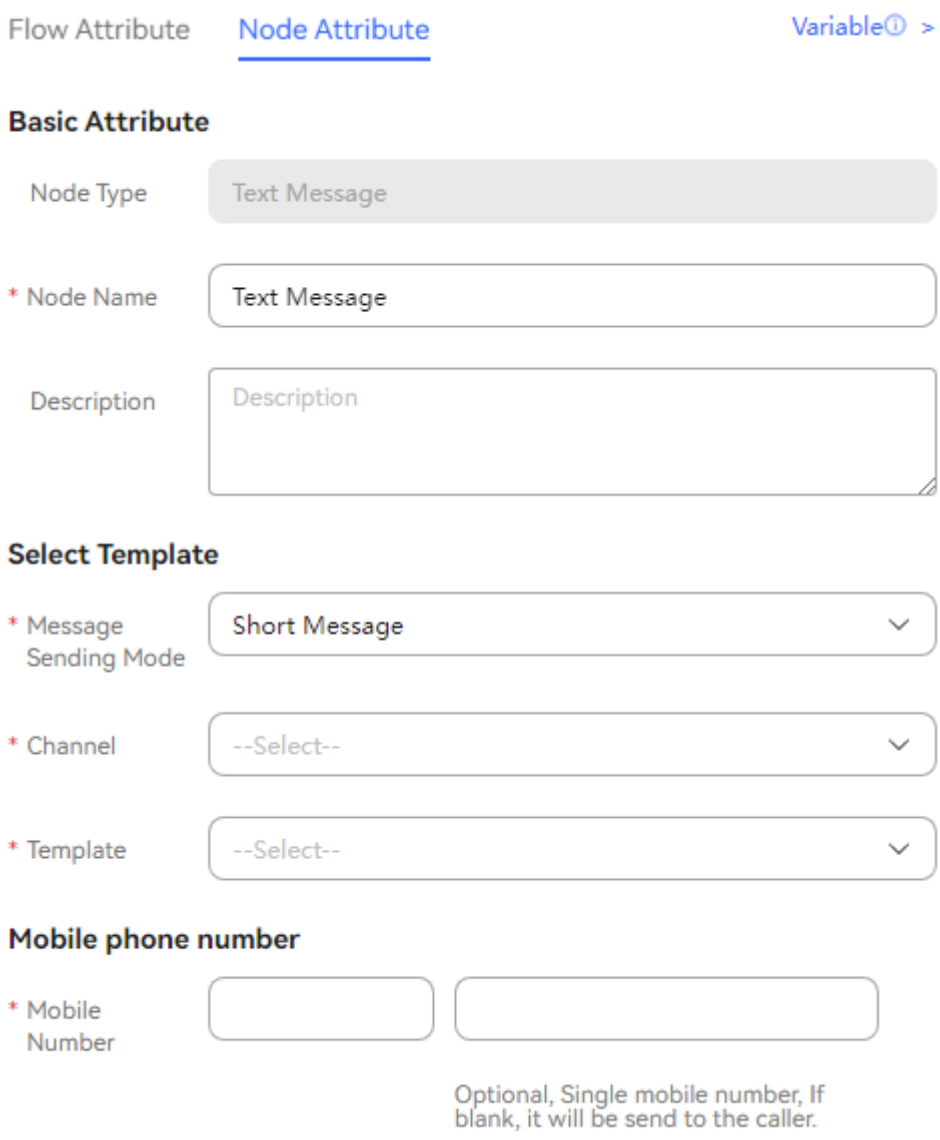
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Step 2 Click **Edit** to develop the flow as follows.

Step 3 Click or drag the **Short Message** diagram element in the **Feature** area on the left. The **Short Message** diagram element is added to the canvas.

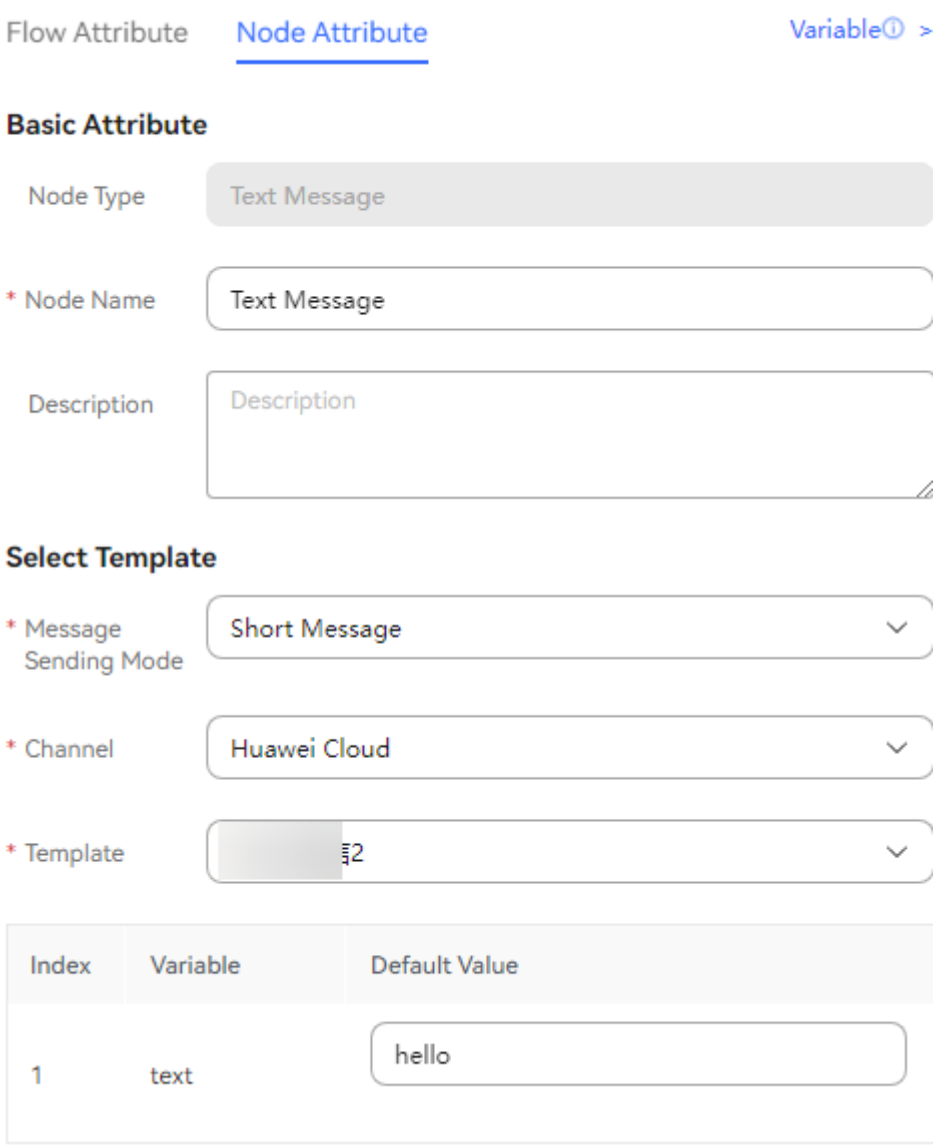
Step 4 Set parameters of the **Short Message** diagram element and click **Save**. (Huawei Cloud SMS is used as an example.)

Figure 2-262 Short Message



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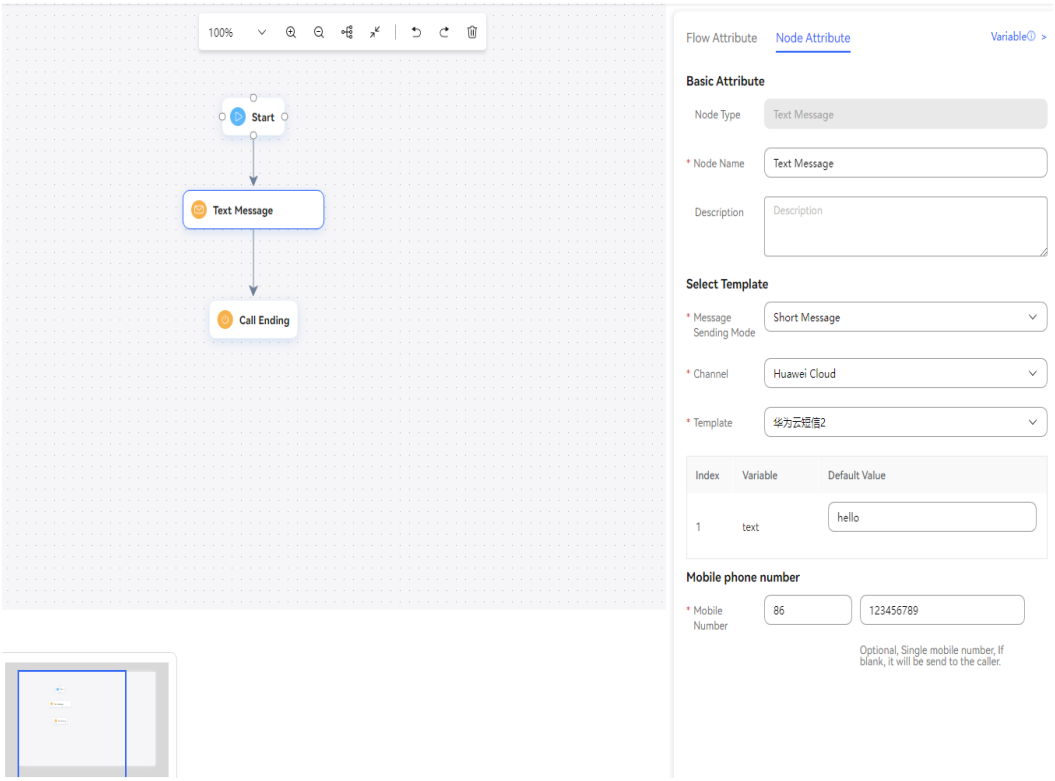
Figure 2-263 Satisfaction Survey



Step 5 Add connection lines. If there are no other diagram elements, the flow is shown in the following figure.

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Figure 2-264 Example



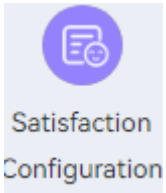
Step 6 Perform subsequent operations based on business requirements. You can add other diagram elements. After the configuration is complete, click Save to save the flow.

----End

Satisfaction Configuration

This diagram element is used to play voices or videos to instruct customers to press keys for interaction and collect their satisfaction details about corresponding calls.

Diagram Element

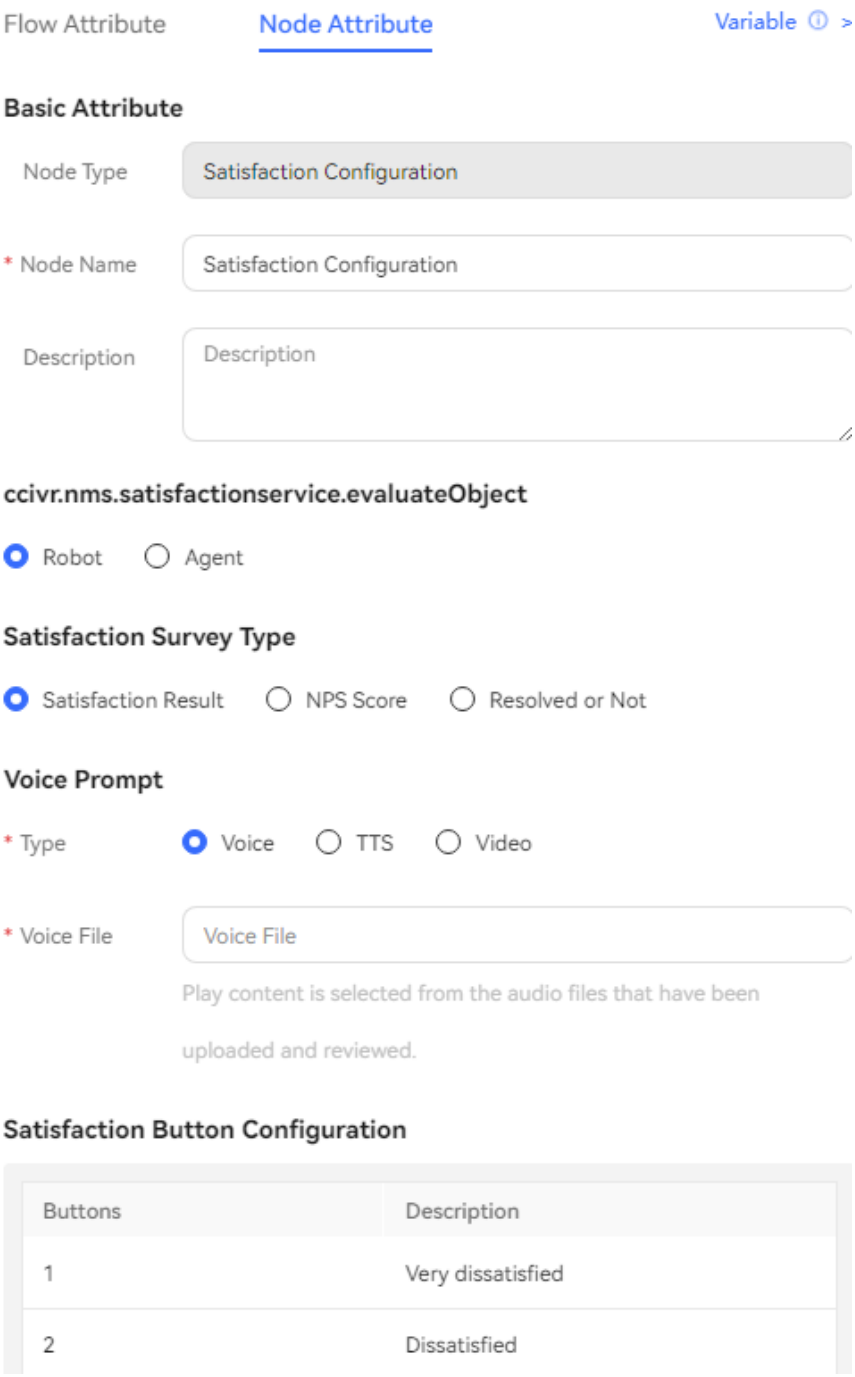


Parameter Description

The following figure shows the parameters of the **Satisfaction Configuration** diagram element.

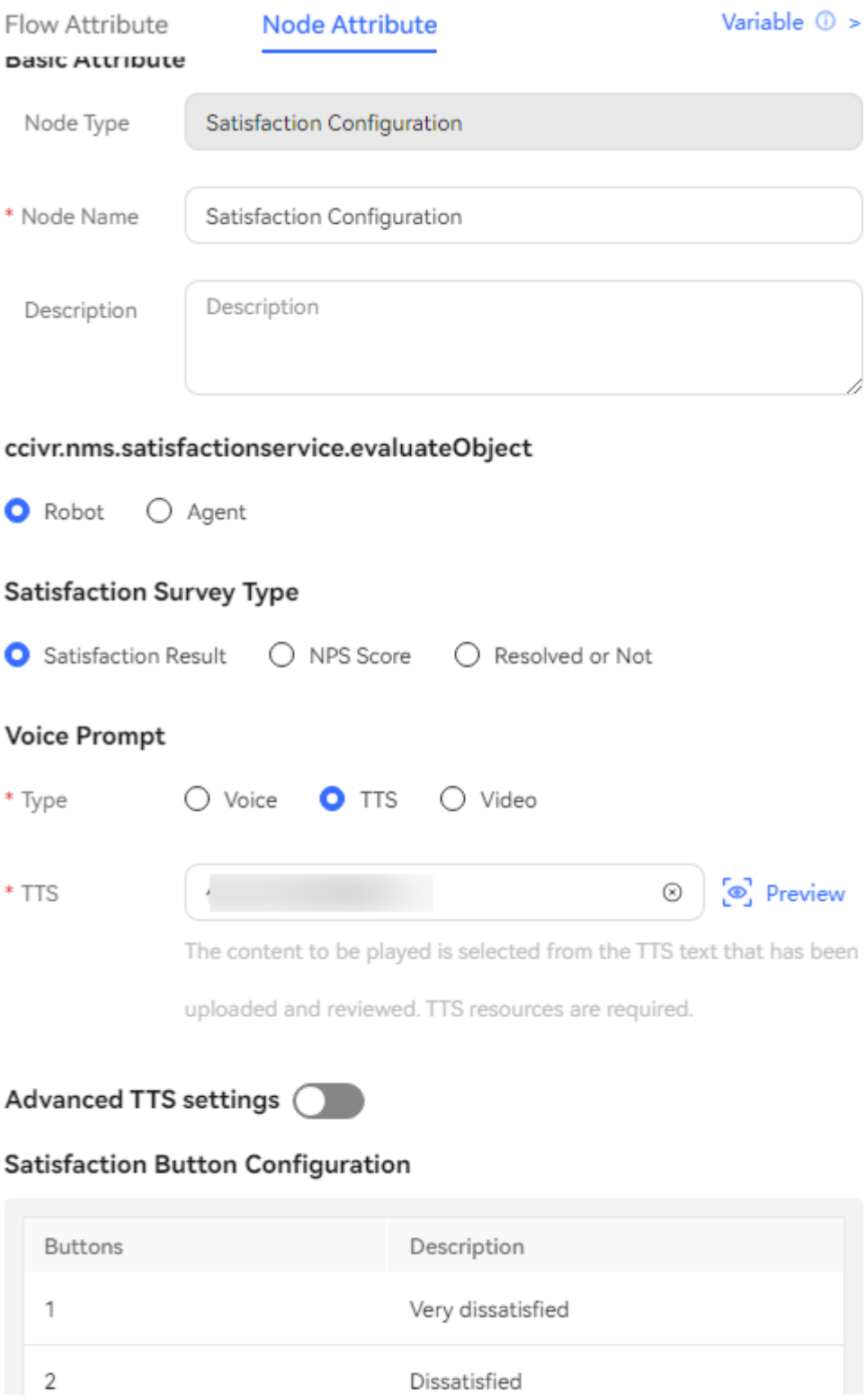
 Copyright © Huawei Technologies Co., Ltd.

Figure 2-265 Voice



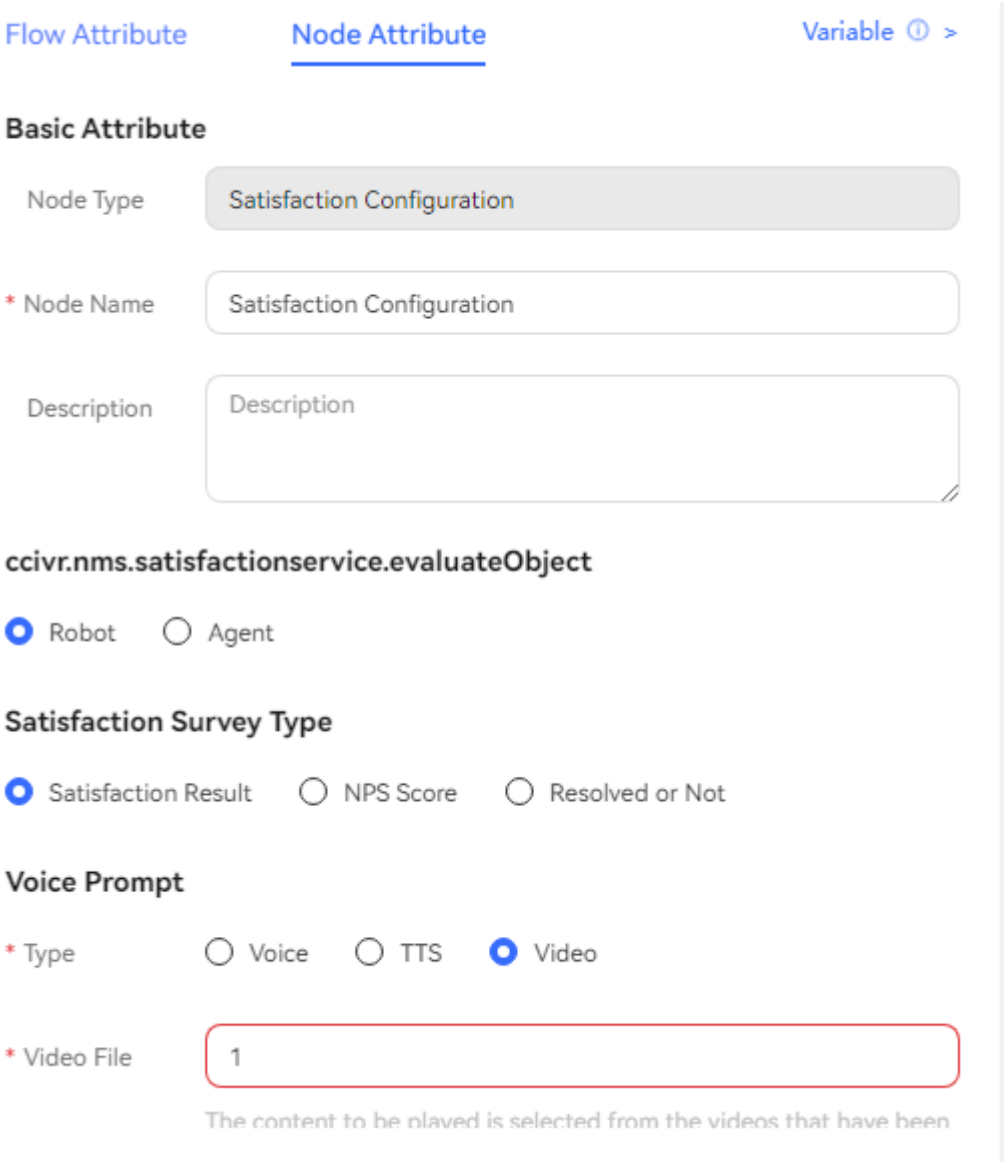
 Copyright © Huawei Technologies Co., Ltd.

Figure 2-266 TTS



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Figure 2-267 Video

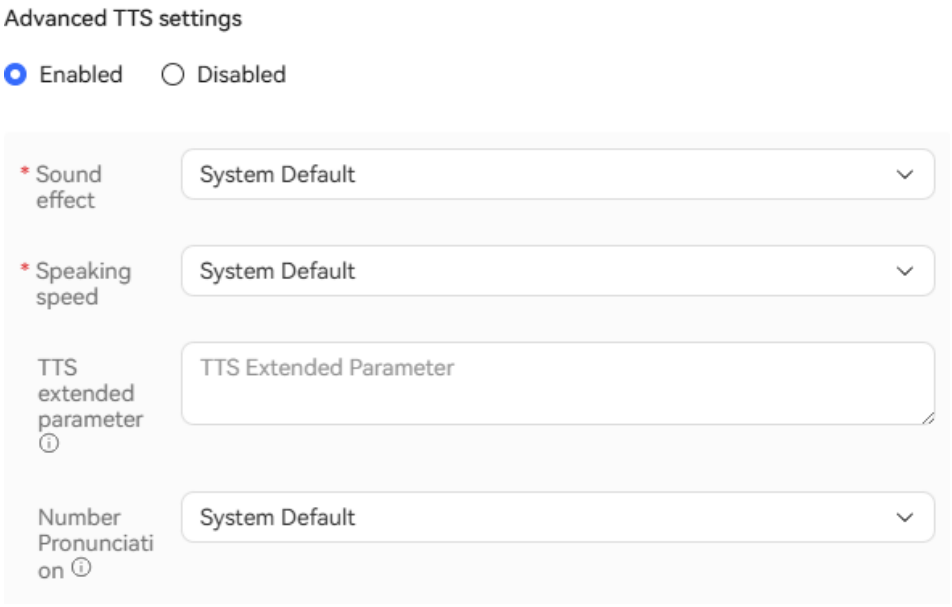


The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Evaluation Object**: Select **Robot** or **Agent**.
- **Satisfaction Survey Type**: Select **Satisfaction Result**, **NPS Score**, or **Resolved or Not**.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice File**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled,

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Sound effect is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.



- **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
- **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.
- **Number Pronunciation**: This parameter is reserved.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Satisfaction Button Configuration**: satisfaction options provided in a flow. Each key or button corresponds to a satisfaction option. For details about how to configure the satisfaction level, see **2.3.3.2 Configuring Satisfaction Surveys**.
  – **Buttons**: number key or button available on the keyboard or screen, such as **1**, **2**, or **3**.
  – **Description**: satisfaction introduction of a key or button, which can be displayed in the menu.

  NOTE

  Configure satisfaction levels for the satisfaction survey on the **Survey** > **Survey Config** page. If the flow has been published, you can clone, edit, save, or republish the flow to replace the original flow so that the updated satisfaction levels can be used.

  – **Waiting Time for Digit Collection**: waiting time for receiving the external input. If the time when a customer stops the input exceeds that

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specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.

- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.

- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.

  - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.

  - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- By default, **Digit collection failure** and **Digit collection timed out** are unavailable in the **Advanced Settings** area. If they are unavailable, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-115 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used when an agent hangs up without completing the flow.

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NOTE

The application scenario of the **Satisfaction Configuration** diagram element is as follows:

- After an agent hangs up, the system releases the call and transfers the call to the IVR flow that contains the **Satisfaction Configuration** diagram element.

Offline Queue

This diagram element supports offline queue query, addition, and deletion.

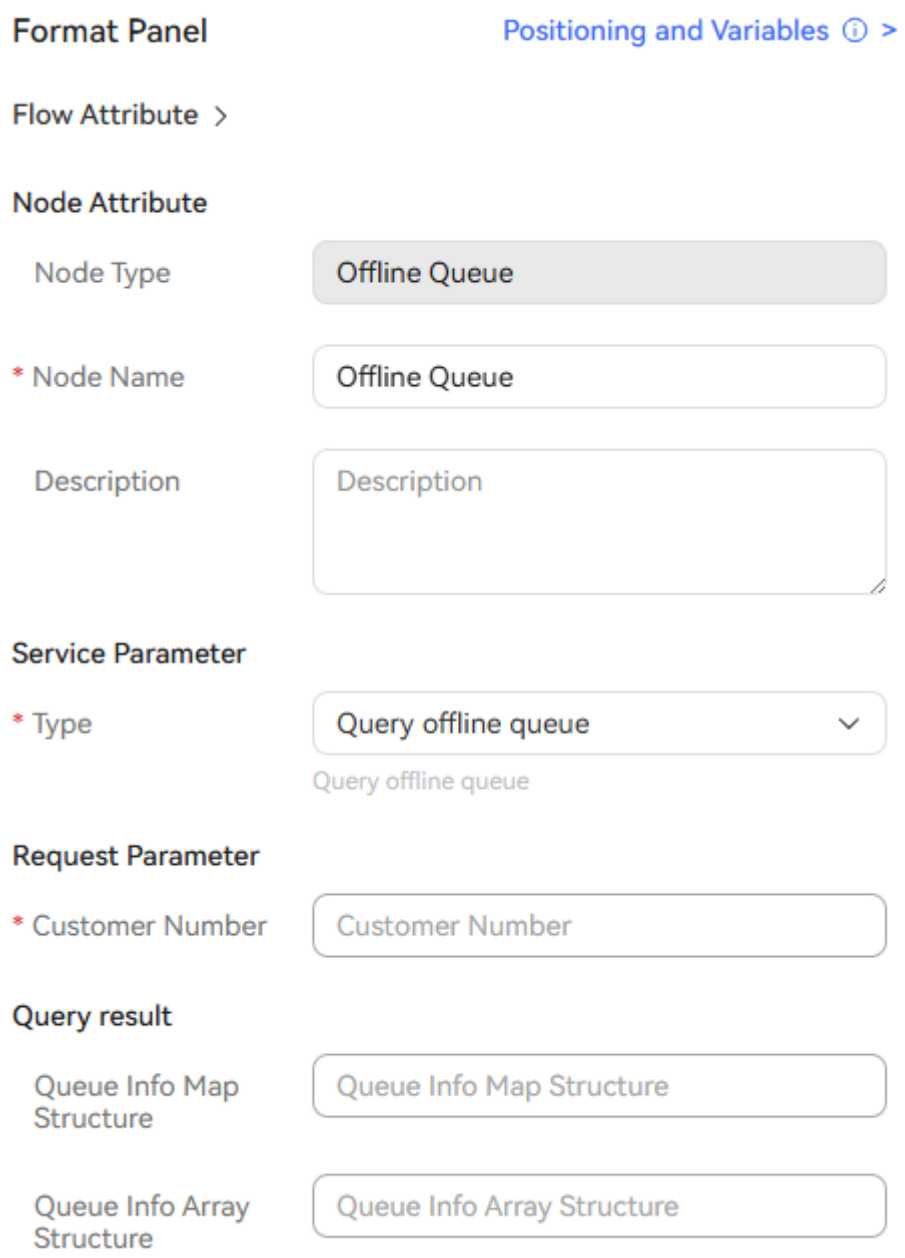
Diagram Element



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Parameter Description

Figure 2-268 Node Attribute



- **Node Name**: name of a node.
- **Description**: details of a node.
- **Type**: You can select **Query offline queue** or **Delete offline queue**.
- **Customer Number**: This field is mandatory and can be assigned a value through a variable.
- **Queue Info Map Structure**: This field is used to obtain the offline queue result. The key value of the map is the skill queue ID.

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- **Queue Info Array Structure**: This field is used to obtain the offline queue result. The sequence values of the two elements in the array are the number of queuing users and the estimated queuing time.

Typical Scenario

When a user makes a call to the system and the skill queue is busy, the user can select the offline queue mode. After queuing, the user hangs up. The CTI uses the agent preoccupation mode. That is, the CTI calls an agent and then calls a user, which is the callback feature. In this way, the agent can talk with the user.

The offline callback scenarios are as follows:

- When the IVR initiates a callback based on the callback record, the callback ends if the agent answers the call but the customer does not answer the call (ringing or power-off). In this case, the IVR does not initiate the callback again.
- When the IVR initiates a callback based on the callback record, a maximum of three callback attempts can be made if the agent does not answer the call. If the call is not answered after three callback attempts, the IVR does not initiate the callback again.
- After the offline queuing time set in the flow expires, the IVR does not initiate the automatic callback again.

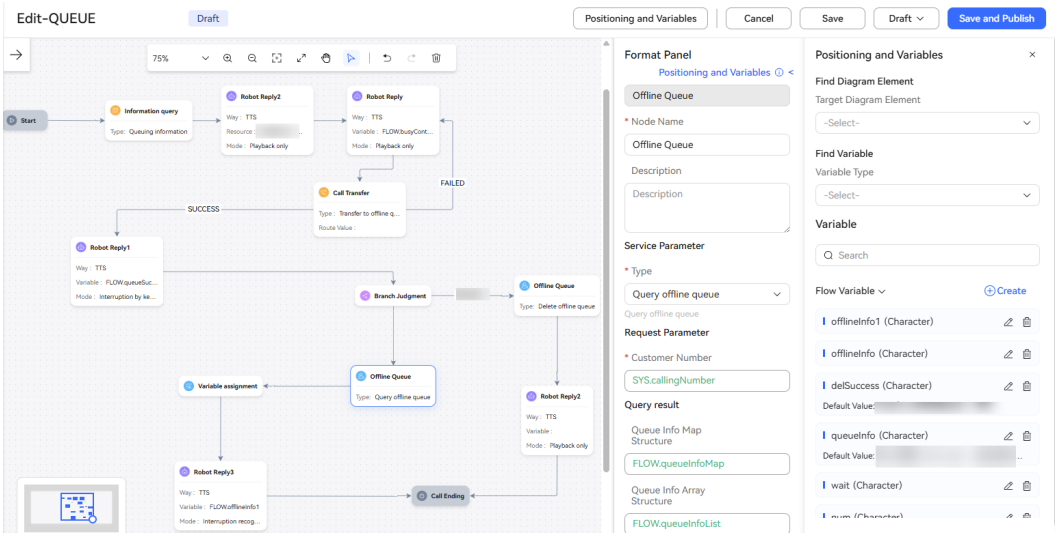
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration**, click **Import Flow**, and import the flow package.

   Figure 2-269 Flow orchestration example



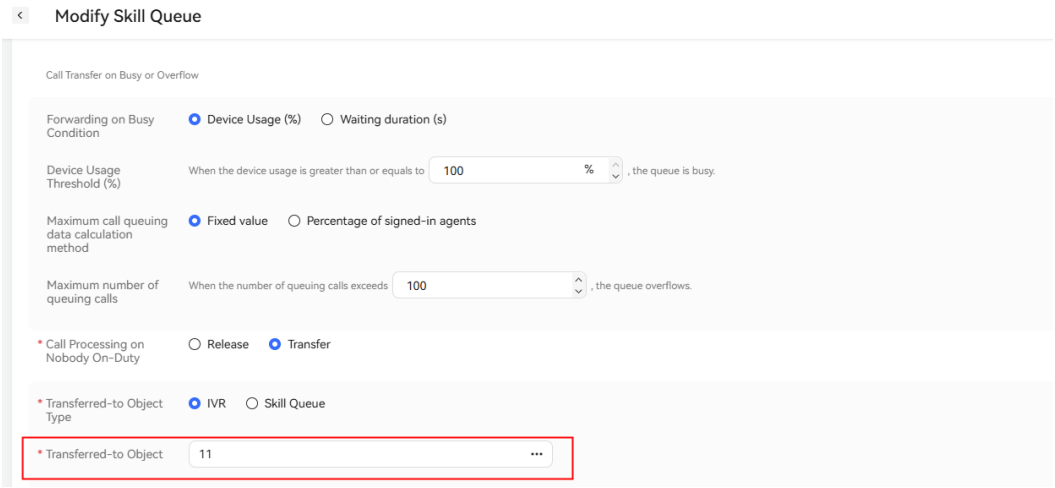
2. Save and publish the flow.

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Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Configuration Center** > **Employee Center** > **Skill** and configure a skill queue. Select the IVR flow when the queue is busy and set **Transferred-to Object** to the intelligent robot bound in **Step 3**.

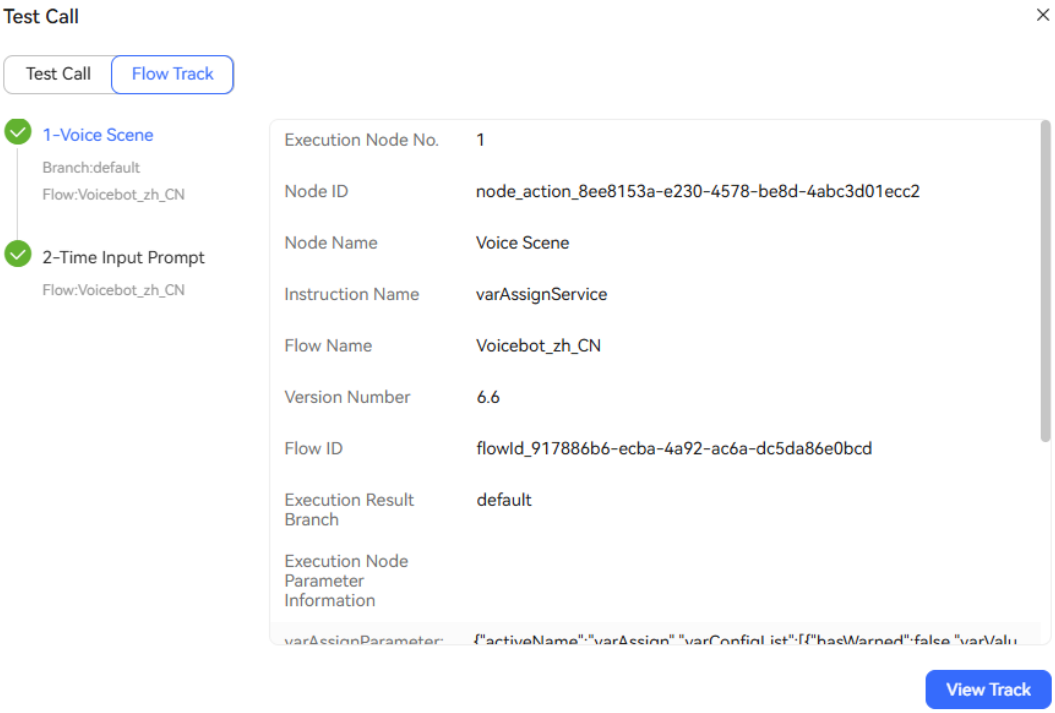
Figure 2-270 Skill queue



Step 5 Use the softphone number to log in to the OpenEye and dial the access code. The customer selects the busy state and hangs up. After the agent status changes to idle, the agent directly calls back the customer number and talks with the customer again.

Step 6 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Flow Tracking** and view the track.

Figure 2-271 Flow track



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NOTE

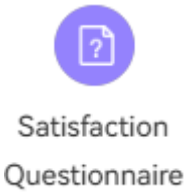
In the offline queue callback scenario, multiple CDRs are generated. During indicator statistics collection, multiple calls are processed based on multiple CDRs. When the callback of the call that applies for offline queue is successful, the call that applies for offline queue is also processed as a call loss.

----End

Satisfaction Survey

This diagram element is used to play voices or videos to instruct customers to press keys for interaction and collect their satisfaction details about corresponding calls.

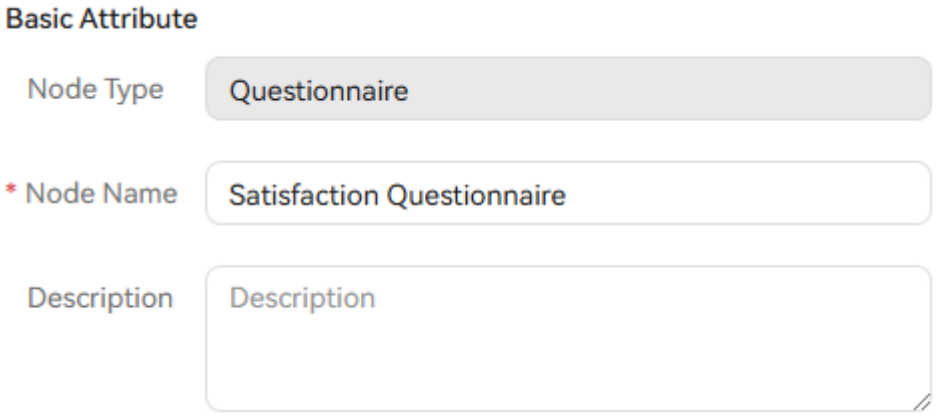
Diagram Element



Parameter Description

The following figure shows the parameters of the **Satisfaction Questionnaire** diagram element.

Figure 2-272 Node Attribute page



The parameter is described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.

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Condition Branch Description

Table 2-116 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

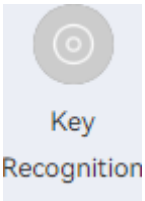
Typical Application Scenario

The **Satisfaction Questionnaire** diagram element is used only when an automatic outbound call task needs to be associated with an intelligent IVR survey flow. After an intelligent outbound call task is started, if the intelligent IVR flow associated with the outbound call task contains the **Satisfaction Questionnaire** diagram element, the survey content specified for the outbound call task is played to customers.

Key Recognition (Expired and Not Recommended)

This diagram element is used to recognize keys pressed by customers. For example, a customer uses this diagram element when entering a password for identity verification.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Rule Expression**: expression to verify the type of customer input. For example, if you select month verification, the month format is yyyyMM.
  - **Validate mobile number format (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 11-digit number ending with a number sign (#) and starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — ValueCheck branch
    iv. 11-digit number ending with a number sign (#) and starting with 1340 to 1348 — ValueCheck branch

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  - **Validate mobile number format (without # or *)**
    i. 11-digit number starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — ValueCheck branch
    ii. 11-digit number starting with 1340 to 1348 — ValueCheck branch
  - **Validate password format (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 6-digit number — ValueCheck branch
  - **Validate password format (with *)**
    i. * — MAIN branch
    ii. 6-digit number — ValueCheck branch
  - **Validate mobile number (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 11-digit number — ValueCheck branch
  - **Validate mobile number (with *)**
    i. * — MAIN branch
    ii. 11-digit number — ValueCheck branch
  - **Validate month input**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. Valid month in *yyyyMM* format — ValueCheck branch
- **Keyboard Input Type**: If this parameter is left blank, the month input verification is performed by default (**Rule Expression** must be set to **Validate month input**). The entered month must be in *yyyyMM* format.
  - **keyBoard_phone**: input from a phone keyboard. Enter this value when the OpenEye or a mobile phone is used.
  - **checkoldpassword**: input from a password keyboard.
- **Variable**: variable for saving customer input.
- **Context**: used to filter intentions to be matched to improve the matching speed. When **Keyboard Input Type** is set to **checkoldpassword**, this parameter is invalid, because semantic recognition is not performed on the keyboard input.

Using the Diagram Element

The **Key Recognition** diagram element mainly follows the **Robot Reply** diagram element (when **Reply Mode** is set to a mode related to digit collection, such as **Interruption by key presses** or **No interruption after digit collection**) to save the pressing content to a variable for further logic processing.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

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Typical Application Scenario

The following describes how to use the **Key Recognition** diagram element to enable customers to select a business to be handled by pressing a key.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-273 Flow variables to be added

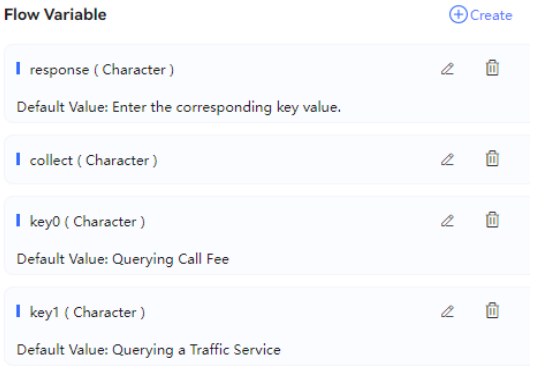
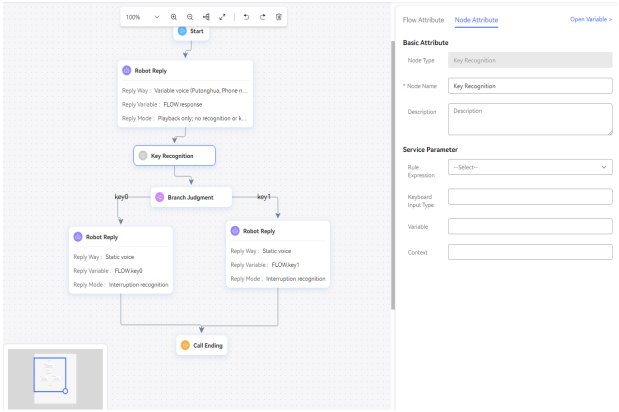
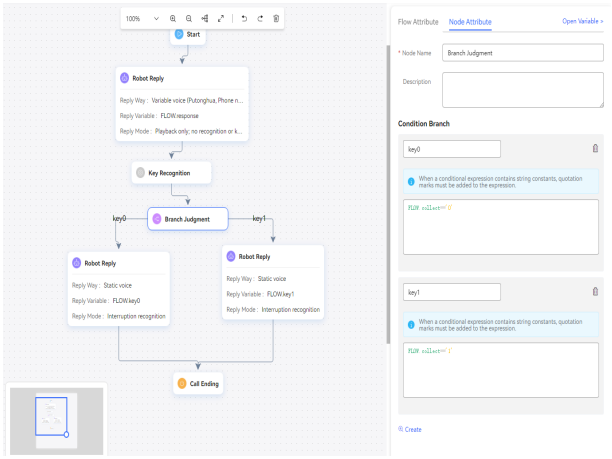


Figure 2-274 Flow orchestration example (Key Recognition diagram element)



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Figure 2-275 Flow orchestration example (Branch Judgment diagram element)



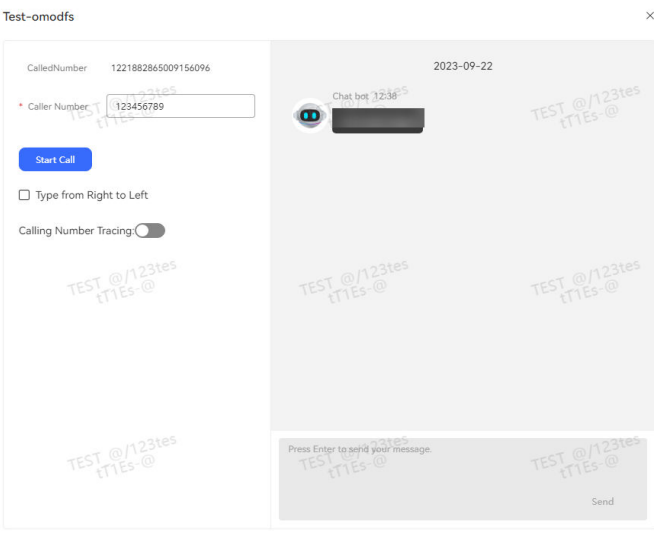
- Use the response variable **FLOW.key0** for the **Response** diagram element of the **Key0** condition branch to reply to the customer that the call fee business is selected.
- Use the response variable **FLOW.key1** for the **Response** diagram element of the **Key1** condition branch to reply to the customer that the data package business is selected.

3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers different businesses based on different keys pressed by the customer, the configuration is successful.

Figure 2-276 Testing the robot



----End

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Rule Verification (Expired and Not Recommended)

This diagram element is used to verify the customer input or output based on rules.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Text Variable**: variable whose value has been obtained before this node. For example, if a customer wants to query the bills of a month and the customer says "13", this month can be saved as a flow variable using the **Semantic Recognition** diagram element. In this case, the variable is extracted for month verification.
- **Rule Expression**: expression to verify the type of customer input. For example, if you select month verification, the month format is yyyyMM.
- **Validate mobile number format (with # and *)**
  a. * — true branch
  b. # — true branch
  c. 11-digit number ending with a number sign (#) and starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — true branch
  d. 11-digit number ending with a number sign (#) and starting with 1340 to 1348 — true branch
- **Validate mobile number format (without # or *)**
  a. 11-digit number starting with 135 to 139, 150 to 152, 157 to 159, 147, 182 to 184, 187, 188, or 198 — true branch
  b. 11-digit number starting with 1340 to 1348 — true branch
- **Validate password format (with # and *)**
  a. * — true branch
  b. # — true branch
  c. 6-digit number — true branch
- **Validate password format (with *)**
  a. * — true branch
  b. 6-digit number — true branch
- **Validate mobile number (with # and *)**
  a. * — true branch

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b. # — true branch
c. 11-digit number — true branch

- **Validate mobile number (with *)**
  a. * — true branch
  b. 11-digit phone number — true branch
- **Validate month input**
  a. * — true branch
  b. # — true branch
  c. Valid month in *yyyyMM* format — true branch
- **Keyboard Input Type**: If this parameter is left blank, the month input verification is performed by default (**Rule Expression** must be set to **Validate month input**). The entered month must be in *yyyyMM* format.
  - **keyBoard_phone**: input from a phone keyboard. Enter this value when the OpenEye or a mobile phone is used.
  - **checkoldpassword**: input from a password keyboard.
- **Variable**: variable for saving customer input.
- **Context**: used to filter intentions to be matched to improve the matching speed. When **Keyboard Input Type** is set to **checkoldpassword**, this parameter is invalid, because semantic recognition is not performed on the keyboard input.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Rule Validation** diagram element to verify whether the customer input is a valid month.

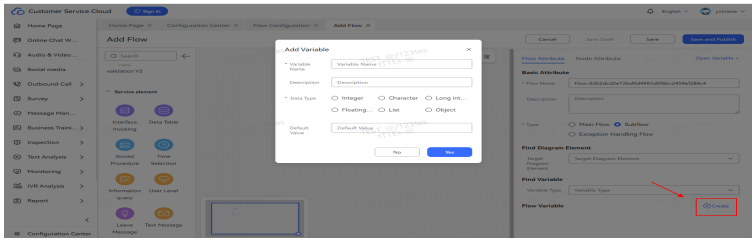
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

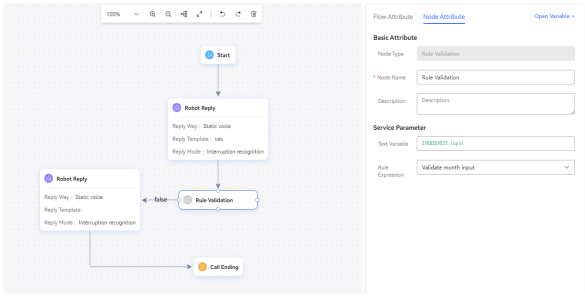
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Figure 2-277 Add Variable



In this example, the **Business Interface Invocation** diagram element does not invoke an interface. Instead, it is used to assign values to parameters.

Figure 2-278 Flow orchestration example (Rule Validation diagram element)



- For the **false** condition branch of the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.FalseResponse** to reply to the customer with "The month you entered is invalid".
- For the **true** condition branch of the **Robot Reply** diagram element, set **Reply Variable** to **FLOW.TrueResponse** to reply to the customer with "The month you entered is valid".

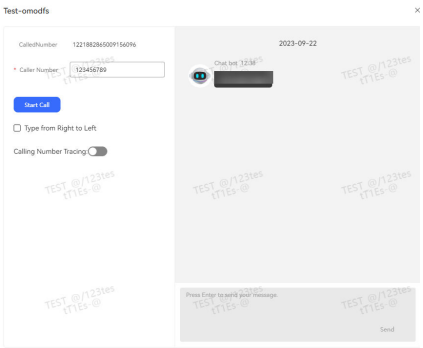
3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers that the month is valid or invalid based on the month entered by the customer, the configuration is successful.

Figure 2-279 Testing the robot



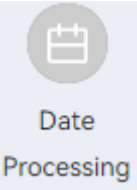
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----End

Date Processing (Expired and Not Recommended)

This diagram element is used to offset the date that a customer speaks by month or hour. For example, if a customer says "March 2019", this diagram element can be used to offset March 2019 backward by two months and output "May 2019".

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Offset Period**
  - **By month**
  - **By hour**
- **Source Character String**: variable of the string that has been defined and assigned a value in the previous flow. The string format is *yyyyMM* for offsetting by month and *yyyyMMddHHmmss* for offsetting by hour. For example, "201903" said by a customer can be transferred using a variable.
- **Target Character String**: variable of the correct string after time conversion. This parameter is usually set to a flow variable.
- **Number of Offsets**: mode of converting the source month.

Using the Diagram Element

The **Date Processing** diagram element is used when the relative time expressed by a customer needs to be fuzzily processed.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

The following describes how to use the **Date Processing** diagram element to offset the month said by a customer backward by one month.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

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2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-280 Flow variables to be added

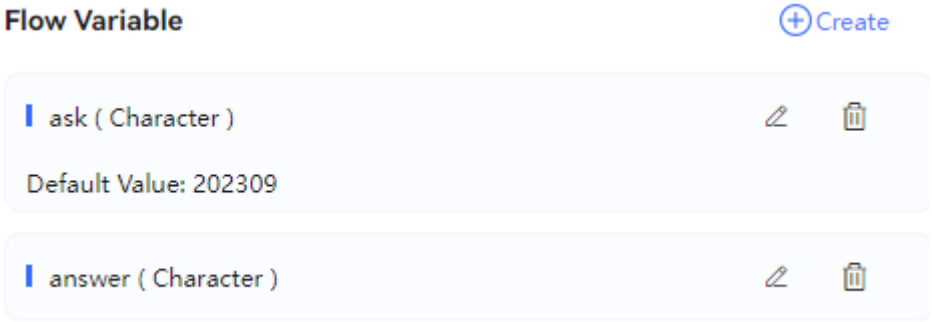
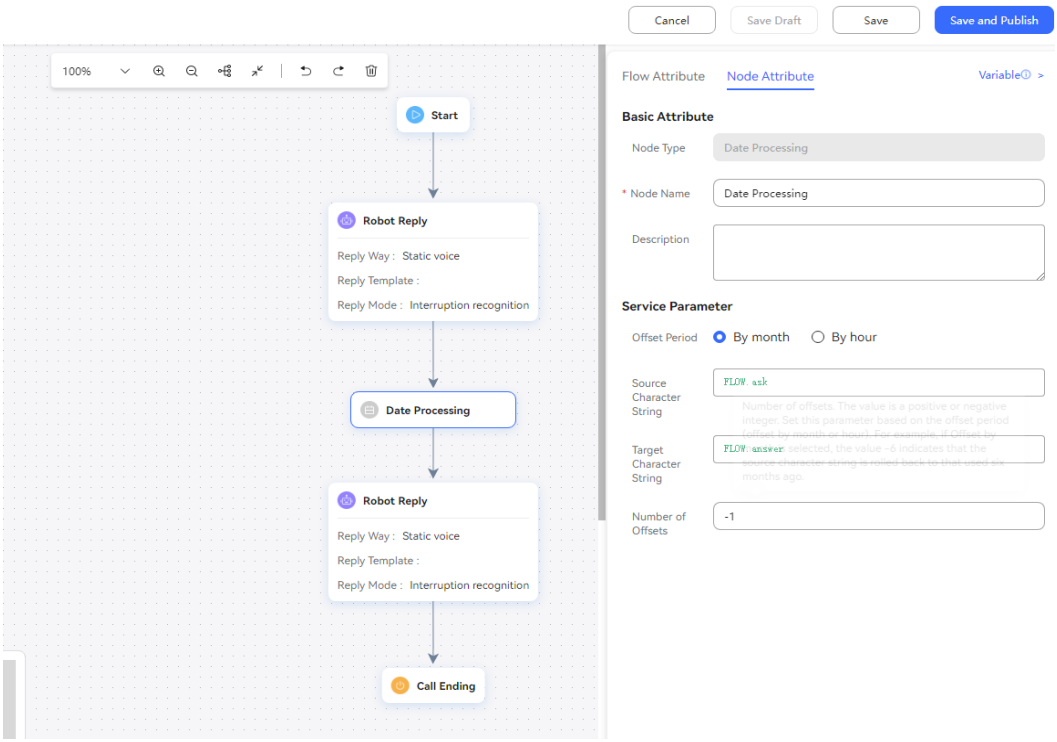


Figure 2-281 Flow orchestration example



3. Save and publish the flow.

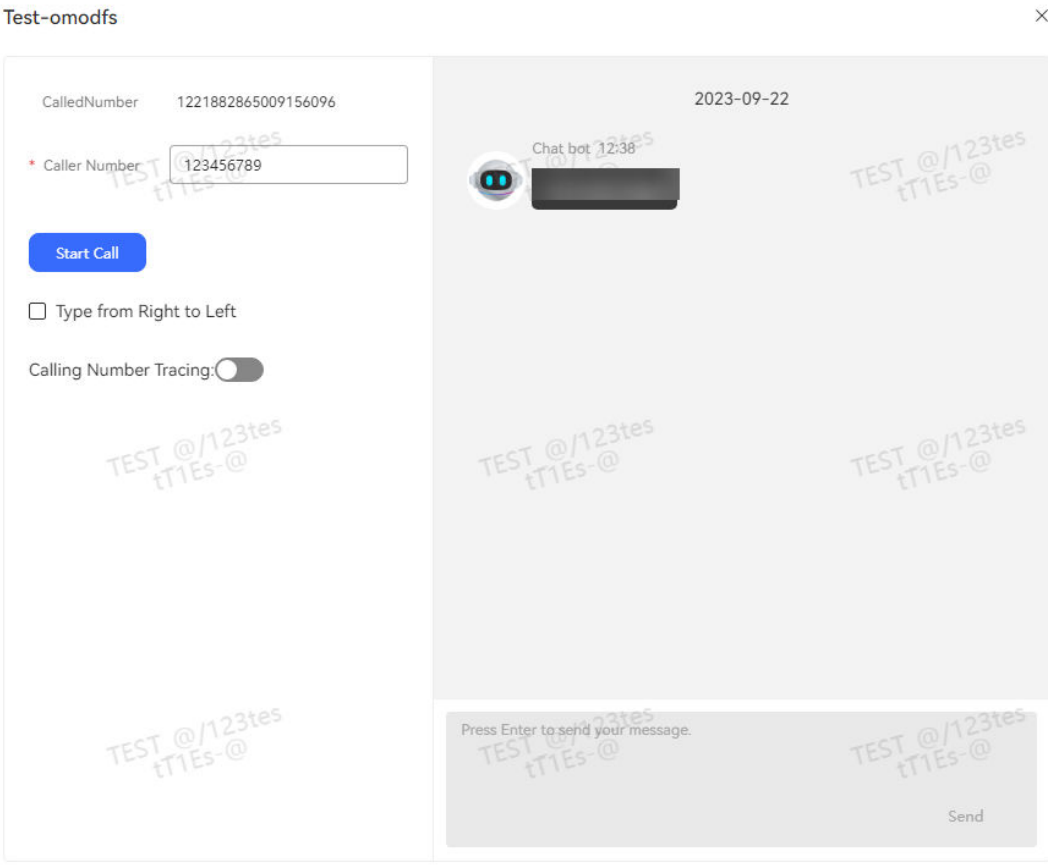
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. The robot outputs input parameters, and the customer enters any month. Then, the robot offsets the month forward by one month and outputs the result.

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Figure 2-282 Testing the robot

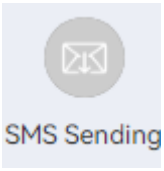


----End

SMS Sending (Expired and Not Recommended)

This diagram element is used to invoke an interface for sending SMS messages to send an SMS message based on a template.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **SMS Template**: You can select an SMS template defined under **Resource Management > Resource Template**. This function is supported only when the OP is independently deployed.
- **SMS Content**: If you do not need an SMS template for a simple content, you can enter the content here.

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Condition Branch Description

Table 2-117 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.
SYSERROR_INTERFACE	Business interface invocation failure	Triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.

Using the Diagram Element

The **SMS Sending** diagram element is used to send an SMS message.

Click the diagram element or drag it to the canvas, and select an SMS template or add an SMS content. If you need an SMS template, define it under **Resource Management** > **Resource Template** in advance.

Typical Application Scenario

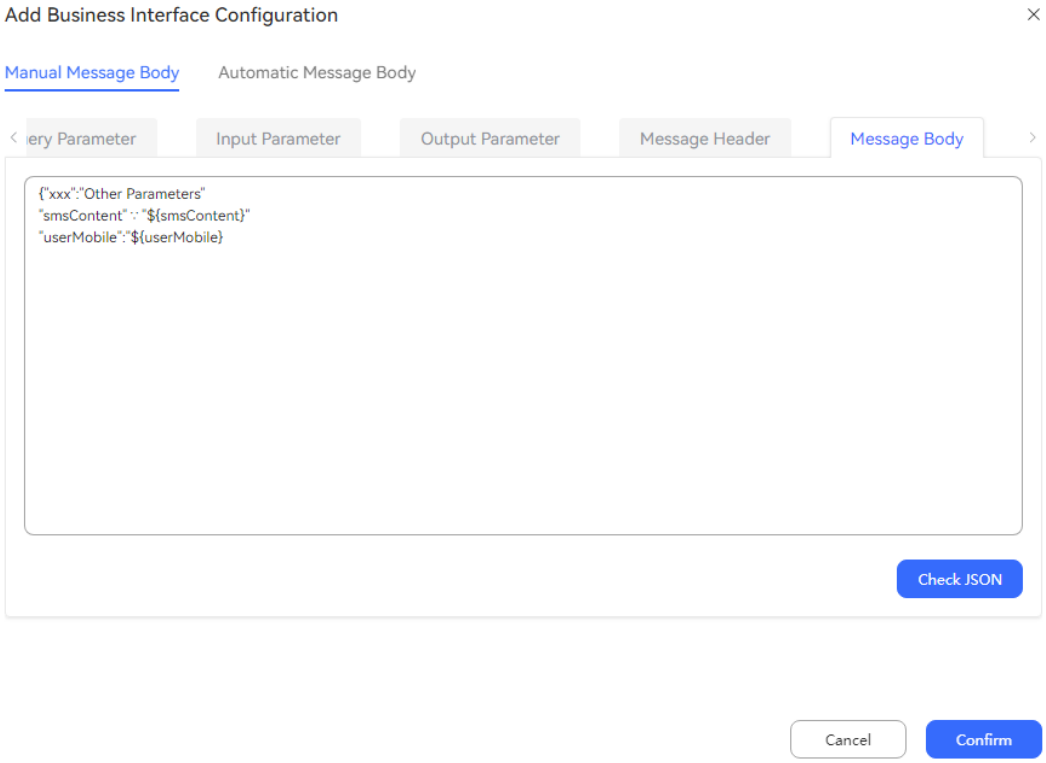
The following describes how to use the **SMS Sending** diagram element to send a dinner reservation SMS message after the dinner reservation time is confirmed.

Step 1 Add an interface for sending SMS messages. For details, see **2.6.2.2.2 Adding Business Interfaces**.

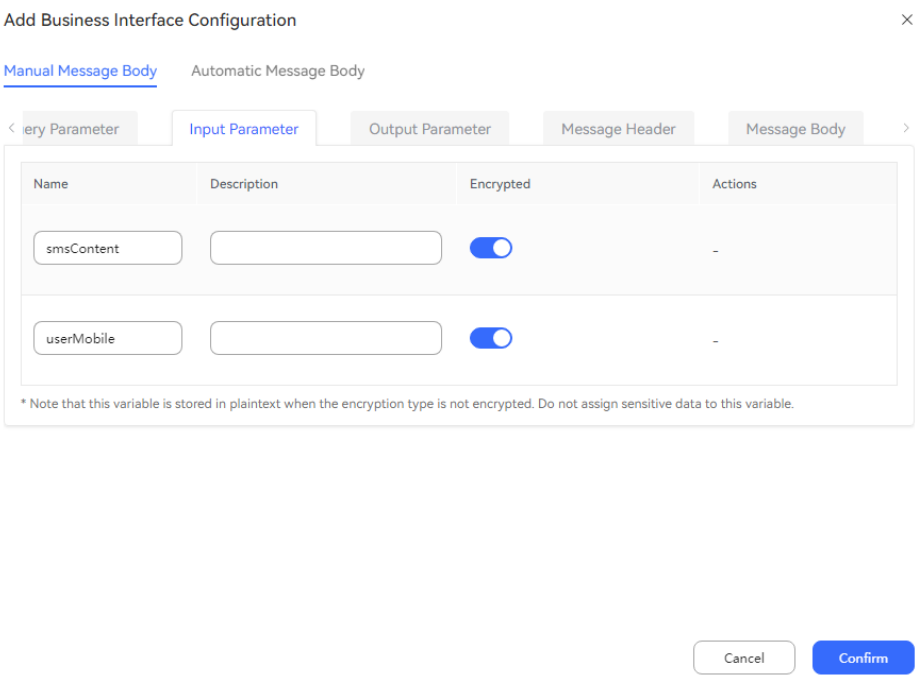
The message body of the interface must contain the input parameters smsContent and userMobile. Set other parameters based on the site requirements. The following is an example:

When you manually enter the message body to configure the interface:

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When the automatically generated message body is used:



Step 2 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

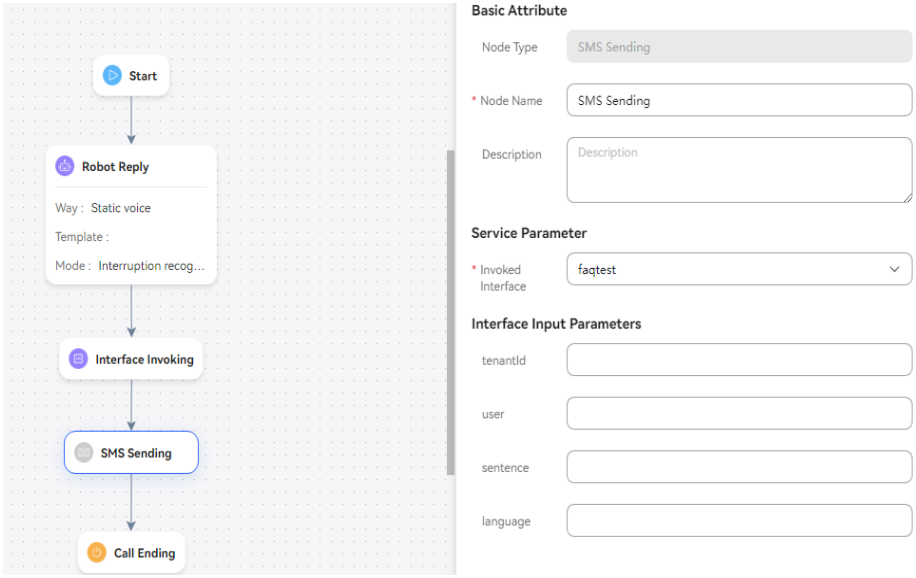
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2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-283 Flow variables to be added



Figure 2-284 Flow orchestration example (SMS Sending diagram element)



- Use the reply variable **FLOW.ask** for the **Robot Reply** diagram element to ask the customer about the dinner reservation date: "What date would you like to make a reservation for dinner?"
- The input parameters smsContent and userMobile of the SMS message sending diagram element interface do not need to be set. If they are set, they are used preferentially.
- You can select an SMS template (variables can be set) or customize the SMS content.
- SmsContent, SMS template, and SMS content. The priorities of the values are as follows: smsContent > SMS template > SMS content
- userMobile and the user number obtained by the system. The priority is as follows: userMobile & > User number obtained by the system

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

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Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot.

----End

JSON Data Invoking (Expired and Not Recommended)

This diagram element is used to parse and assign values to call-associated data in JSON format.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.

  NOTE

  - When the call-associated data that the common IVR returns to the intelligent IVR is in the **{"data":{"***xx***": "***aaa***", "***yy***":"***bbb***"}, "***ivrType***": "***0***"}** format, to obtain *aaa*, set **Response Attribute** of the **JSON Data Invoking** diagram element in the intelligent IVR to **IVRREQUEST.transin_data.data.***xx*.
  - When a CC-iSales outbound call is transferred to the intelligent IVR, the CC-iSales converts the call-associated data (for example, **"callData":"{\\\"***xxx***\\\":\\\"***123456***\\\",\\\"***yyy***\\\":\\\"***123***\\\"}"**) carried by the API for adding an outbound number to the format of **{"iSales": {"UniqueID":"****","ServiceID":"****","***xxx***":"***123456***","***yyy***":"***123***"}**. To obtain *123456*, set **Response Attribute** of the **JSON Data Invoking** diagram element in the intelligent IVR to **IVRREQUEST.transin_data.iSales.***xxx*.

Using the Diagram Element

When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

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Typical Application Scenario

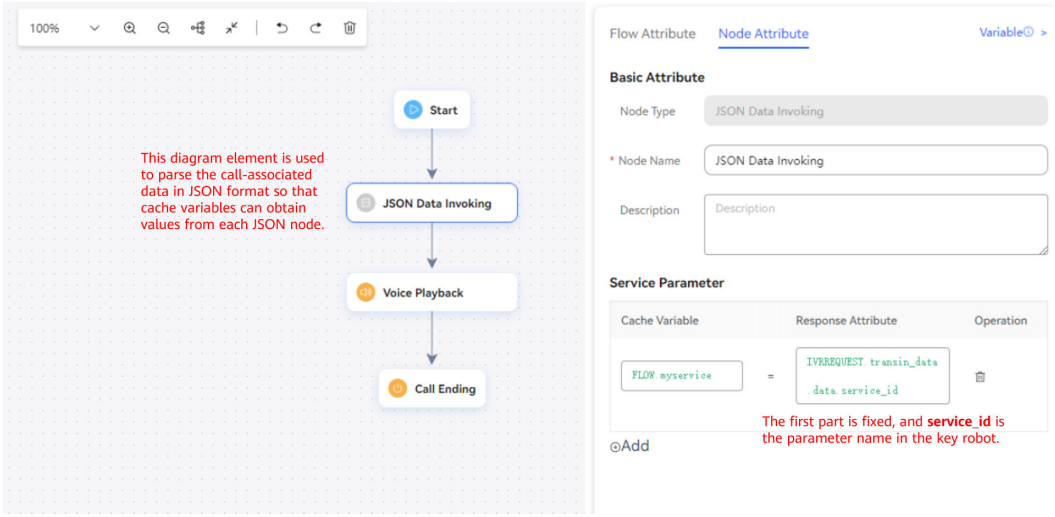
Scenario 1: Transfer a call from a common IVR flow to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, and set parameters as shown in the following figure. The value of **Response Attribute** must be the same as the parameter name transferred by the common IVR.

   Figure 2-285 Flow orchestration example



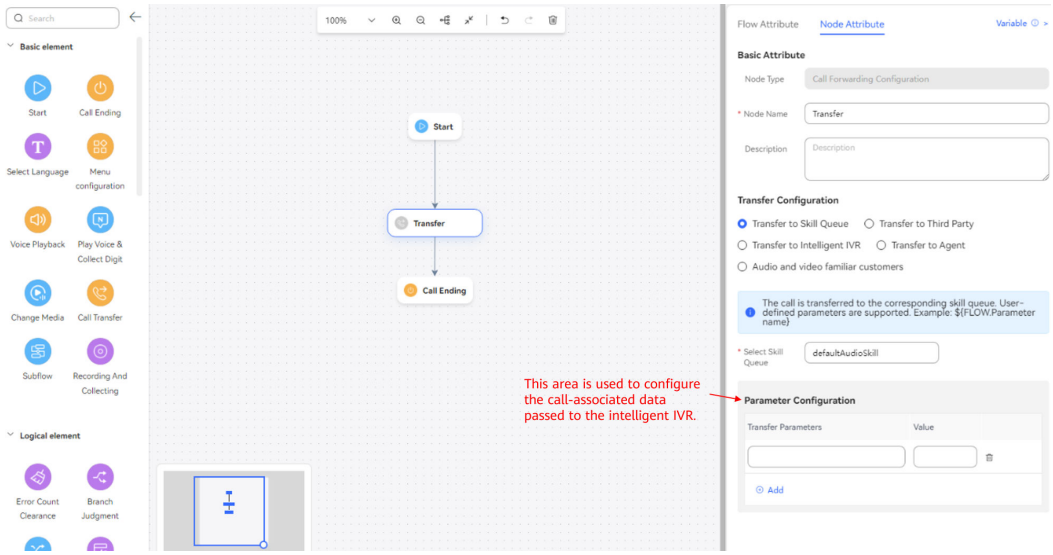
2. Save and publish the flow.
3. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Configure a common IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**, add a common IVR flow, and orchestrate the flow, as shown in the following figure.

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Figure 2-286 Flow orchestration example



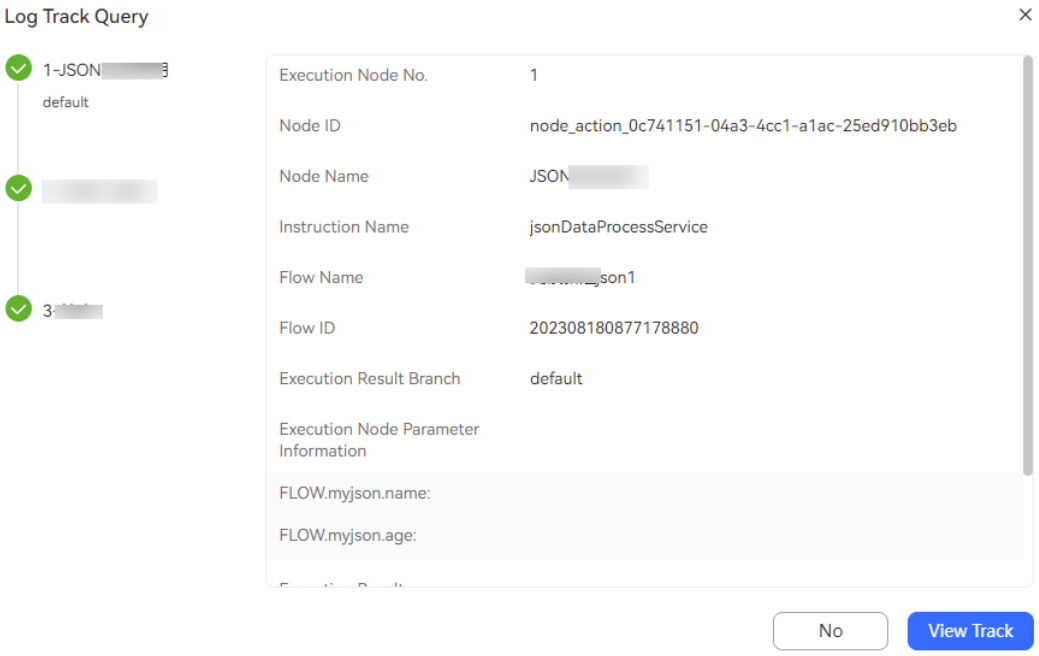
2. Save and publish the flow.

Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the common IVR added in **Step 3**.

Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page.

Step 6 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. If the result is the similar to that shown in the following figure, the intelligent IVR node successfully obtains the value of the call-associated data parameter (**service_id**) passed by the common IVR.

Figure 2-287 Flow track log page



----End

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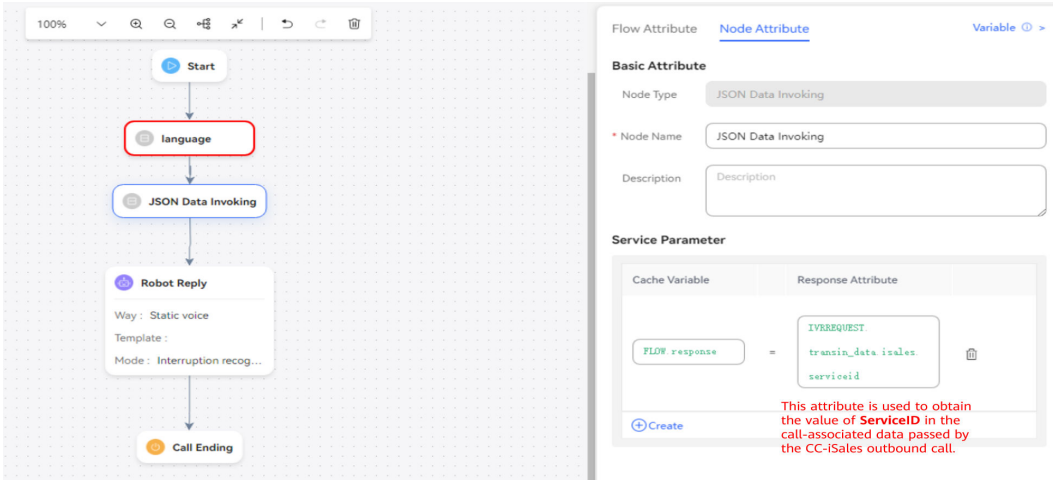
Scenario 2: Transfer a CC-iSales outbound call to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and add an intelligent IVR flow whose **Type** is **Main flow**. Configure the **JSON Data Invoking** diagram element, as shown in the following figure. For the **Robot Reply** diagram element, set **Reply Source** to **Reply Variable** and **Reply Variable** to **FLOW.response**.

   Figure 2-288 Flow orchestration example



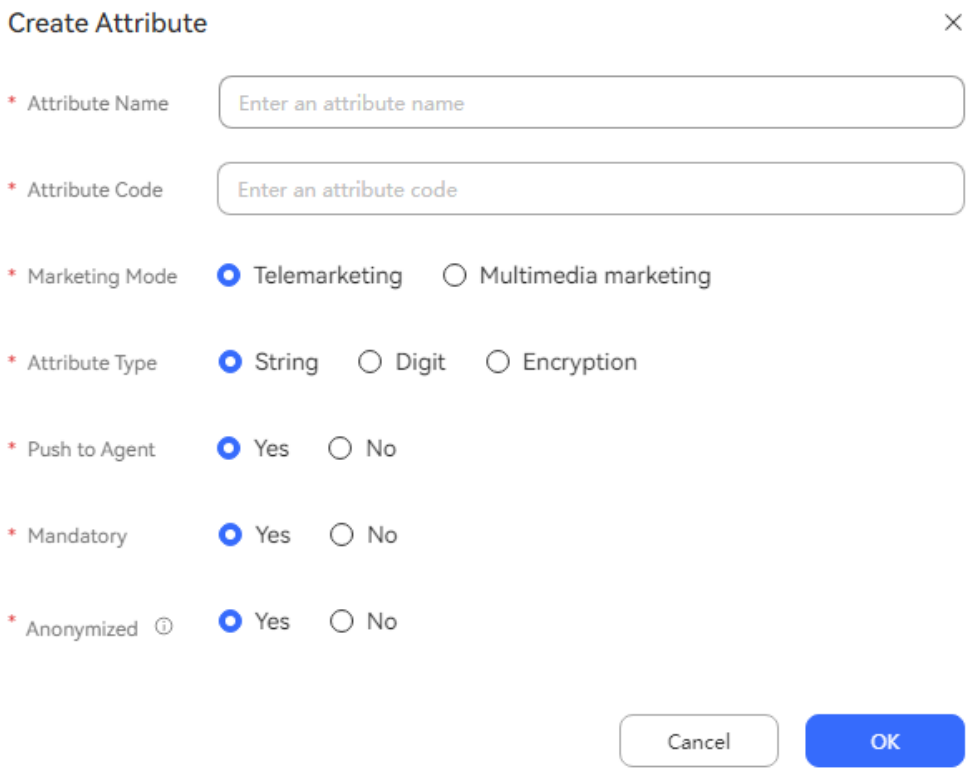
2. Save and publish the flow.

Step 3 Configure an intelligent outbound call task in the CC-iSales.

1. Choose **Configuration Center** > **Call Config** > **Data Attr** and create attributes, as shown in the following figure. That is, create call-associated data fields used during outbound call creation. You can click **Call Data** corresponding to an outbound call task to bind the call-associated data fields added here. Publish the attribute.

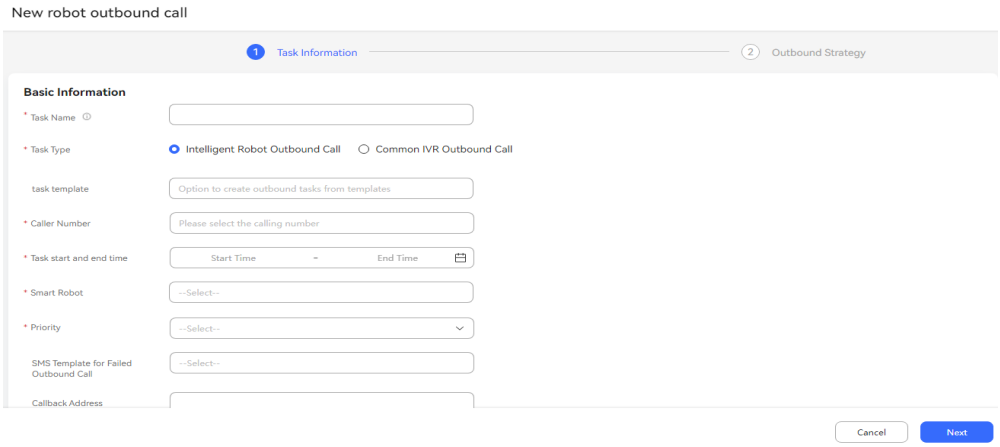
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Figure 2-289 Create Attribute page



2. Choose **Outbound Call** > **Call Mgmt**, click **Create**, and choose **Robot Outbound**.
3. Configure an intelligent outbound call task. Set **Task Type** to **Intelligent Outbound Call** and **IVR Flow** to the intelligent IVR flow added in **Step 2**, and save the configuration.

Figure 2-290 Page for configuring an intelligent outbound call task



4. Click **Outbound Call Data** in the **Operation** column corresponding to the new intelligent outbound call task, click **New**, and add CC-iSales outbound numbers (for example, 88882020) one by one and configure the call-associated data to be passed.

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NOTE

To import outbound call data in batches, see **2.13.3.8.1 Configuring Outbound Call Data**.

Figure 2-291 Configuring outbound call data

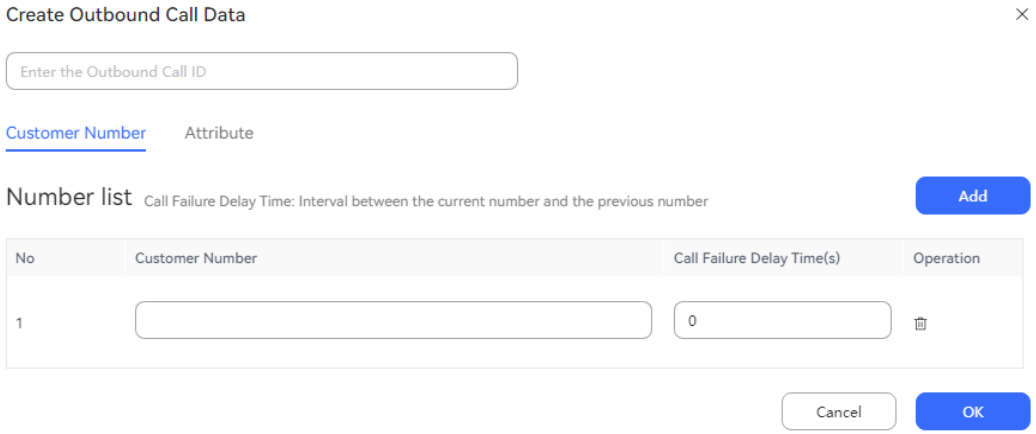
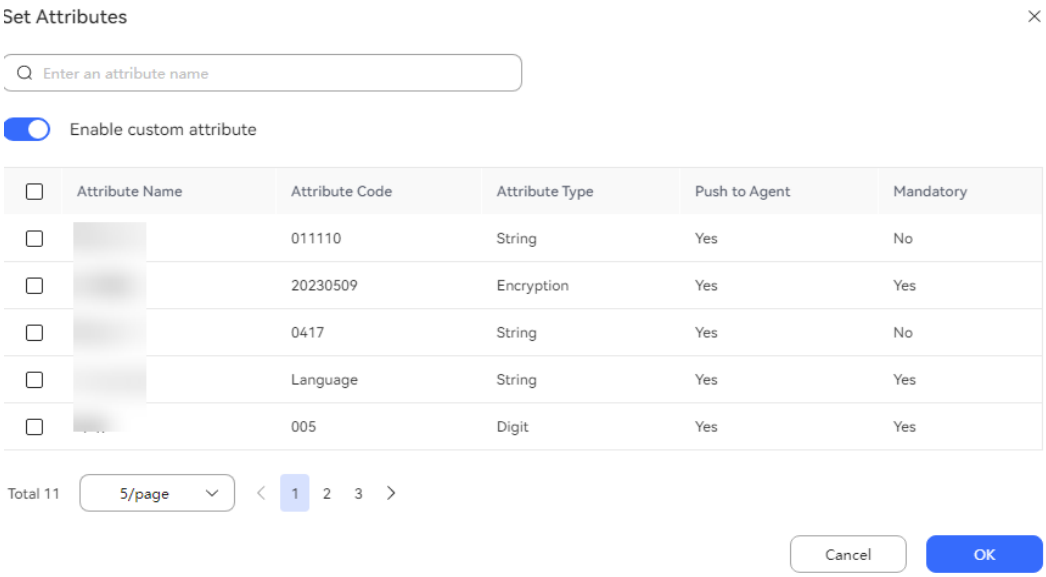


Figure 2-292 Configuring the call-associated data to be passed

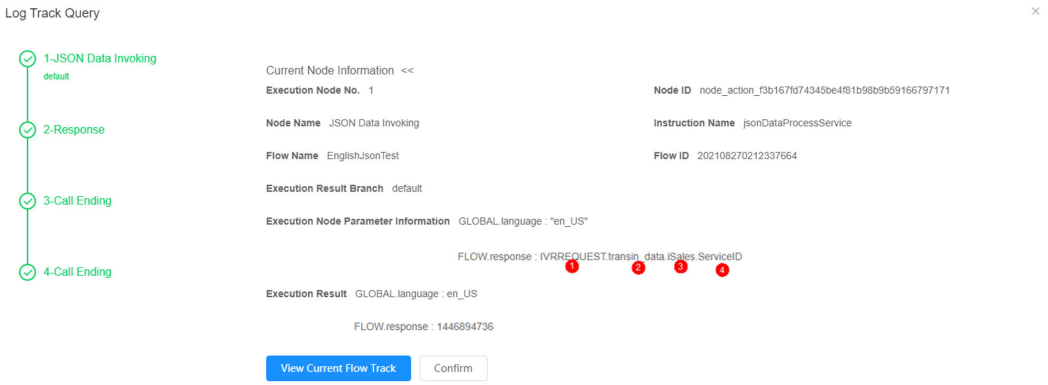


Step 4 Log in to the OpenEye using a configured outbound number, and start the intelligent outbound call task. After answering the call, you can hear the call-associated data (**ServiceID**) passed by the CC-iSales outbound call.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. If the result is the same as that shown in the following figure, the intelligent IVR node successfully obtains the value of the call-associated data parameter (**ServiceID**) passed by the CC-iSales outbound call.

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Figure 2-293 Flow track log page



----End

Composite

A composite diagram element is a combination of multiple diagram elements that an operator customizes for simplified operations.

Diagram Element



NOTE

What are the differences between a composite diagram element and a **Flow Transfer** diagram element?

In a flow, input and output parameters can be defined by using composite diagram elements. That is, after the flow in a composite diagram element is executed, other steps in the original flow can be continued. After the flow is transferred, however, the current flow ends, and the data in the transferred flow can no longer be obtained to execute the original flow.

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Input Parameters**: list of input parameters for the composite diagram element.
- **Output parameters**: list of output parameters for the composite diagram element.

Using the Diagram Element

A composite diagram element can function as a specific sub-function module. You can use a composite diagram to combine operations frequently used in flows. If multiple flows use the same operations, you can use a composite diagram element to write the same operations. During orchestration of a complex flow, if

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the number of diagram elements exceeds 100, you can use composite diagram elements to store remaining operations of the flow.

Before creating a composite diagram element, you need to perform the following operations:

1. Create a composite diagram element catalog. (A maximum of 100 catalogs can be added.)
2. Enter the basic information about the composite diagram element, select a catalog for storing the diagram element, and edit its flow.
3. Edit the composite diagram element canvas. After creating a composite diagram element, orchestrate its flow on the canvas based on the basic flow orchestration logic. You can use basic diagram elements to define a composite diagram element on the **Resource** > **Complex Cell** page.

Typical Application Scenario

The following describes how to use a composite diagram element to greet and interact with the robot.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Add a composite diagram element.

1. Choose **Resource** > **Complex Cell**, click the **Composite Diagram Element Catalog** tab, and click Create.

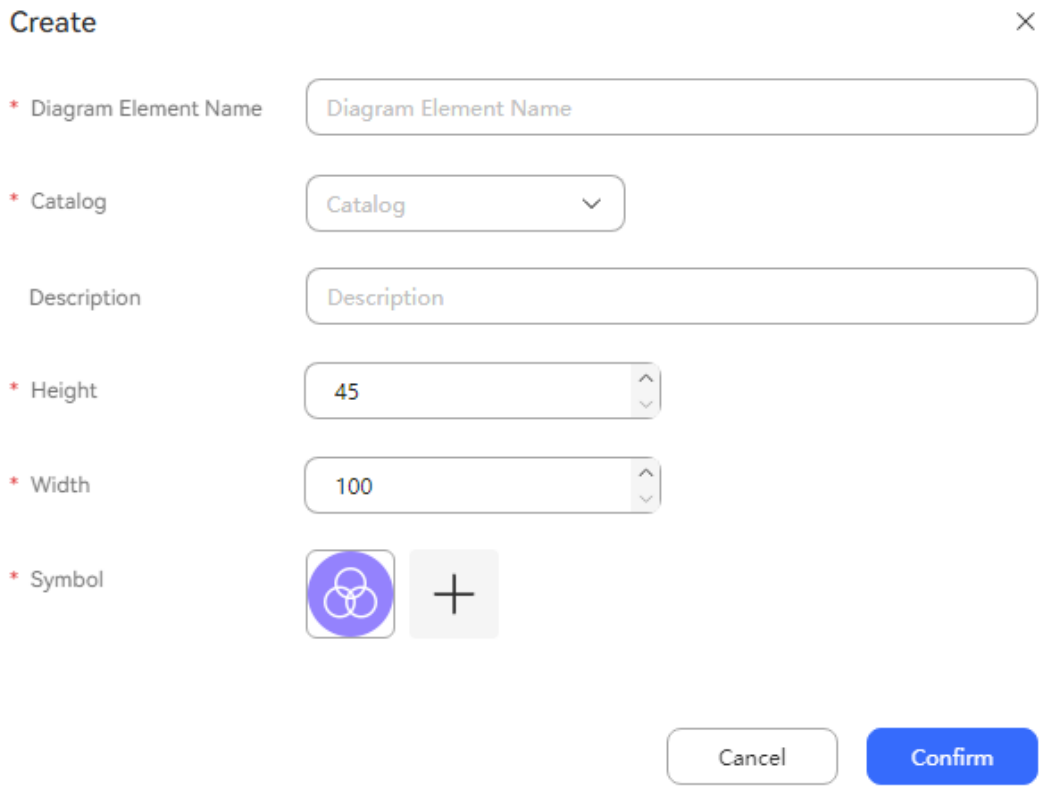
   Figure 2-294 Page for adding a composite diagram element catalog

2. Click the **Composite Diagram Element** tab and click Create.

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Figure 2-295 Page for adding a composite diagram element



3. Click **Edit Canvas** in the **Operation** column to orchestrate the composite diagram element.

Step 3 Configure an intelligent IVR flow.

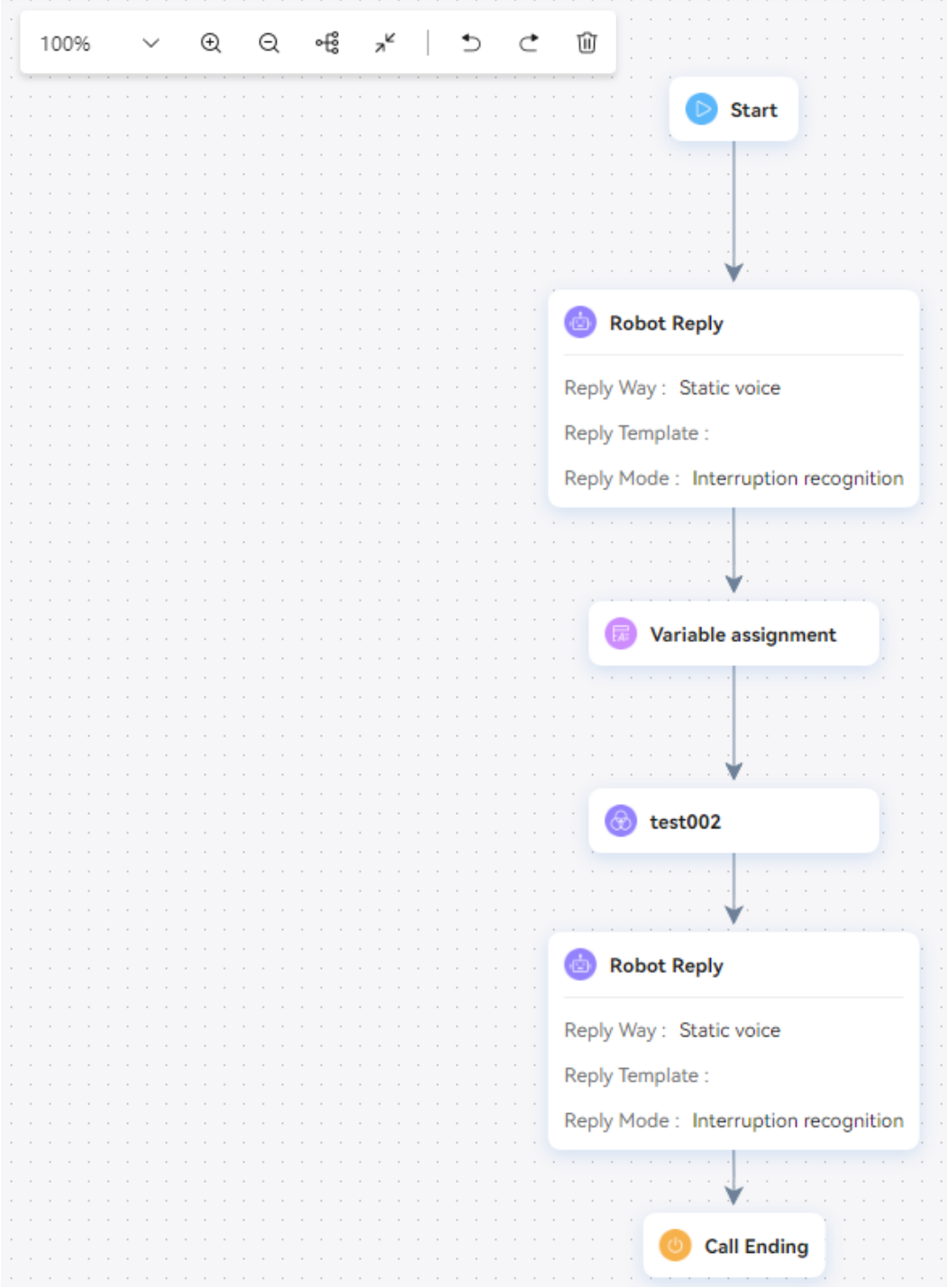
1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-296 Flow variables to be added



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Figure 2-297 Flow orchestration example (composite diagram element)



Set the input parameter of the composite diagram element to **FLOW.answer** to transfer the customer answer to the composite diagram element.

3. Save and publish the flow.

Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.

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If the dialog with the robot is normal, the composite diagram element is configured successfully.

----End

Avatar Reply

This diagram element is used to configure virtual humans who respond to customers in intelligent video customer service. It can be used to play virtual human videos to customers in flows.

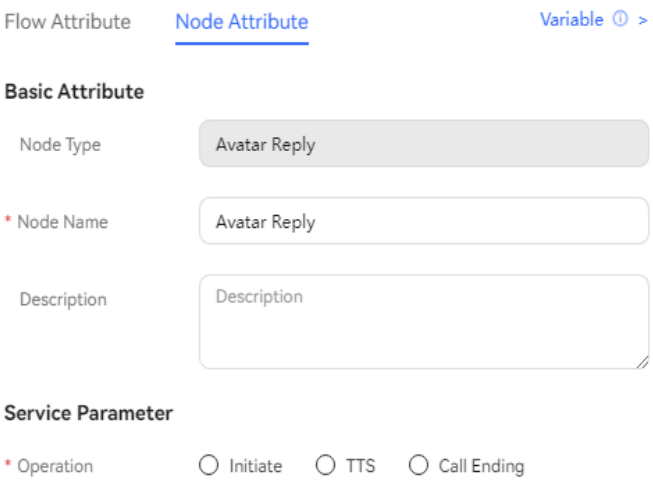
Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Operation**: The options are **Initiate**, **TTS**, and **Call Ending**.

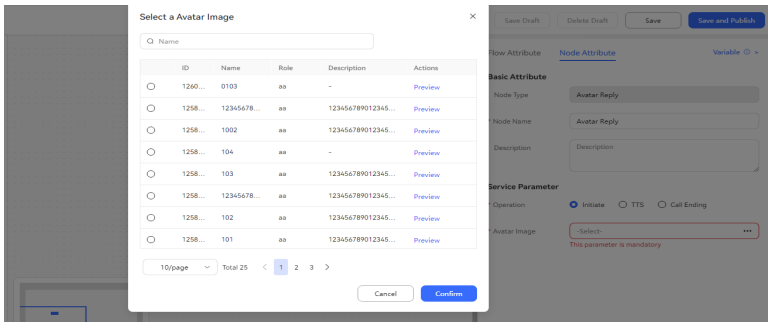
  Figure 2-298 Setting Operation for the Avatar Reply diagram element

  - **Initiate**: A session with the virtual human service is initiated. You need to specify the virtual human to be used.
  - **TTS**: The configured text is provided for the virtual human service for video synthesis and playback. Variables can be added to the reply text, and the virtual human service dynamically plays a voice based on the return values of the variables.
  - **Call Ending**: The session with the virtual human service is ended.
- **Avatar Image**: This parameter is displayed when **Operation** is set to **Initiate**. Select a virtual human configured on the **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Virtual Human** page.

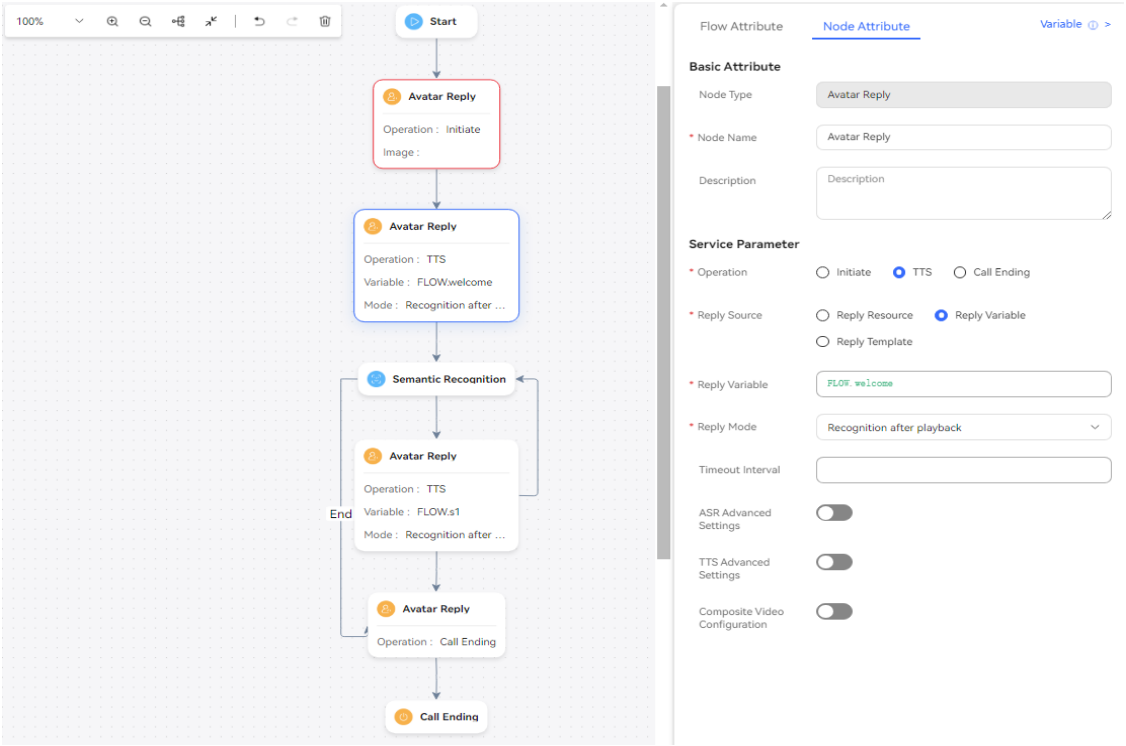
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Figure 2-299 Selecting a virtual human



- **Reply Variable**: This parameter is displayed when **Operation** is set to **TTS**. Enter the text variable to be used by the virtual human to reply.

Figure 2-300 Selecting TTS



a. **Reply Template**: This parameter is displayed when **Operation** is set to **TTS**. Select a template whose **Type** is **TTS** under **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Resource Template**.

b. **Reply Variable**: This parameter is displayed when **Operation** is set to **TTS**. Set **Reply Variable** to a variable of the **Character** type.

c. **Reply Resource**: This parameter is displayed when **Operation** is set to **TTS**. Select a text resource whose **Status** is **Approved** under **Configuration Center** > **Resource Management** > **Audio and Video**.

- **Reply Mode**: This parameter is mandatory. The options are as follows:
  - **Playback only**: Only the voice or video is played, and customer input does not need to be received. Generally, this option is selected for static voice playback.

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- **Interruption recognition**: The customer needs to answer by voice. Generally, this option is selected for replying to text.
- **Interruption by key presses**: The keys pressed by the customer need to be obtained. If **Reply Mode** of the **Robot Reply** diagram element is set to **Interruption by key presses** and the key interaction result needs to be obtained, the **Robot Reply** diagram element cannot be directly connected to the **Call Ending** diagram element, and the **Key Recognition** and **Semantic Recognition** diagram elements cannot be directly connected before the **Call Ending** diagram element.
- **Recognition and key presses**: Both voice and key information can be received. The information received first is used for matching.
- **Recognition after playback**: The system starts to identify the voice or video only after the voice or video is played. If a customer speaks during the playback, the system does not receive the voice.
- **Recognition and key presses after playback**: The system starts to identify the voice or video and collect digits only after the voice or video is played. If a customer speaks or presses a key during the playback, no information can be received. If a customer speaks or presses a key after the playback, the information that is received first is used for matching.
- **No interruption after digit collection**: Keys can be pressed when the voice or video is played, but the playback is not interrupted.
- **Custom Variable Value**: whether voice playback can be interrupted. If voice playback can be interrupted, set **Minimum Voice Playing Duration**.

  String **true** -- Voice playback can be interrupted during recognition, and the minimum voice playback duration can be passed.

  String **false** -- Recognition is performed after voice playback.

- **Timeout Interval**: timeout period, in seconds. If this parameter is not set, the default value **15** is used. If the duration exceeds the value of this parameter, the system determines that timeout occurs. The value range of this parameter varies with vendors. Currently, the maximum value is **180**. The timeout interval must be less than the value of **SESSIONDTIMEOUT**. You can choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings** and view the value of **SESSIONDTIMEOUT**.
  - If **Reply Mode** is set to **Recognition after playback**, the duration starts from the time when the TTS voice playback ends to the time when the recognition stops.
  - If **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, the duration starts from the time when the voice playback ends. For example, if a customer does not speak after the TTS voice playback ends, the robot goes to the next diagram element when the timeout period ends.
  - If **Reply Mode** is set to **Playback only**, the timeout period does not take effect.

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NOTE

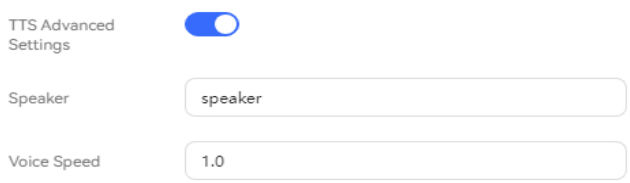
Pay attention to the setting of the timeout period in the following scenarios: long TTS voice playback, many keys (such as an ID card) to be pressed by a customer, and many opinions to be said by a customer. When **Reply Mode** is set to **Interruption by key presses** or **Interruption recognition**, if the timeout period is short, the recognition may start before the voice playback ends, or the recognition may end before the customer starts key pressing. If the timeout period is long, there may be a long-time silence after the customer completes key pressing, and a timeout notification is displayed after a long time.

Robot Message Reply Timeout Processing

- **waitFlag**: session identifier. If the value of **timeout** is less than the remaining timeout period of the current session, the value of **waitFlag** is **true**. Otherwise, the value is **false**.
- **waitTimeout**: message timeout period.
- **waitBeginTime**: When the value of **waitFlag** is **true**, the value of **waitBeginTime** is set to the current time.
- When the value of **waitFlag** is **true**, reply timeout is processed. When the value of **waitFlag** is **false**, the original message processing logic is used.
- Processing logic: After a message times out, the CC-Messaging triggers the timeout flow and pushes the robot response to the customer.

- **ASR Advanced Settings**: The options are **Enable** and **Disable**. The default value is **Disable**.
  - **Recognition Type**: The option is **Common**. The default value is **Common**. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Subscriber Silence Timeout Interval**: The default value is **100**, in seconds. The value ranges from 0 to 32000. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Recognition Timeout Interval**: The default value is **200**, in seconds. The value ranges from 0 to 600. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **Subscriber Pause Timeout Interval**: The default value is **500**, in milliseconds. The value ranges from 300 to 2000. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
  - **ASR Extended Parameter**: Enter the data required by the ASR business on the IVR side, for example, the vendor information. The value is returned to the IVR system using the **vendor** parameter of the dialog interface.
- **TTS Advanced Settings**: The options are **Enable** and **Disable**. The default value is **Disable**.

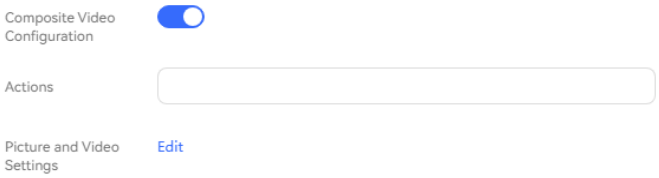
Figure 2-301 TTS Advanced Settings



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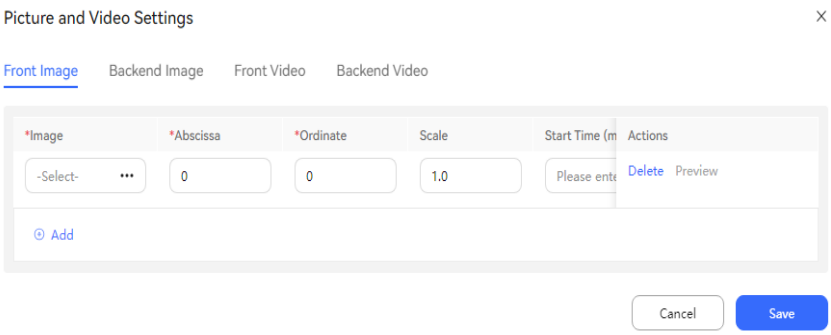
  - **Speaker**: Enter the speaker to be used by the virtual human. This parameter is available when **TTS Advanced Settings** is enabled.
  - **Voice Speed**: Enter a value ranging from 0.5 to 1.5. Only one decimal place is supported. **1.0** indicates the normal voice speed. **0.5** indicates the slowest voice speed, and **1.5** indicates the fastest voice speed. This parameter is available when **TTS Advanced Settings** is enabled.
- **Composite Video Configuration**: Enable or disable this function. By default, this function is disabled.

Figure 2-302 Composite Video Configuration



- **Actions**: Enter the action to be used by the virtual human. This parameter is available when **Composite Video Configuration** is enabled.
- **Picture and Video Settings**: Configure **Front Image**, **Backend Image**, **Front Video**, and **Backend Video**.

Figure 2-303 Picture and Video Settings



  - **Front Image**: Select the foreground image used during virtual human video synthesis. A maximum of five foreground images can be configured for a diagram element.
    - **Image**: Select a 2D virtual human image configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
    - **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
    - **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
    - **Scale**: Enter the zoom ratio of the image to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.

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- **Start Time (ms)**: Enter the time when the image starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.
- **Display Duration (ms)**: Enter the duration for displaying the image. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

– **Backend Image**: Select the background image used during virtual human video synthesis. A maximum of five background images can be configured for a diagram element.

- **Image**: Select a 2D virtual human image configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the image to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
- **Start Time (ms)**: Enter the time when the image starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.
- **Display Duration (ms)**: Enter the duration for displaying the image. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

– **Front Video**: Select the foreground video used during virtual human video synthesis. Only one foreground video can be configured for a diagram element.

- **Video**: Select a 2D virtual human video configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the video to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
- **Start Time (ms)**: Enter the time when the video starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

– **Backend Video**: Select the background video used during virtual human video synthesis. Only one background video can be configured for a diagram element.

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- **Video**: Select a 2D virtual human video configured on the **Configuration Center** > **Resource Management** > **Audio and Video** page.
- **Abscissa**: Enter the horizontal coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Ordinate**: Enter the vertical coordinate for image display. The value is an integer greater than 0. The default value is **0**.
- **Scale**: Enter the zoom ratio of the video to be displayed. Only one decimal place is supported. The value ranges from 0.5 to 1.0.
- **Start Time (ms)**: Enter the time when the video starts to be displayed. The value is an integer greater than 0, in milliseconds. This parameter can be left blank.

Condition Branch Description

Table 2-118 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

- Click the diagram element or drag it to the canvas. Before configuring virtual human reply parameters, you need to maintain virtual humans in advance. Then, you can select one of them in the **Service Parameter** area.

Typical Application Scenario

The following describes how to use the **Avatar Reply** diagram element to play a welcome tone to customers.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

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Figure 2-304 Adding a flow variable

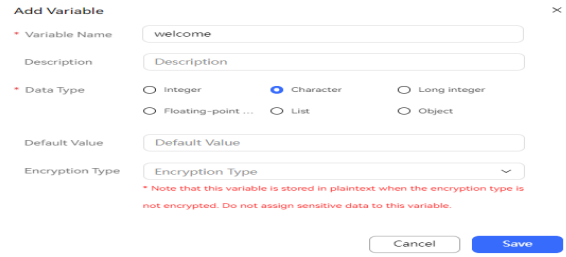
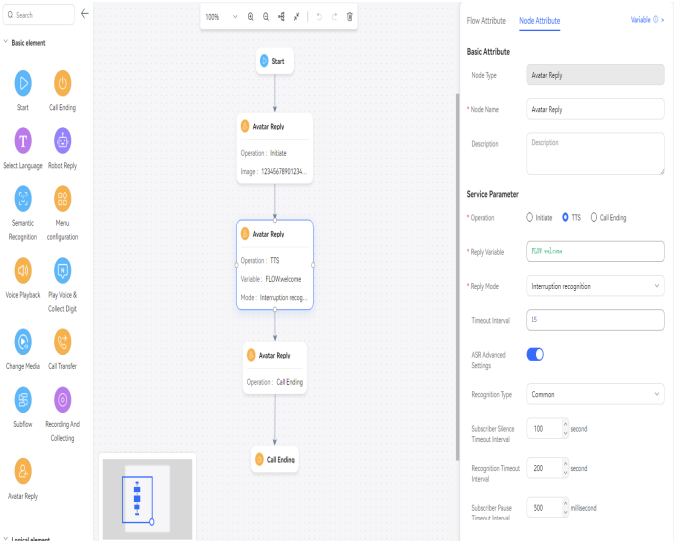


Figure 2-305 Flow orchestration example

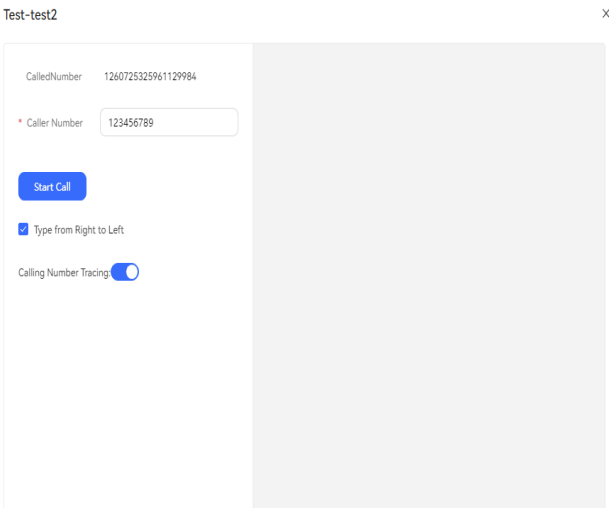


3. Save and publish the flow.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot automatically answers the video path generated by the virtual human service, the configuration is successful.

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----End

Connection Lines Between Diagram Elements

The connection line indicates the execution sequence of a flow with its arrow direction.

Appearance

- The following figure indicates that no node is selected.

- The following figure indicates that nodes are selected and the connection is successful.

Parameter Description

- **Branch Condition**: branch condition corresponding to the current flow connection line.

  Except the preset timeout or unmatched condition, other conditions are the branch conditions configured by the diagram element in the previous step.

  The following table describes the preset branches.

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Table 2-119 Preset branches

Name	Description	Usage Method
timeout1	First timeout	This branch condition is triggered when a third party system (for example, the IVR) determines that a timeout occurs in receiving the customer feedback and sends a message to the OIAP, indicating that the value of **input** is **timeout**. This branch is generally used on the connection line between the **Semantic Recognition** diagram element to the subsequent node, indicating that semantic recognition times out before a response is received from the customer.
timeout2	Second timeout	During a call, **timeout2** is triggered when **timeout1** occurs for the second time. During script flow design, a flow retry is required when the first timeout occurs. If the second timeout occurs, the current step is skipped and the subsequent steps are performed.
nomatch1	First recognition failure	**nomatch1** is triggered in either of the following scenarios: • The **Semantic Recognition** diagram element does not match a result (that is, the diagram element returns the command word of an unknown intention). • A third-party system (for example, the IVR) returns a message in which the value of **input** is **nomatch**. In this scenario, the ASR system fails to recognize the intention and sends a failure response to the IVR.
nomatch2	Second recognition failure	During a call, **nomatch2** is triggered when **nomatch1** occurs for the second time.
error3	Third error	If the trigger condition corresponding to **timeout1** and **nomatch1** occur for the third time during a call, **error3** is triggered. If the number of error times does not need to be accumulated, use the **Error Count Clearance** diagram element to clear the number of error times before using this condition.

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Name	Description	Usage Method
SYSERROR_INTERFACE	Business interface invoking failure	This branch condition is triggered if an error occurs when the **Business Interface Invocation** diagram element is used to invoke a third-party interface. This branch is generally used on the connection line between the **Business Interface Invocation** diagram element and subsequent node.
SYSERROR_INNER	ODFS internal error	This branch condition is triggered when other unknown errors occur in the ODFS.
slientInsert Reply	Direct reply by silent agents	This branch condition can be used only when the **Semantic Recognition** diagram element of the silent agent system is configured. By using this diagram element, agents can directly answer the call and continue to execute other expected business flows.

- **Description**: details of the current branch.

Using Connection Lines

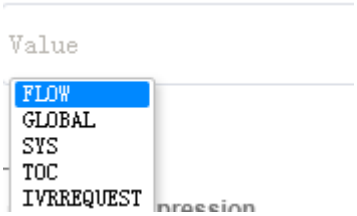
Each diagram element in a flow must be connected, except the **Call Ending** diagram element in special scenarios.

2.6.2.5.2 Parameters

Parameters can be set for other diagram elements except **Start** and **Flow transfer** diagram elements. Two types of parameters are preset in the system, that is, system variables and slot variables in intentions. You can directly enter a system variable in a text box. You need to add a specified prefix to a slot variable in a text box.

The variables are set as follows:

1. Move the cursor to the text box for variable input, and select a prefix of the desired variable that is associated by the text box.



   - **FLOW**: flow variable, which is valid only in one flow.
   - **GLOBAL**: global variable, which needs to be preset by choosing **Resource Management** > **Global Variable** and is valid in the entire session instance of a flow.

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- **SYS**: system variable, which is preset and usually obtained from public data in the system and sessions, such as the system time and access code.
- **TOC**: intention variable. Parameters returned by the **Semantic Recognition** diagram element are valid only for the diagram element. If you want to use the parameters later, assign values to flow variables and transfer them to subsequent nodes.
- **IVRREQUEST**: IVR request variable, which is transferred using the OIAP dialog interface when the IVR flow invokes an intelligent flow.

2. Manually enter a period (.) after the selected prefix, move the cursor to the period, and select a desired parameter from the associated parameters.

System Variable (SYS)

In general, preset system variables are obtained from the public data such as the system time and access code in the system environment and session.

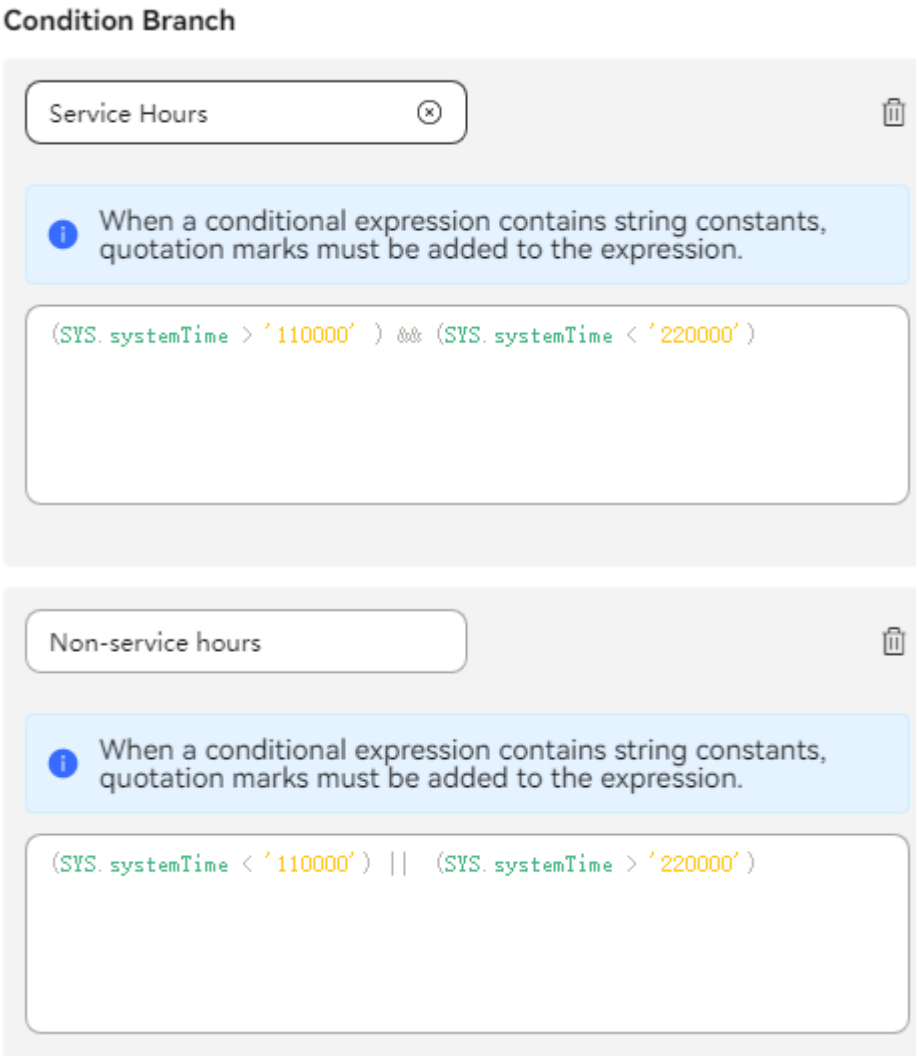
Parameter	Description
SYS.systemDate	System date. The value is a character string. The value format is *YYYYMMDD*, with four digits for the year, two digits for the month, and two digits for the date. If the number of digits is insufficient, use 0 for padding. For example, April 12, 2019 can be expressed as **20190412**.
SYS.systemMonth	System year and month. The value is a character string. The value format is *YYYYMM*, with four digits for the year and two digits for the month. If the number of digits is insufficient, use 0 for padding. For example, April 2019 can be expressed as **201904**.
SYS.systemTime	Current system time. The value is a character string. The value format is *HHmmss*, with two digits for each of the hour (24-hour format), minute, and second. If the number of digits is insufficient, use 0 for padding. For example, 16:00 can be expressed as **160000**.
SYS.callingNumber	Customer phone number. When a call is connected to the AICC, this parameter indicates the calling number. When a call is made by the AICC, this parameter indicates the called number. Both the calling number and called number are customer phone numbers. The value is a character string. The number is transferred by an IVR flow.
SYS.calledNumber	Access code. The value is a character string. The access code is transferred by an IVR flow, and can be viewed on the web application server (WAS) console of the computer telephony integration (CTI) platform.
SYS.realCalledNumber	Access code configured on the **Called Party** page for the flow, that is, the hotline number dialed by the flow.

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Parameter	Description
SYS.callId	Session ID on the ODFS. The value is a character string. The ID is transferred by the IVR flow, that is, **IVRREQUEST.call_id**.
SYS.cti_callid	CTI call ID transferred by the IVR flow, that is, **IVRREQUEST.cti_callid** on the IVR side.
SYS.tenantId	Current tenant ID. The value is a character string.
SYS.language	Current customer language. The value is a character string. To support multiple languages, assign a value to this variable. For example, assign *en_US* for English.
SYS.timeStamp	Timestamp, which is a character string. Total number of seconds from 1970-01-01 00:00:00 (GMT) (Beijing time 1970-01-01 08:00:00) to the current time.
SYS.callMediaType	Call media type. ● **1**: voice ● **3**: voice and video
SYS.currentTime	Current system time, which is in *yyyyMMddHHmmss* format.
SYS.createTime	Call start time.

Expressions that contain parameters comply with JavaScript syntax, and the result is of the boolean type. For example, in the **Batch Judgment** diagram element, you can determine whether the current time is within or beyond the service time using the following expressions.

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- **Service Hours**: **(SYS.systemTime > '110000') && (SYS.systemTime < '220000')**
- **Non-service hours**: **(SYS.systemTime < '110000') || (SYS.systemTime > '220000')**

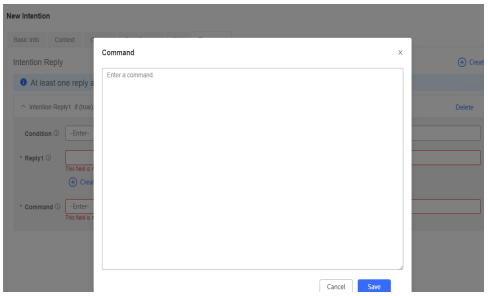
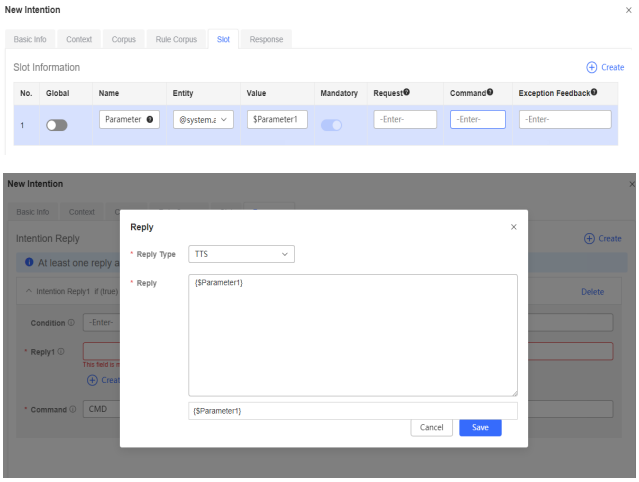
Intention/Slot Variable (TOC)

You can use a parameter for value assignment or judgment in the semantic recognition service diagram element. This parameter is valid only in the current diagram element. If you want to use it in subsequent diagram elements, define a flow variable and assign a value to it. The following table describes the flow variables.

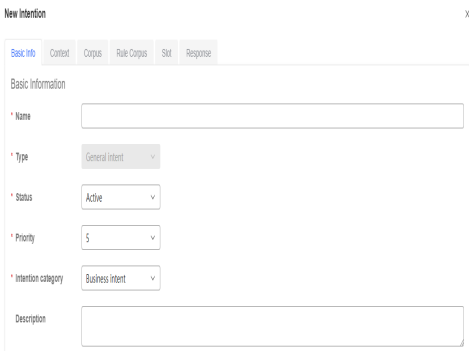
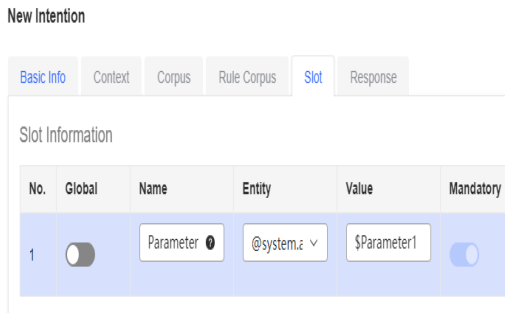
NOTE

The system directly recognizes intention slot variables as those of the character string type. Therefore, use the same type of flow variables when associating the slot variables with flow variables.

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Parameter	Description
TOC.ChatBotIntentCode	Code of a matched intention in semantic recognition. The value is a character string. The following ChatBotIntentCodes are preset in the system and can be directly used: • **systemQA** Generally, you can obtain the value of this parameter to determine whether the correct intention is matched. 
ChatBotRespContent	Reply for the intention matched in semantic recognition, including the reply configured in the slot and response. 

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Parameter	Description
TOC.ChatBotScenario-Name	Name of the intention that is matched after the semantic recognition is executed. The value is a character string. For example, you can set **TOC.ChatBotScenarioName** to **Seat Type** in the following scenario. 
TOC.ChatBot*Slot name*	This parameter is the slot parameter set in the intention. The value is a character string. You can use the intention to view the slot parameters of the intention. Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Intention Management**, select a domain from the first drop-down list, click the name link, and then click the **Slot** tab to view the slot variable names in the **Name** column. For example, to obtain the slot value in the following intention, you can set it as follows: **TOC.ChatBotsitType = "Suite"** 

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Parameter	Description
TOC.ChatBotResponse	This parameter returns all the content in the recognition interface. An example structure is as follows: **{"intents":[{"simQuestions":[],"scenarioType":"normal","scenarioStatus":"finish","confidence":1.0,"responses":["Balance"] ,"priority":0,"params":{},"scenarioName": "Call fee query 2","commands":["21312","TEXT"]}],"statusCode":200}** To obtain similar questions, use **TOC.ChatBotResponse.intents[0].simQuestions**.
TOC.DialogAnalysis	This parameter returns all content processed by the conversation analysis diagram element. The structure is as follows: Sentiment analysis function response example: {"Intend":"","call_script":[],"call_script_matchedstep":"systemQA","role":"","sensitive_word":{},"sentiment_analysis":"negative","sentiment_analysis_score":0.0} Q&A search function response example: {"Intend":"","call_script":[],"call_script_matchedstep":"systemQA","recomand_KP":[{"answers":["Today iscloudy"],"faqGroupId":13113,"faqGroupName":"Weather","faqId":21304,"prob":24.0,"question":"How's the weather"}],"role":"user","sensitive_word":{},"sentiment_analysis_score":0.0} Intent recognition function response example: {"Intend":"Buy insurance","call_script":[{"intentcode":"Insurance","intentDsp":"Buy insurance","status":"finished","childintent":[{"intentcode":"Insurance","intentDsp":"Buy insurance","status":"finished"}]}],"call_script_matchedstep":"Insurance","recomand_KP":[],"role":"user","sensitive_word":{},"sentiment_analysis_score":0.0}

Global Variable (GLOBAL)

To define a variable that can be used in different flows, you can add a global variable, for example, **Param1**, under **Resource** > **Variable**.

The following variable data types are supported:

- **Integer**
- **Character**

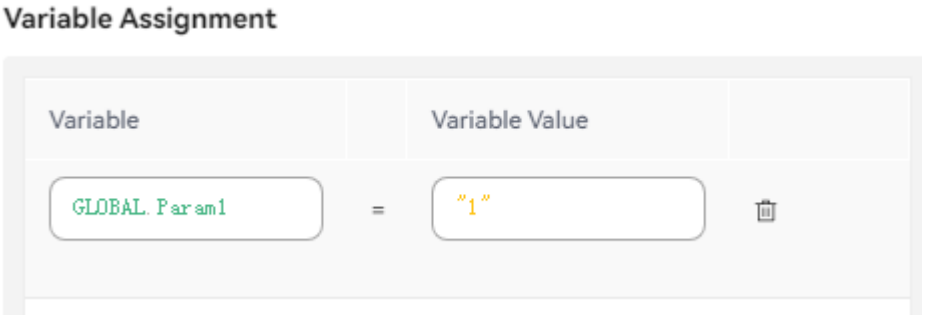
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- **Long integer**
- **Floating-point number**
- **List**
- **Object**

You can use this variable in the flow variable definition area and **Semantic Recognition**, **Interface Invoking**, and **Robot Reply** diagram elements. The format is as follows:

GLOBAL.*Variable name*

Example: **GLOBAL.Param1**



NOTE

In the attribute names in the response, the data type of the value that you assign to the parameter must match the data type set in the **Variable Management**. If the value is of the character type, you need to add quotation marks.

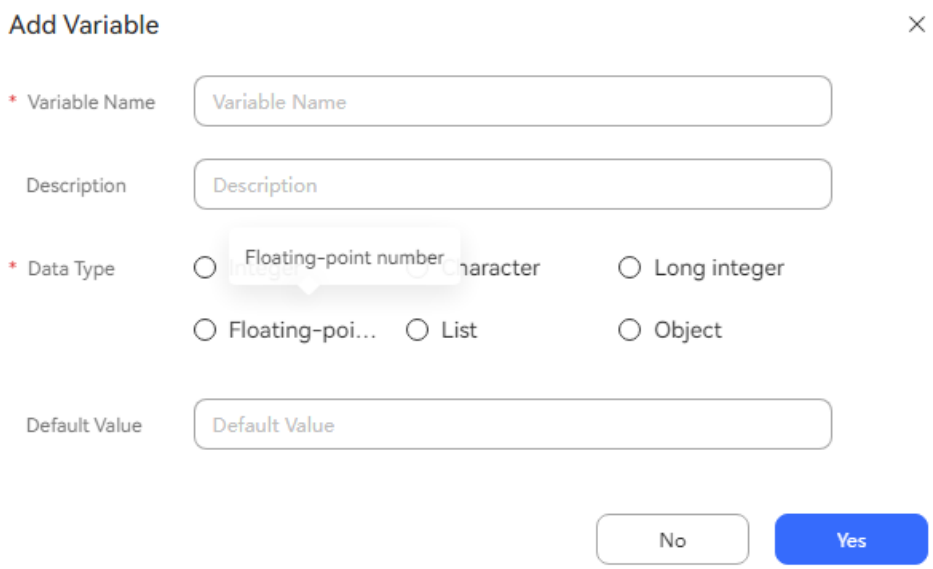
Flow Variable (FLOW)

A cache variable that you add to a flow is called a flow variable. The variable can be used in the subsequent nodes of the flow.

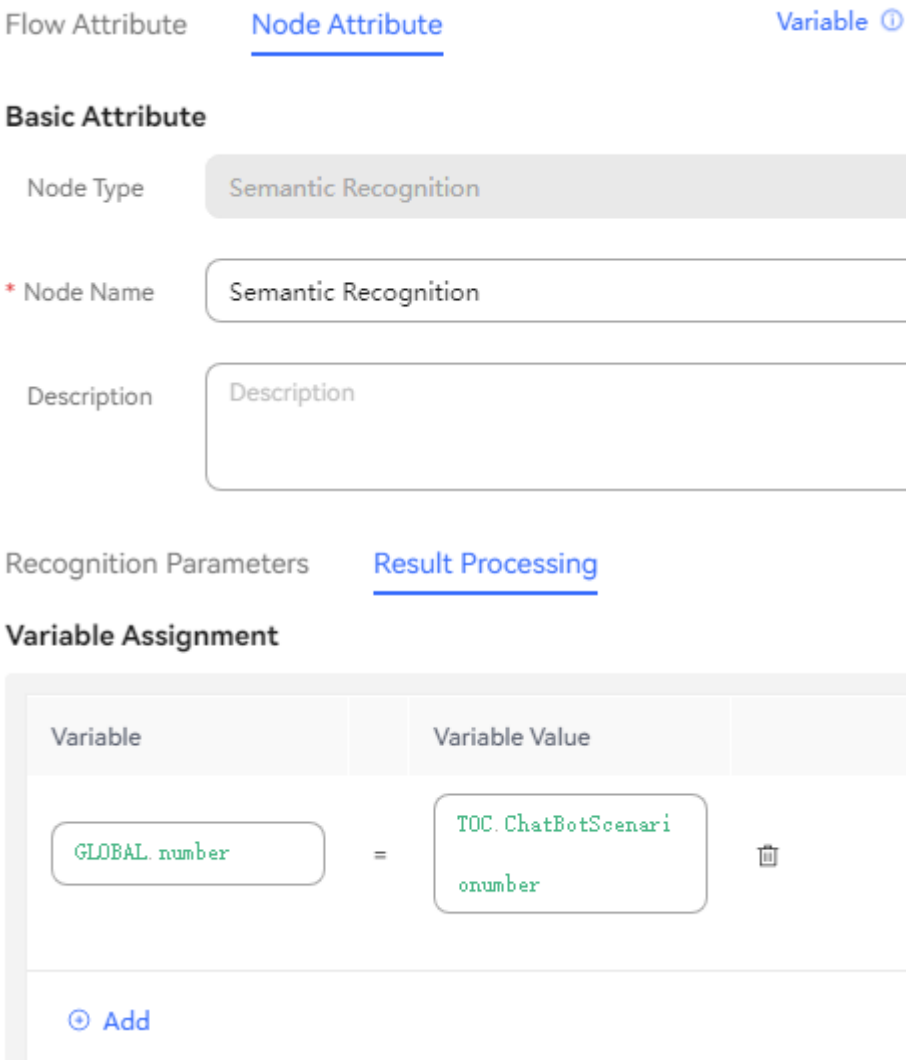
Flow variables are represented by **FLOW.Flow variable name**. In the TTS template or SMS template, you need to use **${FLOW.Flow variable name}** to specify parameters.

For example, you can define the following variables in a flow.

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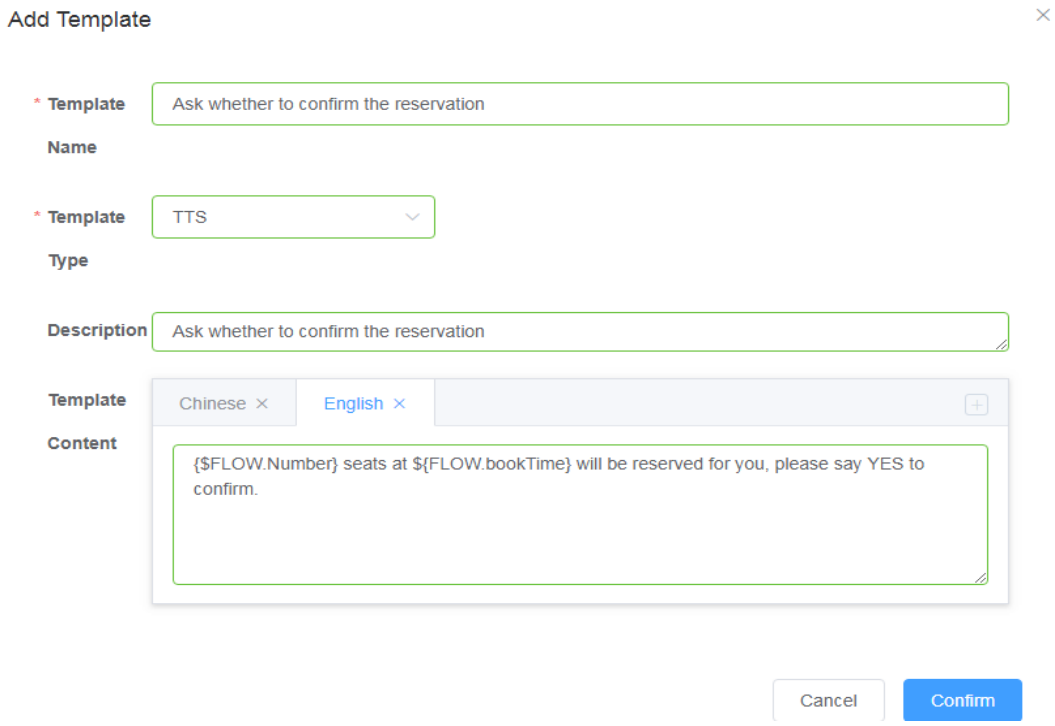


You can assign values to flow variables in the **Semantic recognition** diagram element.



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The following figure shows the reply to a customer in the SMS template after the reservation is successful.



IVR Request Variable (IVRREQUEST)

The OIAP provides IVR interfaces for the IVR to invoke. Therefore, during flow orchestration, fields in IVR requests can be directly used as variables.

The following describes the method.

Parameter	Description
IVRREQUEST.cti_callid	Call ID of the CTI which a call is connected to and transferred by Huawei IVR. In other scenarios, this parameter is left empty. The value can contain a maximum of 32 characters. Currently, this parameter is reserved.

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Parameter	Description
IVRREQUEST.input	Dialog interaction result. ● Voice recognition result or text input. The voice recognition result is the text converted from the voice. The text input result is the text content. ● Voice key result, which is the key value, for example, **1** and **201801**. ● **playover**: voice playback completed ● **timeout**: timeout ● **nomatch**: recognition failure or key pressing failure ● **sys_err**: system exception ● **hangup**: hangup ● **recordend**: recording ended If the result is **hangup**, the hangup response of the ODFS can be triggered. The value can contain a maximum of 1024 characters.
IVRREQUEST.IACmd	Field dedicated for intelligent match and intelligent case filling. ● This parameter must be set to **match** when intelligent match is used. ● This parameter can be set to any of the following values when intelligent case filling is used: **match**: A case filling request is submitted. **rematch**: Re-identify an event when the classification of the identified event is incorrect. **confirm**: When an agent selects a field, the system notifies the ODFS that the field has been confirmed.
IVRREQUEST.TextSource	Source of the request text. ● This parameter specifies whether the input text is from an agent or a subscriber when **IACmd** is set to **match** (same for intelligent match and intelligent case filling). This parameter can be set to **operator** or **user**. **operator**: agent **user**: customer ● The name of the field selected by the agent is transferred when **IACmd** is set to **confirm**, for example, object level 2. ● This parameter is optional when **IACmd** is set to **rematch**.
IVRREQUEST.transin_data	Associated data parameters agreed by the access party and the OIAP, for example, data packet parameters transferred by the IVR.

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Parameter	Description
IVRREQUEST.begin_play	Voice playback start time.
IVRREQUEST.end_play	Voice playback end time.
IVRREQUEST.call_id	Unique call ID, which is the same as the value of **userid** and is used by the flow. The value can contain a maximum of 64 characters.
IVRREQUEST.inter_idx	Number of consecutive interactions with a subscriber, which is recorded on the ODFS side.
IVRREQUEST.feedback	Satisfaction. The options are **1** (satisfactory) and **0** (unsatisfactory). Integer.
IVRREQUEST.feedbackContent	Dissatisfaction reason. If the feedback is satisfactory, leave this parameter empty.
IVRREQUEST.channelType	Type of the channel through which a customer accesses the system. The options are **WEB** (web), **INSTAGRAM** (Instagram), **TELEGRAM** (Telegram), **WECHAT** (WeChat), **FACEBOOK** (Facebook), **TWITTER** (X (Twitter)), **EMAIL** (email), **LINE**, **WHATSAPP** (WhatsApp), and **SMS**.
IVRREQUEST.emailTitle	Subject of the email received during email channel access.
IVRREQUEST.ieValue	The IE information transmitted in the flow can be obtained. Currently, only the **User To User** option is available.
IVRREQUEST.routeAgentNo	Agent ID specified for routing during outbound call marketing.

2.6.2.5.3 TUC Interfaces

This section describes the interfaces used by the TUC.

/chatbot/rest/tuc/v1/nlp/detectRegularEntity

Function

Rule (address) entity recognition interface.

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Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The option is **zh_CN**.
sentence	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
addr1	List<String>	User-defined address entity.
addr2	List<String>	User-defined address entity (layer 2).

Request Example

```
{
  "language": "${language}",
  "sentence": "${sentence}"
}
```

/chatbot/rest/tuc/v1/nlp/identify

Function

Language identification interface.

Input Parameters

Table 2-120

Parameter	Type	Mandatory (Yes/No)	Description
text	String	Yes	Text information entered by a customer.

Output Parameters

Parameter	Type	Description
returnCode	String	Result code.

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Parameter	Type	Description
returnMsg	String	Return information.
params	LangIdOutputParams	Language recognition result.

LangIdOutputParams is described as follows.

Parameter	Type	Description
language	String	Language. The options are as follows: **zh_CN** **en_US** **zh_HK** The following are minority languages. To use these languages, you need to download the minority language recognition model. **ar** **es_ES** **pt_BR** **th_TH** **fr_FR**
score	Float	Confidence.

Request Example

```
{
   "callId": "${businessReqId}",
   "provId": "fangyg",
   "busiType": "0",
   "params": {
      "text": "${text}"
   }
}
```

The values of **callId**, **provId**, and **busiType** are automatically generated by the system.

/chatbot/rest/tuc/v1/recommendFaq

Function

FAQ recommendation interface.

The recommended knowledge list is matched based on the text in the request.

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Input Parameters

Table 2-121

Parameter	Type	Mandatory (Yes/No)	Description
user	String	Yes	ID of the user who initiates the question.
sentence	String	Yes	Sentence that needs to match the recommended FAQ. The description cannot exceed 1024 characters.
language	String	Yes	Language. The options are as follows: • **en_US**: English • **ar**: Arabic • **es_ES**: Spanish • **zh_CN**: Chinese • **fr_FR**: French
threshold	Double	No	FAQ confidence threshold. Default value: **0**. If the value is a number, the system returns only the FAQs whose confidence is greater than the value.

Output Parameters

Parameter	Type	Description
recommends	List [FaqAnswer]	Returned FAQ result set.

FaqAnswer is described as follows.

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Parameter	Type	Description
faqGroupId	Integer	FAQ group ID.
faqGroupName	String	FAQ group name.
faqId	Integer	FAQ ID.
question	String	Question.
answers	List <String>	Answer list.
prob	Double	Confidence. The value is a probability greater than 0.

Request Example

```
{
    "user": "${user}",
    "sentence": "${sentence}",
    "language": "${language}",
    "threshold": "${threshold}
}
```

/chatbot/rest/tuc/v1/qualityInspection/qiOnline/recognize

Function

Online inspection interface.

Input Parameters

Table 2-122

Parameter	Type	Mandatory	Description
role	String	No	Role. The options are **staff**, **customer**, **operator**, and **user**.
beginTime	Long	No	Start time.
endTime	Long	No	End time.
callId	String	Yes	Call ID.
content	Integer	Yes	Description.
language	Integer	Yes	Language. The options are **zh_CN** and **en_US**.

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Output Parameters

Parameter	Type	Description
role	String	Role.
emotion	EmotionResult	Recognition type.
dialogRules	List<DialogRule>	Dialog rule.
silenceRules	List<SilenceRules>	Silence rule.
speedRules	List<SpeedRules>	Speed rule.
interposalRules	List<InterposalRules>	Interruption rule.

EmotionResult is described as follows.

Parameter	Type	Description
score	Integer	Score.
emotionType	String	positive/negative/stronglyNegative

DialogRule is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	A maximum of 128 characters are allowed.
description	String	A maximum of 1024 characters are allowed.
severity	String	Rule type. The options are **normal** and **critical**.
min	Integer	Minimum number of dialog logics. The value ranges from 1 to 100.
score	Integer	Rule score. The value ranges from –100 to 100.
method	String	The rule is positive or negative. The options are **positive** and **negative**.
callBegin	Long	Call start time.
callEnd	Long	Call end time.

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SilenceRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	Rule name.
score	Integer	Score. The value ranges from 0 to 100.
silenceSeconds	Integer	Silence duration. The value range is [1, -].
silenceTimes	Integer	Number of silence times. The value range is [1, -].
exception	SilenceException	Expression between groups.
callBegin	Long	Dialog start time.
callEnd	Long	Dialog end time.

SpeedRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	Rule name (a maximum of 64 characters).
minSpeed	Integer	Minimum speed. The value ranges from 1 to 220.
maxSpeed	Integer	Maximum speed. The value range is [1, -].
score	Integer	Score. The value ranges from –100 to 0.
callBegin	Long	Call start time.
callEnd	Long	Call end time.

InterposalRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	A maximum of 128 characters are allowed.

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Parameter	Type	Description
score	Integer	Rule score. The value ranges from –100 to 0.
interposalTimes	Integer	Interruption times. The value ranges from 1 to 10000.
interposalSeconds	Integer	Interruption duration. The value ranges from 1 to 10000.
callBegin	Long	Call start time.
callEnd	Long	Call end time.

Request Example

```
{
    "role": "${role}",
    "beginTime": "${beginTime}",
    "endTime": "${endTime}",
    "callId": "${callId}",
    "content": "${content}",
    "language": "${language}"
}
```

/chatbot/rest/tuc/v1/nlp/feedback

Function

Satisfaction feedback interface.

Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
accessCode	String	Yes	Access code.
callId	String	Yes	Call ID.
interactId	String	Yes	Interaction ID.
satisfaction	int	Yes	Satisfied or not.
reason	String	No	Dissatisfaction reason.

Output Parameters

Parameter	Type	Description
errorCode	String	Error code.

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Parameter	Type	Description
errorMsg	String	Error information.

Request Example

```
{
    "accessCode": "${accessCode}",
    "callId": "${callId}",
    "interactId": "${interactId}",
    "satisfaction": "${satisfaction}",
    "reason": "${reason}"
}
```

/chatbot/rest/tuc/v1/nlp/textClassify

Function

Text classification interface.

Input Parameters

Table 2-123 Request input parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The option is **zh_CN**.
text	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
results	List<TextLabel>	For details, see **Table 2-124**.

Table 2-124 TextLabel description

Parameter	Type	Description
label	String	Label.
probability	Double	Confidence.

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Request Example

```
{
   "language": "${language}",
   "text": "${text}"
}
```

/chatbot/rest/tuc/v1/nlp/detectEntity

Function

Entity recognition interface.

Input Parameters

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The options are as follows: **zh_CN** **en_US** **ar** **es_ES** **pt_BR** **th_TH** **multi** **fr_FR**
sentence	String	Yes	Recognition text.

Output Parameters

Parameter	Type	Description
entityMsgV2List	List <EntityMsgV2>	For details, see **Table 2-125**.
count	Integer	Number of identified entities.

Table 2-125 EntityMsgV2 description

Parameter	Type	Description
FORMAT_RAW	String	Format.
id	Integer	ID.

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Parameter	Type	Description
citation	String	Reference name of an entity, for example, reference name of an address in a system entity (**@system.address**).
type	Integer	Entity type. • **-1**: system or environment entity, not a user entity • **0**: common entity • **1**: composite entity • **2**: rule entity • **3**: entity identified by the LODAS
userEntity	Boolean	Whether the entity is a user entity.
envEntity	Boolean	Whether the entity is an environment entity.
beginIndex	Integer	Start sequence number in the input statement when the entity value is identified.
endIndex	Integer	End sequence number in the input statement when the entity value is identified.
values	Map <String, String>	Identified entity value pair. The value is in *Entity type*:*Entity value* format. Example: **"@system.address": "Yuelu District, Changsha City, Hunan Province"**
formats	List <String>	List of reference formats that identify the entity. For example, in the value **["raw","province"]**, **"raw"** indicates the original value, and **"province"** indicates the province.
synonyms	List <String>	Synonym.

Request Example

```
{
   "language": "${language}",
   "sentence": "${sentence}"
}
```

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/chatbot/rest/tuc/v1/qualityInspection

Function

Intelligent training interface. After the training model is deployed and trained on the LODAS, the business interface in the intelligent IVR is invoked to send the user voice text information to the LODAS and obtain the scoring result from the intelligent engine. With the help of intelligent capabilities, an integrated system is built to implement capabilities such as customer chatbot simulation call training, automatic evaluation of reply accuracy, and automatic evaluation of operation accuracy. The following are implemented to improve work efficiency from the perspectives of employees, systems, and operations: pre-job tests and appraisals for new employees, training and appraisals for key and difficult business capabilities, job rotation training and appraisals for on-the-job employees, and reinstatement training and appraisals for employees awaiting job assignment.

Input Parameters

Table 2-126 Parameters in the request body

Parameter	Type	Mandatory (Yes/No)	Description
language	String	Yes	Language. The options are as follows: **zh_CN**: Chinese **en_US**: English
channelType	String	Yes	Inspection type. Training scoring: **exam**.

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Parameter	Type	Mandatory (Yes/No)	Description
speeches	JSON string	Yes	Dialog content to be scored. If **channelType** is set to **exam**, the value of this parameter is the question ID and agent's answer. The following is an example. **"speeches": "{\"examID\":\"jsex001\",\"speech\":\"*******\"}"** Method of using variables: **"speeches": "{\"examID\":\"${examID}\",\"speech\":\"${speech}\"}"**
callTime	Long	Yes	Dialog timestamp, accurate to seconds. In the training scoring scenario, set the **timestamp** to **-1**, which is meaningless.

Output Parameters

Table 2-127 Parameters in the response body

Parameter	Type	Description
examResponse	ExamResponse	Training scoring result, which is returned during training scoring.

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Parameter	Type	Description
qiResponse	QiResponse	Inspection score result, which is returned for common inspection. (In the inspection scoring scenario, this parameter is not used currently.)

Table 2-128 Description of the **examResponse** field

Parameter	Type	Description
examId	String	Question ID.
score	Integer	Exam score (excluding sensitive words).
answerRules	List <Object>	Answer rules and score details.
sensitiveWordRules	sensitiveWordRuleMatch	Sensitive words involved in answers and points deducted.

Table 2-129 Description of the **answerRules** field

Parameter	Type	Description
positiveAnswer	String	Answer to the positive assessment point.
positiveWeight	Float	Weight of the positive assessment point.
positiveScore	Float	Score of the positive assessment point.
negativeAnswer	String	Answer to the negative assessment point.
negativeWeight	Float	Weight of the negative assessment point.
negativeScore	Float	Score of the negative assessment point.

Table 2-130 Description of the **sensitiveWordRules** field

Parameter	Type	Description
id	String	Sensitive word ID.

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Parameter	Type	Description
name	String	Content of sensitive words.
score	Integer	Sensitive word score.
beginTime	Long	Start timestamp of the training content, accurate to seconds.
endTime	Long	End timestamp of the training content, accurate to seconds.
speechId	Integer	Training content ID.

Request Example

```
{
   "language": "zh_CN",
   "channelType": "exam",
   "speeches": "{\"examID\":\"${examID}\",\"speech\":\"${speech}\"}",
   "callTime": "${callTime}"
}
```

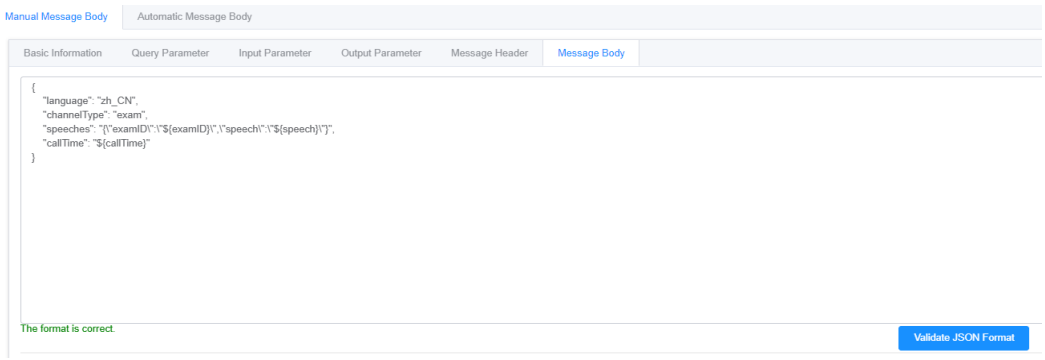
Response Example

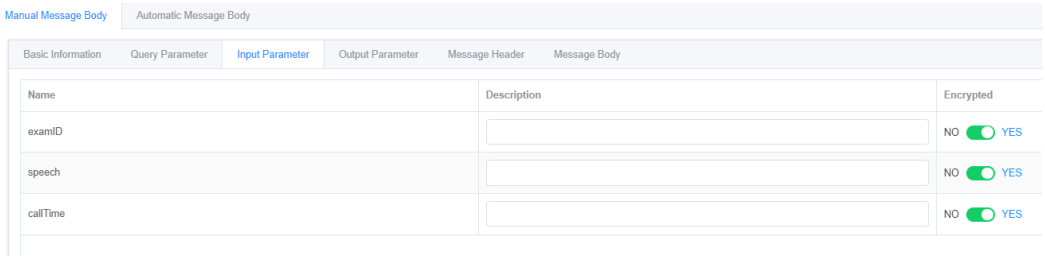
```
{
   "examResponse": {
      "examId": "TQ5",
      "score": 80.0,
      "answerRules": [
         {
            "positiveAnswer": "Positive answer of No.18",
            "positiveWeight": 0.5,
            "positiveScore": 40.0,
            "negativeAnswer": null,
            "negativeWeight": 0.0,
            "negativeScore": 0.0
         },
         {
            "positiveAnswer": "Positive answer of No.18",
            "positiveWeight": 0.5,
            "positiveScore": 40.0,
            "negativeAnswer": null,
            "negativeWeight": 0.0,
            "negativeScore": 0.0
         }
      ],
      "sensitiveWordRules": {
         "sensitiveWordRuleMatch": []
      }
   },
   "qiResponse": null
}
```

Input Parameter Configuration Example

In the manually entered message body, enter a request example. The **${***Variable name***}** variable is automatically displayed on the **Input Parameter** tab page.

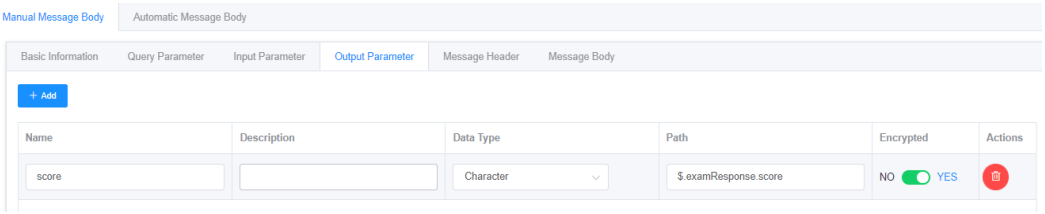
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Output Parameter Configuration Example

Parameter	Path	Description
score	$.examResponse.score	Exam score (excluding sensitive words). This parameter is returned during training scoring.



2.6.2.5.4 Built-in Functions

During intelligent IVR flow orchestration, built-in functions can be used to split and truncate variables in the flow based on site requirements.

- When the following built-in functions are used for multiple operations, parentheses must be added to subexpressions.
- In conditional expressions, == can be used for judgment, which applies only to strings and numbers and does not apply to objects or lists (except for null judgment).

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Table 2-131 Built-in functions

Function	Description
length()	Obtains the length of a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.length()** expression to obtain the string length of the flow variable **Answer**. The result is **5**.
size()	Obtains the number of elements in a variable of the array or object type. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **[1,2,3,4,5]**, you can use the **FLOW.Answer.size()** expression to obtain the string length of the flow variable **Answer**. The result is **5**. **NOTE** For an object or array defined by a flow variable, if no default value is set and no value is assigned, the value is not null and the size is 0.
divideString (index, "*Separator*")	Splits a string. • **index**: Sequence number of the character used for the splitting. The value starts from 1. • *Separator*: If the separator is a regular special character, such as a period (.), dollar sign ($), plus sign (+), vertical bar (|), or asterisk (*), the separator must be enclosed in square brackets, for example, **FLOW.*XXX*.divideString(index,"[+]")**. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **"UniqueID":"123","ServiceID":"1234","orderid":"12345"**, you can use the **FLOW.Answer.divideString(3,",")** expression to obtain **"orderid":"12345"** in the value. **NOTE** If the value of a list or object uses square brackets or periods and this built-in function needs to be invoked, the value must be cached to a flow variable of the string type before the invocation.
substring(beginIndex, endIndex)	Truncates a string. • **beginIndex**: Start position of the truncation. The value starts from 0. The value **0** indicates the first character. • **endIndex**: End position of the truncation, excluding the character specified by **endIndex**. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **"orderid":"12345"**, you can use the **FLOW.Answer.substring (11, 16)** expression to obtain the **12345** in the value.

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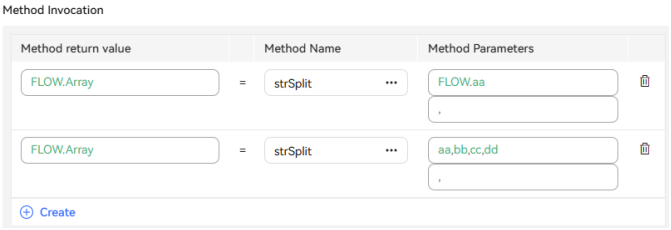
Function	Description
startsWith("xxx")	Checks whether a variable starts with a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.startsWith("a")** expression to check whether the value starts with **a**. The result is **yes**. Generally, this function is used in conditional expressions.
endsWith("xxx")	Checks whether a variable ends with a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.endsWith("e")** expression to check whether the value ends with **e**. The result is **yes**. Generally, this function is used in conditional expressions.
Null check	Checks whether a variable is null. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **null**, you can use the **FLOW.Answer==null** or **FLOW.Answer!=null** expression to check whether the flow variable **Answer** is null.
+	The following addition operations are supported: ● String + String = Combined string ● String + Integer = Combined string ● Integer + Integer = Addition calculation result Example: If there are flow variables **Str** and **Num**, the value of **FLOW.Str** is **123**, and the value of **FLOW.Num** is **123**, you can use the **FLOW.Str+FLOW.Num** expression to obtain the string **123123**.
/	Divides a number. Example: If there are flow variables **Num1** and **Num2**, you can use the **FLOW.Num1/FLOW.Num2** expression to assign the result to another flow variable **result**, which must be of the floating-point number type.

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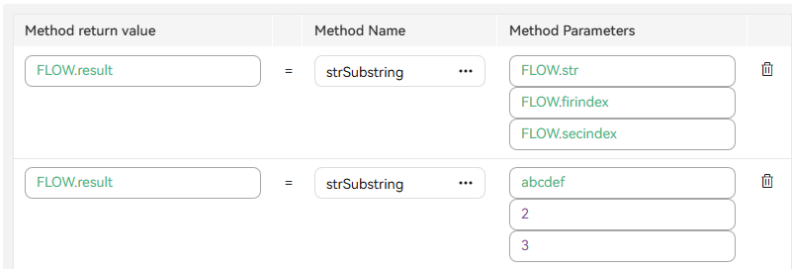
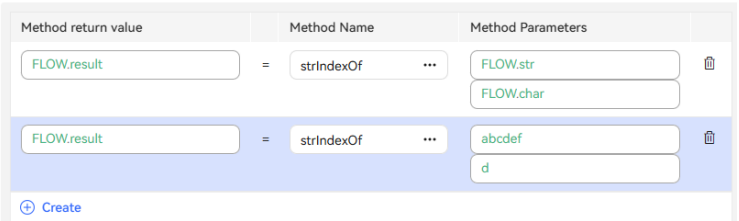
Function	Description
put()	Adds an attribute to an object. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack"}**, you can use **FLOW.person.put("age","18")** in the cache variable area to add the **age** attribute to **FLOW.person**. You can cache the result **{"name":"Jack","age":"18"}** to any variable of the object type. If a flow variable **FLOW.age** of the integer type whose value is **18** is available, you can also use **FLOW.person.put("age",FLOW.age)** to add an attribute. The result is **{"name":"Jack","age":"18"}**. **NOTE** In **FLOW.person.put(***key***,***value***)**, both *key* and *value* can be variable names. If *value* is a constant, the attribute value is of the string type by default regardless of whether double quotation marks are added. If *value* is a variable, the data type of the attribute value depends on that of the variable.
add()	Adds an element to a list. Example: If a flow variable **FLOW.arrayList** is of the list type and the value is **[1]**, you can use **FLOW.arrayList.add(2)** in the cache variable area to add an element whose value is **2** to the end of **FLOW.arrayList**. You can cache the result **[1,"2"]** to any variable of the list type. If a flow variable **FLOW.num** of the integer type whose value is **18** is available, you can also use **FLOW.arrayList.add(FLOW.num)** to add an element. The result is **[1,18]**. **NOTE** In **FLOW.arrayList.add(***value***)**, *value* can be a variable name. If *value* is a constant, the attribute value is of the string type by default regardless of whether double quotation marks are added. If *value* is a variable, the data type of the attribute value depends on that of the variable.

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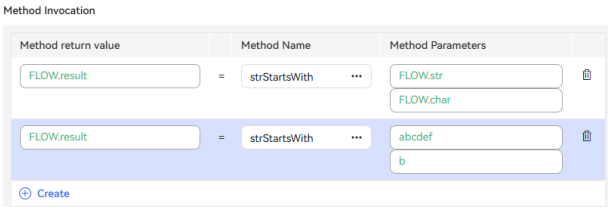
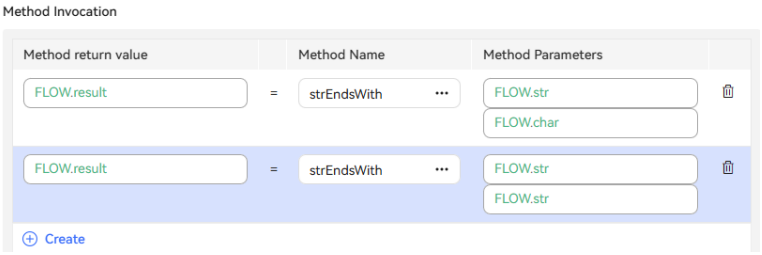
Table 2-132 String operation methods

Function	Description
strSplit()	Splits a string based on a separator. The return object is the string array generated after splitting. There are two parameters: string to be split and separator. **CAUTION** In versions earlier than 25.200.0, regular special characters must be enclosed in square brackets. In 25.200.0 and later versions, regular special characters do not need to be enclosed in square brackets. However, to be compatible with historical data, a single special character enclosed in square brackets is also processed as a single special character. For example, **[.]** and **.** are the same. Do not use square brackets to enclose a character (for example, **[.]**) as the actual separator. Example: If a flow variable **FLOW.str** is of the string type and the value is **"aa,cc,dd,ee"**, you can invoke this method in the method invocation area to split the string based on a separator (**,**). You can cache the splitting result to any variable (**FLOW.array**) of the list type. You can assign a value to the method parameter using a variable or manually. You do not need to add quotation marks when entering values for the method parameters (the same below). Method Invocation 

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Function	Description
strSubstring()	Extracts a substring. The return object is the extracted substring. There are three parameters: string to be truncated, start index (integer), and end index (integer). (The indexes start from **0**, and the character with the end index is excluded.) Example: If a flow variable **FLOW.str** is of the string type and the value is **abcdef**, you can invoke this method in the method invocation area to extract a substring based on indexes. You can cache the truncation result to any variable (**FLOW.result**) of the string type. You can assign a value to the method parameter using a variable or manually. Method Invocation 
strIndex0f()	Obtains the index of the first occurrence of a specified string. The return object is an index, which is an integer. There are two parameters: string to be searched and specified string. Example: If a flow variable **FLOW.str** is of the string type and the value is **abcdef**, you can invoke this method in the method invocation area to obtain the index of the first occurrence of a specified string. You can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. Method Invocation 

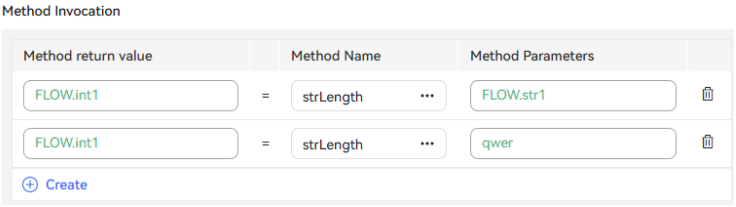
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Function	Description
strStartsWith()	Checks whether a string starts with a prefix. The return object is the check result. The value is **0** or **1**. There are two parameters: string to be checked and prefix (string). Example: If a flow variable **FLOW.str** is of the string type and the value is **abcdef**, you can invoke this method in the method invocation area to check whether the string starts with a prefix. You can cache the check result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. 
strEndsWith()	Checks whether a string ends with a suffix. The return object is the check result. The value is **0** or **1**. There are two parameters: string to be checked and suffix (string). Example: If a flow variable **FLOW.str** is of the string type and the value is **abcdef**, you can invoke this method in the method invocation area to check whether the string ends with a suffix. You can cache the check result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. 

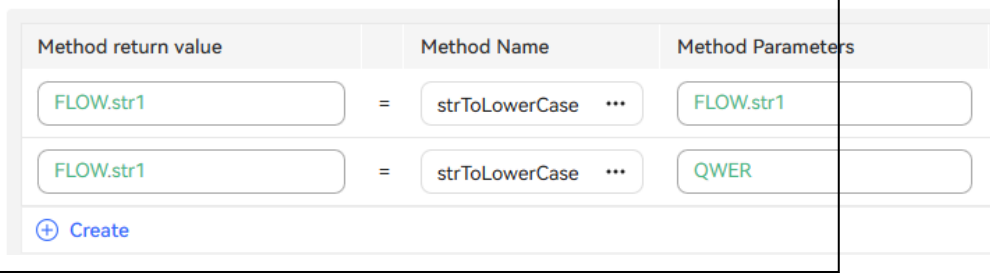
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Function	Description
strParseJSON()	Converts a JSON string to an object. The return object is the JSON object generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.strJson1** is of the string type and the value is **{"a":"1","b":"2"}** in JSON format, you can invoke this method in the method invocation area to convert the string to an object. In addition, you can cache the result to the variable (**FLOW.result**) of any object type. You can assign a value to the method parameter using a variable or manually. Method Invocation 
strParseInt()	Converts a string to an integer. The return object is the integer generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **11**, you can invoke this method in the method invocation area to convert the string to an integer. You can cache the result to any variable (**FLOW.int1**) of the integer type. You can assign a value to the method parameter using a variable or manually. Method Invocation 

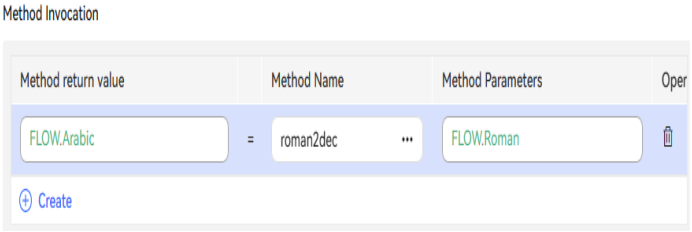
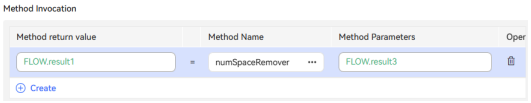
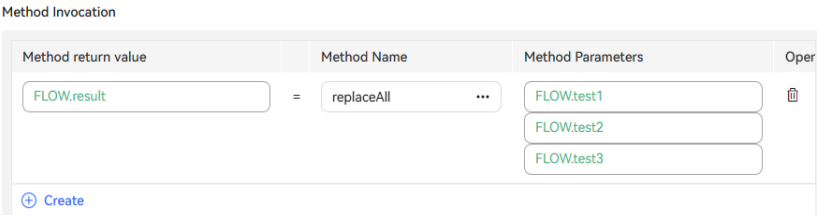
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Function	Description
strParseFloat()	Converts a string to a floating point number. The return object is the floating point number generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **0.56**, you can invoke this method in the method invocation area to convert the string to a floating point number. You can cache the result to any variable (**FLOW.float1**) of the floating point number type. You can assign a value to the method parameter using a variable or manually. 
strLength()	Obtains the length of a string. The return object is the string length, which is an integer. There is one parameter: string whose length needs to be calculated. Example: If a flow variable **FLOW.str1** is of the string type and the value is **qwer**, you can invoke this method in the method invocation area to obtain the length of the string. You can cache the result to any variable (**FLOW.int1**) of the integer type. You can assign a value to the method parameter using a variable or manually. 

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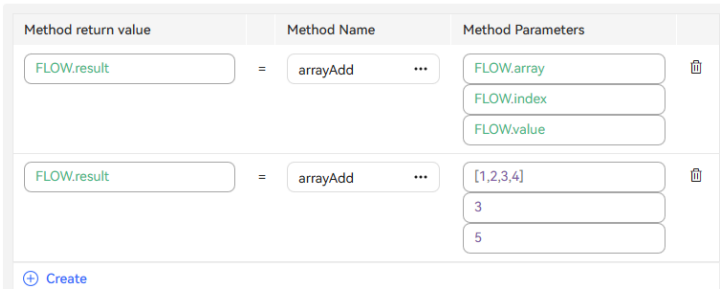
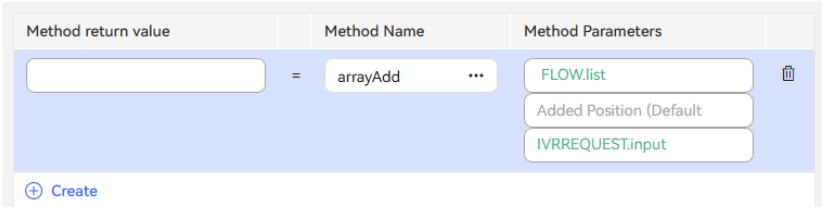
Function	Description
strToUpperCase()	Converts lowercase in a string to uppercase. The return object is the string generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **qwer**, you can invoke this method in the method invocation area to convert all letters in the string to uppercase letters. You can cache the result to any variable (**FLOW.str1**) of the integer type. You can assign a value to the method parameter using a variable or manually. Method Invocation 
strToLowerCase()	Converts uppercase in a string to lowercase. The return object is the string generated after conversion. There is one parameter: string to be converted. Example: If a flow variable **FLOW.str1** is of the string type and the value is **QWER**, you can invoke this method in the method invocation area to convert uppercase in the string to lowercase. You can cache the result to any variable (**FLOW.str1**) of the integer type. You can assign a value to the method parameter using a variable or manually. Method Invocation 

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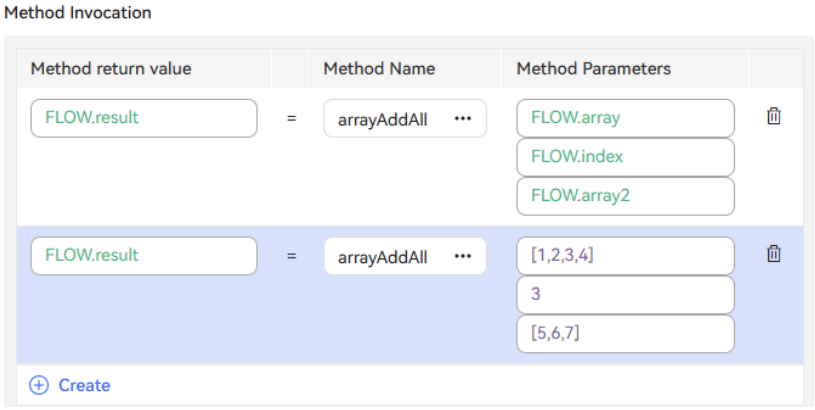
Function	Description
roman2dec()	Converts a Roman numeral to an Arabic numeral. Example: If a flow variable **FLOW.Roman** is of the character type and the value is **XII**, you can invoke the roman2dec function in the method invocation area to generate the Arabic numeral string **12**. 
numSpaceRemover()	Deletes spaces between digits in a character string. Example: If the flow variable **FLOW.test3** is of the character type consisting of letters and digits, and the value is **101 43 veinti**, you can invoke the numSpaceRemover function to delete the spaces between the digits in the string in the method invocation area to obtain **10143 veinti**. 
replaceAll()	Replaces a string. Example: If the flow variable **FLOW.var** is of the common character type and the value is **123test**, you can invoke the replaceAll function to replace the specified substring in the character string in the method invocation area. For example, if **123** is replaced with ***, the replacement result is ***test, the first parameter is the text of the character string to be replaced, the second parameter is the substring to be replaced, and the third parameter is the character string text used for replacement. 

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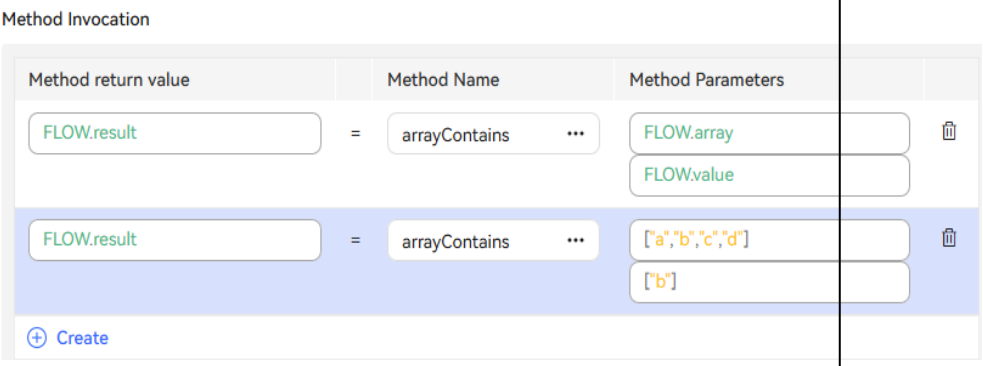
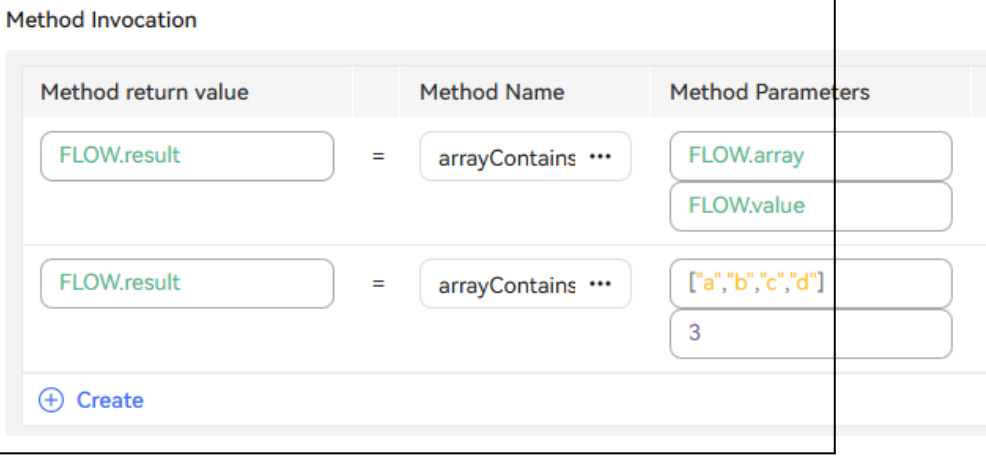
Table 2-133 Array operation methods

Function	Description
arrayAdd()	Adds an element to an array. The return value of this method is the flag indicating whether the addition is successful. If the addition is successful, **1** is returned. Otherwise, **0** is returned. There are three parameters: array to be modified, position of the addition (the element is added at the end by default if the parameter is left empty), and element to be added. Example: If a flow variable **FLOW.array** is of the list type and the value is **[1,2,3,4]**, you can invoke this method in the method invocation area to add an element to **FLOW.array**. The second parameter specifies the position (index) of the addition. You can cache the addition result to any variable (**FLOW.result**) of the integer type. After the addition is successful, the new value of **FLOW.array** is **[1,2,3,4,5]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually. Method Invocation  If you do not need to cache the flag indicating whether the addition is successful and only need to add data at the end of an array, you do not need to enter the return value of the method. In this case, the first method parameter is the array **FLOW.list** to be added, the second method parameter is left empty, and the third method parameter is the element to be added. **IVRREQUEST.input** in the following figure is the input of the user. Method Invocation 

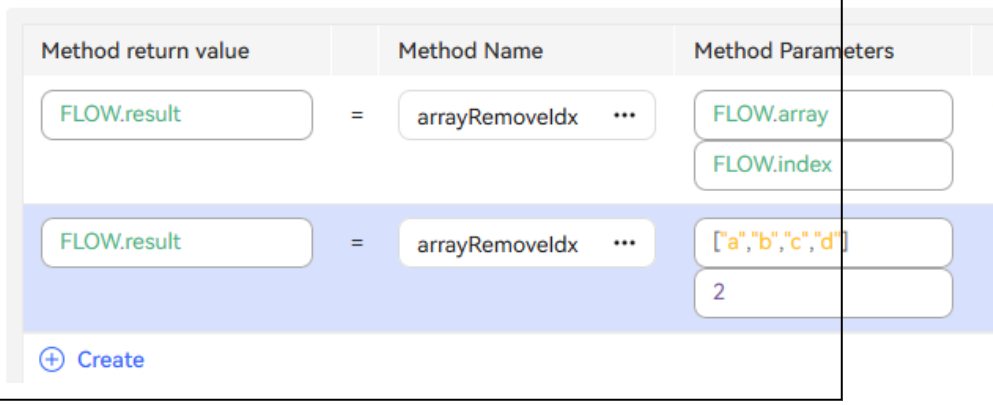
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Function	Description
arrayAddAll()	Adds all elements in another set to an array. The return object is the addition result. The value is **1** (addition successful) or **0** (addition failed). There are three parameters: array to be modified, position of the addition (by default, the elements are added at the end), and element to be added. Example: If flow variables **FLOW.array** and **FLOW.array2** are of the list type and their value are **[1,2,3,4]** and **[5,6,7,8]**, respectively, you can invoke this method in the method invocation area to add elements in another set to **FLOW.array**. The second parameter specifies the position (index) of the addition. You can cache the addition result to any variable (**FLOW.result**) of the integer type. After the addition is successful, the new value of **FLOW.array** is **[1,2,3,4,5,6,7,8]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually. 

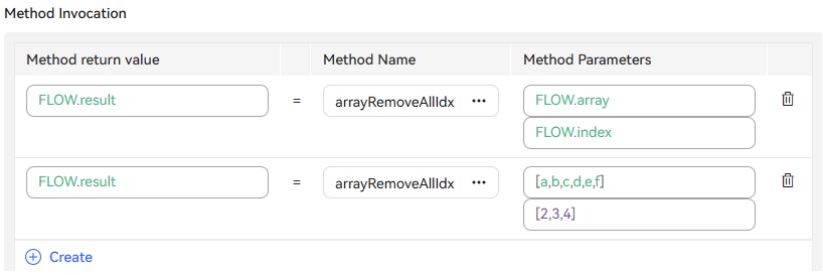
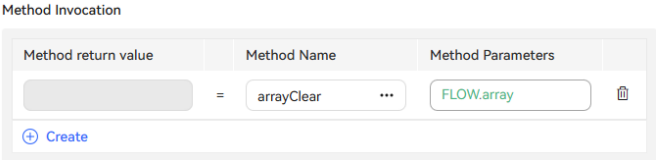
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Function	Description
arrayContains()	Checks whether an element is in an array. The return object is the check result. The value is **0** or **1**. There are two parameters: array to be checked and element to be judged. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to check whether an element is in **FLOW.array**. You can cache the return result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. 
arrayGet()	Obtains an element from an array based on an index. The return object is an array element. There are two parameters: array and index. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to obtain an element from **FLOW.array** based on an index. You can cache the return result to a variable (**FLOW.result**). You can assign a value to the method parameter using a variable or manually. 

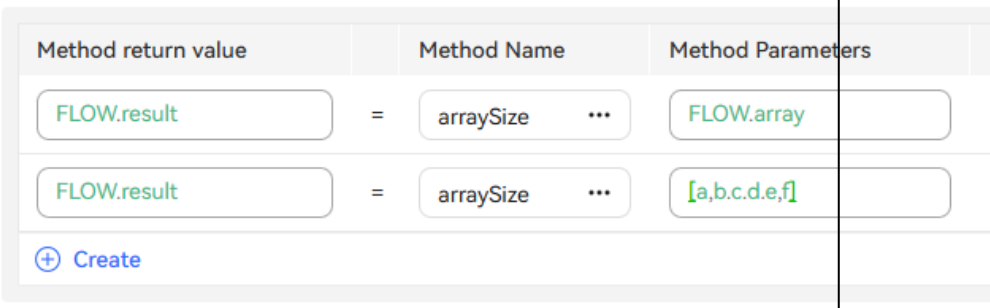
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Function	Description
arrayRemoveIdx()	Deletes an element from an array based on an index. The return object is the deletion result. The value is **1** (deletion successful) or **0** (deletion failed). There are two parameters: array and index. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to delete an element from **FLOW.array** based on an index. You can cache the deletion result to any variable (**FLOW.result**) of the integer type. After the deletion is successful, the new value of **FLOW.array** is **[a,b,d]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually. Method Invocation 

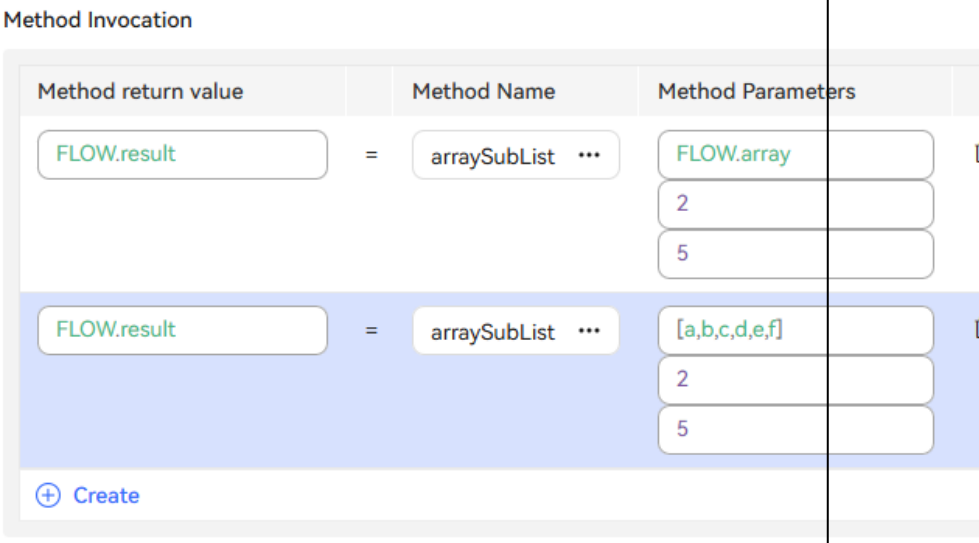
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Function	Description
arrayRemoveAllIdx()	Deletes elements corresponding to an index set from an array. The return object is the deletion result. The value is **1** (deletion successful) or **0** (deletion failed). There are two parameters: array and index set. Example: If flow variables **FLOW.array** and **FLOW.indexArray** are of the list type and their values are **[a,b,c,d,e,f]** and **[2,3,4]**, respectively, you can invoke this method in the method invocation area to delete elements from **FLOW.array** based on an index set. The second parameter specifies the index set. You can cache the deletion result to any variable (**FLOW.result**) of the integer type. After the deletion is successful, the new value of **FLOW.array** is **[a,b,f]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually.  **NOTE** **FLOW.indexArray** is an index set of **FLOW.array**. Its elements support non-negative integers and cannot exceed the maximum index value of **FLOW.array**.
arrayClear()	Deletes all elements from an array. The return object is void. The text box is dimmed and cannot be edited. There is one parameter: array to be cleared. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to delete all elements from **FLOW.array**. After this method is invoked, the new value of **FLOW.array** is **[]** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable. 

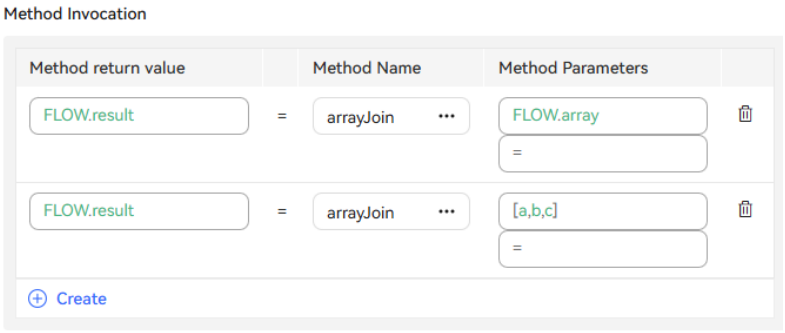
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Function	Description
arraySize()	Obtains the length of an array. The return object is the array length, which is an integer. There is one parameter: array whose length needs to be calculated. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d,e,f]**, you can invoke this method in the method invocation area to obtain the length of **FLOW.array**. You can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable or manually. Method Invocation 

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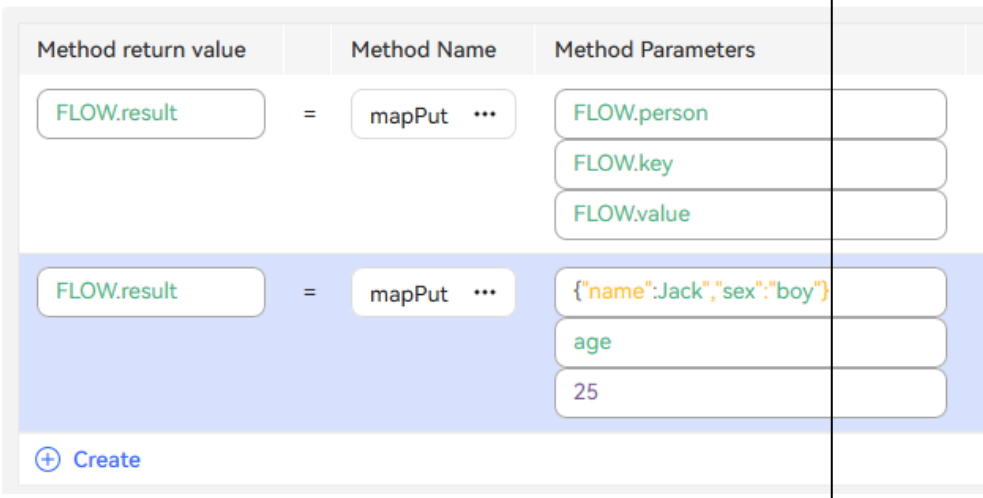
Function	Description
arraySubList()	Truncates and returns a part of an array. The return object is a subarray. There are three parameters: array to be truncated, start position of the truncation, and end position of the truncation. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d,e,f]**, you can invoke this method in the method invocation area to truncate a part of **FLOW.array**. You can cache the truncation result to any variable (**FLOW.subArray**) of the list type. The extracted value (**FLOW.subArray**) is **[c,d,e]**, includes the character with the start index, and excludes the character with the end index. You can assign a value to the method parameter using a variable or manually. 

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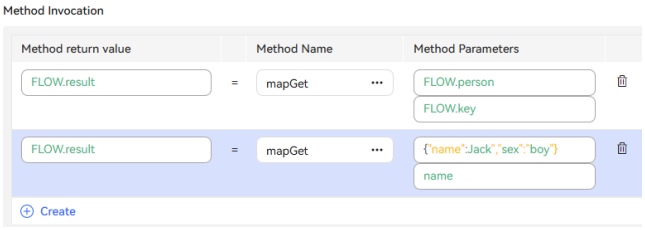
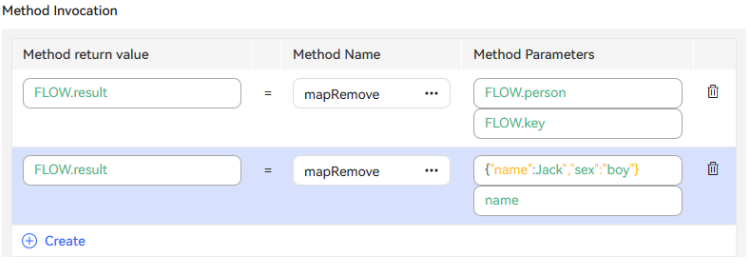
Function	Description
arrayJoin()	Converts an array to a string. The return object is the string generated after conversion. There are two parameters: array to be converted and connection string. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you can invoke this method in the method invocation area to convert the array to a string based on a symbol. You can cache the conversion result to any variable of the string type (**FLOW.result**). In the following example, the return result is **a=b=c=d**. You can assign a value to the method parameter using a variable or manually. 

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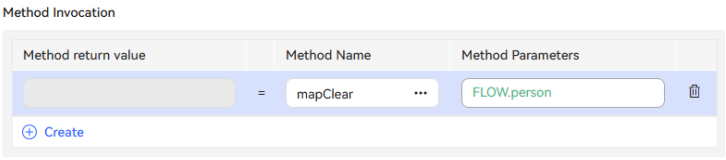
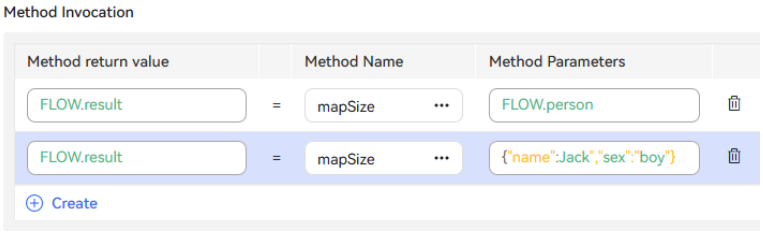
Table 2-134 Map operation methods

Function	Description
mapPut()	Adds an element to a map. The return object is null if the key does not exist or the original value of the object type if the key exists. There are three parameters: map to be modified, key (only the string type is supported), and element to be added. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to add an element to **FLOW.person**. You can cache the addition result to a variable (**FLOW.result**). After the addition is successful, the new value of **FLOW.person** is **{"name":"Jack","sex":"boy","age":"25"}** and is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually. Method Invocation  **NOTE** To manually assign values to the parameters of a variable of the object type, the values cannot be enclosed in double quotation marks. To use flow variables to assign values, refer to the preceding example. To add list data to a variable of the object type, the third parameter must be a predefined variable. You cannot directly enter an array in the text box. By default, the value in the text box is of the string type.

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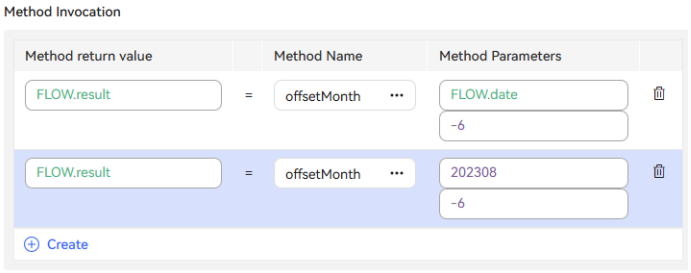
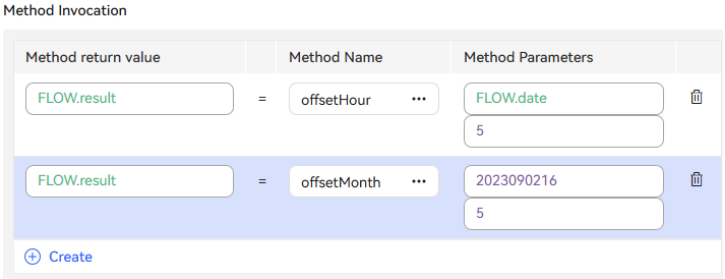
Function	Description
mapGet()	Obtains the value of a key in a map. The return object is the value of the key. There are two parameters: map to be processed and key (only the string type is supported). Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to obtain the value of a key in the map. You can cache the obtained result to a variable (**FLOW.result**). You can assign a value to the method parameter using a variable or manually. 
mapRemove()	Deletes a key-value pair from a map. The return object is the original value of the key in the map or null if the map does not contain the key. There are two parameters: map to be processed and key (only the string type is supported). Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to delete a key-value pair from the map. You can cache the deletion result to a variable (**FLOW.result**). After the deletion is successful, the new value of **FLOW.person** is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable or manually. 

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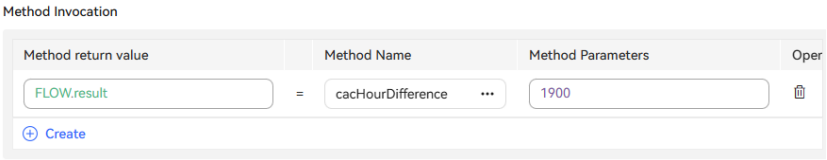
Function	Description
mapClear()	Deletes all key-value pairs from a map. The return object is void. The text box is dimmed and cannot be edited. There is one parameter: map to be cleared. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to clear all key-value pairs from the map. After this method is invoked, the new value of **FLOW.person** is stored in the cache until the flow ends or the value is changed again. You can assign a value to the method parameter using a variable. 
mapSize()	Obtains the total number of keys in a map. The return object is the number of keys in the map, which is an integer. There is one parameter: map whose number of keys needs to be calculated. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack","sex":"boy"}**, you can invoke this method in the method invocation area to obtain the total number of keys in the map. After this method is invoked, you can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable. 

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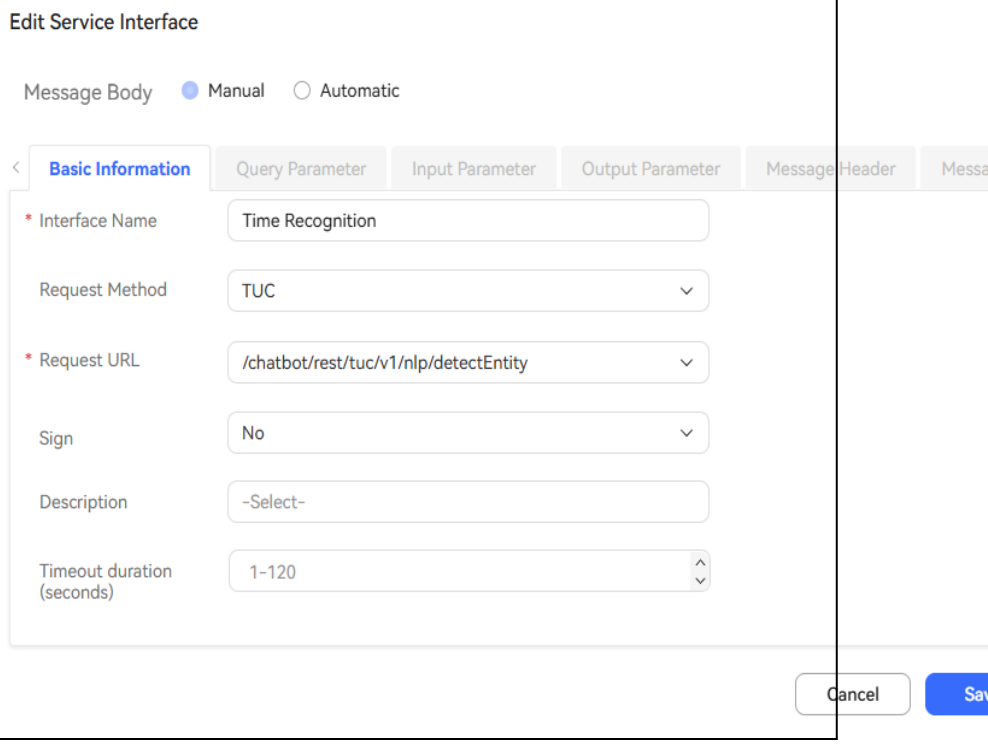
Table 2-135 Data operation methods

Function	Description
offsetMonth()	Offsets data by month. The return object is the offset data, which is a string. There are two parameters. One is the time variable to be offset, whose value is a string in the format of *yyyyMM*, for example, **202308**. The other is the offset, whose value is an integer and can be negative, for example, **-6** (indicating that the source string is offset six months forward). Example: If a flow variable **FLOW.date** is of the string type and the value is **202308**, you can invoke this method in the method invocation area to obtain the offset date. After this method is invoked, you can cache the obtained result to any variable (**FLOW.result**) of the integer type. You can assign a value to the method parameter using a variable. 
offsetHour()	Offsets data by hour. The return object is the offset data, which is a string. There are two parameters. One is the time variable to be offset, whose value is a string in the format of *yyyyMMddHHmmss*, for example, **20230808122020**. The other is the offset, whose value is an integer and can be negative, for example, **-6** (indicating that the source string is offset six hours forward). Example: If a flow variable **FLOW.date** is of the string type and the value is **20230831165801**, you can invoke this method in the method invocation area to obtain the offset hour. You can cache the obtained result to a variable (**FLOW.result**). You can assign a value to the method parameter using a variable or manually. 

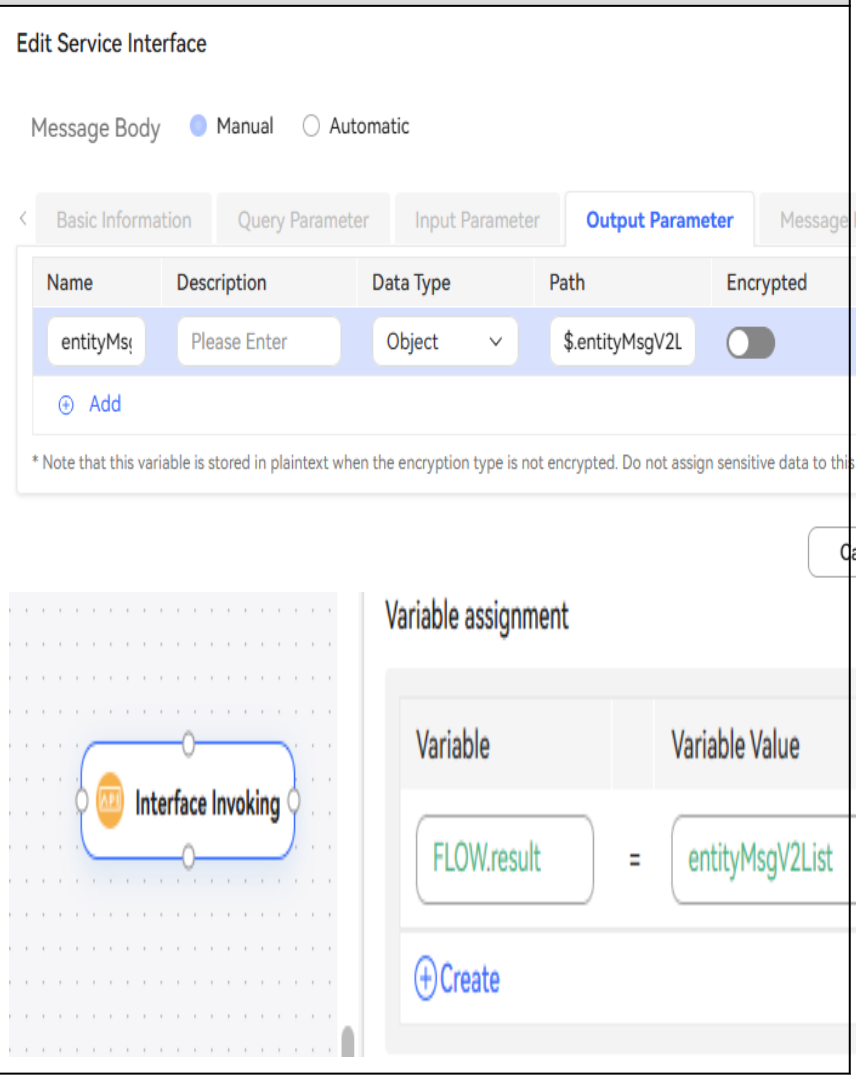
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Function	Description
cacHourDifference()	Calculates the time interval. The return object is the time difference, which is a string. There is one parameter. It is the time variable, whose value is a string in the format of *HHmm*, for example, **1900**. Example: If the parameter value is **1900**, that is, **19:00**, and the time after conversion is **14:00**, the calculation result is 300 minutes, and the result is **300**. If the parameter value is **1900**, that is, **19:00**, and the time after conversion is **23:00**, the calculation result is –240 minutes, and the result is **–240**. If the parameter value is **1900**, that is, **19:00**, and the time after conversion is **02:00**, the calculation result is 900 minutes, and the result is **900**. You can cache the obtained result to a variable (**FLOW.result**). You can assign a value to the method parameter using a variable or manually. 

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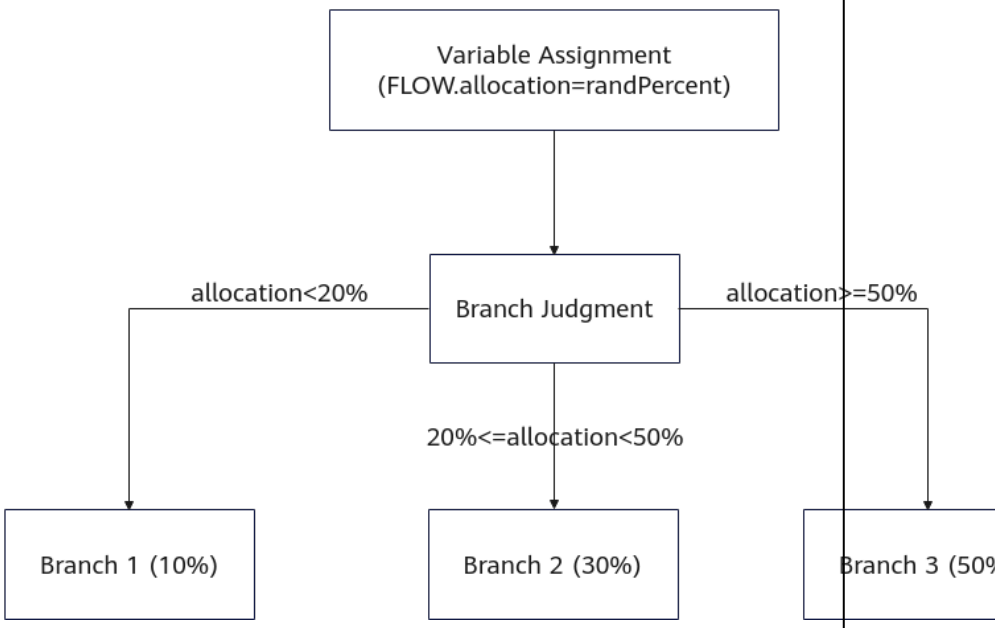
Function	Description
entityTimeToTimestamp()	Converts the time entity to a timestamp. The returned object is of the character string type. The time entity object **entityMsgV2List** returned by the TUC time identification interface is converted into a seconds-level timestamp. This method is used with the TUC time identification interface. There is one parameter, which is the **entityMsgV2List** returned by the TUC time identification interface. Example: 

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Function	Description
	

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Table 2-136 Digital operation method

Function	Description
randPercent	Random percentage function. For example, if the character variable is **FLOW.allocation** and the three branch conditions of the branch diagram element are less than 20%, less than 50% and greater than or equal to 20%, and greater than or equal to 50%, you can invoke this function in the method invocation area to generate different random numbers, which are allocated to corresponding branches for processing. **Figure 2-306** Percentage function  **Figure 2-307** Method Invocation 

2.6.2.6 FAQs

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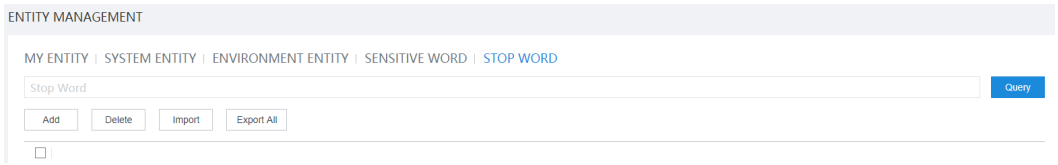
2.6.2.6.1 Why Do I Need to Configure Stop Words?

During the intention configuration, it is found that the **Are you a Robot** corpus is configured in intention A. However, during the actual test, the input **are you a robot** matches other corpuses. Why?

In the system, **Are** is not configured as a stop word, the chatbot restores the word **are** to **be**, and the word form **is** in the corpus is also restored to **be**. As a result, when **are you a robot** is entered, the system matches other intentions based on the corpus. This problem can be resolved by configuring a stop word.

Some words in the actual language have no actual meaning and only serve as a join, for example, be verbs in English. To prevent these words from participating in semantic parsing, you need to add these words as stop words on the **STOP WORD** tab under **Knowledge Management > Entity Management**.

Figure 2-308 Stop word list



2.6.2.6.2 Why Are Some Intentions Matched Despite Low Matching Rates?

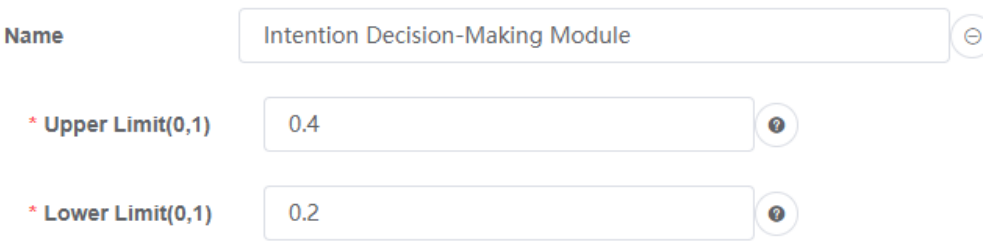
After the information entered by the user is parsed by the TUC, a matching rate is generated. The matching rate is compared with the matching rate threshold defined in the system to determine whether the intention is matched or not.

Configure the matching rate under **System Management >System Configuration > Intelligent Engine Parameter Configuration** > **Intention Parameters**.

NOTICE

Improper settings of intention parameters will cause the semantic recognition module to run abnormally or decrease the accuracy. Therefore, exercise caution when setting intention parameters under the guidance of engineers.

Currently, the intention decision module has two parameters:



If the matching rate is greater than the value of **Upper Limit**, the intention is matched and returned. If the matching rate is less than the value of **Lower Limit**, the intention is regarded as an unknown intention. If the matching rate is between the values of **Lower Limit** and **Upper Limit**, the intentions are also regarded as

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matched intentions. That is, in the configuration, as long as the intention matching rate is greater than 20%, the intention is matched.

2.6.2.6.3 Why TTS Cannot Identify the Date Format?

Description

During dialog identification in Spanish, the text to speech (TTS) plays a character string in *YYYYMMDD* format (for example, 20190801) as a number instead of as the year, month, and date. This affects the customer experience. Therefore, measures must be taken so that a character string in *YYYYMMDD* format is played as expected.

Analysis

It is found that the obtained ODFS system date **SYS.systemDate** and the obtained TUC slot date entity value are both in *YYYYMMDD* format. They do not support automatic format conversion. Therefore, engineers preliminarily suspect that the TTS system used onsite has a specific requirement on the date format.

According to the interconnection commissioning of the TTS provided by the site, a date string in *YYYY/MM/DD* format (2019/08/01) can be played as expected. Therefore, the data format needs to be converted before the voice is played to resolve the problem.

Solution

Add a **Business interface invoke** diagram element next to the **Semantic recognition** diagram element, and convert the format of the slot variable value in the **Semantic recognition** diagram element by using the Java string processing function substring().

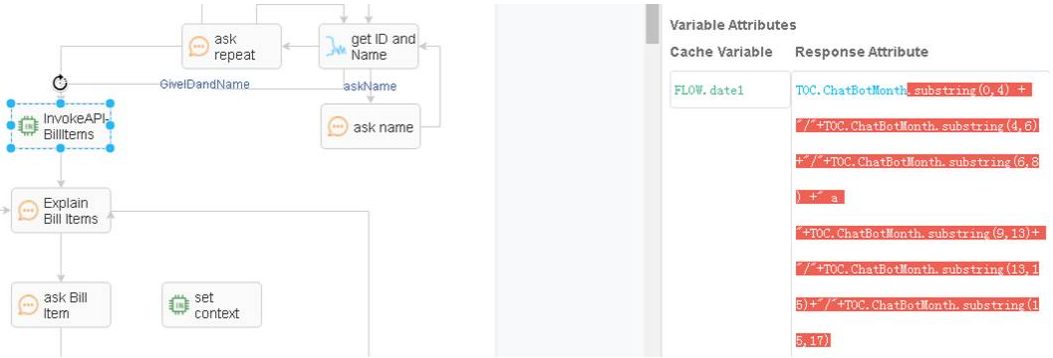
Specific parameter value:

TOC.ChatBotMonth.substring(0,4)+"/"+TOC.ChatBotMonth.substring(4,6)+"/"+TOC.ChatBotMonth.substring(6,8)+ " a "+TOC.ChatBotMonth.substring(9,13)+"/"+TOC.ChatBotMonth.substring(13,15)+"/"+TOC.ChatBotMonth.substring(15,17)

NOTE

Month: slot variable name obtained when the semantic identification diagram element is executed. In the system, it is represented by **TOC.ChatBotMonth**.

For details about how to use slot variables, see **2.6.2.5.2 Parameters**.



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2.6.2.6.4 How Do I Configure the Scenario Where Multiple Slots Are Filled Repeatedly?

Description

To enable a customer to interact with the chatbot to order a meal, the system needs to obtain the slot information such as the order date, time, and number of diners. The slot information that has been filled in needs to be updated at any time during the interaction with the robot.

For example, when a customer says "6:00 p.m. tomorrow, three persons", the system needs to record the information in the slots. When the customer changes his or her mind and says "7:00 p.m." during confirmation, the system needs to fill the new time in the slot.

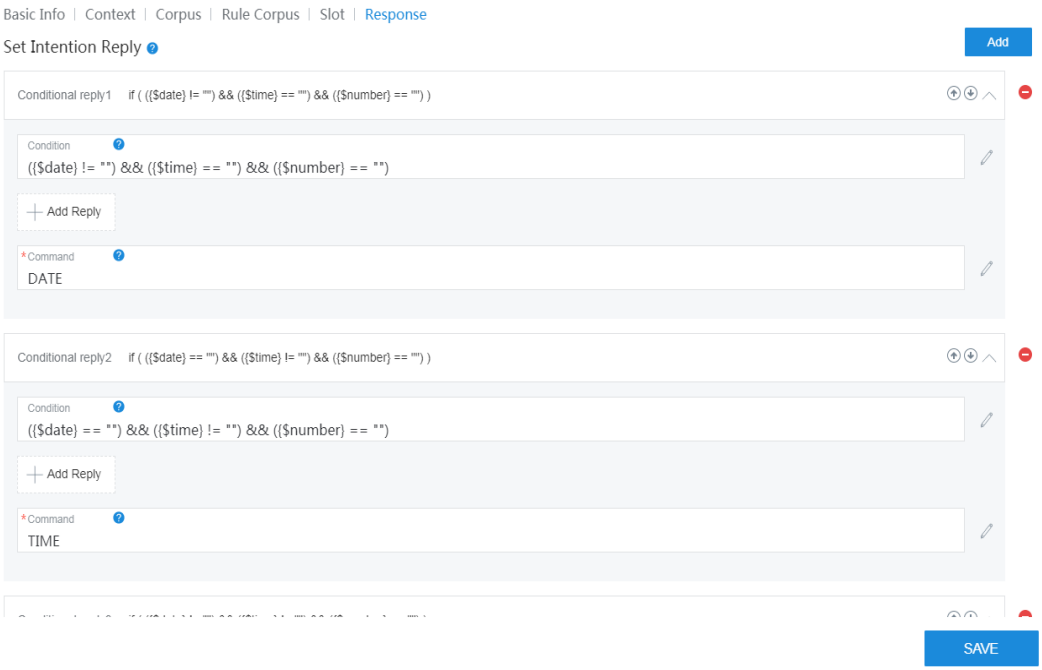
The existing processing mode of the ODFS has the following problem: If the system uses mandatory slot information verification of the intention template, the slot information that needs to be updated cannot be updated immediately. If the system clears the context to fill in the slots again, the slots that do not need to be updated are also cleared.

Solution

Use the following method to support the scenario where a customer changes information repeatedly in multiple rounds of dialogs:

Step 1 During intention template configuration, all slots are made optional slots. In this way, the TUC does not cache the filled slots in an intention. Wait for the next interaction to obtain the information about the next slot. In this way, the problem of failing to update filled slots is avoided.

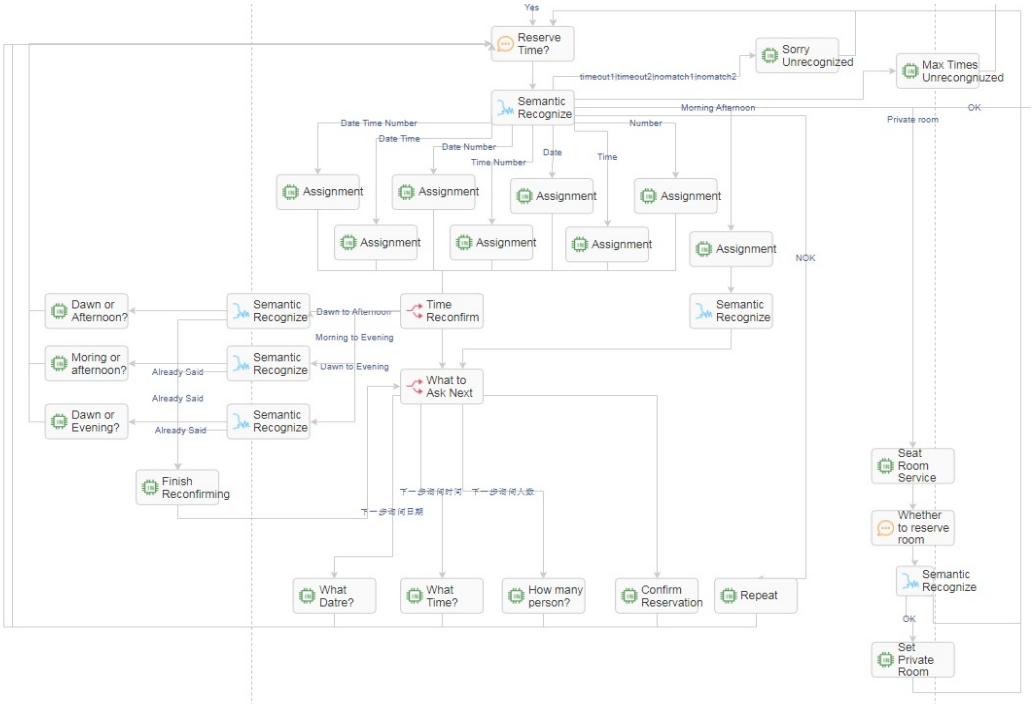
Step 2 Add the judgment logic for returning different command words based on slot information on the **Response** tab page.



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Step 3 On the flow orchestration page, the system determines the branch of the command word returned by the intention based on the flow and plays different voices accordingly.

For each identification interaction, slots are filled. Different intention codes are returned to the dialog flow for one or more slots filled. The dialog flow caches the slot information obtained in each interaction to the flow variables. In this way, the content filled in the slots can be updated according to the information cached by the ODFS each time the identification is performed.



----End

2.6.2.6.5 How Do I Resolve the Problem of Infinite Loop During Interaction Between the IVR and ODFS?

Description

When the voice fails to be played in the IVR dialing test due to reasons such as the TTS connection exception or the file non-existence, the flow ends abnormally. The check of the IVR and ODFS logs shows that the infinite loop may occur. The main symptom is that the TTS keeps reporting the system error.

Analysis

When the IVR fails to play the voice returned by the system, the IVR sends a sys_err request to the OIAP system. The system cannot process the sys_err request again and triggers an exception. However, the system does not find the exception subflow in the dialog flow, and therefore the default abnormal TTS content of the IVR is returned.

The IVR fails to play the default TTS content and continues to send the sys_err request to the OIAP. The OIAP continues to trigger an exception. Even if the

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customer hangs up, the IVR business fails to capture the hang-up event. The IVR simply continues sending the sys_err request. As a result, an infinite loop occurs.

Based on the preceding analysis, the possible causes are as follows:

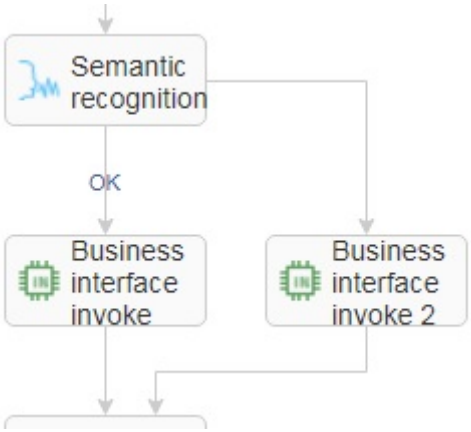
- The sys_err intention is not configured or identified.
- No abnormal condition branch is configured in the dialog flow.

Solution

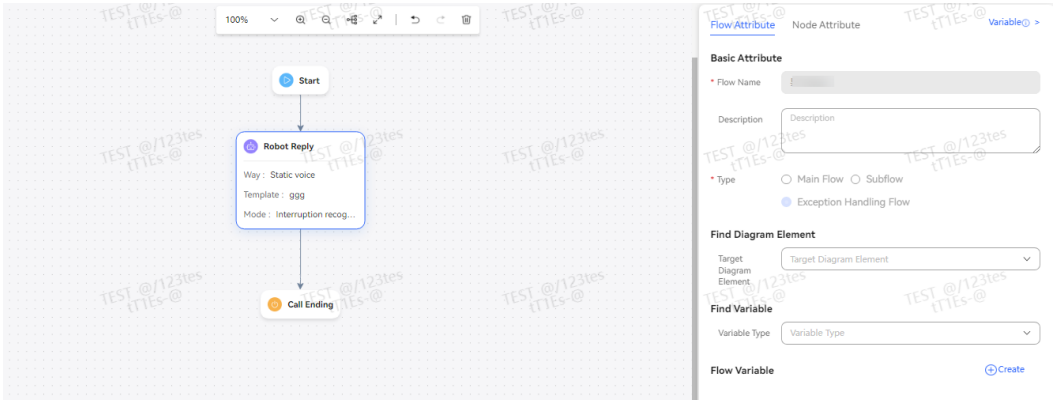
Check the intention templates and dialog flows as follows:

- Check whether the branch judgment is comprehensive.

1. When defining condition branches for diagram elements, ensure that the set of all conditions contains all normal and abnormal scenarios. If some scenarios are omitted, some actual result may fail to match any of the configured branches. If no condition is selected for the subsequent connection line of a diagram element, the connection line is the default branch. The connection line of this branch must be processed.



2. An exception subflow needs to be created in the dialog flow. In the subflow, a system exception voice can be simply played. The system only needs to support voice playback and does not need to support key pressing and identification. After the voice is played, the flow ends directly.



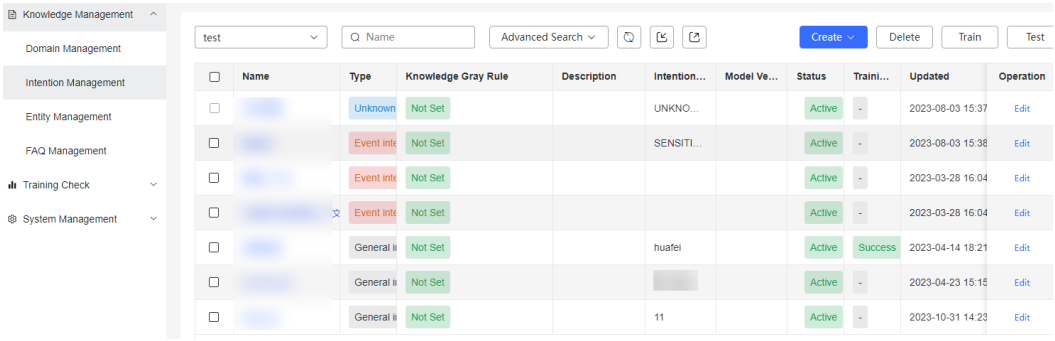
- Check whether unknown intentions are configured in the intention template.

  In 8.9.0 and 8.10.0, several common intention templates have been preset in the new domain. Ensure that these templates are not deleted. If no unknown intention exists, configure one and ensure that **Command** on the **Response**

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tab page of the unknown intention is set to **UNKNOWN_INTENT**, as shown in **Figure 2-309**.

Figure 2-309 Unknown intention configuration page



2.6.2.6.6 How Do I Configure the Number of Voice Recognition Errors in a Flow?

Description

During the semantic identification, the dialog flow provides the default maximum number of errors. The processing mechanism is as follows:

1. If the IVR identification times out, the system records a timeout error.
2. If the IVR identification is incorrect or the intention template rejects the identification, the system records a nomatch error.
3. The OIAP accumulates the total number of timeout errors and rejection errors. When the accumulation reaches three, the OIAP records an error3 condition by default.

NOTE

The accumulation is performed on the same IVR identification diagram element.

The preceding fixed rules apply only to the same identification scenario. The stop condition is that the total number of timeout errors and rejection errors reaches three.

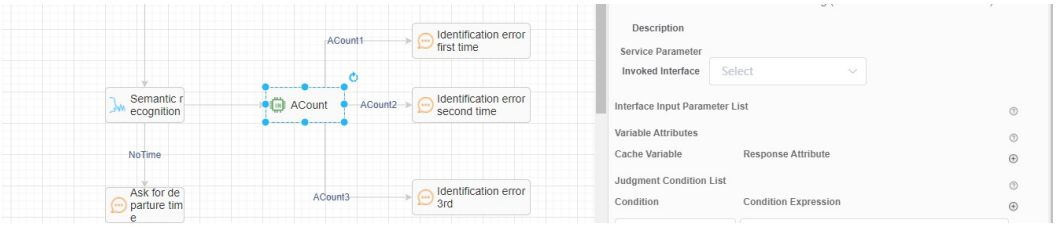
However, the preceding rule does not apply to the scenarios where the number of timeout errors and the number of rejection errors are counted separately, where the number of errors in more than one identification is counted together, where the errors are accumulated in other error scenarios, or where the number of error times is greater than three.

Solution

If the default rule does not meet requirements, use the business number counting rule as follows:

Use the business interface invoking diagram element to customize counting variables. The levels GLOBAL and FLOW can be selected in different counting scenarios. Different branches can be set for the recognition timeout and rejection scenarios, and the corresponding times accumulation diagram elements can be connected.

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The system determines the branch to select based on the error times variable, for example, the branch for playing an error voice or the branch for directly returning and replaying the prompt voice again.

2.6.2.6.7 How Do I Configure an Entity That Matches Any Character String?

The preset entity **system.any** can return only the entire sentence of a subscriber, but cannot return a slot in a sentence. To obtain a slot in a sentence, you need to develop rules. If the programmer says "add a button, 5 cm long, 2 cm high, button name is click", or "add a button, button name is click, 5 cm long, 2 cm high", you can define rules by using rule entities to distinguish whether the button name is "click" or "click, 5 cm long, 2 cm high", and to correctly extract the entity.

2.6.2.6.8 What Causes Incorrect ASR?

1. Mixed accents, for example, a mixed accent of British and American.
2. Poor voice quality due to factors such as packet loss and jitter.

2.6.2.6.9 How Do I Transfer the Disconnection Reason Code to the Specified Business Interface?

When a call is disconnected, a specified interface may be required to report the disconnection reason code. To implement this function, you need to define the specified interface on the **Business Interface** page, create an exception flow, and record the disconnection reason code in the flow using a global variable.

Clarify the types of call disconnection reasons. From the perspective of participants, the reasons can be classified into the following types:

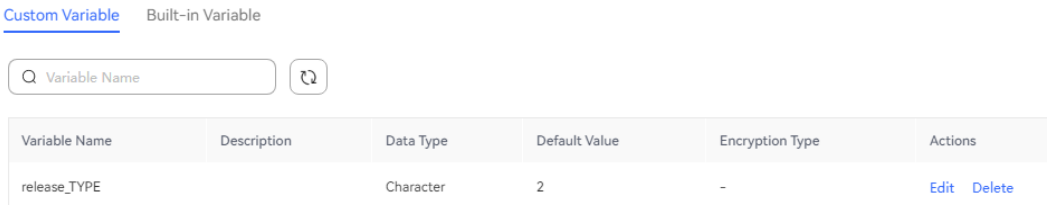
- 1. A customer hangs up the call. Assume that the reason code is **2**.
- 2. The call is disconnected when the flow ends normally. Assume that the reason code is **0**.
- 3. The call is disconnected when the flow ends abnormally. Assume that the reason code is **1**.

This section describes how to configure the flow, variable, and interface to report the three types of disconnection reason codes to the specified interface.

Step 1 Define a global variable to identify the disconnection reason.

When adding a global variable, specify the default value, which must be the reason code for calls disconnected by customers. For example, set the global variable name, data type, and default value to **release_type**, **Character**, and **2**, respectively, as shown in the following figure.

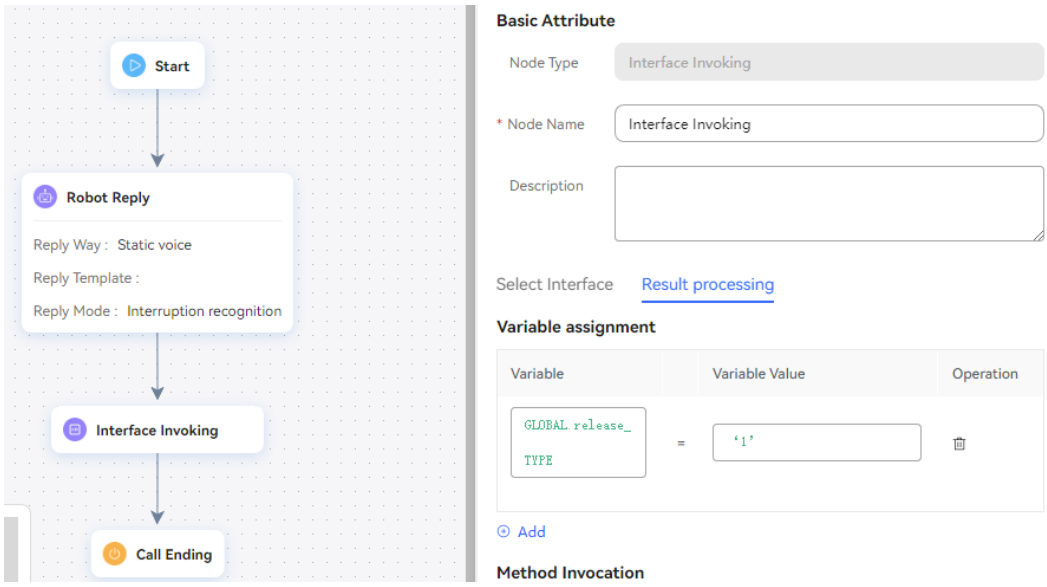
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Step 2 Add an exception flow and set the reason code for abnormal disconnection.

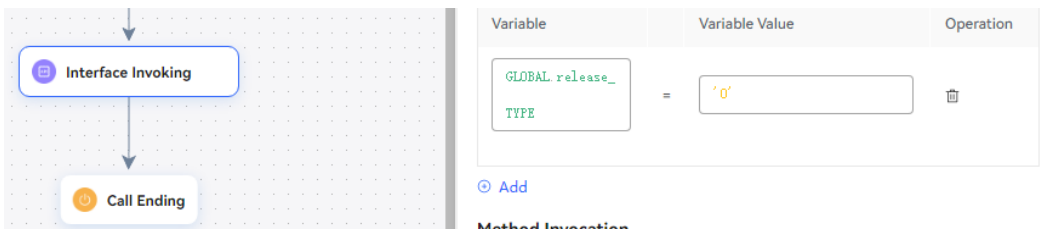
Create a flow by referring to **2.6.2.2.5 Adding Flows** and set **Scenario Type** to **Exception Flow**. Generally, a **Robot Reply** diagram element is required in an exception flow to play etiquette expressions about causing the inconvenience, for example, "Sorry, we are facing some technical issues. Please try after some time. Thank you."

Use the **Interface Invoking** diagram element to assign a value to the global variable, indicating the reason code of abnormal disconnection in the flow. In this example, set the global variable to **1**. Use the **Call Ending** diagram element to end the call in an exception flow.



Step 3 Set the reason code of normal disconnection in front of the **Call Ending** diagram element in a normal flow.

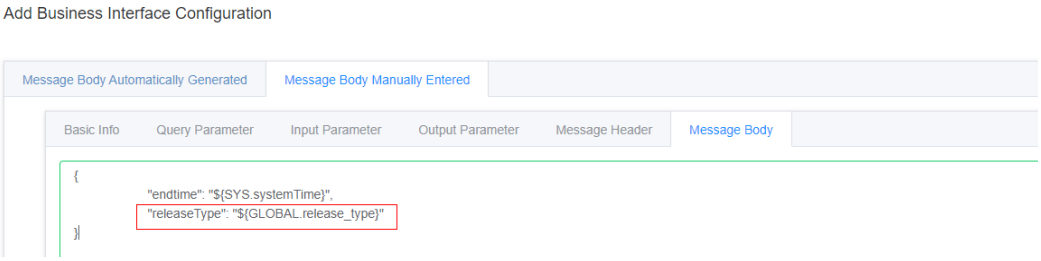
You do not need to change the logic of the current normal flow. You only need to add an **Interface Invoking** diagram element in front of the **Call Ending** diagram element in a normal flow and assign a value to the global variable, indicating the reason code of normal disconnection in the flow. In this example, set the global variable to **0**. The following is an example.



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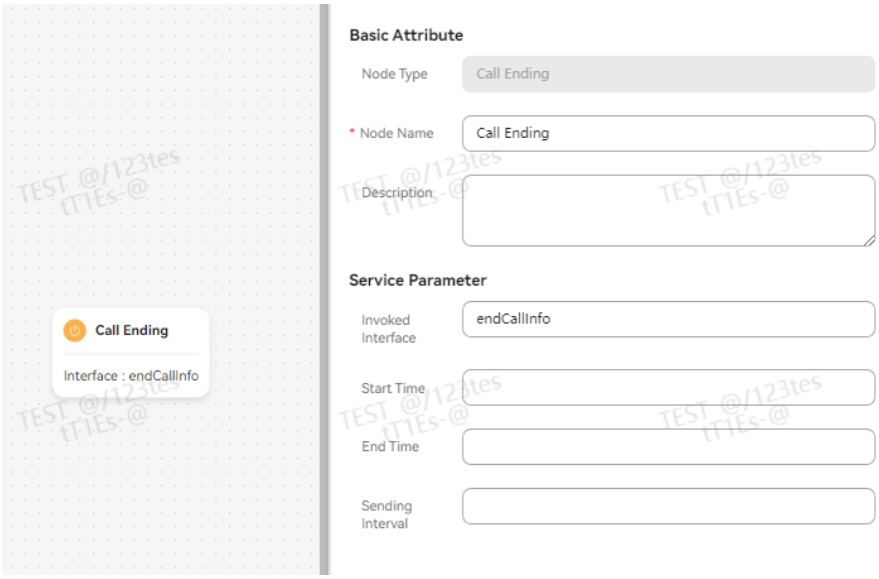
Step 4 Set the parameters for the specified interface.

Add a business interface based on the interface information provided by the business side by referring to section 4.1.1. However, set the preceding variable that indicates the disconnection reason code to the input parameter of the message body in the interface, as shown in the following figure.



Step 5 Invoke the specified interface for the **Call Ending** diagram element in the main flow.

By referring to **Call Ending**, invoke the configured interface for the **Call Ending** diagram element in the main flow to report different reason codes after a flow disconnects a call.



----End

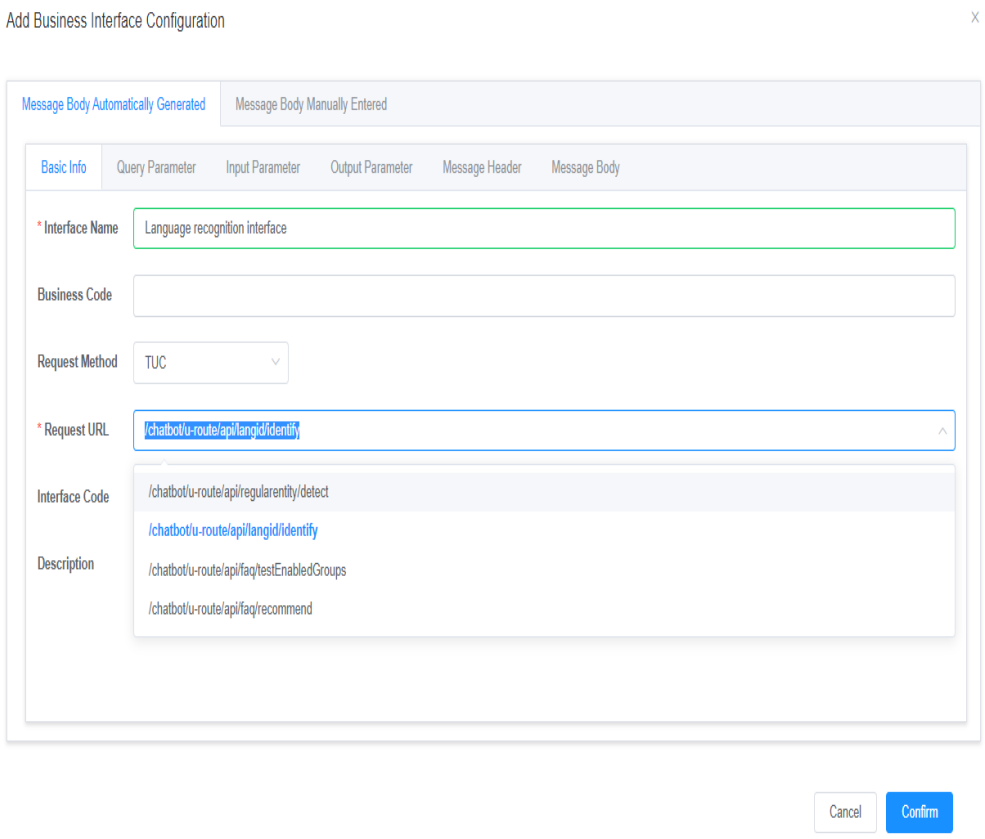
2.6.2.6.10 How Do I Configure the Language Recognition Interface?

The OIAP provides the language recognition interface. You can invoke the interface by configuring the **Business interface invoking** diagram element in a flow. The interface supports Chinese, English, Arabic, and Spanish. When you configure an OIAP multi-language flow, the configuration of the language recognition interface is mandatory.

Step 1 Add the language recognition interface to the **Business interface invoking** diagram element.

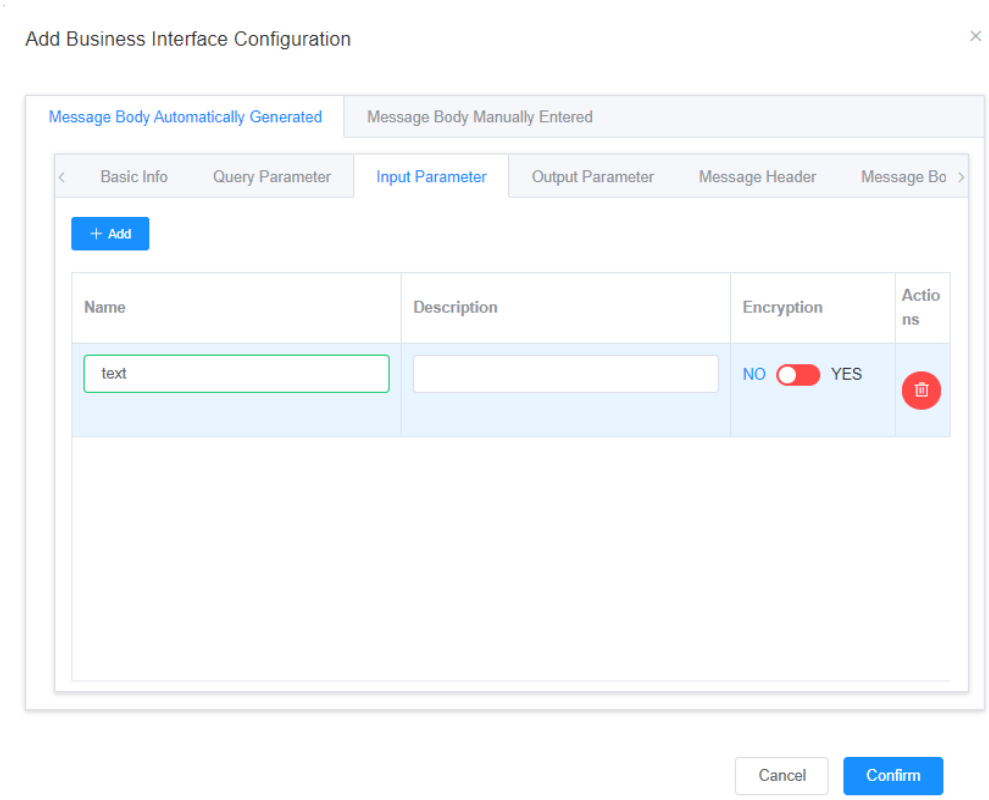
1. Choose **Resource Management** > **Business Interface** to add an interface. Select **Message Body Automatically Generated**, set **Interface Name**,

Request Method, and **Interface Code** to **Language recognition interface**, **TUC**, and **/chatbot/u-route/api/langid/identify**, respectively.

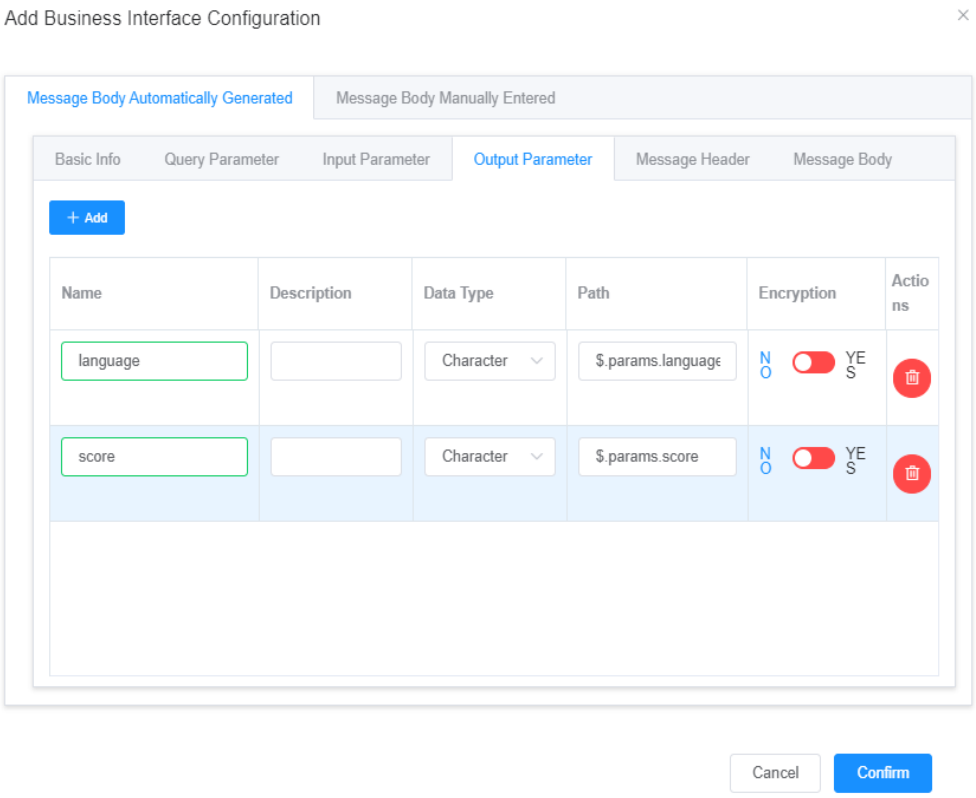


2. Enter input parameters, as shown in the following figure.

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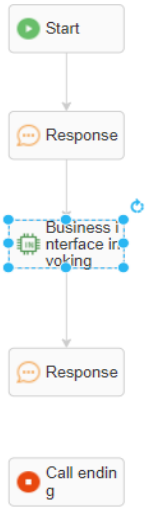
3. Enter output parameters, as shown in the following figure.

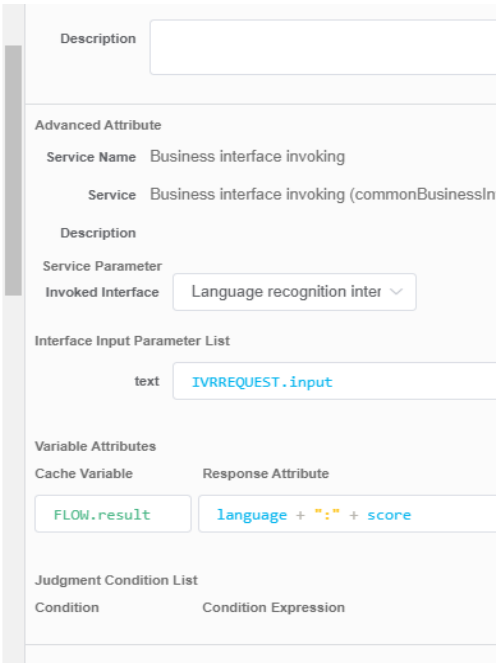


Step 2 Use the language recognition interface in a flow.

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Select the **Business interface invoking** diagram element, set **Invoked Interface** in the **Service Parameter** area and **text** in the **Interface Input Parameter List** area to **Language recognition interface** and **IVRREQUEST.input**, respectively. The **language** and **score** output parameters can be directly referenced in the variable.

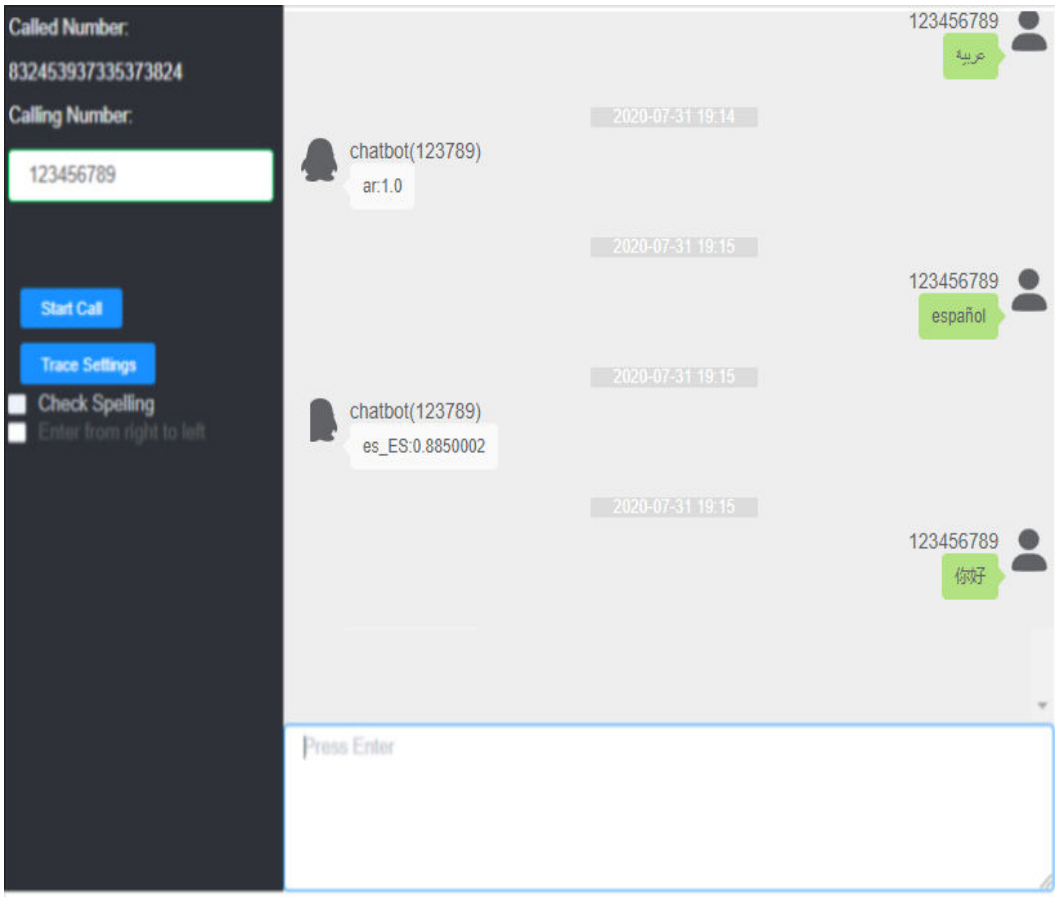




Step 3 Test result.

The call result is as follows.

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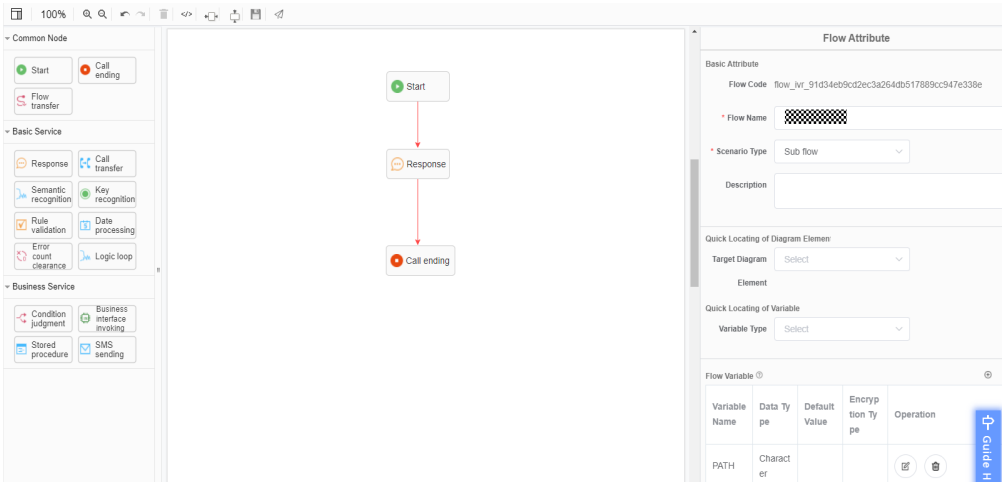
----End

2.6.2.6.11 How Do I Configure Dynamic Flow Variables?

In the integrated environment, when the **Template Type** is set to **Static voice** or **Video file** on the **Resource Template** page, the button **Enable dynamic settings for flow variables** is displayed next to the template type. After the function is enabled, you can enter flow variables in the content text boxes. After the variables are set, their static voice or video file paths can be obtained in the business flow.

1. Choose **Flow Management > Flow Orchestration** and click **Add** to create a flow. Click ⊕ in the lower right corner, create a flow variable, and click **Confirm**.

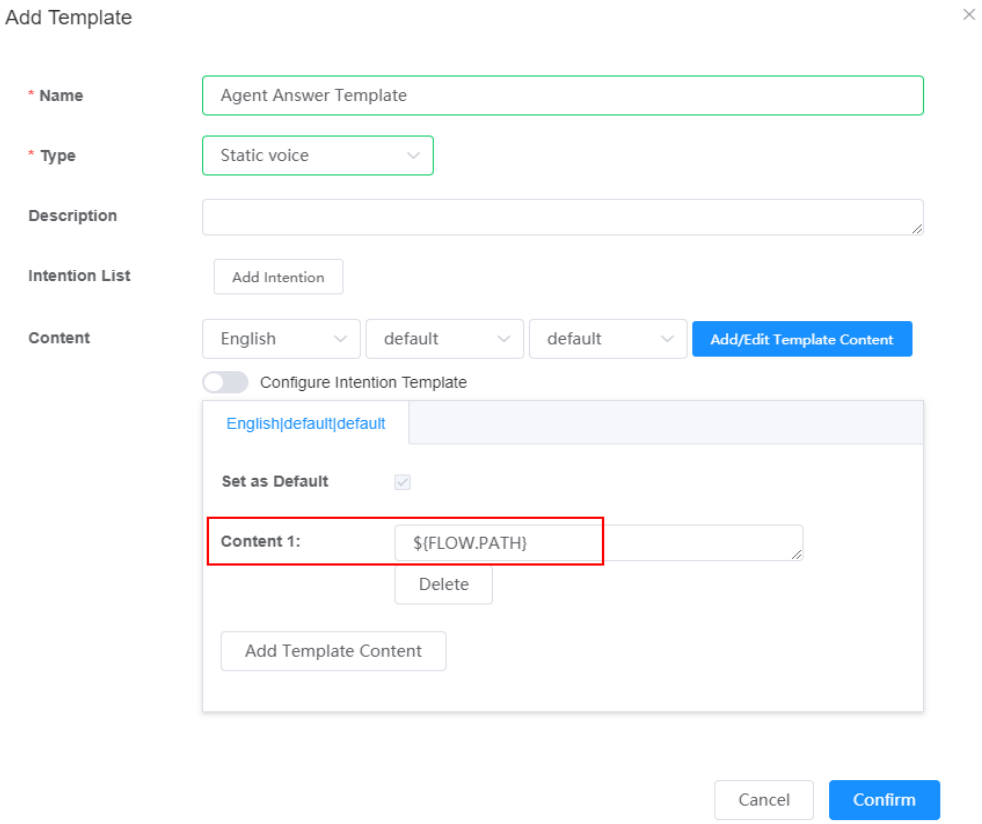
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2. Choose **Resource Management > Resource Template** and click **Add** to create a resource template. Enable the **Enable dynamic settings for flow variables** function, enter the flow variable created in the previous step in **Content 1** in the **Template Content** area in the format of *${FLOW. Flow variable name}*, and click **Confirm**.

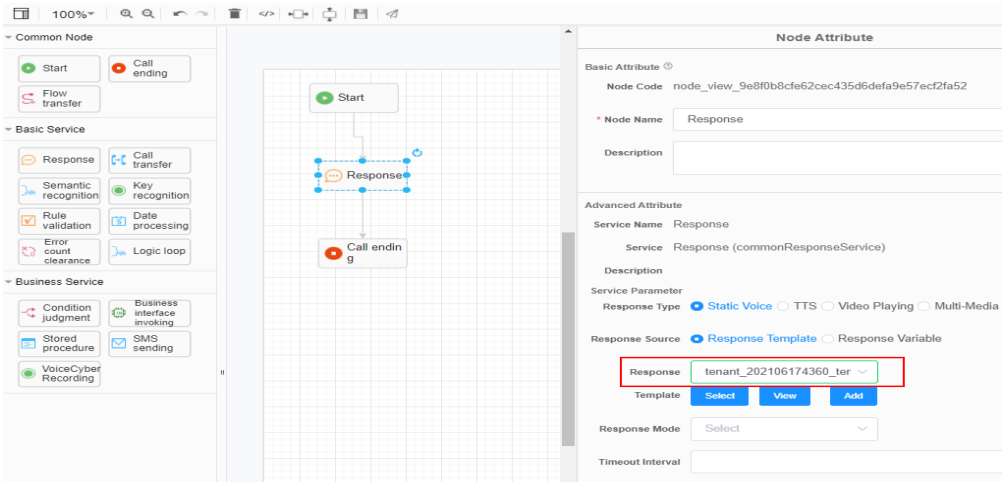
   NOTE

   Enable dynamic settings for flow variables is displayed only when **Template Type** is set to **Static voice** or **Video file**.



3. Open the flow created in step 1, click the **Response** diagram element, and set service parameters. Select a response type. Select the resource template created in the previous step from the **Response Template** drop-down list box and save the template.

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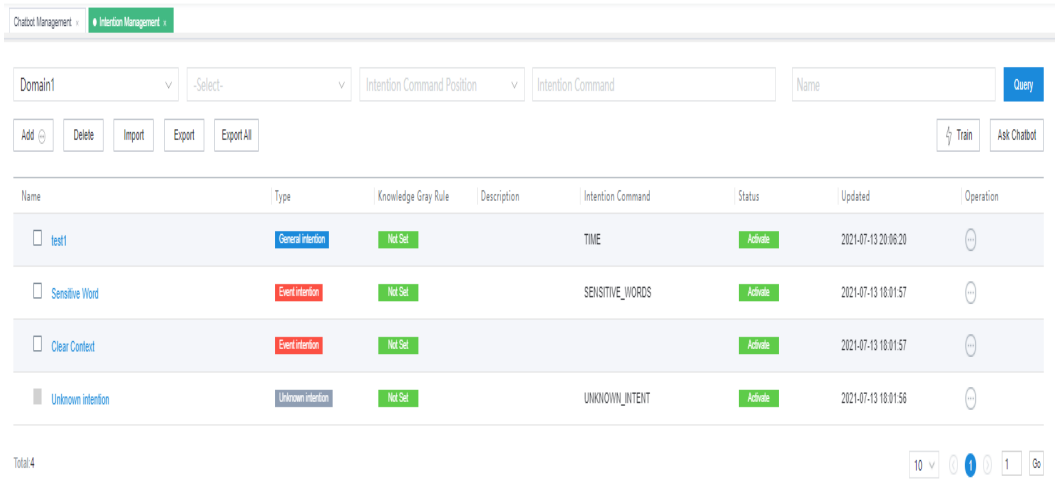
2.6.2.6.12 How Do I Use a Rule Corpus?

As a supplement to common corpuses, rule corpuses are used to identify users' intents based on rules. They have the following features:

- The configuration is simple, explicit, and flexible, which greatly reduces the threshold for configuring corpuses.
- When there are a large number of intents, misidentification can be effectively prevented.

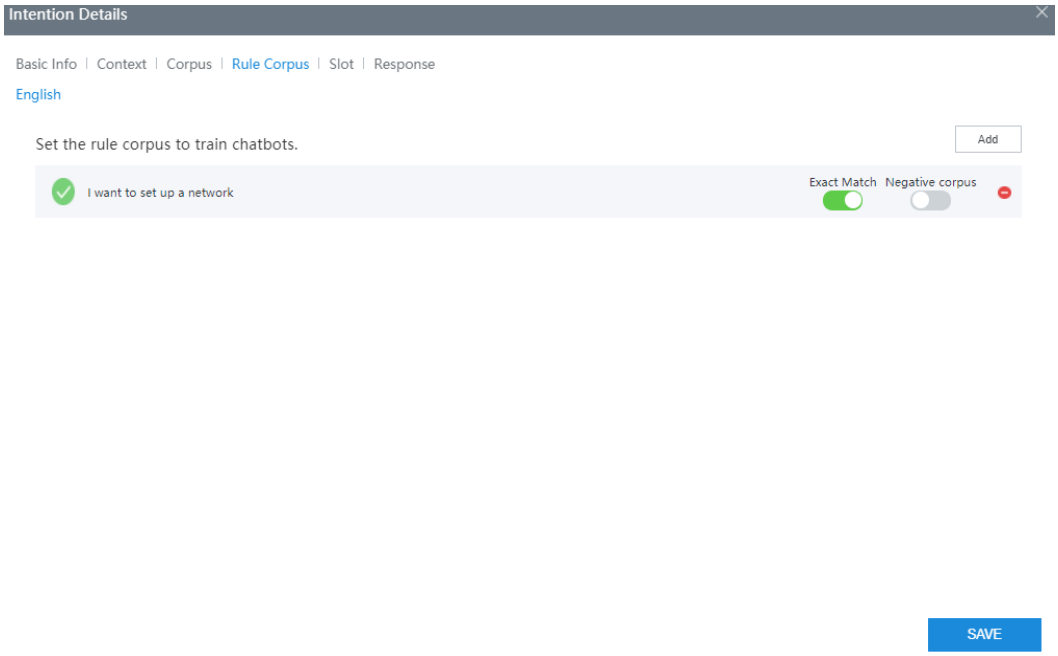
Procedure

Step 1 The intent management page is displayed.

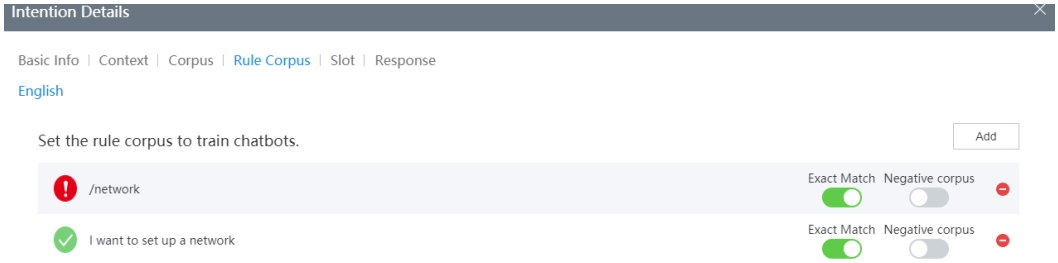


Step 2 Create an intent or open an existing intent, click the **Rule Corpus** tab, and click **Add** to add a rule corpus.

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Step 3 The tag on the left of the corpus indicates whether the rule format is correct. If the rule format is incorrect, an error message is displayed.

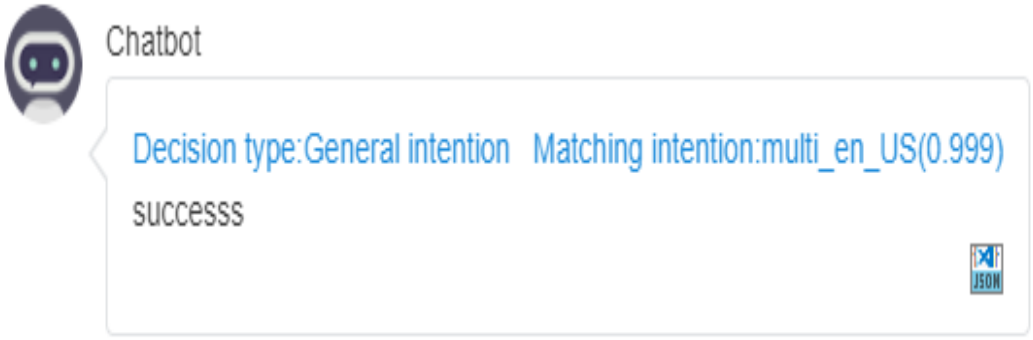


Step 4 The **Exact Match** button on the right of the corpus can be used to determine whether to perform exact match for the corpus.

Step 5 (Optional) Click **Add** again to add another rule corpus. Click  on the right of the corpus to delete the corpus. Double-click the corpus text to edit the corpus.

Step 6 Test the rule corpus. Chat with the chatbot by text to check whether the configured rule takes effect. When the rule takes effect, the intent confidence displayed in the chat window is an integer greater than or equal to **1**.

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NOTE

When both common corpuses and rule corpuses are configured, the system preferentially matches rule corpuses. If no rule is matched, the system matches common corpuses.

----End

2.6.2.6.13 How Do I Assign Values to and Use Lists and Objects?

During flow orchestration, if a reply variable in the **Robot Reply** diagram element, a cache variable (attribute in the response) in other diagram elements, or a variable in a conditional expression needs to operate or use list or object data, you can use the following methods for value assignment and usage.

Methods

- Value assignment: If a flow variable is of the list type, you can assign a value in **["1","2","3"]** format. If a flow variable is of the object type, you can assign a value in **{"keyA":"valueA","keyB":"valueB"}** format. Each element in a list or object can be a list or object.
- Usage
  - If a flow variable **FLOW.arr1** is of the list type and the default value is **["1","2","3"]**, you can use the **FLOW.arr1[0]** expression to obtain the value **"1"** of the first element.

    If a flow variable **FLOW.arr2** is of the list type and the default value is **[[1,2], [3,4]]**, you can use the **FLOW.arr2[1][0]** expression to obtain the value **3** of the first element.
  - If a flow variable **FLOW.obj1** is of the object type and the default value is **{"keyA":"valueA","keyB":"valueB"}**, you can use the **FLOW.obj1["keyA"]** or **FLOW.obj1.keyA** expression to obtain **valueA**.

    If a flow variable **FLOW.obj2** is of the object type and the default value is **{"keyA":"valueA","keyB":{"keyC":"valueC"}}**, you can use the **FLOW.obj2["keyB"]["keyC"]** or **FLOW.obj2.keyB.keyC** expression to obtain **valueC**.

    NOTE

    List or object elements obtained using methods can be properly calculated with other variable values and operated using built-in functions.

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2.6.2.6.14 How Do I Parse Call-associated Data?

Description

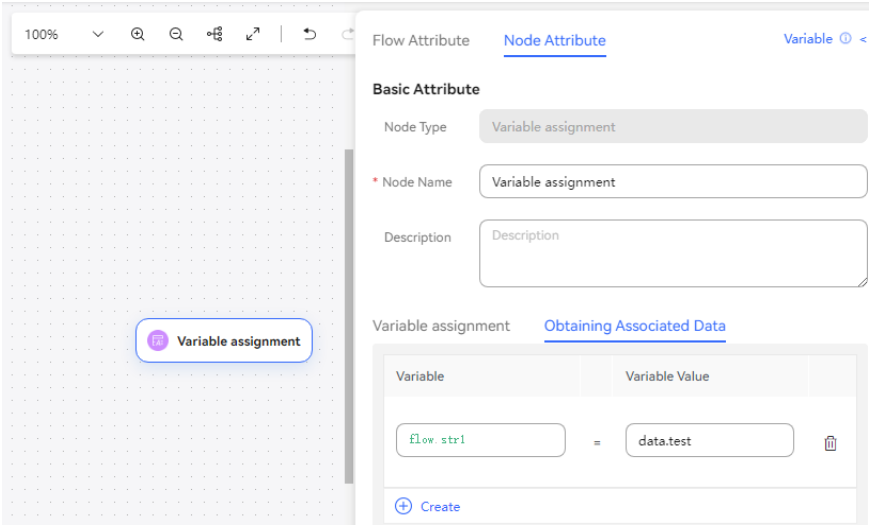
During flow orchestration, the **IVRREQUEST.transin_data** variable is used to obtain the call-associated data string. You can use the following solution to parse the call-associated data.

Solution

Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Figure 2-310 JSON data invoking



2.6.2.6.15 How Do I Press a Key to Collect Digits or Return to the Upper-Level Menu When the Play Voice & Collect Digit Diagram Element Does Not Support the Asterisk (*) Key?

Description

How do I press a key to collect digits or return to the upper-level menu when the **Play Voice & Collect Digit** diagram element does not support the asterisk (*) key?

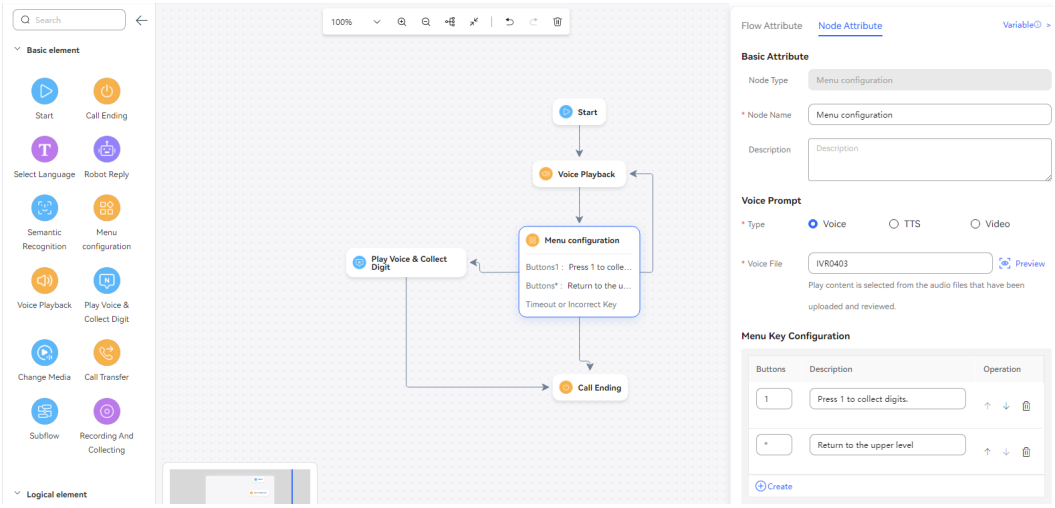
Analysis

The **Play Voice & Collect Digit** diagram element does not support the asterisk (*) key. To collect digits or return to the upper-level menu, you need to use the **Menu configuration** and **Play Voice & Collect Digit** diagram elements together. Use the **Menu configuration** diagram element to collect the first digit 1, and use the **Play Voice & Collect Digit** diagram element to collect the remaining digits.

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Figure 1 shows a flow example when the **Menu configuration** and **Play Voice & Collect Digit** diagram elements are used together to collect the mobile number. After a customer presses **1**, the **Play Voice & Collect Digit** diagram element collects the remaining digits of the mobile number. In this case, the first digit collected by the **Play Voice & Collect Digit** diagram element is actually the second digit of the mobile number (the first digit has been collected by the **Menu configuration** diagram element). Therefore, the timeout of the first key pressing on the **Play Voice & Collect Digit** node is considered as inter-digit timeout, which is controlled by **Timeout interval for digit collection** instead of **Waiting Time for Digit Collection** and **Max. Failure Times**. If key pressing on the **Play Voice & Collect Digit** node times out, the flow completes the collection of digits that have been pressed and goes to the next diagram element. If no key is pressed, the flow also goes to the next diagram element but does not involve the digit collection timeout configuration in the **Advanced Settings** area of the **Play Voice & Collect Digit** diagram element.

Figure 2-311 Play Voice & Collect Digit and Menu configuration used together to collect digits



2.6.3 Configuring a Common IVR Flow

2.6.3.1 Introduction to the IVR Flow

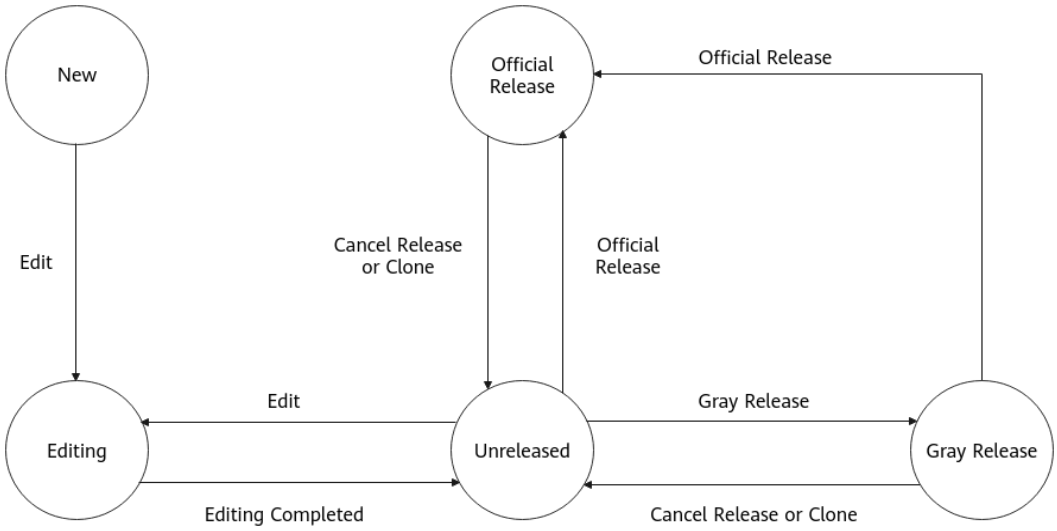
Before configuring an IVR flow, you are advised to understand related concepts, such as flow status and flow operations.

IVR Flow Status

The status transition diagram of an IVR flow describes the IVR flow status and the status transition relationships, as shown in Figure 1.

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Figure 2-312 Flow status transition diagram



- New

  After a flow is created, it enters the initial state **New**. In this state, the flow can be edited or deleted.

- Editing

  When a flow in **New** or **Unreleased** state is edited, it enters the **Editing** state. In this state, no other operations can be performed on the flow and the flow cannot be operated by other users. When the editing ends, the flow can be published.

- Unreleased

  If the editing ends, the edit page is closed during editing, an exception occurs during editing, or the publishing is canceled for a flow in **Official Release** or **Gray Release** state, the flow enters the **Unreleased** state. An exception can be an editing timeout error caused by network interruption or power outage. By default, if no request is sent on the editing page within 5 minutes, the flow times out.

- Official Release

  After a flow is published successfully, it is in **Official Release** state. A flow in **Official Release** state can be cloned, tested, and canceled.

- Gray Release

  After a flow is published successfully, it is in **Gray Release** state. A flow in **Gray Release** state can be cloned, tested, published, canceled, and viewed. A flow in **Gray Release** state can only be published as an official version.

For all flows, you can view the values of **Type** and **Is Referenced** by clicking **Attribute**. Table 2-137 describes the operations supported for flows in different states.

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NOTE

- For flows in **New** or **Unreleased** state, you can modify **Type** and **Is Referenced** by clicking **Attribute**. If a tenant has a main flow and an exception handling flow, the value of **Type** cannot be changed to **Main flow** or **Exception handling flow** for other flows.
- For a flow in **Official Release** or **Gray Release** state, you can click **Test** to manually configure the operation result on the **Flow Test** page, simulate the execution result of each diagram element in the flow, and test flow status transition.

Table 2-137 Flow status and supported operations

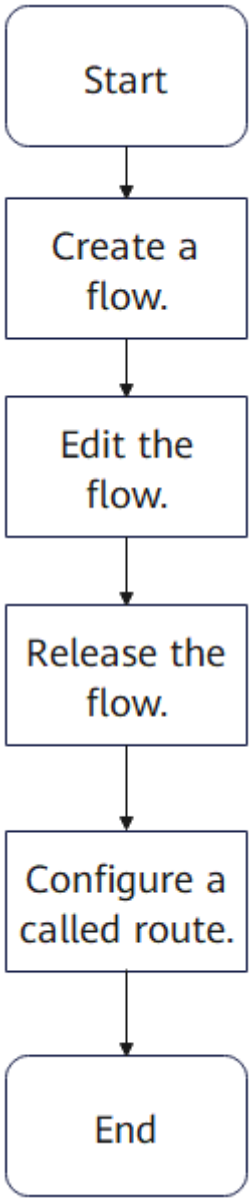
Flow Status	Supported Operation
New	Edit and Delete
Editing	Unlock
Unreleased	Release, Edit, and Delete
Official Release	Clone, Test, Cancel Release, and Query Info
Gray Release	Clone, Test, Release, Cancel Release, Details, and Query Info

IVR Configuration Process

You can configure an IVR flow based on the flowchart. **Figure 2-313** shows the editing and handling process of an IVR flow.

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Figure 2-313 IVR flow configuration process



2.6.3.2 Managing Voice and Video Resources

A voice or video file carries a piece of voice content. After a voice or video file is associated with an IVR flow, the system can play voices based on the file after a customer enters the IVR flow in a voice call. To enable voice playback, you need to create a voice or video file in advance based on site requirements.

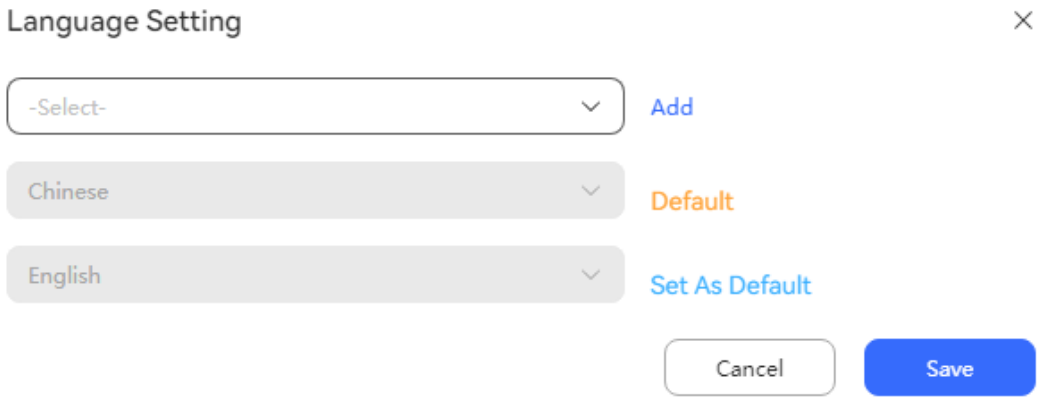
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Audio and Video**.

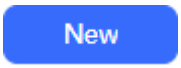
Step 2 Click Language Setting. The **Language Setting** dialog box is displayed.

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Currently, voice files in the following languages are supported: Chinese, English, Portuguese, Thai, Spanish, French, and Arabic.

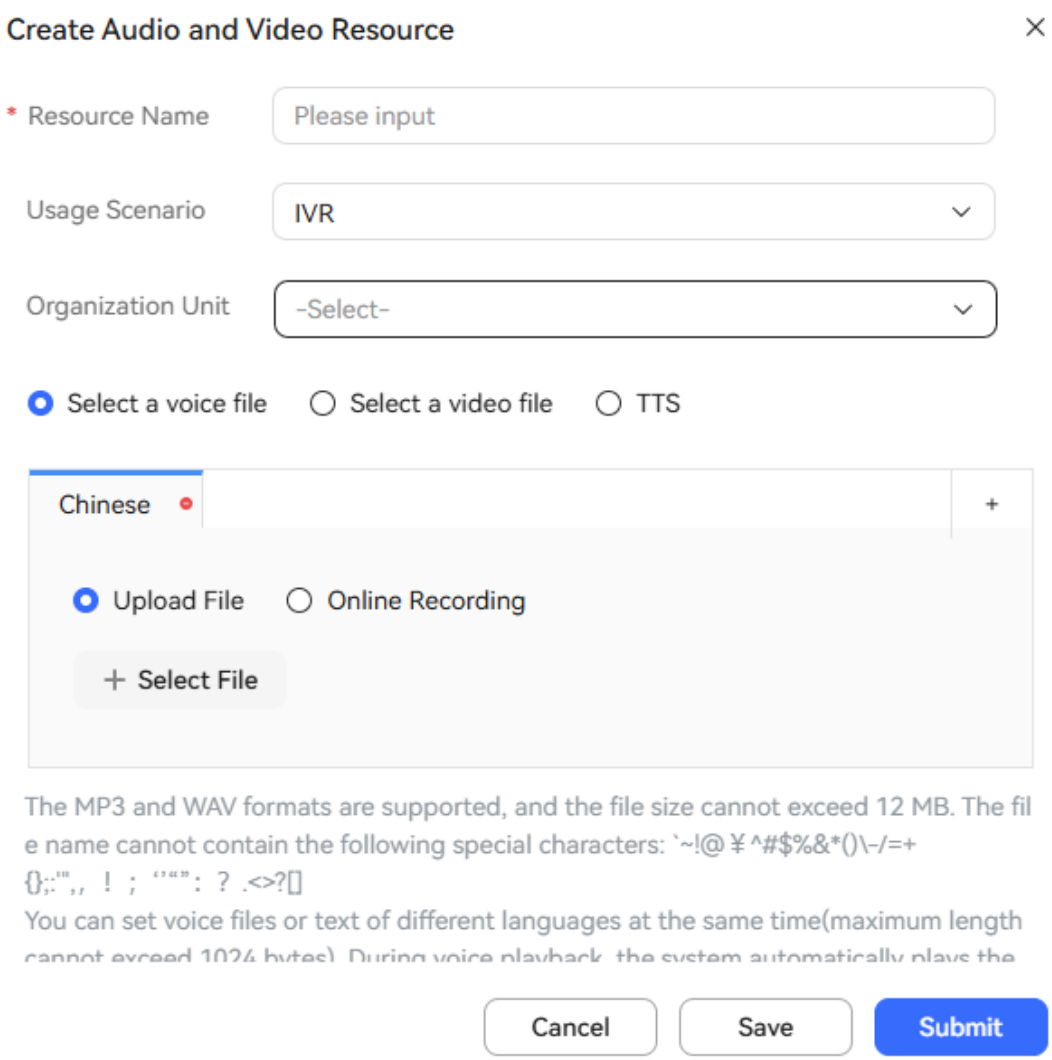


1. Select the language to be added and click **Add**. The language is added successfully.
2. Click **Set As Default** to set a language as the default language.
3. Click **Save** to save the language setting.

Step 3 Click 

to create an IVR voice or video file.

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- **Name**: file name, which is customized. The value cannot contain special characters.
- **Usage Scenario**: This parameter is used to distinguish uploaded files. The options are as follows:
  - **IVR**: A voice file, video file, or TTS can be created, which is used for flow configuration.
  - **tone**: Only a voice file can be created, which is used for agent ringback tone configuration.
  - **error**: Only a voice file can be created, which is used for configuration of the **Breakdown Voice** tenant space feature.
  - **questionnaire**: A voice file or TTS can be created, which is used for IVR survey configuration.
  - **Voice notification**: A voice file or TTS can be created, which is used for interface configuration.
  - **before reporting employee ID** and **after reporting employee ID**: Only a voice file can be created, which is used to play the employee ID when a customer is connected to an agent.

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  - **Virtual Human**: An image or video file can be created, which is used for **Avatar Reply** diagram element configuration (when the **2D Digital Man** feature has been enabled for the tenant).
- The options of **Organization Unit** are as follows:
  - Tenant administrator: All organization units of the current tenant are available.
  - Agent:
    i. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, organization units that can be accessed by agents are available.
    ii. When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all organization units are available.
    iii. Accessible organization units selected on the **Configuration Center** > **Employee Center** > **Employee** > **New** > **Add Employee** page are available.
- Language: Only the default language set in the language configuration is displayed. You can click + to add a language.
- File type
  - **Select a voice file**

    Upload File: The MP3 and WAV formats are supported, and the file size cannot exceed 12 MB. Voice file format: 8-bit, 8 kHz, 64 kbps, mono. You can set voice files or texts in different languages at the same time. The maximum length of a voice file or text is 1024 bytes. During voice playback, the system automatically plays the corresponding voice file based on the language selected by the user.

    Online Recording: The recording duration cannot exceed 2 minutes.

    NOTE

    1. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files. MP3 voice files can be uploaded on the GUI, which are converted to voice files supported by the UAP in the system.
    2. Only voice files are supported for voices before and after the employee ID. The file size cannot exceed 1 MB.
  - **Select a video file**: When **Usage Scenario** is set to **IVR**, the video file to be uploaded must be in 3GP format, and the file size cannot exceed 5 MB. When **Usage Scenario** is set to **Virtual Human**, the video file to be uploaded must be in MP4 format, the file size cannot exceed 5 MB, and the resolution cannot exceed 720p.
  - **Select an image file**: This file type is available only when **Usage Scenario** is set to **Virtual Human**. The image to be uploaded must be in JPG, PNG, or JPEG format, the file size cannot exceed 2 MB, and the resolution cannot exceed 720p.
  - **TTS**: Enter a text to be converted to a voice. The maximum length is 1024 bytes.

    If **Usage Scenario** is set to **Voice notification**, pay attention to the following points:

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- Text: The maximum length is 500 bytes. Variables are supported. The variable values can be filled in by the **templateParams** parameter in the voice notification API (V2.0.0).

  Text content requirements:

  1) The template content cannot start with a variable.
  2) The template content can contain a maximum of 500 bytes.
  3) A variable can contain a maximum of 32 bytes. (If a variable contains more than 32 bytes, you are advised to split it into multiple variables.)
  4) The following variable formats are supported:

  - **${TXT**_*Number*}: String. *Number* indicates the maximum number of characters in the string. For example, **${TXT_9}** indicates a string of a maximum of nine characters.
  - **${NUM**_*Number*}: Number. *Number* indicates the maximum number of digits for this variable. For example, **${NUM_6}** indicates a maximum number of six digits.
  - **${DATE}**: Date, in the format of *YYYY*/*MM*/*DD*. *YYYY* indicates the year, *MM* indicates the month, and *DD* indicates the day. An example is **2017/07/16**.
  - **${TIME}**: Time, in the format of *HH:MM* or *HH:MM:SS*. *HH* indicates the hour, *MM* indicates the minute, and *SS* indicates the second. Examples are **14:30** and **14:30:30**.

  Template examples:

  - Example 1: **Dear ${TXT_8}, your initial password is ${NUM_6}.**
  - Example 2: **Please pick up your express delivery before ${TIME} on ${DATE}.**

    NOTE

    ${TIME}** and **${DATE} must be separated by " **on** ".

- **timbre**: Voices can be played based on the selected timbre. The options are **Graceful**, **Mature**, **Soft**, **Sweet**, and **Natural**.
- **speed**: Voices can be played based on the selected speed. The value ranges from –200 to 500.
- **volume**: Voices can be played based on the selected volume. The value ranges from 0 to 100.

Step 4 Click **OK**.

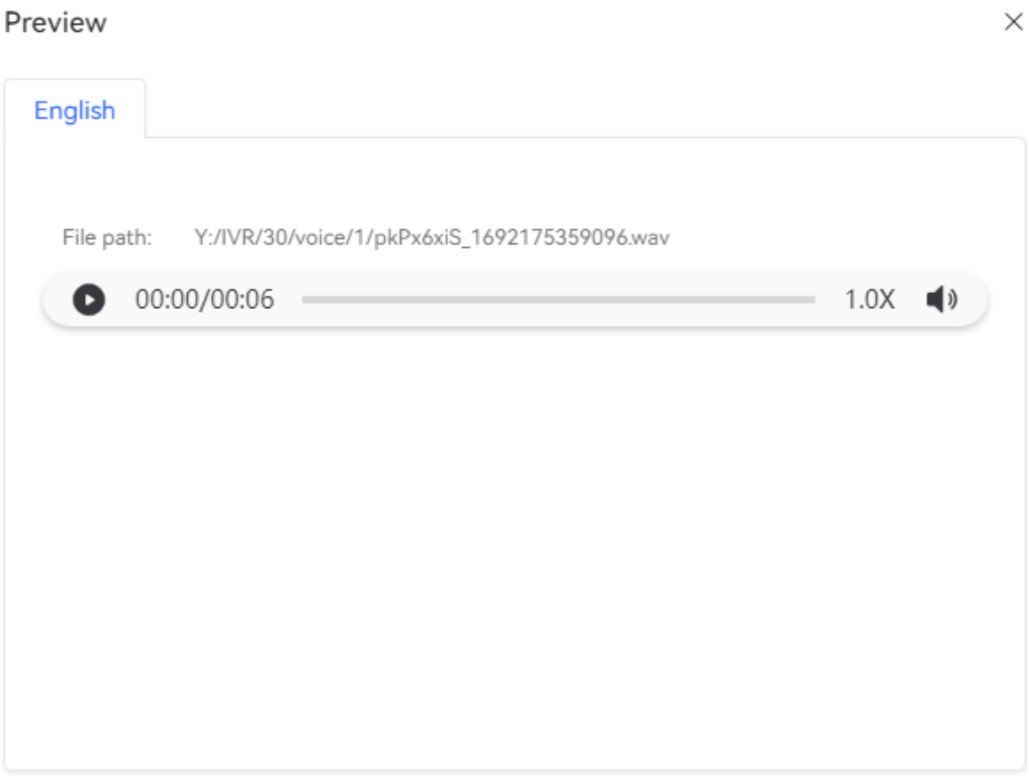
The submitted voice file or video file is in the **To Review** state. It can be associated with an IVR flow only after being approved.

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NOTE

- If **Voice resource review mode** is set to **Auto Pass** for the tenant, the review status automatically changes to **Approved** after the voice resource is uploaded and submitted.
- An IVR voice that has been associated with IVR flow diagram elements cannot be deleted. You can click **View** to view the flows that reference the IVR voice.
- After a tenant expires, the AICC automatically deletes all voice and video files created by the tenant.

Step 5 Click **Preview**.

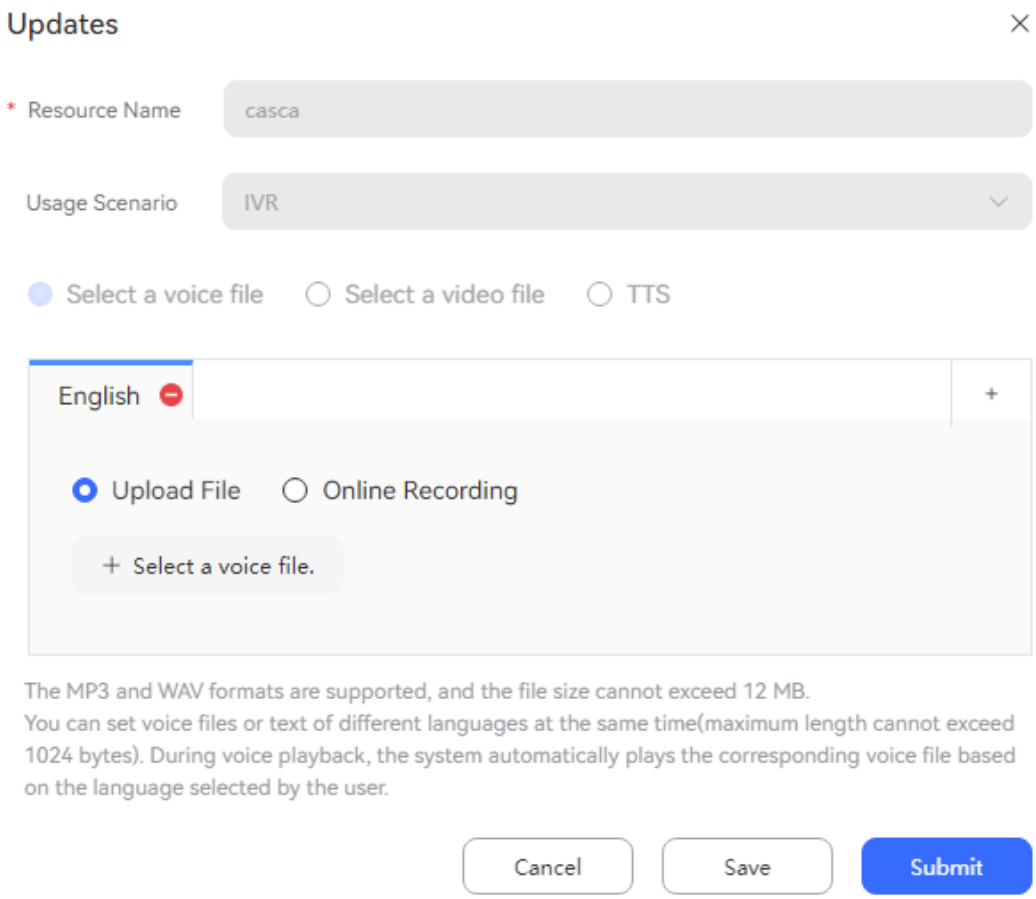


1. Click to play the voice or video file.

Step 6 (Optional) Click **Updates** to update the IVR voice file or video file.

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Figure 2-314 Updating the file



NOTE

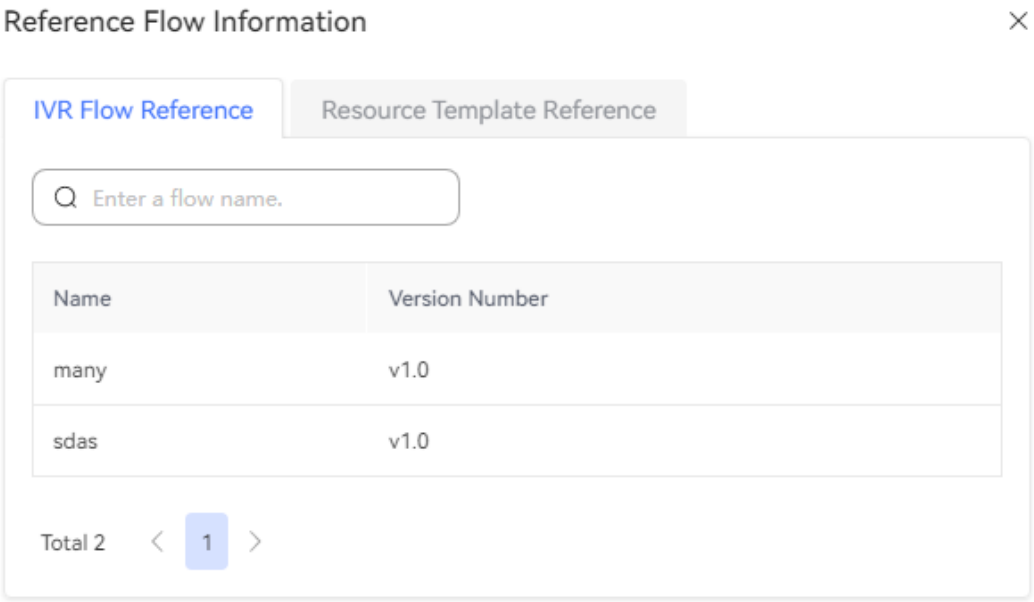
- Only approved voice and video files can be updated.
- Voice files whose **Usage Scenario** is **before reporting employee ID** or **after reporting employee ID** cannot be updated.
- After an updated voice or video file is approved, it is synchronized to IVR flows that reference the original voice or video file.

Step 7 (Optional) Different tenants have different requirements for TTS servers from different vendors. A system administrator can create multiple TTS servers. For details, see "Managing Servers" and "Managing TTS and ASR" under "Intelligent Flow Configuration Guide > System Administrator: Managing Tenants and Systems" in *AICC **** Product Documentation *** at the **Huawei support website**.

Step 8 Click **View References**.

You can view the IVR flows or resource templates that reference the resource.

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----End

2.6.3.3 Configuring a Common IVR

An IVR flow is a voice transfer flow predefined by a tenant administrator of a tenant space, including the main flow, subflow, and exception handling flow. An agent can select an IVR flow or directly call the called route associated with an IVR flow to transfer a voice call to the IVR flow.

2.6.3.3.1 Creating a Flow

IVR flows are classified into the following types: main flow, subflow, and exception handling flow. This section describes how to create an IVR flow.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Common IVR**.

Step 2 Click New. In the dialog box for creating an IVR flow, configure IVR flow information.

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Figure 2-315 Creating a common IVR flow

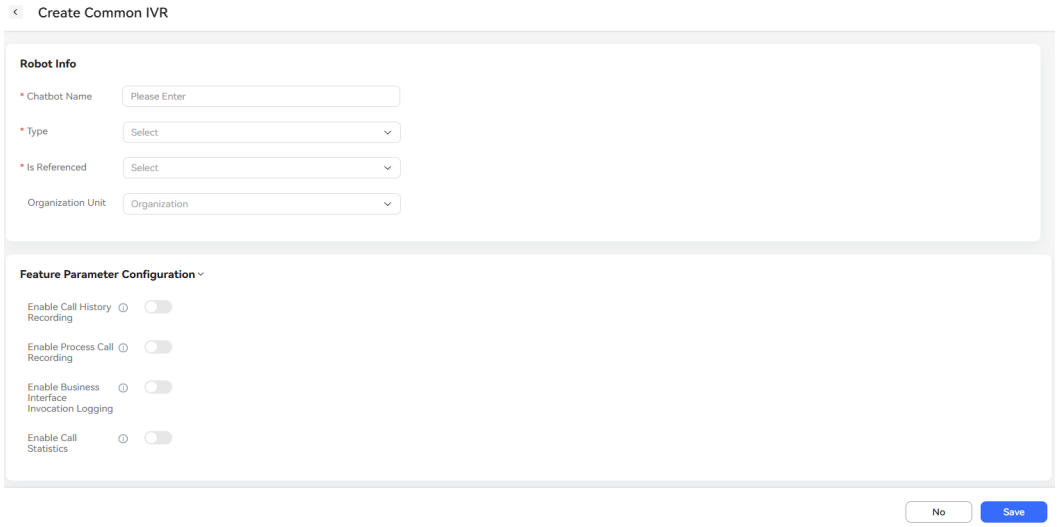


Table 2-138 Parameters in the dialog box for adding a flow

Parameter	Description
Chatbot Name	Robot name, which is used to identify a flow. A voice call can be transferred to an IVR flow based on the flow name.
Type	A tenant administrator can configure only one main flow, one exception handling flow, and one or more subflows. Multiple flow versions can be configured through cloning. Flows are classified into the following types: • **Main Flow**: Flow that an inbound voice call is connected first. It is the main flow involved in voice call transfer. • **Subflow**: Flow used to process a task. After an operation is specified, a customer jumps from the main flow to the corresponding subflow. • **Exception Handling flow**: Flow used to handle an exception that occurs in a voice call.

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Parameter	Description
Is Referenced	• **Yes**: An IVR flow can be selected in external access mode. For example, the IVR flow can be selected when you make a call to a called number through the OpenEye or choose **Call Transfer** > **IVR** on the connection bar. • **No**: An IVR flow can be used only for internal IVR flow transfer.
Organization Unit	All organization units in the tenant space are available.
Enable Call History Recording	Controls whether to enable the call history function for the robot. This parameter is valid when the system parameter **CHATRECORDFLAG** is set to **Bot-level control**.
Enable Flow Call Recording	Controls whether to enable the flow call recording function for the robot. This parameter is valid when the system parameter **CCIVRRECORDFLAG** is set to **Bot-level control**.
Enable Business Interface Invocation Logging	Controls whether to enable the invocation logging function for the business interface in the flow associated with the robot. This parameter is valid when the system parameter **RECORDTHIRDAPI** is set to **Bot-level control**.
Enable Call Statistics	Controls whether to enable call statistics for the robot. This parameter is valid when the system parameter **CALLDASHBOARDREPORTRECORD-SWITCH** is set to **Bot-level control**.

Step 3 Click **Save** to save the IVR flow information.

Step 4 Repeat **Step 2** to configure IVR subflows and exception handling flows.

Step 5 (Optional) Click a flow record to expand it.

By default, the latest version information about a flow is displayed in the flow list. You can click the flow record to view all version information and supported operations of it, such as edit and delete.

----End

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NOTE

- An exception handling flow must be available in the IVR flows.
- A tenant space has only one exception handling flow.

2.6.3.3.2 Editing a Flow

After creating a flow, you need to drag diagram elements provided on the GUI to edit the flow content to implement specific business capabilities.

Prerequisites

- A flow has been created. For details, see **2.6.3.3.1 Creating a Flow**.
- Voice files to be involved in the flow have been configured.

Context

Before editing a flow, you are advised to understand the layout of the flow editing page and the capabilities of each area. **Figure 2-316** shows the flow editing page.

Figure 2-316 Page for editing a flow

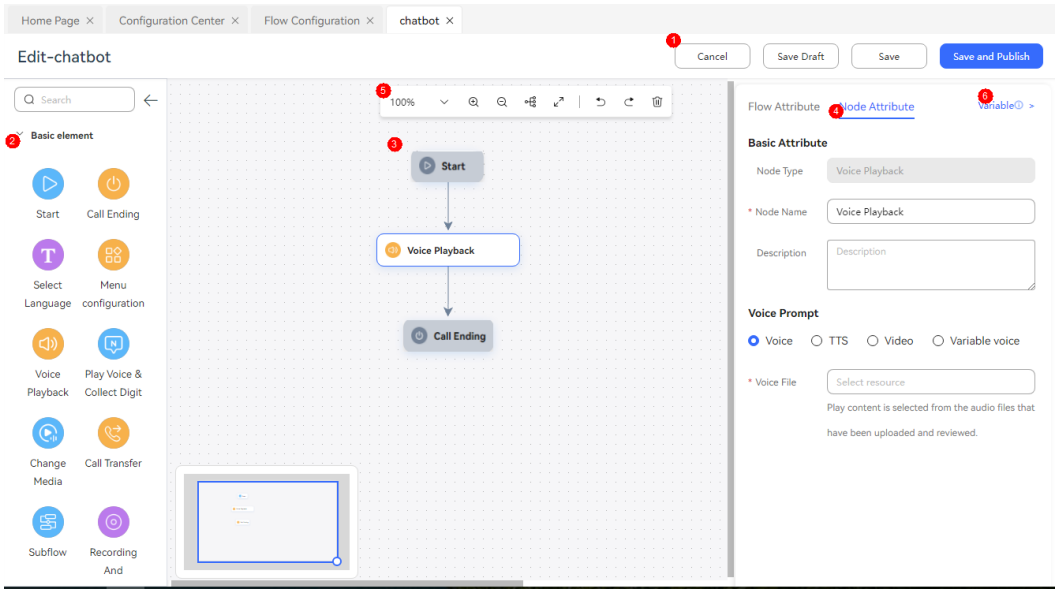
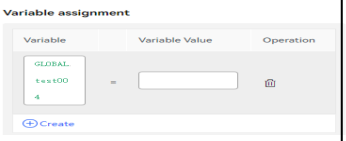


Table 2-139 Introduction to areas on the flow editing page

ID	Area	Description
1	Buttons	Cancel a flow, save a flow as a draft, save data, or save and publish a flow.
2	Diagram element area	Drag diagram elements to the canvas area to edit a flow.

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ID	Area	Description
3	Canvas area	Edit an IVR flow.
4	Diagram element parameter area	Set parameters of a selected diagram element.
5	Canvas toolbar	Reset the view, zoom in or out the view, enter the fullscreen mode, undo or redo an operation, or delete a diagram element or line.
6	Variable area	View basic information about flow variables, global variables, system variables, IVR request variables, and intention variables. A variable can be dragged to a variable text box in the diagram element parameter area. Variables can be searched and filtered.  shows a variable text box. Intention variables can be used only in an intelligent IVR.

Scenario

After a voice call is transferred to an IVR flow, the system plays the welcome voice of the customer service hotline, prompts the customer to select a language, and then provides multiple menus for processing different tasks, for example, member information service, timeout, or other keys. When the customer chooses the member information service, the system transfers the call to the corresponding subflow. When the customer input times out or the customer presses other keys, the system plays a voice to notify the customer and ends the flow.

Procedure

Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Edit**.

When the canvas is initialized, a start diagram element and an end diagram element are displayed by default. The start diagram element cannot be deleted.

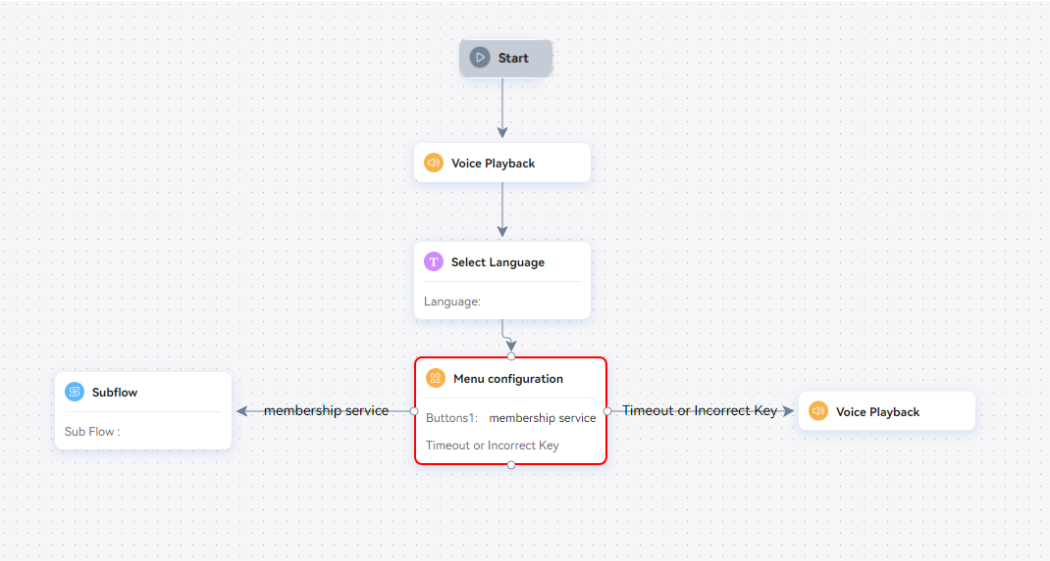
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The end diagram element can be deleted. You can also add multiple end diagram elements. Ensure that at least one end diagram element exists in the flow.

Step 2 Drag diagram elements to the canvas area and set diagram element parameters, as shown in **Figure 2-317**.

To connect two diagram elements, move the pointer to the source diagram element. When a dotted-line box is displayed on the diagram element, move the pointer to the target diagram element. Except subflow diagram elements, all other diagram elements must have a default connection line, and the start point and end point of the connection line must be on the diagram element. For details, see **2.6.3.10 Diagram Elements**.

Figure 2-317 Editing a flow



Step 3 After the flow editing is complete, click **Save**. In the success dialog box that is displayed, click **OK** to close the flow editing page.

NOTE

During the flow editing, you can click **Save** to save the edited flow at any time. After the flow editing is complete, you need to close the flow editing page so that you can publish the flow in the flow list.

----End

2.6.3.3.3 Publishing a Flow

A flow that is added or edited can be used only after being published.

Procedure

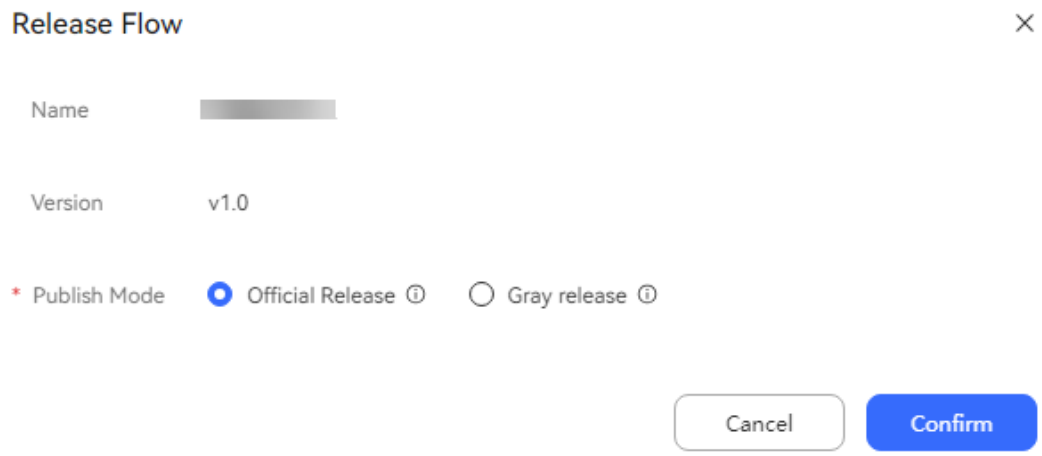
Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Release**. The **Release Flow** dialog box is displayed.

Step 2 Select a publish mode and click **Confirm**, as shown in the following figure.

Two publish modes are supported: gray release and official release. A flow can have only one official release version and one gray release version.

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After a flow is published successfully, the status of the flow is displayed as **Gray Release** or **Official Release** according to the selected publish mode.



The publish modes of an IVR flow are as follows:

- Gray release: You need to configure a gray rule and select the gray rule configured for the current tenant from the drop-down list box. For a flow published in gray release mode, only voice calls from numbers that match the selected gray rule can be transferred to the IVR flow.
- Official release: For a flow published in official release mode, voice calls from all numbers can be transferred to the IVR flow.

  NOTE

  - After a flow is published, the system automatically allocates an access code to the flow.
  - Flows in **Official Release** or **Gray Release** state can be cloned to configure multiple versions. The initial version of a new flow is V1.0. Each time the flow is cloned, the version number increases by 0.1. For example, when a flow is cloned for the first time, version V1.1 is created.
  - A flow can have only one official release version and one gray release version. When a cloned version is published, the existing official release version or gray release version is replaced with the current version.
  - A published exception handling flow must be available for official release and gray release.
  - To cancel the publishing of an exception handling flow, ensure that no published or gray release flow exists.
  - Abnormal flows support gray release.

----End

2.6.3.3.4 Modifying Resources Associated with a Flow

To improve the configuration efficiency, the flow administrator can modify the resources associated with the flow, such as global variables, voice and video resources, work calendars, transfer policies, resource templates, and data tables, for a published flow. If the flow contains subflows or composite diagram elements, the flow administrator can also modify the information on this page.

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Prerequisites

- The flow has been published.
- The current operator has the flow resource management permission.

Context

On the flow resource management page, the following resources of the current flow, subflows of the current flow, or composite diagram elements associated with the current flow can be modified:

- Global variables: The effect of editing the global variables is the same as that of directly editing the information in **2.6.2.4.2 Managing Variables**.
- Voice and video resources: The effect of editing the voice and video resources is the same as that of directly editing the information in **2.6.3.2 Managing Voice and Video Resources**.
- Work calendars: The effect of editing the work calendars is the same as that of directly editing the information in **2.6.2.4.4 Creating Work Calendar Templates**.
- Transfer policies: The effect of editing the transfer policies is the same as that of directly editing the information in **2.6.2.4.20 Configuring a Transfer Policy**.
- Resource templates: The effect of editing the resource templates is the same as that of directly editing the information in **2.6.2.2.3 Adding Resource Templates**.
- Data tables: The effect of editing the data tables is the same as that of directly editing the information in **2.6.2.4.5 Adding Data Tables**.

The preceding resources are global resources and may be referenced by other flows. Therefore, check the reference relationship before modifying the resources to ensure that the modification does not affect other flows.

Procedure

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Common IVR**.

Step 2 Click **Process Resource Mgmt** next to the flow to be modified.

NOTE

This button is displayed only when the flow is officially published and the current operator has the flow resource management permission.

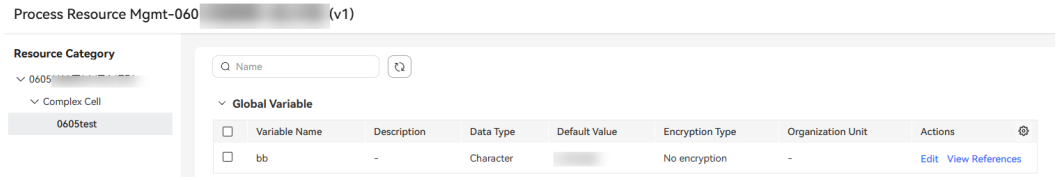
Step 3 In the resource tree on the left, select the object whose resource ownership needs to be modified.

In the resource tree, the top node indicates the associated flow. If the flow is associated with composite diagram elements or subflows, the composite diagram elements or subflows are displayed separately.

Note that the resources of composite diagram elements or subflows are displayed separately only after the corresponding nodes are selected in the resource tree. They are not displayed in the resource list under the top node.

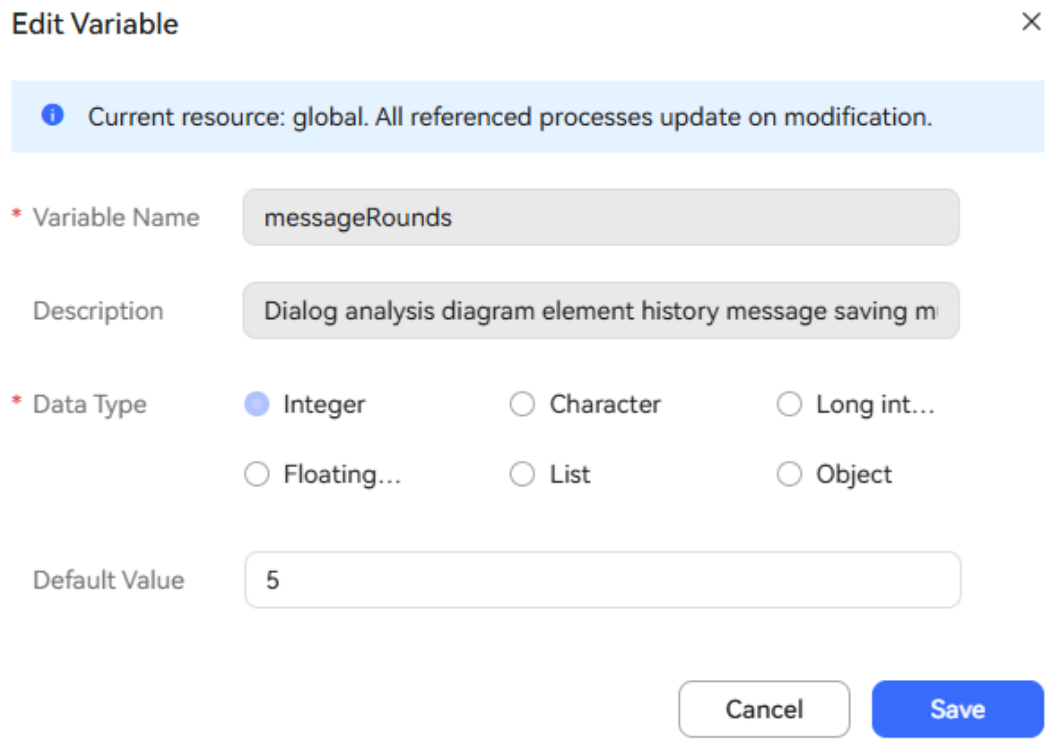
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Figure 2-318 Selecting a resource tree



Step 4 Click **View References** to check whether the resource is associated with other flows.

Step 5 Close the flow reference information window, click **Edit** on the flow resource management page, and modify the resource, for example, change the default value.



- To modify voice and video resources, click **Update**.
- To update the data table, click **Data**.

Step 6 Click **Save**.

----End

Follow-up Procedure

The change takes effect immediately. The flow administrator can directly test the current flow to check whether the resource change takes effect.

2.6.3.4 Configuring Robot Tracking

After the IVR is referenced by an agent, the agent can view the detailed information about the IVR flow in the contact record.

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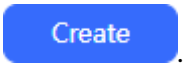
Prerequisites

A published IVR flow exists, and the **Call Transfer** diagram element has been configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings** and click the **Track Settings** tab.

Step 3 On the **Tracking Robots** tab page, click 

.

Step 4 Select a robot access code and click **Confirm**.

A maximum of 20 robot access codes can be added.

NOTE

If neither the flow access code nor the flow track is configured, the IVR flow is empty in the contact record.

----End

Follow-up Procedure

After the IVR bound to the traced flow access code is used by an agent, choose **Customer Contact History** > **Contact Record**, click the call SN of the corresponding contact record to access the contact record details page, and click **View Current Flow Track** to view the configured flow track details. The traced flow contains call-associated data, which cannot be edited.

2.6.3.5 Configuring a Called Route

A called route refers to the called number associated with an IVR flow and consists of an access code and an extension code. A customer can trigger the IVR flow by directly dialing the called number or connect to the called number of the CEC through the core network. A called number can be associated with only one IVR flow. An IVR flow can be associated with multiple called numbers.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Access Configuration** > **Called Party**.

Step 2 Click **New** and configure called party information, as shown in **Figure 2-319**.

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Figure 2-319 Creating a Called Party Configuration

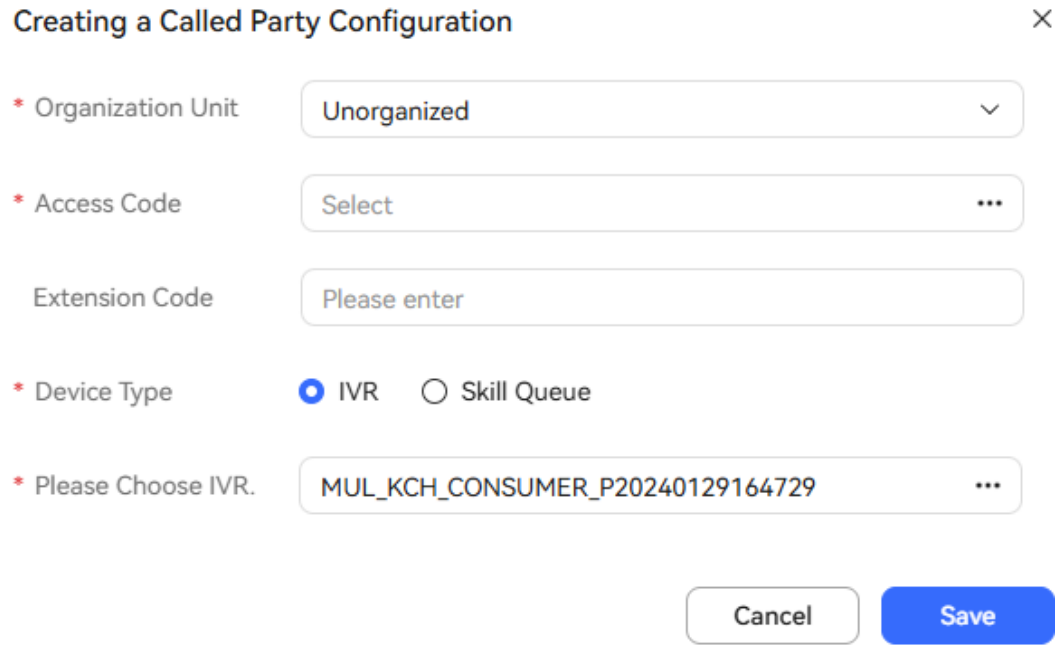


Table 2-140 Key parameters in the Creating a Called Party Configuration dialog box

Parameter	Description
Organization Unit	Select the OU to which the called party belongs. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the home OU, accessible OUs, and **Unorganized** are available.

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Parameter	Description
Access Code	A customer can directly dial *Access code*+*Extension code* to access an IVR flow. The available access codes are allocated by the system administrator when the system administrator creates the tenant.
Extension Code	A customer can directly dial *Access code*+*Extension code* to access an IVR flow. An extension code is a string of 1 to 12 characters and can contain only digits, asterisks (*), and number signs (#).
Device Type	Select **IVR** to transfer voice calls to an IVR flow.
Please Choose IVR.	Select a published IVR flow as required.

Step 3 Click **Save**.

The configured flow is automatically synchronized to the intelligent IVR. The intelligent IVR saves the flow information based on the flow access code.

----End

2.6.3.6 Configuring a Flow Track

By adding a calling number and using the OpenEye to call a called route that has been associated with an IVR flow, you can view the track of the flow after the voice is transferred to the IVR, for example, the transition of each diagram element in the flow, for fault locating.

Flow Tracking is a common module. For details, see **2.6.2.2.12 Viewing Flow Tracks**.

2.6.3.7 Configuring IVR Recording

You can configure IVR recording to enable or disable recording in common IVR call flows.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Choose **System** > **System Settings**, click the **System Settings** tab, and set **CCIVRRECORDFLAG** based on any of the following conditions.

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- The system parameter **CCIVRRECORDFLAG** has been set to **On**.
- The system parameter **CCIVRRECORDFLAG** has been set to **Bot-level control**, and the flow call recording function has been enabled during IVR creation.

Step 3 Log in to the OpenEye and dial the access code added on the **Called Party** page. If you can hear the tone played by the robot, the call can be completed normally, and the recording file can be obtained from the storage device of the server, the configuration is successful.

Figure 2-320 System parameter for configuring IVR recording

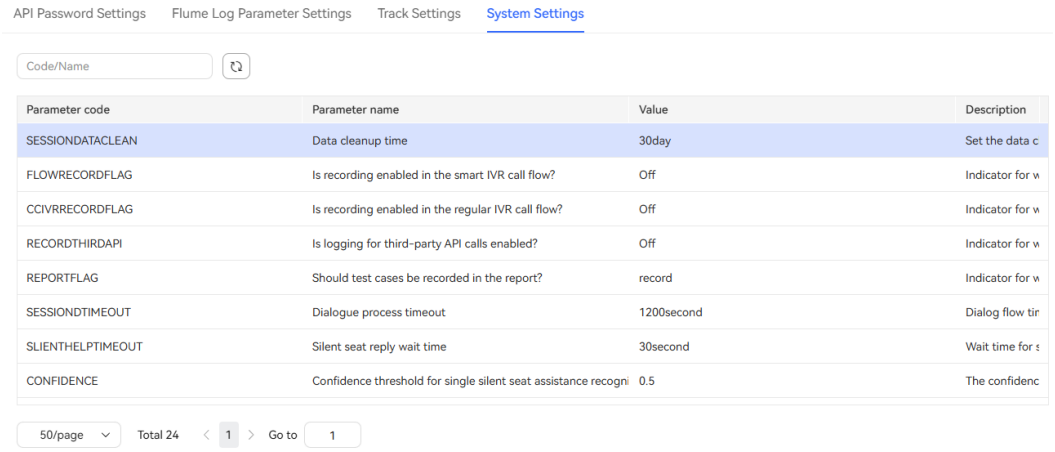
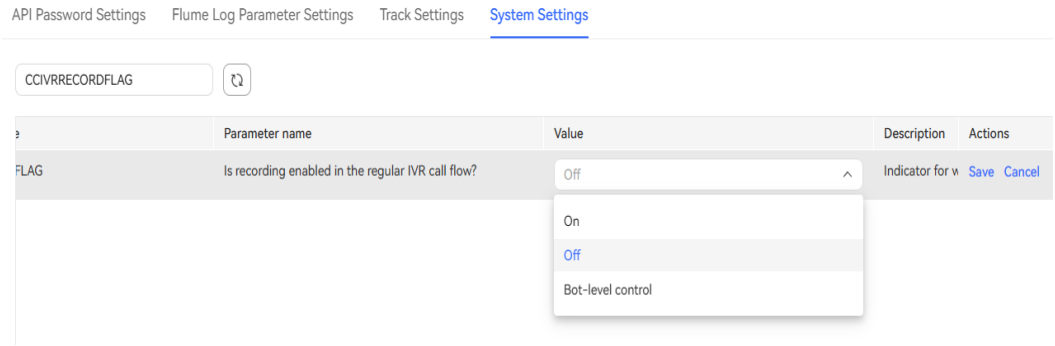


Figure 2-321 Selecting Enable for the recording flag



----End

2.6.3.8 Querying Flow Transfer Records

A customer initiates a voice call to an agent. The call is transferred to a third party after a self-service flow is triggered. After the customer is in a call with the third party, the recording is enabled during call. The customer can query the flow transfer record and download the recording to resolve problems.

Prerequisites

- Permissions on operations under the current menu controlled by separate permissions have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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- The following configuration has been completed for the self-service flow:

  The **Transfer** diagram element has been configured, **Transfer Configuration** has been set to **Transfer To Third Party**, and **Recording** has been selected.
- The agent must:
  - Have the **Process Transfer Record** menu permission.
  - Have the **Play Recording Online** and **Recording Download** operation permissions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Transfer Record**.

By default, all flow transfer records of the current tenant are displayed in the list. The records are stored for 90 days by default.

Step 2 Select a flow transfer record and click **Download** or **Play** in the **Recording file** column to obtain the recording file.

NOTE

The downloaded recording file contains personal data. Exercise caution when processing the exported file to prevent personal data leakage and abuse.

The playback and download functions are available only for the current drive letter. For example, if the current drive letter is Y and the drive letter is switched from Y to Z, playback and download will fail. To play and download historical files properly, switch the drive letter from Z back to Y.

The encoding format of downloaded recording files is G711.A-law. Use a proper player to play the recording files.

----End

2.6.3.9 Typical Configuration Example

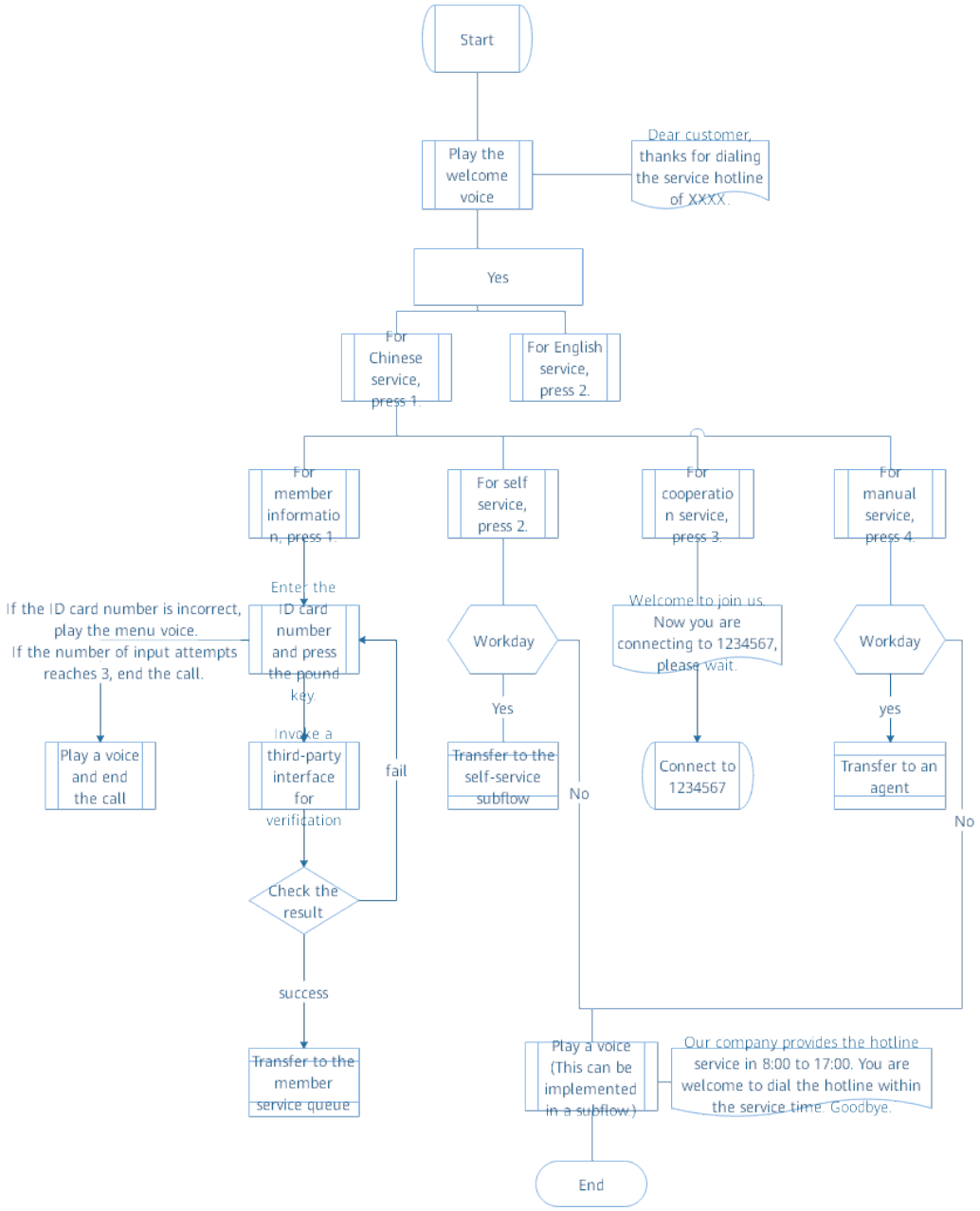
This section describes a complete IVR flow instance and the functions of each diagram element.

Scenario

Carrier A needs to configure an IVR flow, as shown in the following figure.

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Figure 2-322 IVR flow instance



Requirement Analysis

Table 2-141 describes the diagram elements involved in the flow instance configuration according to the analysis.

Table 2-141 Diagram elements involved in the flow instance

Involved Diagram Element	Description
Voice Playback	Plays all voices required in the flow, including the welcome voice.

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Involved Diagram Element	Description
Select Language	Provides Chinese and English for customers to select.
Menu configuration	Configures the following menus: • For Chinese service, press 1. • For English service, press 2. • For member information, press 1. • For self-service, press 2. • For cooperation service, press 3. • For manual service, press 0.
Play Voice & Collect Digit	Plays the voice "Enter the ID card number and press the pound key (#)."
Time Selection	Configures the time for providing services.
Condition Judgment	Determines the result.
Transfer	Transfers a call to a skill queue, an external number, or an agent.
Subflow	Transfers a call to the self-service subflow.

Procedure

Step 1 Prepare the required voice files.

In this scenario, you need to prepare the following voice files: welcome voice, voice to be played when a flow is about to end, and service time notification voice.

Step 2 Configure the voice files. For details, see **2.6.3.2 Managing Voice and Video Resources**.

The configured voice files can be used only after being approved.

Step 3 Configure an empty main flow and an empty subflow. For details, see **2.6.3.3.1 Creating a Flow**.

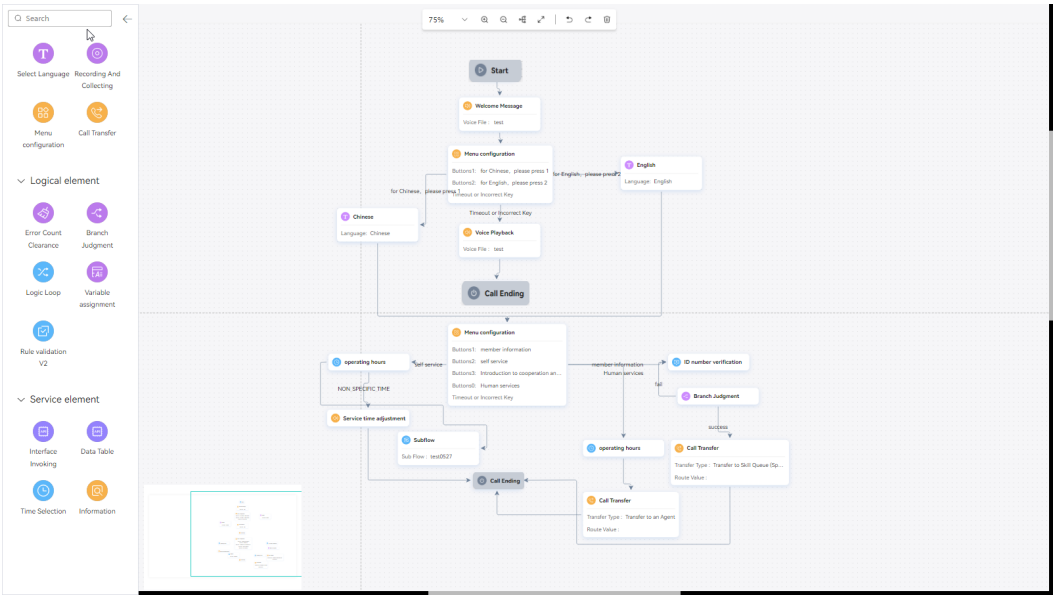
You are advised to configure the self-service subflow before the main flow.

Step 4 Edit the flow. For details, see **2.6.3.3.2 Editing a Flow**. **Figure 2-323** shows the editing process.

Before using diagram elements to edit a flow, define all customized parameters involved in the flow, for example, the **idCardNum** parameter indicating the ID card number and the **3rdNo** parameter indicating the number of a third party to which a voice call can be transferred.

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Figure 2-323 Flowchart of the configuration instance



Step 5 Publish the flow. For details, see **2.6.3.3.3 Publishing a Flow**.

Step 6 Configure a called route. For details, see **2.6.3.5 Configuring a Called Route**.

----End

Verification

Use OpenEye to dial the called number. If the voice call can be transferred according to the configurations, the flow configuration is successful.

2.6.3.10 Diagram Elements

This section describes the names and functions of the diagram elements involved in a common IVR flow and how to use the diagram elements.

NOTICE

A maximum of 4096 characters are allowed in the text box of a single diagram element in a flow.

2.6.3.10.1 Start

This diagram element is used only to mark the beginning of a flow and does not have any internal logic.

Diagram Element



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Parameter Description

None

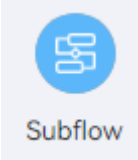
Typical Application Scenario

This diagram element is used to mark the beginning of a flow.

2.6.3.10.2 Subflow

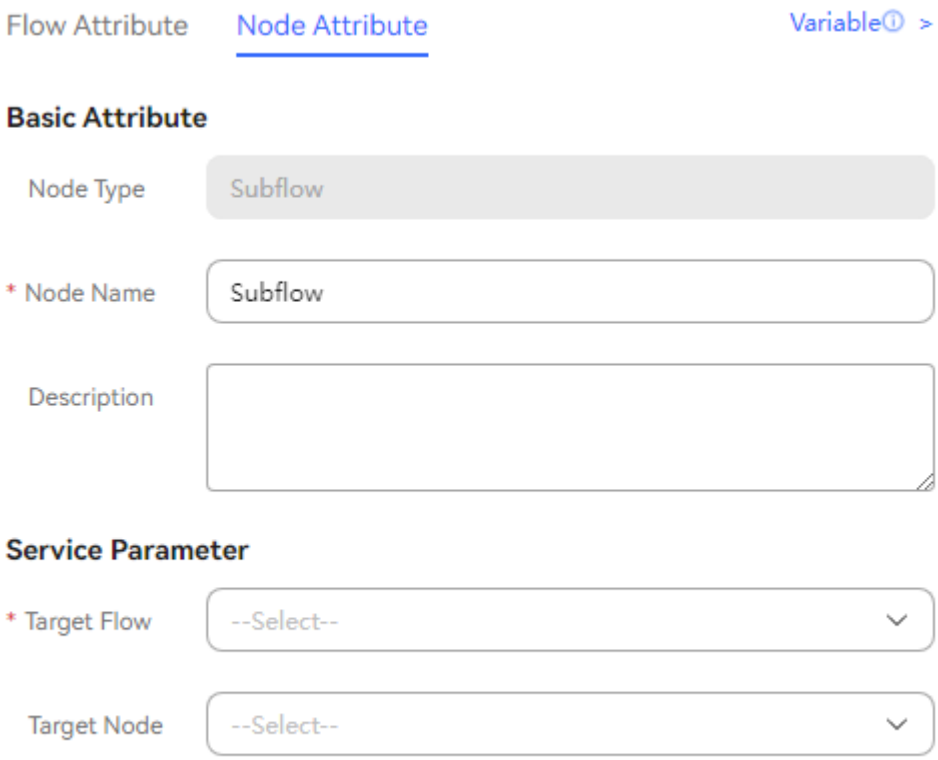
This diagram element is used to configure subflows for implementing tasks. No diagram element can be configured after a subflow.

Diagram Element



Parameter Description

The following figure shows parameters of the subflow diagram element.



The parameters are described as follows:

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- **Node Name**: diagram element name to be displayed, which is customized.
- **Description**: diagram element description, which is customized.
- **Target Flow**: name of a subflow to be entered. You can select a published subflow of the current tenant from the drop-down list.
- **Target Node**: flow node to be executed. After a node is selected, the subflow starts from it.

Typical Application Scenario

An independent task needs to be processed. Generally, some common operations of a certain type can be extracted to form a subflow, making it easy to be reused.

2.6.3.10.3 Call Ending

This diagram element is used to mark the end of a flow.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Start Time** and **End Time**: start time and end time during which an interface can be invoked. The configured interface will be invoked to execute related tasks only in the specified time period.

  The time format is HH:MM:SS. For example, if **Start Time** is set to **00:00:00** and **End Time** is set to **23:59:59**, the configured interface is invoked when the **Call Ending** diagram element is reached at any time of a day. This field cannot be empty after the interface is invoked.
- **Sending Interval**: interval for invoking the interface, in days. The value is an integer and cannot exceed 365. If this parameter is set to **-1**, the interface is not invoked periodically. The invocation is triggered when the **Call Ending** diagram element is reached at any time.
- **Stored Procedure**: If the **Stored Procedure** diagram element is not used in the flow, sudden flow interruption may cause data loss. To avoid this problem, the **Call Ending** diagram element also supports data storage operations. You can select stored procedures under **Resource** > **Stored Procedure**.

Using the Diagram Element

Click the diagram element or drag it to the canvas.

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Typical Application Scenario

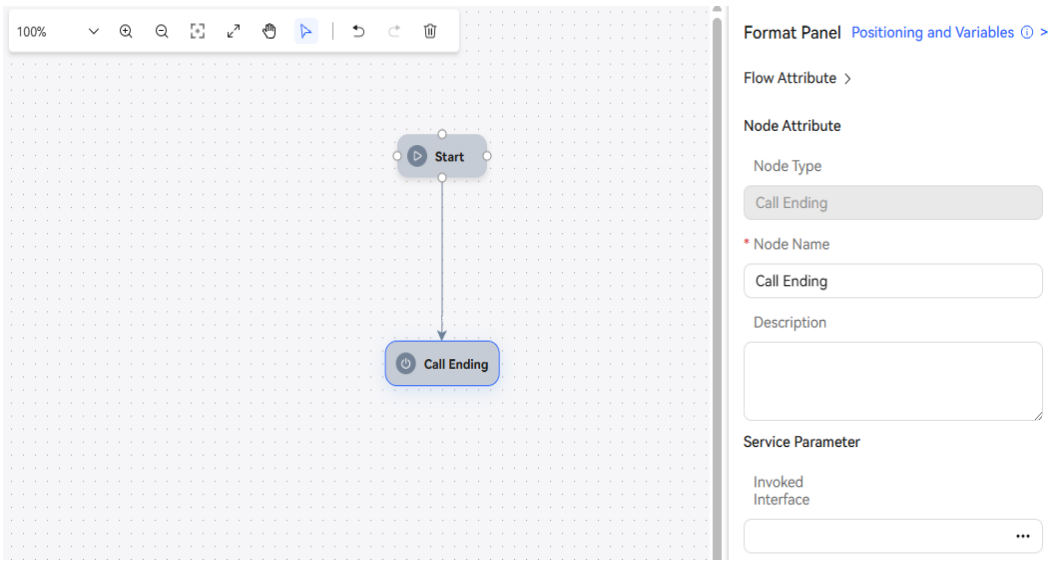
If you need to invoke a third-party interface to implement a specific business when using the **Call Ending** diagram element, you can perform the following operations to ensure that the **Call Ending** diagram element can be reached in any case:

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and add a normal end flow that contains only the **Start** and **Call Ending** diagram elements, as shown in the following figure. You do not need to configure the invoked interface for the **Call Ending** diagram element.

   Figure 2-324 Normal end flow

2. Save and publish the flow.
3. Choose **Flow** > **Orchestration** and add an actual business flow. Do not directly connect a **Call Ending** diagram element as the last diagram element of the flow. Instead, connect a **Subflow** diagram element to transfer the flow to the normal end flow added in **Step 2.1**. In this way, the **Call Ending** diagram element can be reached in any case, including after the flow is transferred.

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Figure 2-325 Actual business flow (Subflow diagram element)

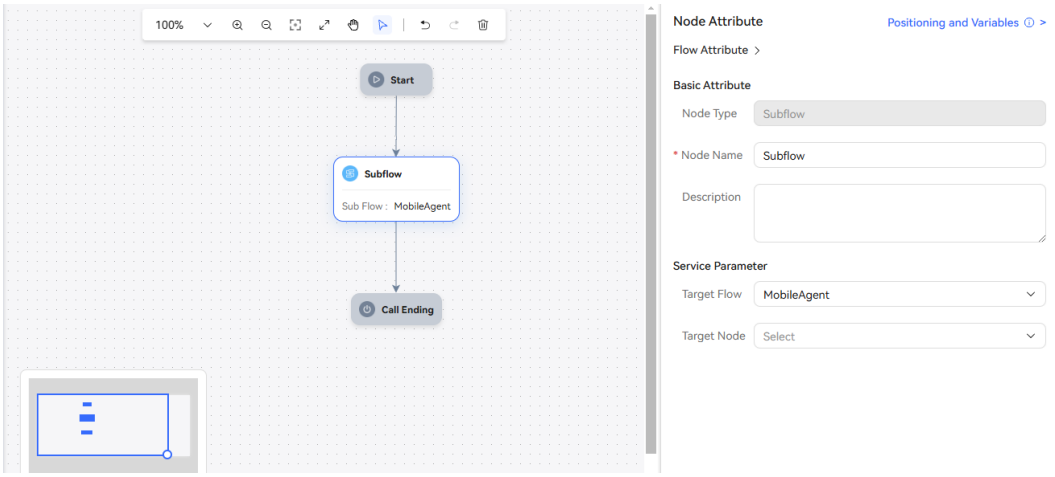
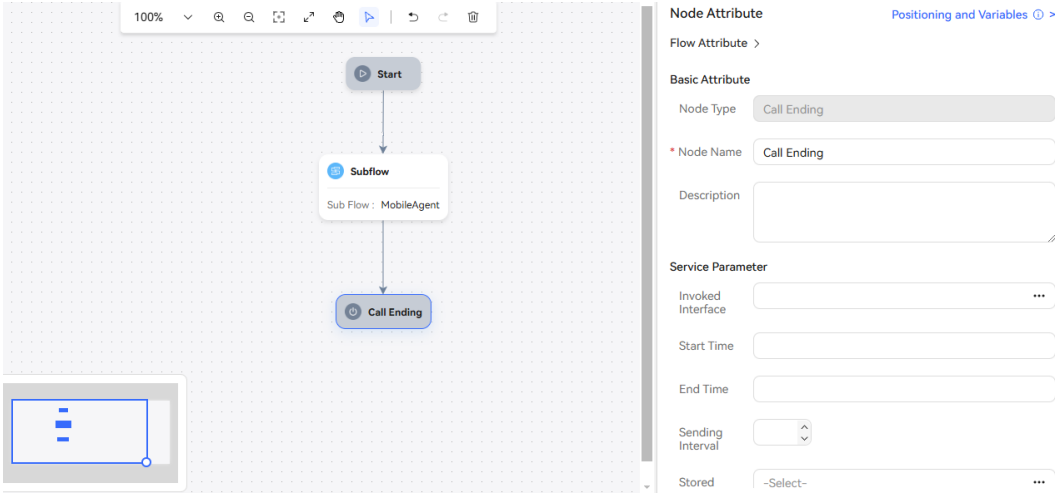


Figure 2-326 Actual business flow (Call Ending diagram element)



4. Save and publish the flow.

   NOTE

   When the flow execution passes through the **Call Transfer** diagram element and the transfer is successful, the third-party interface configured in the **Call Ending** diagram element is not invoked.

Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box, click **Trace Settings** and enable **Calling Number Tracing**. Click **Start Call** to test the robot.

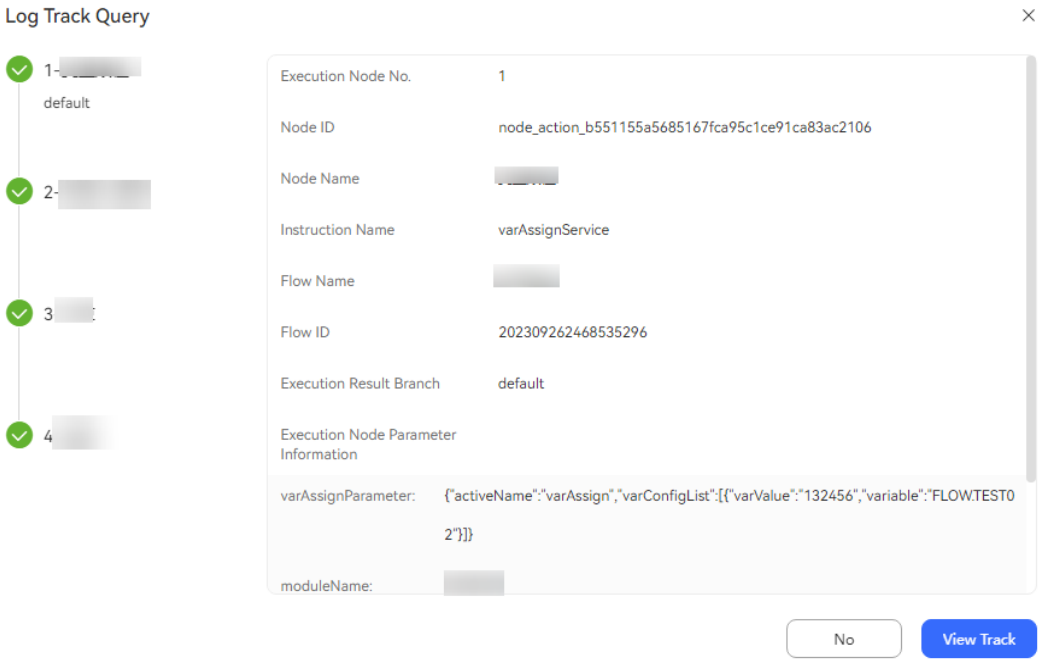
NOTE

If you do not set **Calling Number** before making a call, the default calling number 123456789 is used.

Step 5 Choose **Flow Management** > **Flow Tracking** and query the flow check result of the test number. The following figure shows that the flow has reached the **Call Ending** diagram element through the **Subflow** diagram element.

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Figure 2-327 Flow track log page

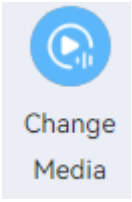


----End

2.6.3.10.4 Switching Between Voice and Video Calls

During a customer's call to the IVR, you can switch between voice and video calls.

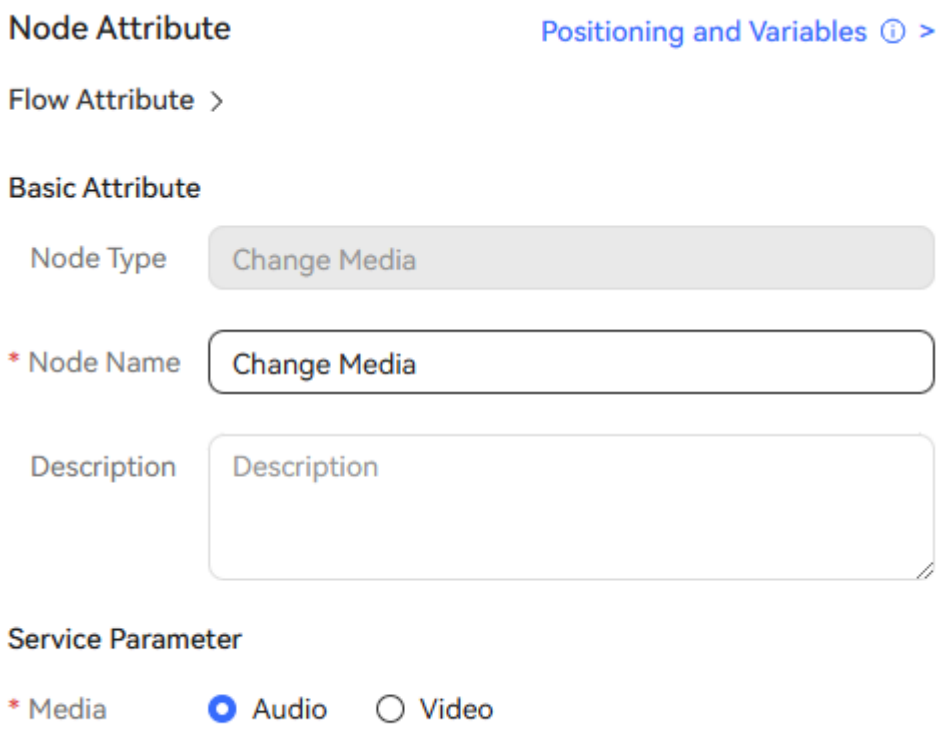
Diagram Element



Parameter Description

The following figure shows the parameters of the **Change Media** diagram element.

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The parameters are described as follows:

- **Node Name**: Enter a diagram element name.
- **Media**: Select a target media type. The options are **Audio** and **Video**.

Condition Branch Description

Table 2-142 Condition branch description

Condition Branch	Description	Usage
Switching failure	Failure to switch from a voice call to a video call or from a video call to a voice call	Triggered upon a switching failure.

Typical Application Scenario

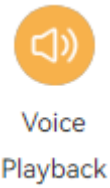
Voice and video calls need to be switched between each other when businesses are handled for a customer. The corresponding media capabilities are used to intuitively display businesses.

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2.6.3.10.5 Voice Playback

This diagram element is used to play a voice (for example, welcome voice) or video segment without interacting with the customer. The system supports WAV (8 kHz, 8 bits) voice files, TTS files, and video files.

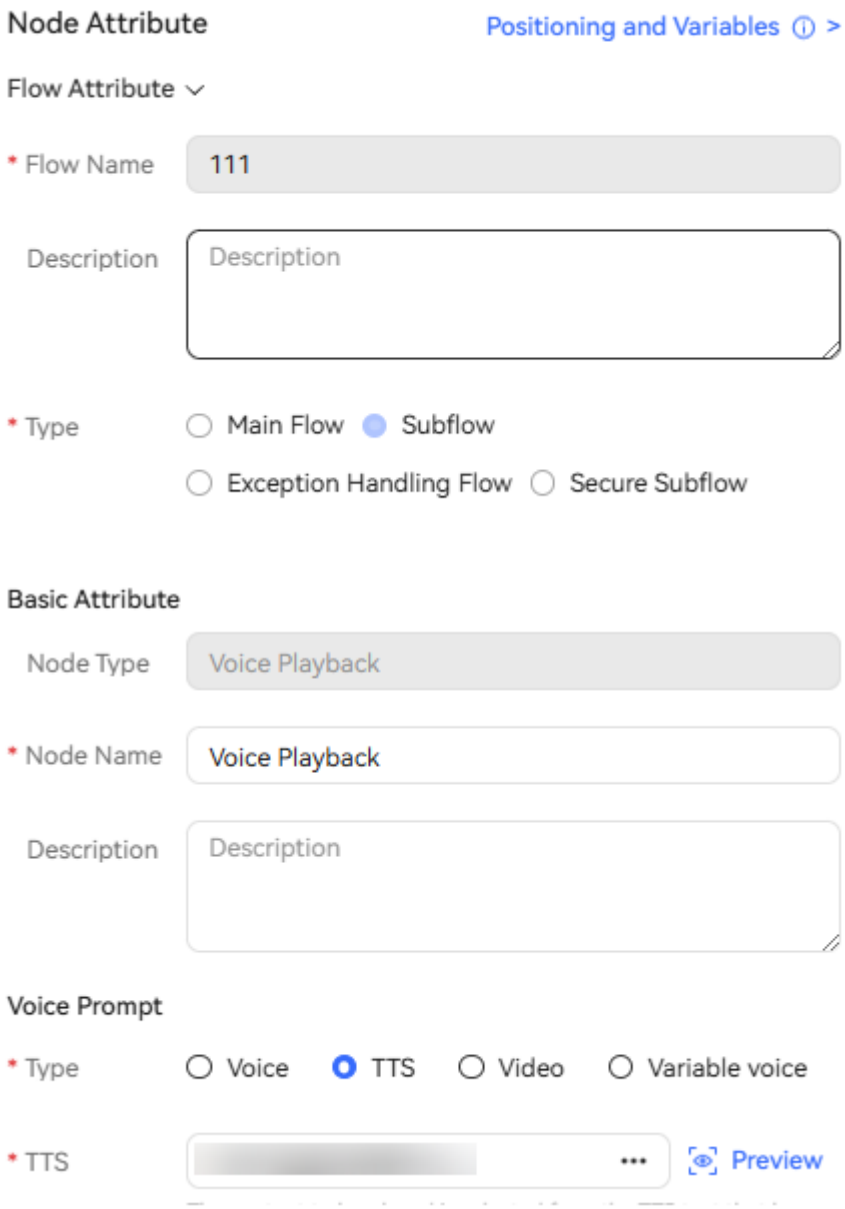
Diagram Element



Parameter Description

The following figure shows the parameters of the **Voice Playback** diagram element.

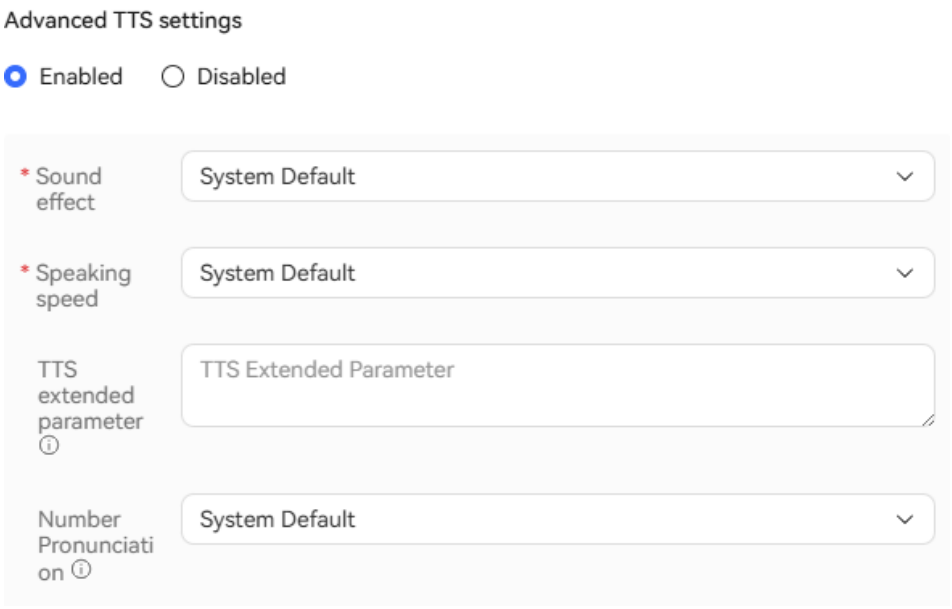
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The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, **Video**, or **Variable voice**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  - **TTS**: Generate a voice file in TTS mode. TTS channels must have been configured. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

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- **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
- **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.

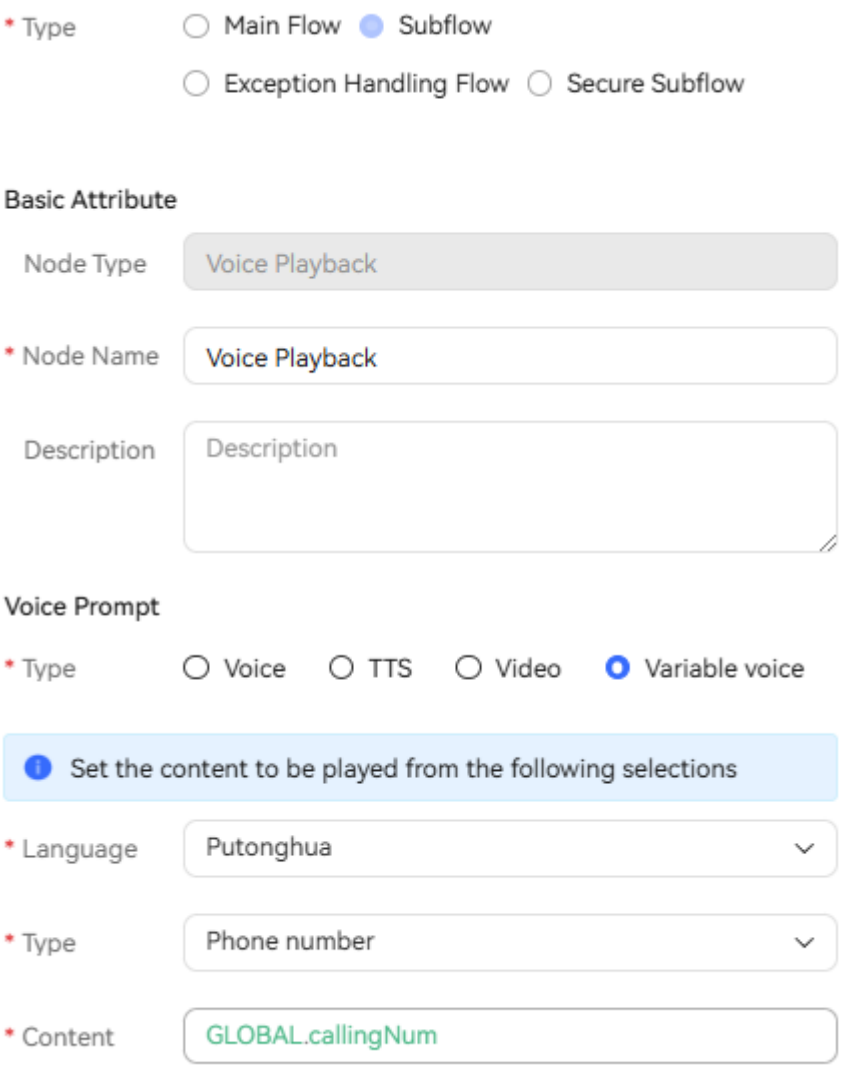
  NOTE

  To use the TTS function, you need to contact the system administrator to sign in to the AICC and configure a TTS server for your tenant space.

- **Number Pronunciation**: This parameter is reserved.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
– **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list. You can click and select a required file.
– **Variable voice**: Voices can be customized by setting the language, type, and content.

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- **Language**: Select a voice playback language.

  NOTE

  If you select a non-Mandarin or non-English language for the variable voice, contact O&M personnel to customize the syntax package and voice file.

- **Type**: Select a voice playback type. The options are **Phone number**, **Number**, **time(hh:mm:ss)**, **Date(yyyymmdd)**, and **Price**.
- **Content**: Select the content defined by the global variable (**GLOBAL.***) or flow variable (**FLOW.***).

  NOTE

  If **Type** is set to date or time, the format of the selected variable must be consistent with that in the brackets.

- Click **Save** to save all parameters set on the current page.

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Condition Branch Description

Table 2-143 Condition branch description

Condition Branch	Description	Usage
Voice playback failure	Failure to play a voice, video, TTS, or variable voice	Triggered upon a playback failure.

Typical Application Scenario

- When a voice call is transferred to an IVR flow, the system plays the welcome voice.
- During execution of an IVR flow or when an IVR flow is about to end, the system plays a voice prompt.

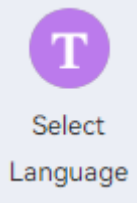
2.6.3.10.6 Voice Playback and Digit Collection

The function of this diagram element is the same as that of the **Play Voice & Collect Digit** diagram element for configuring an intelligent robot. For details, see **Voice Playback and Digit Collection**.

2.6.3.10.7 Language Selection

This diagram element is used to set the language for playing voices.

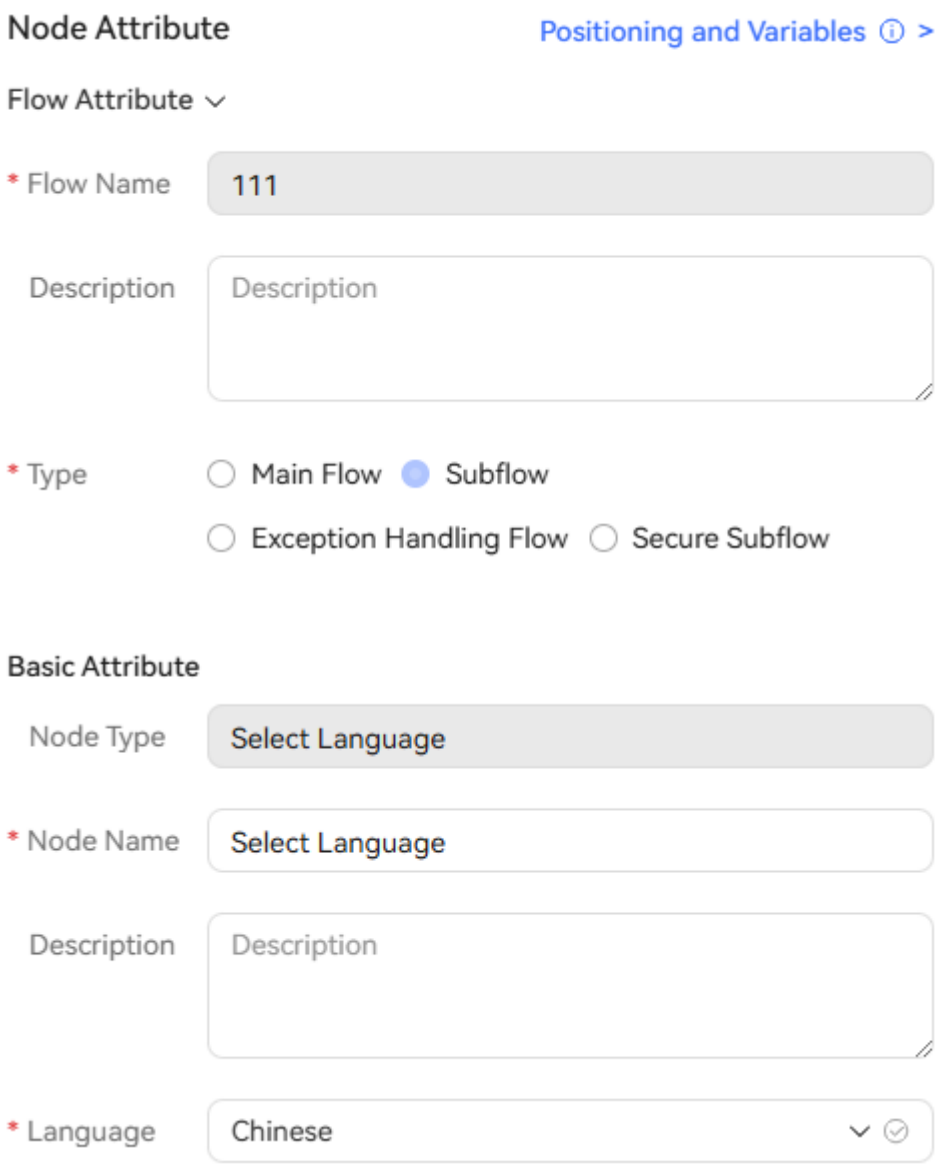
Diagram Element



Parameter Description

The following figure shows parameters of the **Select Language** diagram element.

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The parameters are described as follows:

- **Node Type**: The value is **Select Language**, which cannot be changed.
- **Node Name**: Enter the diagram element name to be displayed on the canvas.
- **Language**: Select a language, based on which a branch can be selected in the flow later. Currently, **Chinese**, **English**, **Portuguese**, **Thai**, **Spanish**, **French**, and **Arabic** are supported. The options are the languages configured in **2.6.3.2 Managing Voice and Video Resources**.

Typical Application Scenario

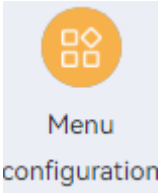
This diagram is used in the scenario where a customer needs to select a language. After the system executes the **Play Voice & Collect Digit** diagram element configured for a customer to select a language, the customer selects a language as prompted. For example, the customer can press **0** for Chinese, **1** for English, or **2** for Thai.

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2.6.3.10.8 Menu Configuration

This diagram element is used to prompt a customer to select a menu to enter the corresponding branch for processing a specific business.

Diagram Element

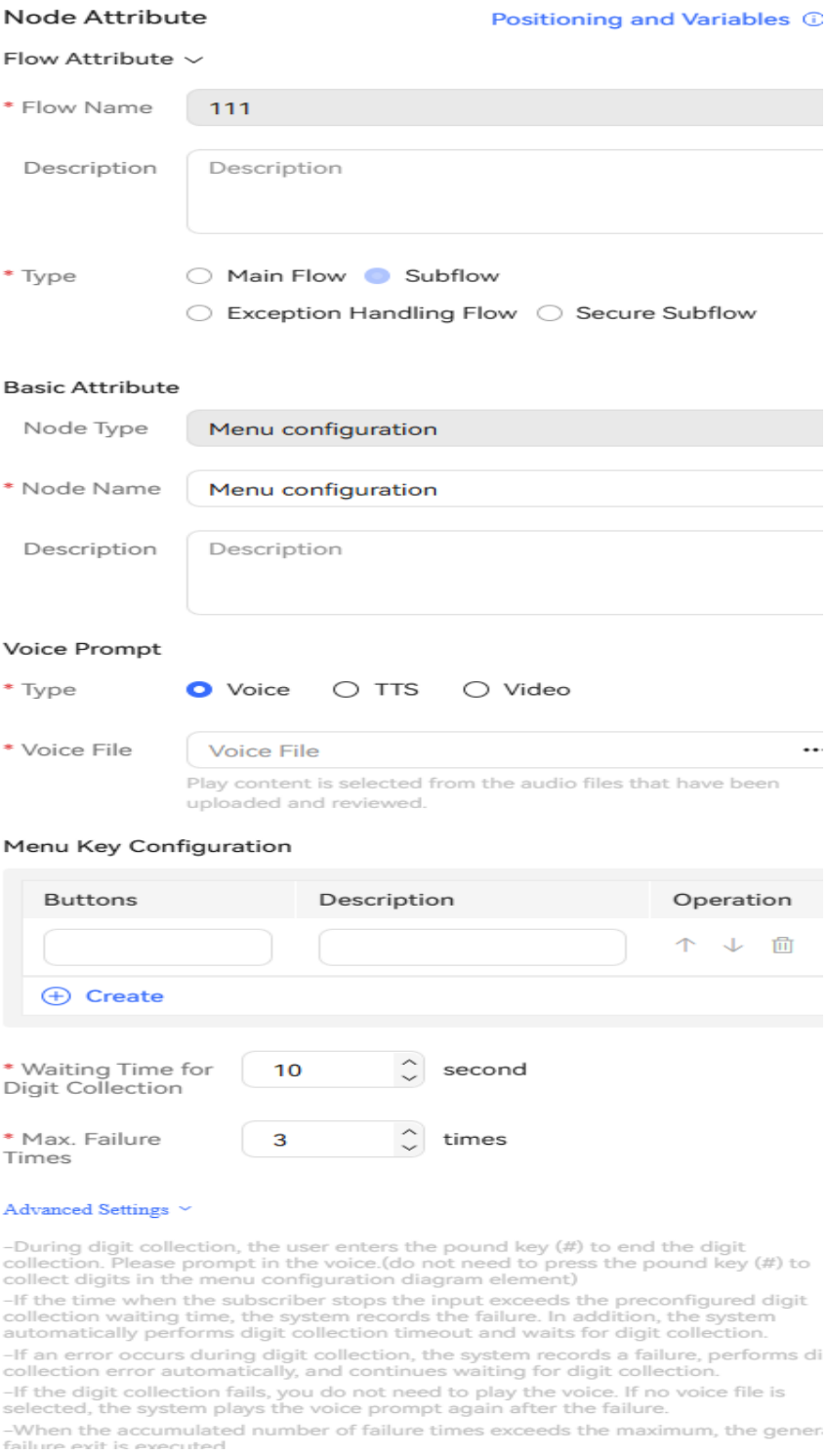


Parameter Description

The following figure shows the parameters of the **Menu configuration** diagram element.

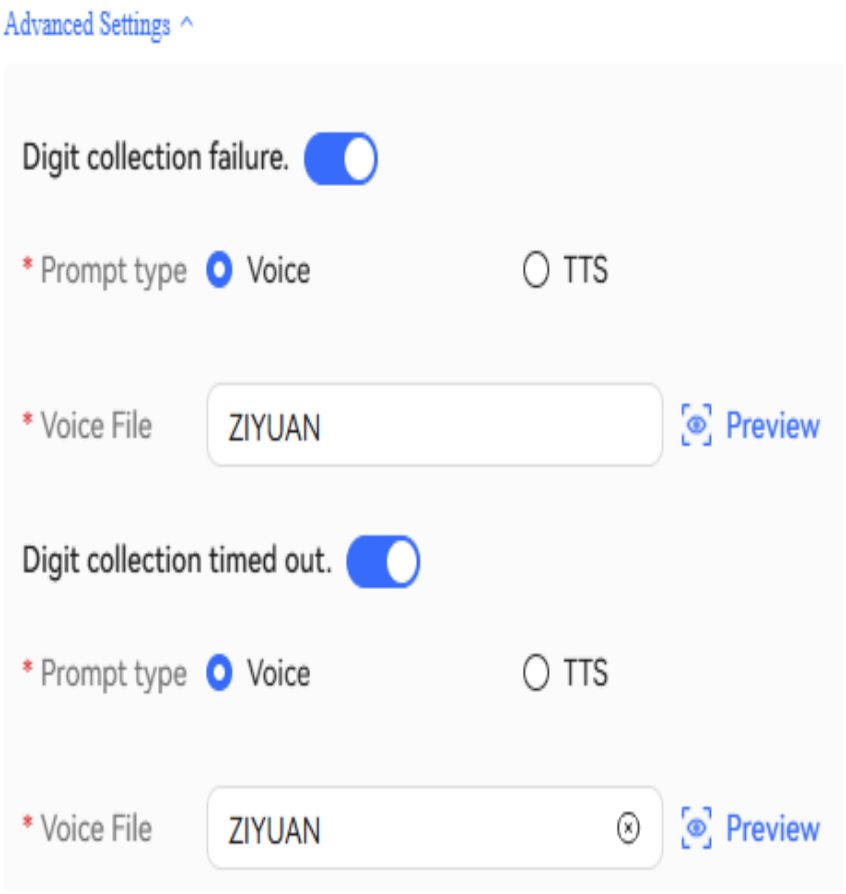
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Figure 2-328 Menu configuration



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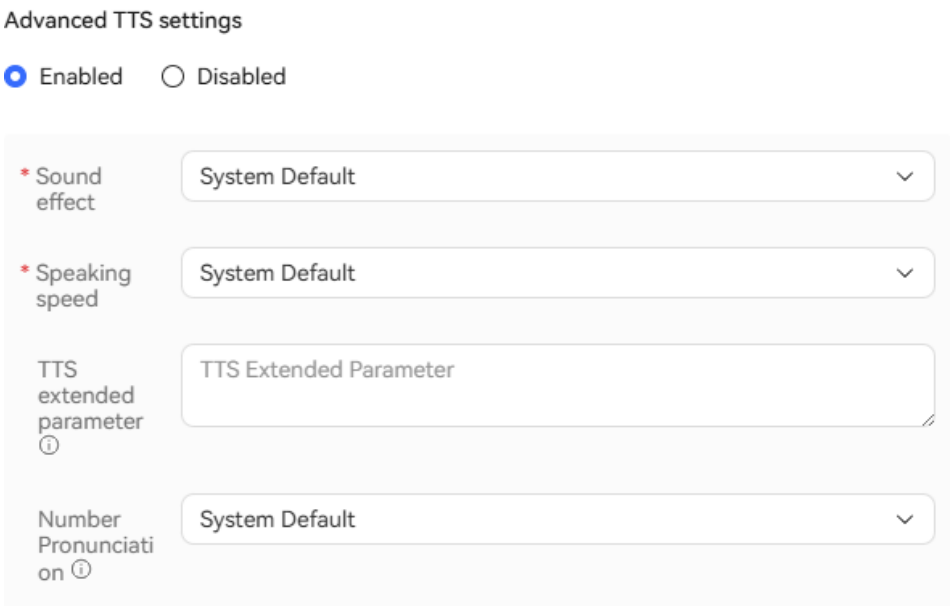
Figure 2-329 Advanced Settings



The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice File**: Upload a WAV voice file. The UAP supports only the WAV voice files in the following format: 8 bit, 8000 Hz, 64 kbit/s, and mono.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.

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  - **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
  - **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
  - **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.
  - **Number Pronunciation**: This parameter is reserved.
- **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Voice File**: The system filters approved voice files, TTS files, or video files based on the selected voice type, and displays the files in the drop-down list.

  You can click and select a required file.
- **Menu Key Configuration**: service option provided in a flow. Each button maps a service option. You can click **Create** to add a service option. Multiple service options are allowed.
  - **Buttons**: number key or character button available on the keyboard or screen, such as **1**, **2**, **3**, *****, or **#**.
  - **Description**: service introduction of a key or button, which can be displayed in the menu. For example, if you set **Buttons** to **1** and **Description** to **Query member information**, a customer can press 1 to query member information.
  - **Operation**: You can click **New** to add a service option, click **Delete** to delete a service option, and click **Down** or **Up** to adjust the sequence of a service option.
- **Waiting Time for Digit Collection**: waiting time for receiving the external input. If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure,

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automatically executes **Digit collection timed out**, and continues to wait for the digit input.

- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.
  - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
  - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- By default, **Digit collection failure** and **Digit collection timed out** are disabled in the **Advanced Settings** area. If the capabilities are disabled, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

- You can click **Save** to save all parameters set on the current page.

Condition Branch Description

Table 2-144 Condition branch description

Condition Branch	Description	Usage
Timeout or other keys	Digit collection timeout or out-of-range key	Triggered when digit collection times out or the key is out of the range.

Typical Application Scenario

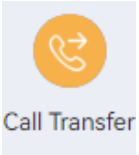
In a flow, multiple service options need to be provided for a customer to select. For example, a customer can press **1** to query member information, **2** to query traffic information, **3** to make complaints or provide suggestions, or **0** to obtain manual services.

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2.6.3.10.9 Call Transfer

This diagram element is used to transfer a call to an IVR flow (an existing key pressing flow) or an agent.

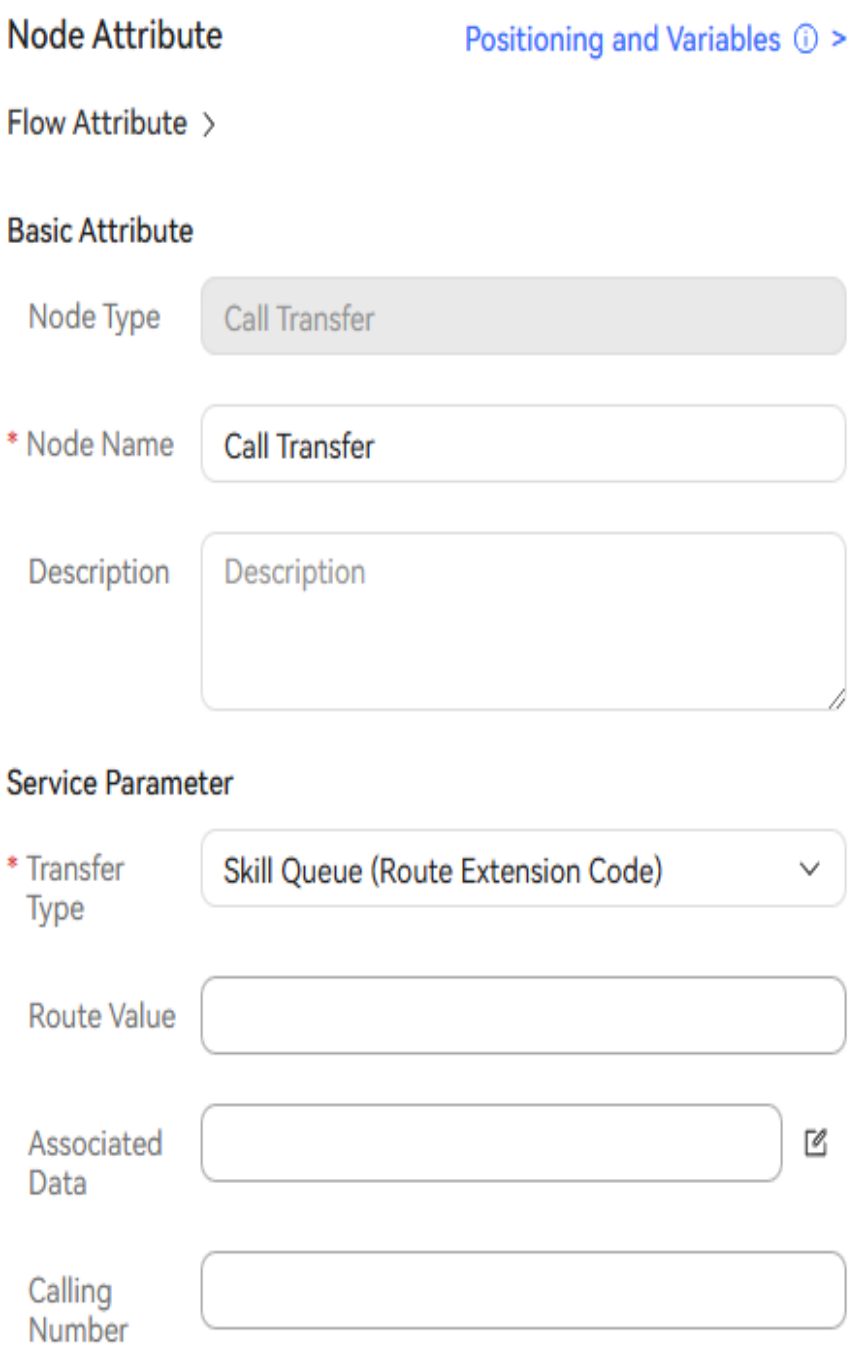
Diagram Element



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Parameter Description

Figure 2-330 Node Attribute

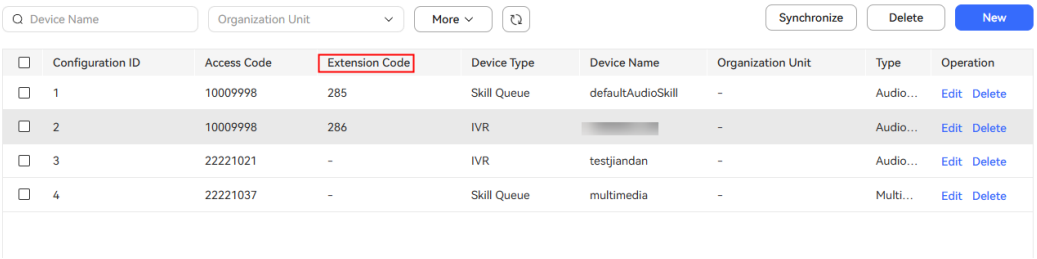


- **Node Name**: name of a node.
- **Description**: details of a node.
- **Transfer Type**: The options are as follows:
  - **Skill Queue (Route Extension Code)** (**1**)

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  - **IVR** (2)
  - **Skill Queue (Alias)** (3)
  - **Convert to user-defined conditional route** (10)
  - **Agent** (4)
  - **Third-party number** (5)
  - **Online Digital Assistant** (6)
  - **Audio and video familiar agents** (9)
  - **Multimedia familiar agents** (7)
  - **Skill queue (MAgent)** (8)
  - **Familiar agents message** (31)
  - **Skill queue message (Alias or access code)** (32)
  - **Message to an Agent** (33)
  - **Transfer to offline queue** (34)
- **Route Value**: Select a value from the drop-down list box.
  - If **Transfer Type** is set to **Skill Queue (Route Extension Code)**, set this parameter to the extension code for transferring to a skill queue. For this configuration, you need to ensure that the manual flow and the current flow are under the same system access code. The call is transferred to the manual skill queue through the extension code configured on the **Called Party** page.

    Figure 2-331 Extension Code

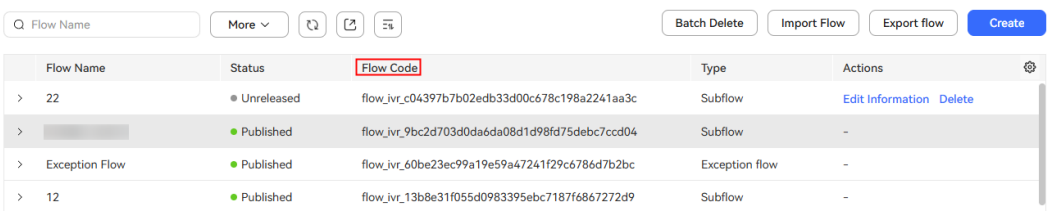
    

  - If **Transfer Type** is set to **IVR**, set this parameter to an IVR robot access code.

    The following figure shows robot access codes in the AICC integrated deployment mode.

    CAUTION

    Currently, multimedia channels do not support the **IVR** type.

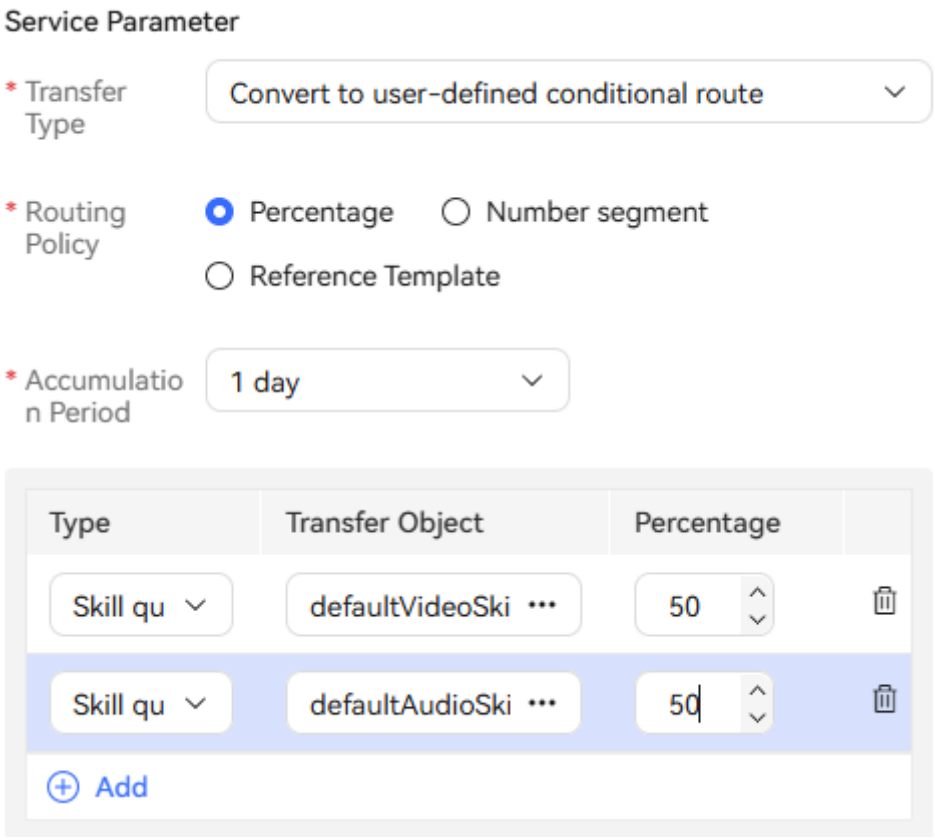
    

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  - If **Transfer Type** is set to **Skill Queue (Alias)**, set **Route Value** to the name of the skill queue where the agent to whom the call is transferred resides, for example, **Agent Group 1**. You can choose **Configuration Center** > **Employee Center** > **Skill** to view the skill queue name.
  - If **Transfer Type** is set to **Convert to user-defined conditional route**, set the corresponding routing policy.
  - If **Transfer Type** is set to **Agent**, set this parameter to the platform agent ID of the agent to whom the call is transferred.
  - If **Transfer Type** is set to **Third-party number**, set this parameter to the third-party number.
  - If **Transfer Type** is set to **Online Digital Assistant**, set this parameter to the flow route code agreed with the third-party intelligent system.
  - If **Transfer Type** is set to **Audio and video familiar agents**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 2-147**.
  - If **Transfer Type** is set to **Multimedia familiar agents**, you do not need to set the route value, but you need to configure the call-associated data by referring to **Table 2-147**.
  - If **Transfer Type** is set to **Skill queue (MAgent)**, set this parameter to the name of the skill queue corresponding to the agent to whom calls are transferred.
  - If **Transfer Type** is set to **Familiar agents message**, you do not need to set **Route Value**, but you need to configure the call-associated data by referring to **Table 2-147**.
  - If **Transfer Type** is set to **Skill queue message (Alias or access code)**, set this parameter to the name or access code of the skill queue where the agent to whom the call is transferred resides.
  - If **Transfer Type** is set to **Message to an Agent**, set this parameter to the platform agent ID or variable corresponding to the agent to whom the call is transferred.
- **Routing Policy**: This parameter needs to be set when **Transfer Type** is set to **Convert to user-defined conditional route**. The options are **Percentage**, **Number segment**, and **Reference Template**.

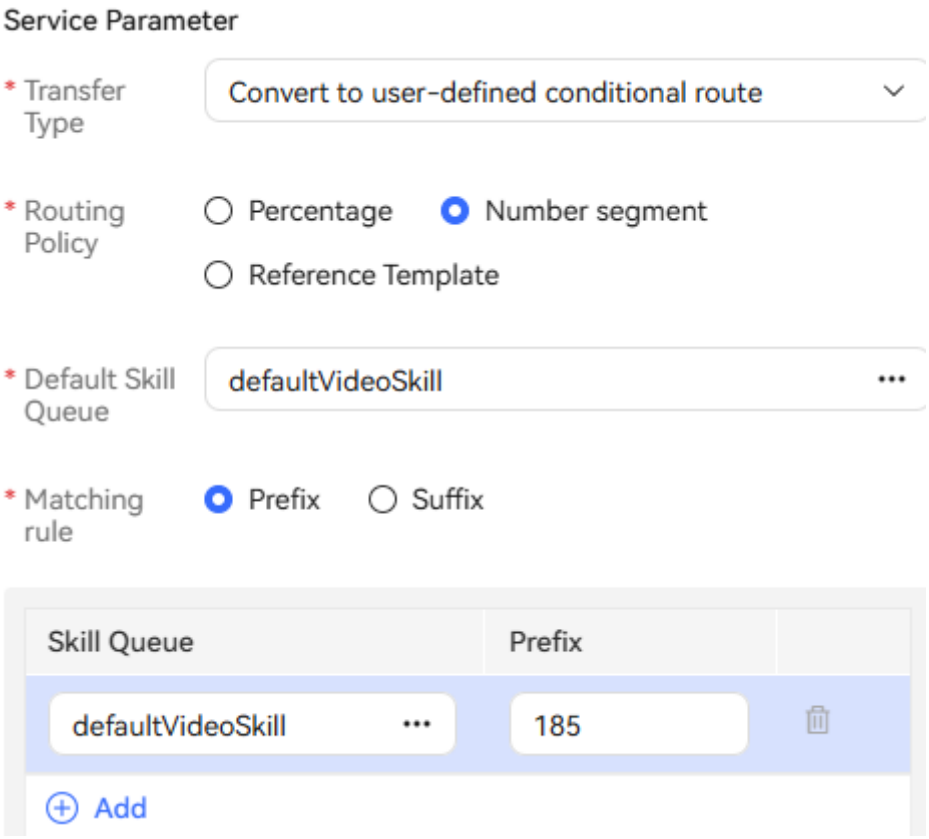
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Figure 2-332 Setting Routing Policy to Percentage



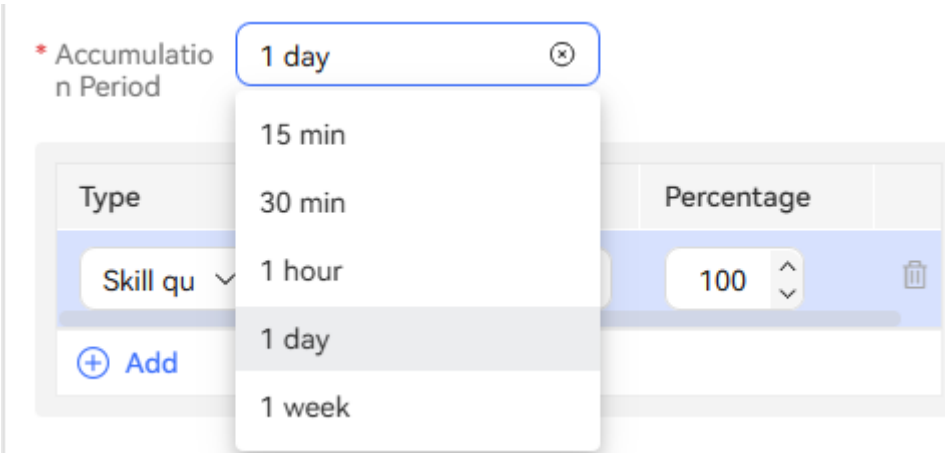
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Figure 2-333 Setting Routing Policy to Number segment



- **Accumulation Period**: When **Transfer Type** is set to **Convert to user-defined conditional route** and **Routing Policy** is set to **Percentage**, this parameter is displayed.

Figure 2-334 Accumulation Period area



- **Percentage**: When **Routing Policy** is set to **Percentage**, you need to configure multiple skill queues and their routing percentages. During call transfer, the system dynamically assigns calls to skill queues based on the value of **Percentage**.

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Table 2-145 GUI elements for the transfer object percentage configuration

Element/ Component	Type	Description	Value Range	Triggering Event	Remarks
Type	Drop-down list	Select the type of the transfer object.	• **Skill queue** • **Robots**	Click	Multimedia channels do not support the **Robots** type.
Transfer Object	Dialog box	Select a transfer object based on the type. The skill queues or robots to which calls are transferred are displayed.	• Skill queues • All robots except those in abnormal flows	Click	• A skill queue cannot be selected repeatedly. • A robot cannot be selected repeatedly.
Percentage	Text box	Percentage of calls transferred to a skill queue during transferred-to skill queue assignment.	1 to 100	Enter	The total percentage must be 100.
	Button	Delete a percentage setting.	-	Click	-
	Button	Add a percentage setting.	-	Click	A maximum of 20 skill queue percentages can be added.

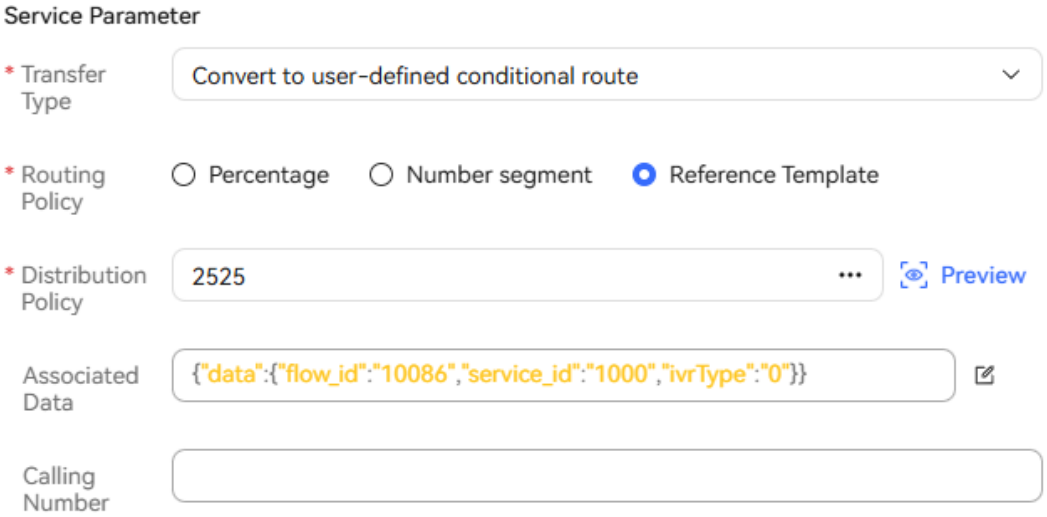
- **Default Skill Queue**: When **Routing Policy** is set to **Number segment**, you need to select a skill queue as the default skill queue to which calls are transferred when no skill queue is matched based on the number segment matching rule configuration.
- **Matching rule**: When **Routing Policy** is set to **Number segment**, you need to select a matching rule. The options are **Prefix** and **Suffix**.
- Number segment matching rule configuration: When **Routing Policy** is set to **Number segment**, you can select different skill queues and configure different prefixes or suffixes for them. During call transfer, the system transfers calls whose calling numbers exactly match the configured prefixes or suffixes to the corresponding skill queues.

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Table 2-146 GUI elements for the number segment matching rule configuration

Element/ Component	Type	Description	Value Range	Triggering Event	Remarks
Skill Queue	Dialog box	Skill queue to which calls are transferred.	-	Select	• A skill queue cannot be selected repeatedly.
Prefix/ Suffix	Text box	Prefix/Suffix used for calling number matching during call transfer to a skill queue.	-	-	-
	Button	Delete a number segment setting.	-	Click	-
	Button	Add a number segment setting.	-	Click	A maximum of 20 number segments can be added.

Figure 2-335 Setting Routing Policy to Reference Template



- If **Routing Policy** is set to **Reference Template**, you can configure the transfer policies under **Resource** > **Distribution Policy**.
- **Associated Data**: The call-associated data can be in JSON format (flow variables and global variables are supported). Manually enter a value, or click the edit icon and add information in the **Set TransferData** dialog box.

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Figure 2-336 Set TransferData (transfer to a skill queue, including manual and multimedia skill queues)

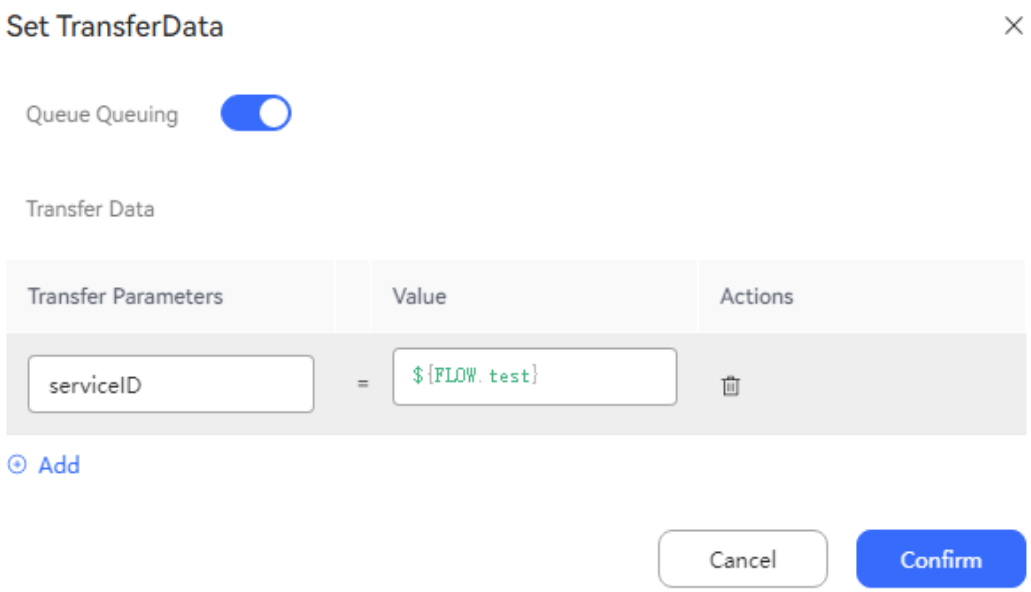
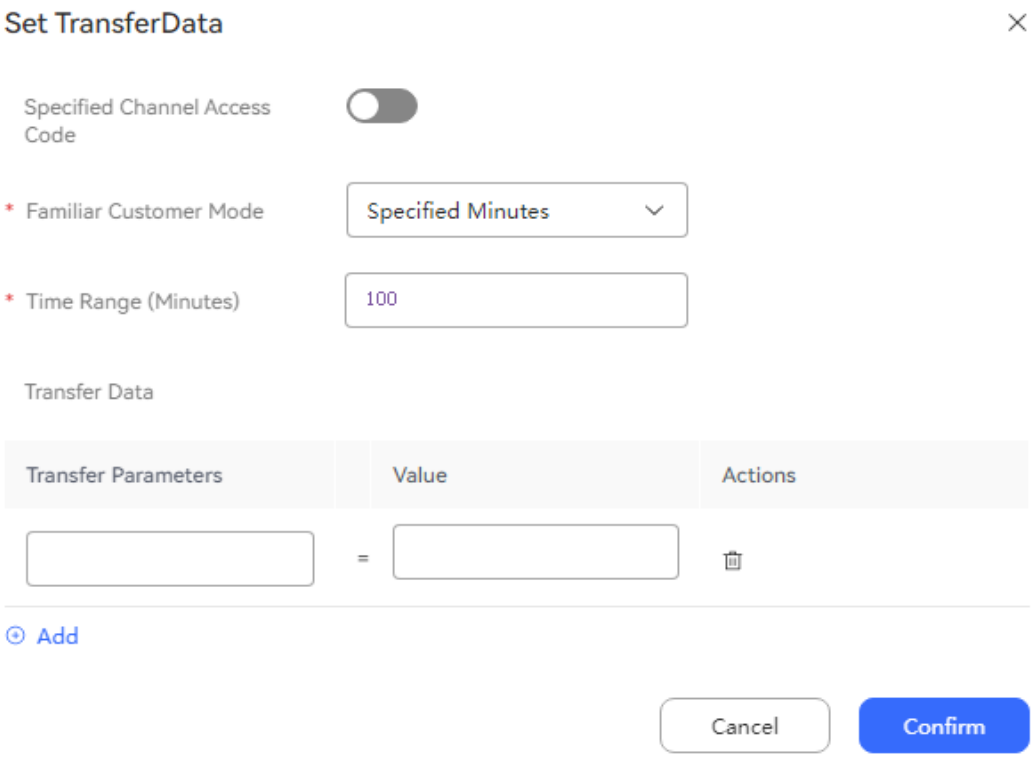
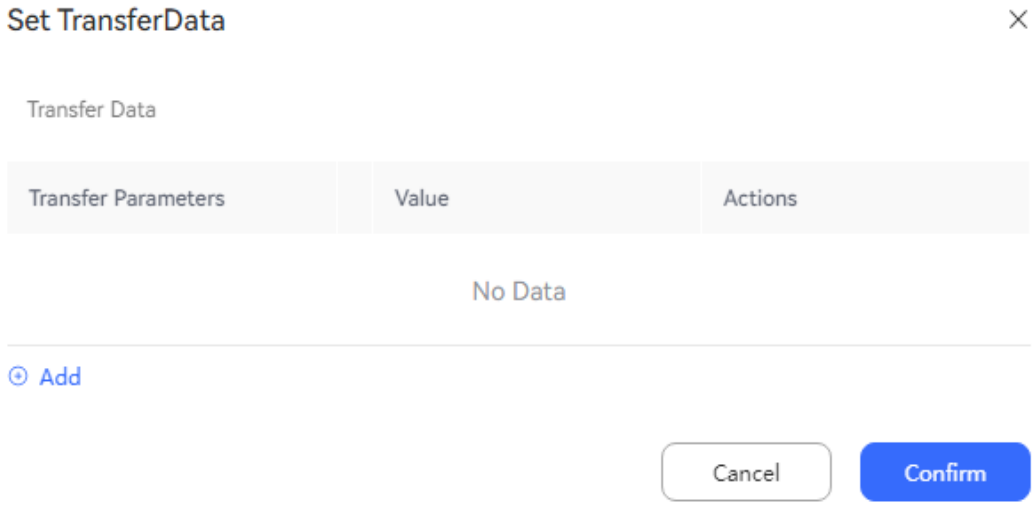


Figure 2-337 Set TransferData (transfer to the last agent, including manual and multimedia agents)



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Figure 2-338 Set TransferData (transfer to others)



The format of the generated complete JSON data is as follows:

```
{
  "wait": "Y",
  "isSpecifyAccessCode": "true",
  "type": "1",
  "time": "30",
  "starttime": ""
  "data": {
    "serviceId": ${FLOW.test},
    "yy": "bbb"
  },
}
```

Table 2-147 Call-associated data parameters

Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Queue Queuing	wait	Switch	Whether a call can wait in a skill queue until the session times out when the call is transferred to the skill queue.	• **Y** • **N**	Click	This parameter can be set only when a call is transferred to a skill queue, including manual and multimedia skill queues.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Specified Channel Access Code	isSpecifyAccessCode	Switch	Whether to transfer to the current channel when a call is transferred to the last agent.	• **true** • **false**	Click	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Familiar Customer Mode	type	Drop-down list	Mode of selecting the last agent.	**1**: agent within the specified minutes **2**: agent within the specified time range **3**: agent on the current day	Select	This parameter can be set only when a call is transferred to the last agent, including manual and multimedia agents.
Transfer Data	data	Table	Call-associated data that needs to be carried during call transfer.	-	-	-

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Transfer Parameters	Customized key	Textbox	Key in call-associated data.	-	Enter	• To obtain the customer type field, set the transferred parameter to **customerEntityName**. • To use a visualized service guidance flow, set the transferred parameter to **serviceRequest**.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Value	-	Textbox	Value of the key in call-associated data.	-	Enter	• Variables can be used, for example, **${FLOW.variable}**. • To obtain the customer type field, set the value to **account** or **contact**. • To use a visualized service guidance flow, set the value to the name of a visualized flow configured on the **Configuration Center** > **Workbench Configuration** > **Service Guidance** page, that is, the name of the flow created in **Step 7**.

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Element/ Component	Key in JSON Data	Type	Description	Value Range	Triggering Event	Remarks
Actions	-	Button	Delete a line of call-associated data.	-	Click	-
Add	-	Button	Add a line of call-associated data.	-	Click	-
Cancel	-	Button	Cancel the editing.	-	Click	-
Confirm	-	Button	Fill back the call-associated data in JSON format.	-	Click	-

- **Calling Number**
  - When **Transfer Type** is set to **Third-party number** (**5**), the number set here is used as the calling number.
  - When **Transfer Type** is set to **Audio and video familiar customers** (**9**), the variable set here is used as the calling number of the customer. The default value is **SYS.callingNumber**.
- **Enable Recording**: This check box is displayed only when **Transfer Type** is set to **Third-party number** (**5**). You can select this check box to enable recording during call transfer from an intelligent IVR to a third-party number. After you select this check box, set the following parameters:
  - **Recording File Name**: Enter a flow variable, for example, **FLOW.recordPath**.
  - **Recording Service Node ID**: Enter a flow variable, for example, **FLOW.serviceNo**.

    NOTE

    The recording files in the intelligent IVR can be played and downloaded on the **Contact History** > **Transfer Record** page.

Table 2-148 Parameters for setting the transfer type to offline queue

Element/Component	Description
Route Value	Customer number, which is optional. The value can be a constant or variable. If the value is empty, the customer number is used.

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Element/Component	Description
Queue skill identifier	Mandatory. Constants or variables are supported.
Offline queue timeout duration (minutes)	The value ranges from 1 to 720. The default value is **30**. This parameter is optional. Constants or variables are supported.
Offline call data	Offline queuing time (UTC), for example, **{"offlineQueueDate": "20240211111513"}**.

Condition Branch Description

Table 2-149 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Transfer success	Triggered when a call is transferred successfully.
FAILED	Transfer failure	Triggered when a call fails to be transferred. After this branch is triggered, the flow is not interrupted and does not automatically go to the exception handling flow.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS.

Using the Diagram Element

The **Call Transfer** diagram element is used when a call needs to be transferred to another destination device in the AICC, for example, to a common IVR self-service flow or an agent.

Click the diagram element or drag it to the canvas, and set **Transfer Type** and **Route Value** as prompted.

Typical Application Scenario

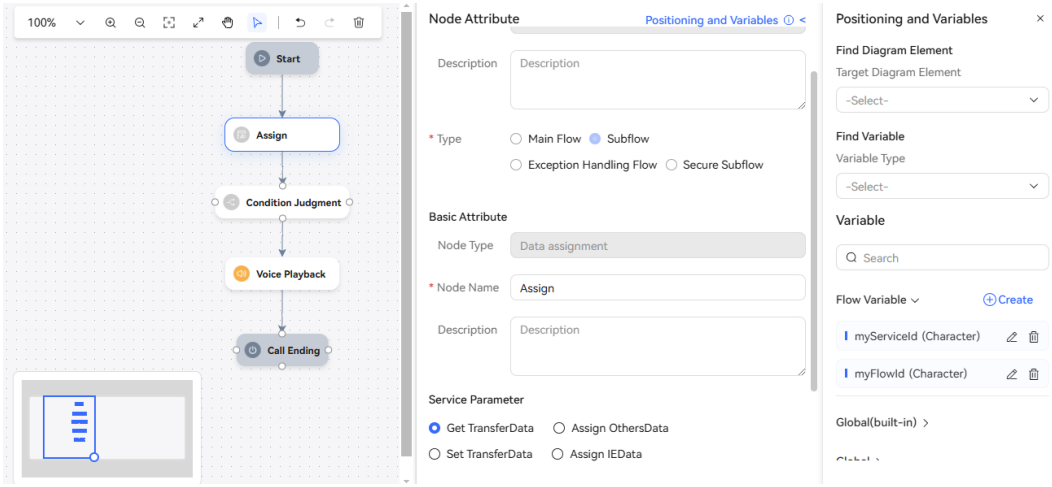
The following describes how to use the **Call Transfer** diagram element to transfer a call from an intelligent IVR flow to a common IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC.

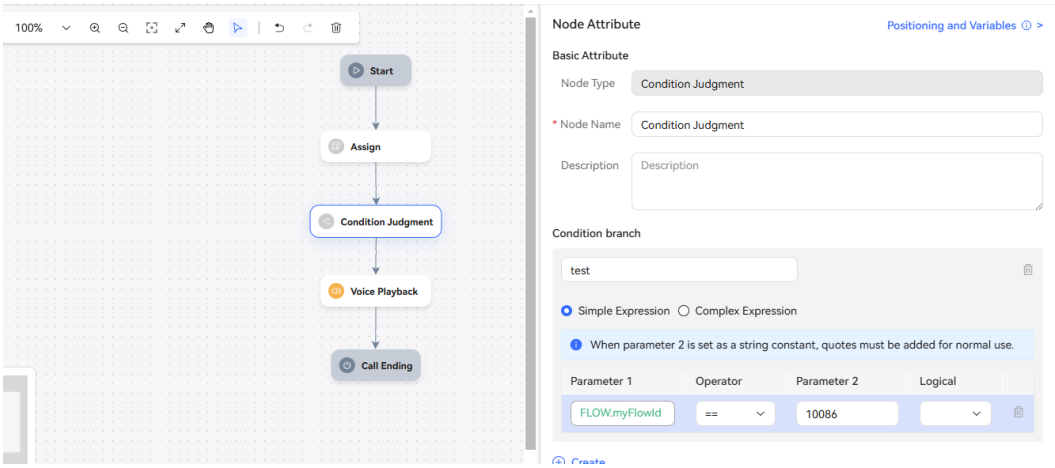
Step 2 Configure a common IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** and add a common IVR flow.
2. Add flow variables, as shown in the following figure, and configure an **Assign** diagram element.

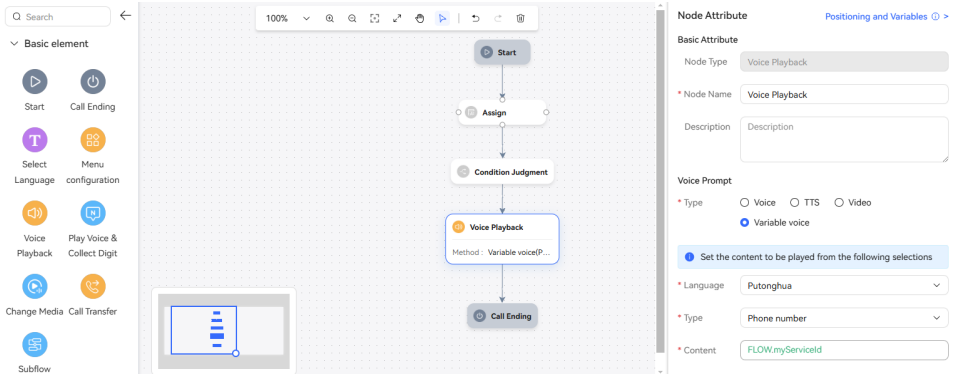
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3. Configure a **Condition Judgment** diagram element for conditional judgment based on the call-associated data.



4. Configure a **Voice Playback** diagram element for playing a variable voice.

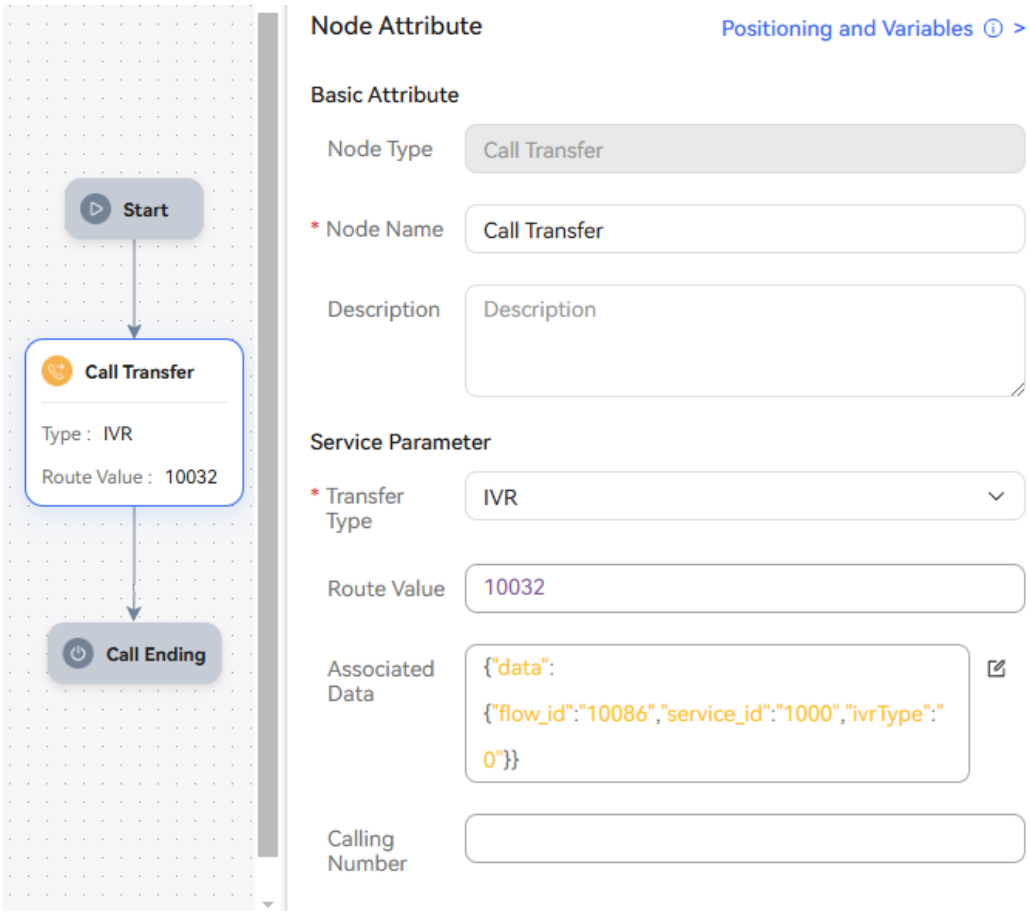


5. Save and publish the flow.

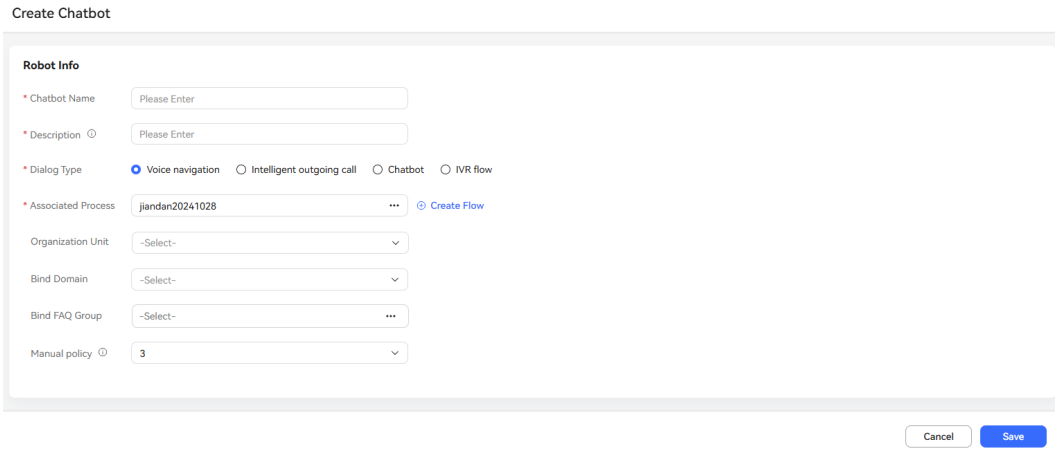
Step 3 Configure an intelligent IVR flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. Choose **Flow** > **Orchestration**, add an intelligent IVR flow, add a **Call Transfer** diagram element, and set service parameters of the diagram element, as shown in the following figure.

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3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 3**.

Step 5 Log in to the OpenEye and dial the access code added on the **Called Party** page. If "10000" is heard, the call-associated data (**service_id**: **10000**) transferred by the intelligent IVR is successfully obtained.

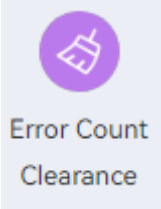
----End

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2.6.3.10.10 Error Count Clearance

This diagram element is used to clear previous error records when a customer needs to be transferred to another flow due to a number of intention matching errors.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Condition Branch Description

Table 2-150 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Error Count Clearance** diagram element is used when the number of semantic recognition and key pressing errors do not need to be accumulated.

Click the diagram element or drag it to the canvas.

Typical Application Scenario

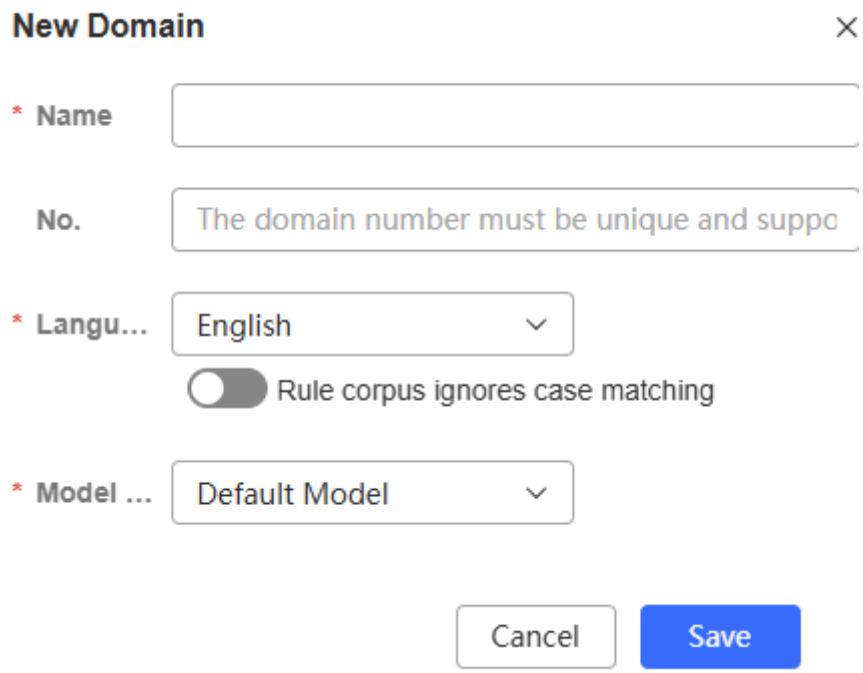
Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding**.

Step 2 Configure a domain and an intention.

1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

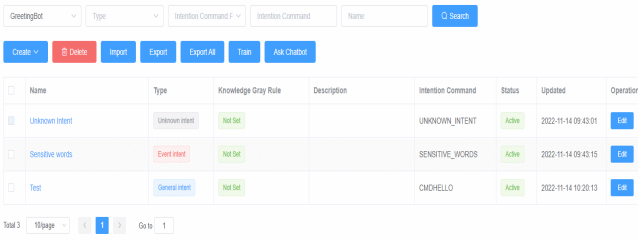
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Figure 2-339 Creating a domain



2. Click the name of the new domain. The **Intention Management** page is displayed.
3. Click **Create**, choose **General intent**, enter an intention name, configure **Corpus** and **Response**, and click **Save**.

Figure 2-340 Creating an intention



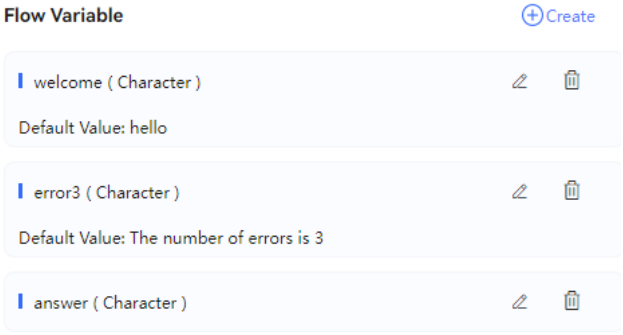
4. Click **Active** corresponding to the new intention to activate it.

Step 3 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

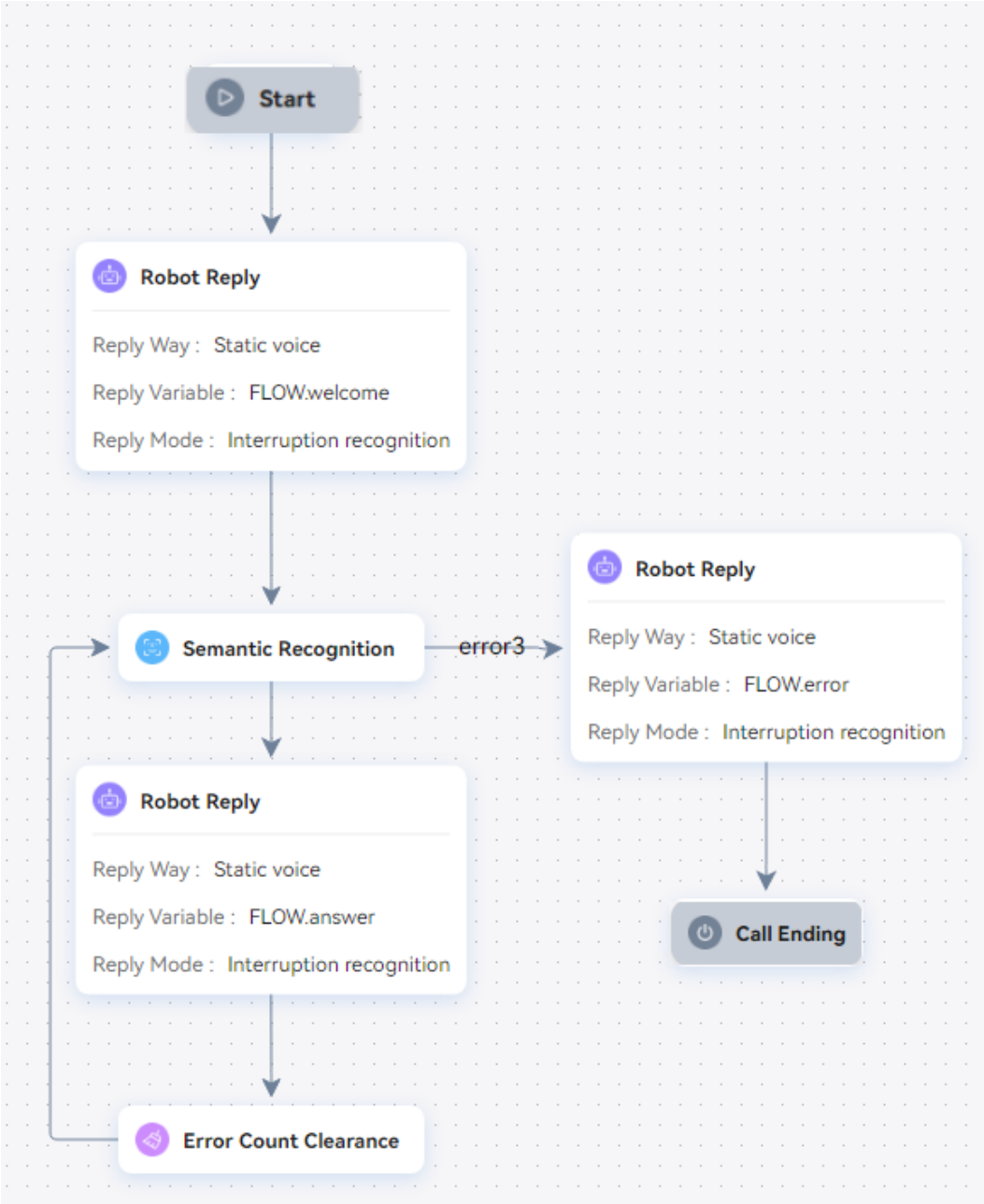
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Figure 2-341 Flow variables to be added



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Figure 2-342 Flow orchestration example (Semantic Recognition diagram element)



- Use the reply variable **FLOW.answer** for the **Robot Reply** diagram element below the **Semantic Recognition** diagram element to send the reply to the matched intention.
- Use the reply variable **FLOW.error3** for the **Robot Reply** diagram element below the **error3** condition branch of the **Semantic Recognition** diagram element to send the reply "The number of errors is 3" for three semantic recognition errors.

3. Save and publish the flow.

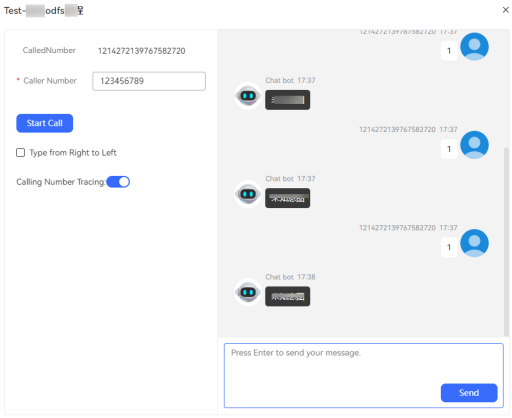
Step 4 Choose **Intelligent Chatbot** and bind the flow to a robot.

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Step 5 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. Enter incorrect corpuses continuously. If the robot keeps replying "Unknown intent" and does not reply "The number of errors is 3" for more than three semantic recognition errors, the **Error Count Clearance** diagram element takes effect in the flow.

Figure 2-343 Testing the robot

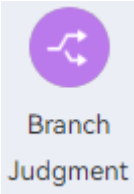


----End

2.6.3.10.11 Branch Judgment

This diagram element is used to judge branches.

Diagram Element

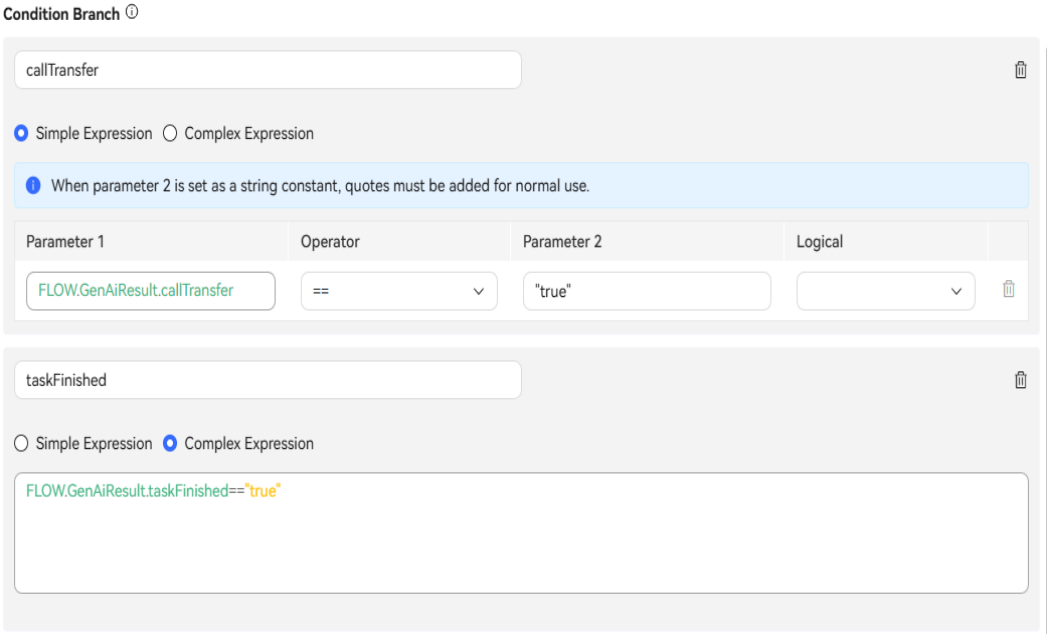


Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Condition Name**: Enter a condition name.
- Conditional expressions: define the branches of the exit of the current diagram element. The options are **Simple Expression** and **Complex Expression**.

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Figure 2-344 Simple Expression and Complex Expression



- Enter a conditional expression in the text box. The expression can contain the parameter name, value, and complex operation. After a series of operations, the complex expression returns a value of the Boolean type, for example, **true** or **false**.
  - The formats of flow variables, system variables, and global variables are as follows: **FLOW.***Parameter name*, **SYS.***Parameter name*, and **GLOBAL.***Parameter name*.
  - The priorities of operators in a complex expression are as follows: brackets > arithmetic operators > relational operators > logical operators. Except for the arithmetic operators *****, **/**, and **%**, which have higher priorities than **+** and **-**, the priorities of other operators at the same level are the same. The symbols of each type of operators are as follows:

    Parentheses: **()**

    Arithmetic operator: *****, **/**, **%**, **+**, and **–** (The priorities of operators *****, **/**, and **%** are higher than those of operators **+** and **-**.)

    Relational operators: **>**, **>=**, **<**, **<=**, **==**, and **!=**

    Logical operators: **&&** and **||**

    In addition to basic logical expressions, functions based on the mvel2 expression are also supported. For example, the flow variable **FLOW.testvalue** is set to **abc**, and the **contains** function is used to determine whether the **d** character is contained. If the determination result is **false**, the branch is not executed.

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Similarly, simple functions may be used as follows:

FLOW.testvalue.substring(0,1)=='d' checks whether the first character is **d**.

FLOW.testvalue.endsWith('c') checks whether the value ends with **c**.

If other functions are required, develop them under the guidance of Huawei engineers.

- You can click **Create** to add multiple conditions, which can map different branches.

  A maximum of 20 condition branches are allowed.

- Click  to delete a condition.
- Click **Save** to save all parameters set on the current page.
- **Branch Condition**: Click the connection line between a branch judgment diagram element and a branch diagram element, and select the condition to enter the branch from the drop-down list. If no condition is selected, the branch is used as a default branch, which is executed when none of the conditions are met.

Condition Branch Description

Table 2-151 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The **Condition Judgment** diagram element is used when branch flows need to be executed based on different conditions. It makes the flow logic clearer.

Click the diagram element or drag it to the canvas, and click Create under **Condition Branch** to add a conditional expression.

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Typical Application Scenario

For details about how to use the **Branch Judgment** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Key Recognition** diagram element involves the **Branch Judgment** diagram element.

2.6.3.10.12 Logic Loop

This diagram element is used to perform an operation on an object repeatedly until a certain condition is met.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Counter**: flow variable that stores the number of elements in a list.
- **Loops**: objects to be traversed. Generally, the object list is the value obtained by the previous node, for example, the customer list obtained by a stored procedure.
- **Loop Object**: flow variable that stores the value of the object obtained each time when the object list is traversed.

In addition to four variables, the **Logic Loop** diagram element provides two default branches: **inLoop** and **outLoop**. The **inLoop** branch executes the logic when a loop is entered, that is, some actions during object list traversal. The **outLoop** branch executes the actions after object list traversal.

Condition Branch Description

Table 2-152 Condition branch description

Condition Branch	Description	Usage
inLoop	Loop list traversing	Triggered when the loop list traversing is not completed.
outLoop	Completed loop list traversing	Triggered when the loop list traversing is completed.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Using the Diagram Element

The **Logic Loop** diagram element is used when an operation needs to be performed repeatedly until a certain condition is met.

Click the diagram element or drag it to the canvas, and set loop conditions and objects.

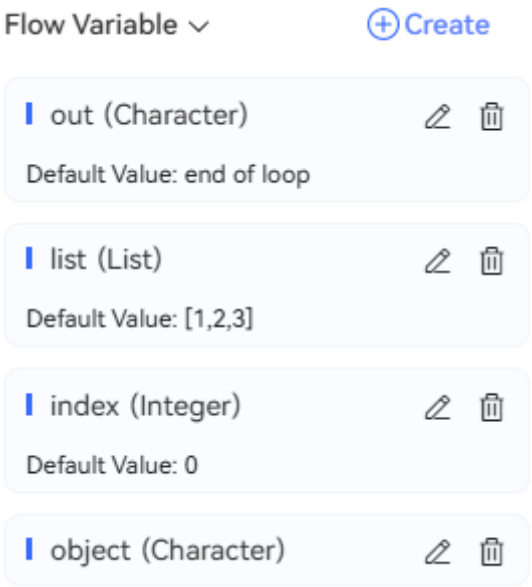
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

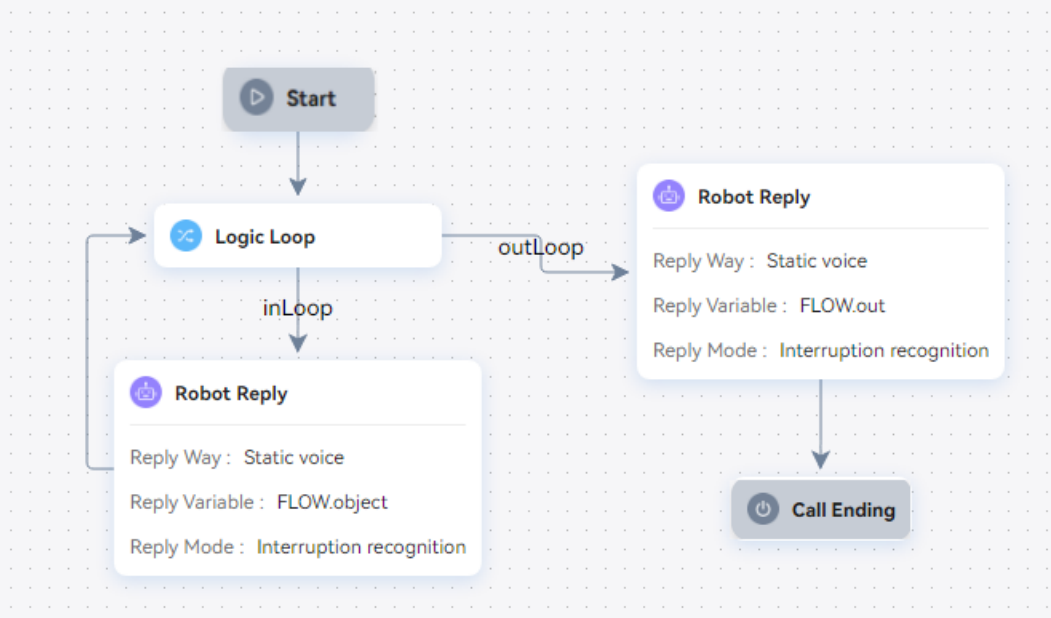
1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-345 Flow variables to be added



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Figure 2-346 Flow orchestration example (Logic Loop diagram element)



- The **Robot Reply** diagram element of the **inLoop** condition branch traverses **FLOW.list** and outputs the values in **FLOW.list**.
- The **Robot Reply** diagram element of the **outLoop** condition branch outputs **FLOW.out**, indicating that the loop ends.

3. Save and publish the flow.

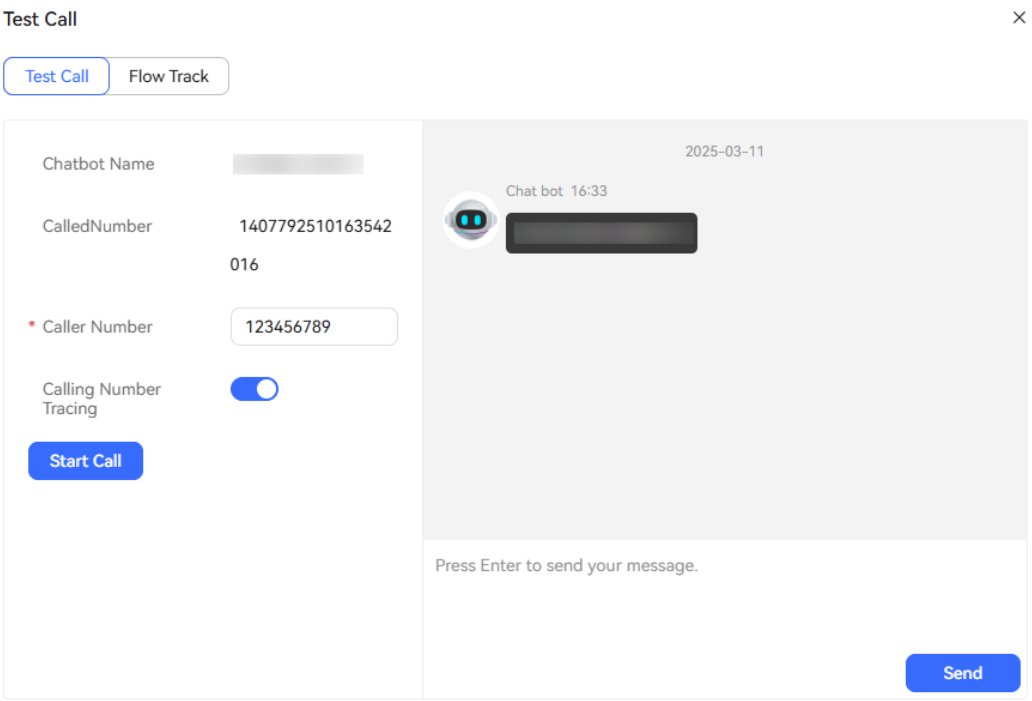
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot outputs results properly, the configuration is successful.

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Figure 2-347 Testing the robot

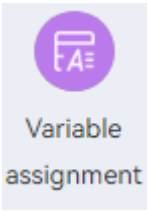


----End

2.6.3.10.13 Variable Assignment

Use this diagram element by referring to the **JSON Data Invoking** diagram element. This diagram element is used to obtain call-associated data and assign values.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.

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NOTE

In a security subflow scenario:

1. When the variable value is **IVRREQUEST.input**, the variable name must be a variable that is saved after being encrypted.
2. If the variable value contains a variable that is saved after being encrypted and the variable name is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

NOTE

In a security subflow scenario:

1. If the method parameter contains a variable that is saved after being encrypted and the return value is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

Condition Branch Description

Table 2-153 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no satisfaction option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

(1) When the call-associated data is in JSON format, this diagram element can be used to obtain the parameters of a specified node and assign values to the parameters.

(2) Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

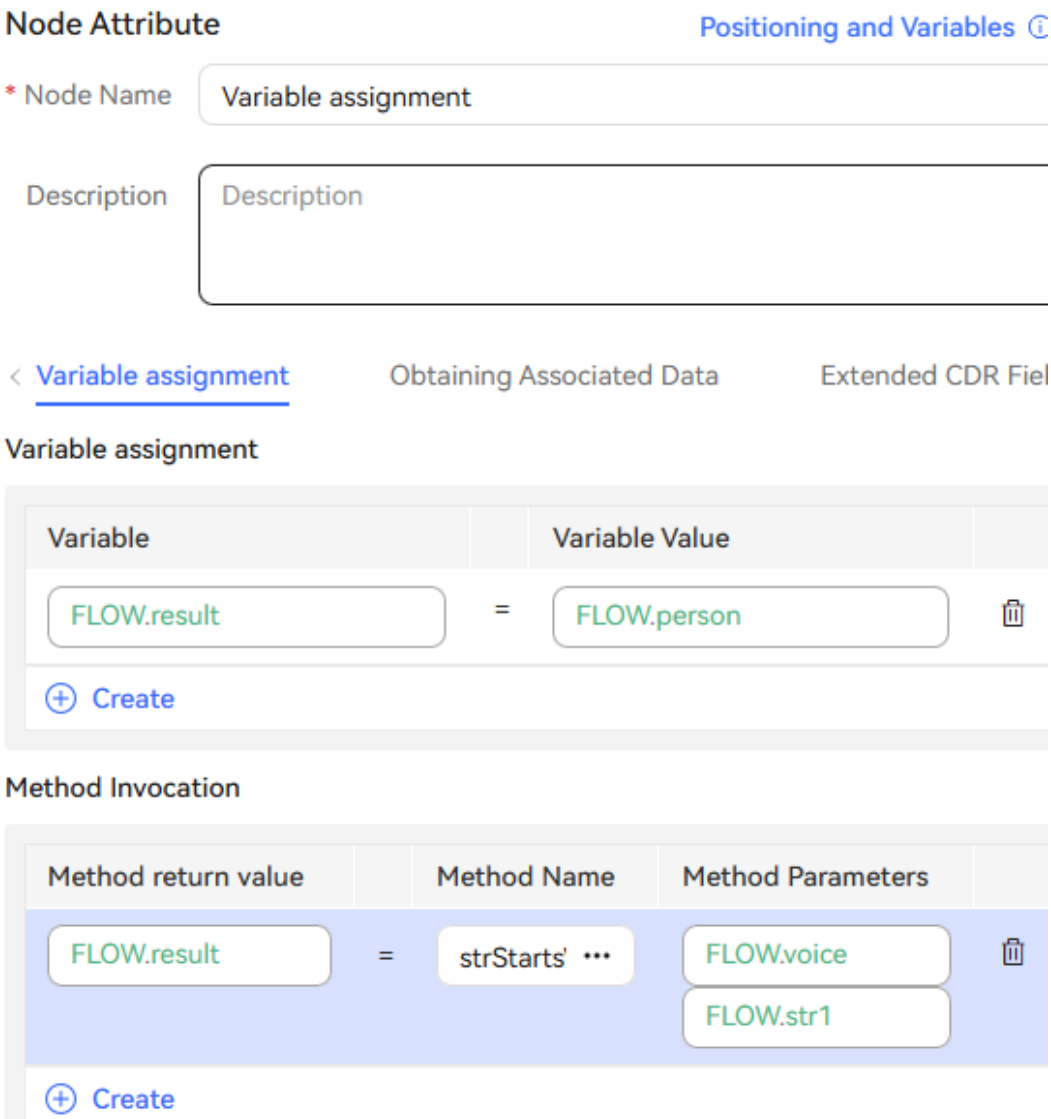
A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and

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play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Assigning Values to Variables

During data value assignment, in addition to string and integer data, expression calculation is also supported. Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**. Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when a slash (/) is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals. String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation. Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua+FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**



Scenario 2: Obtaining Call-associated Data

Step 1 Orchestrate a flow.

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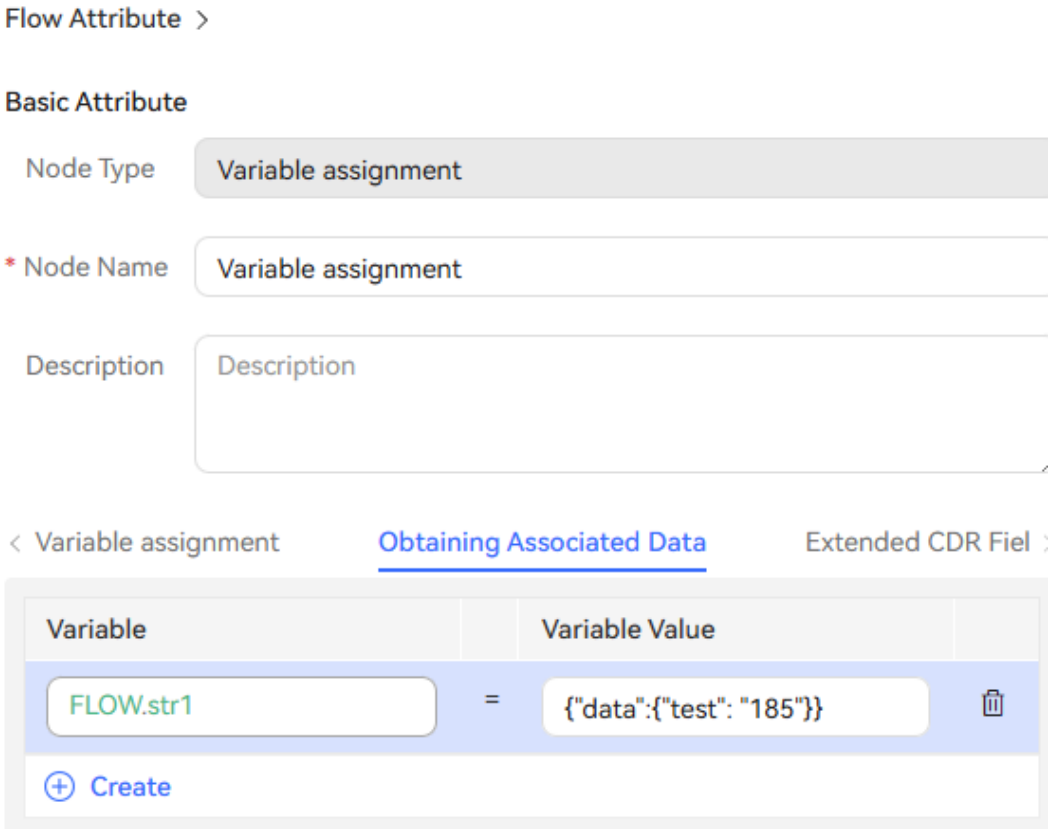
Example 1: Assume that the call-associated data is **{"data":{"test": "Call-associated data test"}}**.

Use the **Variable assignment** diagram element to assign the value of the **test** field in the call-associated data to the flow variable **FLOW.str1**. In this example, the value of **FLOW.str1** is **Call-associated data test**.

Example 2: If the call-associated data of an outbound call task is **{"iSales": {"name":"Tom"}}**, the content **Tom** can be obtained by setting **iSales.name**.

The following figure shows the screenshot based on example 1.

Figure 2-348 Obtaining call-associated data



1. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.
2. Configure a common IVR, add the **Transfer** diagram element, select **Transfer to Intelligent IVR**, and configure call-associated data.
3. Add the **Variable assignment** diagram element to the intelligent IVR flow, and configure a variable on the **Obtaining Associated Data** tab page to receive call-associated data from the common IVR.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

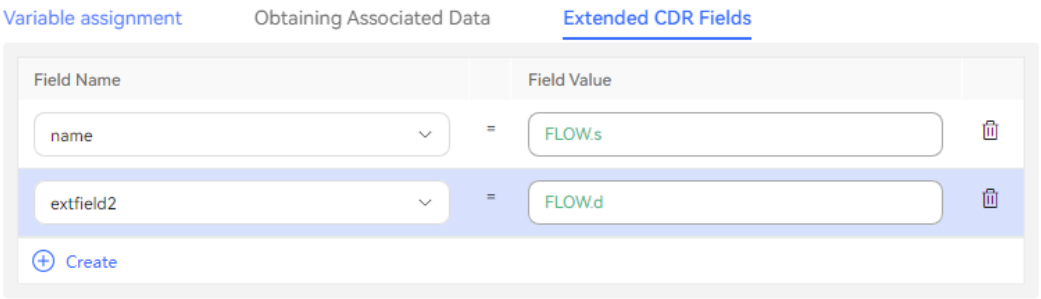
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. Check whether the call-associated data obtained in the intelligent IVR flow is correct.

----End

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Scenario 3: Extended CDR Fields

You can set 10 service information fields (extfield1 to extfield10) to collect customer information and customer operations to be saved in the IVR flow. These fields can be used only when the system parameter **IVRCDRCTRLPARAMS** is enabled. Do not assign values to encrypted variables. The values of encrypted variables are processed as ****** for storage.



2.6.3.10.14 Rule Validation V2

This diagram element is used to verify the customer input or output based on rules.

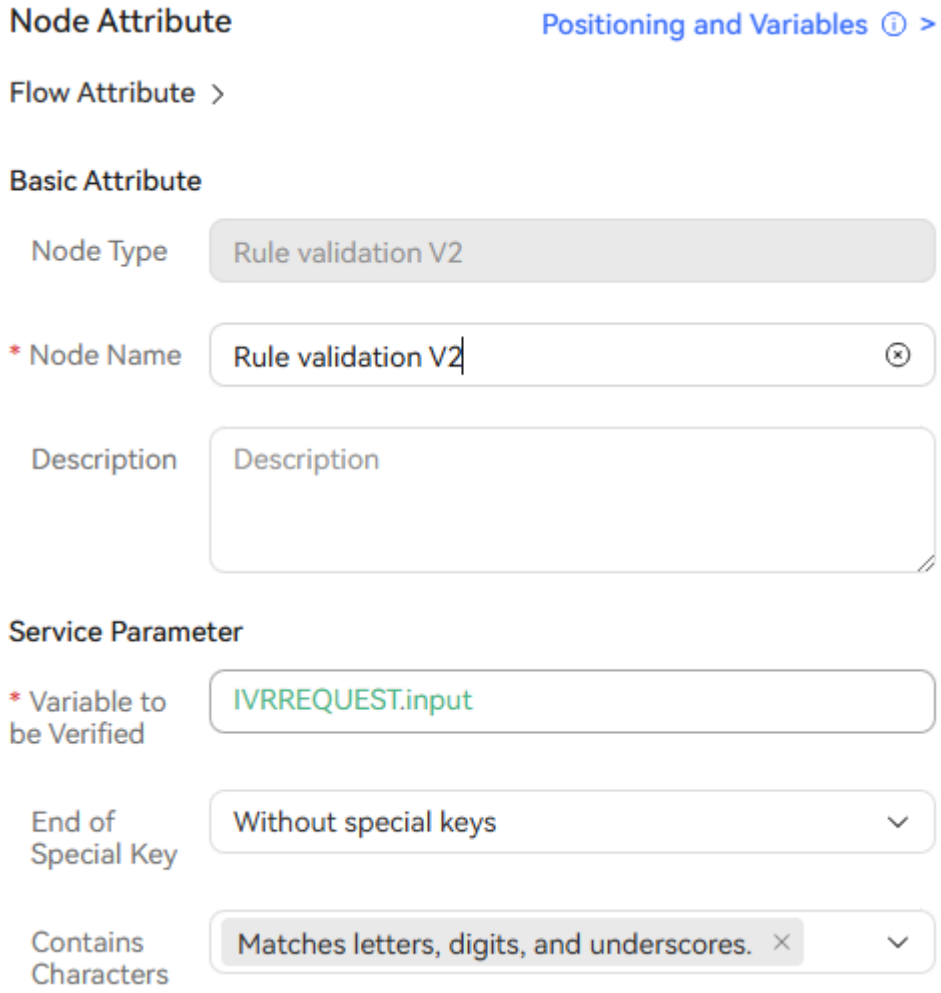
Diagram Element



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Parameter Description

Figure 2-349 Rule validation V2 parameters



- **Variable to be Verified**: Enter the variable corresponding to the parameter to be verified, for example, **IVRREQUEST.input**.
- **End of Special Key**: Specify the end character of the parameter to be verified. The options are as follows:
  - **With #**
  - **With ***
  - **With # or ***
  - **Without special keys**: The last digit is removed for verification and cannot be * or #.
- **Contains Characters**: Specify the characters that can be contained in the parameter to be verified. You can select multiple values. The options are as follows:
  - **Matches numbers**
  - **Matches uppercase letters**
  - **Matches lowercase letters**

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  - **Matches letters, digits, and underscores (_)**
  - **Empty character**

Verification Rules

- **Name**: Select a verification rule. The options are as follows:
  - **Minimum Length**
  - **Maximum Length**
  - **Length Range**
  - **Min.**
  - **Max.**
  - **Value Range**
  - **Email**
  - **URL**
  - **Time Format**
  - **Decimal Number**
  - **Positive Integer**
  - **IP Address**
  - **Alphanumeric Underscore (not starting with a number)**
- **Rule Parameters**: Enter rule parameters. Variables are supported.

Condition Branch Description

Table 2-154 Condition branch description

Condition Branch	Description	Usage
SUCCESS	Successful verification	Triggered when the verification is successful.
FAILED	Verification failure	Triggered when the verification fails.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

This diagram element is used to verify the customer voice or keyboard input based on rules.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

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Typical Application Scenario

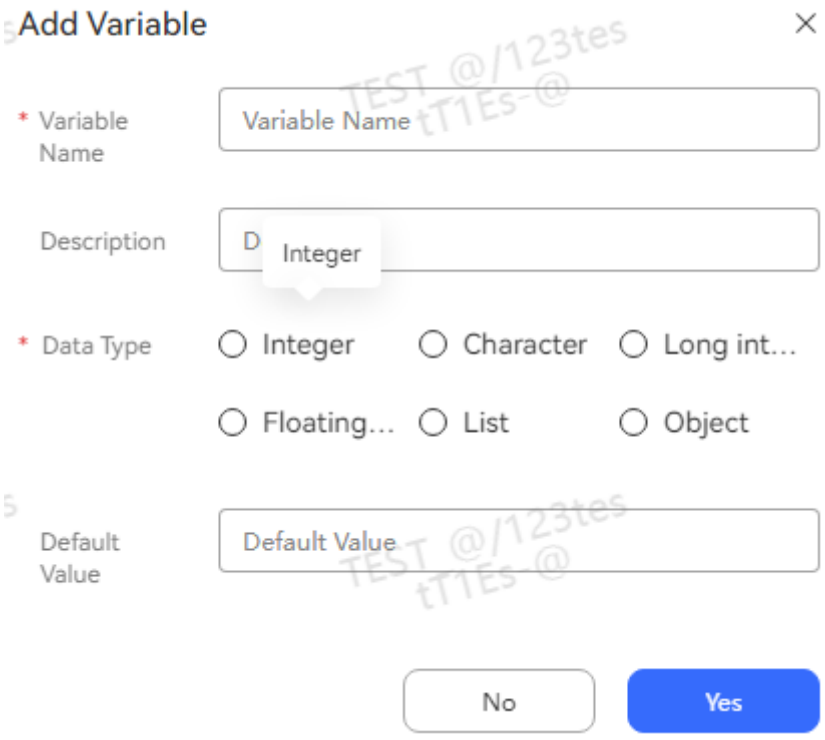
The following describes how to use the **Rule validation V2** diagram element to verify whether the customer input is a valid date.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

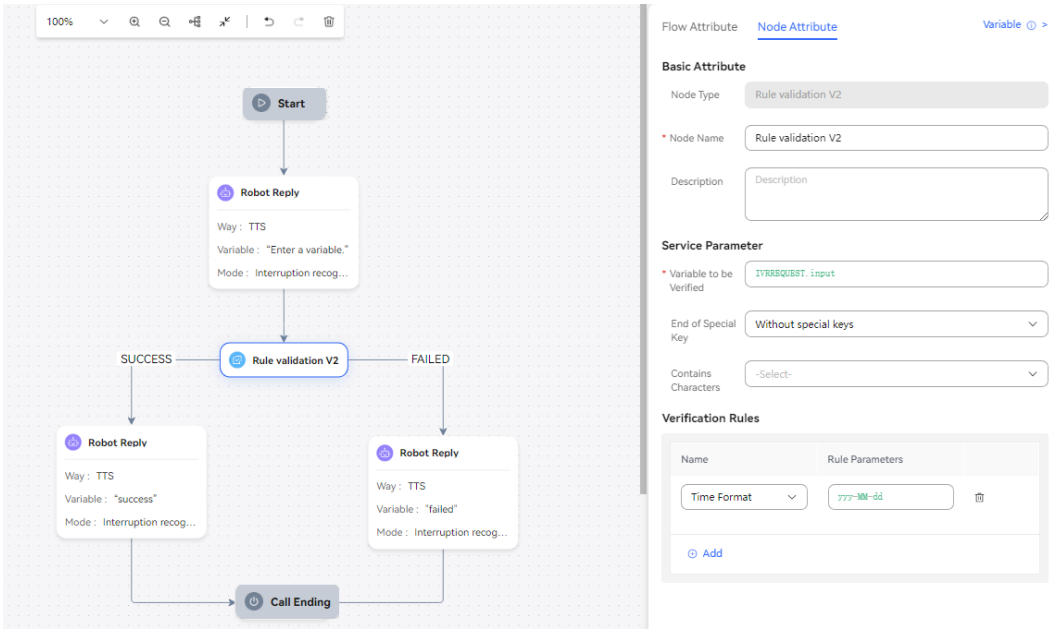
1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-350 Add Variable



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Figure 2-351 Flow orchestration example (Rule validation V2 diagram element)



- Select the reply text **SUCCESS** for the **Robot Reply** diagram element of the **SUCCESS** condition branch, indicating that the time meets the format requirements.
- Select the reply text **FAILED** for the **Robot Reply** diagram element of the **FAILED** condition branch, indicating that the time does not meet the format requirements.

3. Save and publish the flow.

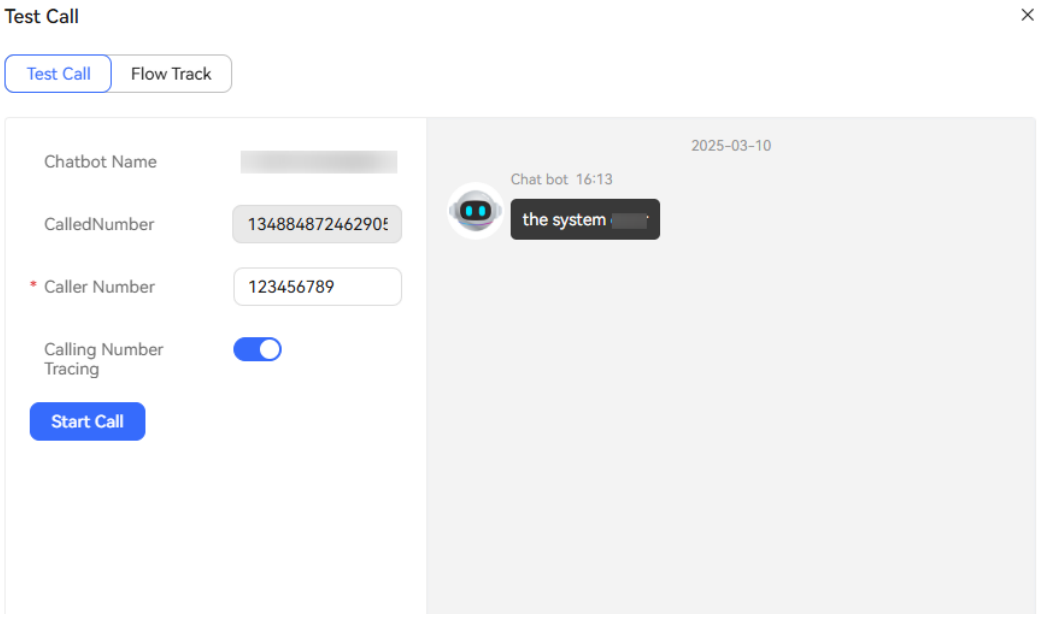
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot answers **SUCCESS** or **FAILED** based on the time entered by the customer, the configuration is successful.

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Figure 2-352 Testing the robot

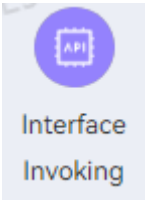


----End

2.6.3.10.15 Interface Invoking

This diagram element is used when a third-party system interface needs to be invoked to implement a function. If no interface is selected, you can directly add parameters and assign values to the parameters to implement the function of the diagram element.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Interface Type**: Select the type of the interface to be invoked. The options are **inner interface** and **self defined interface**. If **inner interface** is selected, the following three built-in interfaces are available:
  - **Record Q&A**: This interface used to record the survey ID, question title, user reply intention, original user reply, and other information.
  - **Obtain the APIFabric token**: This interface is used to obtain the API Fabric token. After a robot successfully invokes this interface, the token is recorded in the cache and can be directly obtained from the cache within the validity period. If the AK/SK is changed, the original cache is not cleared, and this interface fails to be invoked within the cache validity

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period. To invoke this interface immediately, you can bind the flow to a new robot.

  - **Sentiment Recognition**: This interface is used to recognize the emotion of a user or an agent and an emotion confidence level.

- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **Variable assignment**: variable name and variable value. The output parameter returned by the interface is valid only on the current node. If you want to use the value in subsequent flow nodes, define a variable here and assign the value of the output parameter to the variable.

CAUTION

In a security subflow scenario:

1. When the variable value is **IVRREQUEST.input**, the variable name must be a variable that is saved after being encrypted.
2. If the variable value contains a variable that is saved after being encrypted and the variable name is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

- **Condition branch**: condition name and conditional expression. Define the branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter. Different subsequent flows can be specified for each branch.
- **Method Invocation**: Built-in functions described in **2.6.2.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

CAUTION

In a security subflow scenario:

1. If the method parameter contains a variable that is saved after being encrypted and the return value is not a variable that is saved after being encrypted, the system displays a message indicating that the expression contains an encrypted variable and data security should be concerned. However, the customer storage flow is not affected.

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Condition Branch Description

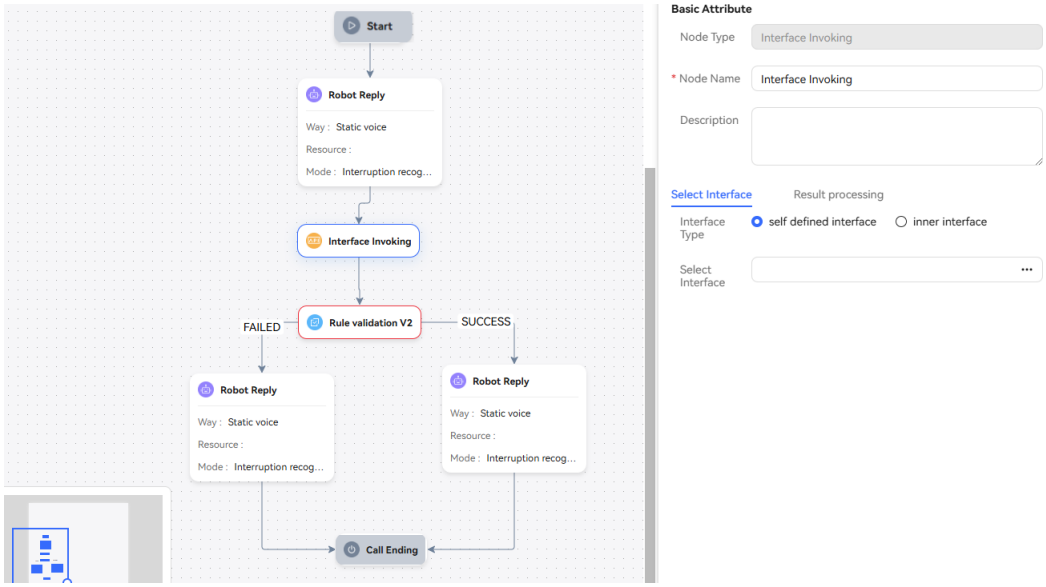
Table 2-155 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
SYSERROR_INTERFACE	Interface invocation failure	Triggered when an interface invocation exception occurs. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

Click the diagram element or drag it to the canvas, and select the interface to be invoked. The invoked interface needs to be configured on the **Resource** > **Business Interface** page in advance. Alternatively, in the dialog box that is displayed, click **Add** to add an interface. If you use this diagram element to assign a value, you do not need to select an interface. Instead, you can directly add a cache variable and assign a value to it. In this case, you need to maintain global variables in advance.

Typical Application Scenario



NOTE

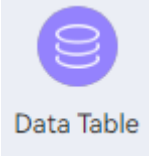
If the fields returned from the invoked interface contain **returnCode** and the value of **returnCode** is **0**, the operation is successful. Other values indicate that the operation fails.

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2.6.3.10.16 Data Table

This diagram element is used to search for configuration data. It is used with the **Branch Judgement** diagram element to determine which branch to go to or the next step to process data.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Data Table Name**: name of the data table to be searched.
- **Search Page**: page number of the data table to be searched. Enter an integer or a variable. If this parameter is left blank, the first page is searched by default. The page size is fixed at 10.
- **Search Criteria**: condition for searching a data table.
  - If the field is of the character type, the operator can be =, >, >=, <, <=, **!=**, **like**, or **in**. If the field value is of the character type, it does not need to be enclosed in quotation marks. If the operator is **in** and the field value is of the list type, each list item must be enclosed in double quotation marks, for example, **["watermelon","apple"]**.
  - If the field is of the integer type, the operator can be =, >, >=, <, <=, **!=**, or **in**.
  - If the field is of the date type, the operator can be =, >, >=, <, <=, or **!=**. Set **Field Value** to a timestamp, in milliseconds. A value or variable of the character type or long integer type is supported. A value or variable of the character type does not need to be enclosed in double quotation marks.
- **Return Records**: variable for saving search results. Enter a variable of the list type.
- **Total**: variable for saving the total number of search results. Enter a variable of the integer type.

Condition Branch Description

Table 2-156 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Using the Diagram Element

The **Data Table** diagram element is used when you need to search a customized data table for data.

Click the diagram element or drag it to the canvas. Select a data table and add search conditions.

Typical Application Scenario

Use the **Data Table** diagram element in an IVR flow to search for the milk brand, price, and inventory.

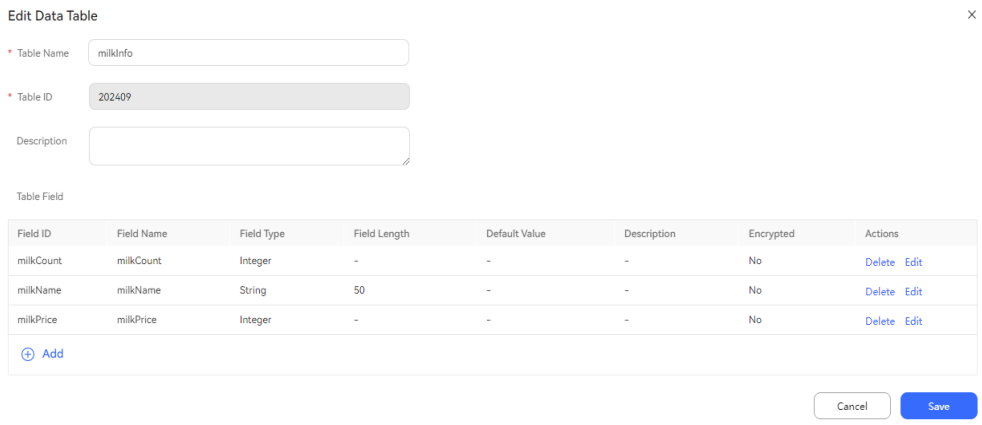
The following describes how to use the **Data Table** diagram element to search for data and then process the data.

Query data records with **milkCount** being greater than 10 from the **milkInfo** table. If the condition is not met, the robot returns a message indicating that no such data record is found. If the condition is met, the robot returns the total number of such data records, data records on the first page that meets the condition, and **milkName** of the first data record.

Prerequisites

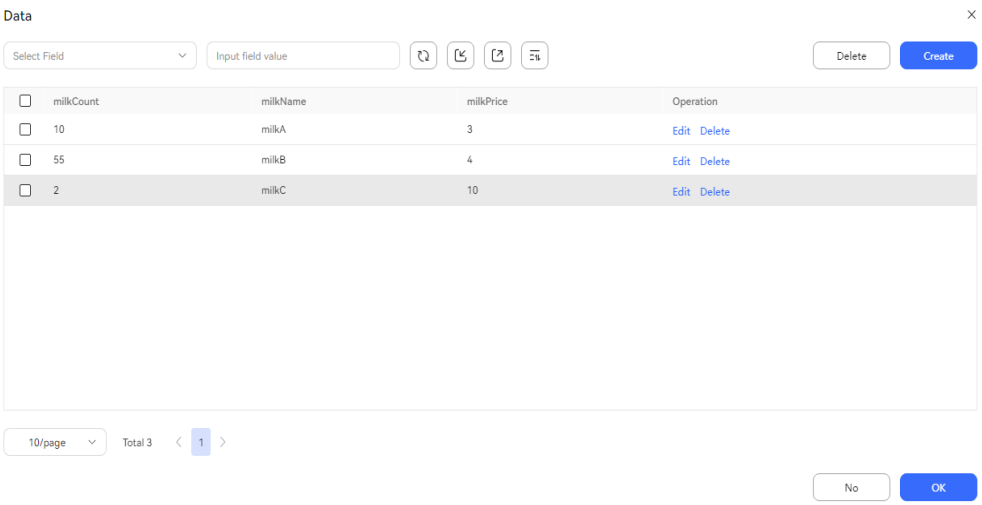
You have added a data table by referring to **2.6.2.4.5 Adding Data Tables**, as shown in the following figure.

Figure 2-353 Table fields



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Figure 2-354 Table data



Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.
3. Save and publish the flow.

Figure 2-355 Flow variables to be added



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Figure 2-356 Example of data table diagram element configuration

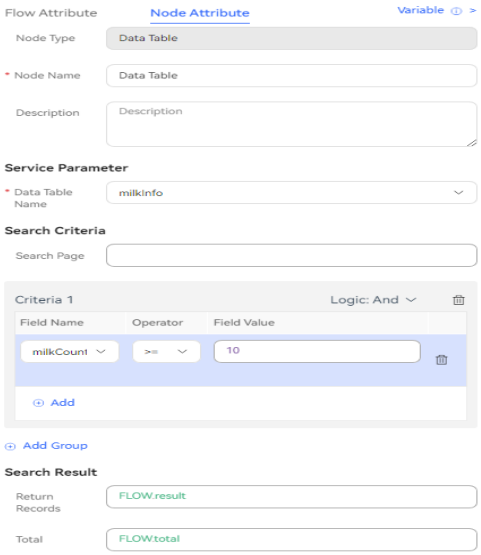
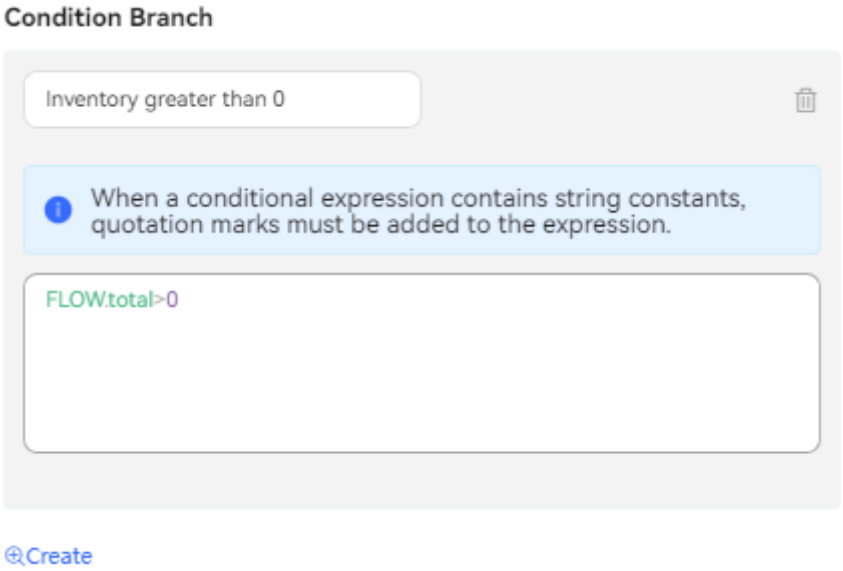


Figure 2-357 Example of branch judgment diagram element configuration



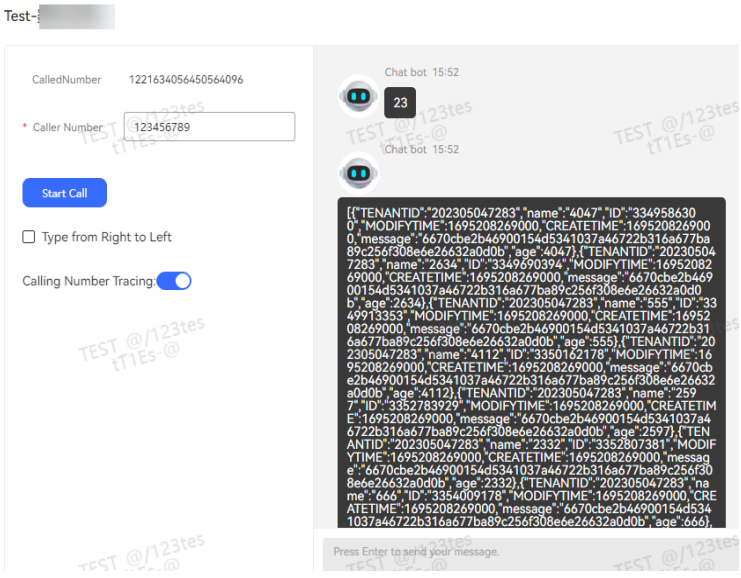
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Figure 2-358 Flow orchestration example



Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the robot.



NOTE

Only 10 data records on the specified search page are queried. If no search criteria are specified, the first page is queried by default.

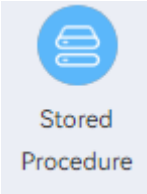
----End

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2.6.3.10.17 Stored Procedure

This diagram element uses a stored procedure to interact with the database.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Stored Procedure**: stored procedure added on the **Configuration Center** > **Flow Configuration** > **Resource** > **Stored Procedure** page.
- **Cache Variable** and **Response Attribute**: flow variables and their values. The output parameter returned by the stored procedure is valid only on the current node. If you want to use the value in subsequent flow nodes, define a cache variable here and assign the value of the output parameter to the cache variable.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element. For example, you can set a branch based on the value of an output parameter in the stored procedure. Different subsequent flows can be specified for each branch.

Using the Diagram Element

The **Stored Procedure** diagram element is used when data needs to be imported to the database. It cannot be used in public cloud scenarios. In scenarios where the OIAP is independently deployed, the database you access needs to be deployed in the same security zone as the OIAP for security purposes.

Currently, the stored procedure applications of the MySQL database, Oracle database, and GaussDB are supported.

Click the diagram element or drag it to the canvas, select the stored procedure to be invoked, set its input parameters, and add cache variables to temporarily save its output parameters. For the list type in output parameters, you need to set it separately based on rules.

Typical Application Scenario

The following describes how to use the **Stored Procedure** diagram element.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

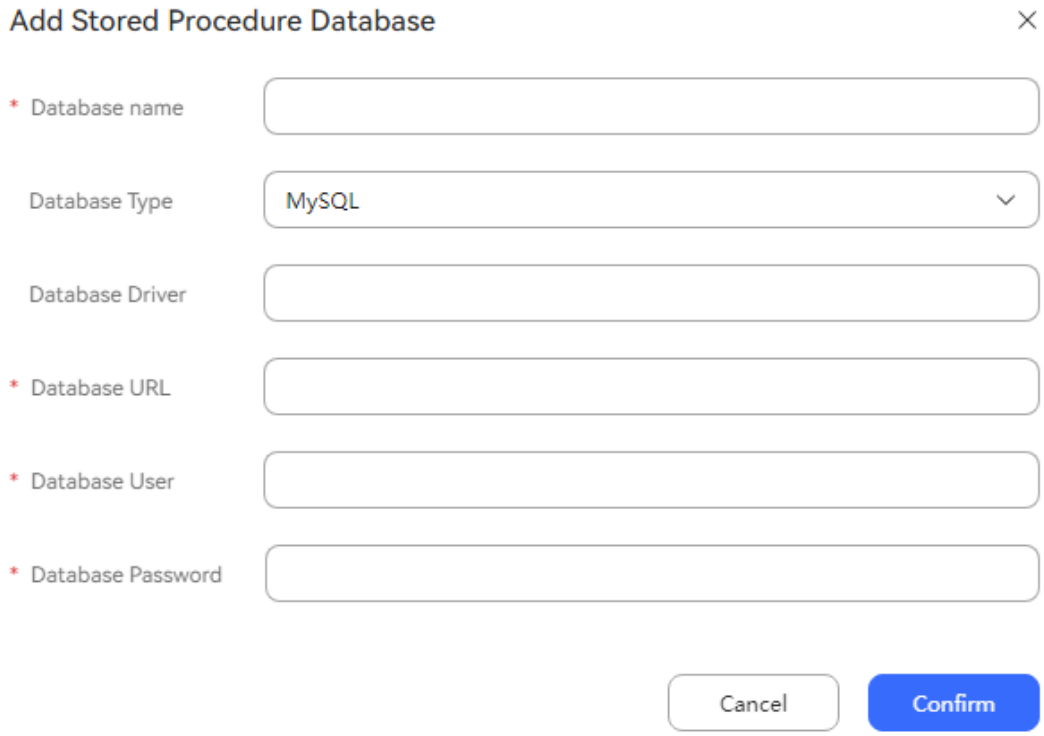
Step 2 Configure a database.

1. Contact the system administrator to add the database URL to the trustlist.

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2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedure Databases** tab, and click **Create**.

Figure 2-359 Configuring a stored procedure database



Step 3 Configure a stored procedure.

1. Obtain the developed stored procedure script. An example is as follows:

Figure 2-360 Stored procedure script example

```
create table t_NumService(Calling_Num  varchar(60) primary key,  ADSL_Num  varchar(60));

DELIMITER //
drop procedure if exists p_addNum;
CREATE PROCEDURE p_addNum(
    IN callingNum varchar(60),
    IN adslNum    varchar(60),
    out Status    boolean)
BEGIN
    set Status = False;
    insert into t_NumService(Calling_Num, ADSL_Num)
    values(callingNum, adslNum);
    on Duplicate key update ADSL_Num = adslNum;
    commit;
    set Status = True;
END;
//

drop procedure if exists p_searchNum;
CREATE PROCEDURE p_searchNum(
    IN  callingNum    varchar(60),
    out oldNum        varchar(60))
BEGIN
    select min(ADSL_Num) into oldNum from t_NumService where Calling_Num = callingNum
END;
```

2. Choose **Resource** > **Stored Procedure**, click the **Stored Procedures** tab, and click **Create**.

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Figure 2-361 Basic Information page

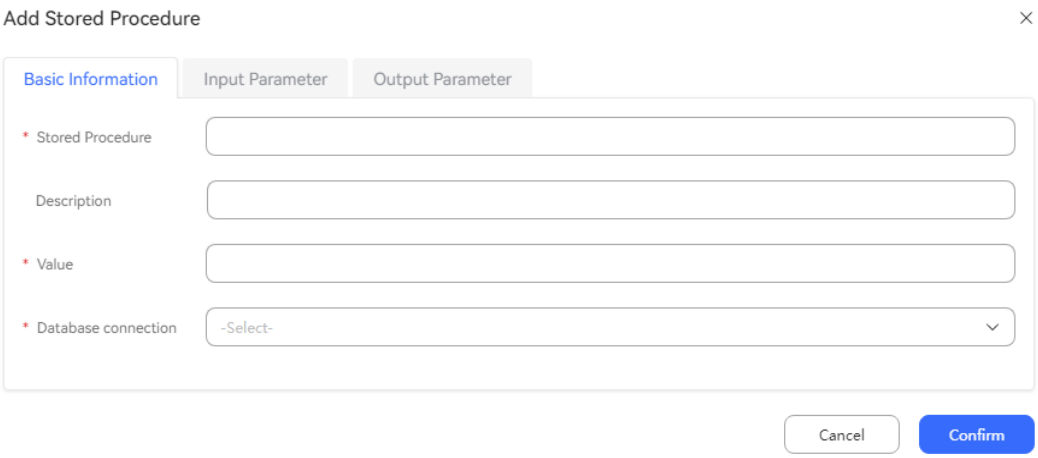
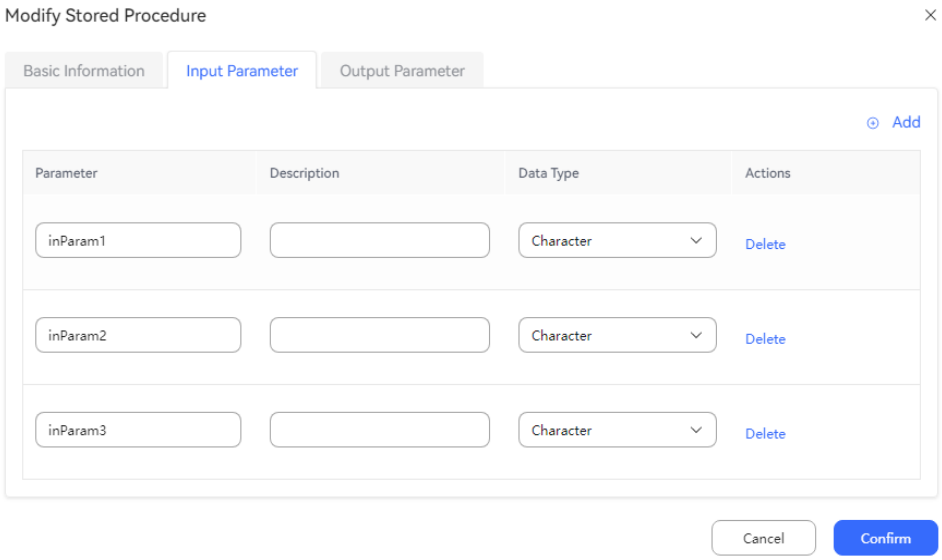
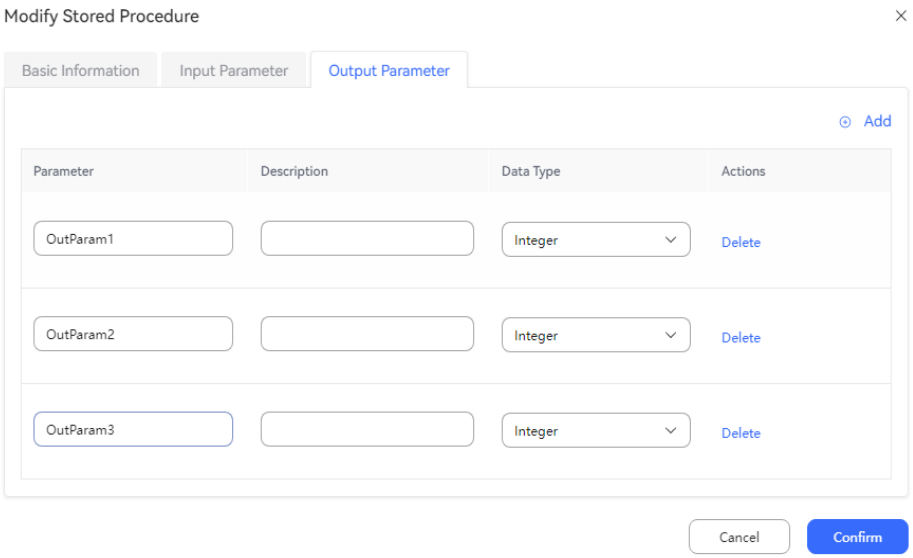


Figure 2-362 Input Parameter page



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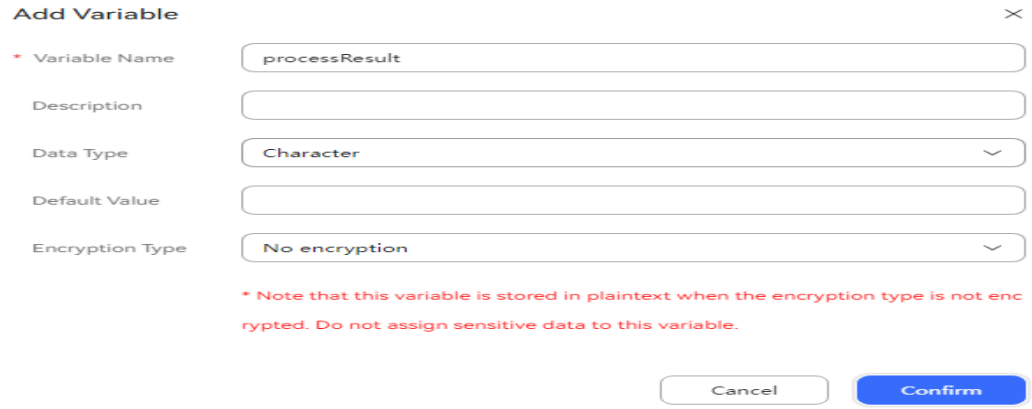
Figure 2-363 Output Parameter page



Step 4 Configure an intelligent IVR flow. The usage of the **Stored Procedure** diagram element is similar to that of the **Interface Invoking** diagram element. Select the configured stored procedure, set input parameters, and assign output parameters to a variable as required.

1. Choose **Resource** > **Variable**, click the **Custom Variable** tab, and click **Create** to add a system variable for receiving the output parameters of the stored procedure.

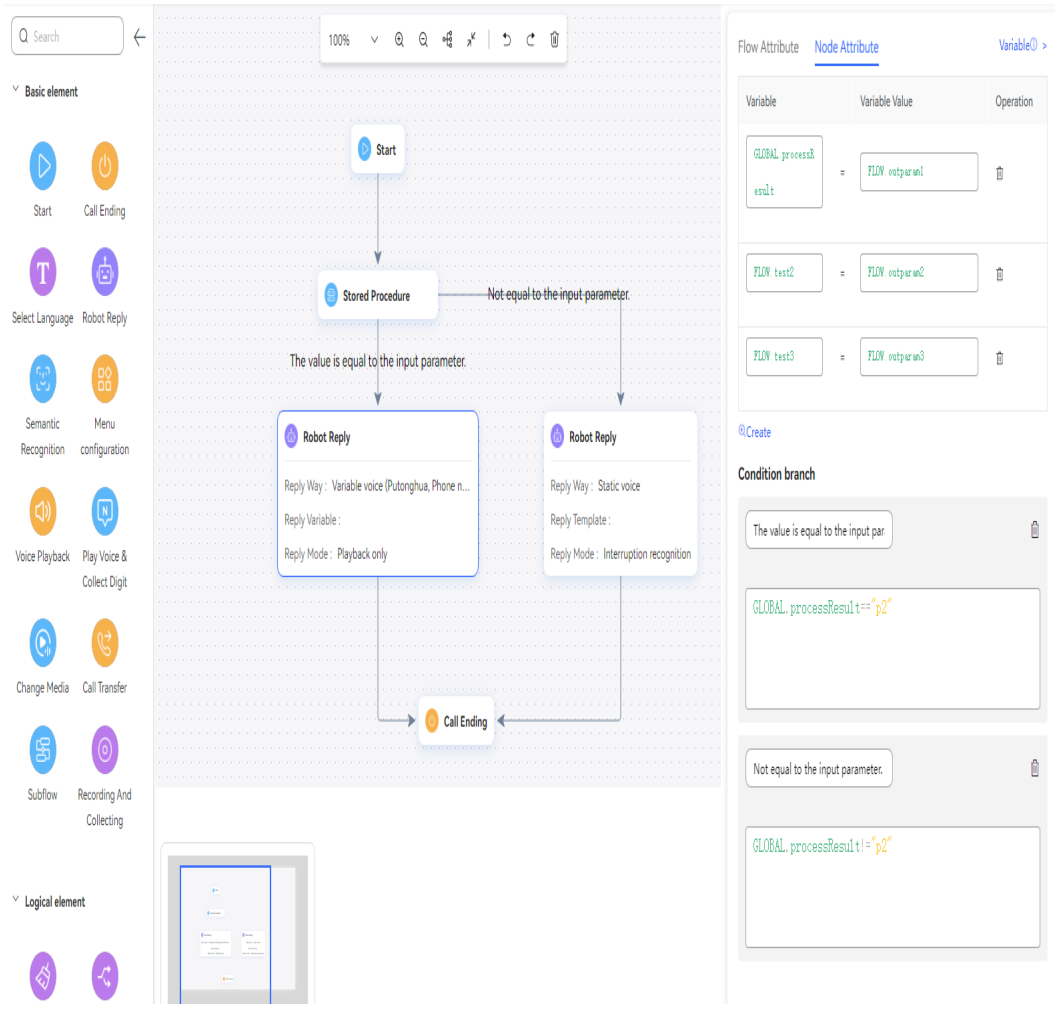
   Figure 2-364 System variable to be added



2. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.

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Figure 2-365 Flow orchestration example (Stored Procedure diagram element)



Use the reply variable **GLOBAL.*xxxx*** for the **Robot Reply** diagram element to reply the number output by the stored procedure to the customer.

3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 5 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 6 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the robot can query the number output by the stored procedure based on the calling number and reply it to the customer, the configuration is successful.

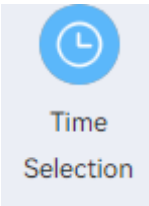
----End

2.6.3.10.18 Time Selection

The orchestration capability varies depending on the time. That is, the holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and working days.

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Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Week Selection**: Select the working days of a week.
- **Service Period**: Select the start working time and end working time.
- **Specified Service Date**: Specify one or more dates as working dates.
- **Specified Non-service Date**: Specify one or more dates as non-working dates.

The time zone is that set by the system administrator when the tenant space is created. If the time zone is not set when the tenant space is created, the value of the built-in variable **timezone** is used.

The configuration priority is as follows: **Specified Non-service Date** > **Specified Service Date** > **Week Selection**.

Condition Branch Description

Table 2-157 Condition branch description

Condition Branch	Description	Usage
NON_SPECIFIC_TIME	Non-working time	Triggered when the current time is non-working time.
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Using the Diagram Element

The holiday time of each region may be different. During flow orchestration, perform different orchestration operations based on the holidays and workdays.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

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Typical Application Scenario

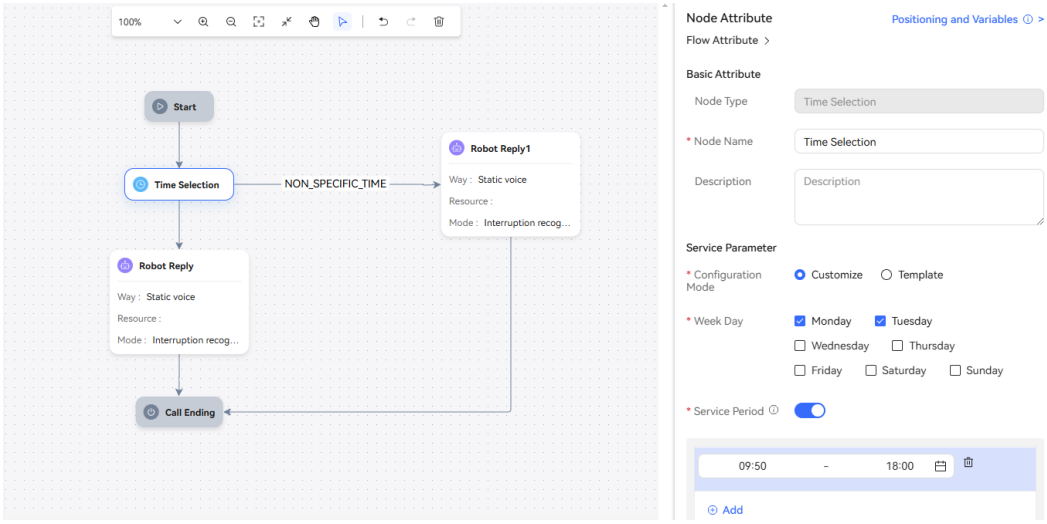
The following describes how to use the **Time Selection** diagram element to determine whether the current time is working time for subsequent business handling.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent robot.

1. Choose **Flow** > **Orchestration** and click **Create** to add a simple flow.

   Figure 2-366 Flow orchestration example (Time Selection diagram element)



2. Save and publish the flow.

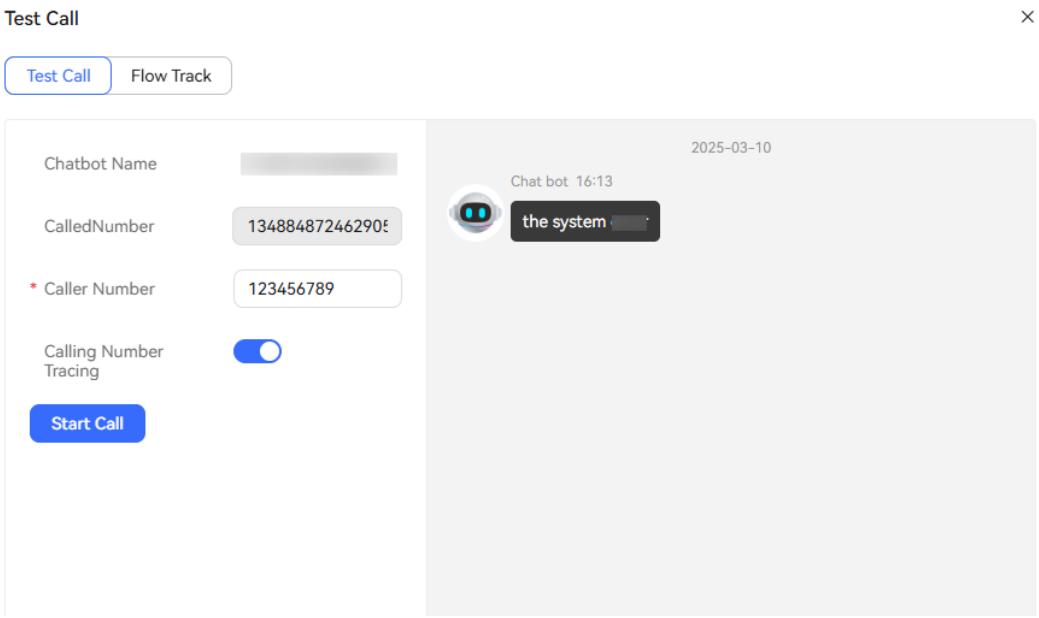
Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Intelligent Chatbot**. In the last column corresponding to the robot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the robot. If the robot replies based on whether the current time is working time, the configuration is successful.

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Figure 2-367 Test Call page



----End

2.6.3.10.19 Information Query

This diagram element is used to query the status of the current customer in the queue. When all agents are busy, the system plays the waiting tone to the customer through the IVR.

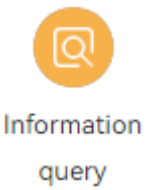
Currently, you can query the queuing position, the number of all online agents in a skill queue, and the estimated time required for accessing an agent.

This diagram element is used to query details about agents in configured skill queues.

This diagram element is used to query whether the customer is in the special list.

Queuing information of only voice and video businesses can be queried. Queuing information of multimedia businesses cannot be queried.

Diagram Element



Parameter Description

- Querying queuing information
  - **Query Type**: information type that can be queried using this diagram element. Currently, queuing information can be queried.

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The queuing information is queried using an IVR flow when a call is transferred to a skill queue.

- **Query result**
  - **Queue Position**: position of a customer in the current skill queue, that is, the number of queuing customers in front of the customer. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
  - **Number of online agents**: total number of online agents in the skill queue to which a customer belongs. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
  - **Estimated waiting time**: estimated duration for connecting a call to an agent during queuing. This parameter is affected by **Queue Position** and **Number of online agents**. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.
  - **Skill Queue Identifier**: ID of the skill queue to which a user is queuing. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.

- Querying queue information
  - **Query Type**

    Queue information: Query queue information before a call is transferred to a skill queue.
  - **Request Parameter**

    Skill Queue: skill queue to which a call is transferred.

    Skill queue ID: ID of the skill queue to which a call is transferred. You can assign a value by using a variable.
  - **Query result**
    - **Number of queues**: number of customers in the current skill queue before a call is transferred to another skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Number of idle agents**: total number of online and idle agents in the skill queue to which a call is transferred. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **Estimated waiting time**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the

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value for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.

- Querying the queue name
  - **Query Type**

    Queue name: The name of a skill queue to which an agent belongs can be queried based on the agent ID.

    The scenario is to query the skill queue name based on the agent ID before the call is transferred to the skill queue to which the agent belongs.
  - **Request Parameter**

    Agent ID: agent ID. Flow variables or constants are supported.
  - **Query result**

    Queue name: name of the voice skill queue with the highest weight in the skill queue to which the agent ID belongs. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    You can choose **Configuration Center** > **Employee Center** > **Agent Management** to configure the skill queue weight.
- Querying special list information
  - **Query Type**

    Special list information: Currently, the system can check whether a customer is in the special list based on the customer number. The next process varies depending on the special list query result.

    The special list refers to the blocklist.
  - **Query result**

    Identifier in the special list: whether the calling number exists in the special list. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.

    The values of **Identifier in the special list** are as follows: **0** indicates that the calling number does not exist in the special list, and **1** indicates that the calling number exists in the special list.

Condition Branch Description

Table 2-158 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

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Using the Diagram Element

The **Information query** diagram element can be used to query information such as the queuing status and special list information of the current customer.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

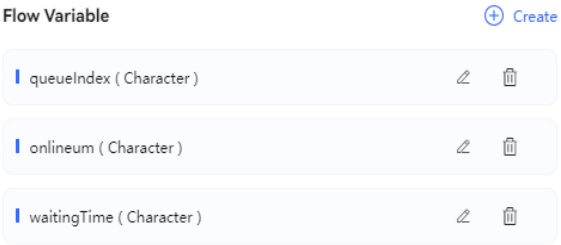
A customer makes a call to the AICC, and the call is routed to a skill queue. When all agents in the skill queue are busy, if **Queuing Method** is set to **IVR** and an intelligent IVR flow is selected for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the customer and play the waiting tone to the customer. Therefore, the customer can determine whether to continue waiting based on the queuing status.

Scenario 1: Query queuing information.

Step 1 Orchestrate a flow. In the flow, use the **Information query** diagram element to query data, including the number of online agents, queuing position, and estimated waiting time.

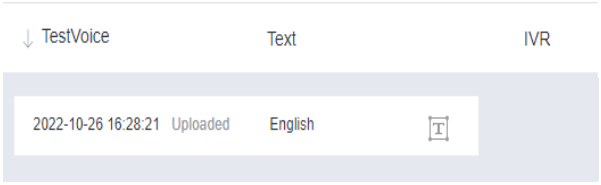
1. Create three flow variables to receive the query result.

   Figure 2-368 Flow variables to be added

2. Configuring an IVR voice. Use the created flow variables in the IVR voice content.

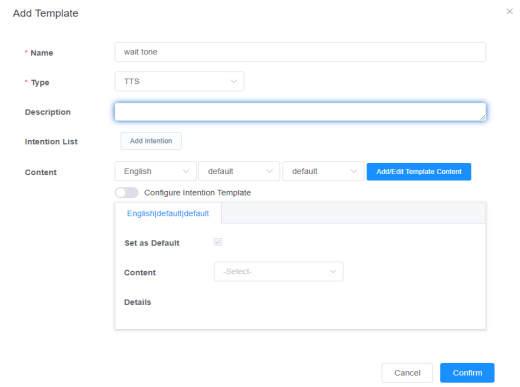
   Figure 2-369 Added IVR voice

3. Configure a resource template.

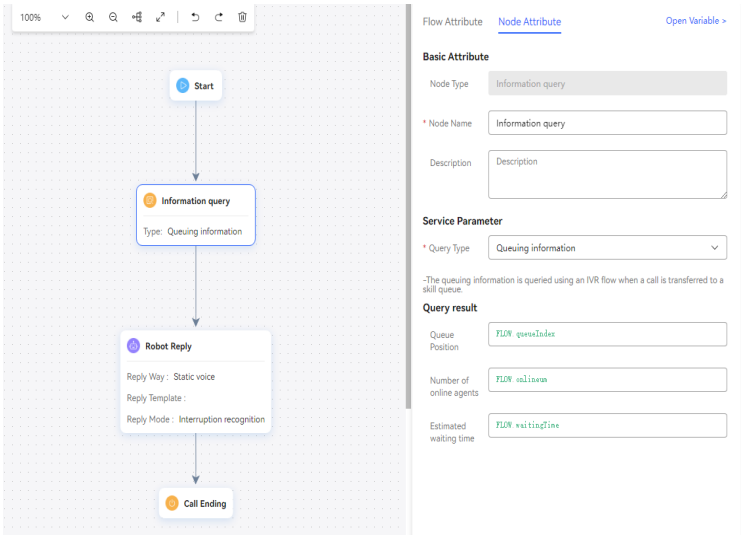
 Copyright © Huawei Technologies Co., Ltd.

Figure 2-370 Page for configuring a resource template



4. Create a flow, use the **Information query** diagram element to assign values to the three flow variables, and use the **Robot Reply** diagram element to select the configured resource template.

Figure 2-371 Flow orchestration example

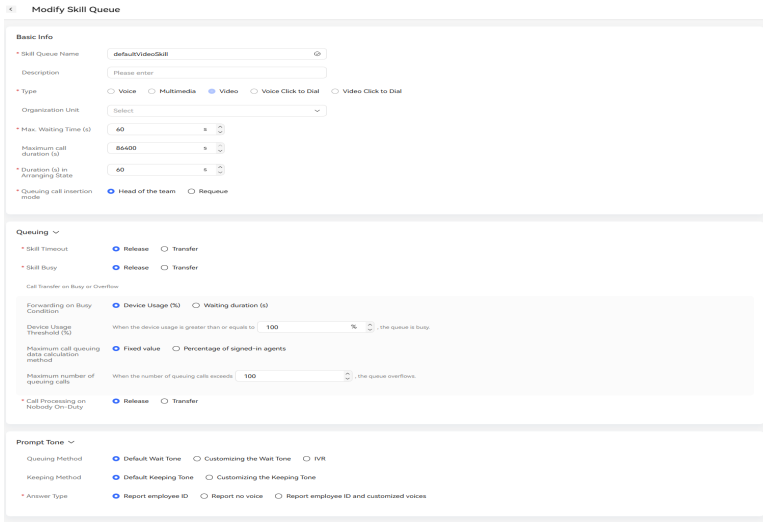


5. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** to **IVR** added in **Step 1**.

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Figure 2-372 Page for editing skill queue parameters



Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set **Skill Queue** to the skill queue added in **Step 2**.

Step 4 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added in **Step 3** on the **Called Party** page. If the current queue information is heard, the configuration is successful.

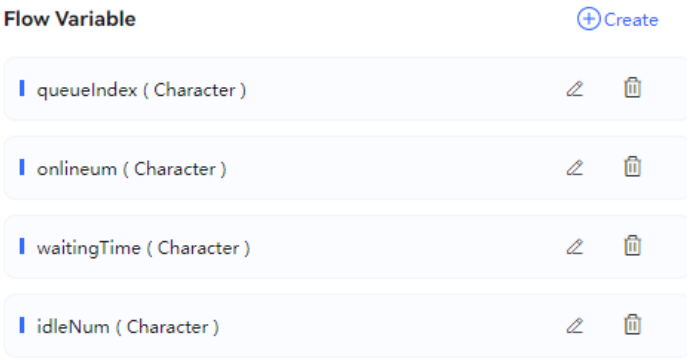
----End

Scenario 2: Query queue information.

Step 1 Orchestrate a flow.

1. Create four flow variables to receive the query result.

   Figure 2-373 Flow variables to be added

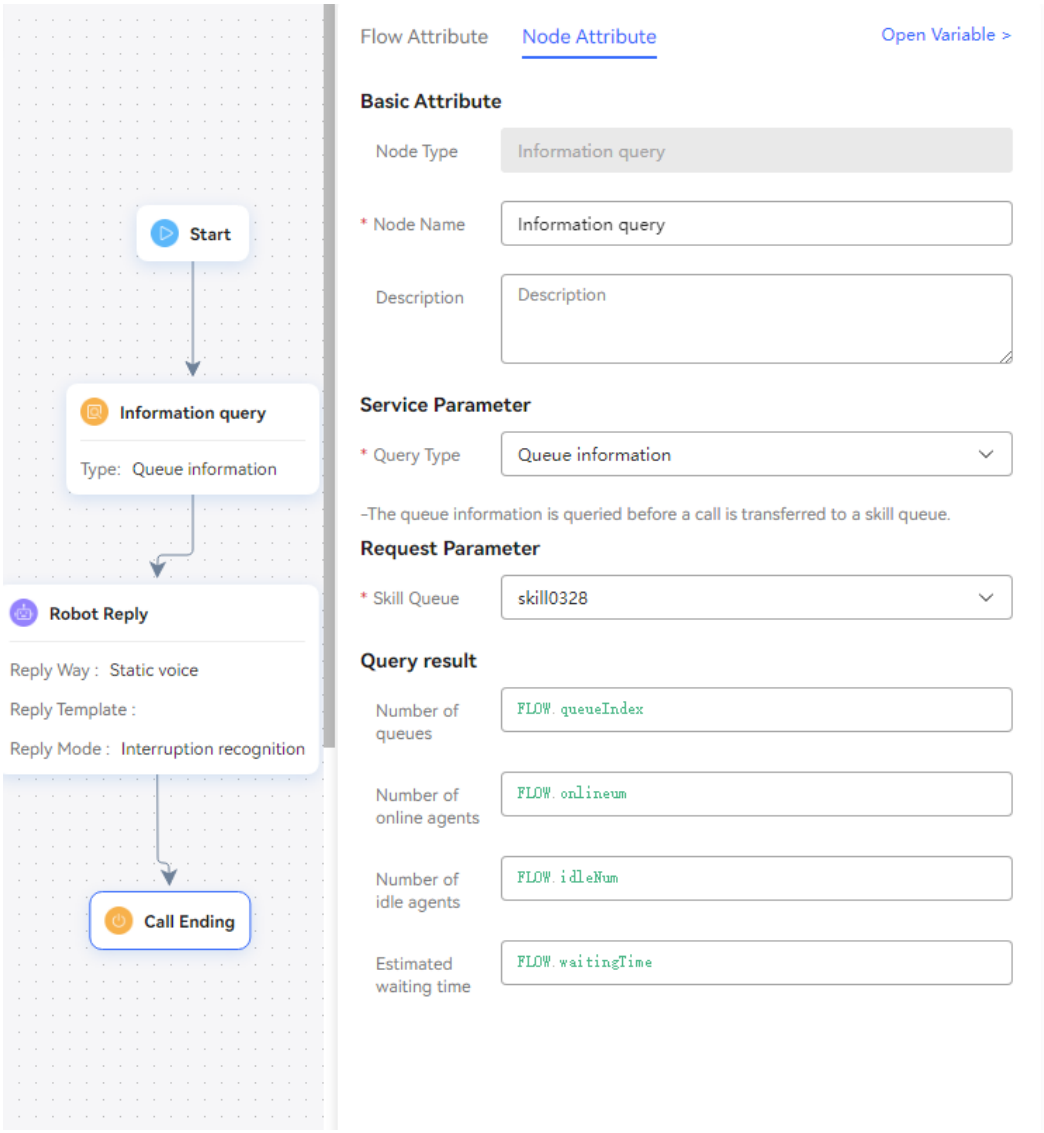
   

2. When using the diagram element to create a flow, if you want to transfer a call to a skill queue in the flow, you can query the information about the skill queue and then determine whether to transfer the call to the skill queue. The subsequent businesses are determined based on site requirements.

   The flow is shown in the following figure. You need to select a skill queue to be queried.

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Figure 2-374 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current queue information is heard, the configuration is successful.

----End

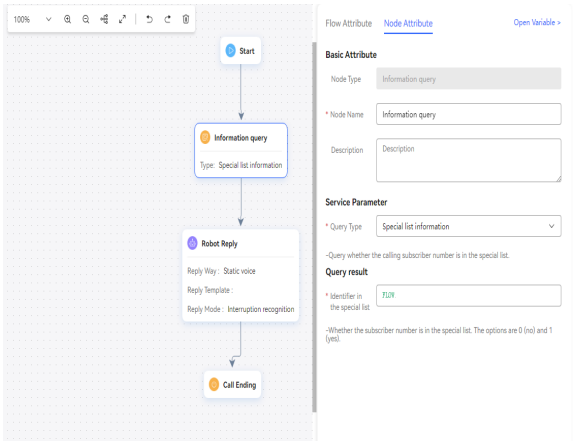
Scenario 3: Query special list information.

Step 1 Orchestrate a flow.

1. Create a flow variable to receive the query result.
2. Configure a flow by referring to the following figure. When the flow runs to the special list information query node, the flow invokes an interface to query special list information, obtains the query result, and enters different flows based on the query result.

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Figure 2-375 Flow orchestration example



3. Configure an intelligent robot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the added intelligent IVR.

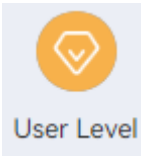
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Party** page. If the current special list information is heard, the configuration is successful.

----End

2.6.3.10.20 User Level

The priority (user level) of a call can be set. The call of a user with a higher priority is transferred to an agent first.

Diagram Element



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **User Level**: Enter a non-negative integer or a string variable. The default value is **0**, and the maximum value is **14**. After calls are transferred to the manual service, the call from a high-level user is processed preferentially.

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Condition Branch Description

Table 2-159 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.
fail	User level setting failure	Triggered when the call priority of a user fails to be set.

Using the Diagram Element

This diagram element is used when the priority (user level) of a call needs to be set and the call of a user with a higher priority is transferred to an agent first.

Click the diagram element or drag the diagram element to the canvas and set user level service parameters.

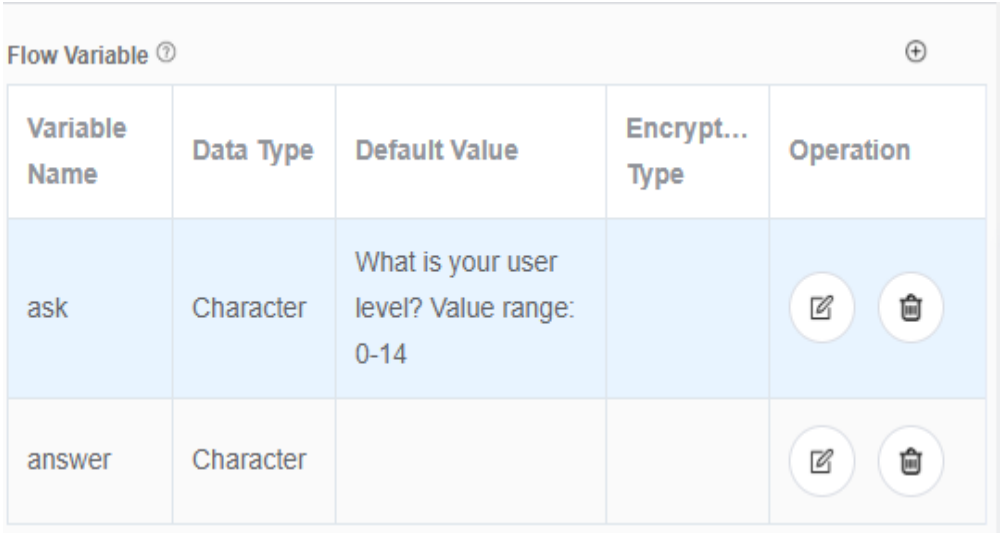
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration** and click **New** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-376 Flow variables to be added



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Figure 2-377 Flow orchestration example (User Level diagram element)

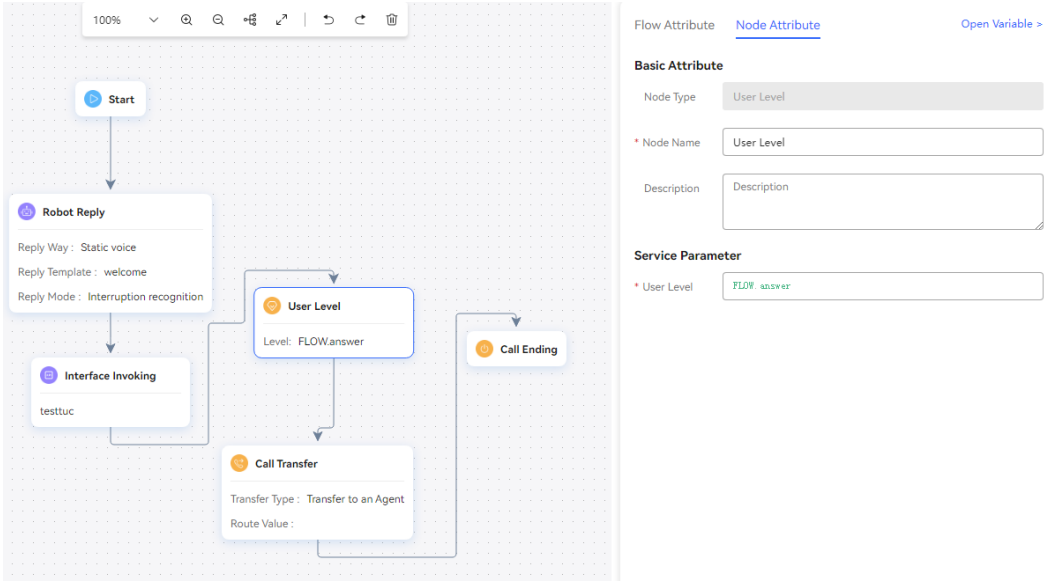
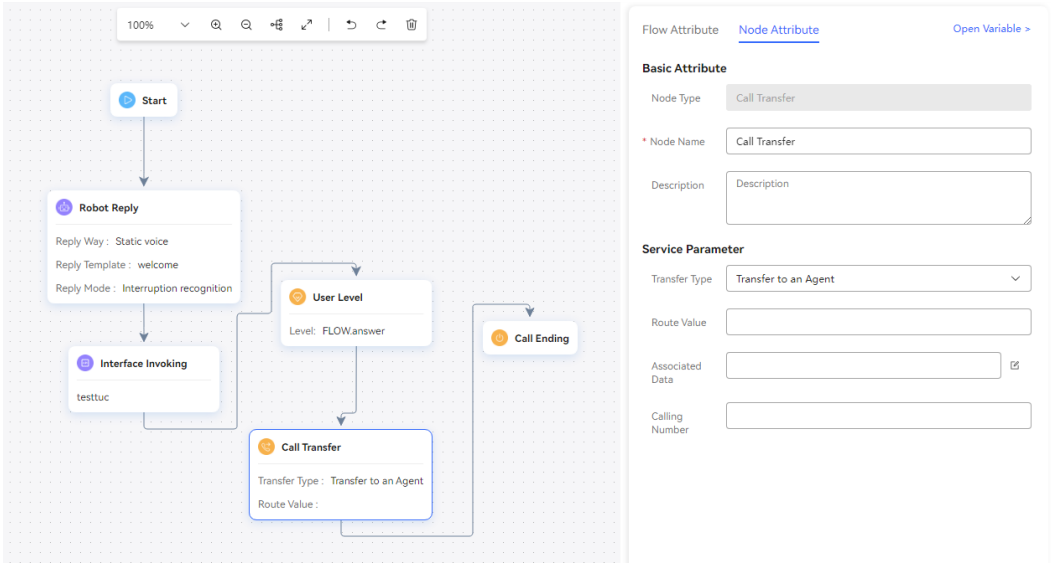


Figure 2-378 Flow orchestration example (Call Transfer diagram element)



3. Save and publish the flow.
4. Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Party** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

Step 4 Set the current agent to the busy state, log in to the OpenEye using two softphone numbers to simulate two customers, and dial the access code added on the **Called Party** page at the same time. Answer the user level according to the voice prompt. You are advised to set different user levels for the two customers. Then, set the current agent to the idle state. If the customer of a higher level is connected to the agent first, the configuration is successful.

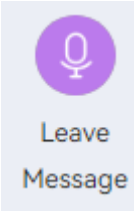
----End

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2.6.3.10.21 Message Leaving

The system records the message of a customer. After the recording is successful, the system returns the directory for storing the recorded message.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Leave Message** diagram element.

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- **Node Name**: name displayed on the diagram element, which can be customized.
- **Specifies the type**

  a. **Specified agent ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified agent ID. To obtain the agent ID, choose **Configuration Center** > **Employee Center** > **Agent Management**.

  b. **Specifies the alias of a skill queue**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue. **Specifies the skill queue ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue.

  c. **Specifies the skill queue ID**: Configure constants or flow variables as required. The constants or flow variables are used to automatically allocate messages to the specified skill queue.

  If the specified agent ID or skill queue does not exist, the message status changes to allocation failure. If no agent is specified, messages will be allocated by the administrator.

  To obtain the skill queue alias and skill queue ID, choose **Configuration Center** > **Employee Center** > **Skill**.

- **Recording File**

  Save File Name (first text box): Click the text box. In the dialog box that is displayed, select a global variable or flow variable for saving the recording file name as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

  Saving the localtionID (second text box): Select the UAP node set during installation. This parameter is used in call center pool mode.

- **Recording Parameter**

  Max. Recording Duration: Enter the maximum duration of a recording. When the maximum recording duration is reached, the recording ends. The default value is **20**, in seconds.

- **Play the beep tone**: If the check box is selected, a beep tone is played before the recording starts. Otherwise, the recording is performed directly.

  By default, the recording is ended with the pound key (#).: After leaving a message, you can press the pound key (#) to end the recording. After the subscriber hangs up, the end diagram element is invoked directly.

- **Record message information.**: If this check box is selected, messages are saved as records. If this check box is not selected, messages cannot be queried on the message management page.
- Click **Save** to save all parameters set on the current page. When the recording is saved, the system automatically queries the recording directory information of the current tenant and combines the directory with the current date and a random digit string to form a file name. An example is *Recording drive letter:/VDNID/record/20190424/20190424153126*-**record.wav**. The recording file is in the .wav format by default.

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NOTE

- When a tenant is deleted, the Customer Service Cloud automatically deletes all recording files of the tenant.
- The retention period of recording files is the same as the recording storage period configured during tenant registration. The scheduled task scans recording files at a specified time every day and periodically deletes recording files that have been stored for a period longer than expected.

Condition Branch Description

Table 2-160 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

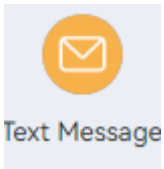
This diagram element is used in the scenario where a voice message needs to be stored in a recording file.

2.6.3.10.22 SMS

You can send common SMS messages and satisfaction survey SMS messages to the calling party. The SMS messages can be Huawei Cloud SMS messages or SMS gateway messages.

Diagram Element

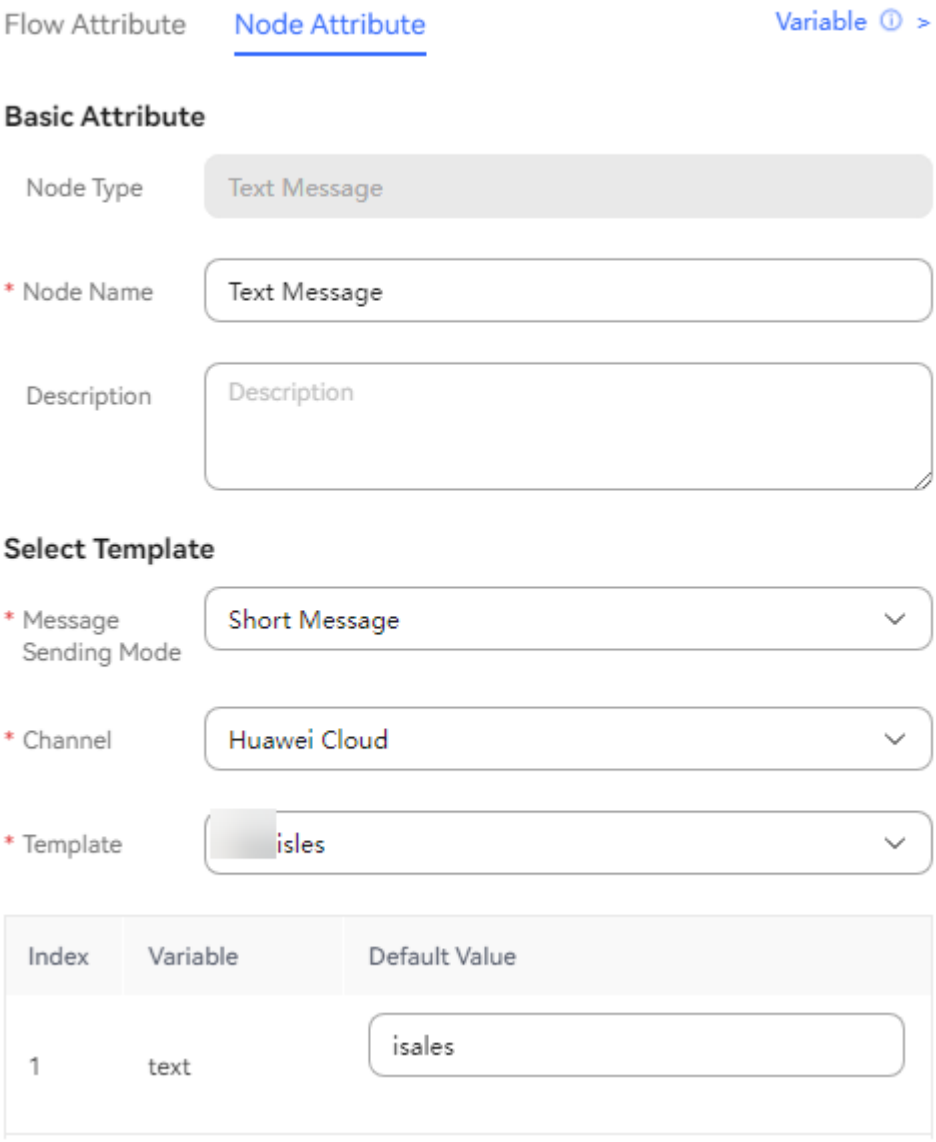
Figure 2-379 Text Message



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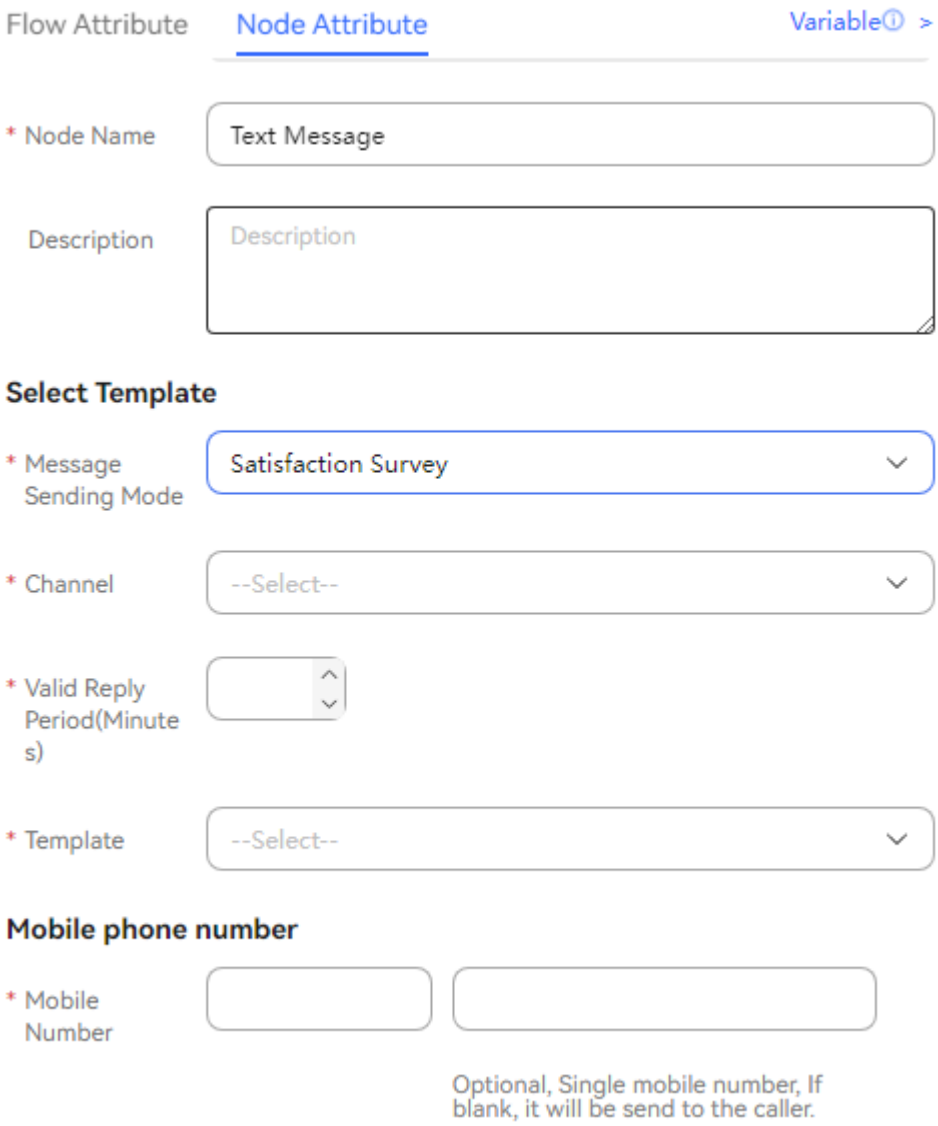
Parameter Description

Figure 2-380 Common SMS message parameters



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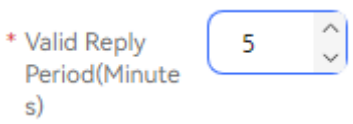
Figure 2-381 Satisfaction survey SMS message parameters



The parameters are described as follows:

- **Message Sending Mode**: Currently, **Short Message** and **Satisfaction Survey** are supported.
  - To send a satisfaction survey SMS message, you need to set **Valid Reply Period(Minutes)**. The value ranges from 1 to 1440.

    Figure 2-382 Valid Reply Period(Minutes)

- **Channel**: The options are **Huawei Cloud** and **SMS Gateway**.
  - **Huawei Cloud**: The SMS service provided by Huawei Cloud is used to send SMS messages.

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  - **SMS Gateway**: Huawei SMS gateway is used to send SMS messages.
- **Template**: This parameter is mandatory. The administrator SMS message templates that have been configured in the notification center are displayed based on the selected channel.
- **Country Code**: This parameter is mandatory. The country or region code is required for sending an SMS message. If the SMS message needs to be sent to a national number, the country or region code is also required. For example, the country code of China is **+86**.
- **Mobile Number**: This parameter is optional. If this parameter is left empty, the SMS message is sent to the calling party by default. If this parameter is set, the SMS message is sent to the specified number. Only one number is supported and the value cannot contain the country code.

Condition Branch Description

Table 2-161 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

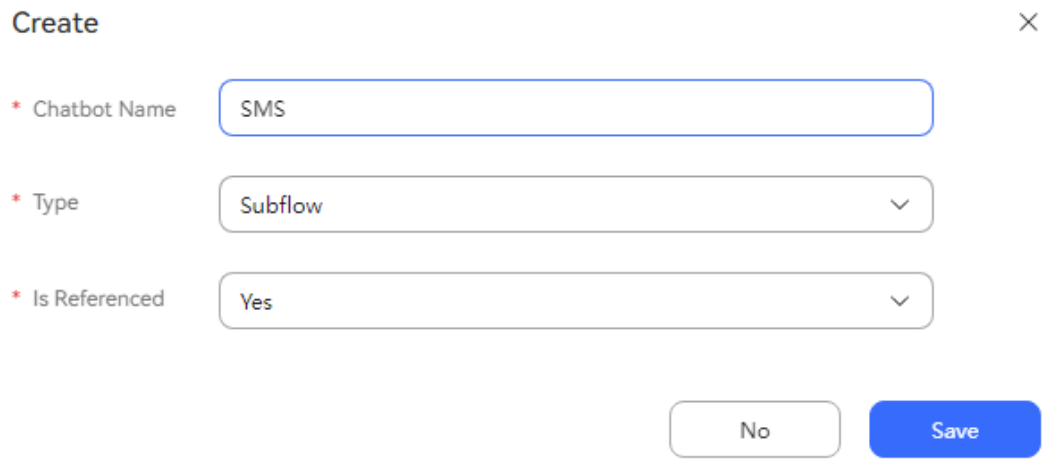
When a user calls the CEC and the call is routed to the IVR, if the IVR is configured with a **Short Message** diagram element, the **Short Message** diagram element is used to send an SMS message to the user.

The configuration method is as follows:

- **Application Scenario**

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Flow Management**, click **New**, set the flow name and type, and set **Is Referenced** to **Yes**.

Figure 2-383 Adding a flow



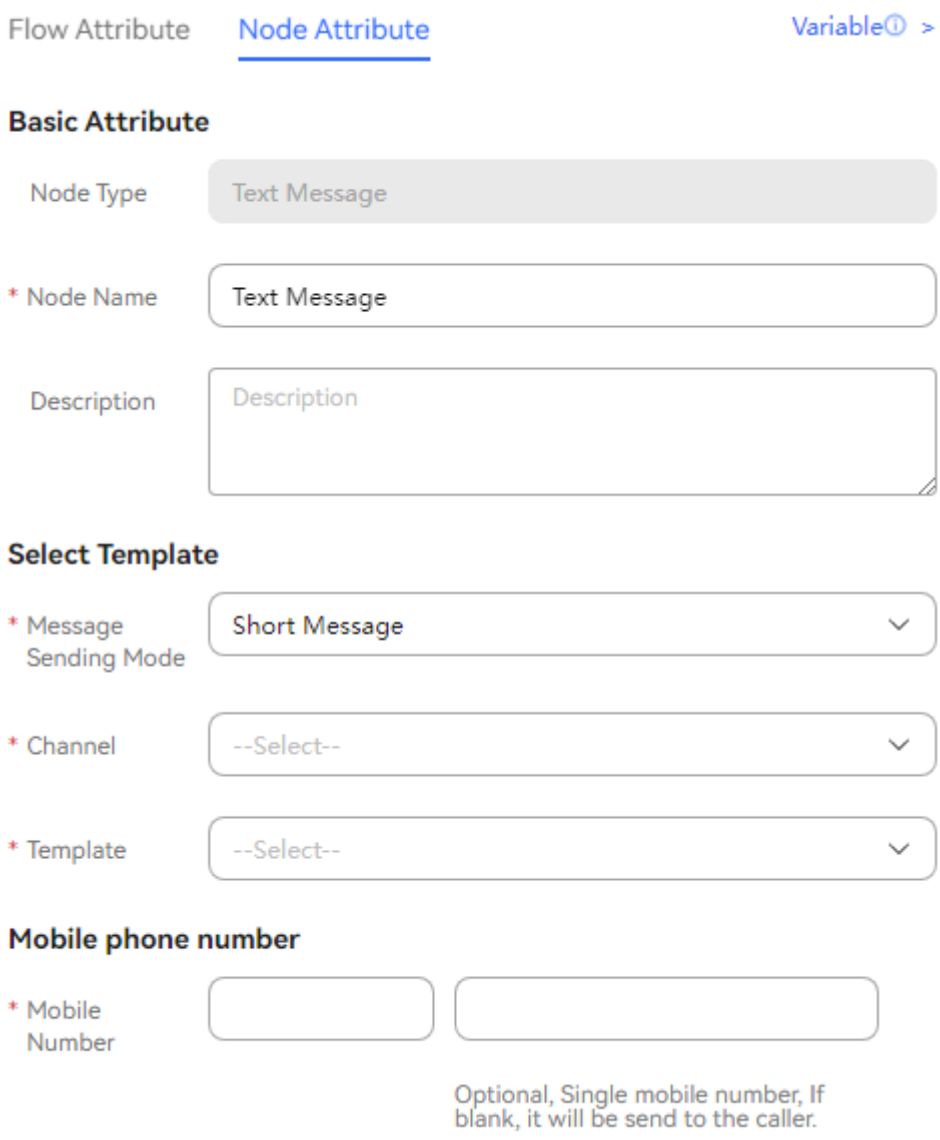
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Step 2 Click **Edit** to develop the flow as follows.

Step 3 Click or drag the **Short Message** diagram element in the **Feature** area on the left. The **Short Message** diagram element is added to the canvas.

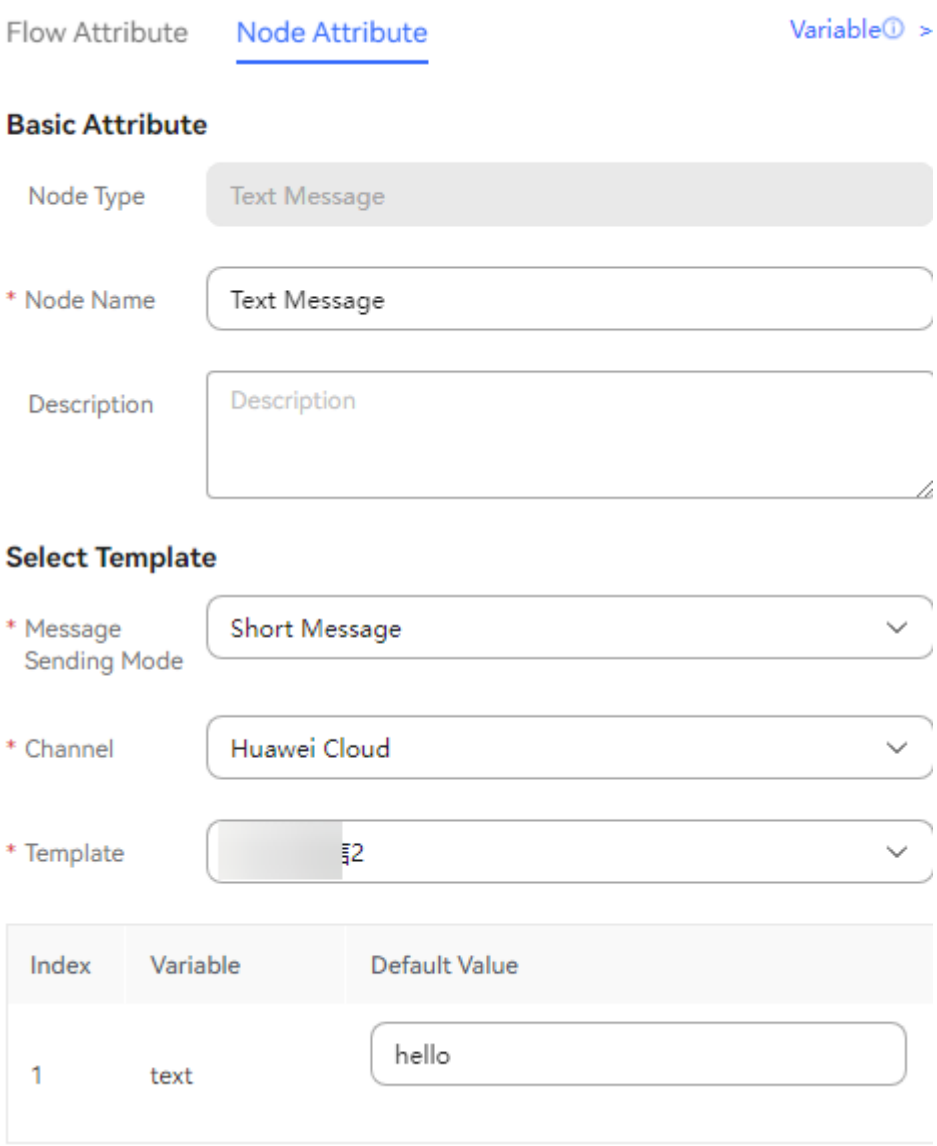
Step 4 Set parameters of the **Short Message** diagram element and click **Save**. (Huawei Cloud SMS is used as an example.)

Figure 2-384 Short Message



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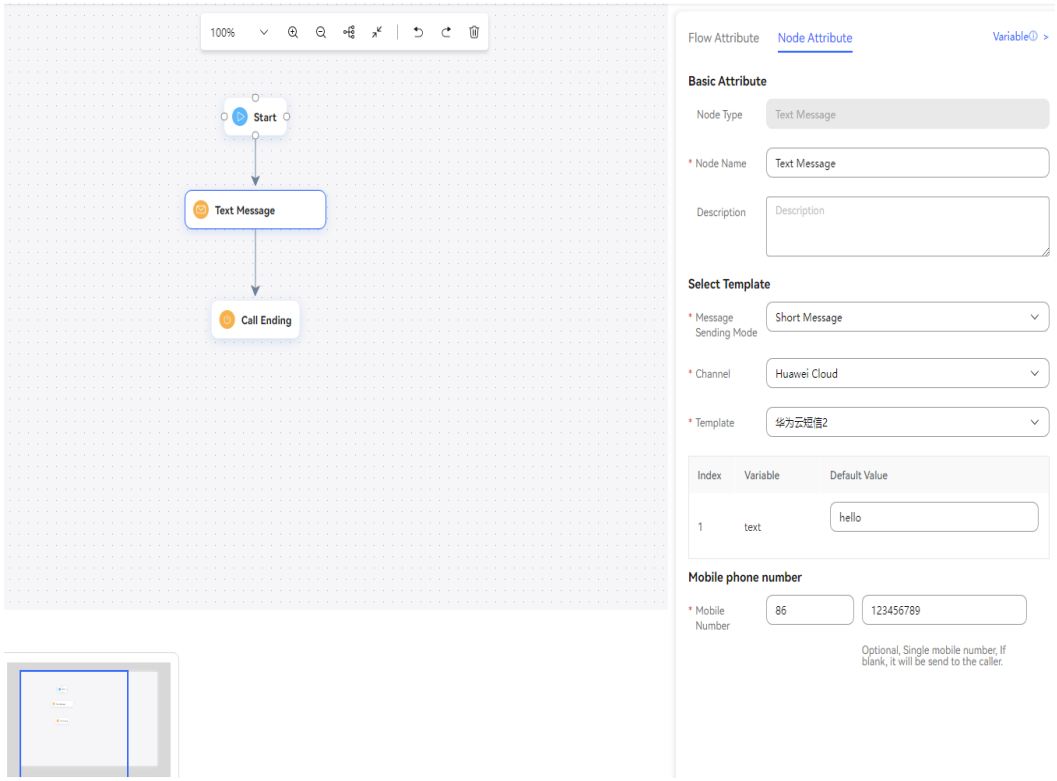
Figure 2-385 Satisfaction Survey



Step 5 Add connection lines. If there are no other diagram elements, the flow is shown in the following figure.

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Figure 2-386 Example



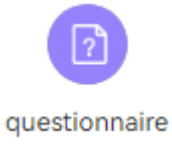
Step 6 Perform subsequent operations based on business requirements. You can add other diagram elements. After the configuration is complete, click Save to save the flow.

----End

2.6.3.10.23 Survey

This diagram element is used to add a survey for an automatic outbound call task.

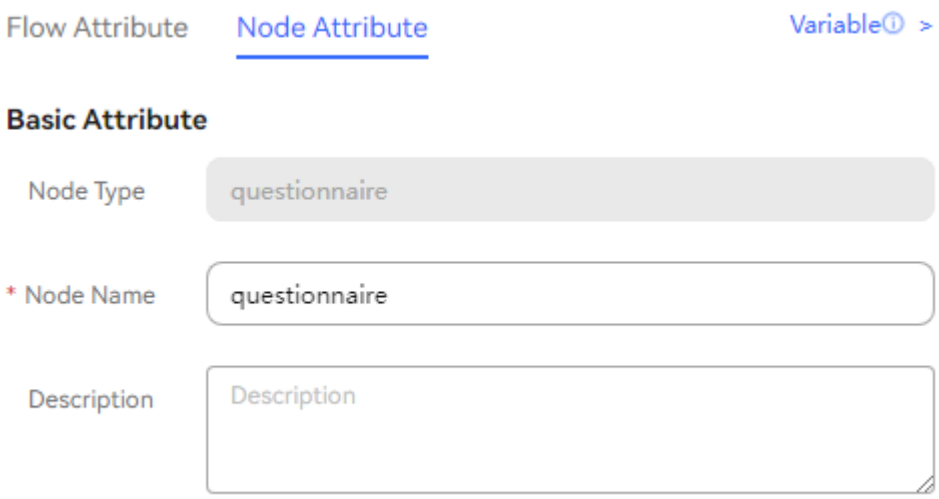
Diagram Element



Parameter Description

The following figure shows the parameters of the **questionnaire** diagram element.

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The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.

Condition Branch Description

Table 2-162 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

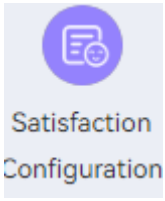
The **questionnaire** diagram element is used only when an automatic outbound call task needs to be associated with an IVR survey flow. After an intelligent outbound call task is started, if the IVR flow associated with the outbound call task contains the **questionnaire** diagram element, the survey content specified for the outbound call task is played to the user.

2.6.3.10.24 Satisfaction Configuration

This diagram element is used to play voices or videos to instruct customers to press keys for interaction and collect their satisfaction details about corresponding calls.

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Diagram Element

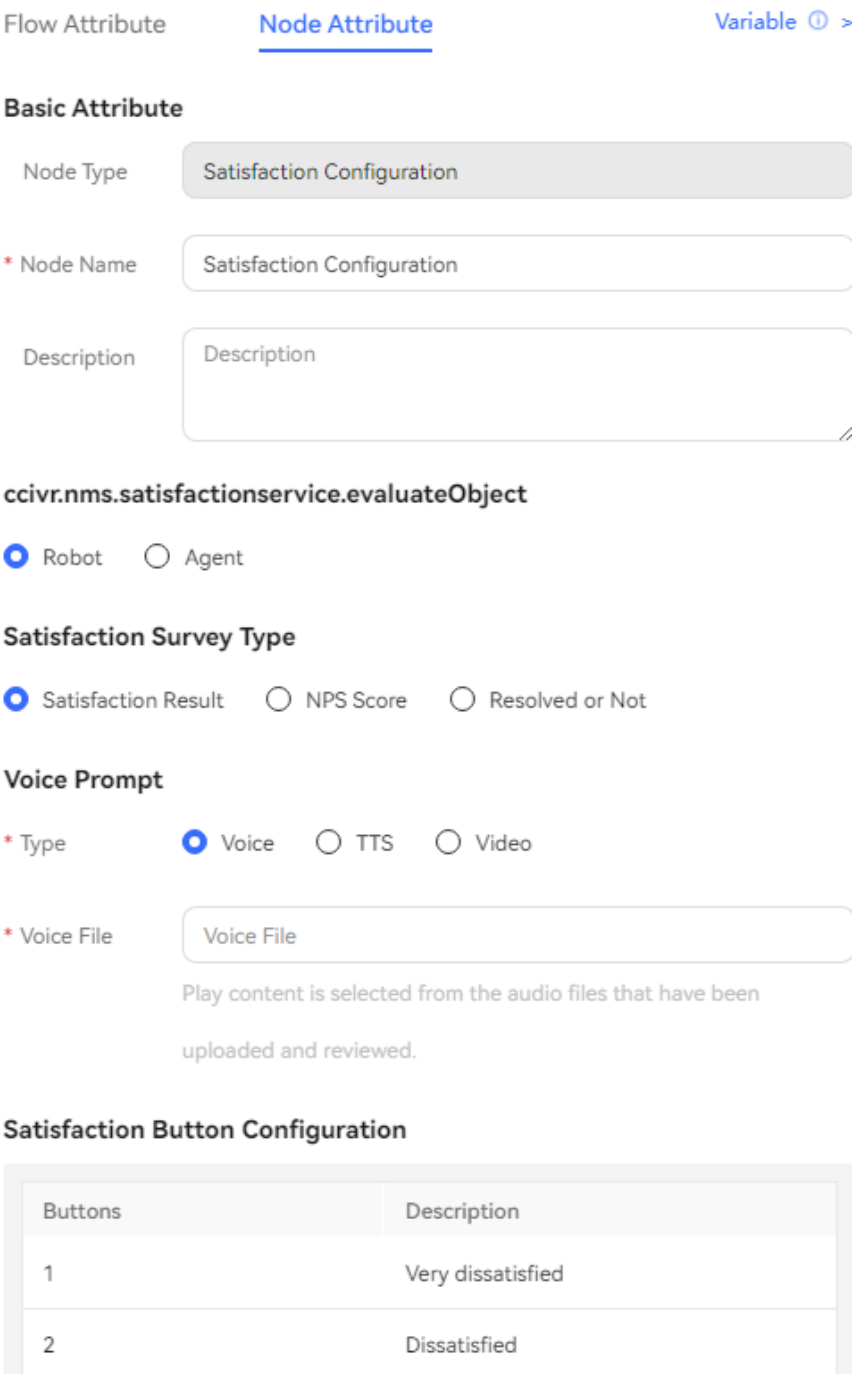


Parameter Description

The following figure shows the parameters of the **Satisfaction Configuration** diagram element.

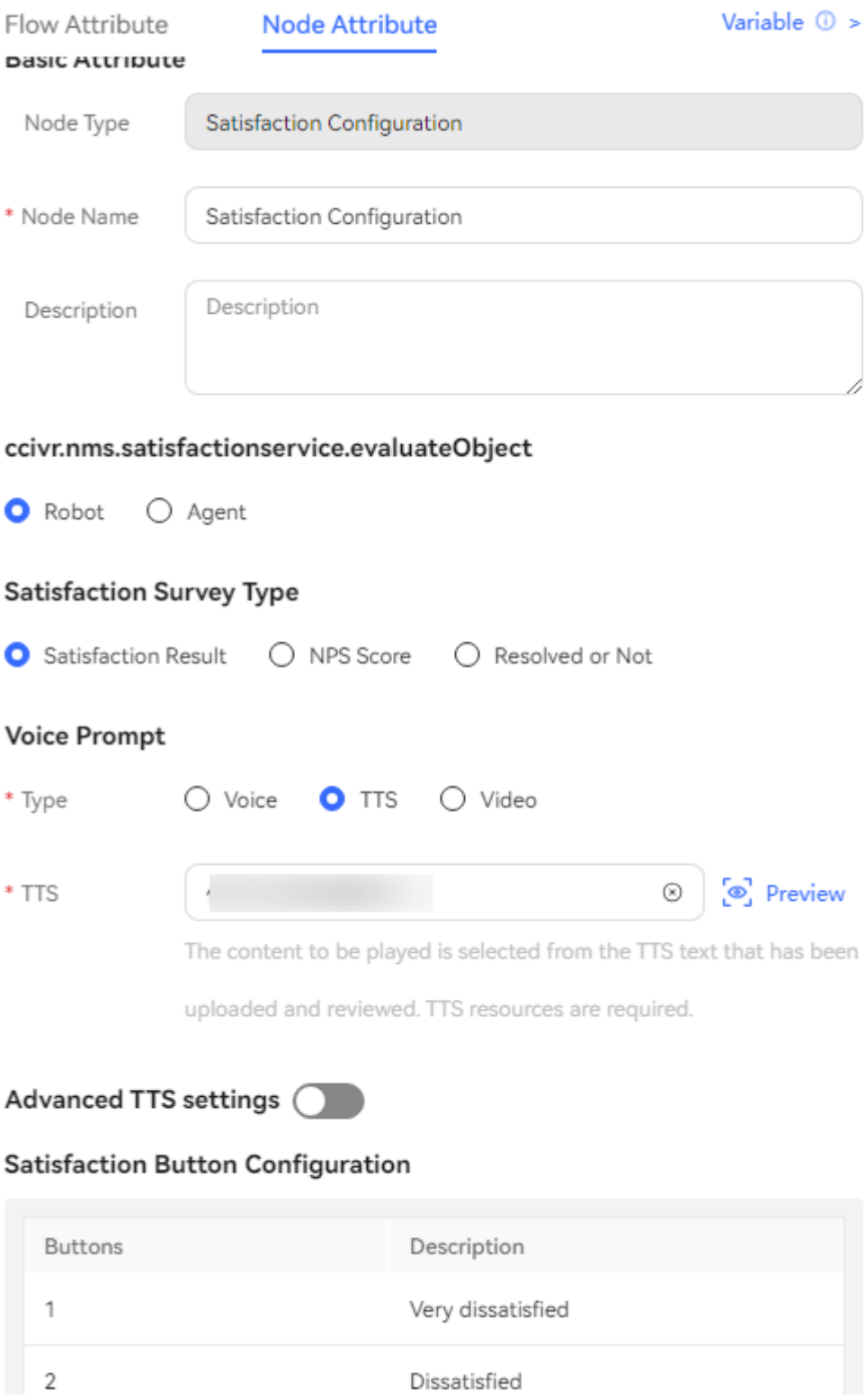
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Figure 2-387 Voice



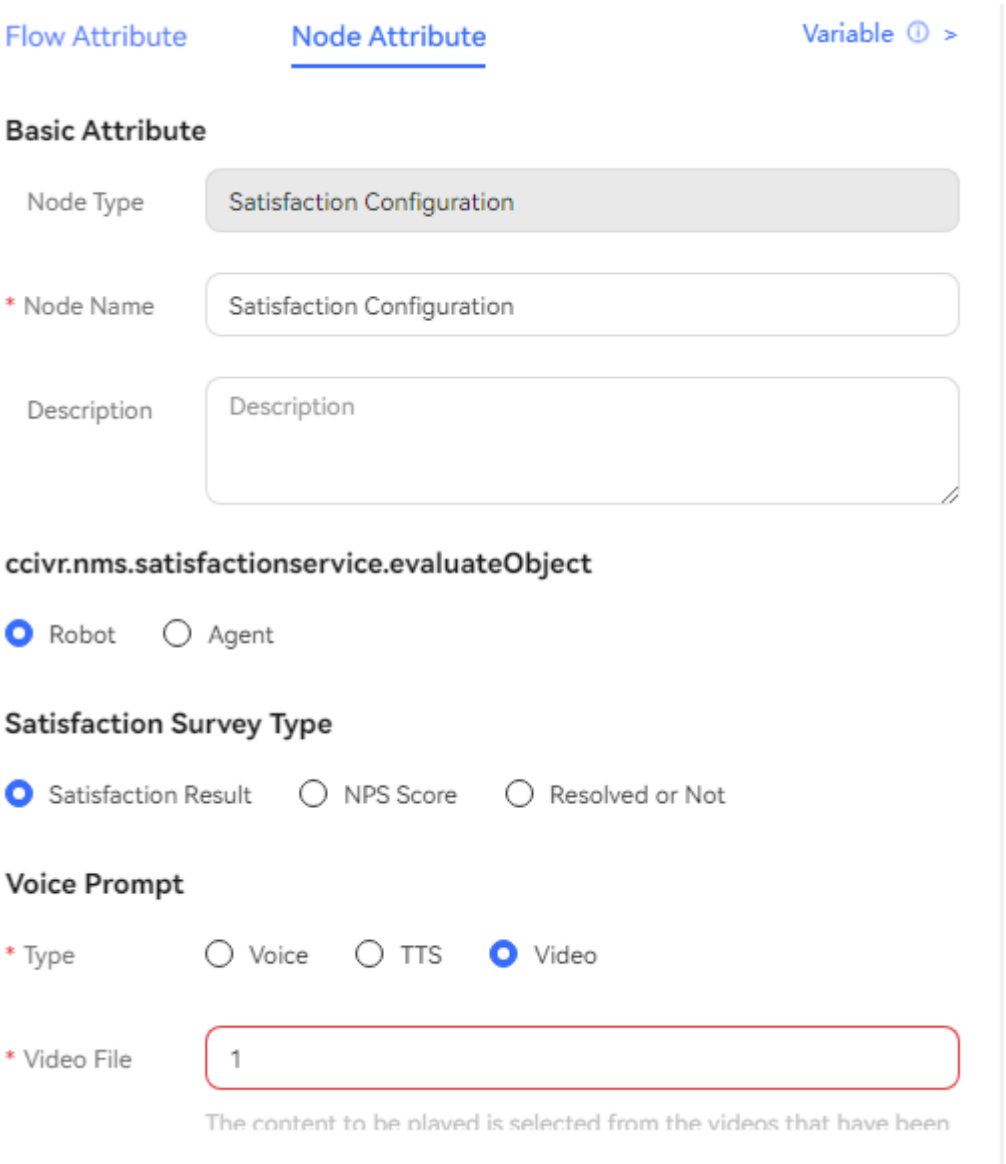
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Figure 2-388 TTS



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Figure 2-389 Video

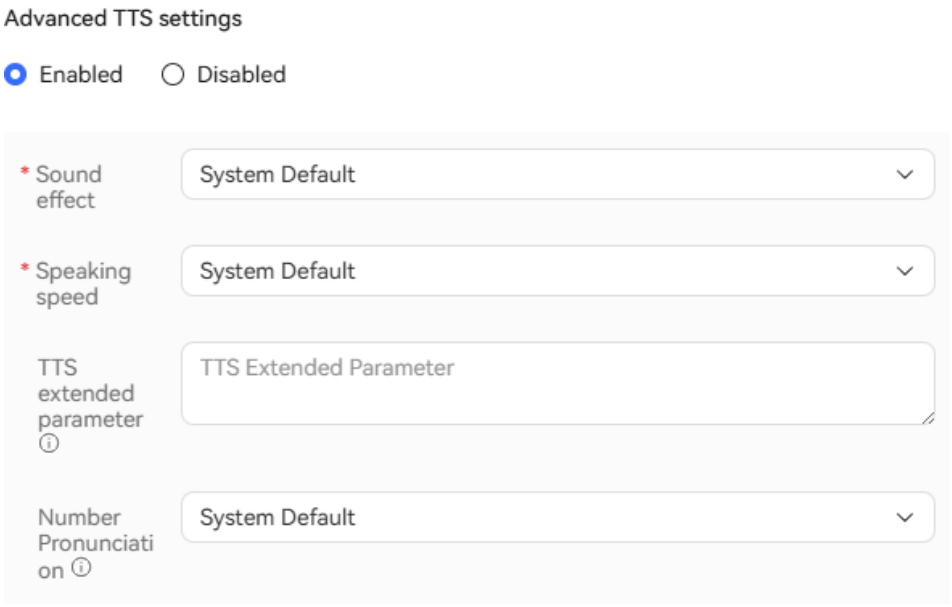


The parameters are described as follows:

- **Node Name**: name displayed on the diagram element, which can be customized.
- **Evaluation Object**: Select **Robot** or **Agent**.
- **Satisfaction Survey Type**: Select **Satisfaction Result**, **NPS Score**, or **Resolved or Not**.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice File**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8-bit) voice files.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select a sound effect and speaking speed. If this function is disabled,

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Sound effect is set to **Female voice**, **Speaking speed** is set to **Low**, and **TTS extended parameter** is not set by default.



- **Sound effect**: Select a sound effect. The default value is **System Default**. The options are **Male voice** and **Female voice**.
- **Speaking speed**: Select the speaking speed. The default value is **System Default**. The options are **Low**, **Medium**, and **High**.
- **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters. This function is supported only when the MRCP protocol is used to connect to TTS service vendors. The parameter value is transparently transmitted to **Vendor-Specific-Parameters**.
- **Number Pronunciation**: This parameter is reserved.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Satisfaction Button Configuration**: satisfaction options provided in a flow. Each key or button corresponds to a satisfaction option. For details about how to configure the satisfaction level, see **2.3.3.2 Configuring Satisfaction Surveys**.
  – **Buttons**: number key or button available on the keyboard or screen, such as **1**, **2**, or **3**.
  – **Description**: satisfaction introduction of a key or button, which can be displayed in the menu.

  NOTE

  Configure satisfaction levels for the satisfaction survey on the **Survey** > **Survey Config** page. If the flow has been published, you can clone, edit, save, or republish the flow to replace the original flow so that the updated satisfaction levels can be used.

  – **Waiting Time for Digit Collection**: waiting time for receiving the external input. If the time when a customer stops the input exceeds that

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specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.

- **Max. Failure Times**: maximum number of input attempts that are allowed. When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.

- **Advanced Settings**: You can click **Advanced Settings +** to expand this area and click **Close** to collapse this area.
  - **Digit collection failure**: You can click  to enable the capability of playing a voice upon a digit collection error. Then, if digits fail to be collected before the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system plays a voice to notify the customer.
  - **Digit collection timed out**: You can click  to enable the capability of playing a voice upon digit collection timeout. Then, if digits fail to be collected after the wait time reaches the maximum specified by **Waiting Time for Digit Collection**, the system plays a voice to notify the customer.

NOTE

- If the time when a customer stops the input exceeds that specified by **Waiting Time for Digit Collection**, the system records a failure, automatically executes **Digit collection timed out**, and continues to wait for the digit input.
- When an error occurs during digit collection, the system records a failure, automatically executes **Digit collection failure**, and continues to wait for the digit input.
- By default, **Digit collection failure** and **Digit collection timed out** are unavailable in the **Advanced Settings** area. If they are unavailable, the system replays the voice configured for the voice playback and digit collection diagram element upon a failure.
- When the number of a customer's input attempts reaches the maximum specified by **Max. Failure Times**, the system executes the common failure exit.

Condition Branch Description

Table 2-163 Condition branch description

Condition Branch	Description	Usage
SYSERROR_INNER	ODFS internal error	Triggered when an unknown error occurs in the ODFS. If no option is selected, the flow goes to the exception handling flow.

Typical Application Scenario

This diagram element is used when an agent hangs up without completing the flow.

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NOTE

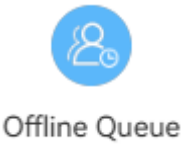
The application scenario of the **Satisfaction Configuration** diagram element is as follows:

- After an agent hangs up, the system releases the call and transfers the call to the IVR flow that contains the **Satisfaction Configuration** diagram element.

2.6.3.10.25 Offline Queue

This diagram element supports offline queue query, addition, and deletion.

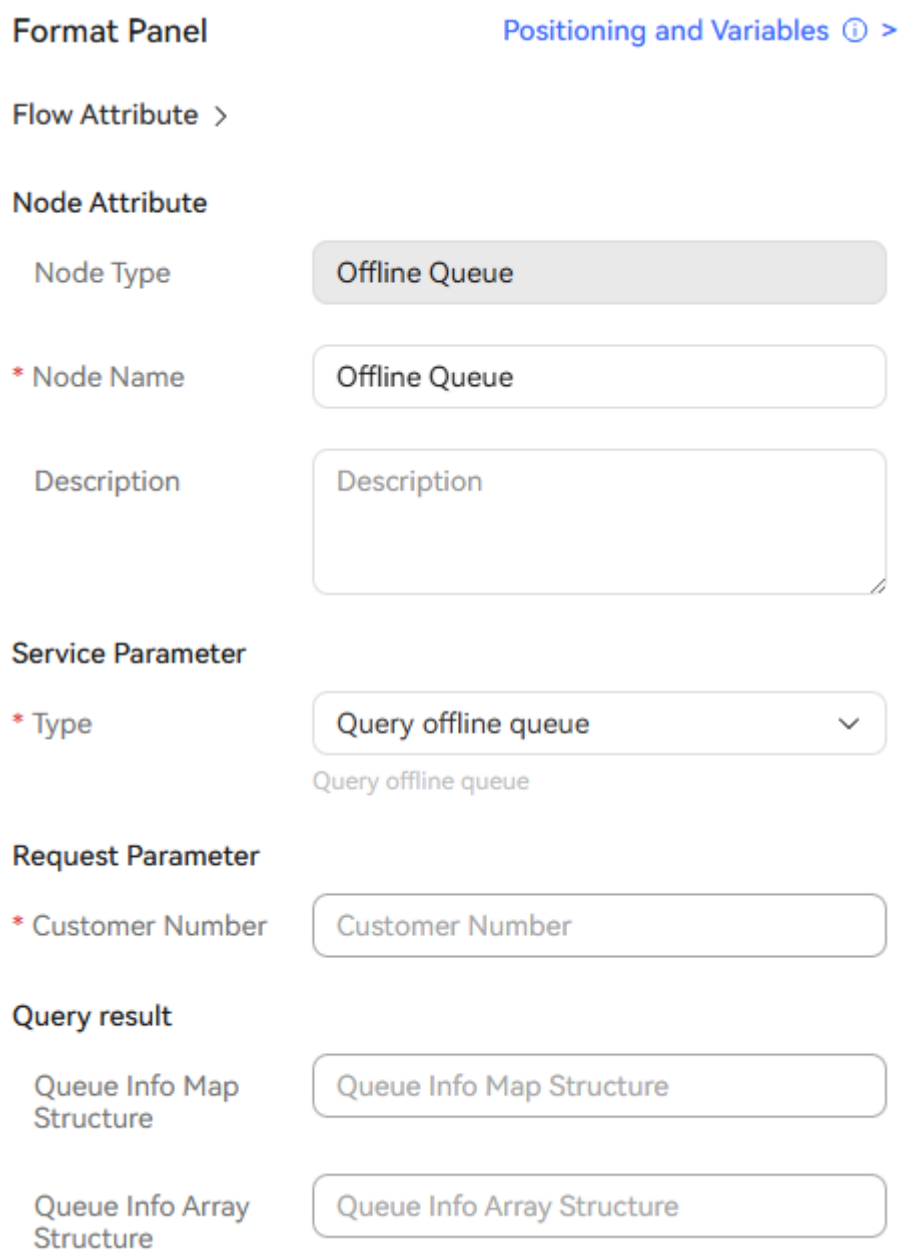
Diagram Element



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Parameter Description

Figure 2-390 Node Attribute



- **Node Name**: name of a node.
- **Description**: details of a node.
- **Type**: You can select **Query offline queue** or **Delete offline queue**.
- **Customer Number**: This field is mandatory and can be assigned a value through a variable.
- **Queue Info Map Structure**: This field is used to obtain the offline queue result. The key value of the map is the skill queue ID.

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- **Queue Info Array Structure**: This field is used to obtain the offline queue result. The sequence values of the two elements in the array are the number of queuing users and the estimated queuing time.

Typical Scenario

When a user makes a call to the system and the skill queue is busy, the user can select the offline queue mode. After queuing, the user hangs up. The CTI uses the agent preoccupation mode. That is, the CTI calls an agent and then calls a user, which is the callback feature. In this way, the agent can talk with the user.

The offline callback scenarios are as follows:

- When the IVR initiates a callback based on the callback record, the callback ends if the agent answers the call but the customer does not answer the call (ringing or power-off). In this case, the IVR does not initiate the callback again.
- When the IVR initiates a callback based on the callback record, a maximum of three callback attempts can be made if the agent does not answer the call. If the call is not answered after three callback attempts, the IVR does not initiate the callback again.
- After the offline queuing time set in the flow expires, the IVR does not initiate the automatic callback again.

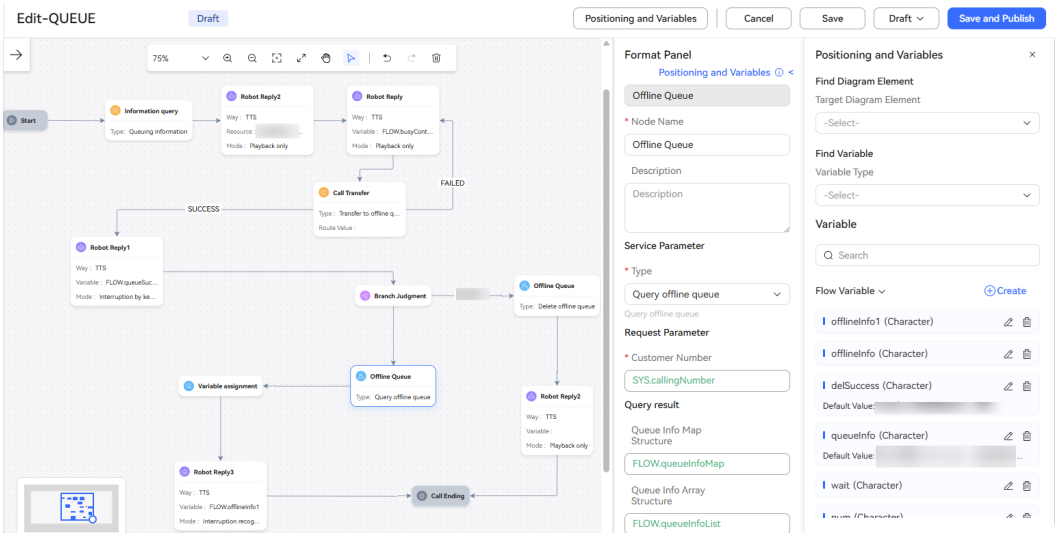
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow** > **Orchestration**, click **Import Flow**, and import the flow package.

   Figure 2-391 Flow orchestration example



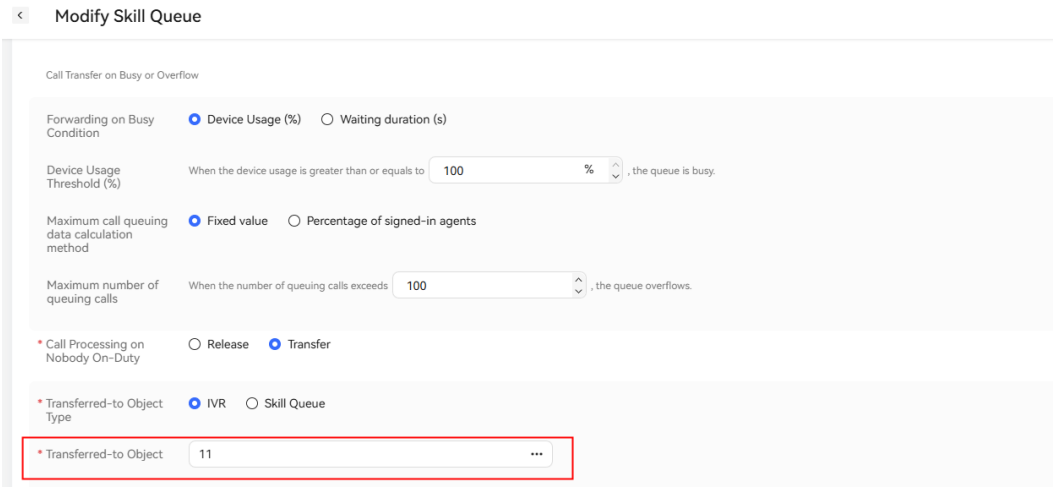
2. Save and publish the flow.

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Step 3 Choose **Intelligent Chatbot** and bind the flow to a robot.

Step 4 Choose **Configuration Center** > **Employee Center** > **Skill** and configure a skill queue. Select the IVR flow when the queue is busy and set **Transferred-to Object** to the intelligent robot bound in **Step 3**.

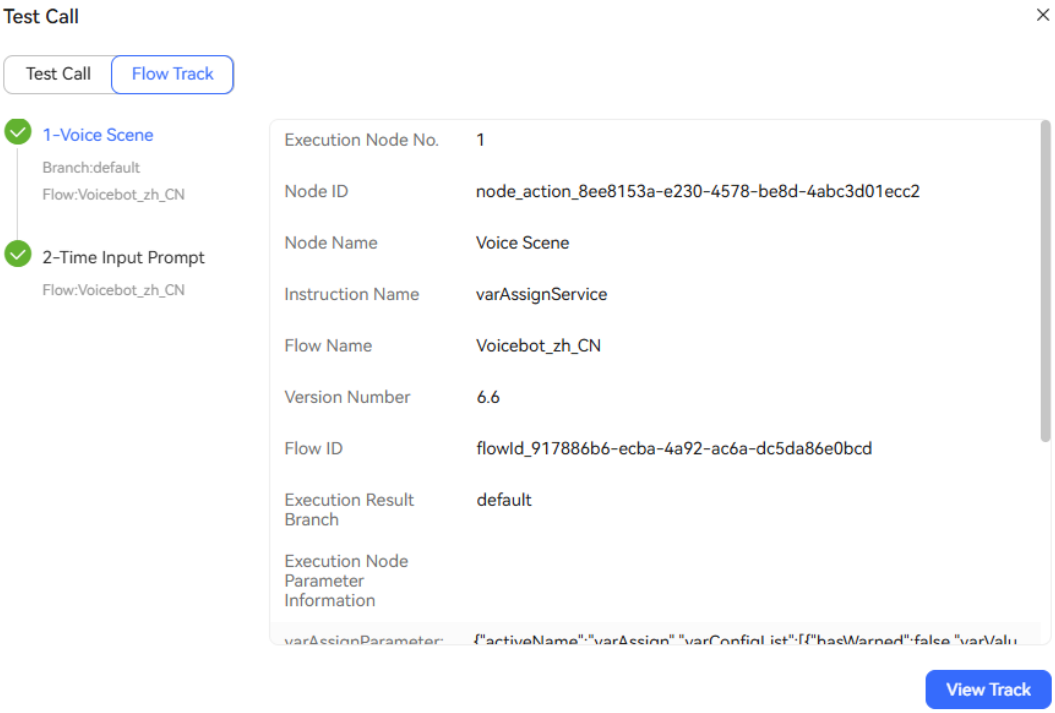
Figure 2-392 Skill queue



Step 5 Use the softphone number to log in to the OpenEye and dial the access code. The customer selects the busy state and hangs up. After the agent status changes to idle, the agent directly calls back the customer number and talks with the customer again.

Step 6 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Flow Tracking** and view the track.

Figure 2-393 Flow track



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NOTE

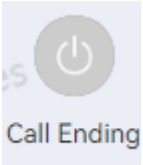
In the offline queue callback scenario, multiple CDRs are generated. During indicator statistics collection, multiple calls are processed based on multiple CDRs. When the callback of the call that applies for offline queue is successful, the call that applies for offline queue is also processed as a call loss.

----End

2.6.3.10.26 Call Ending (Expired and Not Recommended)

This diagram element is used to identify the end of a flow. Each flow has at least one **Call Ending** diagram element. In a complex flow, multiple **Call Ending** diagram elements can be used to identify the end of different branches.

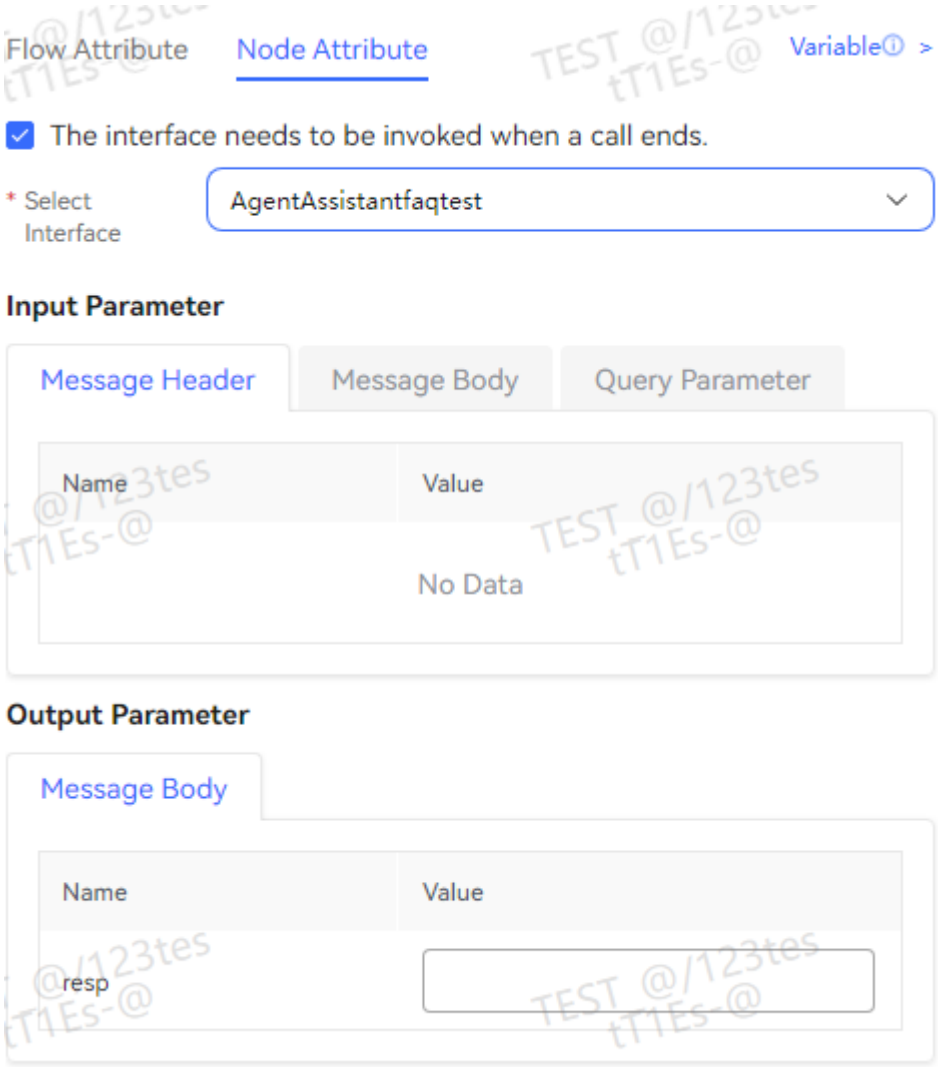
Diagram Element



Parameter Description

The following figure shows the parameters of the **Call Ending** diagram element.

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The parameters are described as follows:

- **The interface needs to be invoked when a call ends**: Select the text box to configure the interface to be invoked. The interface is invoked before the call ends.
- **Select Interface**: Select an interface name from the drop-down list box. The interfaces that can be selected have been configured for the current tenant. For details about the interface configuration, see **2.6.2.2.2 Adding Business Interfaces**.
- **Input Parameter**: This area displays the input parameters of the selected interface. When an input parameter exists, you can assign a value, such as a constant and variable, to the input parameter as required. Variables must be defined in the system, for example, **FLOW.ID**.
- **Output Parameter**: This area displays the output parameters of the selected interface. If there are specific output parameters, you can assign values to the output parameters as required. You can enter **FLOW** or **GLOBAL** variables.
- Click **Save** to save all parameters set on the current page.

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Typical Application Scenario

This diagram element is used at the end of a flow.

NOTE

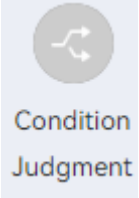
The application scenarios of the end diagram element are as follows:

- When a user hangs up, the system invokes the end diagram element by default. In this case, only one end diagram element exists in the flow, and the flow does not need to be connected to the end diagram element.
- If an active hangup is required in the IVR flow, the end diagram element needs to be invoked. In this case, ensure that the flow has been connected to the end diagram element.

2.6.3.10.27 Condition Judgment (Expired and Not Recommended)

This diagram element is used to set multiple conditions, based on which the system enters different branches. During configuration, you can click the connection line of a branch and select the corresponding condition.

Diagram Element



Parameter Description

The following figures show parameters of the **Condition Judgment** diagram element.

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Figure 2-394 Condition Judgment

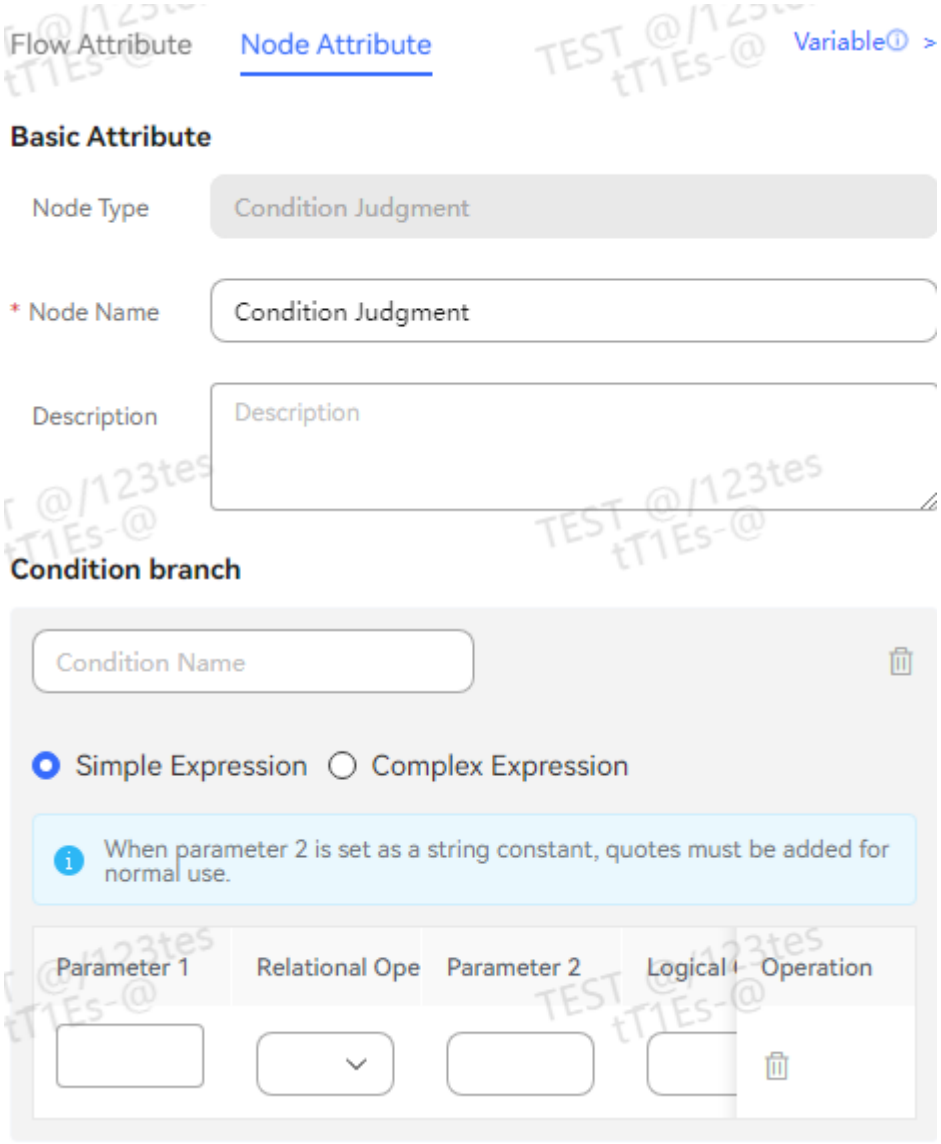
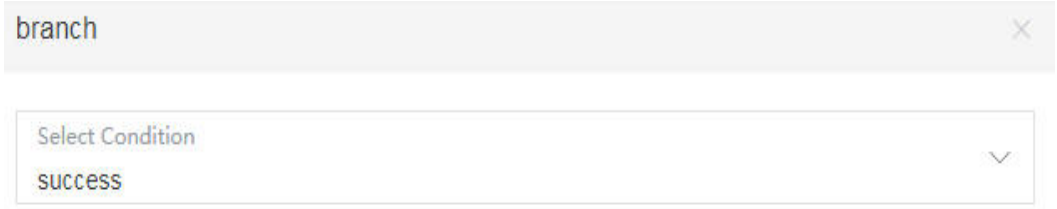


Figure 2-395 Branch



The parameters are described as follows:

- **Module**: diagram element name, which can be customized as required. The name is not displayed on the diagram element.
- **Condition Editing**: In this area, you can configure different judgment conditions, based on which different branches can be implemented in a flow.

  If you click **Simple Expression**, the following parameters need to be set:

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- **Parameter 1**: Click the text box. In the displayed **Select Variables** dialog box, select a global variable, flow variable, or system variable as required.
- **Relational Operator**: relational operator, which is used to define the relationship between parameter 1 and parameter 2.
- **Parameter 2**: Enter a variable or constant. If parameter 2 is a string constant, enclose it with double quotation marks, for example, **"0123456789"**.
- **Logical Operator**: The options are **And** and **Or**. The priorities of different operators are the same, and conditions are judged one at a time from top to bottom.

  By selecting a logical operator, you can add multiple condition expressions in the same condition. If you select **And**, multiple condition expressions must be met at the same time. If you select **Or**, only one of the condition expressions must be met.
- You can click **Delete** to delete a condition expression.

If you click **Complex Expression**, a complex condition expression must be entered in the text box. The expression can contain the parameter name, value, and complex operation. After a series of operations, the complex expression returns a value of the Boolean type, for example, **true** or **false**.

- The formats of flow variables, system variables, and global variables are as follows: **FLOW.***Parameter name*, **SYS.***Parameter name*, and **GLOBAL.***Parameter name*.
- The priorities of operators used in complex expressions are as follows: parentheses > arithmetic operators > relational operators > logical operators. Operators at the same level (except arithmetic operators) have the same priority. The operators of other levels have the same priority. The symbols of each type are as follows:

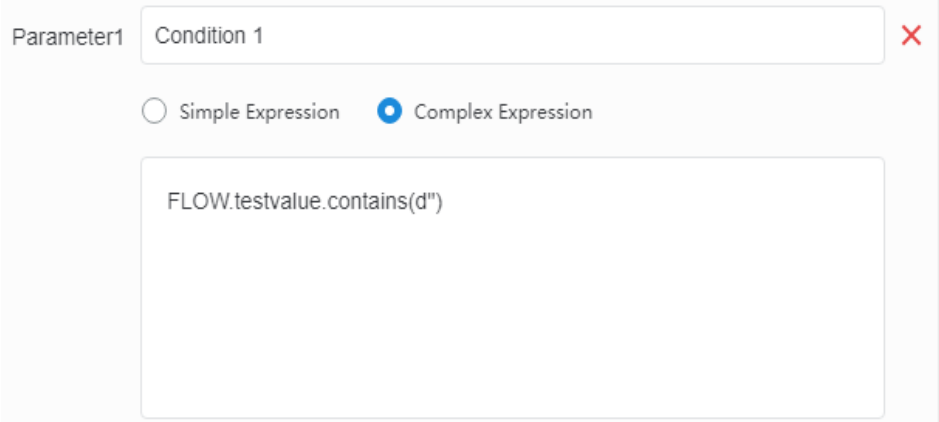
  Parentheses: ()

  Arithmetic operator: *, /, %, +, – (The priorities of the asterisk, slash, and percent sign are higher than those of the plus sign and minus sign.)

  Relational operators: >, >=, <, <=, ==, !=

  Logical operators: &&, ||

  In addition to basic logical expressions, functions based on the mvel2 expression are also supported. For example, the flow variable **FLOW.testvalue** is set to **abc**, and the contains function is used to determine whether the **d** character is contained. If the determination result is **false**, the branch is not executed.



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Similarly, simple functions may be used as follows:

FLOW.testvalue.substring(0,1)=='d' checks whether the first character is **d**.

FLOW.testvalue.endsWith(classification) checks whether the value ends with **c**.

If other functions are required, develop them under the guidance of Huawei engineers.

- You can click **New Condition** to add multiple conditions, which can map different branches.

  A maximum of 20 conditional branches are allowed.

- Click  to delete a condition.
- Click **Save** to save all parameters set on the current page.
- **branch**: Click the connection line between a condition judgment diagram element and a branch diagram element, and select the condition to enter the branch from the drop-down list. If no condition is selected, the branch is used as a default branch, which is executed when none of the conditions are met.

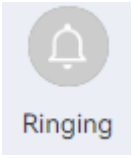
Typical Application Scenario

The system enters a branch in a flow based on the input condition. For example, the system can enter different branches based on the flow execution result (success or failure).

2.6.3.10.28 Ringing (Expired and Not Recommended)

This diagram element is used in the video call scenario to determine whether to display the video content on the customer side or agent side.

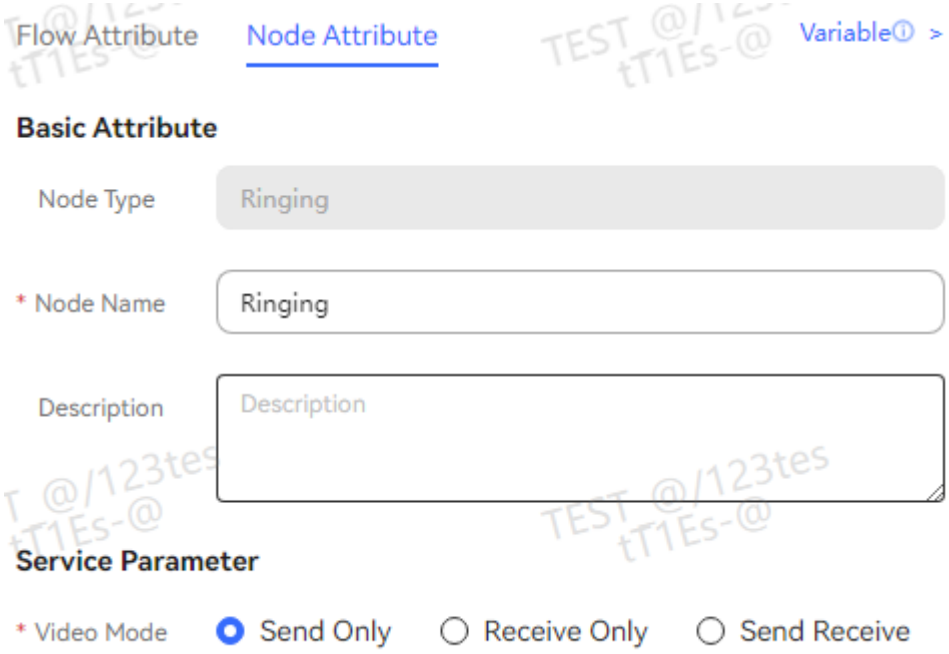
Diagram Element



Parameter Description

The following figure shows the parameters of the **Ringing** diagram element.

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The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Video mode**:
  - **Send Only**: Only the video image on the agent side is displayed.
  - **Receive only**: Only the video image on the customer side is displayed.
  - **sendrecv**: Both the video images on the agent and customer sides are displayed.

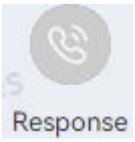
Typical Application Scenario

The **Ringing** diagram element is used only for video calls in the ringing state. When selecting the video content to be displayed, you need to associate the **Ringing** diagram element.

2.6.3.10.29 Response (Expired and Not Recommended)

This diagram element is used with the **Ringing** diagram element. When **Ringing** is used with the **Transfer** diagram element and **Transfer Configuration** is set to **Transfer to Skill Queue**, you need to configure the **Robot Reply** diagram element to provide the agent answering capability.

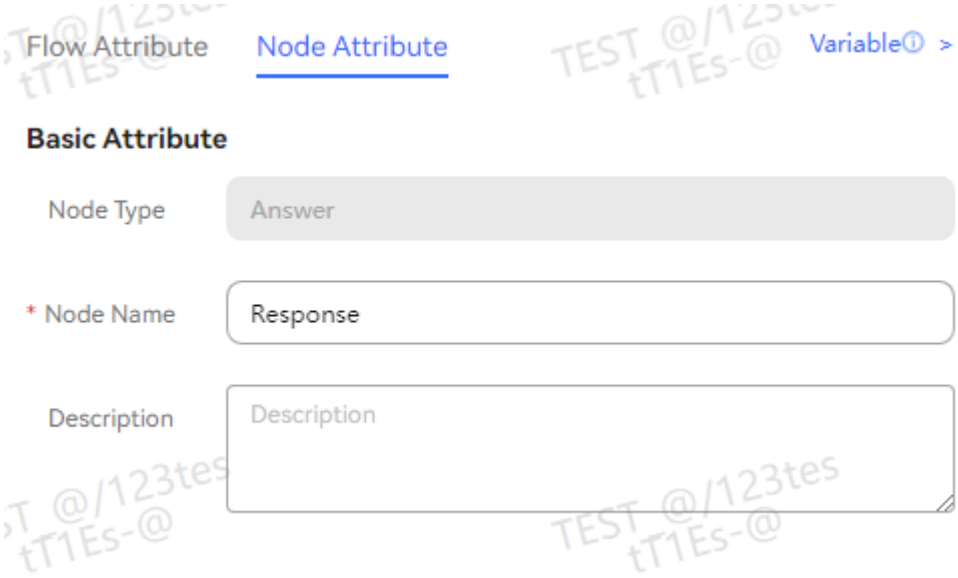
Diagram Element



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Parameter Description

The following figure shows the parameters of the **Robot Reply** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.

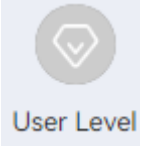
Typical Application Scenario

This diagram element is used with the **Ringing** diagram element.

2.6.3.10.30 User Level (Expired and Not Recommended)

This diagram element is used to set the user level. When multiple users are in the queue, the user with a higher level can be connected to the idle agent first.

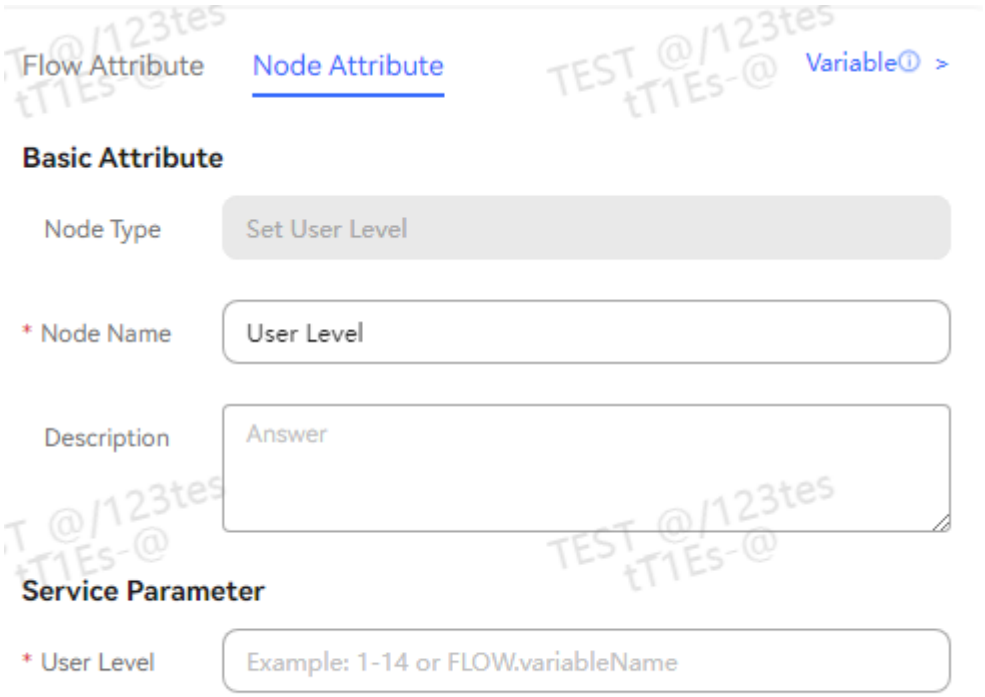
Diagram Element



Parameter Description

The following figure shows the parameters of the **User Level** diagram element.

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The parameters are described as follows:

Node Name: Enter a diagram element name.

User Level: Enter a user level, which is used to set the level of the calling number. The calling number with a higher level is preferentially connected to an agent. Currently, user levels 1 to 14 are supported. You can use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations. (A decimal is not supported. If the value is a decimal, the default value **1** is used.)

Typical Application Scenario

A user calls an IVR flow. The flow invokes a third-party interface to obtain the user level, uses the **User Level** diagram element to set the user level, and uses the **Transfer** diagram element to transfer the call to an agent.

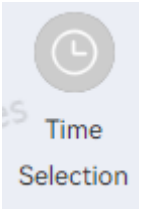
If the user with highest level is in a queue, the call is preferentially connected to an agent.

2.6.3.10.31 Time Selection (Expired and Not Recommended)

This diagram element is used to configure the service provision time by time range, week day, or date. The system provides services based on the configured service time range on selected week days within the period that is configured.

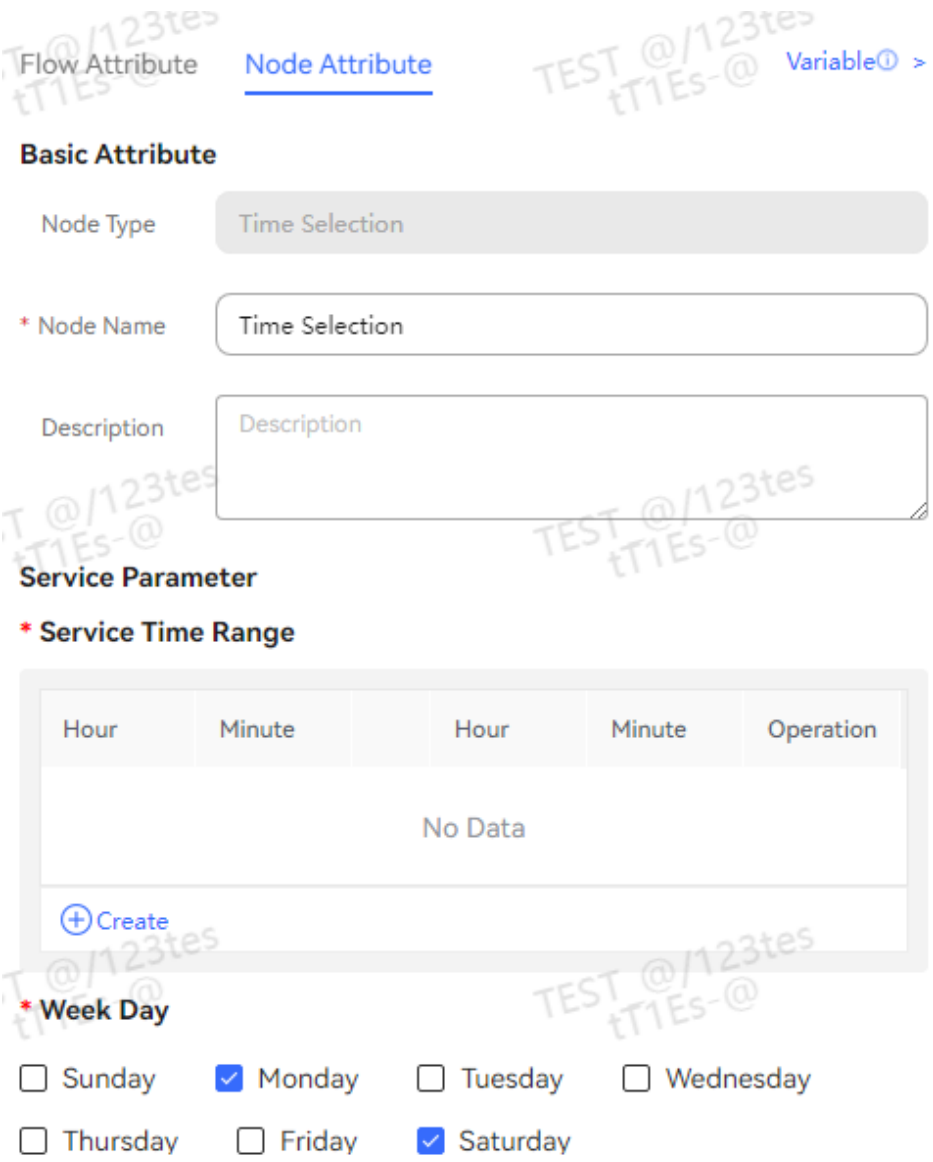
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Diagram Element



Parameter Description

The following figure shows parameters of the **Time Selection** diagram element.



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.

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- **Service Time Range**: This area is used to configure time ranges in which services are provided. The time ranges are specified in 24-hour format. Different time ranges cannot overlap each other.
- **Week Day**: week day on which services are provided.
- **Date**: period in which services are provided. You can specify one period or multiple inconsecutive periods. The system provides services based on **Service Time Range** only on the dates that fall within the periods specified by **Week Day** and **Date**.

  NOTE

  If **Date** is set to multiple inconsecutive periods and other services need to be provided in the period intervals, you need to add another time selection diagram element and configure the time for providing services in the intervals. In addition, you need to add a branch connection line between the two time selection diagram elements and set the branch condition to **Wrong Time**. For example, October 1, 2019 to October 7, 2019 are not workdays, but personnel need to be assigned on duty. In this case, you need to add another time selection diagram element with **Date** set to **2019-10-01** to **2019-10-07**, add a branch connection line between the two time selection diagram elements, and set the branch condition to **Wrong Time**.

By default, the **Time Selection** diagram element corresponds to the GMT+8 time zone. To set another time zone, perform the following steps:

a. Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**. On the page that is displayed, choose **Resource Management** > **Variable Management**.

   If you have not subscribed to the intelligent IVR feature, you cannot access the page in your tenant space. In this case, contact the system administrator to enable the corresponding function.

b. Click the **Built-in Variable** tab, click **Edit** next to **timezone** and set the value to the corresponding time zone. For example, set the value to **-3** for GMT-3, as shown in the following figure.



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NOTE

The system identifies the time zone settings in the following sequence:

- The system preferentially uses the value of **GLOBAL.timezone**, that is, **timezone** added on the **Custom Variable** tab page under **Intelligent IVR** > **Resource Management** > **Variable Management**.

  The system variable **timezone** has been preset in the system. Therefore, you are advised not to set the time zone using the global variable.
- If **GLOBAL.timezone** is not added, the system obtains the value of **timezone** on the **Built-in Variable** tab page under **Intelligent IVR** > **Resource Management** > **Variable Management**.
- If neither of them is configured, the default time zone is GMT+8.

c. Click **Confirm**.

- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

Businesses need to be provided at a restricted service time. For example, if business A can be handled at store A only between 08:00 and 17:30 on Monday to Friday all the year round, you need to set **Service Time Range** to 8:00-17:30, **Week Day** to Monday to Friday, and **Date** to **2019-01-01** to **2019-12-31** for business A.

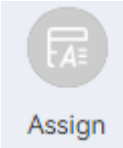
2.6.3.10.32 Assignment (Expired and Not Recommended)

This diagram element is used to assign values to flow variables or global variables, and assign specified values to parameters.

NOTE

The call-associated data is carried in a call. The data is stored in the call until the call ends.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Assign** diagram element.

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Figure 2-396 Assign TransferData

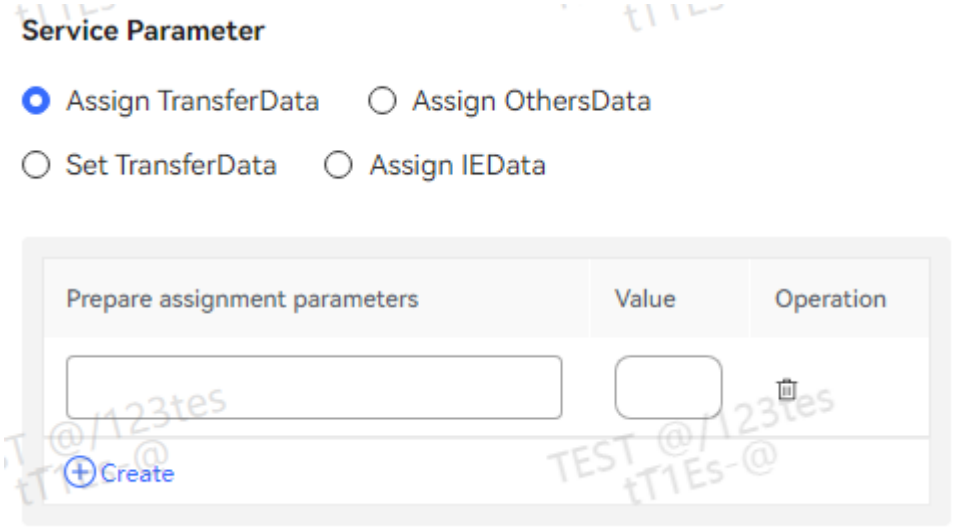
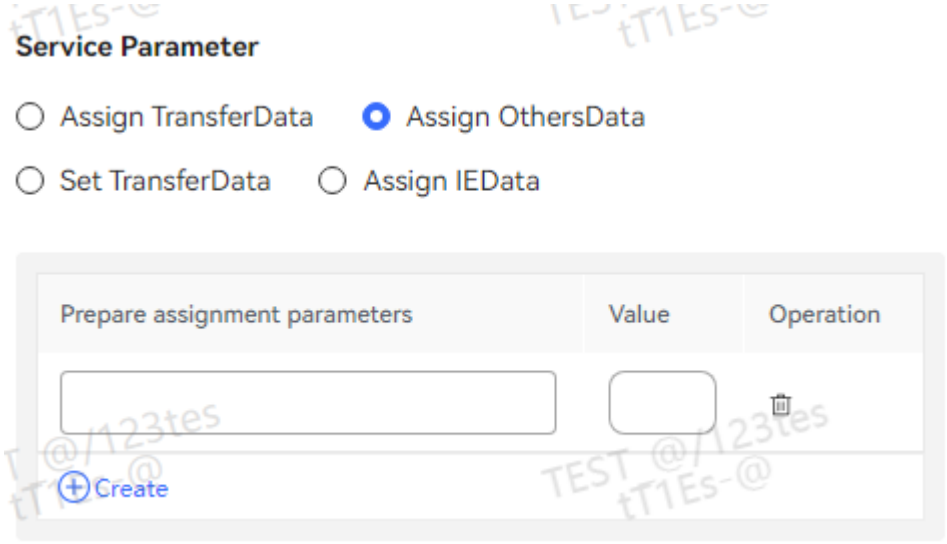


Figure 2-397 Assign OthersData



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Figure 2-398 Set TransferData

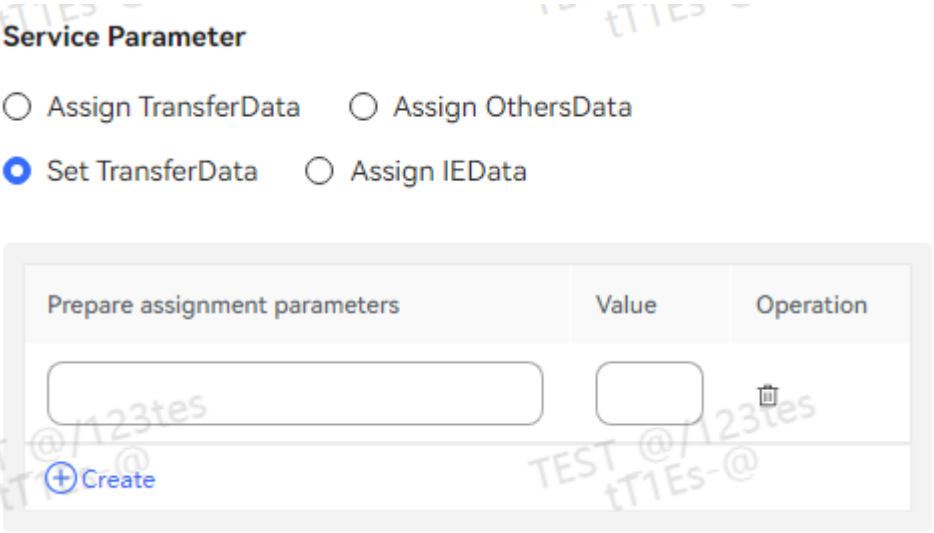
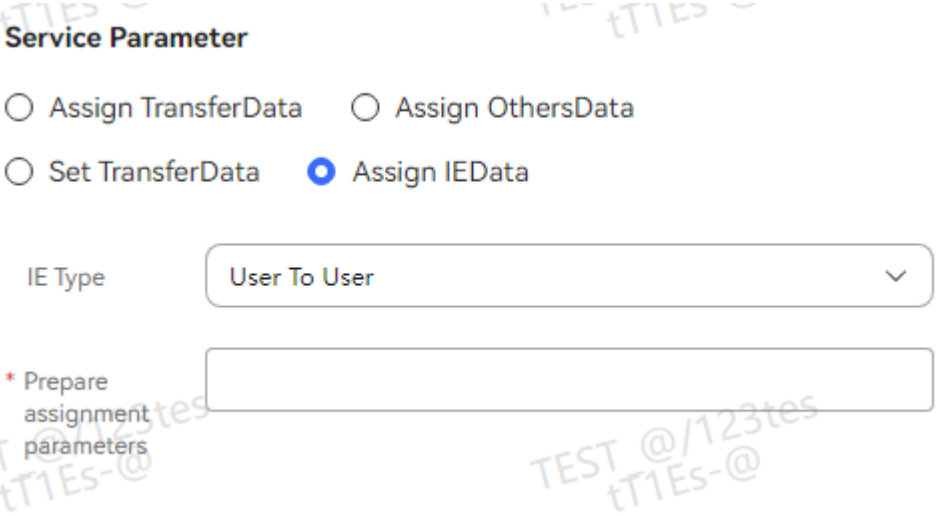


Figure 2-399 Assign IEData



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Data assignment**: Assign a value to the current flow in one of the following ways:
  - **Assign TransferData**
  - **Assign OthersData**
  - **Set TransferData**
  - **Assign IEData**
- **Prepare assignment parameters**: Configure the parameters to be carried when the value of the call-associated data or other data is assigned. Such parameters are used to carry remarks, which do not affect the flow logic.
  - **Value**: Enter a parameter value, which is optional.

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i. **Assign TransferData**

Scenario: The agent transfers the call-associated data to the IVR flow. The IVR flow obtains the call-associated data. The call-associated data must be in the following format:

{"callid":"1598006316-4672","calldata":"{\\\"key1\\\":\\\"v1\\\", \\\"key2\\\":\\\"v2\\\"}","isDataEncoded":"false"}

The call-associated data is obtained based on **calldata.key1** and **calldata.key2**.

When a call is transferred from an intelligent IVR flow to a common one, the data is in the JSON format defined by the customer. The customer obtains parameter values by directly obtaining the values of parameters at the first layer and obtaining the values of parameters at the second layer in *a.b* format.

ii. **Assign OthersData**

During data value assignment, in addition to string and integer data, expression calculation is also supported.

Integer data supports the following arithmetic operations: +, -, *, and % (). Data supports **FLOW**, **GLOBAL**, and **SYS**.

Example: **(FLOW.xxx+FLOW.yyy)*GLOBAL.zzz**. Note that when / is used for division, the calculation result needs to be received using data of the string type. Integers do not support decimals.

String data supports comparison, case conversion, character string concatenation, substring calculation, and length calculation.

Example: **FLOW.aaa=="Huawei" FLOW.bb.to FLOW.a.toUpperCase() FLOW.A.toLowerCase() FLOW.hua +FLOW.wei FLOW.len.substring(0,3)FLOW.zzzz.length()**

iii. **Set TransferData**

When the IVR flow is running, you can set the call-associated data through this parameter to transmit data with sessions.

The call-associated data must be in key-value format. Multiple key-value pairs can be set and are combined as follows: **{"data": {"***key***":"***value***","***key1***":"***value1***"}}**. Agents can obtain the value of this parameter.

iv. **Assign IEData**

The IE information transmitted in the flow can be obtained. Currently, only the **User To User** option is available.

Click the **Prepare assignment parameters** text box. The global variable and flow variable lists are displayed for selection.

- Click **New** to add a parameter record. The value of **Transfer Parameters** must be unique in each record.
- Click **Delete** to delete the current record.

- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

After an agent sets call-associated data and transfers the call to the IVR, the IVR can obtain the call-associated data from the **Assign** diagram element, assign a

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value to a parameter at any time, and add the parameter to a flow variable or global variable.

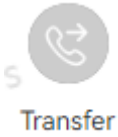
2.6.3.10.33 Transfer (Expired and Not Recommended)

This diagram element is used to transfer a call from the current flow to another channel, such as an agent, a third party, or an intelligent IVR. After the call is successfully transferred, the **Call Ending** diagram element needs to be connected.

NOTICE

If an agent clicks  on the connection bar and transfers a call to an IVR flow in hang-up transfer mode, the IVR flow cannot use the **Transfer** diagram element to further transfer the call to another device. The call transfer to another device will fail.

Diagram Element

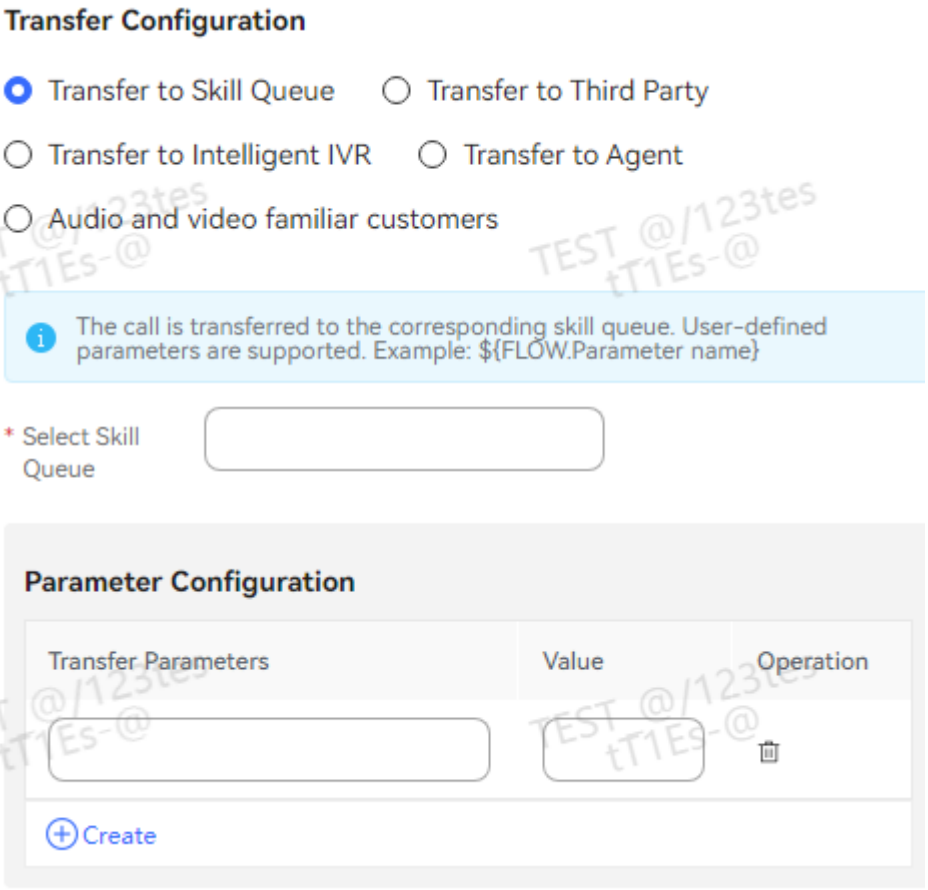


Parameter Description

The following figure shows the parameters of the **Transfer** diagram element.

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Figure 2-400 Transfer to Skill Queue



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Figure 2-401 Transfer to Third Party

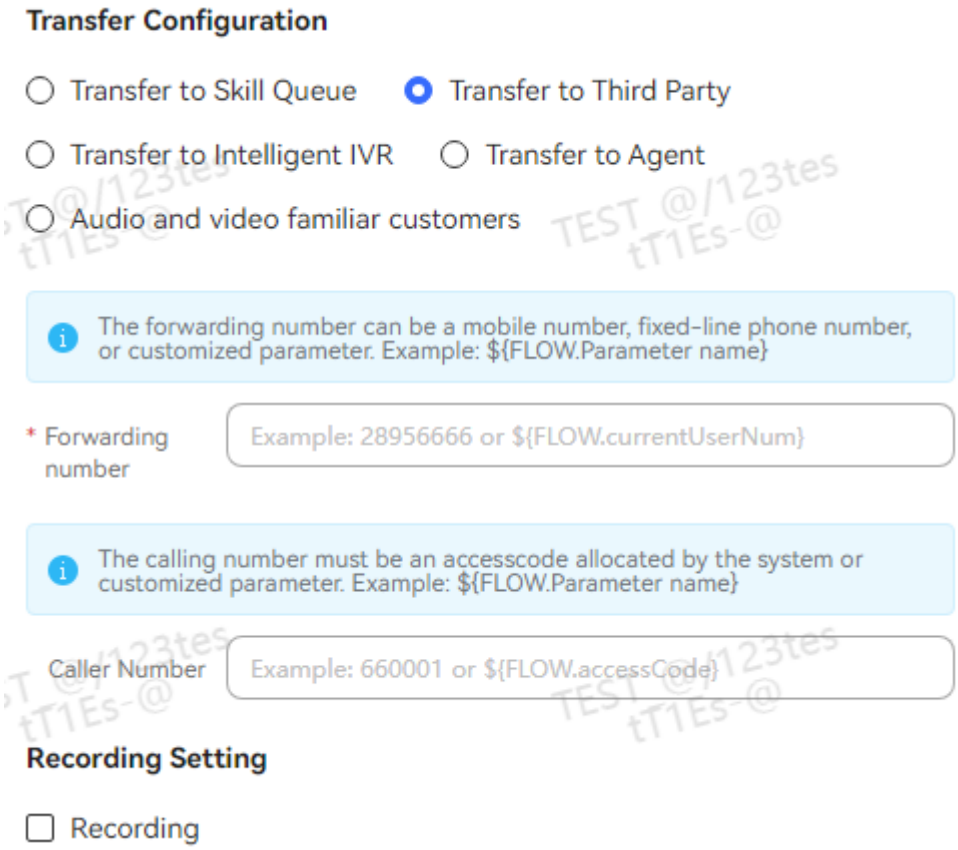
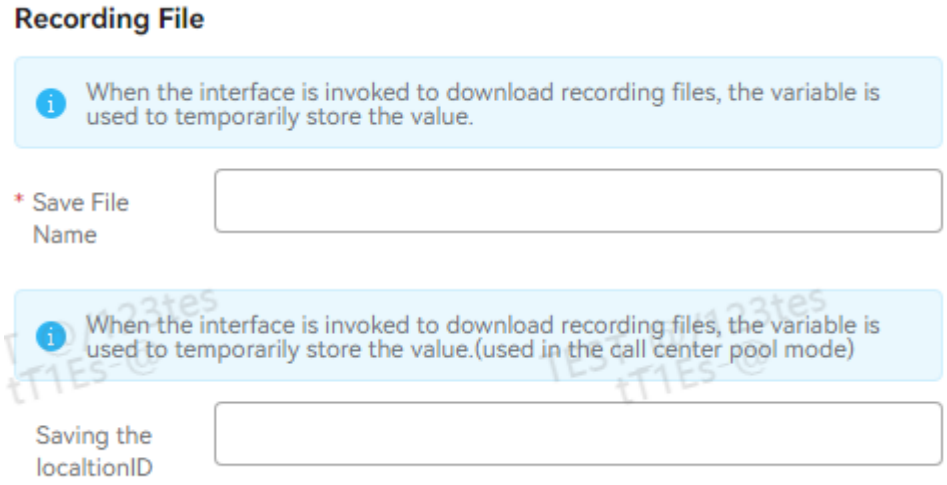
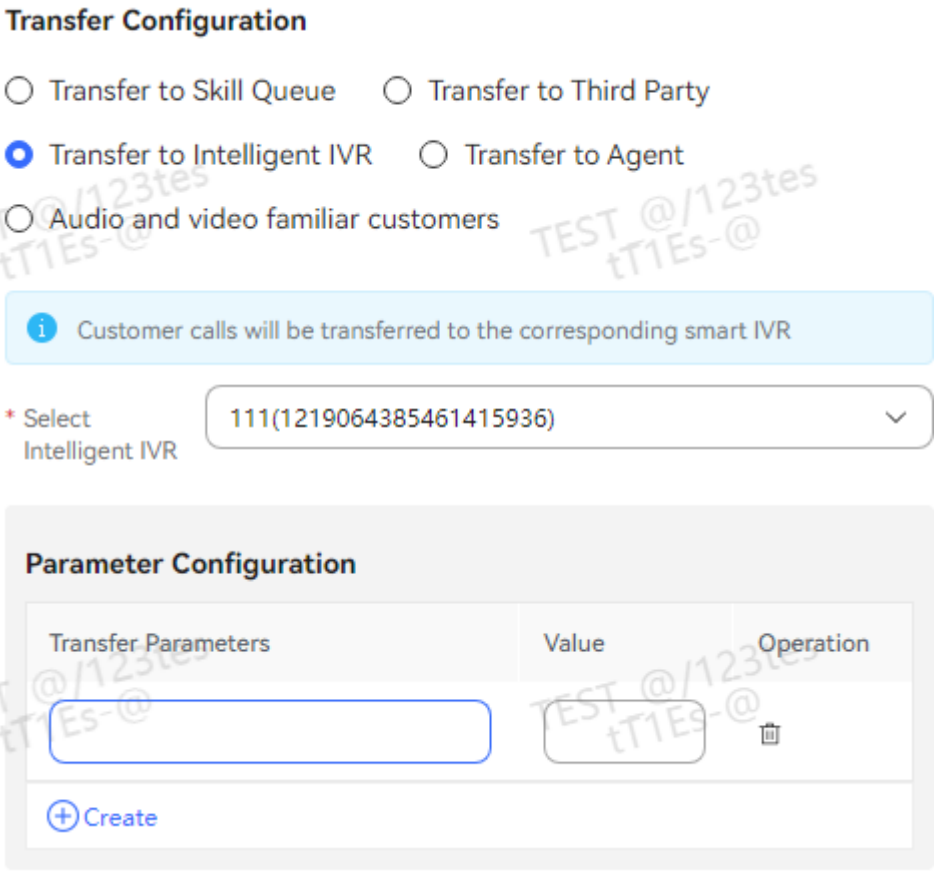


Figure 2-402 Recording File



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Figure 2-403 Transfer to Intelligent IVR



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Figure 2-404 Transfer to Agent

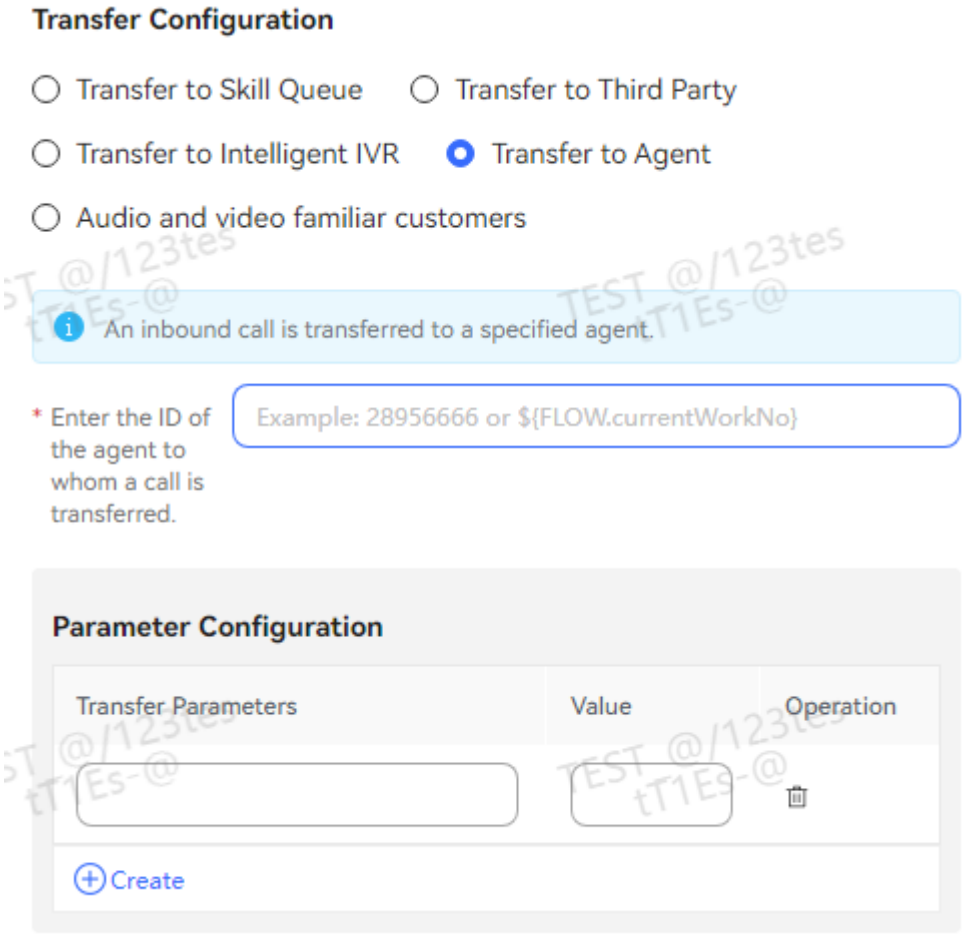
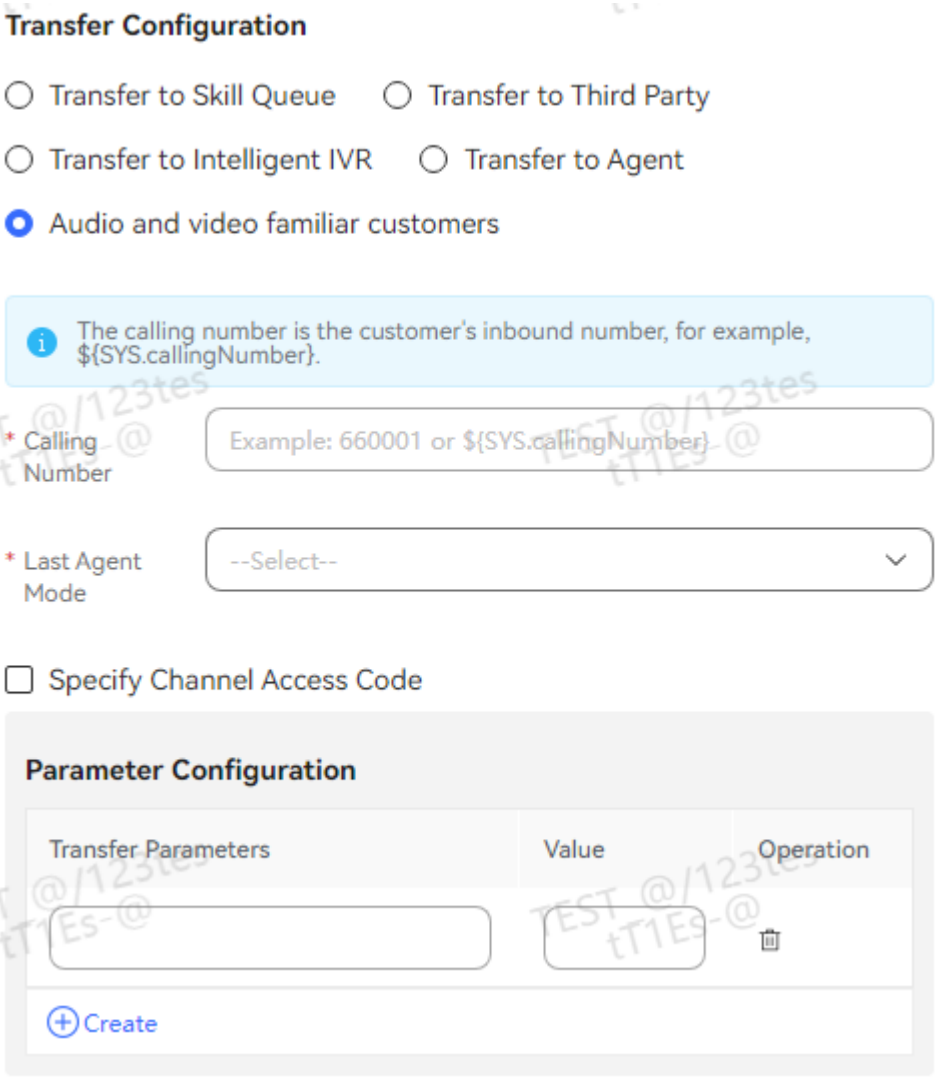


Figure 2-405 Audio and video familiar customers



The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Transfer Configuration**: This area displays parameters for transferring a call from the current flow. The following transfer methods are available:
  - **Transfer to Skill Queue**: The system transfers a call from the current flow to an agent. If this method is selected, you need to select an agent from the **Select Skill Queue** drop-down list. You can also enter a self-defined parameter. The available skill queues are configured on the **Configuration Center** > **Employee Center** > **Skill Queue** page of the tenant. When a video call is transferred, select an agent that supports the video function.

    The customized parameter must be in **FLOW.***Parameter name* format, for example, **FLOW.IDNumber**. It must also be defined as a flow parameter. Otherwise, the parameter is meaningless. The value of the customized parameter is the latest one used before the transfer diagram element in the flow. If the parameter value is not reassigned in the flow, the initial value is used.

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For example, if a customer enters the value of **FLOW.IDNumber** in the voice playback and digit collection diagram element, which is executed before the **Transfer** diagram element, the parameter value to be transferred in the **Transfer** diagram element is the latest one entered by the customer. Otherwise, the initial parameter value is used.

Click the text box. In the dialog box that is displayed, select a global variable or flow variable as required. The system saves the recording file name using a variable of the string type. Therefore, you can select only a variable of the string type.

- **Transfer to Third Party**: The system transfers a call from the current flow to a third party. If this method is selected, you need to set **Forwarding number** (mandatory) and **Calling Number** (optional). The forwarding number can be a mobile phone number, fixed-line phone number, or customized parameter. The calling number must be an access code allocated by the system or a customized parameter. When **Transfer to Third Party** is selected, you can select **Recording**. If **Recording** is selected, the dialogs between the user and the third party are recorded and saved, and the recording file name is saved to a variable of the string type. During recording, an announcement is played to notify the user that the conversation between the user and the third party will be recorded. The announcement can be configured in **Voice** or **TTS** mode. The variable for saving the recording service node ID is used in the call center pool mode.
- **Transfer to Intelligent IVR**: The system transfers a call from the current flow to an intelligent IVR flow. Select an IVR flow from the drop-down list. The intelligent IVR flow is published on the OIAP.
- **Transfer to Agent**: The system transfers a call from the current flow to a specific agent. If this method is selected, you need to enter the ID of the agent to whom the call is transferred. The **${FLOW.workNo}** flow variable is supported.
- **Transfer to last agent**: The system transfers a call from the current flow to the last agent. The last agent refers to the agent who has a call with a customer number recently within a period. Enter a customer number in the **Calling Number** text box. The **${SYS.callingNumber}** system variable is supported. You can set **Last Agent Mode** to **Time range** or **Current day**.
  - **Time range**: Enter an integer ranging from 1 to 10080. For example, if you enter **100**, the call is transferred to the last agent contacted in 100 minutes.
  - **Current day**: Select a time zone. The call is transferred to the last agent who is contacted on the current day in the specified time zone.

  Specify Channel Access Code: Select this check box to prevent transferring to an incorrect last agent when routing to the last agent is enabled for multiple channels.

- **Parameter Configuration**: This area is used to configure parameters to be carried when a call is transferred to a skill queue, an intelligent IVR, an agent, or the last agent. A maximum of 16 parameters are allowed. Such parameters are used to carry remarks, which do not affect the flow logic.
  - **Transfer Parameters**: Enter the name of a parameter to be transferred, which is optional.

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  - **Value**: Enter a parameter value, which is optional.

    NOTE

    The call-associated data consists of the transferred parameter, parameter value, and IVR type, which contains a maximum of 4000 bytes. The JSON format is supported. An example is as follows:

    {"data":{"xx": "aaa" , "yy":"bbb"}, "ivrType": "0"}

    To obtain the customer type field, set the transferred parameter to **customerEntityName** and set the parameter value to **account** or **contact**.
  - Click **New** to add a parameter record. The value of **Transfer Parameters** must be unique in each record.
  - Click **Delete** to delete the current record.
- Click **Save** to save all parameters set on the current page.

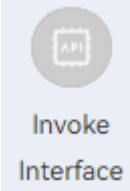
Typical Application Scenario

A voice call needs to be transferred from the current flow to a skill queue or third party.

2.6.3.10.34 Interface Invocation (Expired and Not Recommended)

This diagram element is used to invoke a configured interface of a tenant. During interface invocation, you can assign values to the input and output parameters of the interface as required.

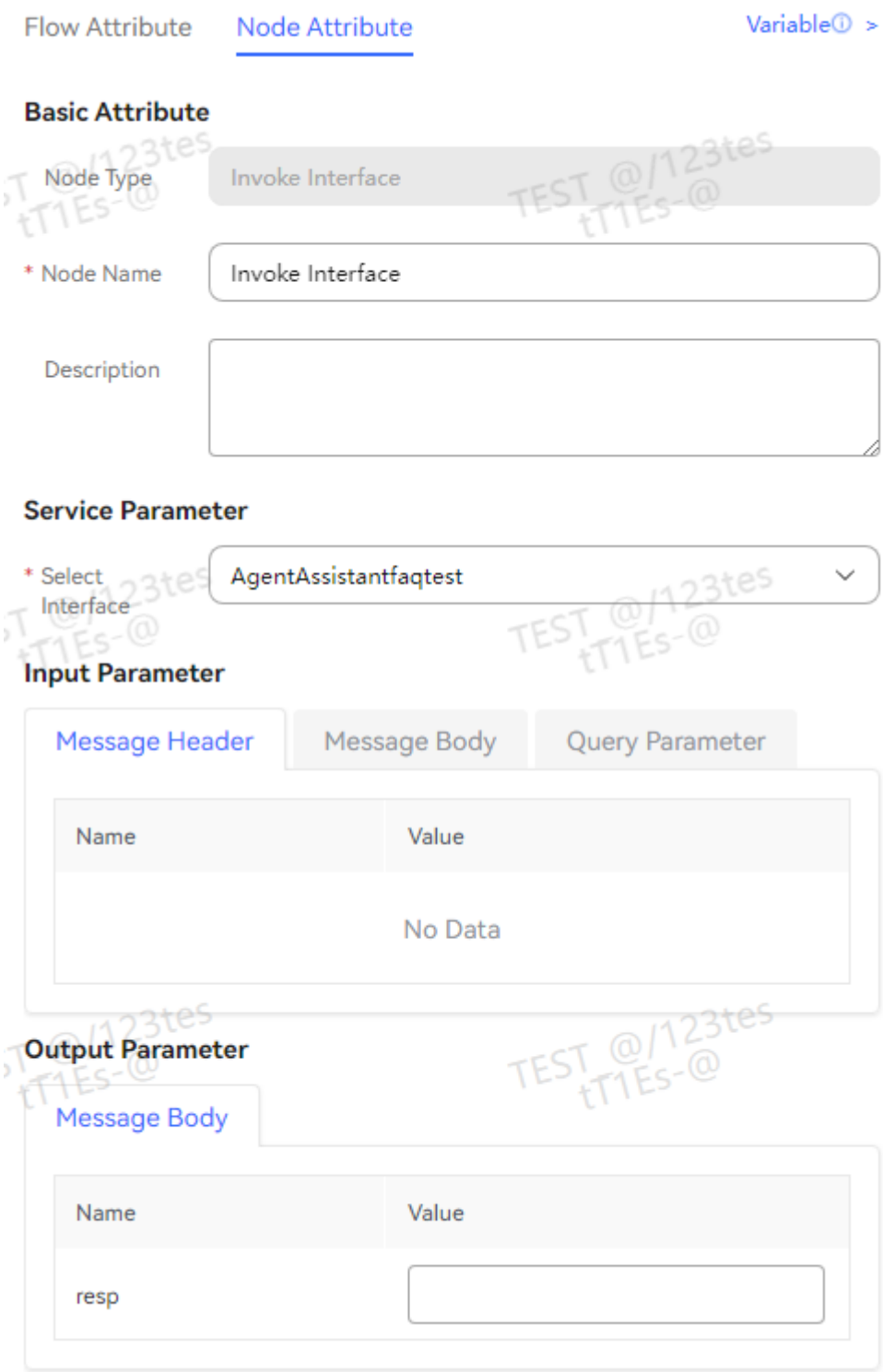
Diagram Element



Parameter Description

The following figure shows the parameters of the **Invoke Interface** diagram element.

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The parameters are described as follows:

- **Node Name**: Enter a diagram element name. The value can be customized.
- **Select Interface**: Select an interface name from the drop-down list box. The interfaces that can be selected have been configured for the current tenant. For details about the interface configuration, see **2.6.2.2.2 Adding Business Interfaces**.

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- **Input Parameter**: This area displays the input parameters of the selected interface. When there are specific input parameters, constants and variables can be combined, for example, **id ${FLOW.ID}**. You can also assign values to input parameters. The values can be constants and variables. Note that the input variables such as **FLOW.ID** must be defined in the system.
- **Output Parameter**: This area displays the output parameters of the selected interface. If there are specific output parameters, you can assign values to the output parameters as required. You can associate **FLOW** or **GLOBAL** variables. When the value is obtained from the interface, JSON data nesting is supported. The value is obtained in the *result.name result.id* format.
- Click **Save** to save all parameters set on the current page.

Typical Application Scenario

This diagram element is used to invoke an interface.

2.6.4 Configuring the Preconfiguration Intelligent Flows

2.6.4.1 Importing Flows

By default, no flow exists for intelligent information matching after a tenant is created. If a tenant subscribes to the intelligent information matching service, operations personnel need to provide related flows for the tenant administrator to import. After the tenant administrator slightly configures or modifies the flows, functions such as intelligent knowledge recommendation can be implemented.

Flow packages are released with the AICC installation package and archived in the **AICC_*.*.*_ODFS.zip/flowinfo** directory in the installation package.

NOTE

..* indicates the AICC version number.

- **LLM_Agent_Assistant.zip**

  This package is used in the intelligent agent assistant scenario to enhance the ODFS flow of the agent assistant in the baseline version. The following information is added to the returned information in real time: speaking speed, silence and interruption information, sensitive words and categories, real-time notification of script violations (based on the configured real-time inspection rules), and emotion recognition. You can decompress this package and obtain the following sub-packages:

  a. **LLM_Agent_Assistant_FLOW.zip**

  b. **workflow.zip**

- Information matching package

  This package is used in the intelligent agent assistant scenario to check forbidden words based on the quasi-real-time interaction records between agents and customers, send script reminders, and recommend content.

  This package is used in earlier versions. For versions later than 8.13.0, use the agent assistant flow package.

- **multiCellFLow.zip**

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This package contains preconfigured composite diagram elements and is used in the Q&A scenario. Q&As and answer branch processing in typical outbound calls are supported. If a subscriber enters incorrect questions for three consecutive times on the chatbot page, the system displays a message indicating that the number of attempts reaches the upper limit, and the chat text box is unavailable. This package is used in test outbound call Q&A flows and simple flows with common exception composite diagram elements.

- Satisfaction feedback flow package

  This package is used for customer satisfaction feedback on chatbot replies. Satisfaction feedback is required for Q&A-based replies, knowledge graph-based replies, and final replies in multiple rounds of dialogs.

- IVR test flow package

  This package is used to test IVR digit collection and voice playing.

- IVR test flow intention package

  This package contains intention data required by IVR test flows and is used together with the IVR test flow package.

- Intelligent revisit package

  This package is used for robots to make outbound calls to users for conducting satisfaction surveys after businesses are handled for the users.

- RPA intelligent case modification flow package

  This package is used for RPA robots to intelligently modify or supplement case information after agents create cases.

- Intelligent training package

  This package is used in the intelligent agent training scenario.

- RBT intention recognition package
- Address person entity package
- Intelligent case filling package
- SmartCare_ChatBot.zip
- SmartCare_VoiceBot.zip

NOTICE

A tenant administrator can contact O&M personnel to import the preceding flows or obtain them from O&M personnel. Perform the following steps to import the flows.

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Flow** > **Orchestration**, and click **Import Flow**.

Step 2 In the dialog box that is displayed, select the flow package that needs to be imported, for example, the information matching package, and click Upload.

----End

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2.6.4.2 Configuring the Intelligent Agent Assistant

The intelligent agent assistant can improve the customer service efficiency and quality, reduce the waiting time of customers, and enable agents to focus on more complex issues.

2.6.4.2.1 Configuring the Intelligent Agent Assistant

This section describes the overall process of configuring the intelligent agent assistant. If the voice and video workbench is used, perform the operation steps for the voice and video workbench. If the online chat workbench is used, perform the operation steps for the online chat workbench.

Voice and video workbench

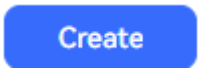
Step 1 Decompress the flow package **AICC_*.*.*_ODFS.zip** and obtain **LLM_Agent_Assistant_FLOW.zip** from the **/flowinfo/LLM_Agent_Assistant.zip** directory.

Step 2 Sign in to the AICC as a tenant administrator, and import and publish a baseline flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. On the **Flow Configuration** page, choose **Flow** > **Orchestration** and click **Import Flow**.

   Select the archived **LLM_Agent_Assistant_FLOW.zip** package, and click **Upload**.
3. Configure the preconfigured intelligent agent assistant flow. For details, see **2.6.4.2.5 Intelligent Agent Assistant Flow Description**.
4. Click **Publish**.

Step 3 Create an intelligent chatbot.

1. Choose **Intelligent Chatbot**.
2. Click 

to add an intelligent chatbot. Set **Dialog Type** and **Flow Name** to **Voice navigation** and the published baseline flow, respectively.

Step 4 Bind an intelligent chatbot.

1. Choose **Configuration Center** > **System Management** > **Tenant Information**.
2. On the **Basic Info** page, click  in the **Feature** area. Enable **Intelligent Recognition** and **Intelligent Agent Assistant**, select a robot assistant, and click **Save**. The robot assistant is the value of **Chatbot Name** configured in **Step 3**.

----End

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Online chat workbench

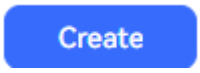
Step 1 Decompress the flow package **AICC_*.*.*_ODFS.zip** and obtain **LLM_Agent_Assistant_FLOW.zip** from the **/flowinfo/LLM_Agent_Assistant.zip** directory.

Step 2 Sign in to the AICC as a tenant administrator, and import and publish a baseline flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. On the **Flow Configuration** page, choose **Flow** > **Orchestration** and click **Import Flow**.

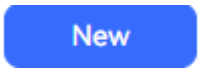
   Select the archived **LLM_Agent_Assistant_FLOW.zip** package, and click **Upload**.
3. Configure the preconfigured intelligent agent assistant flow. For details, see **2.6.4.2.5 Intelligent Agent Assistant Flow Description**.
4. Click **Publish**.

Step 3 Create an intelligent chatbot.

1. Choose **Intelligent Chatbot**.
2. Click 

to add an intelligent chatbot. Set **Dialog Type** and **Flow Name** to **Chatbot** and the published baseline flow, respectively.

Step 4 Bind an intelligent chatbot.

1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.
2. Click 

. On the **Configure Channel** page that is displayed, enable **Access Robot Assistant** and bind the chatbot created in 2.

Figure 2-406 Robot Configuration



----End

2.6.4.2.2 Scripts

To use the intention and script recommendation functions of the intelligent agent assistant, perform the following operations.

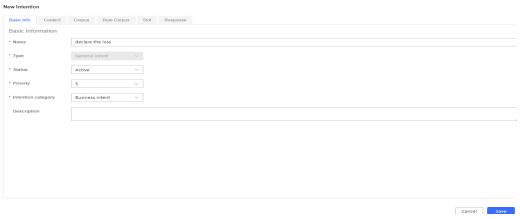
Step 1 Configure a domain. Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management** and click **Create** to create a domain.

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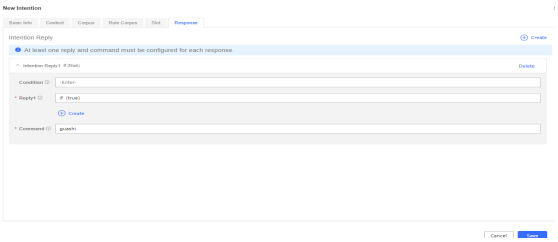
Step 2 Add an intention. Choose **Knowledge Management** > **Intention Management** and create intentions and scripts as intentions.

For example, in the intention of a loss report, the script may be "your ID card number" or "your mobile number". Therefore, create three intentions at a time.

1. Click **Create** to create a general intention. On the **Basic Info** tab page, set **Name** to the name of a script or intention displayed on the GUI.



2. Click the **Corpus** tab. Corpus indicates the keywords for recognition. Click **Create** to create a corpus. For example, set the corpus for the loss report to **Loss Report**.
3. Click the **Response** tab to set an intention command. The intent command must be unique. Click **Create** to create a response.



4. After configuring the **Loss Report**, **Your Mobile Number**, and **Your ID Card Number** intentions, click **Train** to train the robot.

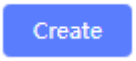
Step 3 Configure a greeting. Greetings are preconfigured in the baseline flow. To customize greetings, modify **GreetingWord** in the resource template. For details about how to set other TTS texts to greetings, see **2.6.4.3.1 Greeting Resource Templates**. To match a greeting, create an intention on the **Intention Management** page. It is recommended that the name and keyword of the intention be the same as those of the greeting. The intention command must be set to **GreetingWord**.

For details about how to add an intention, see **Step 2**.

----End

2.6.4.2.3 Q&As

To use the FAQ recommendation function of the intelligent agent assistant, configure Q&As in the intelligent IVR.

Step 1 Choose **Knowledge Management** > **FAQ Management** and click 

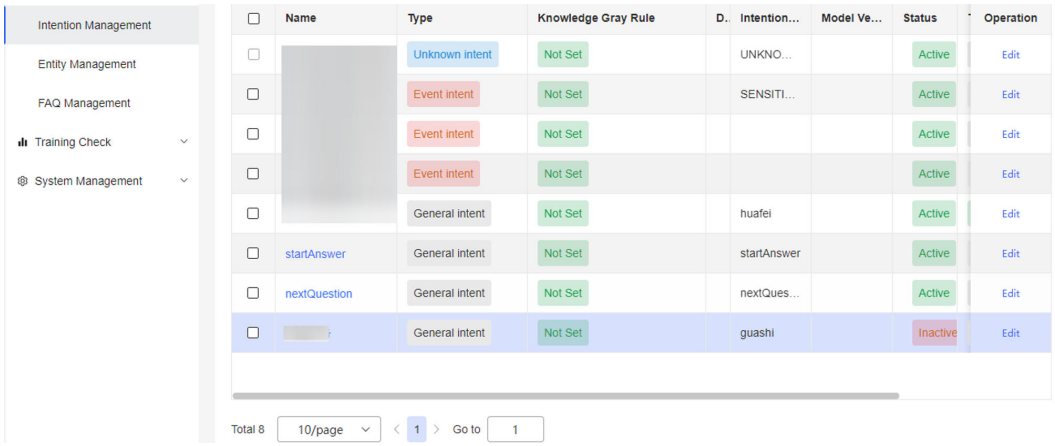
to create an FAQ group. Multiple Q&A pairs can be created in an FAQ group.

NOTE

To use a URL, set **Description** in the markdown format (**[Description](https://url)**, for example, **[Baidu](https://www.baidu.com)**).

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Step 2 After the configuration is complete, return to the **Intention Management** page and click **Active** to activate the intention.



----End

2.6.4.2.4 Sensitive Words

To use the sensitive word prompt function of the intelligent agent assistant, create sensitive words on the **Intelligent IVR** page.

Step 1 Choose **Knowledge Management** > **Entity Management** and click the **SENSITIVE WORD** tab.

Step 2 Click **Add** to create a sensitive word category. You can configure multiple sensitive word categories based on the site requirements.

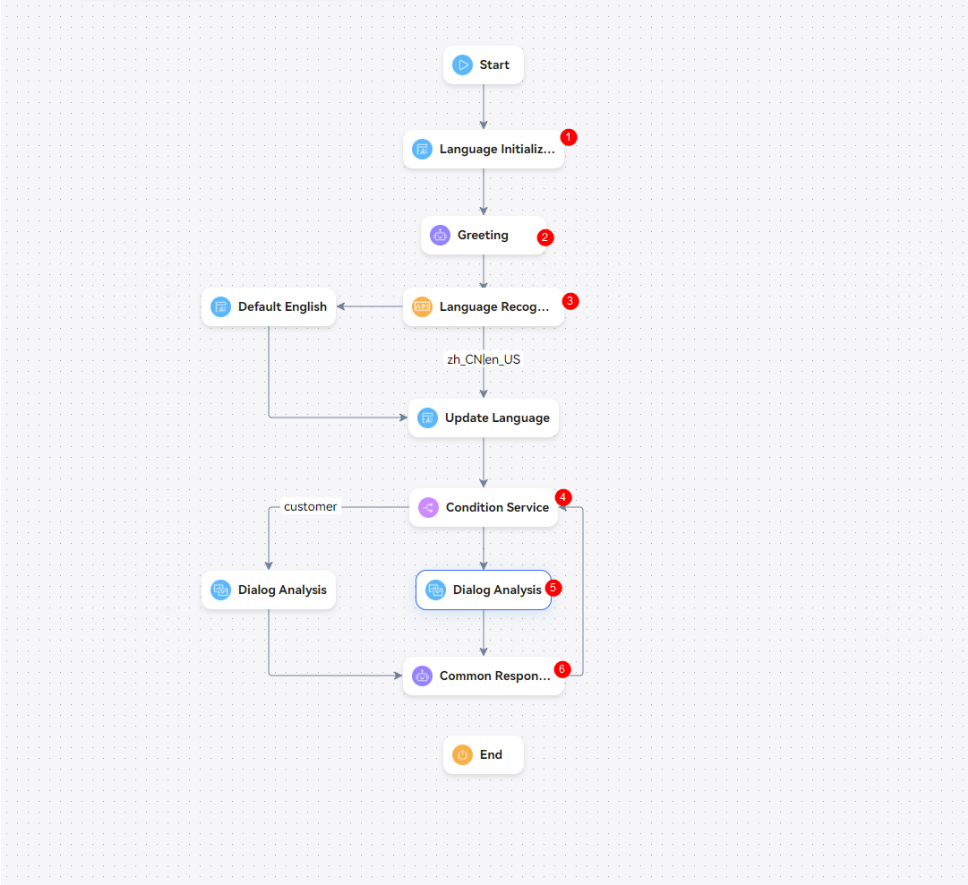
Step 3 Click **Add** on the right to create a sensitive word. For example, create a forbidden word category, and then create a password under the category as a forbidden word.

----End

2.6.4.2.5 Intelligent Agent Assistant Flow Description

The following figure shows the preconfigured intelligent agent assistant flow.

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This flow implements the following functions:

1. In the **Language Initialization** variable assignment diagram element, the default language of the global variable is English.
2. The **Greeting** response diagram element plays the greeting to the customer. The voice file needs to be customized in Chinese and English.
3. The **Interface Invoking** diagram element at point 3 determines whether the agent or customer at point 2 speaks English or Chinese and assigns the language variable to the global variable.
4. The **Branch Judgment** diagram element at point 4 identifies the interaction information.
   - If the inspection object is a customer, semantic recognition, sentiment analysis, and Q&A retrieval are performed, and the **Robot Reply** diagram element at point 6 is invoked to assign the response result to the flow variable.
   - If the inspection object is an agent or operator, sentiment analysis is performed, and the **Robot Reply** diagram element at point 6 is invoked to assign the response result to the flow variable.
   - If an error such as timeout or unknown intention occurs, the **Interface Invoking** diagram element at point 5 is invoked. The interaction information is directly used to invoke the Q&A interface to obtain a recommended reply.
5. The **Robot Reply** diagram element returns the recommended reply and sensitive words.

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6. If the result is not empty, the next cycle starts.

Modify the greeting voice templates and invoke the knowledge recognition interface in an **Interface Invoking** diagram element to implement the intelligent agent assistant function.

Greeting Resource Templates

Resource templates in the first response of the intelligent agent assistant flow can be configured and modified by the customer or preconfigured by the business personnel based on the customer requirements.

Step 1 Choose **Flow** > **Orchestration** and click **Edit** corresponding to the agent assistant flow.

Step 2 Click the first response diagram element to view the response template name on the right.

Step 3 Choose **Resource** > **Resource Template**.

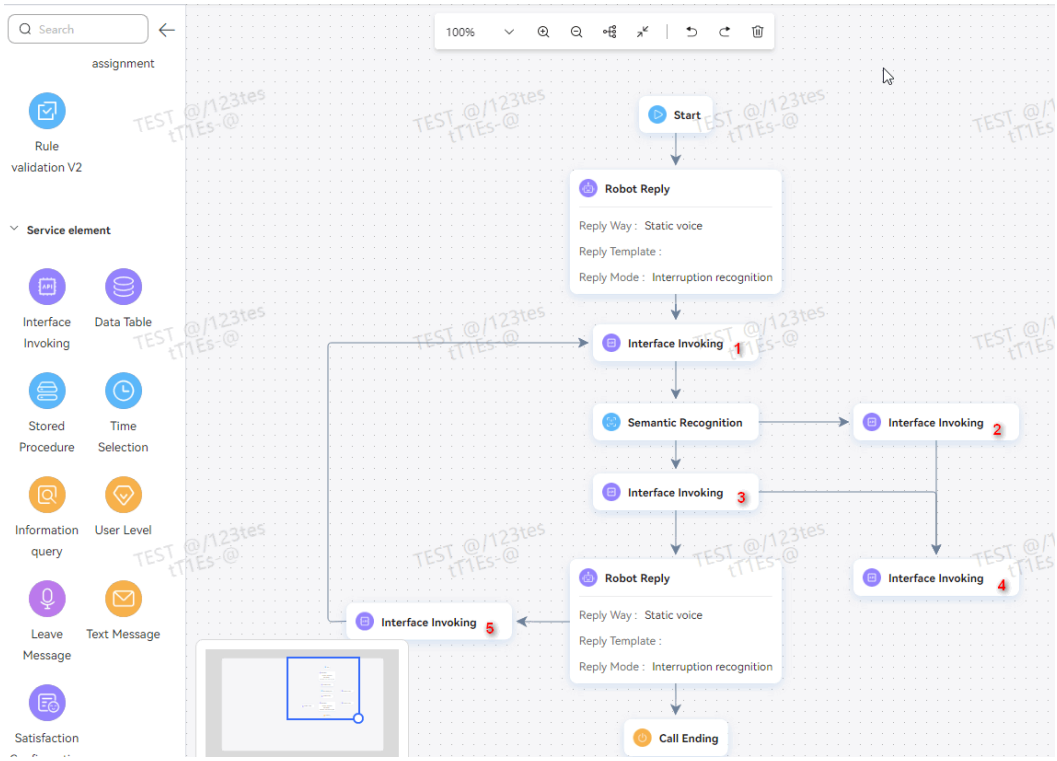
Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the template as required and click **Confirm**.

----End

2.6.4.3 Configuring the Intelligent Information Matching Flow

The following figure shows the preconfigured intelligent information matching flow.



This flow implements the following functions:

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1. The response diagram element plays the greeting to the customer. Customize the voice files.
2. The **Interface Invoking** diagram element at position 1 separates the texts sent by the client by spaces based on the interaction records, and records whether the texts are sent by the customer or agent.
3. The **Semantic Recognition** diagram element identifies the interaction information as follows:
   - If sensitive words exist, the sensitive word prompt is triggered. The **Interface Invoking** diagram element at point 3 assigns the sensitive words to flow variables.
   - If no sensitive word exists and the intention is matched, the **Interface Invoking** diagram element at point 4 is entered, and the matched intention name is used to invoke the Q&A interface to obtain a recommended reply.
   - If an error such as timeout or unknown intention occurs, the **Interface Invoking** diagram element at point 2 is invoked. The interaction information is directly used to invoke the Q&A interface to obtain a recommended reply.
4. The response diagram element returns the recommended replies and sensitive words.
5. After a reply is triggered, the sensitive words are empty and the next cycle starts.

Modify the greeting voice templates and invoke the specific recommendation and knowledge obtaining interfaces in an **Interface Invoking** diagram element to implement the information matching function.

2.6.4.3.1 Greeting Resource Templates

Resource templates in the first response of the information matching flow can be configured and modified by the customer or preconfigured by the business personnel based on the customer requirements.

Step 1 Choose **Flow Management > Flow Orchestration** and click  next to the information matching flow.

Step 2 Click the first response diagram element to view the response template name on the right.

Step 3 Choose **Resource Management** > **Resource Template**.

Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the template as required and click **Confirm**.

----End

2.6.4.3.2 Interface Invoking Diagram Element

The information matching flow supports user-defined modification and update of invoked diagram element types and settings based on business requirements.

Step 1 Choose **Flow** > **Orchestration** and click **Edit** next to the information matching flow.

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Step 2 Click the **Interface Invoking** diagram element and set **Select Interface** on the right to implement the knowledge or script recommendation function.

NOTE

Modify the configuration based on site requirements.

To configure the knowledge base for a customer, invoke the corresponding interface. If no interface is required, the cache parameter **recommand** is not invoked, but the attribute name in the response must be set to a fixed character string. This step can be performed by the customer or preconfigured by the business personnel by using interface parameters.

Perform operations based on site requirements. To configure a business interface, choose **Resource** > **Business Interface**. For details, see "Adding Business Interfaces" in *20-AICC IVR Flow Configuration Guide*.

----End

2.6.4.3.3 Response Templates Returned to the Semantic Recognition Invoker

Response templates can be configured by the customer or configured by the business personnel based on the customer requirements. After a template is configured, the backend automatically reads the parameter information.

The JSON format of the response template **PromptText** in the second response diagram element in the information matching flow is fixed. Ensure that the referenced parameter name is the same as the variable name defined in the flow.

Step 1 Choose **Flow Management > Flow Orchestration** and click  next to the information matching flow.

Step 2 Click the **Response** diagram element in the lower part to view the response template name.

Step 3 Choose **Resource Management > Resource Template**.

Step 4 Click **Edit** next to the template described in **Step 2**.

Step 5 On the **Edit Template** page, modify the JSON content as required. Ensure that the parameter names in the JSON file are the same as the variable names defined in the information matching flow.

----End

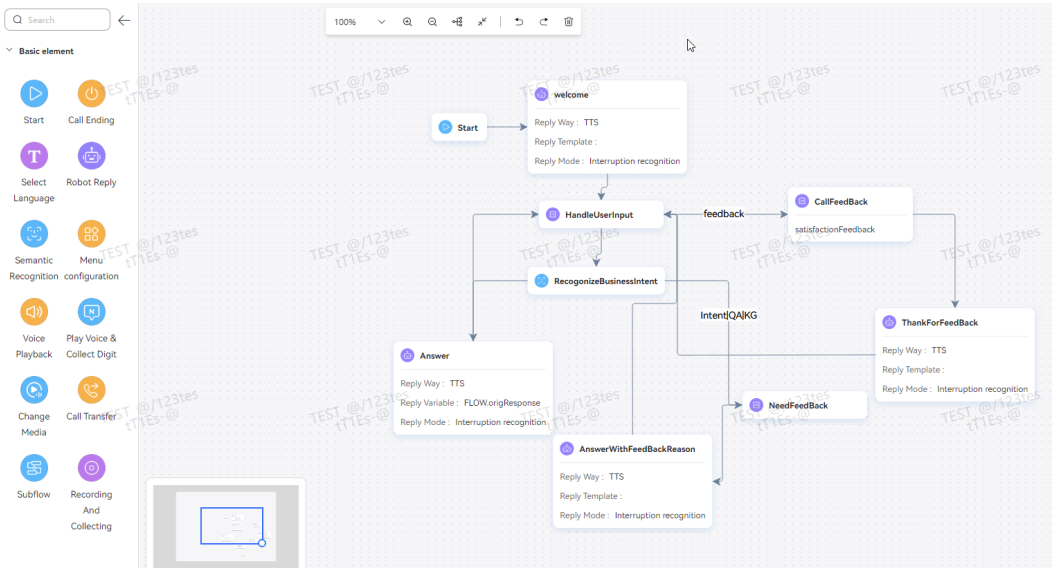
2.6.4.4 Configuring the Satisfaction Feedback Flow

In a call test, the GUI and flow orchestration are used to implement the satisfaction feedback function.

During flow orchestration, determine the businesses for which satisfaction feedback is required. Generally, satisfaction feedback is not required for chat sessions, auxiliary sessions, slotted sessions, and clarification sessions. It is required for Q&A-based replies, knowledge graph replies, and final replies in multiple rounds of dialogs.

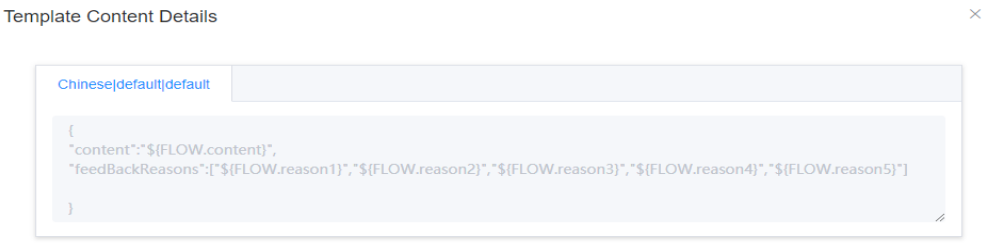
The following figure shows the preconfigured satisfaction feedback flow.

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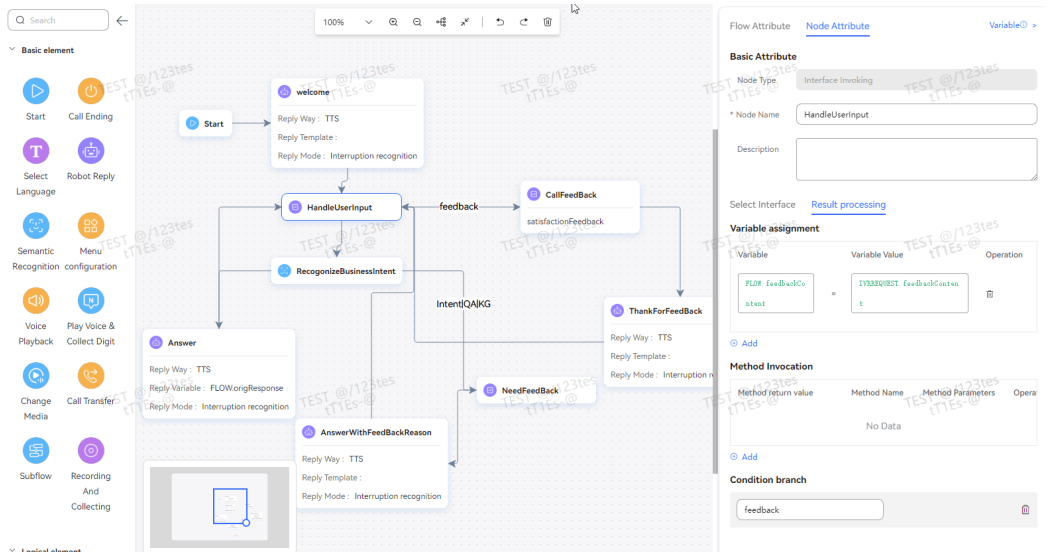


Step 1 Return the **needFeedBackResponse** response template in the branch that requires feedback. The data structure in the response template must be the same as that agreed by the frontend.

The response template **needFeedBackResponse** provides the result to be returned for the current business and the reason for dissatisfaction. The frontend parses the result for display.

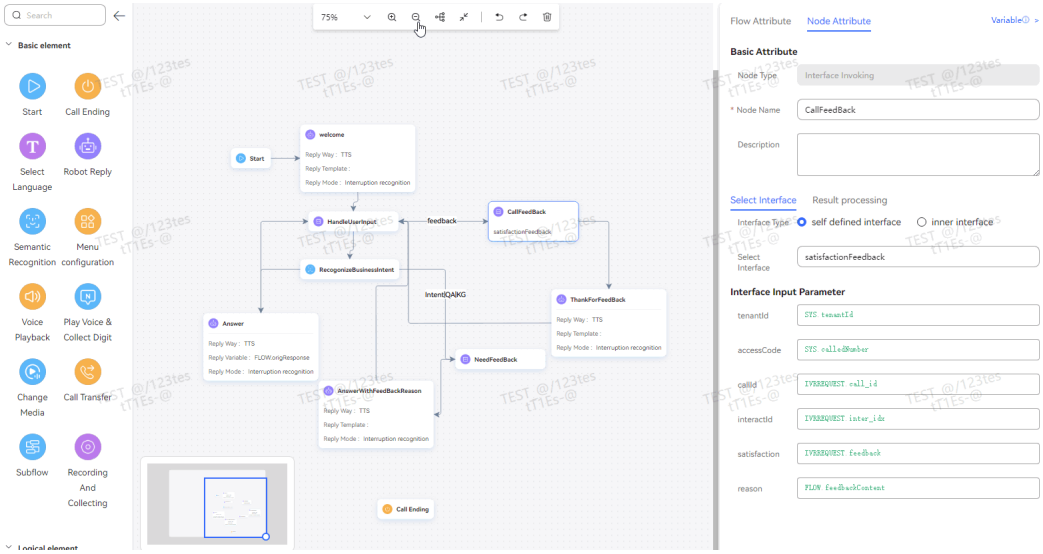


Step 2 Check the user input. If the value of **IVRREQUEST.feedback** is **0** or **1**, the user is satisfied and the satisfaction feedback enters the feedback branch.

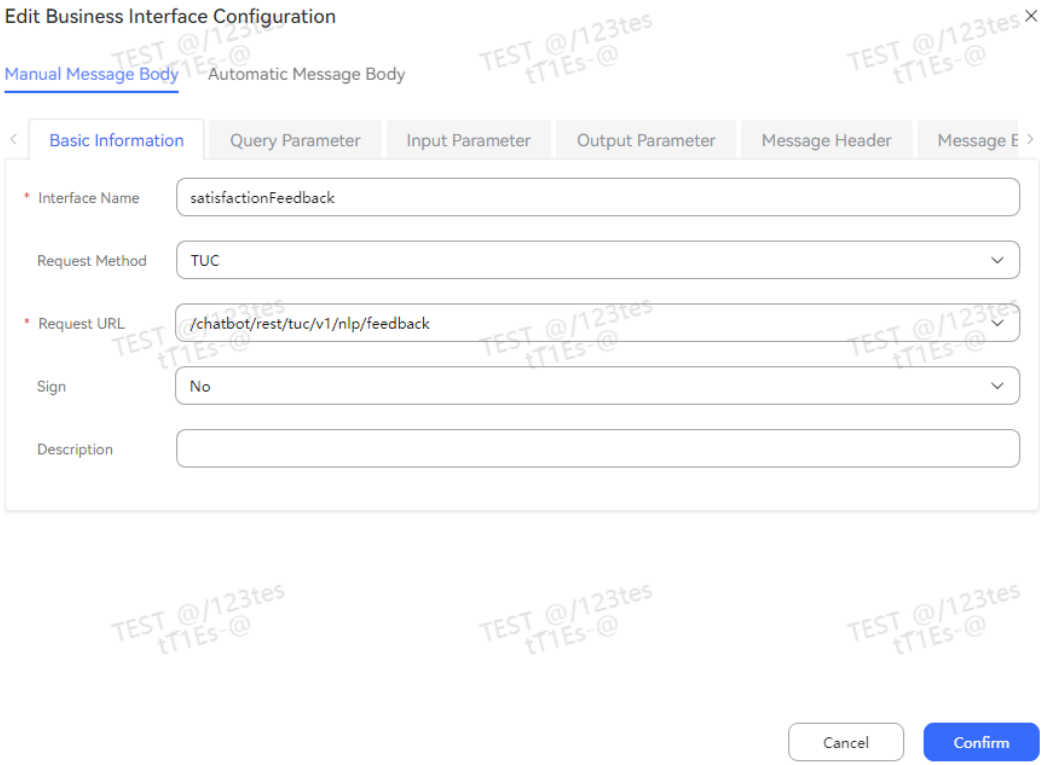


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Step 3 Check whether the feedback branch invokes the CallFeedBack interface provided by the TUC.



Step 4 Check the configuration of the satisfaction feedback interface in the following figure.



----End

2.6.4.5 Configuring the SmartCare Flow

If a network fault occurs in an area or a cell in the carrier system, customers may call the carrier service hotline to consult or report the network fault. The AICC Bot is integrated with the SmartCare to invoke the CCA to obtain fault demarcation

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results and answer customers' questions, implementing self-closed-loop services for network fault consultation and reporting.

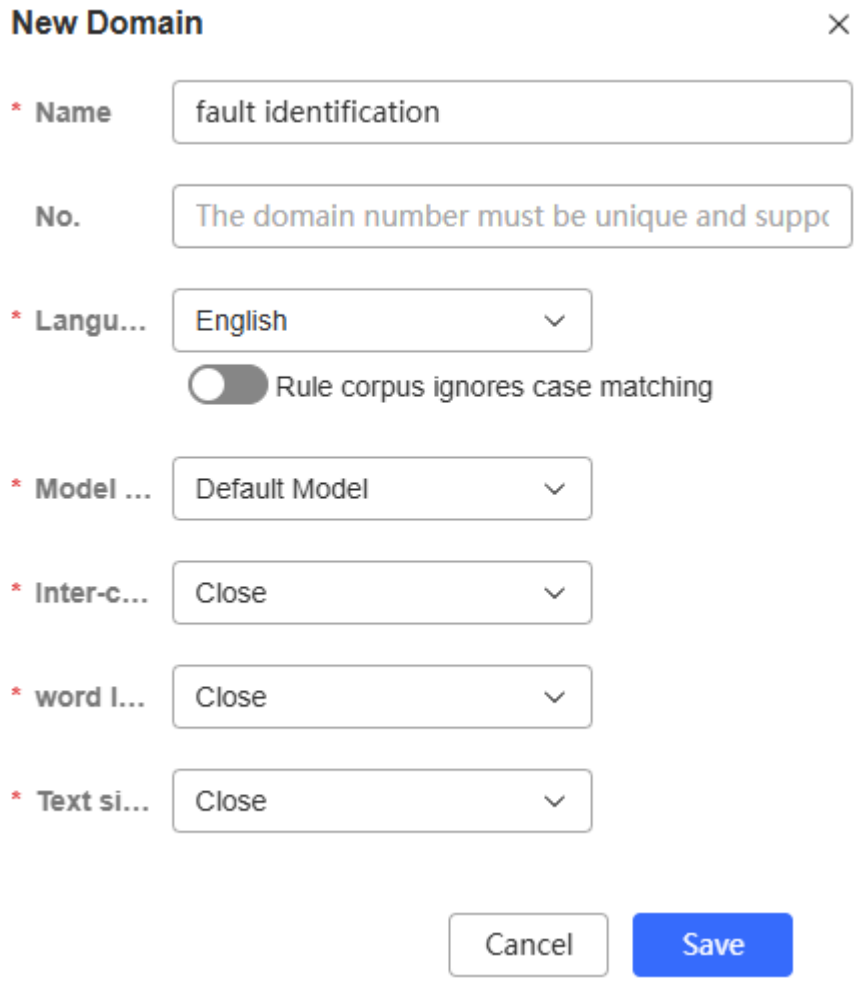
Prerequisites

The SmartCare service has been commissioned by referring to Commissioning the SmartCare Fault Demarcation Function.

2.6.4.5.1 Configuring a Domain and an Intention

Step 1 Choose **Configuration Center** > **Chatbot Management** > **Semantic Understanding** > **Knowledge Management** > **Domain Management**, and click **Create** to create a domain.

Figure 2-407 New Domain page



Step 2 Find the domain created in **Step 1** and click **Active** to activate the domain.

Step 3 Choose **Knowledge Management** > **Intention Management** and select the domain created in **Step 1**.

Step 4 Create the voice and data intentions and set the information on the **Corpus** and **Response** tab pages by referring to the following figures. The corpora can be set based on site requirements.

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Figure 2-408 Setting voice corpus information

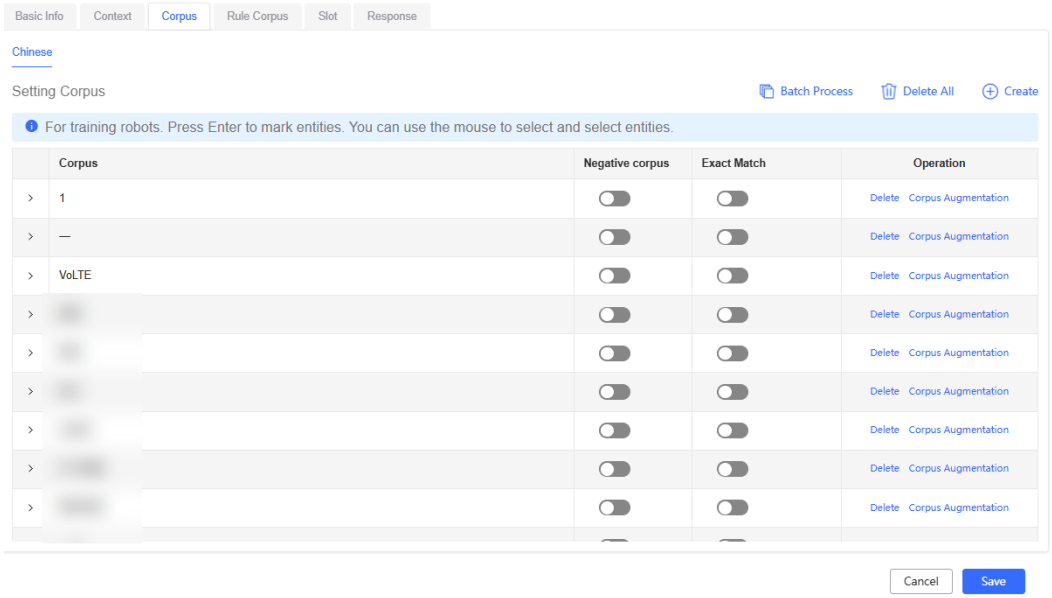


Figure 2-409 Setting voice response information

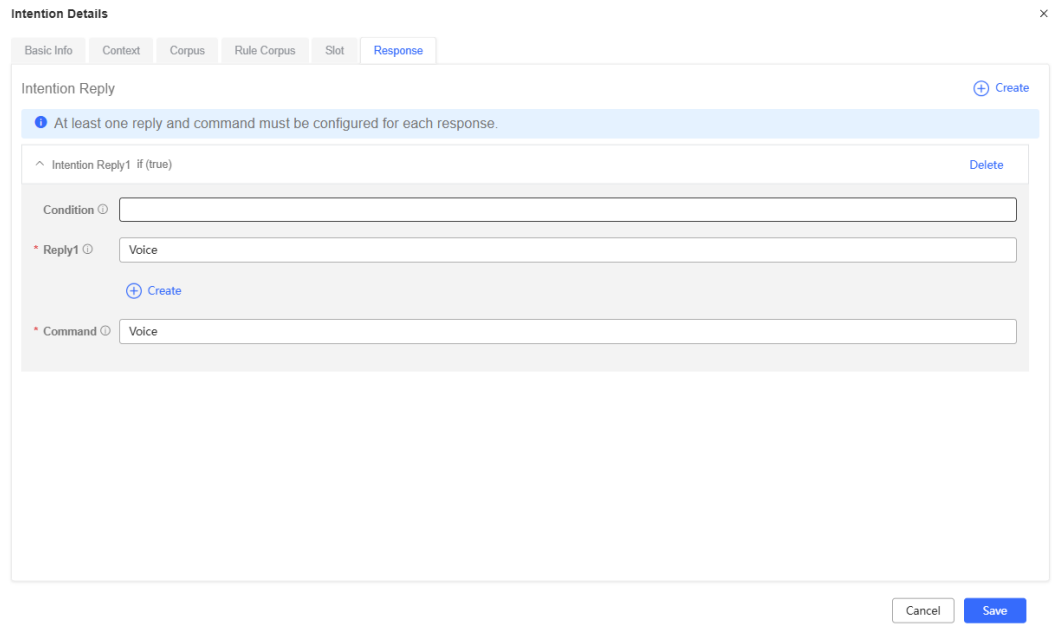


Figure 2-410 Setting data corpus information

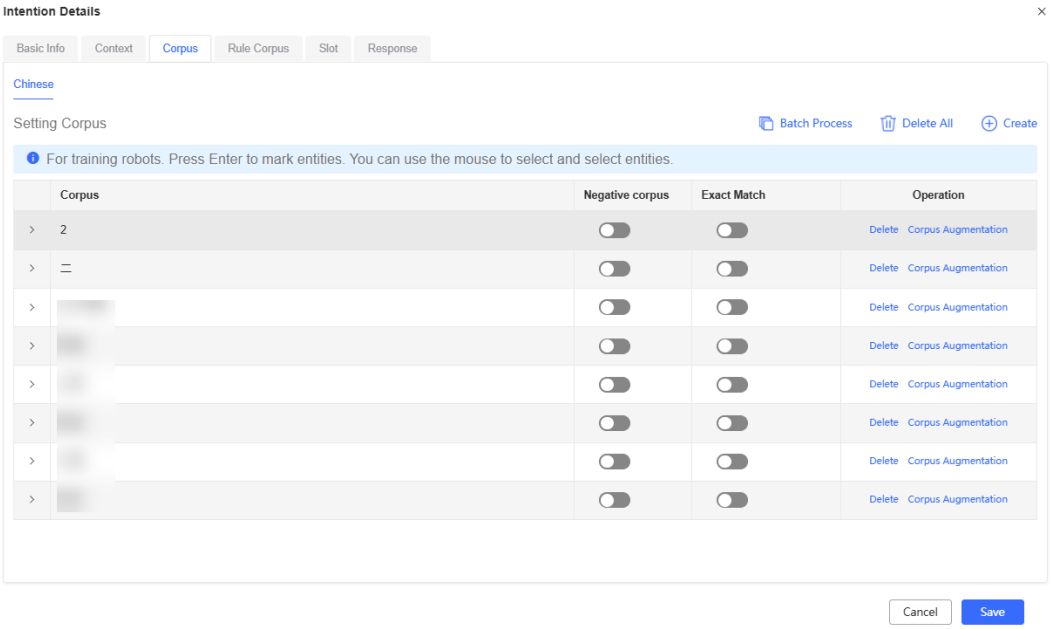
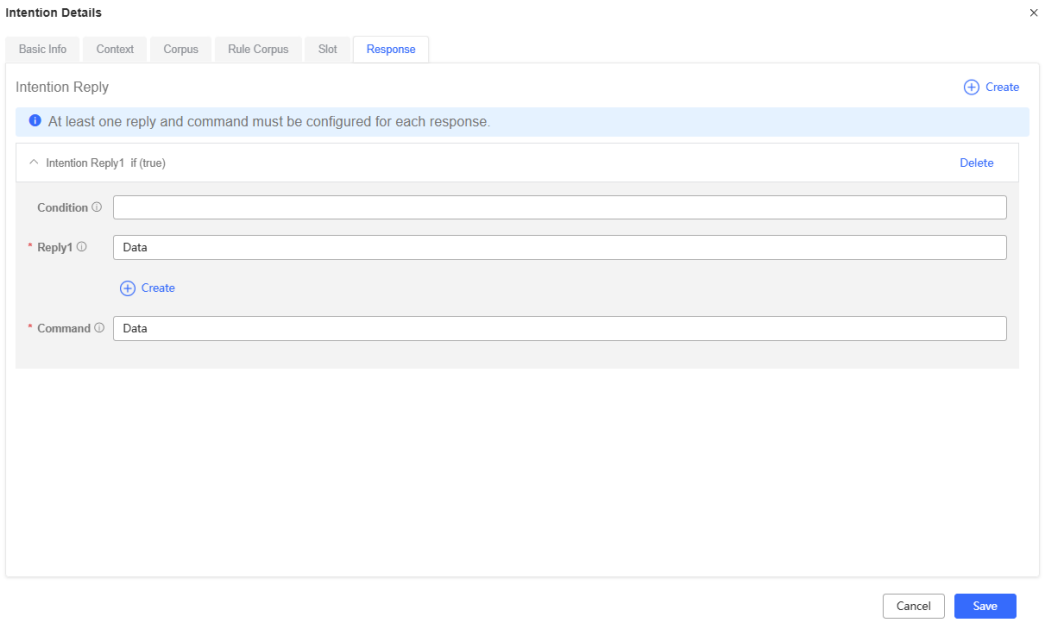


Figure 2-411 Setting data response information



Step 5 Click **Save** to save the intention.

Step 6 Select the intentions and click **Train** to train them.

----End

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2.6.4.5.2 Importing a ChatBot Flow

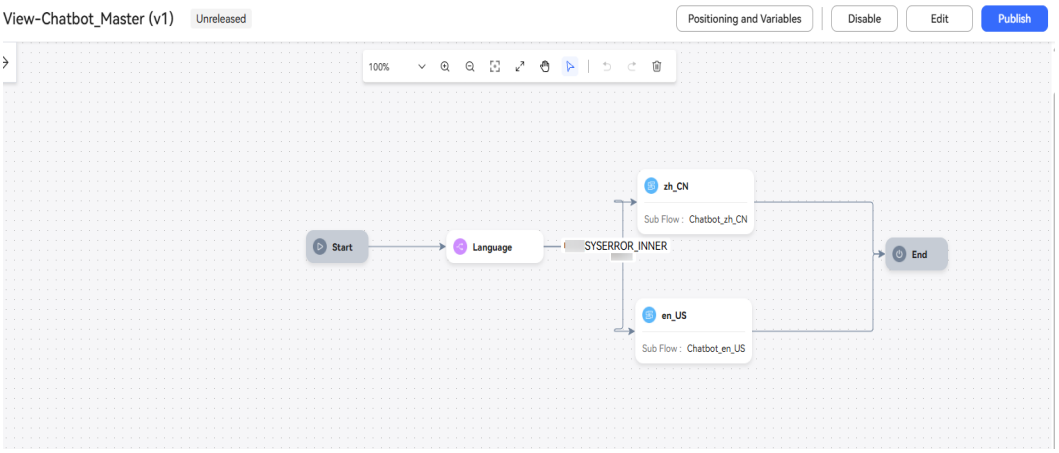
Procedure

Step 1 Decompress the flow package **AICC_*.*.*_ODFS.zip** and obtain the **SmartCare_ChatBot.zip** package from the **/flowinfo/SmartCare_ChatBot.zip** directory.

Step 2 Sign in to the AICC as a tenant administrator, and import and publish the flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.
2. Choose **Flow** > **Orchestration** and click **Import Flow**. In the dialog box that is displayed, click **Select File** to select the **SmartCare_ChatBot.zip** package and click **Upload**.
3. Click **Publish**.

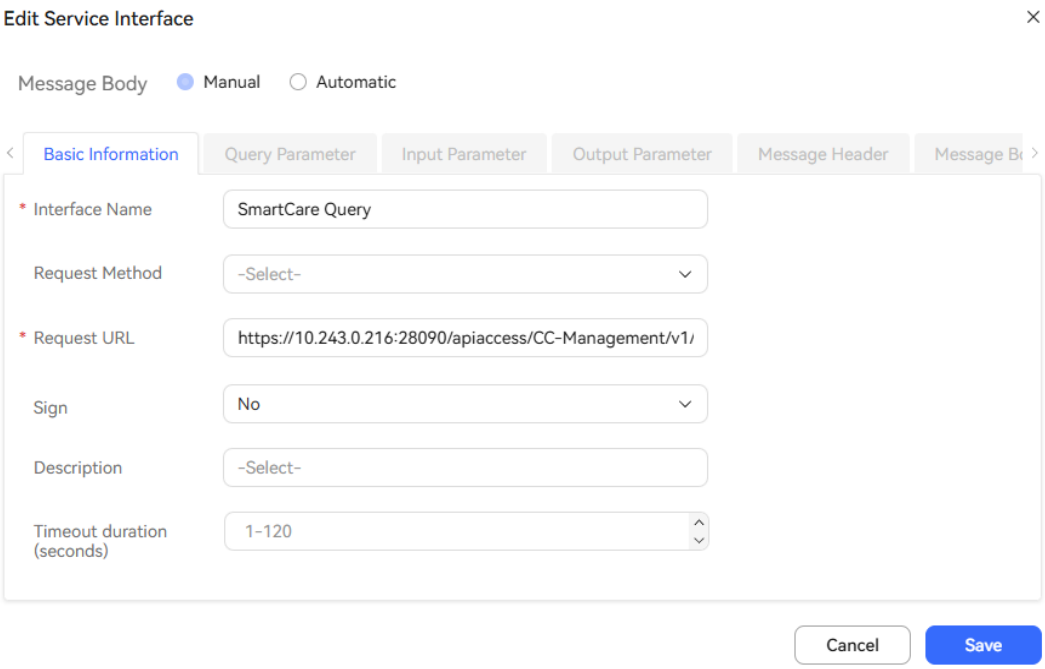
Figure 2-412 SmartCare_ChatBot flow



4. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Business Interface** > **Self-defined Interface**.

   Set **Request URL** to the URL of the AICC (replace *ip*:*port* with the IP address and port number or domain name of the AICC) for the SmartCare Query and SmartCare Submits interfaces.

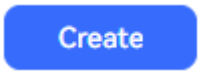
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NOTE

The process supports Chinese and English. The subflow to be executed is determined based on the built-in **Language** variable.

Step 3 Create an intelligent chatbot.

1. Choose **Intelligent Chatbot**.
2. Click 

to create an intelligent robot. Set **Dialog Type** to **Chatbot** and **Associated Process** to the flow in **Step 2**.
3. Set **Bind Domain** to the domain in **2.6.4.5.1 Configuring a Domain and an Intention**.
4. Click **Save**. The intelligent robot is created successfully.

----End

2.6.4.5.3 Importing a Voicebot Flow

The flow is used for quick fault demarcation after a customer enters the fault scenario and fault time in sequence. After the fault demarcation is complete, the fault is transferred to the manual service or other flows configured based on site requirements.

Procedure

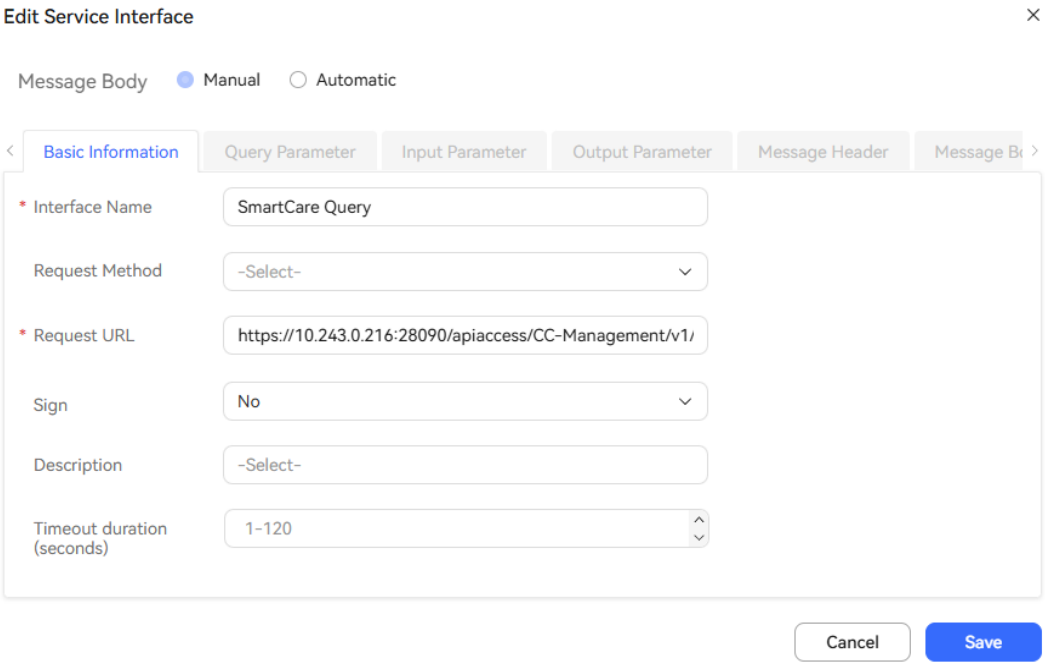
Step 1 Decompress the flow package **AICC_*.*.*_ODFS.zip** and obtain the **SmartCare_Voice.zip** package from the **/flowinfo/SmartCare_VoiceBot.zip** directory.

Step 2 Sign in to the AICC as a tenant administrator, and import and publish the flow.

1. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

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2. Choose **Flow** > **Orchestration** and click **Import Flow**. In the dialog box that is displayed, click **Select File** to select the **SmartCare_Voice.zip** package and click **Upload**.
3. Configure the preset SmartCare_VoiceBot flow and publish it.
4. Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **Resource** > **Business Interface** > **Self-defined Interface**. Set **Request URL** to the URL of the AICC (replace *ip*:*port* with the IP address and port number or domain name of the AICC) for the SmartCare Query and SmartCare Submits interfaces.

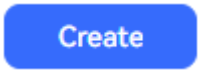


NOTE

Select subflows in the corresponding language and modify the flow variables. In the preceding configuration flow, **phoneInput** indicates the prompt for entering a mobile number, **inputTime** indicates the prompt for entering a time, **inputScene** indicates the prompt for entering a scenario, **inputError** indicates the prompt for entering an error, **locating** indicates the waiting prompt, and **response** indicates the reply when no result is found.

5. Click **Publish**.

Step 3 Create an intelligent chatbot.

1. Choose **Intelligent Chatbot**.
2. Click 

to create an intelligent robot. Set **Dialog Type** to **IVR flow** and **Associated Process** to the flow in **Step 2**.
3. Set **Bind Domain** by referring to **2.6.4.5.1 Configuring a Domain and an Intention**.

----End

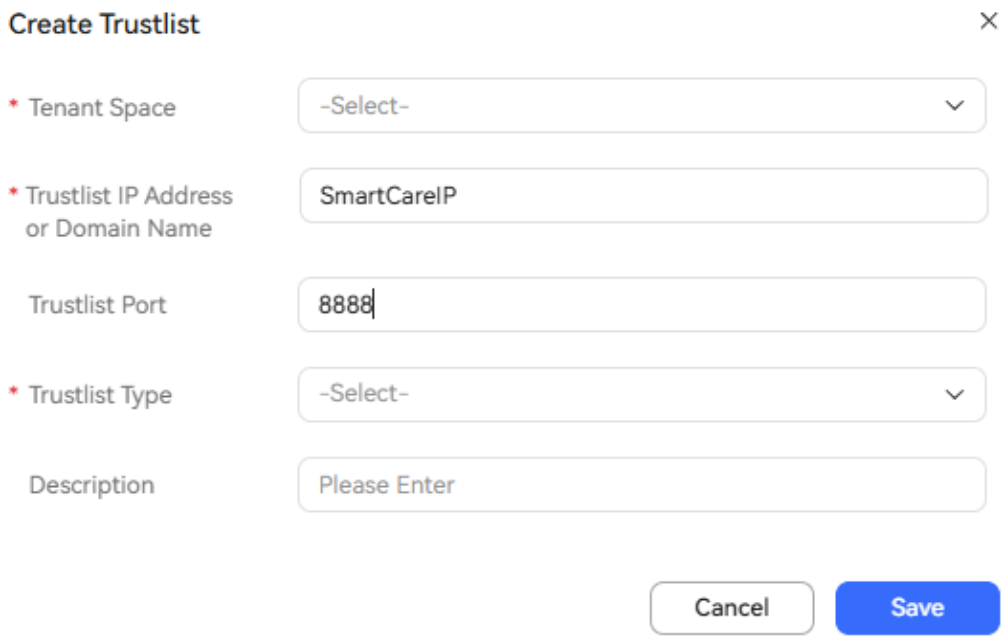
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2.6.4.5.4 Configuring the Trustlist

Step 1 Sign in to the AICC as the system administrator.

Step 2 Choose **Configuration Center** > **Chatbot Management** > **Flow Management** > **Trustlist**, click Create, enter the IP address and port number for invoking the SmartCare interface, and set **Trustlist Type** to **Interface**.

Figure 2-413 Create Trustlist page



Step 3 Click **Save**.

----End

2.6.4.5.5 Modifying Global Variables

After the flow is imported, some variables need to be manually adjusted.

Procedure

Step 1 Sign in to the AICC as a tenant administrator.

Step 2 Choose **Configuration Center** > **Chatbot Management** > **Flow Configuration**.

Step 3 Choose **Resource** > **Variable** and click **Edit** of the following variables to adjust default values.

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Table 2-164 Variable to be adjusted

Variable	Description	Default Value
timeOffsetHours	**GLOBAL.timeOffsetHours** indicates the query time offset (hours), which can be customized.	The default value is **2**.
appKey appSecret	To obtain the appKey and appSecret, perform the following steps: 1. Sign in to the AICC as the system administrator and choose **Configuration Center** > **Expansion and Integration** > **API Management**. The API Fabric page is displayed. 2. Choose **APP Service** > **APP Management**, enter the app name, and click **Edit** of the app. appKey indicates the app key, and appSecret indicates the app secret. 3. Return to the **APP Management** page, and click **Subscribe** of the app found in **Step 3.2** to subscribe to the **queryquickresult** and **submitquickdelimit** services.	The app key and app secret of a tenant space are unique and need to be manually set.

Step 4 Click **Save** to save the variables.

----End

2.6.4.6 Releasing Flows and Testing Calls

This section describes how to release a flow and how to test the released flow.

2.6.4.6.1 Flows

After a flow is imported, it is in **Invalidate** state. The flow can be used only after it is successfully released. The call test can be performed only after the configuration takes effect.

Step 1 Choose **Flow Management > Flow Orchestration**.

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Step 2 Click  next to a flow to release the flow for it to take effect.

----End

2.6.4.6.2 Call Tests

You can test the configured chatbot to determine whether the configuration is correct.

Step 1 Choose **Chatbot Management**.

Step 2 Click **Add** to add an access code. Set required information, select the flow to be tested, and click **Confirm**.

Step 3 Click **Test Call** in the last column of the desired access code.

Step 4 In the dialog box that is displayed, enter the information to perform the test.

----End

2.7 IVR Journey Analysis

2.7.1 KPI Description

This section describes the KPIs that you need to understand before using the IVR analysis system.

Table 2-165 KPIs involved in the IVR analysis

Category	KPI	Definition	Description	Formula
Business KPIs	Direct	Number of calls that reach the node through the shortest path.	If a customer does not press the asterisk (*) or pound (#) key before reaching a business node, the customer's call is considered as a direct call.	Direct = Visits – Non Direct
	Direct Rate	Percentage of direct calls to total visits to the business node.	Direct Rate + Non Direct Rate = 1	Direct Rate = Direct/Visits

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Category	KPI	Definition	Description	Formula
	Non Direct	Number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node.	-	Non Direct = Visits – Direct
	Non Direct Rate	Percentage of non-direct calls to total visits to the business node.	Direct Rate + Non Direct Rate = 1	Non Direct Rate = Non Direct/Visits
	Visits	Total number of calls that reach the business node.	-	Visits = Number of Successes + Number of Failures + Number of abandoned calls
	Hang Up	Number of calls that are hung up after they reach the business node.	On a navigation node, if a customer does not press the asterisk (*) key as prompted to return and hangs up the call instead after pressing an incorrect key, the customer's call is not considered as a hung-up call.	-

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Category	KPI	Definition	Description	Formula
	Number of calls in which customers return to previous menus	Number of calls in which customers press the asterisk (*) key to return to previous menus after reaching the business node.	This KPI does not include the number of times that customers press the asterisk (*) key to return after pressing incorrect keys on navigation nodes.	-
	Number of calls in which customers return to the main menu	Number of calls in which customers press the pound (#) key to return to the main menu after reaching the business node.	-	-
	Number of Successes	Number of calls with successful business handling, consultation, or query.	A call is considered as a success if more than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered.	Number of Successes = Visits – Number of Failures – Number of abandoned calls

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Category	KPI	Definition	Description	Formula
	Number of Failures	Number of calls with failed business handling, consultation, or query.	A call is considered as a failure if the voice indicating business failure is played on a query, consultation, or business handling node. This KPI is inapplicable to navigation nodes.	Number of Failures = Visits – Number of Successes – Number of abandoned calls
	Number of abandoned calls	• Less than half of the consultation voice is played on a consultation node. • No voice indicating business success or failure is played on a query or business handling node, for example, when a call is hung up during password verification.	This KPI is inapplicable to navigation nodes and transfer-to-manual nodes.	Number of abandoned calls = Visits – Number of Successes – Number of Failures
	Success rate	Percentage of calls with successful business handling, consultation, or query to total visits.	-	Success rate = Number of Successes/ Visits

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Category	KPI	Definition	Description	Formula
	Failure Rate	Percentage of calls with failed business handling, consultation, or query to total visits to the business node.	-	Failure Rate = Number of Failures/Visits
	Abandon rate	Percentage of abandoned calls to total visits to the business node.	-	Abandon rate = Number of abandoned calls/Visits
	Rehear	Number of nodes on which voices are replayed.	If the voice is replayed for multiple times in a node visit, the value increases only by 1.	-
	Rehear Rate	Percentage of nodes on which voices are replayed to total visits.	-	Rehear Rate = Rehear/Visits
	Rehear Once	Number of nodes on which voices are replayed once.	-	-
	Rehear Twice	Number of nodes on which voices are replayed twice.	-	-

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Category	KPI	Definition	Description	Formula
	Average Service Duration	Average duration of business handling, query, or consultation on a business node.	Proportion of IVR service duration to node visits.	Average Service Duration = IVR service duration/ Visits
	Reduced manual service duration	Product of the number of successful calls for a business node and the average duration of manual service for the business node.	The average duration of manual service is automatically synchronized from the IVRMAP.	-
	Average business path length before the business node	The path length before calls reach the business node indicates the number of business nodes which calls pass through before reaching the target business node.	Proportion of the total path length before calls reach the business node to total node visits.	Average business path length before the business node = Total path length before the business node/Visits

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Category	KPI	Definition	Description	Formula
	Average key pressing times before the business node	Total number of key pressing times before calls reach the business node, including invalid key pressing times on a navigation node and excluding key pressing times for the collection of multi-digit numbers.	Proportion of key pressing times before the business node to total node visits.	Average key pressing times before the business node = Number of key pressing times before the business node/Visits
	Flowing into lower-level menus	Number of calls that access lower-level menus through upper-level menus.	-	-
	Transfer-to-manual rate	Number of visits that are transferred to agents because IVR flows cannot meet the business handling requirements of customers.	Percentage of visits that are transferred to manual service to total visits to the business node, for example, the percentage of visits that are transferred to manual service at the main menu.	Transfer-to-manual rate = Number of transferred-to-manual calls/Visits

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Category	KPI	Definition	Description	Formula
	Number of sent SMS/MMS messages	The number of sent SMS or MMS messages for consultation, query, and business handling is determined by the number of times the system plays the voice indicating SMS or MMS message sending success.	-	-
	Number of sent faxes	The number of faxes sent for consultation, query, and business handling is determined by the number of times the system plays the voice indicating fax sending success.	-	-

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Category	KPI	Definition	Description	Formula
	Number of sent emails	The number of emails sent for consultation, query, and business handling is determined by the number of times the system plays the voice indicating email sending success.	-	-
	Number of sent WAP Push messages	The number of sent WAP Push messages for consultation, query, and business handling is determined by the number of times the system plays the voice indicating WAP Push message sending success.	-	-

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Category	KPI	Definition	Description	Formula
	Number of businesses that are successfully handled	Total number of business requests that are successfully handled on all business handling subnodes, including requests for business subscription, cancellation, and modification.	-	-
	Number of successful business queries	Total number of successful business requests on all query subnodes.	-	-
	Equivalent commission	Product of the number of businesses that are successfully handled and corresponding commissions.	-	Equivalent commission = Number of businesses that are successfully handled x Commissions
	SMS satisfaction	Percentage of customer replies with 3, 4, and 5 to customer replies with 1, 2, 3, 4, and 5.	-	SMS satisfaction = Number of customer replies with 3, 4, and 5/ Number of customer replies with 1, 2, 3, 4, and 5

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Category	KPI	Definition	Description	Formula
	Query success rate	Percentage of successful business query requests to total business query requests.	-	Query success rate = Number of successful business query requests/ Number of business query requests
	Business handling success rate	Percentage of businesses that are successfully handled through self-service to businesses that are handled through self-service.	-	Business handling success rate = Number of businesses that are successfully handled through self-service/ Number of businesses that are handled through self-service.
	Total visits that request manual service	Total number of visits that request manual service.	-	-
	Manual-to-IVR calls	Number of calls that are transferred to the IVR after customers request manual service on hearing the menu voice on the first node.	-	-

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Category	KPI	Definition	Description	Formula
	Manual-to-IVR rate	Percentage of calls that are transferred to the IVR after customers request manual service on hearing the menu voice on the first node to transferred-to-manual calls.	-	Manual-to-IVR rate = Manual-to-IVR calls/ Number of transferred-to-manual calls
	Average manual service duration	Average duration of manual service for customer visits.	-	-
	IVR-to-manual calls	Number of calls that are transferred to manual service after customers access the IVR.	-	-
	Number of failed manual-to-IVR calls	Number of failed calls that are transferred to the IVR in the subsequent handling process after customers request manual service on hearing the menu voice on the first node.	-	-

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Category	KPI	Definition	Description	Formula
	Redirected calls	Number of calls that jump to other nodes.	-	-
Traffic KPIs	Valid IVR Service	An IVR call is valid if one of the following conditions is met: • The business request is successfully handled or the business query is successful. • More than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered. If multiple businesses are handled successfully for a call, only one valid service is counted.	-	-

Category	KPI	Definition	Description	Formula
	Valid inbound call rate	Percentage of IVR inbound calls in which customers reply with keys to total IVR inbound calls.	If an inbound call is directly hung up when the greeting or the menu voice of the first node is played, the call is not considered as a valid inbound call.	Valid inbound call rate = Number of valid inbound calls/Number of inbound calls
	Effective Service Rate	An IVR call is effective if one of the following conditions is met: • The business request is successfully handled or the business query is successful. • More than half of the business consultation voice is played or the SMS message, MMS message, WAP Push message, or email is successfully triggered.	Effective Service Rate indicates the percentage of calls with effective services to total IVR inbound calls.	Effective Service Rate = Number of calls with effective services/ Number of IVR inbound calls

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Category	KPI	Definition	Description	Formula
	Number of transferred-to-manual calls	Number of inbound calls that request manual service.	If a call requests manual service for multiple times, only one request is counted.	-
	Number of transferred-to-manual calls on the first node	Number of calls in which customers request manul service on the first node.	If a call requests manual service for multiple times on the first node, only one request is counted.	-
	Transferred-to-manual rate on the first node	Percentage of calls transferred to manual service on the first node.	-	Transferred-to-manual rate on the first node = Number of transferred-to-manual calls on the first node/ Number of inbound calls
	Number of non-transferred-to-manual calls on the first node	Number of calls that are transferred to manual service in the subsequent handling process after customers access the IVR on hearing the menu voice on the first node.	-	Number of non-transferred-to-manual calls on the first node = Number of transferred-to-manual calls – Number of transferred-to-manual calls on the first node

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Category	KPI	Definition	Description	Formula
	Self-service volume	Number of IVR calls that are not transferred to manual service.	-	Self-service volume = Total number of inbound calls – Number of transferred-to-manual calls
	Proportion of manual traffic	Percentage of inbound calls that request manual service to total IVR inbound calls.	-	Proportion of manual traffic = Number of transferred-to-manual calls/Number of inbound calls
	Pure IVR service rate	Percentage of inbound calls with no manual service to total inbound calls.	-	Pure IVR service rate = Number of inbound calls with no manual service/ Number of inbound calls

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Category	KPI	Definition	Description	Formula
	Transferred to Manual Successful	Number of calls that are successfully transferred to agents.	An IVR call is successfully transferred to an agent if the call is successfully transferred to a queue and does not return to the IVR through the timeout flow due to the queuing timeout. **NOTE** • If **agentSuccFlag** is **1**, the call is successfully transferred to an agent. • If **agentSuccFlag** is **0**, the call fails to be transferred to an agent.	-
	Transferred-to-manual success rate	Percentage of calls that are successfully transferred to manual service to total calls that request manual service.	-	Transferred to manual successful rate = Transferred to Manual Successful/ Number of transferred-to-manual calls

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Category	KPI	Definition	Description	Formula
	Number of non-direct behaviors	If there are multiple non-direct behaviors in a call, one non-direct behavior is counted.	-	-
	Non-direct behavior rate	Proportion of non-direct behaviors to total inbound calls.	-	Non-direct behavior rate = Number of non-direct behaviors/ Number of inbound calls
	IVR One-time Resolution Rate	If a hotline inbound call with a valid service does not request manual service and the customer does not call the customer service platform again within two hours after the call is hung up, the customer concern is considered to be resolved in one IVR call.	-	IVR One-time Resolution Rate = (Valid IVR service volume – IVR Repeat Calls)/ Valid IVR service volume
	Average call duration	Average duration of customers' interaction with the IVR in all hotline calls that do not request manual service.	-	Average call duration = Total duration of IVR service/ Number of inbound calls

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Category	KPI	Definition	Description	Formula
	IVR system error rate	Percentage of IVR inbound calls with flow or voice invocation errors to total IVR inbound calls.	-	IVR system error rate = Number of calls with flow or voice invoking errors/ Number of inbound calls
	Average Path Length	The business path length indicates the number of business nodes, including consultation, query, business handling, and navigation nodes, which calls pass through.	-	Average Path Length = Business path length/ Number of inbound calls
	Repeated Incoming Calls	Number of calls from calling parties who dial the customer service hotline repeatedly within 2 hours.	-	-
	Repeated Call Rate	Percentage of repeated calls to total calls.	-	Repeated Call Rate = Repeated Incoming Calls/Total number of inbound calls

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Category	KPI	Definition	Description	Formula
	Number of IVR inbound calls	Number of IVR inbound calls that are connected to the customer business platform and in which IVR voices are successfully played. The value is slightly smaller than the number of IVR inbound calls collected by the platform. If a call is connected to the IVR multiple times, only one call is counted.	-	-
	Total IVR service duration	Total duration of IVR service.	This KPI does not include the waiting time and manual service duration of calls that are transferred to manual service. The unit is second.	-

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Category	KPI	Definition	Description	Formula
	Voice playback node path length	Number of times calls pass through voice playback nodes.	If a voice is automatically replayed by the IVR due to the timeout of digit collection, only one voice playback is counted.	-
	IVR Repeat Calls	Number of IVR inbound calls with valid services and no manual service that are connected to the hotline again within two hours after the calls are hung up.	-	-
	Number of function node visits	Number of calls that reach consultation, query, or business handling nodes.	-	-

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Category	KPI	Definition	Description	Formula
	Average key pressing times	Number of times customers press keys on hearing menu voices, including invalid key pressing times at the navigation menu and excluding key pressing times for the collection of multi-digit numbers.	-	Average key pressing times = Number of key pressing times/ Number of inbound calls
	Key Error Return	Number of times customers press the asterisk (*) key to return to previous menus after pressing incorrect keys on navigation nodes.	-	-
	Number of hang-up calls due to incorrect key pressing	Number of calls in which customers hang up instead of pressing the asterisk (*) key as prompted to return to previous menus after pressing incorrect keys on navigation nodes.	-	-

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Category	KPI	Definition	Description	Formula
	Number of customers	Number of inbound customer numbers after deduplication.	-	-
	Number of local customers	Number of customers in a specific city or region.	-	-
	Active traffic distribution rate	Percentage of calls with key pressing for self-service on the first node to total calls with key pressing for self-service or manual service on the first node.	-	Active traffic distribution rate = Number of calls with key pressing for self-service on the first node/(Number of calls with key pressing for self-service on the first node + Number of calls with key pressing for manual service on the first node)
	Number of pure IVR customers	Number of customers who are connected to the IVR and are not transferred to manual service in a month after deduplication.	-	-

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Category	KPI	Definition	Description	Formula
	Number of loyal customers	Number of customers who call the IVR system every month for three consecutive months and whose calls are not transferred to manual service.	-	-
	Average path length with key pressing	Average path length of inbound calls that enter the main flow.	-	-
	Hang-up calls on the first node	Number of inbound calls in which no keys are pressed.	-	-
	Number of customers who hang up before reaching the first node	Number of customers who do not reply with keys after deduplication.	-	-
	Hang-up rate before calls reach the first node	Percentage of calls that are hung up before reaching the first node to total inbound calls.	-	Hang-up rate before calls reach the first node = Hang-up calls on the first node/ Number of inbound calls
	Average duration of calls with key pressing	Average duration of inbound calls that enter the main flow.	-	-

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Category	KPI	Definition	Description	Formula
	Node arrival rate	Percentage of calls that reach function nodes to calls with key pressing on the first node. The keys pressed on the first node do not contain 0.	-	-
	Number of calls with key pressing on the first node	Number of inbound calls with key pressing on the first node.	-	Number of calls with key pressing on the first node = Number of IVR inbound calls – Hang-up calls on the first node
	Number of calls with key pressing for self-service on the first node	Number of calls with keys except 0 pressed on the first node.	-	Number of calls with key pressing for self-service on the first node = Number of calls with key pressing on the first node – Number of calls with key pressing for manual service on the first node

2.7.2 IVR Overview

On the **IVR Overview** page, you can view the overall operations status of a selected chatbot flow from a macro perspective.

Prerequisites

- You have the **IVR Analysis** > **IVR Overview** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.

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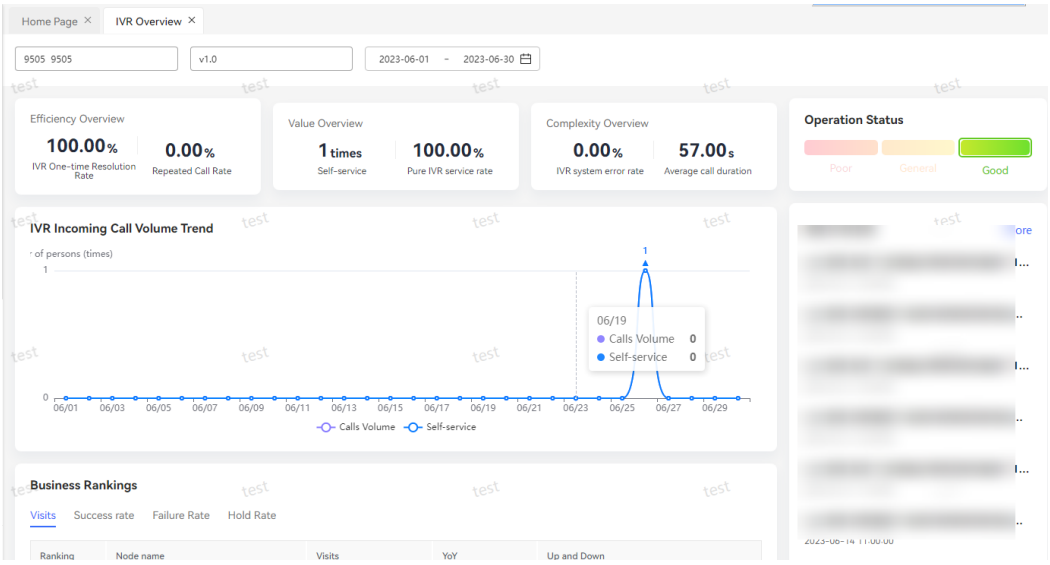
- The chatbot flow to be analyzed has call records in the query time range.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **IVR Overview**.

Step 2 Set the access code, version name, and time range in the filter criteria boxes and press **Enter**. The query result is displayed, as shown in **Figure 2**.

Figure 2-414 IVR Overview



Step 3 In the **Operation Status** area, learn about the overall status of IVR operations.

NOTE

The **Operation Status** area displays the overall IVR operations status based on the month-on-month increase or decrease rate of core KPIs of IVR flows (arithmetic average value of the absolute values of the month-on-month (MoM) rates of all core KPIs).

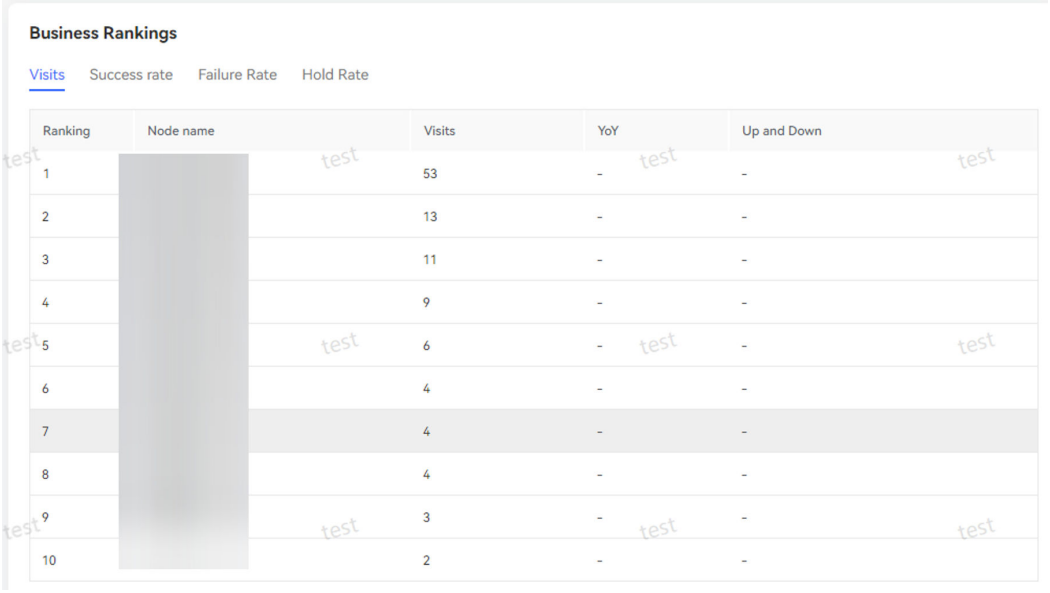
If the average increase or decrease rate of core KPIs is less than 5%, the operations status is **Good**. If the increase or decrease rate ranges from 5% to 10%, the operations status is **General**. If the increase or decrease rate is greater than 10%, the operations status is **Poor** and the situation needs to be handled in time. If no MoM value is available, the operations status is set to **Good** by default.

Step 4 Click **More** to go to the **Alarm Event** page. For details, see **2.7.7 Alarm Event**.

Step 5 In the **Business Rankings** area, click a node name to go to the **Flow Analysis** page. For details, see **2.7.3 Flow Analysis**.

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Figure 2-415 Node name



NOTE

- Success rate = ∑Number of successes (**SuccessCalls**)/∑Number of visits (**journeynum**)
- Failure rate = ∑Number of failures (**FailedCalls**)/∑Number of visits (**journeynum**)
- Hang-up rate = ∑Number of calls that are hung up (**HangupNum**)/∑Number of visits (**journeynum**)

Step 6 (Follow-up procedure) Learn about the descriptions and formulas of KPIs. For details, see **2.7.1 KPI Description**.

----End

2.7.3 Flow Analysis

By analyzing the access paths of IVR flows, you can learn about the common access paths of users and ensure that these access paths remain unchanged when adjusting flows.

You can analyze the traffic of each node to learn about the traffic information of each node or business, find out inefficient menu nodes and business flows, and identify the weaknesses of the IVR design.

You can view the non-direct call information to learn about the operations performed by users on a node and optimize the node accordingly.

You can also learn about the proportion of the traffic of a subnode to the outgoing traffic of its upper-layer node.

Prerequisites

- You have the **IVR Analysis** > **Flow Analysis** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has call records in the query time range.

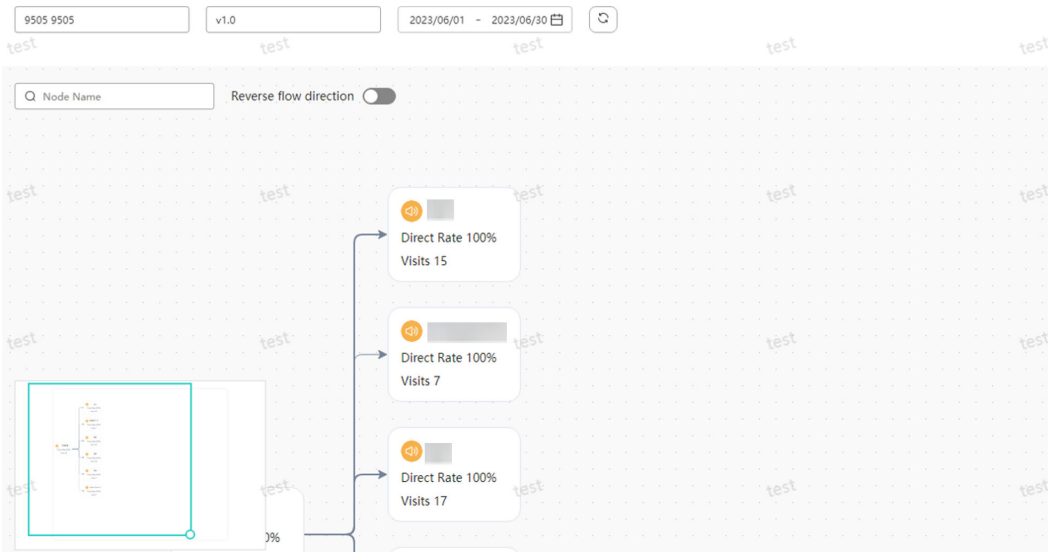
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Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Flow Analysis**.

Step 2 Set the access code, version name, and time range in the filter criteria boxes and press **Enter**. The query result is displayed, as shown in **Figure 2**.

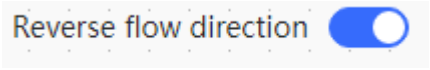
Figure 2-416 Flow Analysis



NOTE

A scheduled task collects statistics on business data of the past three hours every hour.

Step 3 Enter a node name in the **Node Name** text box to search for the node. The node is highlighted.

Step 4 Enable 

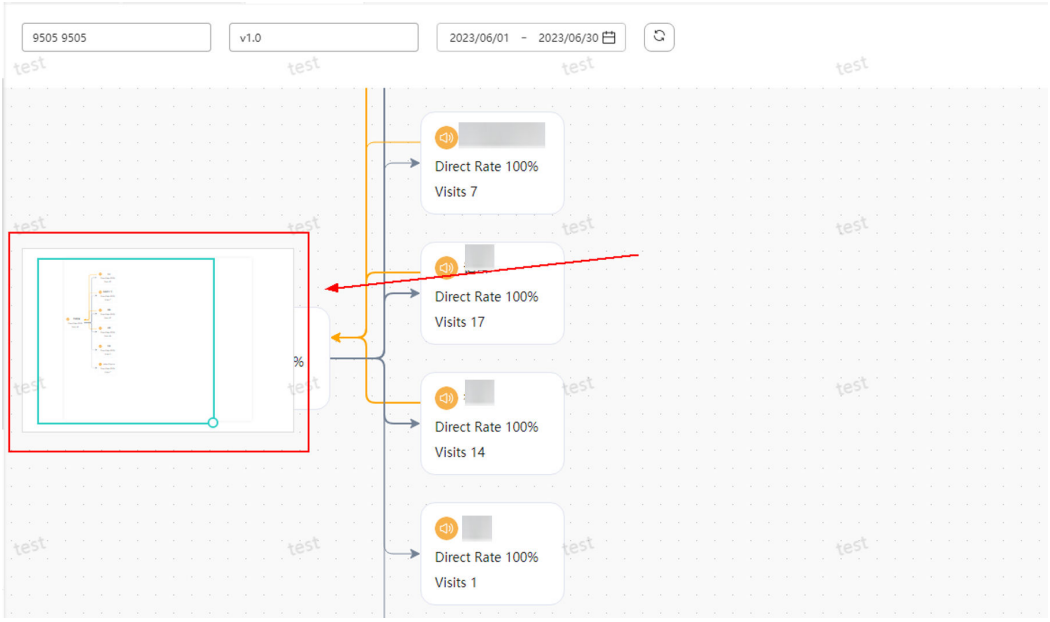
to display the reverse traffic.

Step 5 Double-click a node in the flowchart to go to the corresponding node analysis page.

Step 6 Click the aerial view in the lower left corner to quickly locate specific flow information.

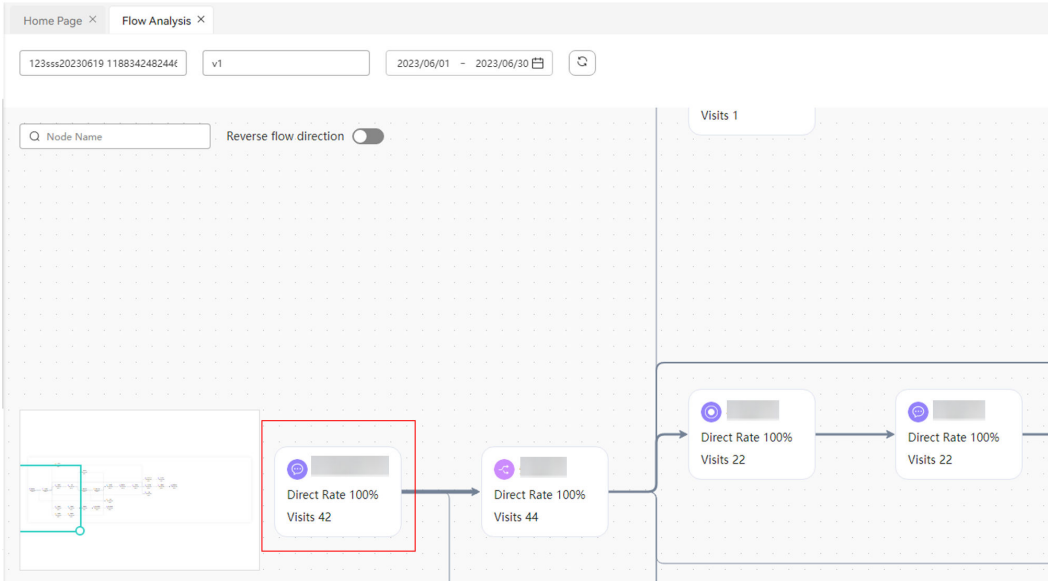
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Figure 2-417 Aerial view



Step 7 Double-click the main flow to access the main flow analysis details page.

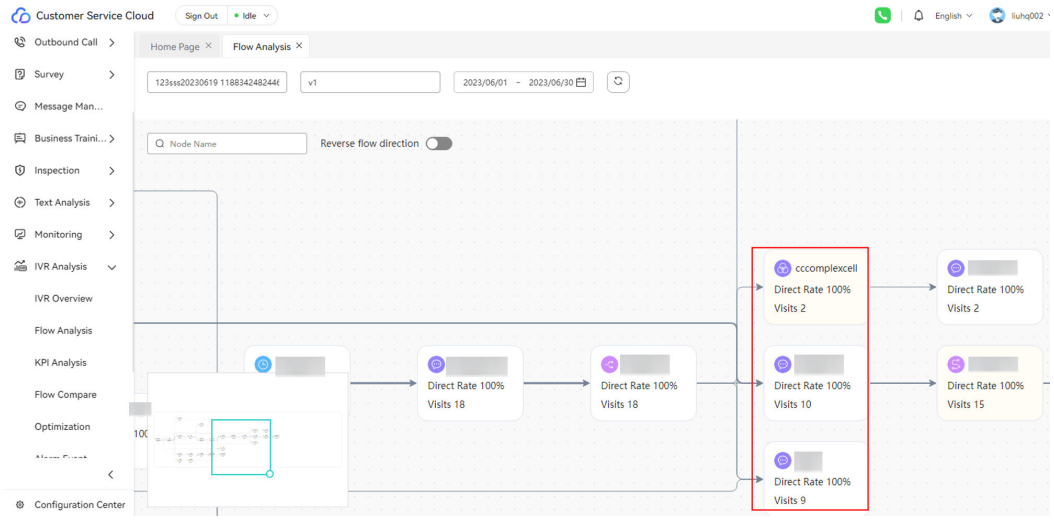
Figure 2-418 Analysis of the main flow



Step 8 Double-click a subflow to access the sub-flow analysis details page.

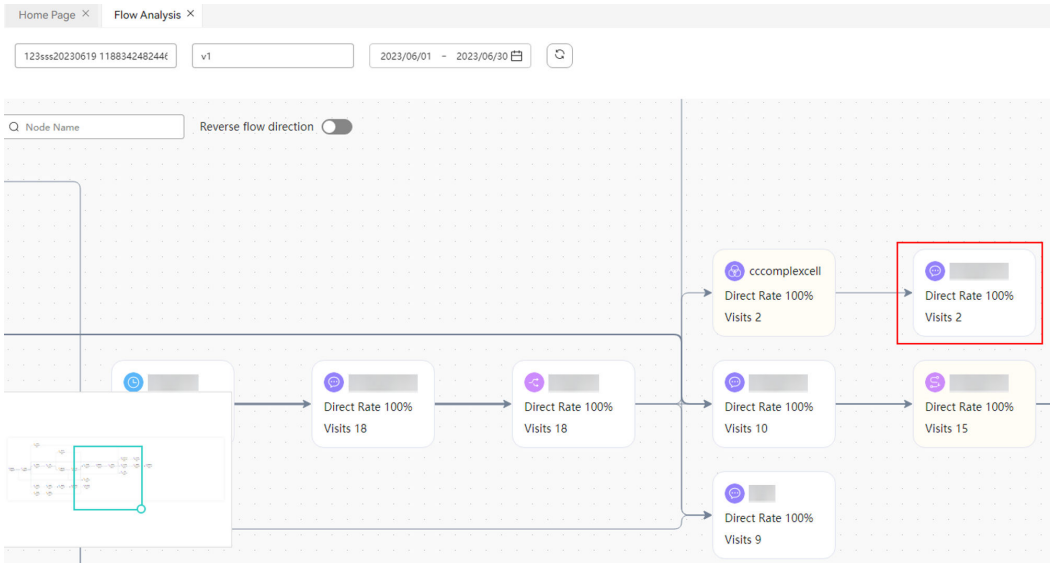
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Figure 2-419 Subflow



Step 9 Double-click a composite diagram element to access the analysis details page of the composite diagram element.

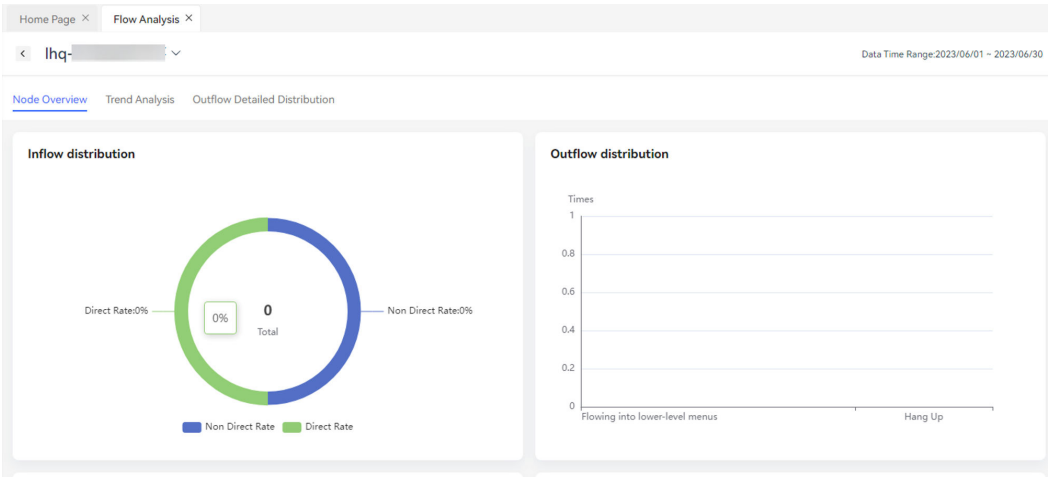
Figure 2-420 Composite diagram element



Step 10 (Follow-up procedure) Double-click a node to go to the analysis details page. The details page contains the **Node Overview**, **Trend Analysis**, and **Outflow Detailed Distribution** tab pages.

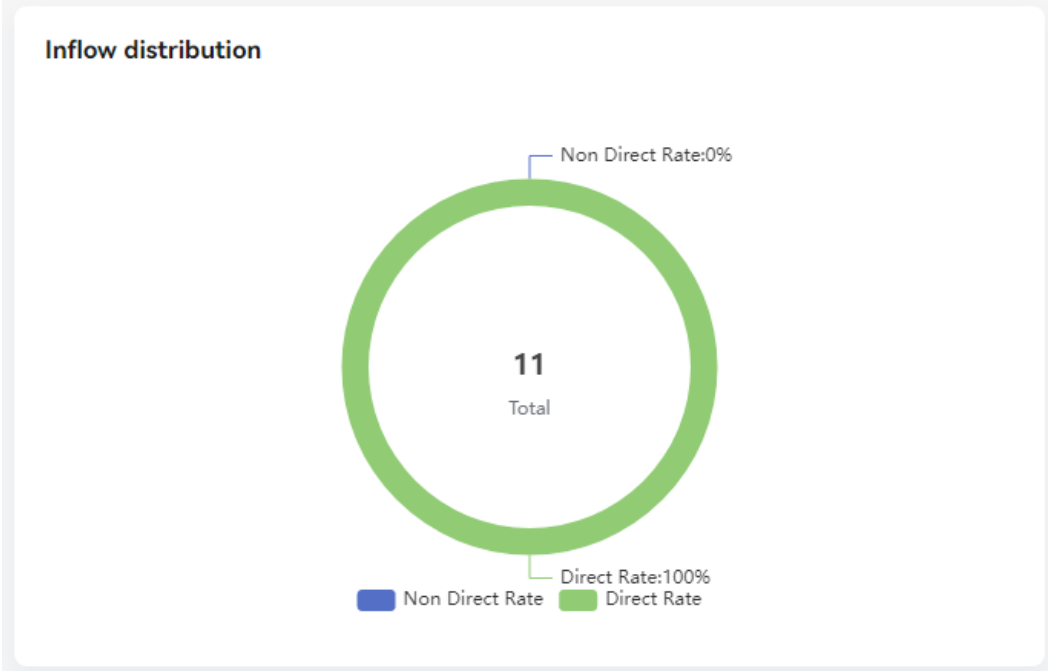
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Figure 2-421 Tab pages



Step 11 Click the **Node Overview** tab to view the **inflow distribution chart**, **outflow distribution chart**, **node traffic chart**, and **KPI statistics**.

Figure 2-422 Inflow distribution

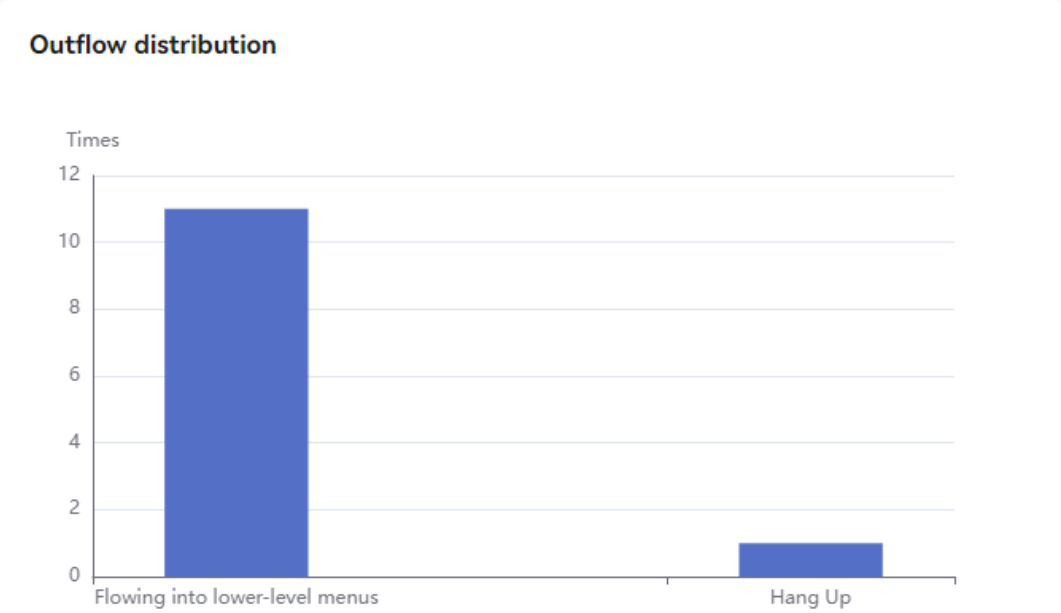


NOTE

- **Direct Rate**: percentage of direct calls to total visits to the business node
- **Non Direct Rate**: percentage of non-direct calls to total visits to the business node
- For details, see **2.7.1 KPI Description**.

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Figure 2-423 Outflow distribution



NOTE

- **Non Direct**: number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node
- **Flowing into lower-level menus**: number of calls that go to lower-level nodes after reaching the business node
- **Hang Up**: number of calls that are hung up after they reach the business node
- For details, see **2.7.1 KPI Description**.

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Figure 2-424 Node Traffic Chart (Number of Indicators)

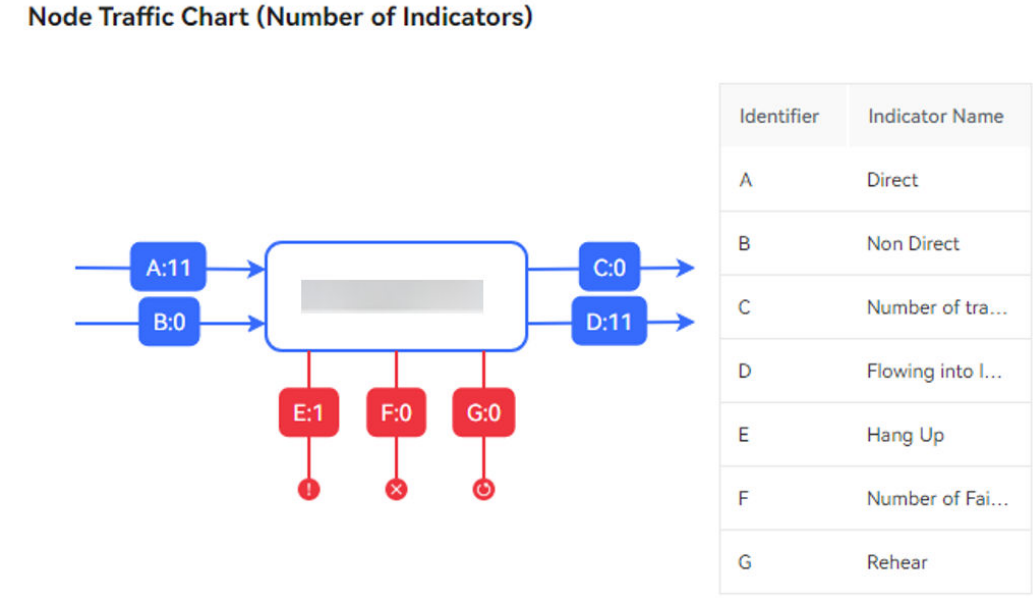
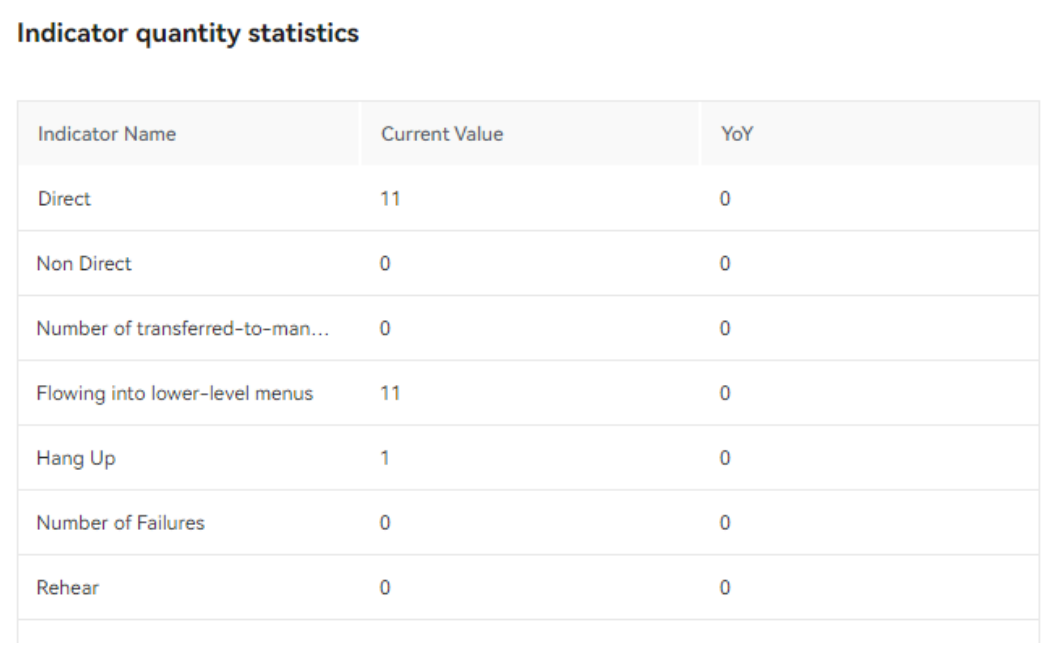


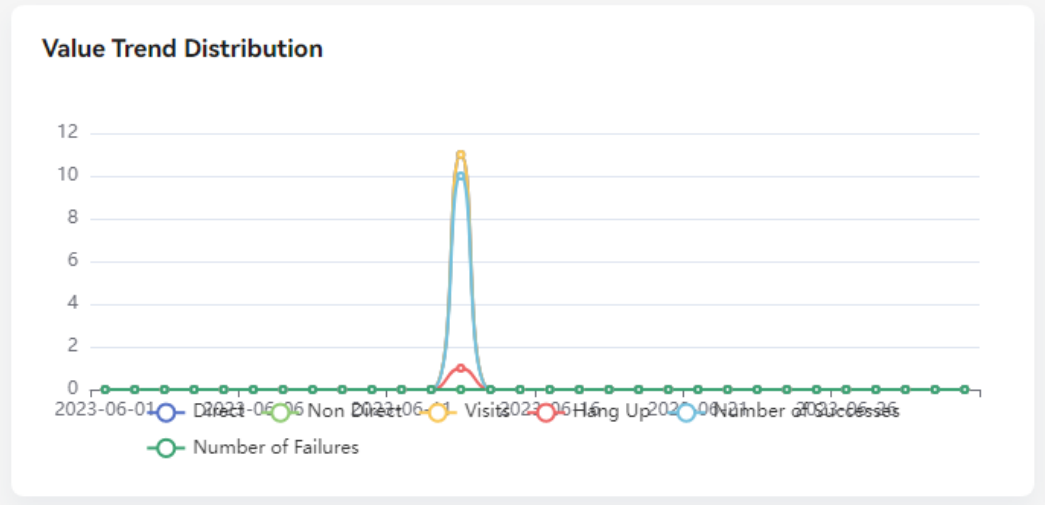
Figure 2-425 Indicator quantity statistics



Step 12 (Follow-up procedure) Click the **Trend Analysis** tab to view the **value trend distribution chart**, **efficiency trend distribution chart**, and **complexity trend distribution chart**.

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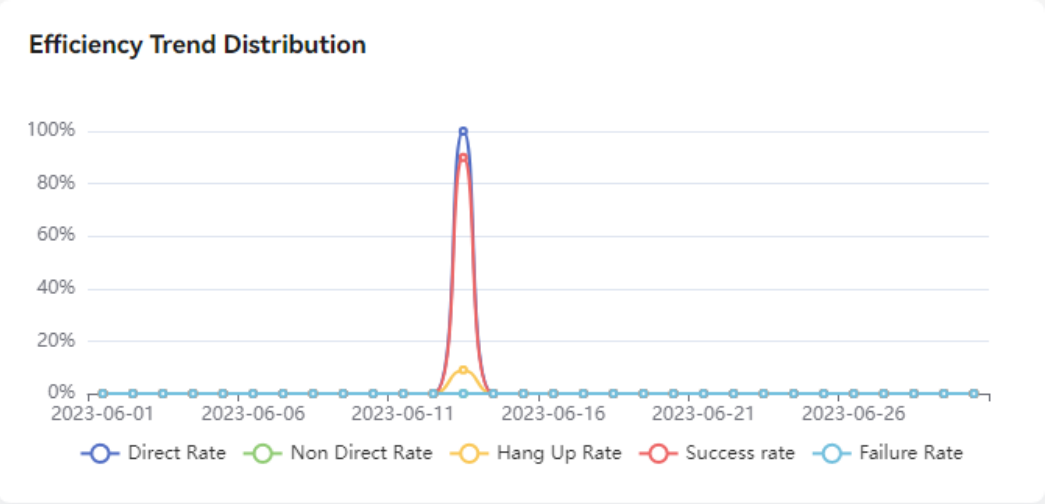
Figure 2-426 Value Trend Distribution



NOTE

- **Direct**: number of calls that reach the node through the shortest path
- **Non Direct**: number of IVR calls that pass through other nodes at the same level with the target node or lower-level nodes before reaching the target node
- **Visits**: total number of calls that reach the business node
- **Hang Up**: number of calls that are hung up after they reach the business node
- **Number of Successes**: number of calls with successful business handling, consultation, or query
- **Number of Failures**: number of calls with failed business handling, consultation, or query
- For details, see **2.7.1 KPI Description**.

Figure 2-427 Efficiency Trend Distribution

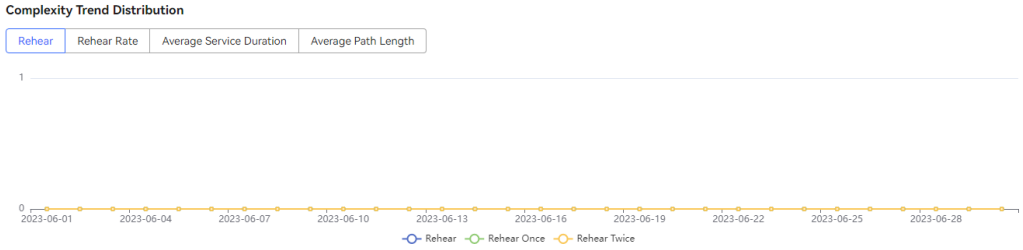


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NOTE

- **Direct Rate**: percentage of direct calls to total visits to the business node
- **Non Direct Rate**: percentage of non-direct calls to total visits to the business node
- **Hang Up Rate**: percentage of calls that are hung up to total visits to the business node
- **Success rate**: percentage of calls with successful business handling, consultation, or query to total visits
- **Failure Rate**: percentage of calls with failed business handling, consultation, or query to total visits
- For details, see **2.7.1 KPI Description**.

Figure 2-428 Complexity Trend Distribution



NOTE

- **Rehear**: **Rehear**, **Rehear Once**, and **Rehear Twice**
- **Rehear**: number of nodes on which voices are replayed
- **Rehear Once**: number of nodes on which voices are replayed once
- **Rehear Twice**: number of nodes on which voices are replayed twice
- **Rehear Rate**: percentage of nodes on which voices are replayed to total visits
- **Average Service Duration**: average duration of business handling, query, or consultation on a business node
- **Average Path Length**: Path length refers to the number of business nodes which calls pass through before reaching the target business node. **Average Path Length** indicates the proportion of the total path length to total node visits.
- For details, see **2.7.1 KPI Description**.

Step 13 (Follow-up procedure) Click the **Outflow Detailed Distribution** tab to view the detailed outflow distribution based on an amount chart and a percentage chart.

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Figure 2-429 Outflow detailed distribution amount

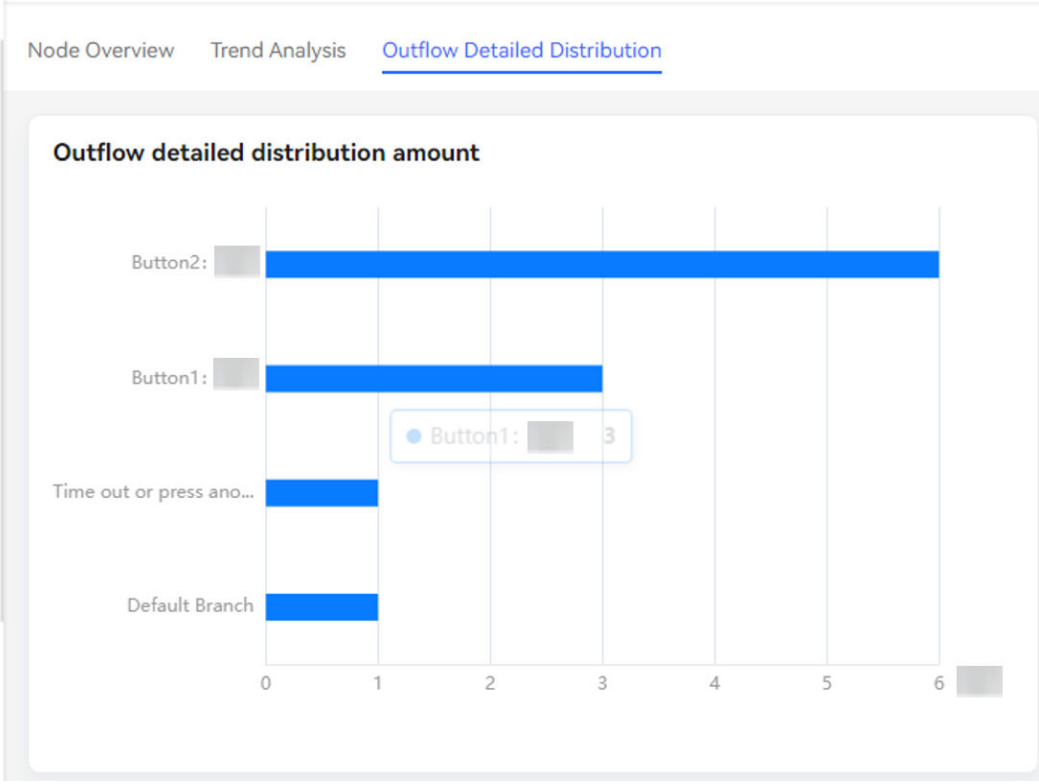
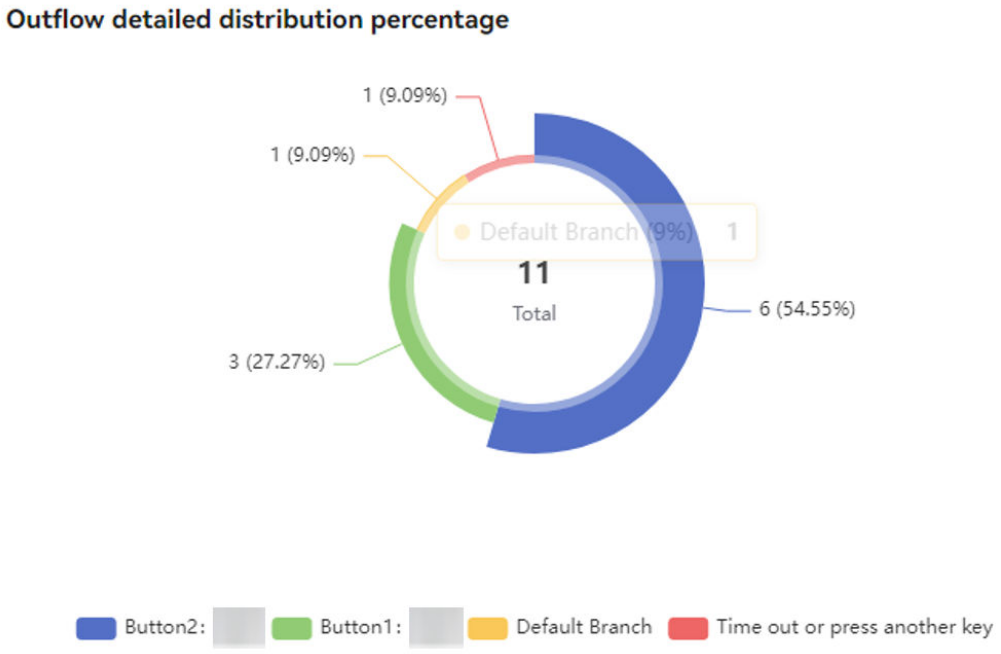


Figure 2-430 Outflow detailed distribution percentage



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NOTE

The preceding figures show the outflow distribution of a node, for example, from node A to node B by pressing key 1 or key 2.

----End

2.7.4 KPI Analysis

You can analyze and export information about IVR KPIs including **Calls Volume**, **IVR Repeat Calls**, **IVR One-time Resolution Rate**, and **Effective Service Rate**. You can also view **Node Overview**, **Trend Analysis**, and **Outbound Detailed Distribution** for each KPI through KPI drilling.

Prerequisites

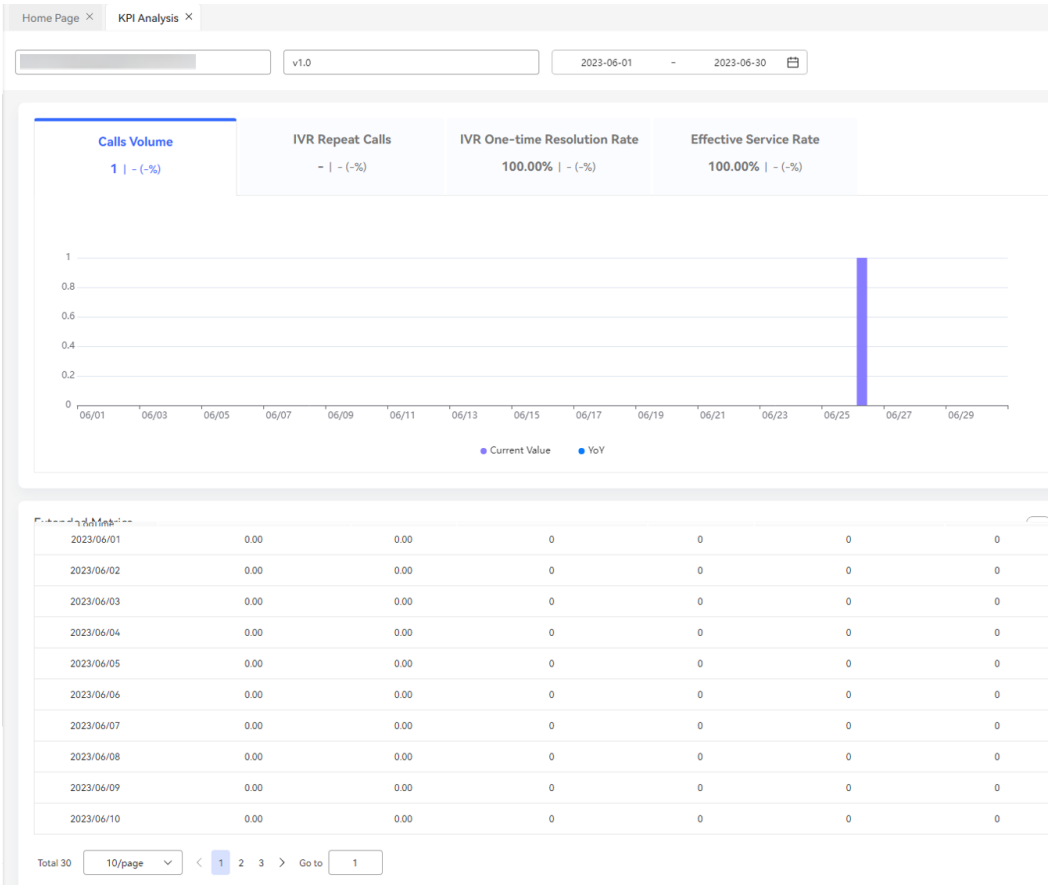
- You have the **IVR Analysis** > **KPI Analysis** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has call records in the query time range.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **KPI Analysis**.

Step 2 Set the access code, version name, and time range and press **Enter**.

Figure 2-431 KPI Analysis



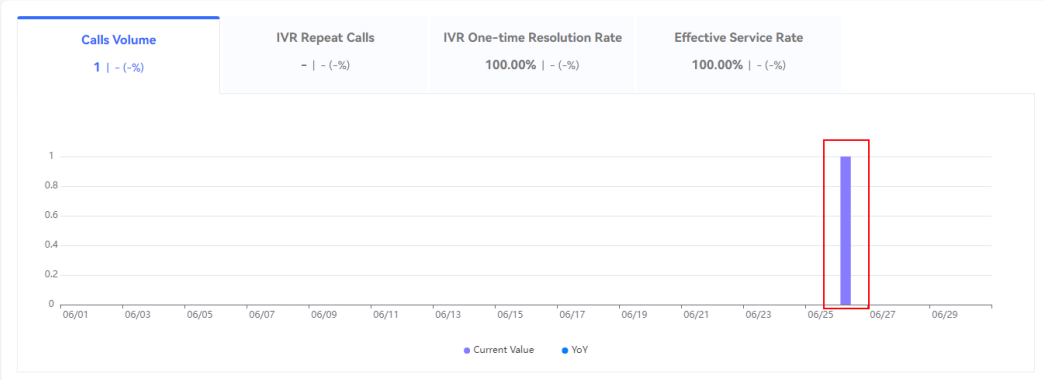
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NOTE

MoM indicates the value of the KPI in the previous month. For example, if the current query time range is June 1 to June 5, **MoM** is the value of the KPI of the time range from May 1 to May 5.

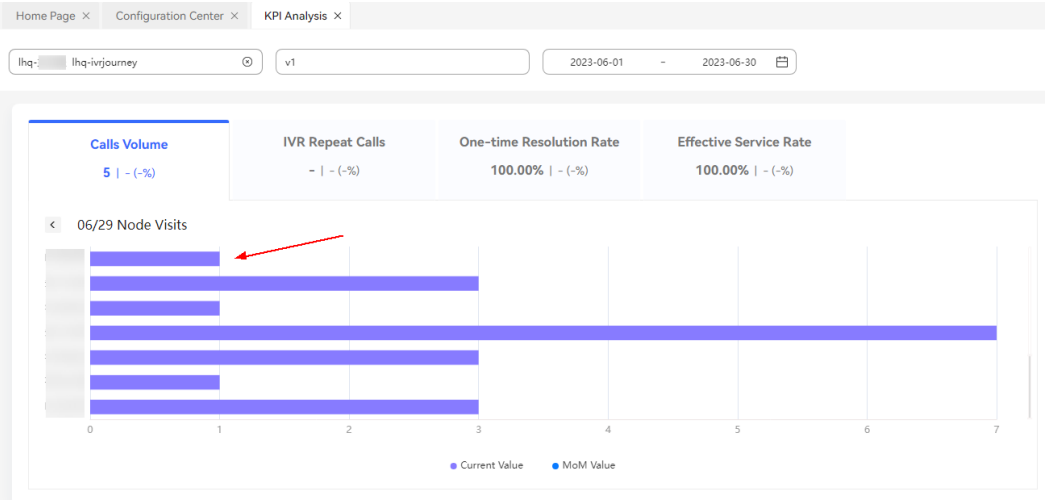
Step 3 Click a bar on the **Calls Volume** tab page to view the number of node visits.

Figure 2-432 Bar chart



Step 4 Click a bar in the bar chart of node visits to view node details. For details, see **2.7.3 Flow Analysis**.

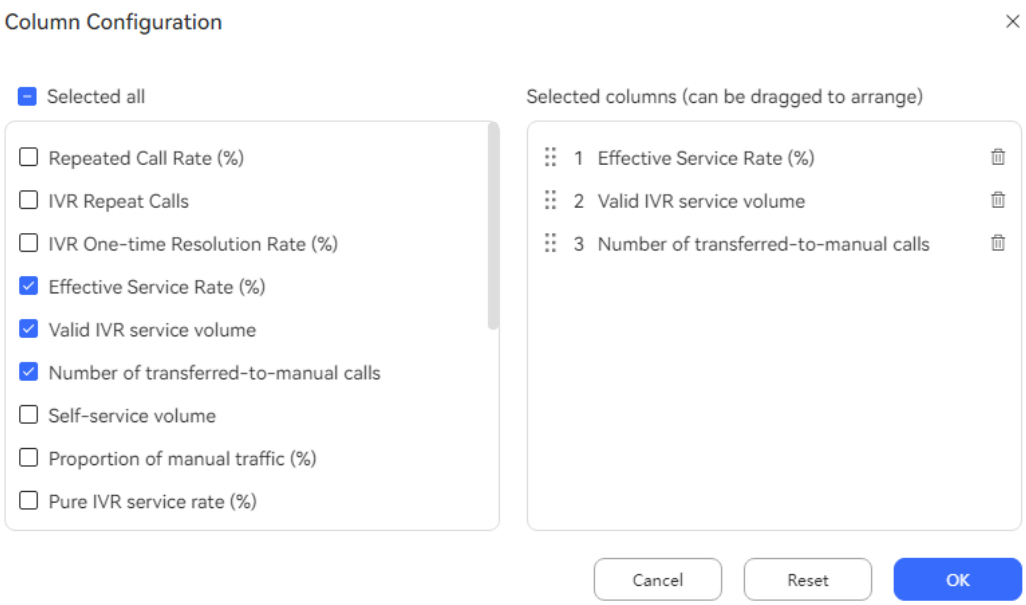
Figure 2-433 Bar chart of node visits



Step 5 In the **Extended Metrics** area, click to select required KPIs.

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Figure 2-434 Column Configuration



Step 6 Click  to download information about extended KPIs.

NOTE

For details about the KPIs involved in this section, see **2.7.1 KPI Description**.

----End

2.7.5 Version Comparison

Scenario

A flow has only one release version by default, but can have multiple historical versions. The version comparison function is used to compare the traffic and business KPIs of a version with those of the previous version, analyze the impact of version changes on KPIs, and evaluate the effect of flow adjustment.

Prerequisites

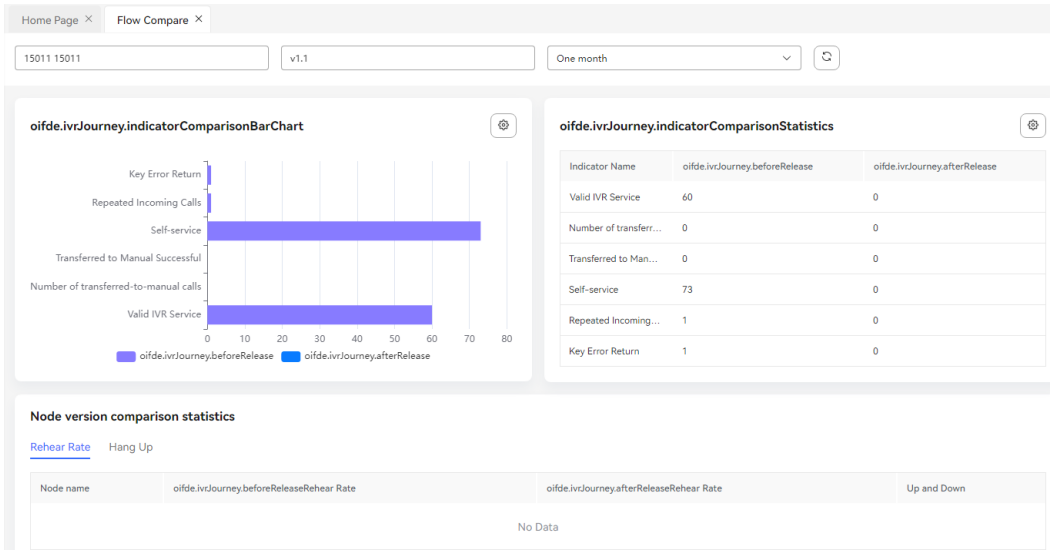
- You have the **IVR Analysis** > **Flow Compare** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has an access code.
- The chatbot flow to be analyzed has call records in the query time range.
- The selected flow version has release time.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Flow Compare**.

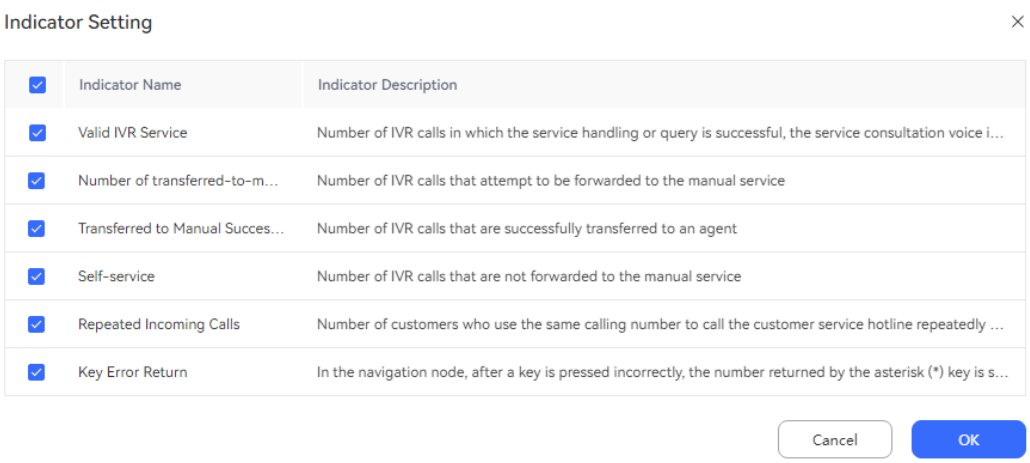
Step 2 Set the chatbot, flow version, and query time range and press **Enter** to compare the KPIs before and after the release.

Figure 2-435 Flow Compare



Step 3 Click  in the upper right corner to customize the KPIs to be displayed.

Figure 2-436 Indicator Setting



Step 4 Click a node name link to go to the node overview page. For details, see **2.7.3 Flow Analysis**.

Figure 2-437 Node name



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NOTE

For details about the KPIs involved in this section, see **2.7.1 KPI Description**.

----End

2.7.6 Optimization Suggestion

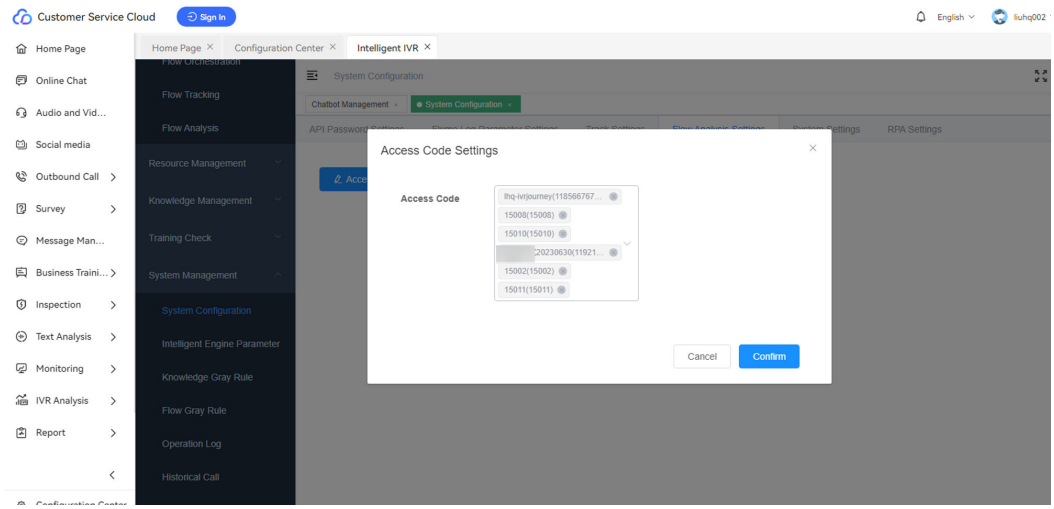
Scenario

Based on the key pressing track and number of key pressing times on the user side, optimization suggestions are provided for the current IVR flow, which can be used as a reference for flow optimization.

Prerequisites

- You have the **IVR Analysis** > **Optimization** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- The chatbot flow to be analyzed has an access code.
- The chatbot flow to be analyzed has call records in the query time range, and the call records have been collected by a scheduled task. (The scheduled task is executed every hour.)

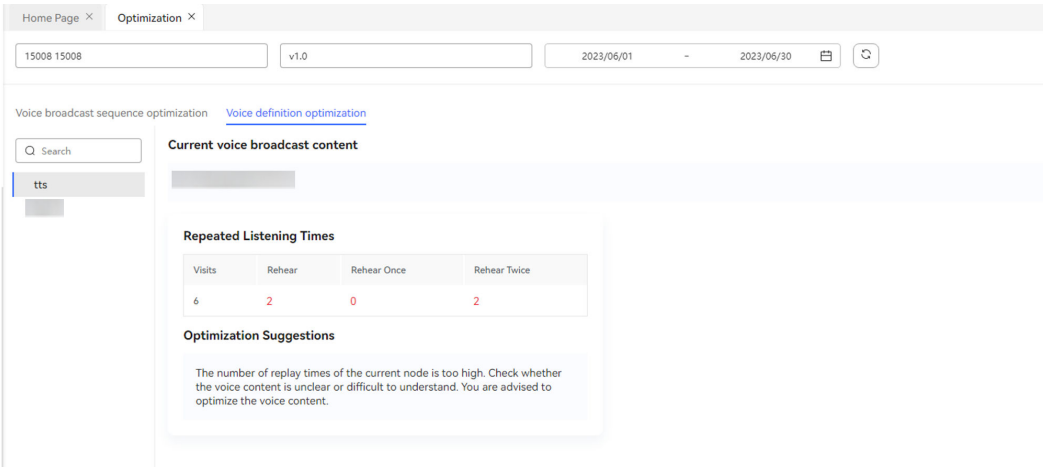
Figure 2-438 Access Code Settings



Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Optimization**.

Figure 2-439 Optimization



Step 2 Set the chatbot, flow version, and query time range and press **Enter**.

Step 3 Enter a node name in the text box on the left to search for the node.

Step 4 Click the **Voice broadcast sequence optimization** tab to view **Current Voice Playback Key Usage Statistics** and **Recommended voice broadcast sequence** on the right.

Step 5 Click the **Voice definition optimization** tab to view **Repeated Listening Times** and **Optimization Suggestions**.

----End

2.7.7 Alarm Event

Scenario

You can use the alarm event function to obtain alarm event logs for quick troubleshooting.

Prerequisites

- You have the **IVR Analysis** > **Alarm Event** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- You have configured a warning condition for your chatbot on the **IVR Analysis** > **Service Pre-warning Configuration** page.
- Your chatbot has warning records that meet the warning condition, and the records have been collected by a scheduled task. (The scheduled task is executed every hour.)

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Alarm Event**.

Step 2 Set the chatbot, flow version, and time range.

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Step 3 Press **Enter**.

----End

2.7.8 Warning Condition

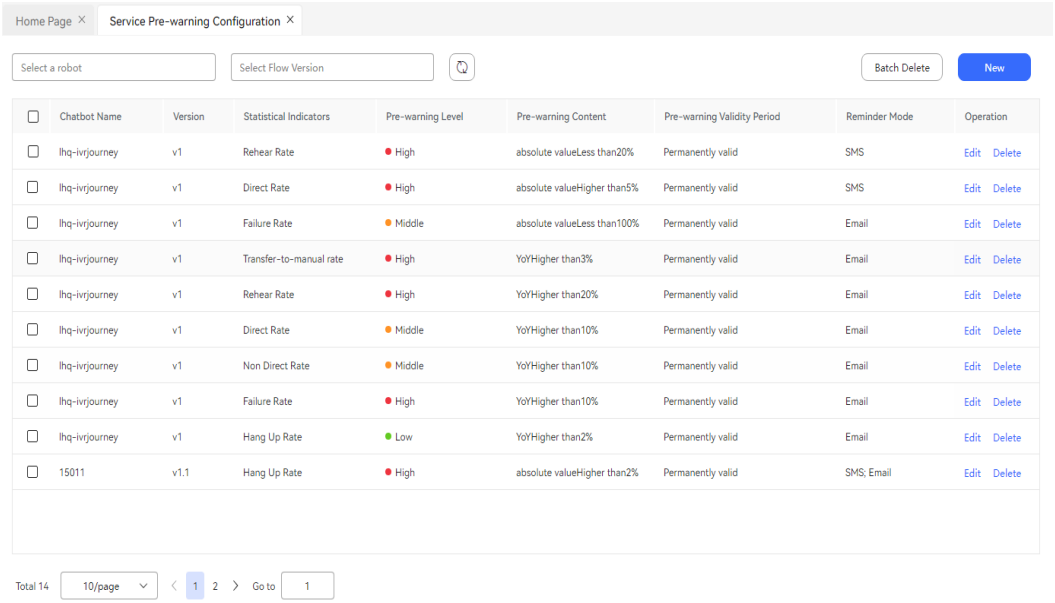
Prerequisites

- You have the **IVR Analysis** > **Service Pre-warning Condition Configuration** menu permission.
- The IVR analysis and intelligent IVR features have been enabled for the tenant space.
- You have configured an **SMS gateway** or **email gateway**.

Procedure

Step 1 Sign in to the AICC and choose **IVR Analysis** > **Service Pre-warning Condition Configuration**.

Figure 2-440 Service Pre-warning Configuration

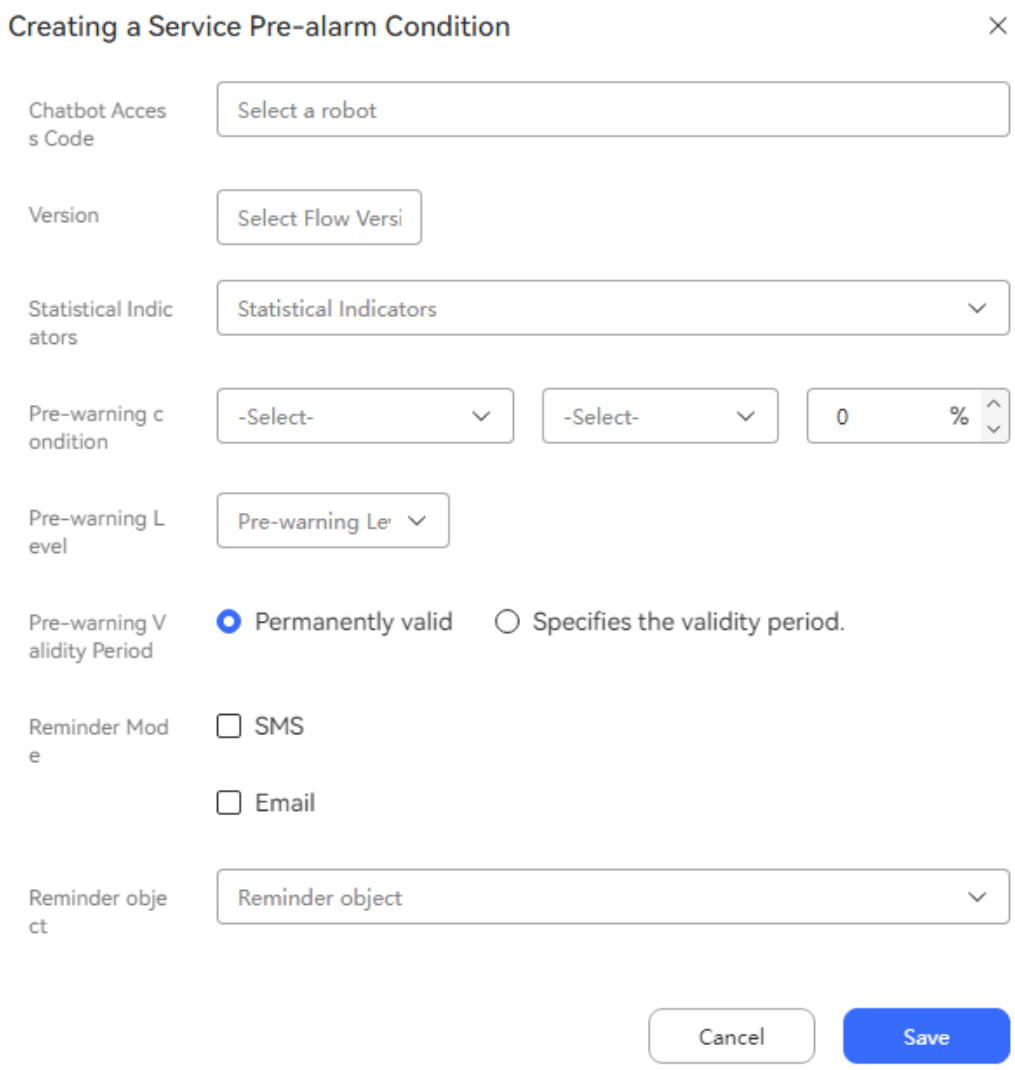


Step 2 Set the chatbot and flow version. The options for the chatbot selection box are IVR flows and intelligent IVR flows. Select a version of the flow corresponding to the selected chatbot.

Step 3 Click **New**. The **Creating a Service Pre-alarm Condition** dialog box is displayed.

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Figure 2-441 Creating a Service Pre-alarm Condition



- **Chatbot Access Code**: The options are common IVR flows and intelligent IVR flows in the tenant space.
- **Version**: IVR flow version.
- **Statistical Indicators**: The options are **Direct Rate**, **Non Direct Rate**, **Hang Up Rate**, **Failure Rate**, **Rehear Rate**, and **Transfer-to-manual rate**. For details about the KPIs, see **2.7.1 KPI Description**.
- **Pre-warning condition**: The options are **absolute value** and **MoM Value**. **absolute value** indicates the distance of a value from zero. **MoM Value** indicates the change in the current month's value compared with the value in the previous month.
- **Warning level**: The options are **Low**, **Middle**, and **High**.
- **Pre-warning Validity Period**: The options are **Permanently valid** and **Specifies the validity period.**
- **Reminder Mode**: The options are **SMS** and **Email**.
- **Reminder object**: You can select multiple employees in the tenant space to send notifications.

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Step 4 Click **Save** to save the warning condition.

Step 5 If your chatbot has warning records that meet the warning condition, and the records have been collected by a scheduled task, **alarm events** are generated. (The scheduled task is executed every hour.)

Step 6 Click **Edit** to edit the warning condition again.

----End

2.8 Monitoring Outbound Call Risks

When the number of outbound calls of a tenant exceeds the warning threshold in the configured policy, a risk control record is generated. The system administrator notifies the tenant administrator of the risk control record. The tenant administrator can view the execution status of the risk control policy.

NOTE

For details about how to configure the warning threshold in the outbound call risk monitoring policy, see "System Administrator Guide > Outbound Call Risk Monitoring Guide" in *AICC Operation Configuration Guide*.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Operation Risk Control**.

Step 2 Select a risk control record assigned by the system administrator and click **View** to view the details.

----End

2.9 Managing Cases

The AICC allows you to use cases to create tasks to follow up customer requirements.

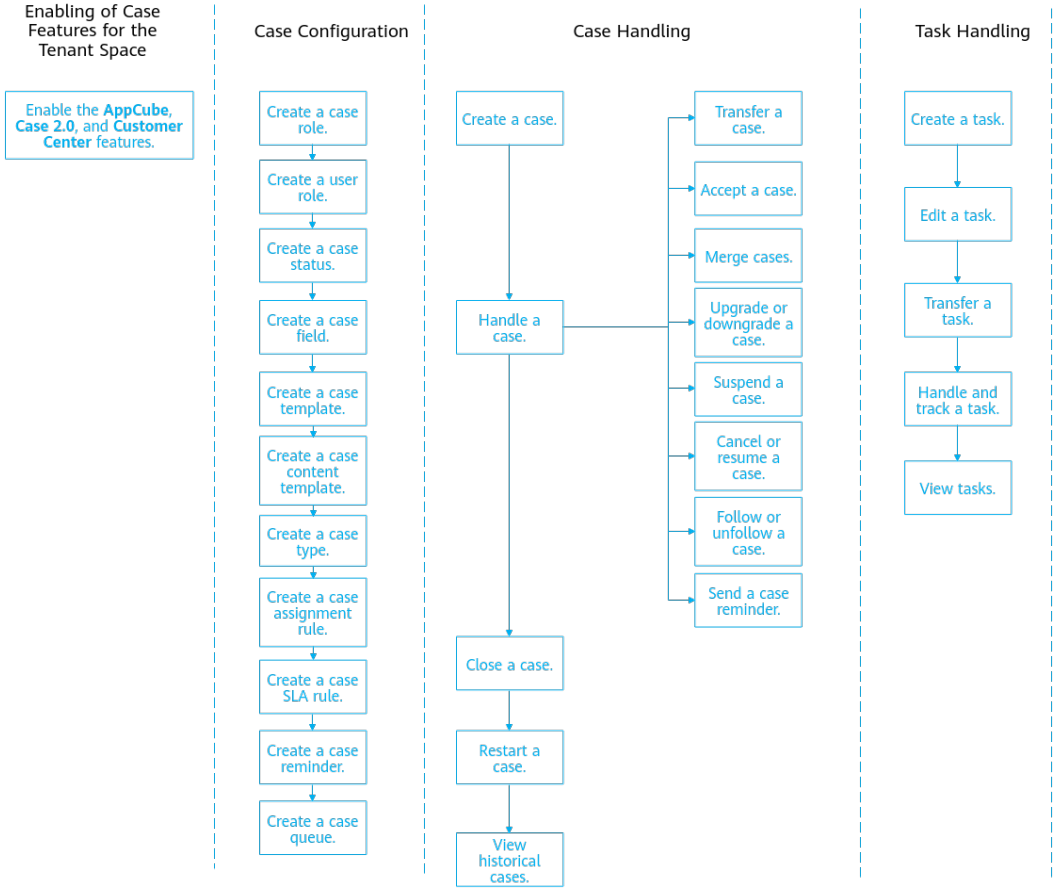
2.9.1 Case 2.0 Operation Guide

2.9.1.1 About This Document

This document is applicable only to the public cloud environment. Sign in to the AICC to use this document.

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Figure 2-442 Case function overview



2.9.1.2 Getting Started

Cases are an efficient communication and collaboration tool that helps enterprises resolve problems that require cross-department and cross-region collaboration to provide customers with high-quality services.

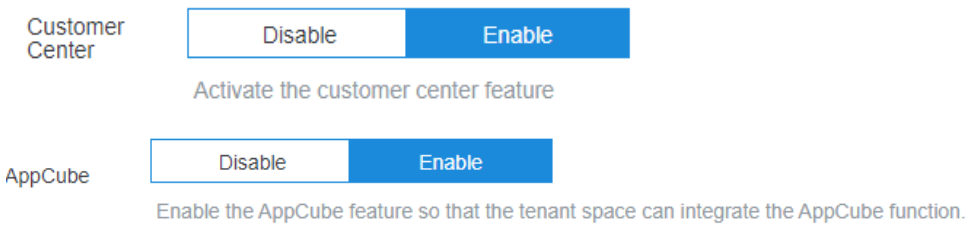
Enterprises can view the real-time case handling status in the case overview.

Through case configuration, enterprises can implement case solutions based on business requirements.

2.9.1.2.1 Adding an Account

Prerequisites

- The **Case 2.0**, **AppCube**, and **Customer Center** features have been enabled for the current tenant space by the system administrator on the **Call Center** > **Tenant Management** page.



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Procedure

Step 1 Sign in to the AICC as the system administrator.

Your enterprise will obtain an administrator account from Huawei after successfully applying for a tenant in the AICC. Use this account to sign in.

NOTICE

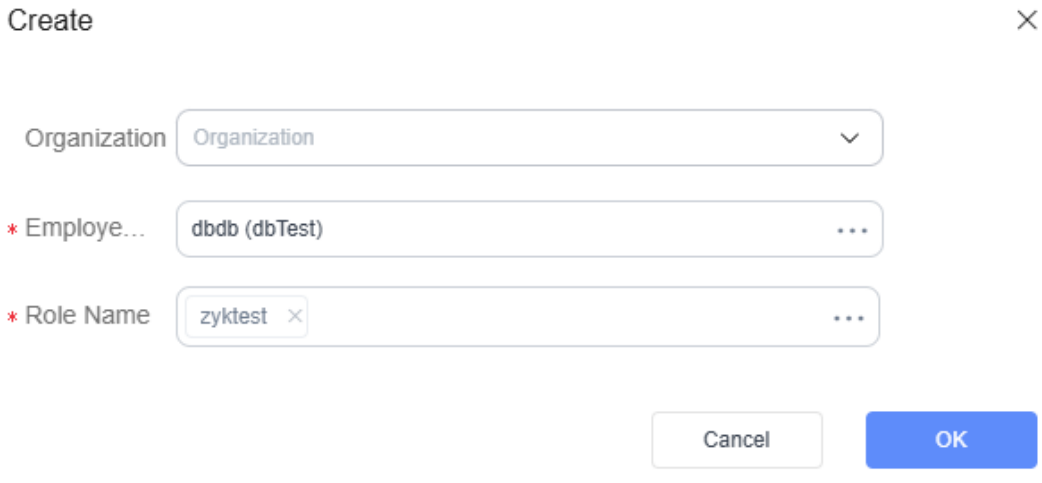
To ensure data security, change the initial password of the account upon the first sign-in.

Step 2 Add a case handler account.

1. Choose **Configuration Center** > **Employee Center** > **Employee**.
2. Choose an OU in the navigation pane on the left and click **New**.
3. Set **Account**, **Last Name**, **First Name**, **Email**, **New password**, and **Confirm Password**, and click **Save**.
4. In the operation confirmation dialog box, click **OK**.

Step 3 Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **User Role**. Click **Create** on the right, associate the role with the user, and click **OK**.

Figure 2-443 Page for associating a user with a role



----End

2.9.1.2.2 Handling Your First Case

After you quickly complete case configuration and create your first case on the online customer service side, you can handle the case.

Step 1 Sign in to the AICC as a case handler.

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You need to change the password upon the first sign-in. Set a new password as prompted and sign in again.

Step 2 Choose **Case 2.0** > **Case Workbench**.

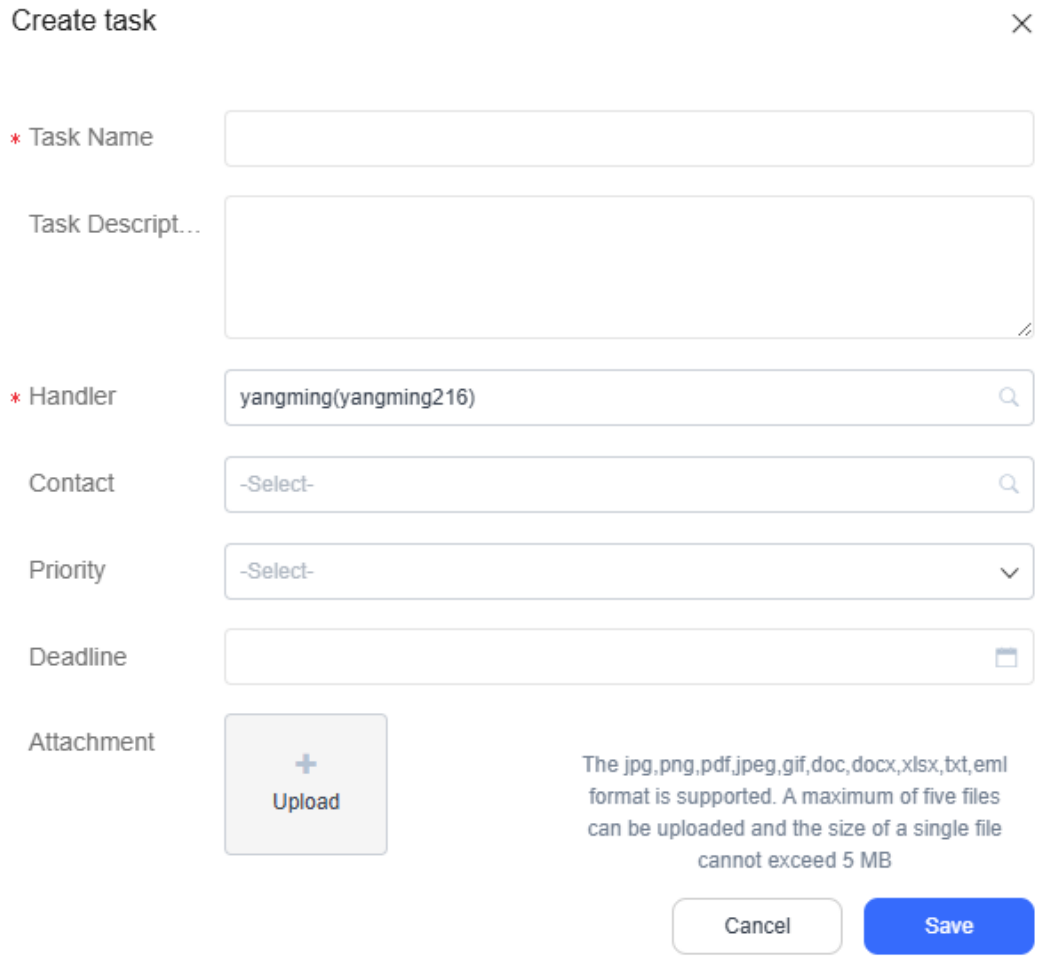
Step 3 Click the **Todo** tab and click a case. The case details page is displayed.

Step 4 You can perform the following operations on a claimed case:

- : Follow an important or urgent case.
- : Send an email or SMS notification to urge the case owner to handle a case that is about to expire. The prerequisite is that case reminder notification has been configured. For details, see **Configuring a Case Reminder Notification**.
- : Upgrade the case level. After the upgrade, an upgrade flag is added to the case title.
- : Suspend a case that does not need to be handled temporarily.
- : Transfer the case to change the case owner.
- : Cancel the case.
- : Close the case.
- : Restart the case.
- : Resume the case. (A cancelled case can be resumed.) If the case owner is a case queue, the case owner changes to the operator who resumes the case after the case is resumed.
- **Comment**: Add comments when you handle the case.
- **Add Attachment**: Add supplementary information for the case, for example, fault screenshots provided by the customer. The attachment format must be JPG, PNG, PDF, JPEG, GIF, DOC, DOCX, XLSX, TXT, or EML. A maximum of five attachments can be uploaded. The size of an attachment cannot exceed 5 MB.
- **Create** on the **Case Task** tab page: Create a task and trace the handling when the case needs to be handled based on department collaboration.

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Figure 2-444 Create task page



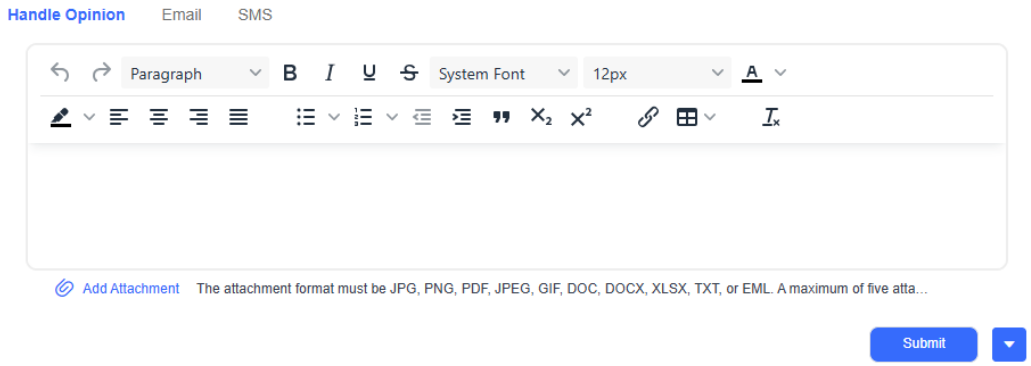
NOTE

Multiple tasks can be created for a case.

- **Associated Case** tab page: View associated cases after merging cases. For details about how to merge cases, see **2.9.1.4.4 Merging Cases**.
- **Internal Record** tab page: Only the case owner and tenant administrator have the permission to perform operations on this tab page. An internal record can contain a maximum of 20,000 characters. If an image needs to be added, click **Add Attachment** to upload it.

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Figure 2-445 Internal Record tab page



----End

2.9.1.3 Administrator Guide

2.9.1.3.1 Case Configuration

Prerequisites

- You have the **Case Configuration** permission. For details about how to assign permissions, see **Case Role** and **User Role**.
- The case 2.0 feature has been enabled for the tenant space.

Case Status

You can customize case statuses on the **Case Status** page during case handling.

Prerequisites

- You have the **Case Configuration** permission.
- The case 2.0 feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Status**.

Step 2 Click **Create** and enter a status name.

Step 3 Click **Confirm**.

Step 4 (Follow-up operation) Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** and select the created case status for a case type.

----End

Advanced Case Status

You can customize case statuses on the **Case Status** page during case handling.

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Prerequisites

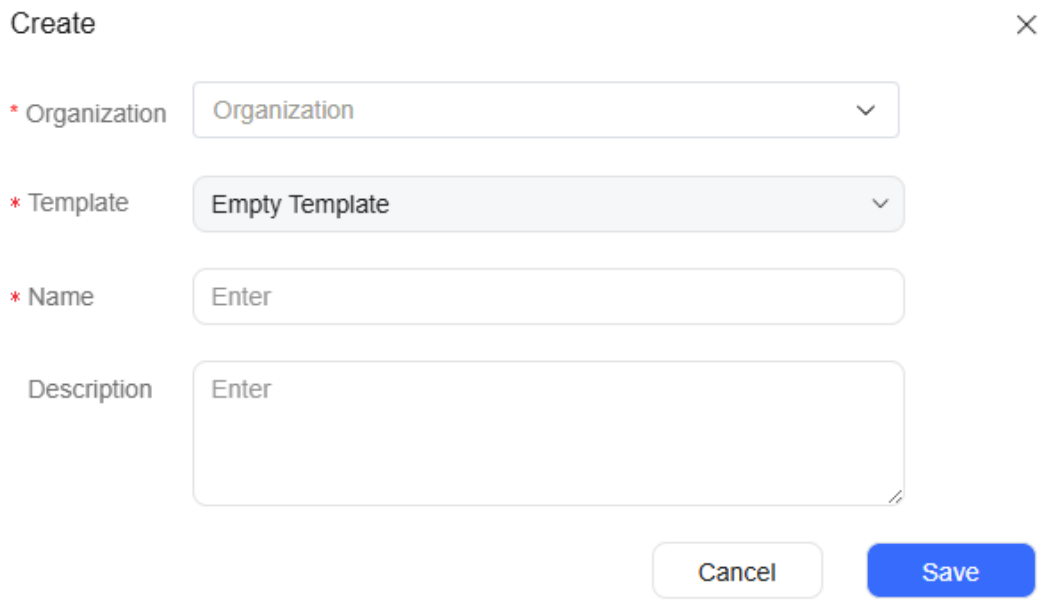
- You have the **Case Configuration** permission.
- The **Case 2.0** feature has been enabled for the tenant space.
- The system parameter **AICC__IsEnablingCaseBPM** has been set to **True** on the **Config** > **Setup** > **Parameters** > **System Parameters** page of AppCube by the system administrator.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Advanced Status**.

Step 2 Click **Create** and enter a status name.

Figure 2-446 Create page



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Table 2-166 Parameters for creating a status

Parameter	Description	Remarks
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed.	-

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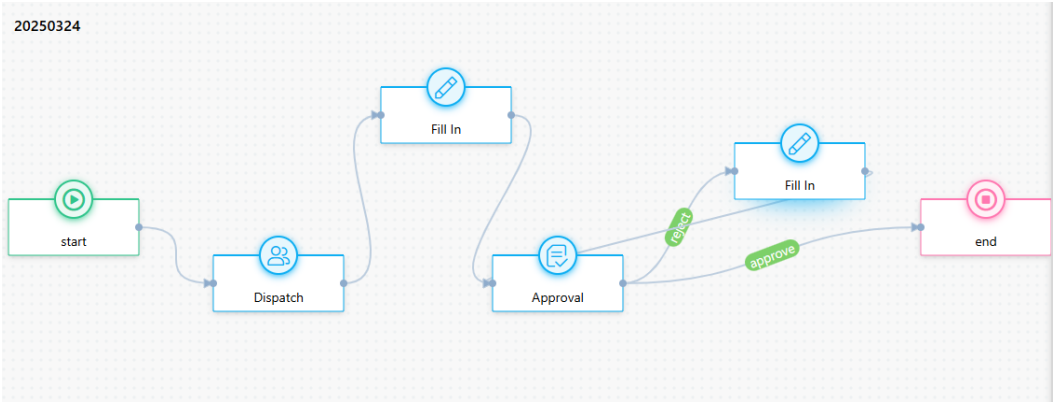
Parameter	Description	Remarks
	– For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. • After the tenant parameter is set to **No**, all OUs can be selected.	
Template	Select a preset status template or a customized template.	• A preset template cannot be edited. • A customized template can be edited again after being disabled.
Name	Status name.	-
Description	Description.	-

Step 3 Click **Save**.

Step 4 Click the status name to go to the **Configuration Process** page.

Step 5 Click  to disable the process. The disabled process can be edited again.

Figure 2-447 Configuration Process page



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Table 2-167 Fill In diagram element parameter

Parameter	Description
Participants	This parameter can be set to **Portal User** or **Queue**. • **Portal User**: all users in the current tenant space. • **Queue**: case queue. For details, see **Case Queue**. After a user in the selected queue accepts a case, other users cannot accept the case.

Table 2-168 Dispatch diagram element parameter

Parameter	Description
Participants	This parameter can be set to **Portal User** or **Queue**. • **Portal User**: all users in the current tenant space. • **Queue**: case queue. For details, see **Case Queue**. After a user in the selected queue accepts a case, other users cannot accept the case. **NOTE** The **Dispatch** diagram element can be connected to multiple diagram elements.

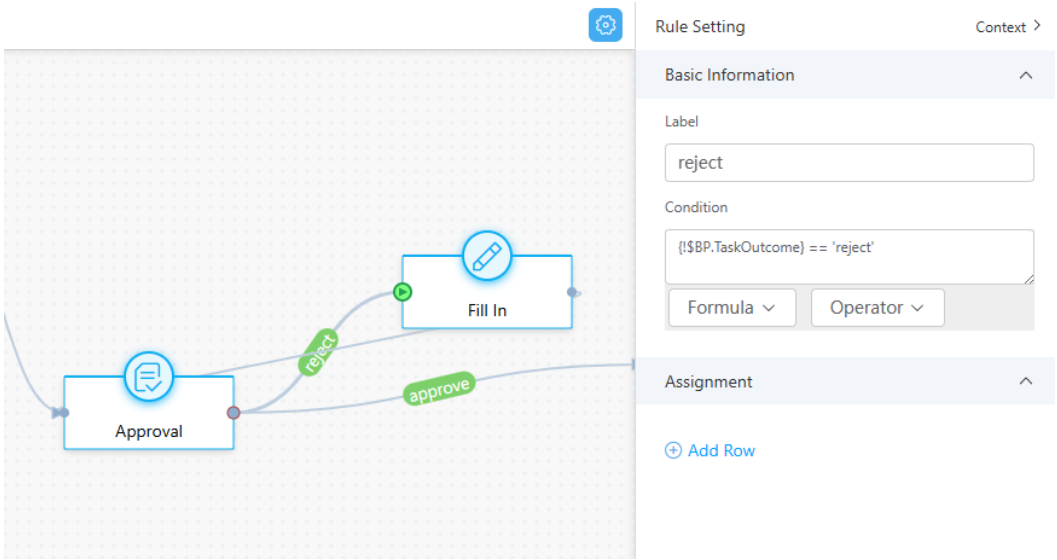
Table 2-169 Approval diagram element parameters

Parameter	Description
Participants	This parameter can be set to **Portal User** or **Queue**. • **Portal User**: all users in the current tenant space. • **Queue**: case queue. For details, see **Case Queue**. After a user in the selected queue accepts a case, other users cannot accept the case.
Who can approve?	• **One of selected members**: The approval process ends after any recipient completes the approval, and other users do not need to perform the approval operation. • **All assignees in parallel**: Each user needs to complete the approval. The approval process ends after the percentage of the number of users completing the approval is greater than the threshold.

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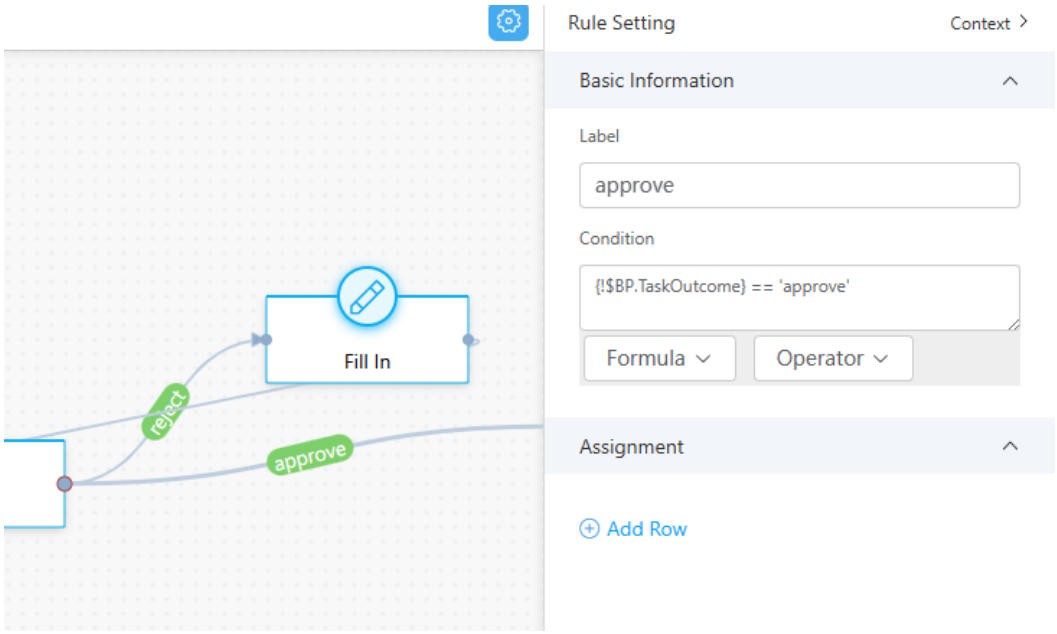
Parameter	Description
Percentage	This parameter is displayed only when **Who can approve?** is set to **All assignees in parallel**. If this threshold is reached, the approval result with more votes is executed.
Default Outcome	This parameter is displayed only when **Who can approve?** is set to **All assignees in parallel**. Possible values are as follows: • **reject** • **approve**
Outcome Trigger Type	This parameter is displayed only when **Who can approve?** is set to **All assignees in parallel**. The options are as follows: • **Continue immediately when votes are satisfied**: The voting result is triggered immediately when the threshold is reached. • **Wait for all votes completed**: The voting result is triggered after all users complete the approval.
Connecting line	• For the **approve** connecting line, as shown in **Figure 2-449**, enter **{!$BP.TaskOutcome} == 'approve'** in the **Condition** text box. • For the **reject** connecting line, as shown in **Figure 2-448**, enter **{!$BP.TaskOutcome} == 'reject'** in the **Condition** text box. • When the approval node starts, an approver needs to go to the case details page to complete the approval.

Figure 2-448 Rejection



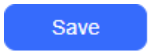
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Figure 2-449 Approval



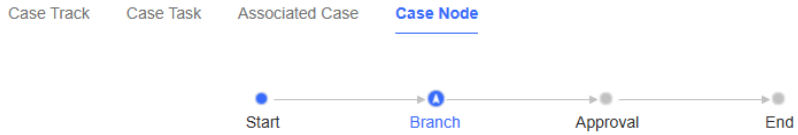
Step 6 After the configuration is completed, click  to enable the status.

Step 7 Create a case type by performing the following operations: Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type**, click **Create**, set parameters, and click **Save**. You can select the new advanced case status enabled in the previous step.

Step 8 Choose **Case 2.0** > **Case Workbench** and click **Create**. Select the case type created in **Step 7** and click 

. The case is processed based on the status configured in **Step 5**.

Figure 2-450 Case Node page



----End

Customized Case Field

An enterprise can flexibly set fields based on the business scenario.

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Prerequisites

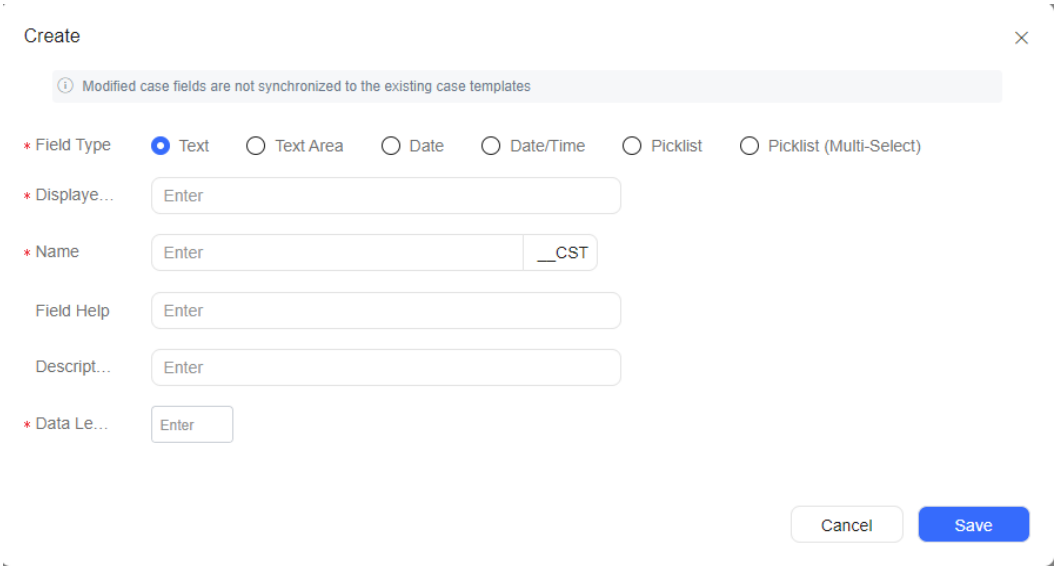
- The **Case 2.0** feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

Procedure

Step 1 Sign in to the AICC as a tenant space administrator and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Field**.

Step 2 Click **Create**. In the **Create** dialog box, set field parameters as required.

Figure 2-451 Create page



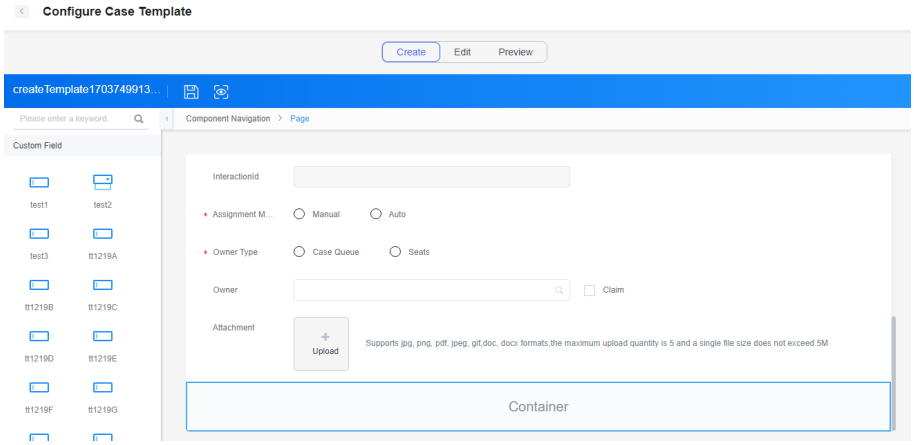
Step 3 Click 

.

Step 4 (Follow-up operation) Choose **Case Configuration** > **Case Template** and click **Config** corresponding to a template. The new field is displayed under **Custom Field**. Drag the field to the **Container** area so that it is referenced by the template.

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Figure 2-452 Configure Case Template



----End

Case Template

A case template contains the information to be collected from cases and the display format of the information, including the format of the page displayed during case creation, modification, or query. You can define the fields to be displayed in the case template and the layout of the fields.

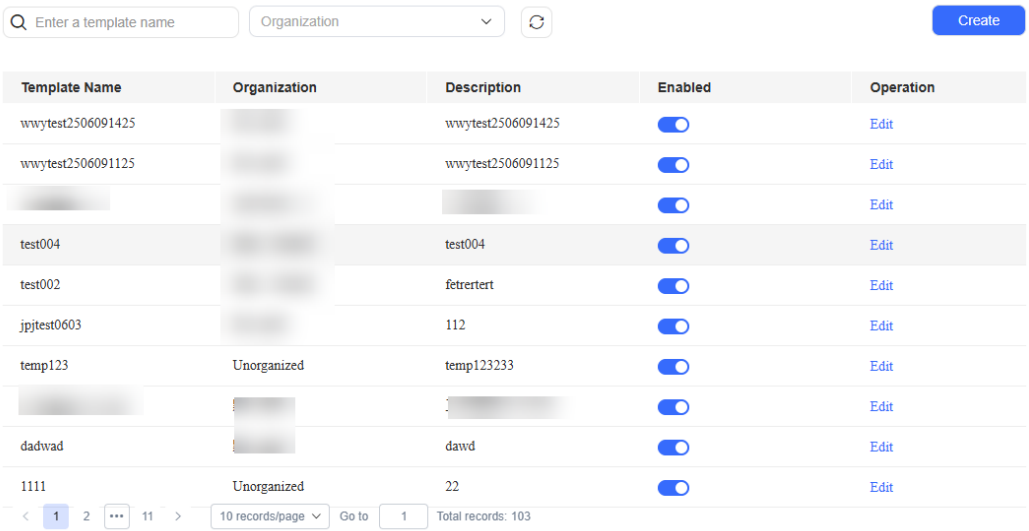
Prerequisites

- The **Case 2.0** feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Template**.

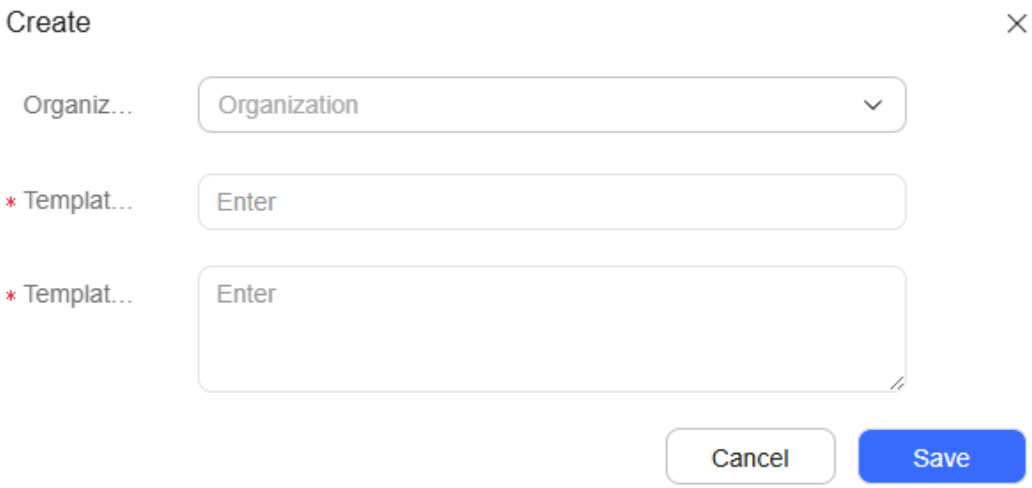
Figure 2-453 Case Template



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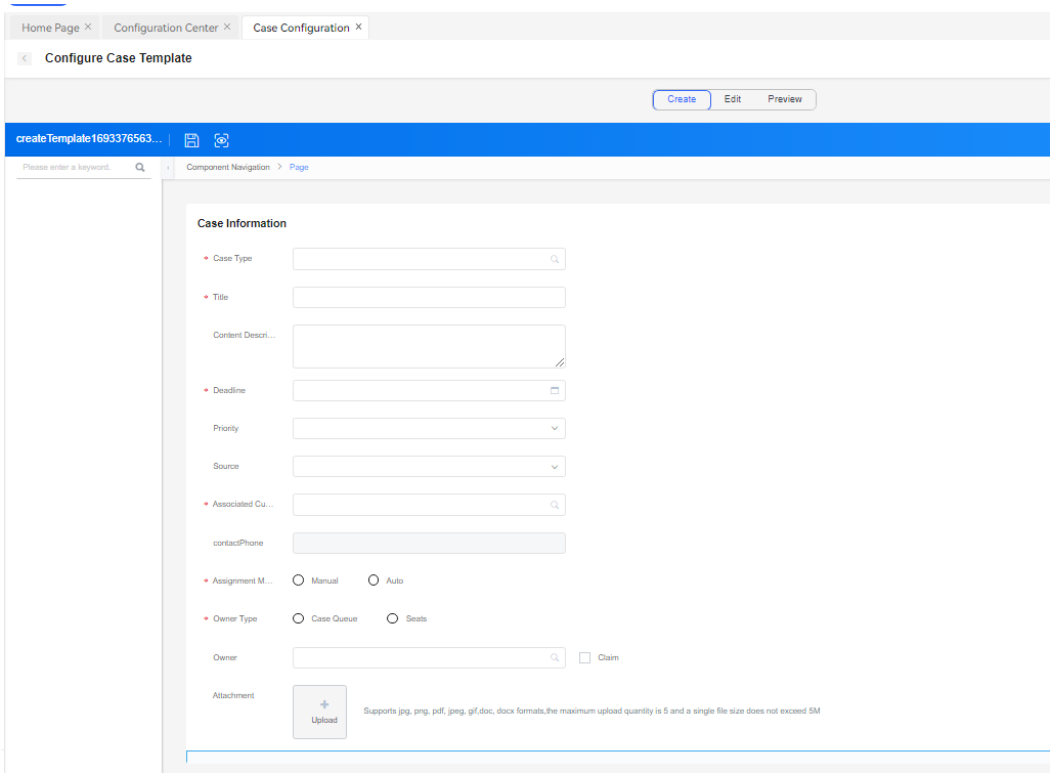
Step 2 Click **Create**. On the **Create** page, enter an OU, a template name, and the template description, and click **Save**.

Figure 2-454 Create page



Step 3 Click **Configure** corresponding to the new template to access the view page and add content. If a customized field is set as a mandatory field, you must add the customized field to the creation view.

Figure 2-455 View page



Step 4 Click  to save the content. Click  to preview the content.

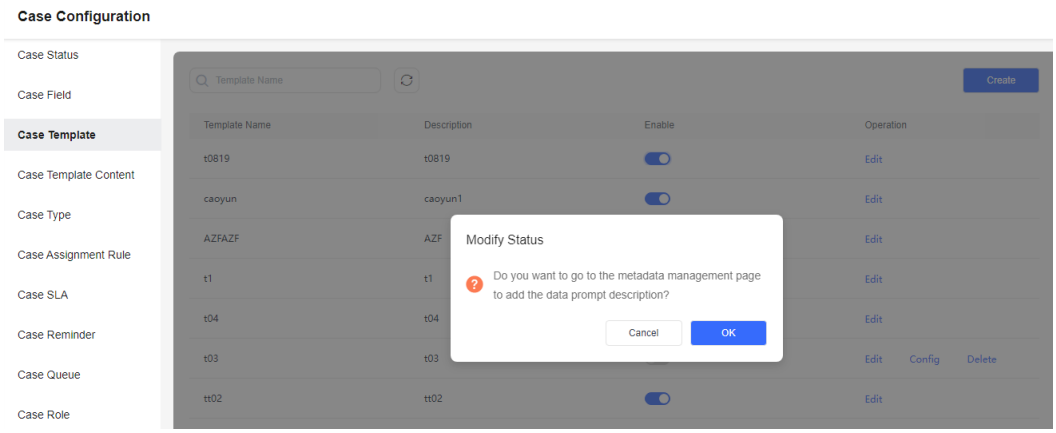
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NOTE

Save the content after adding a field to the creation view to prevent the content from being lost. For example, after adding field A to the edit view, if you do not save the content before previewing it, field A will be lost.

Step 5 (Follow-up operation) Enable a case template so that you can reference it when configuring a case content template and synchronize it to the **Metadata Management** page.

Figure 2-456 Synchronizing a case template to the Metadata Management page



----End

Case Content Template

Prerequisites

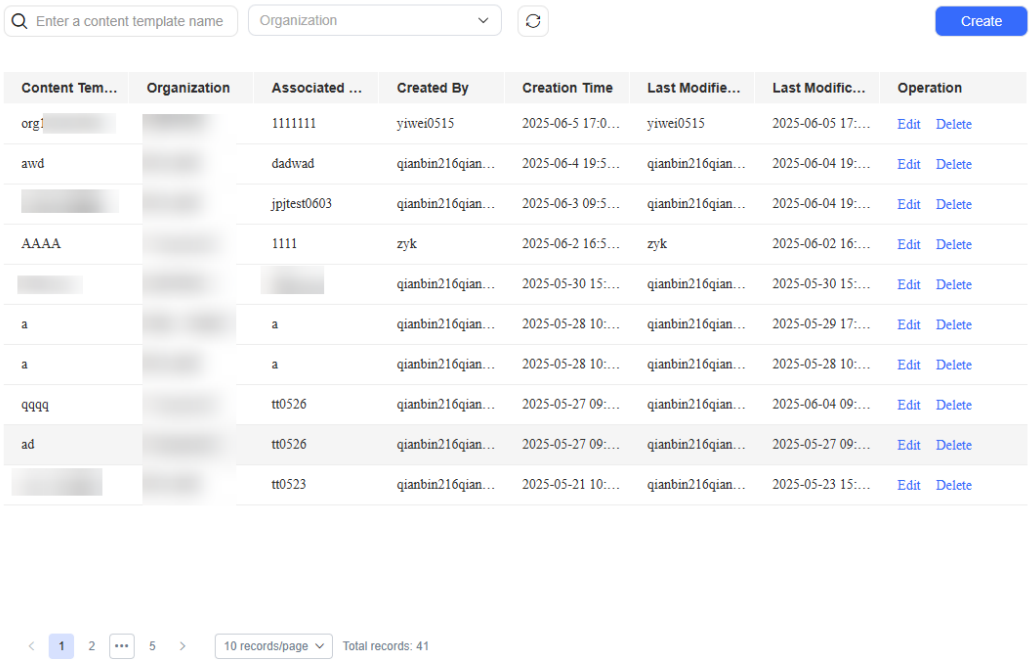
- The **Case 2.0** feature has been enabled for the tenant space.
- You have the **Case Configuration** permission.
- An enabled case template is available.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Template Content**.

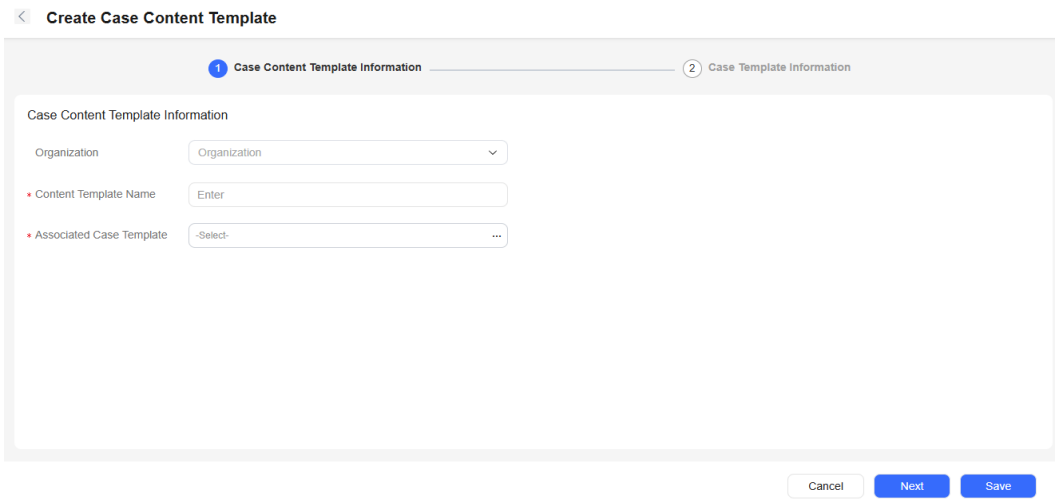
 Copyright © Huawei Technologies Co., Ltd.

Figure 2-457 Case Template Content page



Step 2 Click **Create**. On the **Case Content Template Information** page, set **Organization**, **Content Template Name**, and **Associated Case Template**, and click **Next**.

Figure 2-458 Case Content Template Information page



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Table 2-170 GUI elements on the Case Content Template Information page

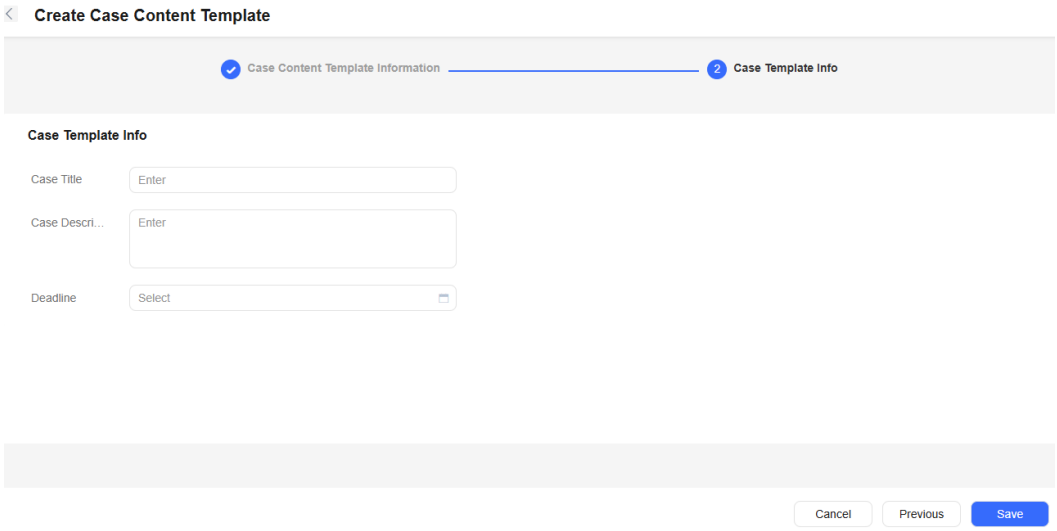
Parameter	Description
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed.

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Parameter	Description
	– For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. ● After the tenant parameter is set to **No**, all OUs can be selected.
Content Template Name	Mandatory.
Associated Case Template	Select a value from the drop-down list. The options are case templates on the **Case Configuration** > **Case Template** page. For details about how to create a case template, see **Case Template**.

Step 3 Configure the case template information by referring to **Table 2-171**.

Figure 2-459 Case Template Info area



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Table 2-171 Parameters on the Case Template Info page

Parameter	Description
Case Title	Case title. The value can contain a maximum of 128 characters.
Case Description	Case content description.
Deadline	Case deadline.
Priority	• **Low** • **Medium** • **High** • **Critical**
Source	• **Voice** • **Web** • **Whatsapp** • **Email** • **WeChat** • **Facebook** • **X (Twitter)** • **LINE** • **SMS** • **Others**
Associated Customer	• The options are customers in the customer center. You can sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management** to view customers. For details, see **2.12 Managing the Customer Center**. • You can directly create a customer. For details, see **2.9.1.4.2 Creating a Customer**.
Direct Reply	This switch is turned off by default. After this switch is turned on, the **Assignment Mode**, **Owner Type**, and **Owner** fields are hidden. The default value of the **Assignment Mode** field is **Manual**, the default value of the **Owner Type** field is **Agent**, and the default value of the **Owner** field is the current user.

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Parameter	Description
Assignment Mode	• If this parameter is set to **Manual**, you can assign the case to a skill queue or an agent. • If this parameter is set to **Auto**, the case will be assigned based on the case assignment rule on the **Case Configuration** > **Case Assignment Rule** page. For details, see **Case Assignment Rule**.
Owner Type	If this parameter is set to **Case Queue**, the case will be assigned to a group. If this parameter is set to **Agent**, the case will be assigned to an employee.
Owner	Select an owner or a case queue.

----End

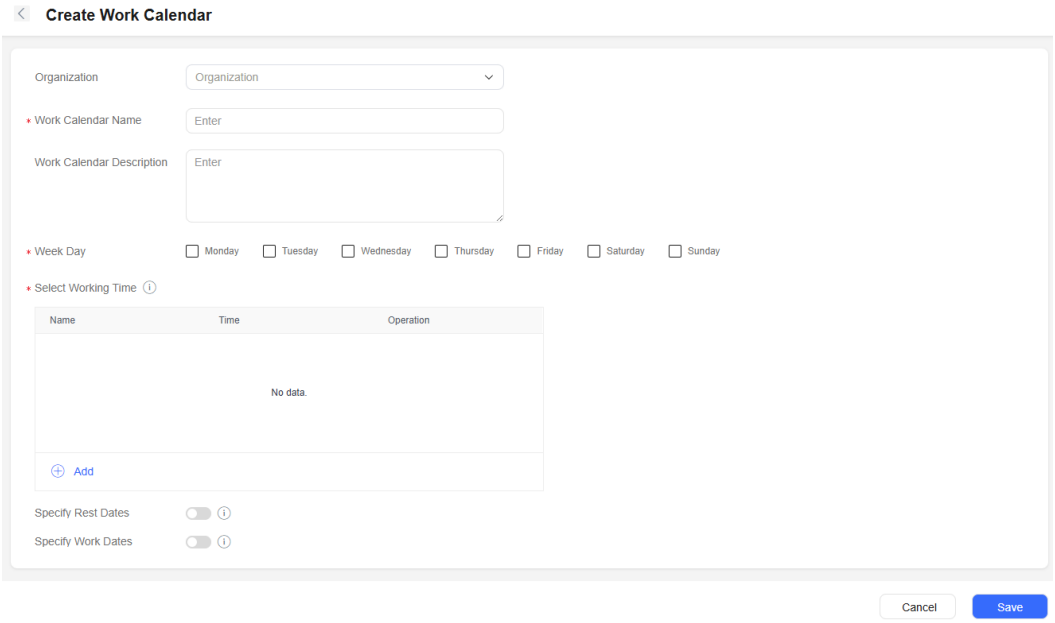
Work Calendar

The work calendar function supports setting working days and non-working days for cases.

Procedure

Step 1 Sign in to the AICC, choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Work Calendar**, click Create, and set the work calendar information.

Figure 2-460 Create Work Calendar page



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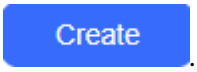
Table 2-172 Parameters on the Create Work Calendar page

Parameter	Description
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed. – For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. • After the tenant parameter is set to **No**, all OUs can be selected.

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Parameter	Description
Work Calendar Name	This parameter is mandatory. The value can contain a maximum of 128 characters and must be unique.
Work Calendar Description	This parameter is optional. The value can contain a maximum of 2048 characters.
Week Select	This parameter is mandatory. Select at least one value.
Select Work Hours	1 to 10 working time segments must be configured.
Specified Break Dates	If a date is specified as both a non-working date and a working date, it is regarded as a non-working date. A maximum of 50 records are allowed.
Specified Work Dates	If a date is configured as a working day but is not within the working days specified by **Week Select**, it is regarded as a working day. A maximum of 50 records are allowed.

Step 2 Click **Save**.

Step 3 Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** and click 

. On the **Create Case Type** page, select the created work calendar.

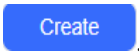
Step 4 Choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Work Calendar**, click **View Cite** corresponding to a work calendar, and view the case types that reference the work calendar.

----End

Case Type

To differentiate businesses, you can classify cases into different types, such as complaint or consultation cases. Different types of cases can be associated with different statuses to meet business requirements.

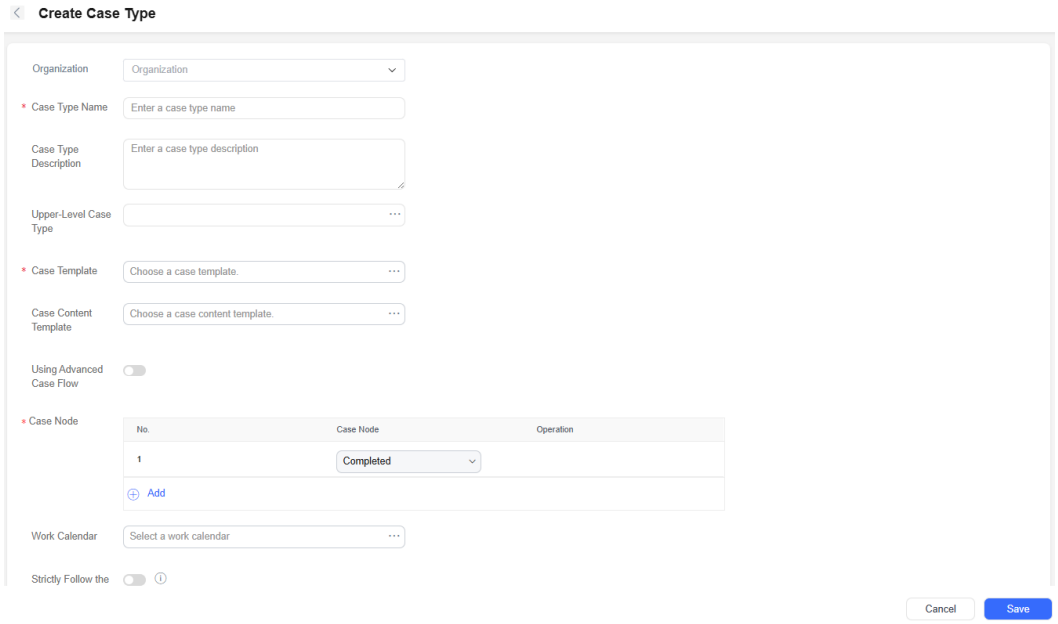
Procedure

Step 1 Sign in to the AICC, choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type**, and click 

.

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Figure 2-461 Create Case Type page



Step 2 On the **Create** page, enter case type information and click **Save**.

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Table 2-173 Case type parameters

Parameter	Description
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed. – For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. • After the tenant parameter is set to **No**, all OUs can be selected.

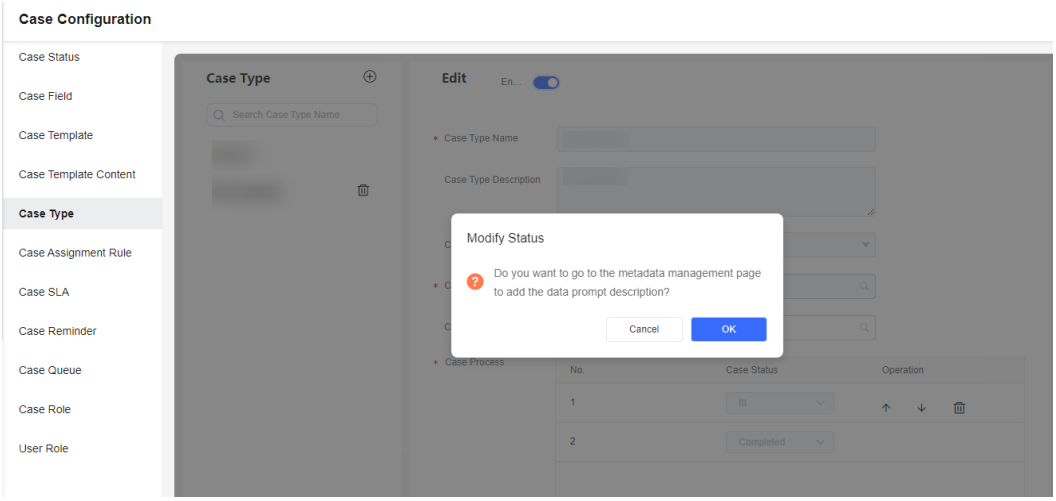
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Parameter	Description
Case Type Name	Enter a case type name, for example, **Complaint**.
Case Type Description	Enter a case type description, for example, **Complaint content**, **Complaint target**, or **Complaint source**.
upperLevel Case Type	Select an upper-level case type.
Case Template	Select a value from the drop-down list.
Case Content Template	Associate a case content template.
Case Process	Add case statuses.
Advanced work process	Select an advanced case status. For details, see **Advanced Case Status**.
Work Calendar	Select a work calendar. For details about how to create a work calendar, see **Work Calendar**.
Strictly Follow the Status Sequence	Enable or disable this function. If this function is enabled, the case can only be handled step by step. If disabled, the case status can be transitioned to any status as required.
Verify task status	Enable or disable this function. If this function is enabled, the status of the associated tasks is verified when the case is closed. If disabled, the status of the associated tasks is not verified.
Case Restart Settings	After this function is enabled, **Maximum Restart Count** and **Maximum Restart Duration** can be set. For example, you can set **Maximum Restart Count** to **2** and **Maximum Restart Duration** to one day, which means that the case can be restarted only twice within one day.

Step 3 After the case type is created, you can switch its status to  to enable it. You can select only an enabled case type when creating a case on the **Case 2.0** > **Case Workbench** page.

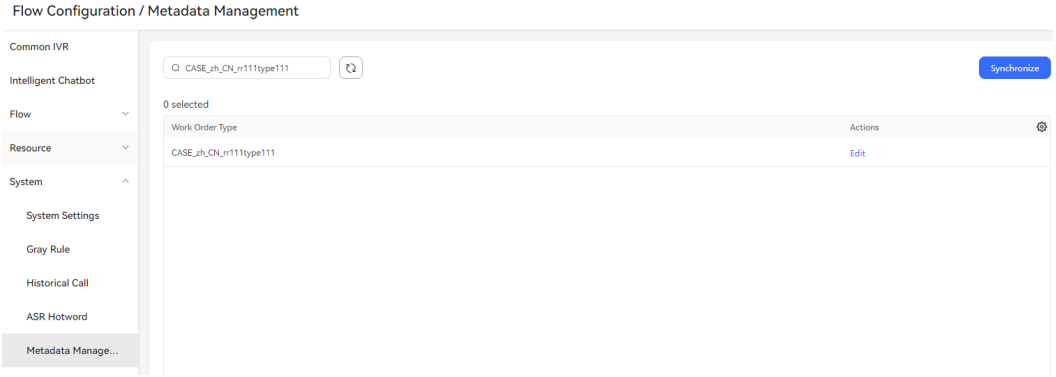
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Figure 2-462 Enabling a case type



Step 4 After a case type is enabled, synchronize it to the **Metadata Management** page.

Figure 2-463 Metadata Management



Step 5 If the case type has not been referenced, you can switch its status to to disable the case type. After the case type is disabled, you can edit or delete the case type.

----End

Case Assignment Rule

When creating a case, you can choose to automatically assign the case to an owner. The automatic assignment will be performed based on the automatic assignment rule set on the platform. Only one automatic assignment rule can take effect under a tenant.

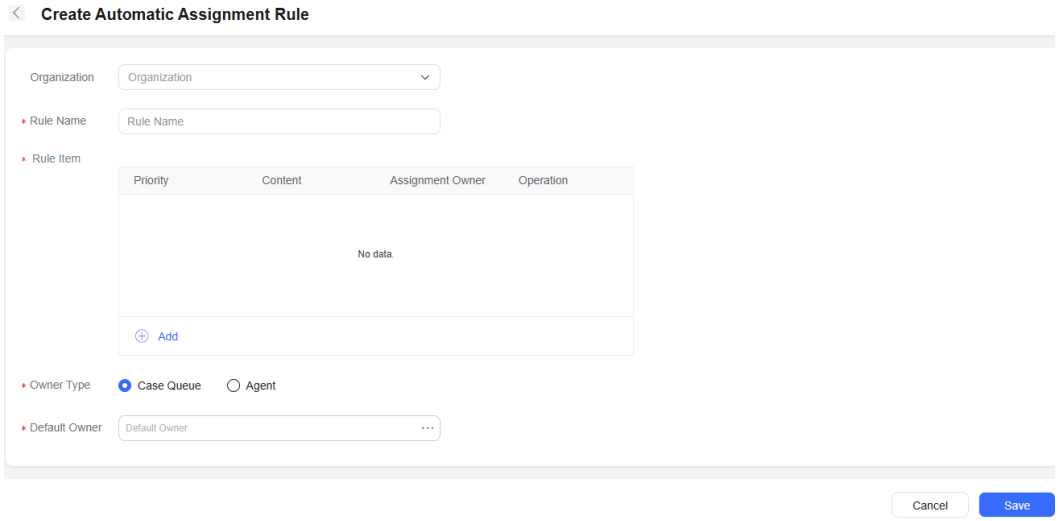
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule**.

Step 2 Click **Create**. The **Create Automatic Assignment Rule** page is displayed.

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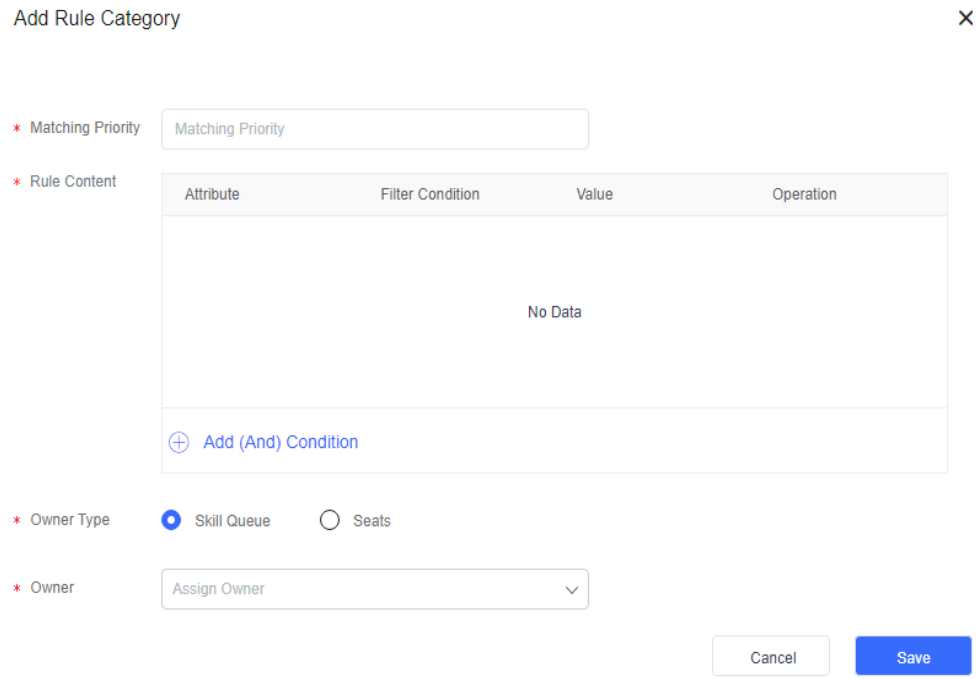
Figure 2-464 Create Automatic Assignment Rule page



Step 3 Enter a rule name.

Step 4 Add rule items. For example, if you want to assign cases whose titles contain **Fault** to a customer service team, you can add a rule item as follows: In the **Rule Content** area, select the **Case title** attribute, set **Filter Condition** to **Include**, and set **Value** to **Fault**. Set **Owner Type** to **Skill Queue**, select the customer service team from the **Owner** drop-down list, and click **Save**.

Figure 2-465 Add Rule Category page

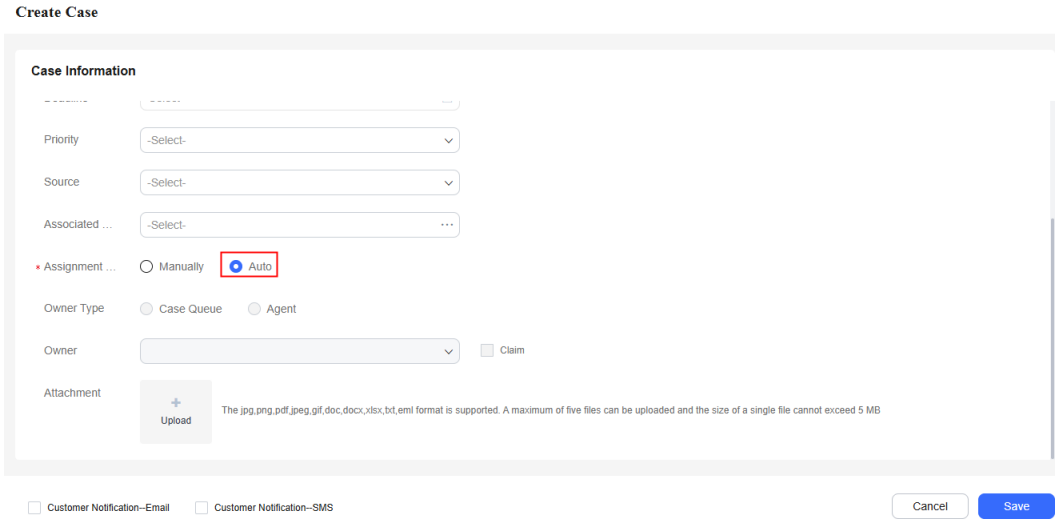


Step 5 To assign cases to an agent, set **Owner Type** to **Seats** and select the agent from the **Owner** drop-down list.

Step 6 (Follow-up operation) When creating a case, set **Assignment Mode** to **Auto** to start the case assignment rule.

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Figure 2-466 Create Case page



NOTE

- Only one case assignment rule can be activated at the same time.
- A maximum of 10 rule items can be added to a rule.
- The rule items are matched from top to bottom. If a rule item is met, the case is automatically assigned to the owner set in the rule item. If no rule item is met, the case is assigned to the default owner.

----End

Case SLA Rule

After a case is created, a warning notification and a timeout notification will be sent after the case reaches the corresponding deadlines configured in the case SLA rule.

Prerequisites

- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Management 2.0** > **Case** > **Case Configuration** permission.
- To ensure that SMS messages and emails can be sent, you have configured an SMS gateway and an email gateway in advance. For details, see corresponding product documentation at **support**.

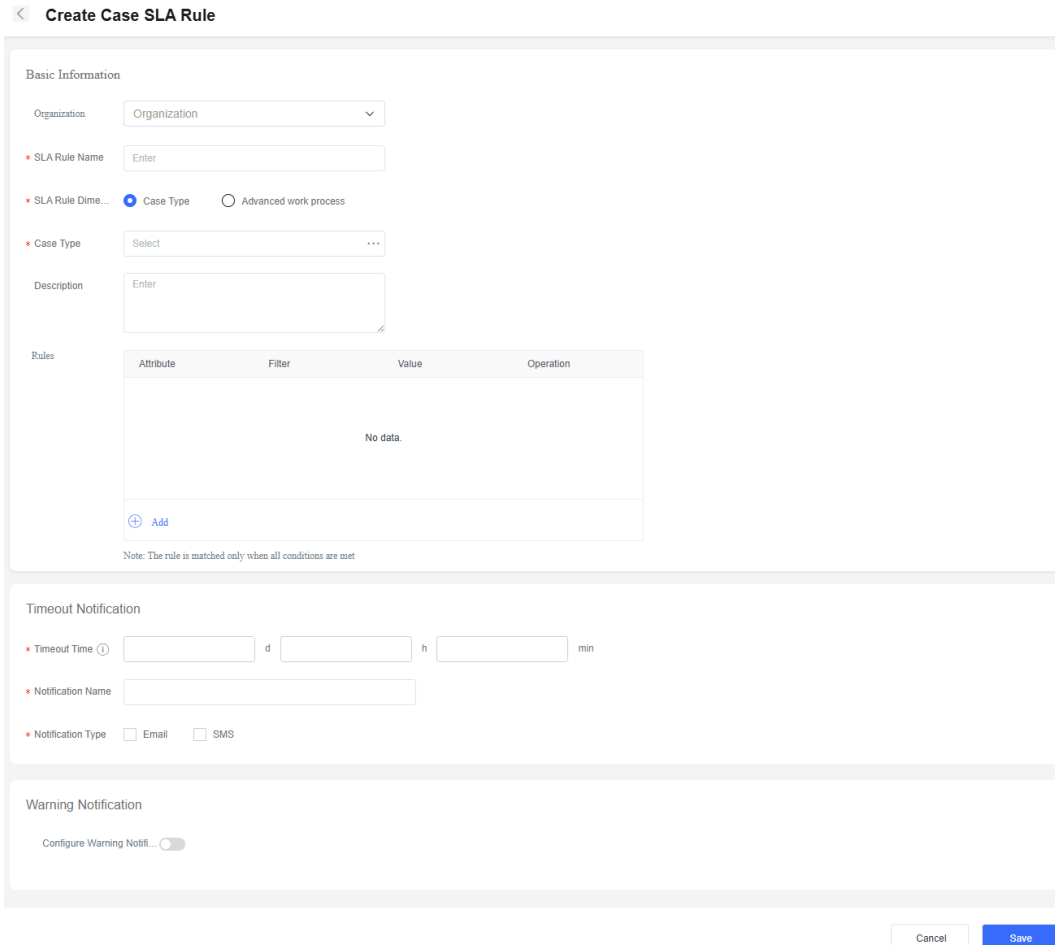
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case SLA**.

Step 2 Click **Create** on the right and enter basic information by referring to **Table 2-174**.

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Figure 2-467 Created Case SLA Rule page



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Table 2-174 Parameters in the Basic Info area

Element/ Component	Description	Remarks
Organization	OU.	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public**

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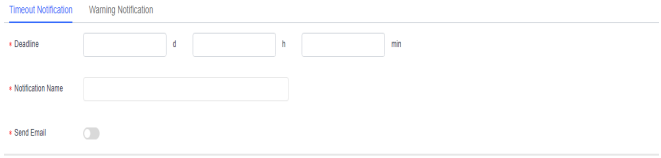
Element/ Component	Description	Remarks
		Permissions is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed. – For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. ● After the tenant parameter is set to **No**, all OUs can be selected.
SLA Rule Name	SLA rule name.	The SLA rule name must be unique for cases of the same type.

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Element/ Component	Description	Remarks
SLA Rule Dimension	SLA rule dimension.	Select **CaseType** or **Advanced work process**.
CaseType	Case type.	Case types on the **Case Configuration** > **Case Type** page.
Description	SLA rule description.	-
Rules	Matching rules. The SLA is triggered only when the conditions in the rules are met.	A maximum of 10 matching rules are allowed.

Step 3 Click the **Timeout Notification** tab. You can choose to configure timeout notification or warning notification.

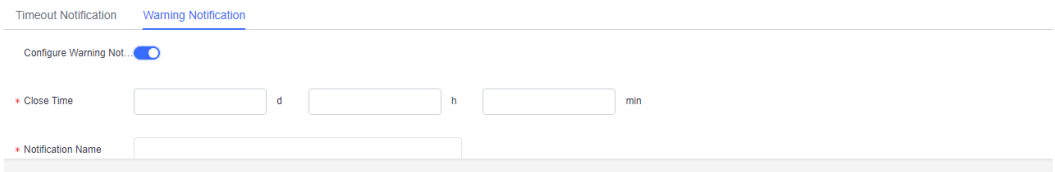
Figure 2-468 Timeout Notification



1. Set the deadline and enter a notification name.
2. Choose to send a timeout notification via email or SMS message.
3. If the case title, deadline, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case SLA rule setting times. For details about how to create variables, see **Customized Case Field**.
4. Click **Save**.

Step 4 Click the **Warning Notification** tab.

Figure 2-469 Warning Notification



Step 5 Enable **Configure Warning Notification**.

1. Set the deadline and enter a notification name.
2. Choose to send a warning notification via email or SMS message.
3. If the case title, deadline, or other fields are not the same during case filling, insert variables to automatically fill in the email subject and content, reducing

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the number of case SLA rule setting times. For details about how to create variables, see **Customized Case Field**.

4. Click **Save**.

NOTE

- Only one SLA rule can be activated for cases of the same type.
- The warning notification time must be earlier than the timeout notification time.

Step 6 (Follow-up operation) Enable the rule in the case SLA rule list. After a case for which the case type is set to a case type bound with the rule is created, the corresponding SLA instance data is generated in the SLA instance table.

Step 7 (Follow-up operation) A scheduled task reads SLA instance data. For example, if the creation time of a case is 18:00 on March 18, 2025 and the warning time is set to one day later than the creation time, the scheduled task obtains the waring notification information at 18:00 on March 19 and notifies the owner via SMS message or email.

NOTE

When the specified time arrives, the icon is displayed next to the case in the case list.

----End

Case Reminder

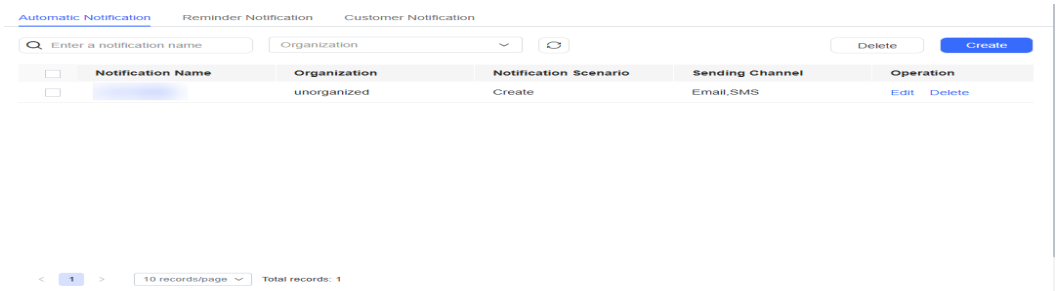
Prerequisites

- The Case 2.0 feature has been enabled for the tenant space.
- You have the **Case Management 2.0** > **Case** > **Case Configuration** permission.
- To ensure that SMS messages and emails can be sent, you have configured an SMS gateway and an email gateway in advance.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Reminder**. Currently, automatic notification, case reminder notification, and customer notification are supported.

Figure 2-470 Case Reminder



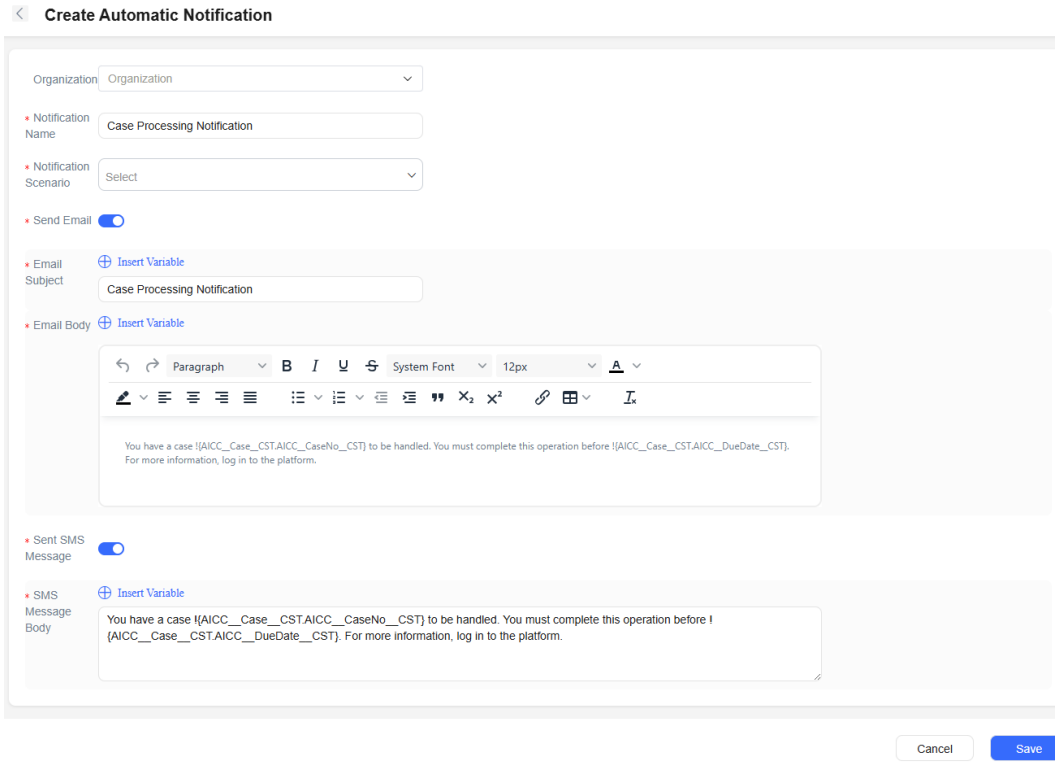
----End

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Configuring Automatic Notification

Step 1 Enable **Automatically send notifications**.

Figure 2-471 New Automatic Notification



1. Enter a notification name.
2. Select a notification scenario. Currently, the options are **Create**, **Close**, **Pause**, **Restore**, **Cancel**, **Transfer**, **Merge**, **Reboot**, and **ReOpenHis**.
3. Choose to send a case reminder via email or SMS message.
4. If the case title, case ID, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case reminder rule setting times. For details about how to create variables, see **Customized Case Field**.
5. Click **Save**.

Step 2 (Follow-up operations) Access the case details page and change the case owner, for example, transfer a case, restart a historical case, merge cases, restart a case, or create a case. An automatic notification is triggered. You can click to view the email or SMS notification on the **Notification Center** page.

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Figure 2-472 Transfer Case

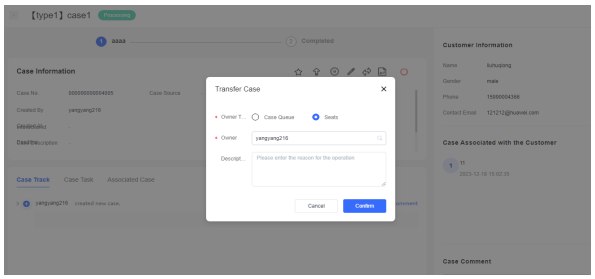
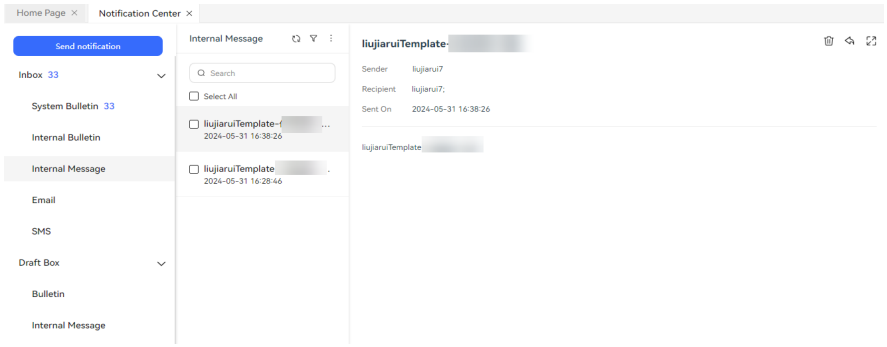


Figure 2-473 Notification Center

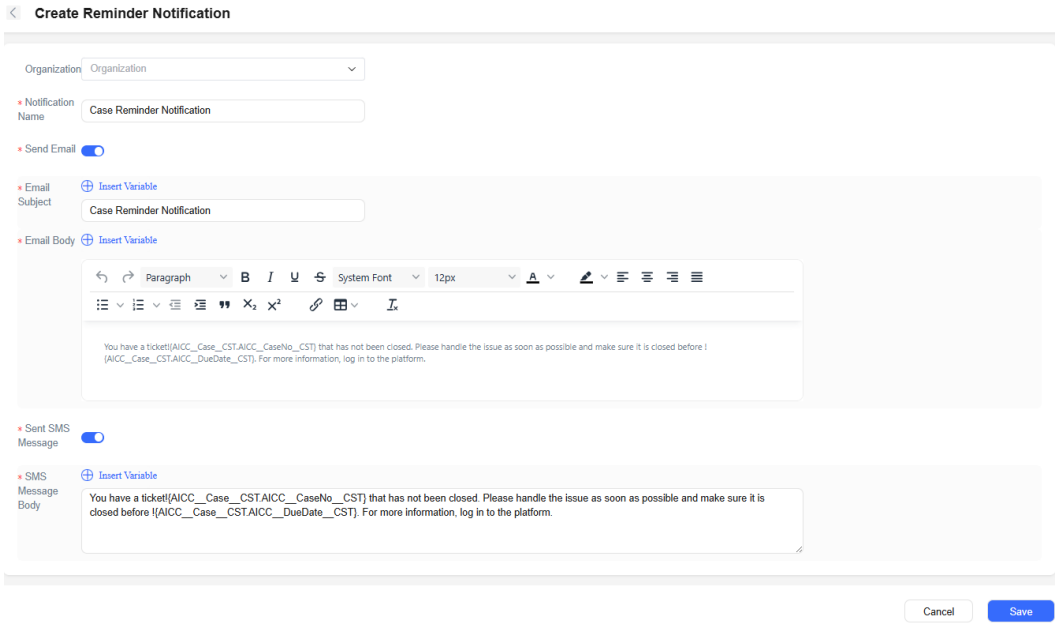


----End

Configuring a Case Reminder Notification

Step 1 Click the **Reminder Notification** tab, and then click **Create**.

Figure 2-474 Create Reminder Notification page



1. Enter a notification name.

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2. Choose to send a case reminder via email or SMS message.
3. If the case title, case ID, case details link, or other fields do not have fixed values during email filling, insert variables to automatically fill in the email subject and body, reducing the number of case reminder rule setting times.
4. Click **Save**.

Step 2 (Follow-up operation) On the case details page, click  to manually send a case reminder. Alternatively, on the case workbench, click **reminder** to manually send a case reminder. After a case reminder is sent, the case owner receives the email or SMS notification.

Figure 2-475 Manually sending a case reminder

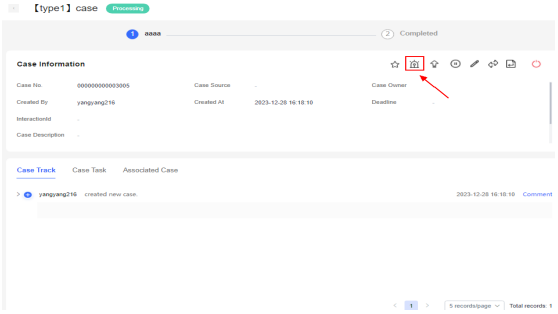
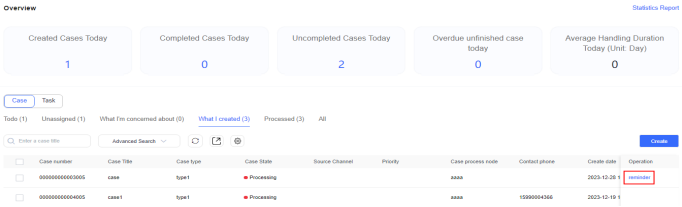


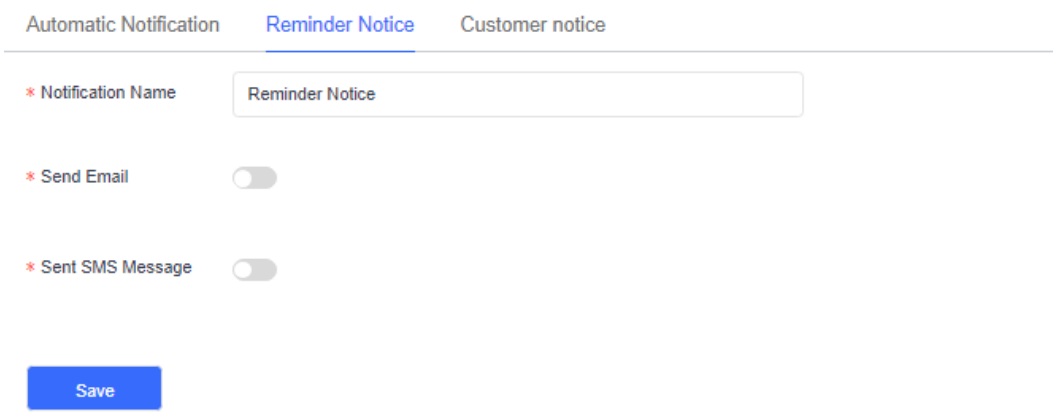
Figure 2-476 reminder button on the case workbench



Step 3 (Optional) If you use the Case for the first time and have not configured case reminder notification, you can go to the case details page and click  to send a case reminder. The system sends an email to the corresponding owner by default.

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Figure 2-477 Case reminder notification disabled

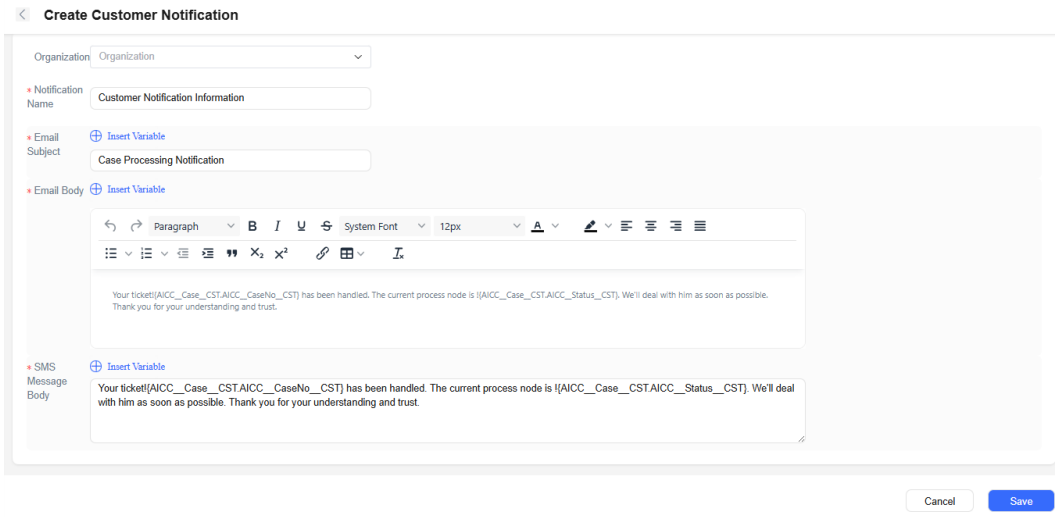


----End

Configuring a Customer Notification

Step 1 Click the **Customer Notification** tab, and then click **Create**.

Figure 2-478 Create Customer Notification page



1. View the default template provided for customer notification. By default, the information shown in the preceding figure is used in the initial environment.
2. Modify the information as required.
3. Set parameters. All parameters on the **Create Customer Notification** page are mandatory.
4. Enter an email subject.
5. If the case title, case ID, case details link, or other fields do not have fixed values during email body filling, insert variables to automatically fill in the body, reducing the number of case reminder rule setting times.
6. Click **Save**.

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Step 2 (Follow-up operation) Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and select **Notified by Email** or **Notified by SMS** when creating a case to notify the customer after the case is created. Alternatively, go to the case details page, change the case status, and select **Notified by Email** or **Notified by SMS** to notify the customer of the case status change.

----End

Case Role

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Role**.

Step 2 Click **Create** on the right, set role information, and click **Save**.

Figure 2-479 Role information

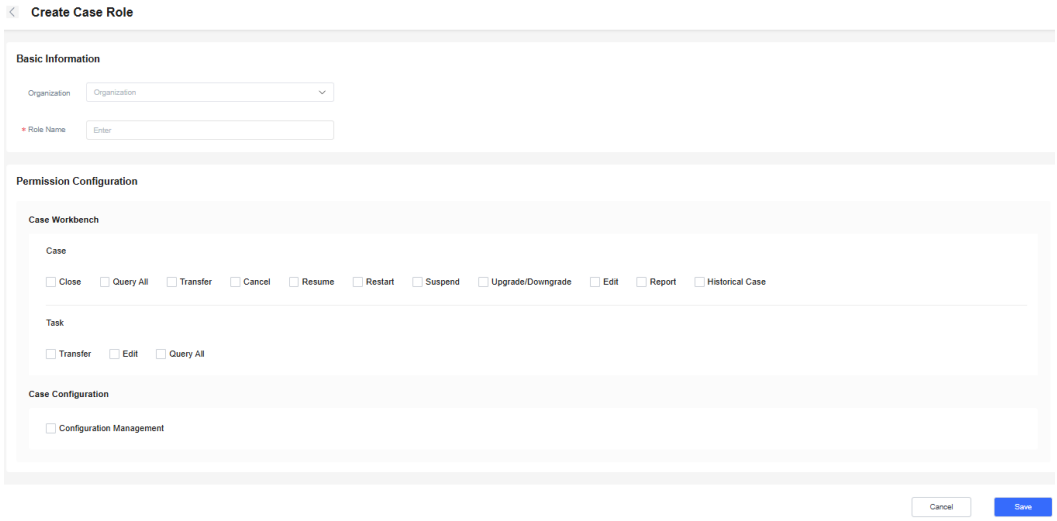


Table 2-175 Permission description

Permission Category	Permission	Description
Case	close	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to close cases of other employees.
	Query All	If this case permission is selected, employees with this role can view cases of all employees in the tenant space.

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Permission Category	Permission	Description
	Transfer	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to transfer cases of other employees.
	cancel	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to cancel cases of other employees.
	Recovery	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to resume cases of other employees.
	restart	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to restart cases of other employees.
	Pause	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to suspend cases of other employees.
	Upgrade/downgrade	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to upgrade or downgrade cases of other employees.

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Permission Category	Permission	Description
	Editing	If this case permission is selected, the **Query All** will be automatically selected. Employees with this role can view cases of all employees in the tenant space and have the permission to modify case information and status of other employees.
	Report	If this case permission is selected, employees with this role have the permission to view case reports of all employees.
	History Case	If this case permission is selected, the **Query All** permission will be automatically selected. Employees with this role have the permission to view and restart historical cases.
Task	Transfer	If this task permission is selected, employees with this role have the permission to transfer tasks to other employees.
	Editing	If this task permission is selected, employees with this role can modify tasks of other employees.
Case Configuration	Configuration Management	If this permission is selected, employees with this role have the case configuration permission.

----End

Case Queue

You can use case queues to create organizations and invite or remove members to implement team management. If you select a queue when creating a case, members in the queue can view the pending case.

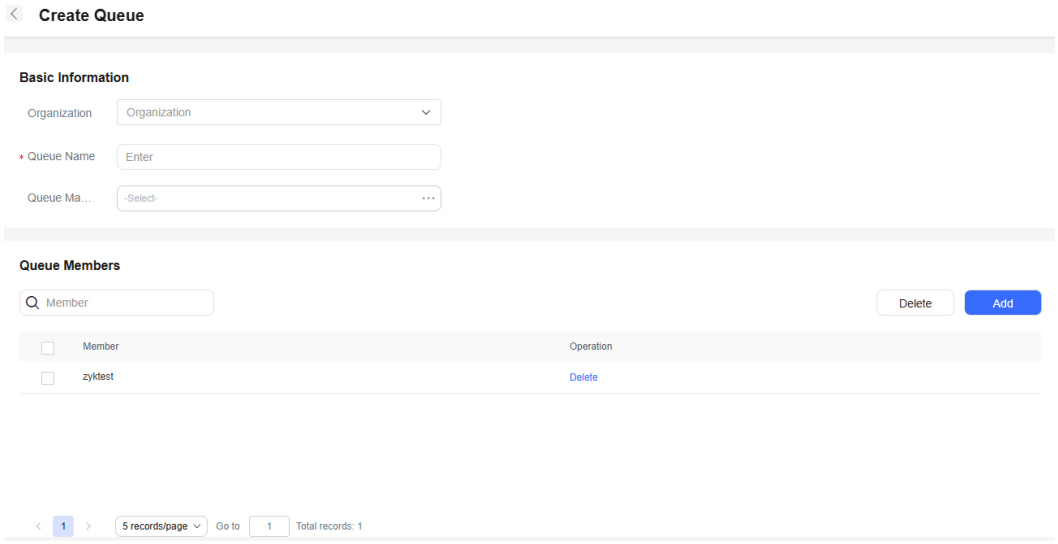
Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue**.

Step 2 Click **Create**.

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Figure 2-480 Create Queue page



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Table 2-176 GUI elements on the Create Queue page

Element/ Component	Value Range	Remarks
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured for both an employee and an OU, the accessible OU configuration permission of the employee is used. ▪ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current	-

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Element/ Component	Value Range	Remarks
	business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed. – For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level **Maximum number of OU organizational unit queries** parameter on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. ● After the tenant parameter is set to **No**, all OUs can be selected.	
Queue Name	-	● The value can contain a maximum of 64 characters. ● The value must be unique.
Queue Manager	Only one member under the OU of the queue can be selected as the manager.	-

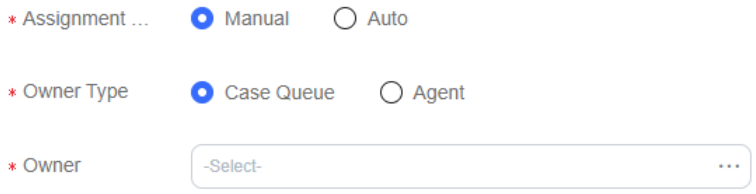
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Element/ Component	Value Range	Remarks
Queue Members	Only members under the OU of the queue can be selected.	-

Step 3 Click **Save**. The queue is created successfully.

Step 4 Choose **Case 2.0** > **Case Workbench** and assign cases by case queue. After the assignment is successful, all members under the case queue are case owners.

Figure 2-481 Assigning cases by case queue



----End

User Role

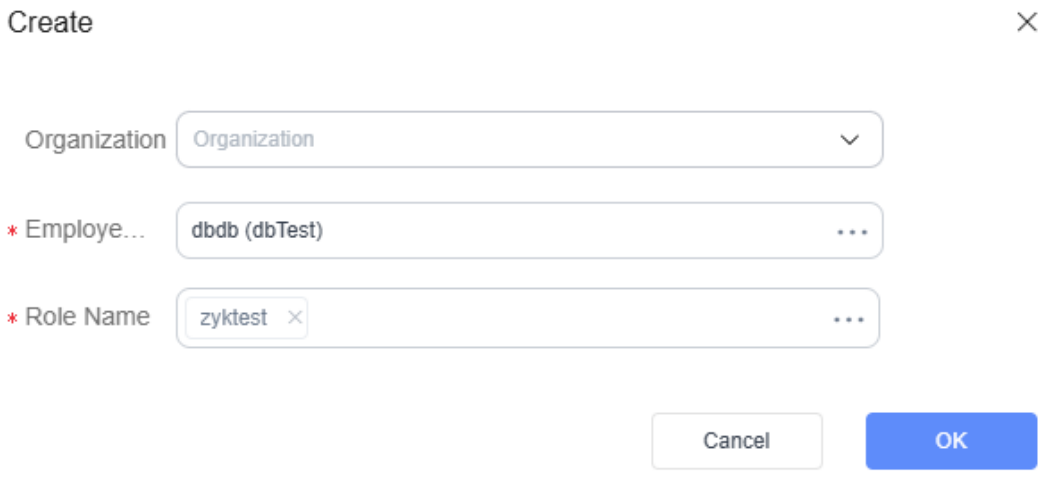
You can add or delete roles to manage the permissions of members.

Procedure

Step 1 Sign in to the AICC and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **User Role**.

Step 2 Click **Create** on the right to associate a role with a user. After you click **Save**, the role is associated with the user.

Figure 2-482 Associating a role with a user



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NOTE

The AICC permission system does not adapt to the case permission system. For example, after a tenant space administrator creates an employee in the AICC and sets the role of the employee to the tenant environment administrator, the employee still cannot use the case configuration function. In this case, the tenant space administrator needs to associate the role with the employee on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **User Role** page.

----End

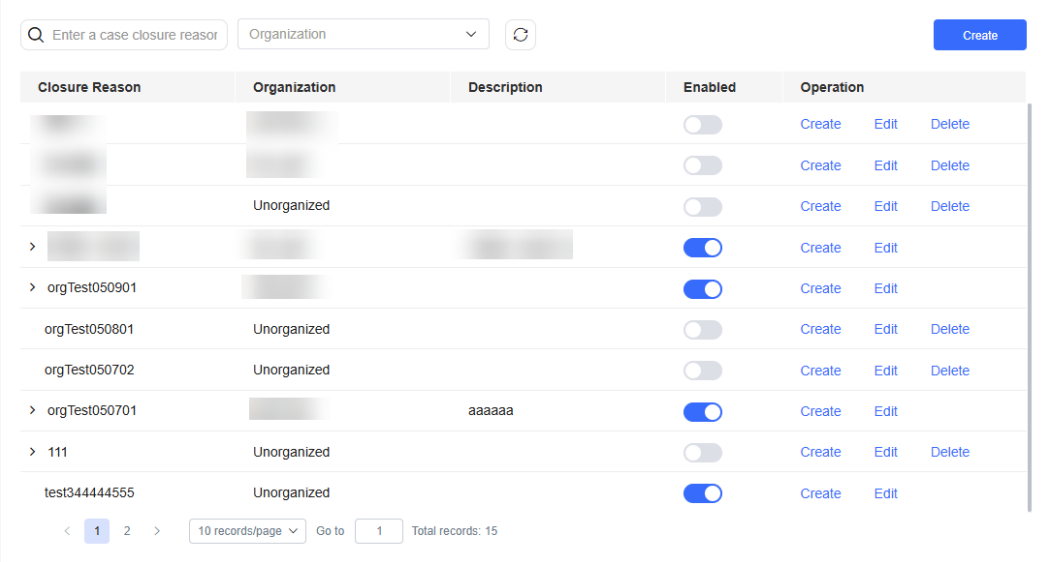
Case Closure Reason

A tenant space administrator can set case closure reasons.

Procedure

Step 1 Sign in to the AICC as a tenant space administrator and choose **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Close Reason**.

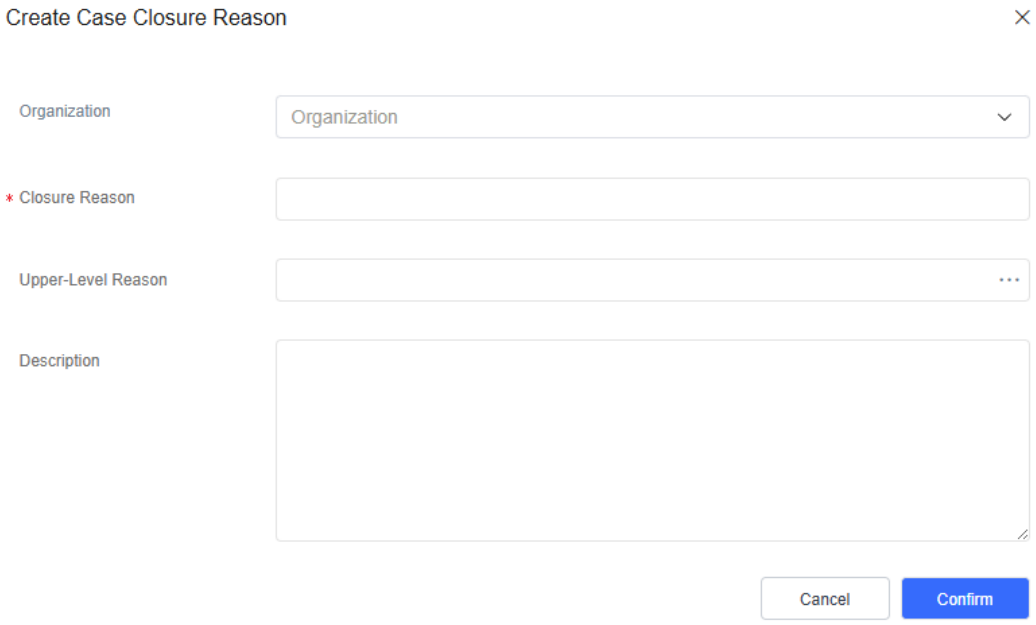
Figure 2-483 Case Close Reason page



Step 2 Click create and create a case closure reason by referring to **Table 2-177**.

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Figure 2-484 Create Case Close Reason



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Table 2-177 Parameters for creating a case closure reason

Element/ Component	Description	Remarks
Organization	• After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements: – For accounts without the **View All Organization Data** permission under **System Public Permissions** configured: ▪ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessable Organizations** configured on the **Employee Info** or **Organization Unit** page can be selected. **NOTE** If accessible OUs are configured on the **Employee Info** or **Organization Unit** page, the accessible OU configuration permission on the **Employee Info** page is used. ▪ If the **Viewing and Editing Home**	-

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Element/ Component	Description	Remarks
	Organization Data permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be viewed. ▪ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the sub-OUs of the OU to which the current business account belongs can be viewed. – For accounts with the **View All Organization Data** permission under **System Public Permissions** configured, all OUs can be selected. – The number of OUs that can be selected is specified by the value of the system-level parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page. ● After the tenant parameter is set to **No**, all OUs can be selected.	

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Element/ Component	Description	Remarks
Close Reason	Closure reason.	• The value contains a maximum of 128 characters. • The value must be unique.
Upper-level reason	Reasons are displayed by layer, for example, **Resolved** > **Design change** > **Insufficient budget**.	A maximum of five layers are supported.
Description	Description.	-

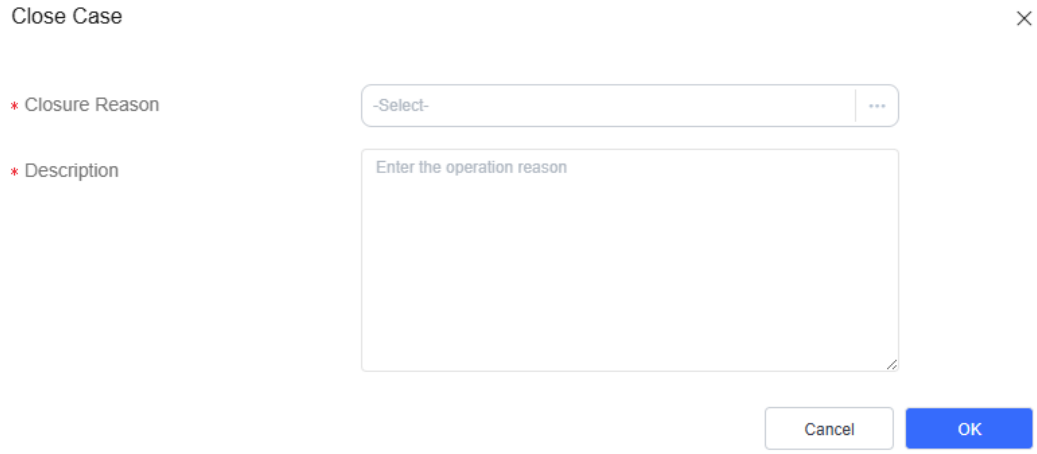
Step 3 Click Confirm.

Step 4 In the case closure reason list, click corresponding to the new closure reason to change the status to .

Step 5 Choose **Case 2.0** > **Case Workbench** and click a case to be closed in the case list.

On the case details page that is displayed, click . In the dialog box that is displayed, select a closure reason.

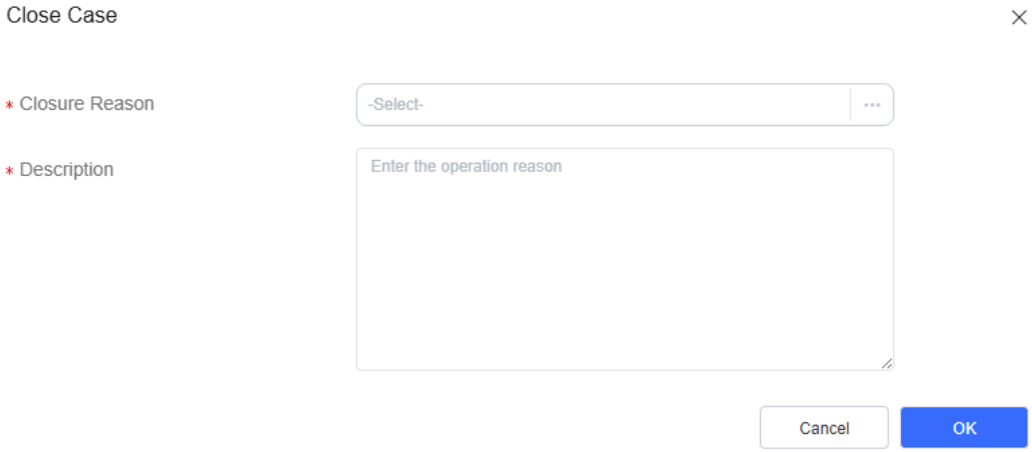
Figure 2-485 Selecting a case closure reason



Step 6 Choose **Case 2.0** > **Case Workbench**, select cases to be closed in the case list, and click Close. In the dialog box that is displayed, select a closure reason.

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Figure 2-486 Selecting a case closure reason when the Batch Closure function is used



NOTE

Cases to be closed in batches must belong to the same OU.

----End

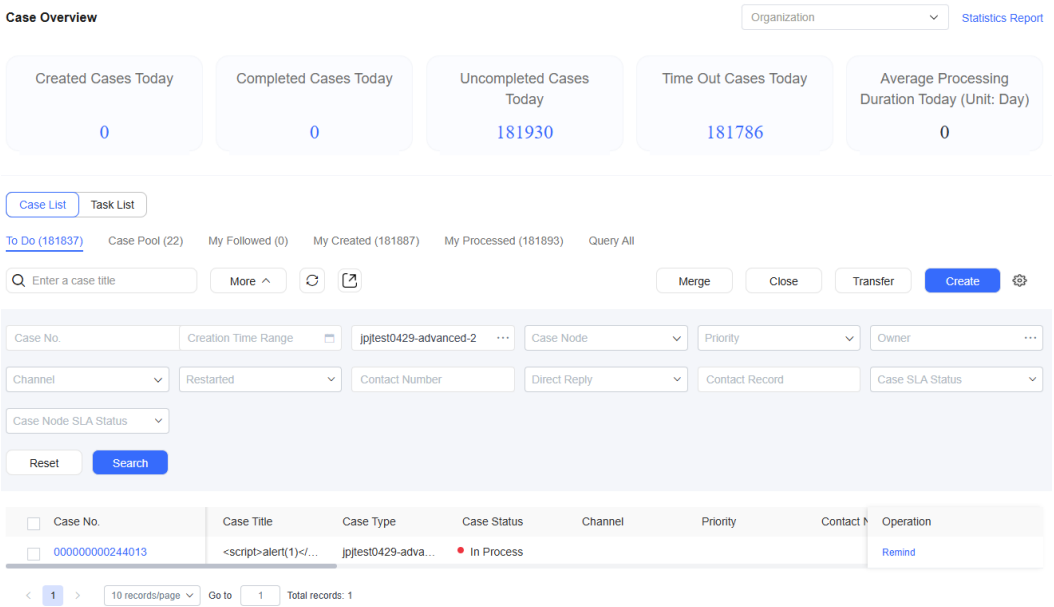
2.9.1.4 Case Handling

2.9.1.4.1 Creating a Case

Procedure

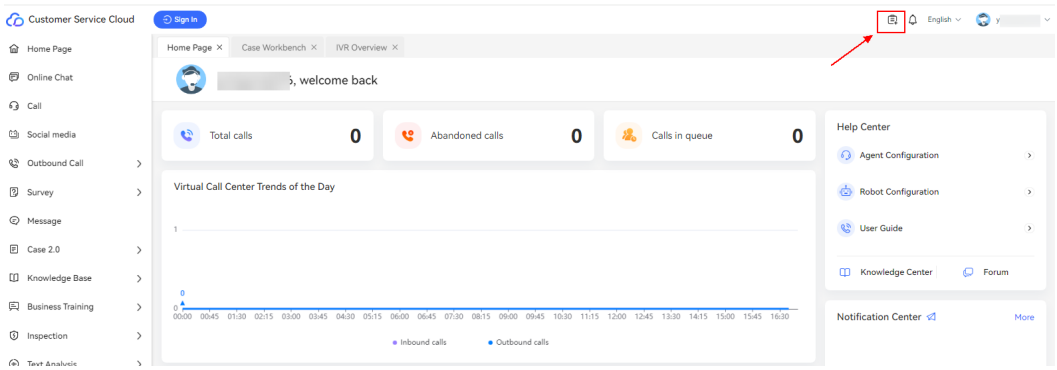
Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click **Create**. Alternatively, directly click the quick entry shown in **Figure 2-488** to create a case.

Figure 2-487 Create button



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Figure 2-488 Quick entry for creating a case

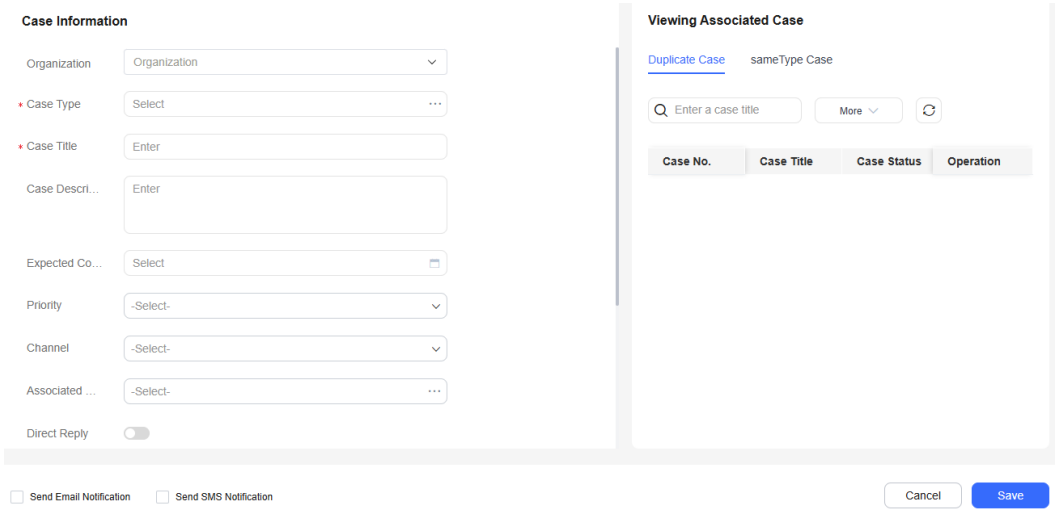


Step 2 On the **Create Case** page, set mandatory parameters and click **Save**.

NOTE

After a case is created, if data on the **Case Workbench** page is not refreshed, manually refresh the page.

Figure 2-489 Page for creating a case



- **Organization**:
  a. If the system parameter **SCDomain** of the AppCube is left empty, the case is not integrated with the AICC. In this case, the **Organization** field is not displayed on the GUI, and organization isolation is not supported.
  b. If the system parameter **SCDomain** of the AppCube is not empty and the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** of the AICC is set to **No**, the **Organization** field is displayed on the GUI, and the current operator does not need to have the read and write permissions on the corresponding organization.
  c. If the system parameter **SCDomain** of the AppCube is not empty and the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** of the AICC is set to **Yes**, the **Organization** field is displayed on the GUI, and the current operator must have the read and write permissions on the corresponding organization.

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- **Case Type**: The options are the enabled case types on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page.
- **Case Title**: The value can contain a maximum of 128 characters.
- **Case Description**: The value can contain a maximum of 20,000 characters.
- **Expected Completion Time**: The value must be later than or equal to the current time.
- **Priority**: The options are **Low**, **Medium**, **High**, and **Critical**. **Critical** indicates the highest priority.
- **Source**: Source channel of a case. The options are **Voice**, **Whatsapp**, **webchat**, and **Email**.
- **Associated Customer**:

  a. This field is displayed only when the system parameter **AICC__CaseShowCustomer** of the AppCube is set to **false**.

  b. The options are customers in the customer center. You can sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management** to view customers. For details, see **2.12 Managing the Customer Center**.

  c. You can directly create a customer. For details, see **2.9.1.4.2 Creating a Customer**.

  NOTE

  You can access the customer center only when the customer center feature is enabled for the tenant space.

- **Direct Reply**: This switch is turned off by default. If this switch is turned on, no owner needs to be assigned, and the case creator can directly reply to the customer.
- **Assignment Mode**: The options are **Manual** and **Auto**. If this parameter is set to **Auto**, the case will be assigned based on the case assignment rule on the **Case Configuration** > **Case Assignment Rule** page. If this parameter is set to **Manual**, you can assign the case to a skill queue or an agent.
- **Owner Type**: The options are **Case Queue** or **Agent**. If you select **Case Queue**, the owner is a group. If you select **Agent**, the owner is an employee.
- **Attachment**: The attachment format must be JPG, PNG, PDF, JPEG, GIF, DOC, DOCX, XLSX, TXT, or EML. A maximum of five attachments can be uploaded. The size of an attachment cannot exceed 5 MB.
- **Send Email Notification** or **Send SMS Notification**: Whether to send an email or SMS notification to the customer when the case status changes. To use the notification function, you need to configure a customer notification template and gateway in advance. For details, see **Case Reminder**.
- **Duplicate Case**: indicates the unclosed cases that are of the same type and have the same customer number, or associated customer. If the system parameter **AICC__AllowAddSameCase** of the AppCube is enabled, you can create a duplicate case. Otherwise, you cannot create a duplicate case.
- **sameType Case**: indicates the cases that are of the same type.

----End

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2.9.1.4.2 Creating a Customer

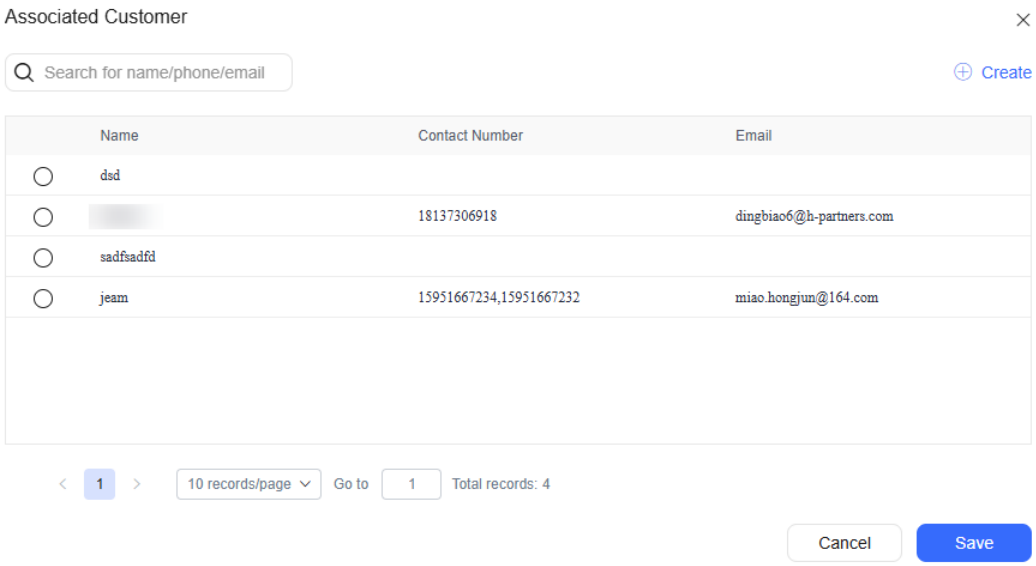
When creating a case, if the customer to be associated is not maintained in the system, you can directly create the customer and associate it with the case to improve work efficiency. This helps you track the case progress and provide better customer service when communicating with customers.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click **Create**.

Step 2 Click the **Associated Customer** selection box. The **Associated Customer** dialog box is displayed.

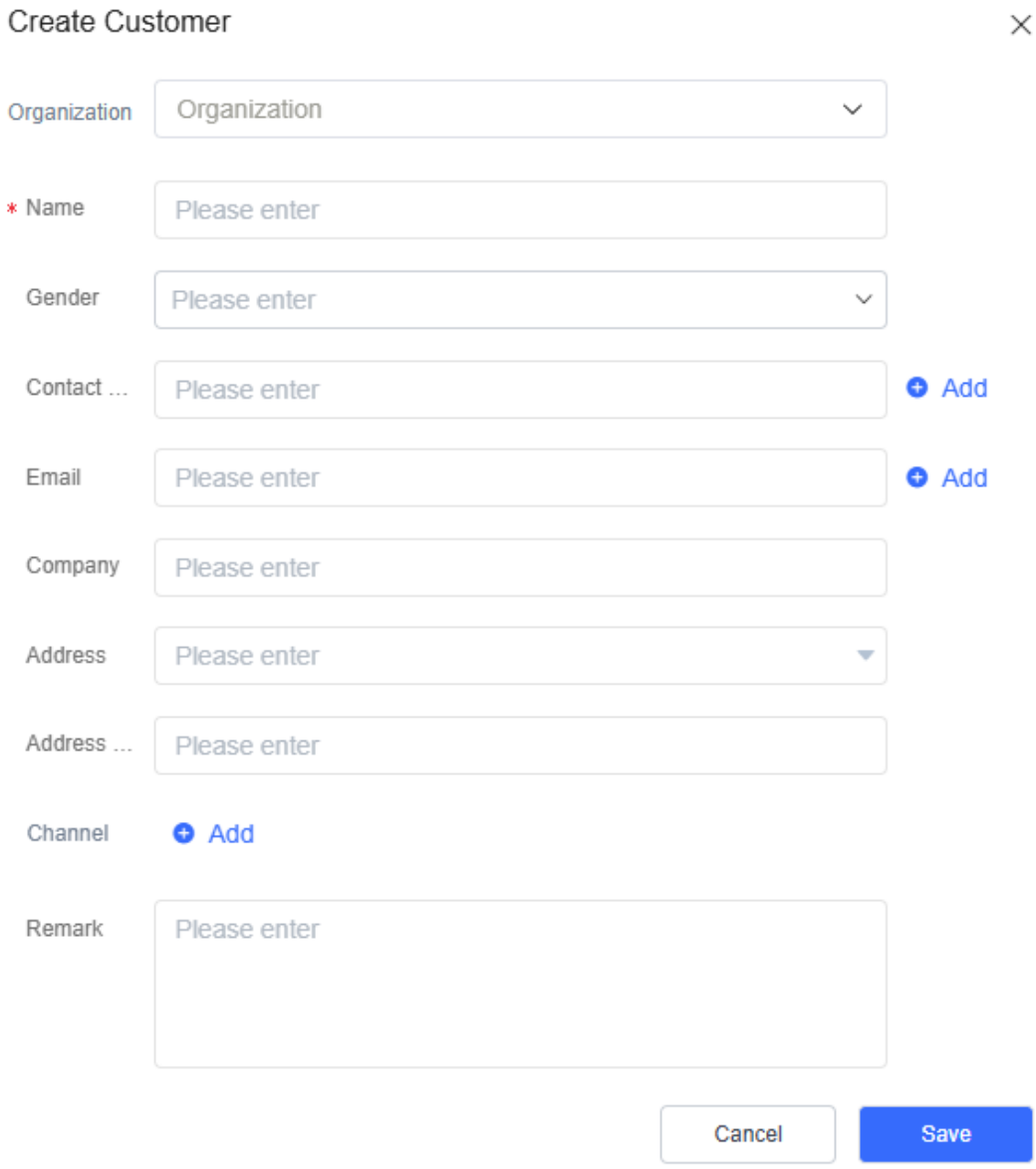
Figure 2-490 Associated Customer



Step 3 Click Create and enter customer information. In the case of duplicate customer names, enter correct phone numbers and email addresses to distinguish the customers.

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Figure 2-491 Creating a Customer

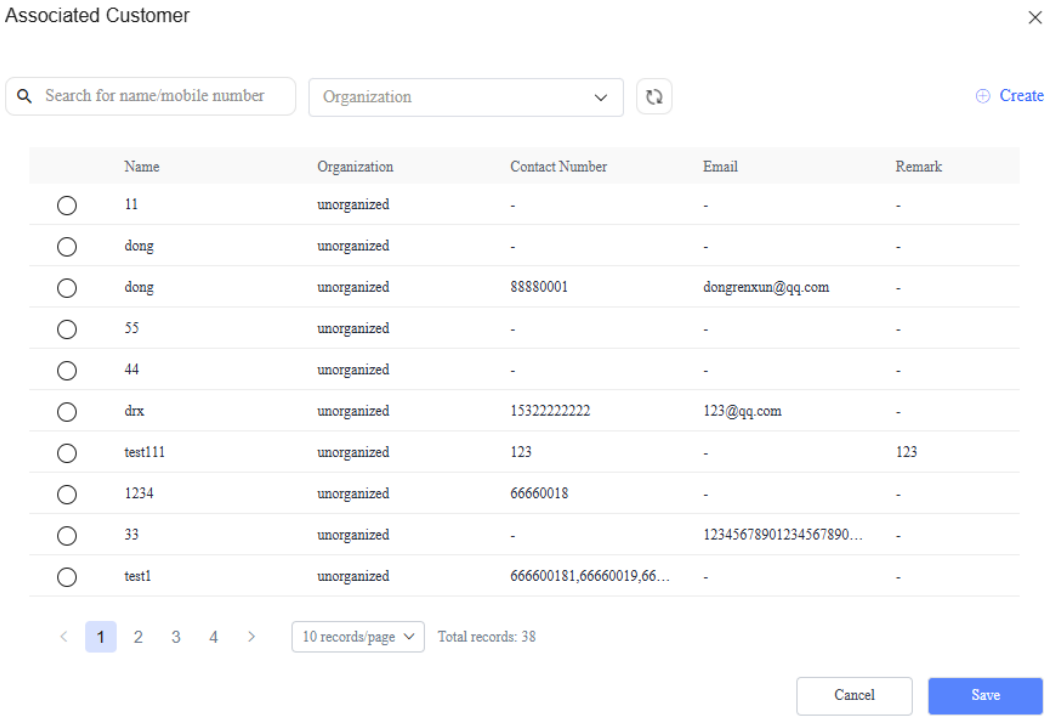


Step 4 Click Save.

Step 5 Search for and select the customer created in **3** based on the customer's name or phone number.

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Figure 2-492 Associated Customer



Step 6 Click Save. The customer is associated with the case successfully.

----End

2.9.1.4.3 Viewing Cases Associated with a Customer

You can view historical cases associated with a customer and analyze the handling processes and results of the cases to understand the customer's requirements and promptly resolve the customer's problems. This helps you improve customer satisfaction and loyalty.

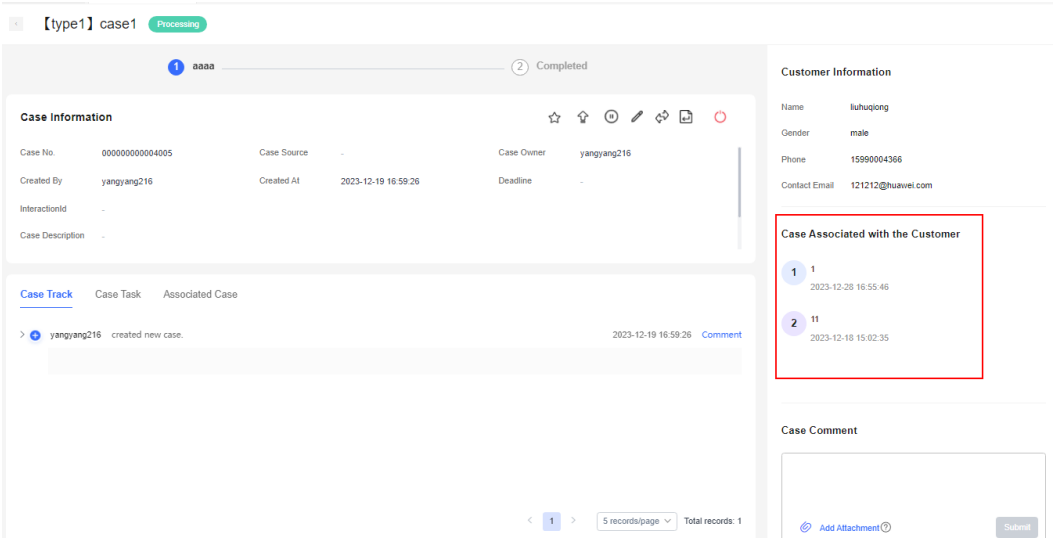
Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click a case. The case details page is displayed.

Step 2 In the **Case Associated with the Customer** area on the right, click a case to view details about the historical case associated with the customer.

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Figure 2-493 Case Associated with the Customer



----End

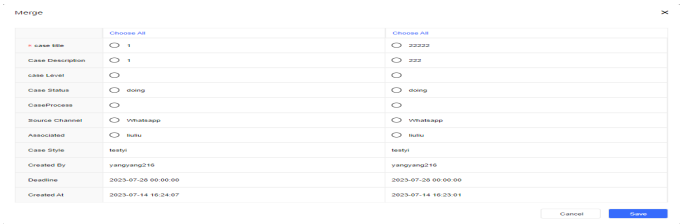
2.9.1.4.4 Merging Cases

An agent can merge multiple cases of the same type to improve the work efficiency.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, select cases of the same type from the **To Do** list, and click **Merge**.

Figure 2-494 Merge page



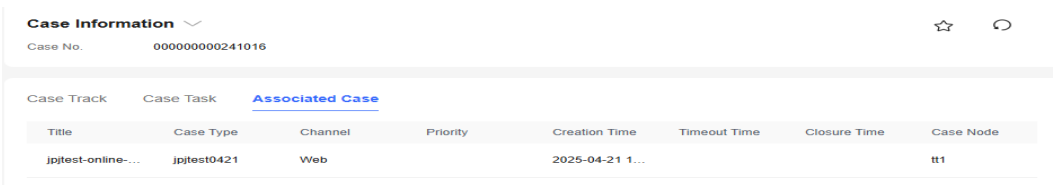
NOTE

Case types, creators, expected completion time, and creation time cannot be merged.

Step 2 Complete configuration and click **Save**. After the merging is successful, a case is retained and a case track is generated.

Step 3 Click the case, and view the merged case on the **Associated Case** tab page.

Figure 2-495 Associated Case tab page



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NOTE

- Cases to be merged must be of the same type.
- A maximum of five cases can be merged at a time.
- If case A is retained after merging, you can view case B on the **Associated Case** tab page of case A.

----End

2.9.1.4.5 Transferring a Case

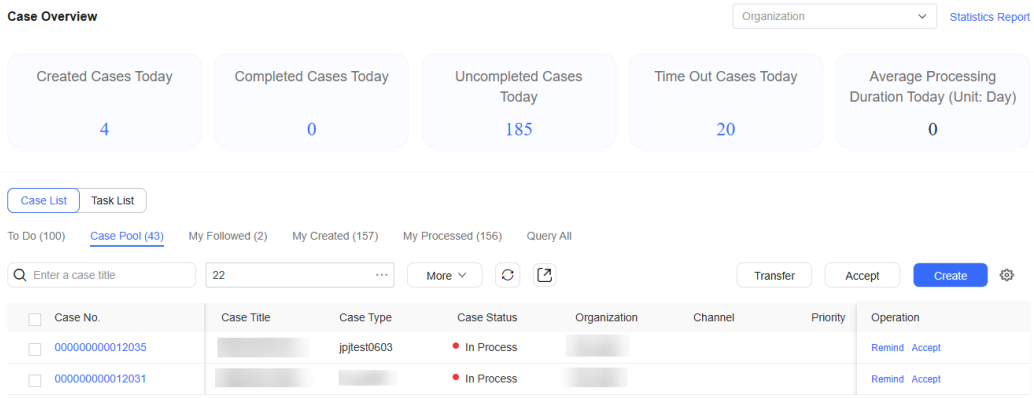
If you are no longer the owner of a case, you can transfer the case to a new owner.

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click the **Todo** or **Unassigned** tab.

Step 2 Transfer cases one by one or in batches. After a case is transferred to a specified owner, the owner has the permission to handle the case.

Figure 2-496 Transferring cases in batches



Step 3 Alternatively, click  on the details page of a case to transfer the case.

----End

2.9.1.4.6 Accepting a Case

You can handle a case in a queue only after accepting the case.

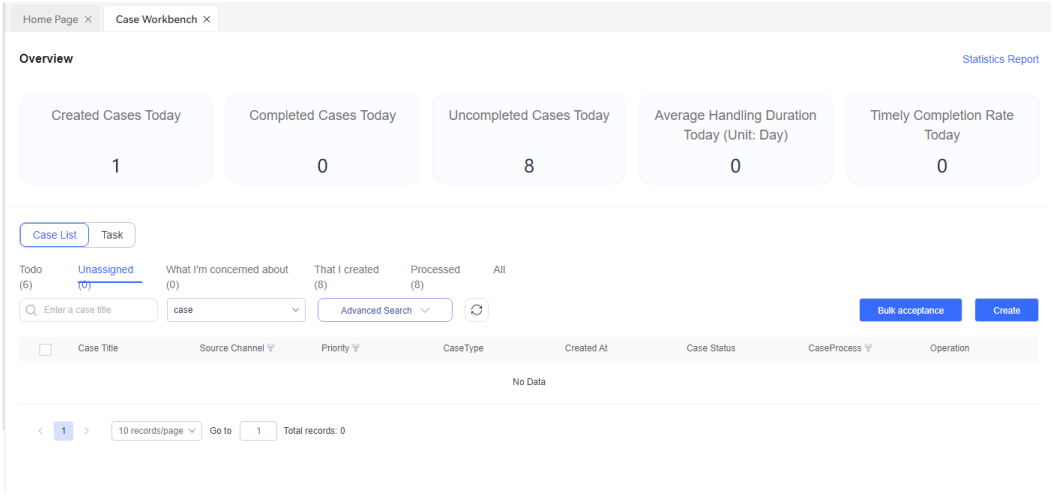
Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click the **Unassigned** tab.

Step 2 Accept cases one by one or in batches. After accepting a case, you have the permission to handle the case, and the case is added to the **Todo** list.

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Figure 2-497 Accepting cases



NOTE

A maximum of 100 cases can be accepted at a time.

----End

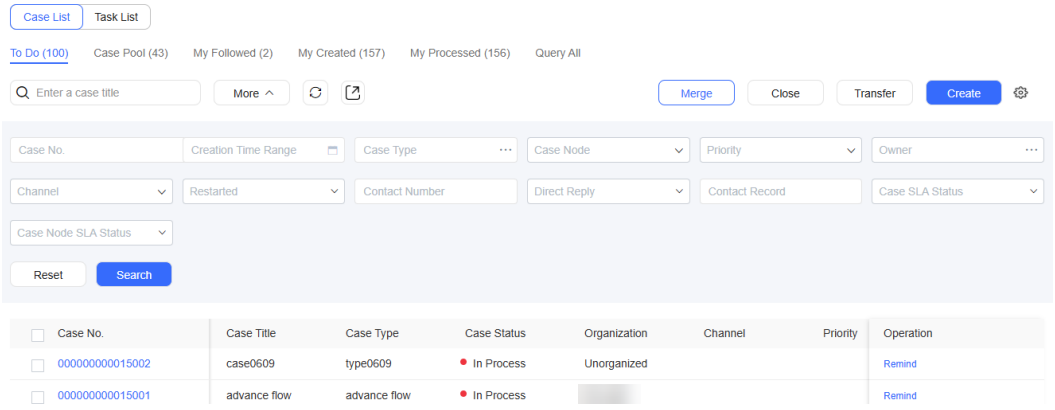
2.9.1.4.7 Searching for Cases

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, enter a case title, and press **Enter** to search for the case.

Step 2 Click **Advanced Search** and set advanced search criteria to search for cases.

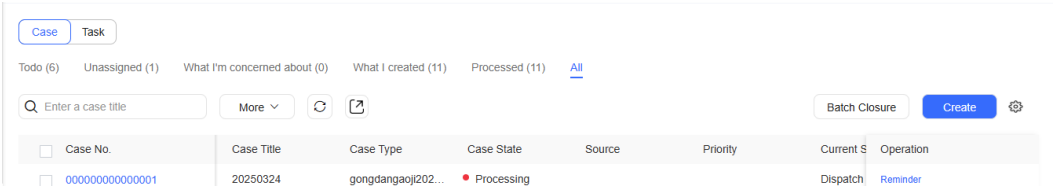
Figure 2-498 Advanced Search



Step 3 Filter cases by tab page. You can view cases on the **Todo**, **Unassigned**, **What I'm concerned about**, **What I created**, **Processed**, or **All** tab page.

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Figure 2-499 Tab page



Step 4 Click  to export cases based on filter criteria.

Step 5 Click  to customize the view. Select the columns to be displayed in the list. To restore the default configuration, click **Reset**. Only icons for **Whether To Upgrade** and **Restart Or Not** are displayed next to case numbers, as shown in **Figure 2-501**.

Figure 2-500 Column configuration

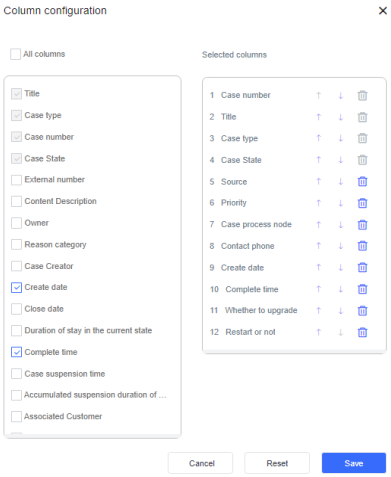
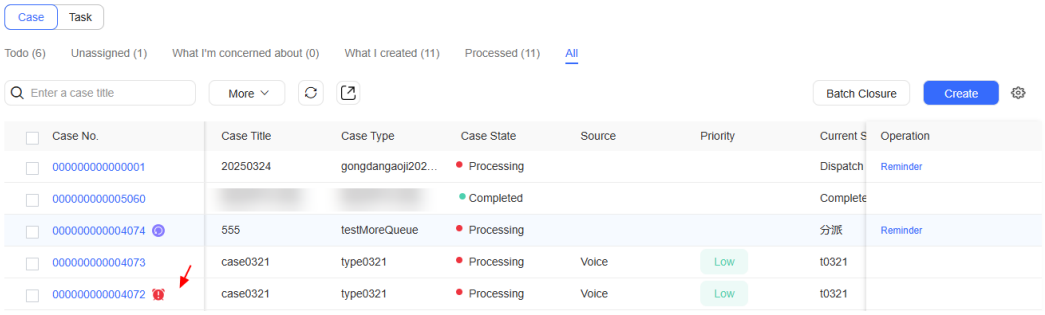


Table 2-178 Default fields in the list

Parameter	Not Displayed	Sequence Adjustment Supported or Not	Display by Default
Case Title	No	Yes	Yes
Case Type	No	Yes	Yes
Case No.	No	Yes	Yes
Case State	No	Yes	Yes

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Figure 2-501 Icon



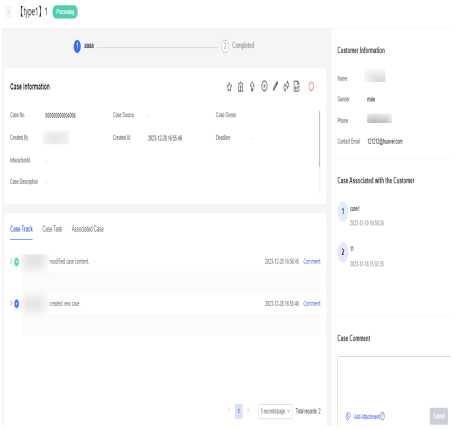
----End

2.9.1.4.8 Case Details

Procedure

Step 1 On the **Case Workbench** page, click a case. The case details page is displayed.

Figure 2-502 Case details page



Step 2 (Optional) On the right of the case details page, view customer information and historical cases associated with the customer, or evaluate the case.

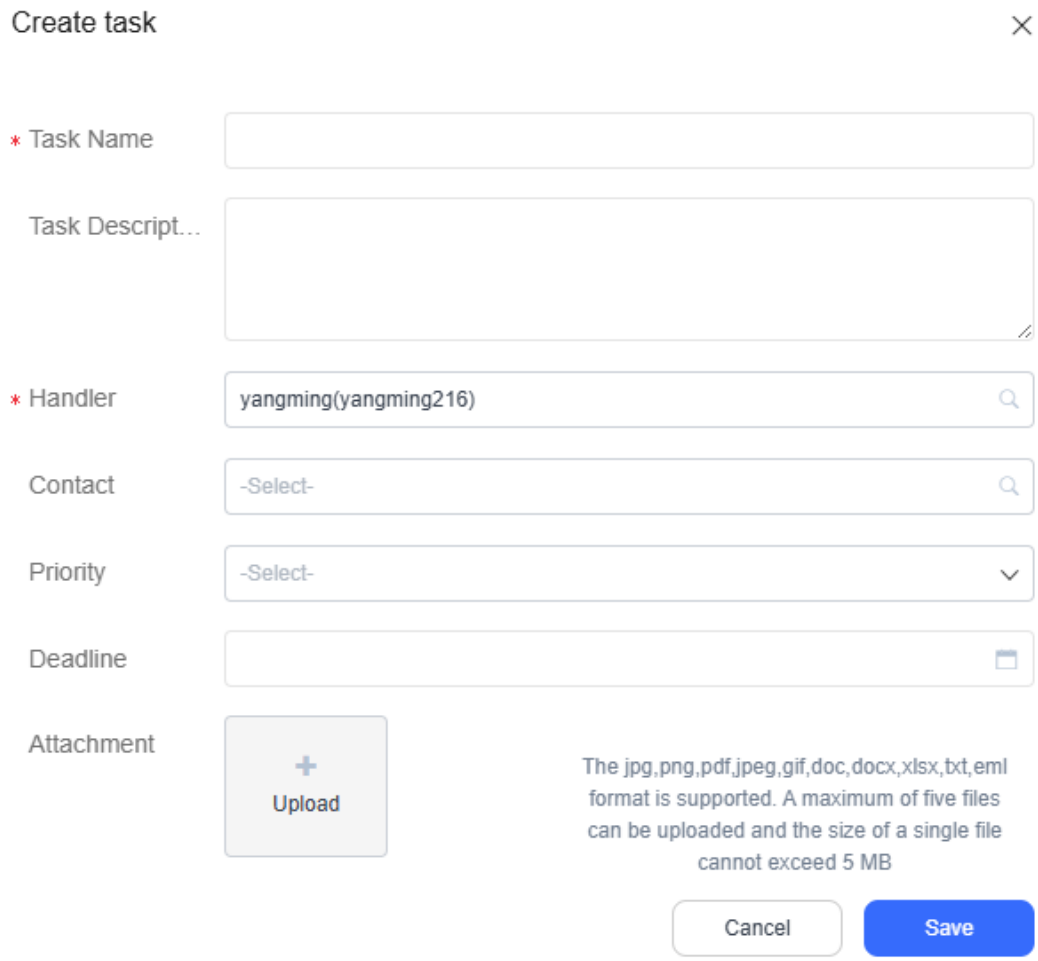
Step 3 You can perform the following operations on the case:

- : Follow an important or urgent case.
- : Send an email or SMS notification to urge the case owner to handle a case that is about to expire. The prerequisite is that case reminder notification has been configured. For details, see **Configuring a Case Reminder Notification**.
- : Upgrade the case level. After the upgrade, an upgrade flag is added to the case title.
- : Suspend a case that does not need to be handled temporarily.
- : Transfer the case to change the case owner.

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- : Cancel the case.
- : Close the case.
- : Restart the case.
- **Comment** on the **Case Track** tab page: Add comments when you handle the case.
- **Add Attachment**: Add supplementary information for the case, for example, fault screenshots provided by the customer. The total size of attachments cannot exceed 5 MB, and the number of attachments cannot exceed 5. JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX attachments are supported.
- **Create** on the **Case Task** tab page: Create a task and trace the handling when the case needs to be handled based on department collaboration.

Figure 2-503 Create task



NOTE

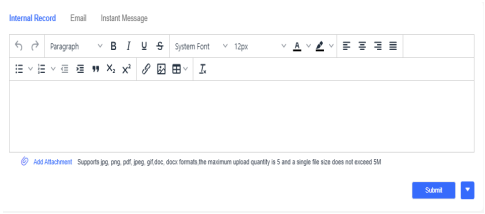
Multiple tasks can be created for a case.

- **Associated Case** tab page: View associated cases after merging cases. For details about how to merge cases, see **2.9.1.4.4 Merging Cases**.

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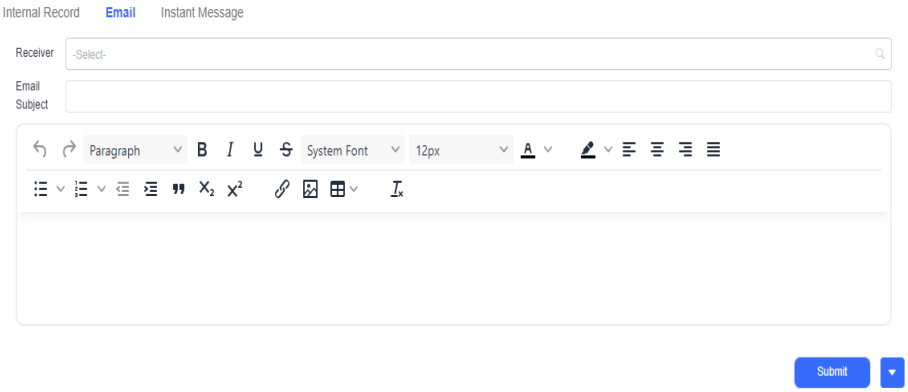
- **Internal Record** tab page: Only the case owner and tenant administrator have the permission to perform operations on this tab page. An internal record can contain a maximum of 20,000 characters. If an image needs to be added, click **Add Attachment** to upload it.

  Figure 2-504 Internal Record

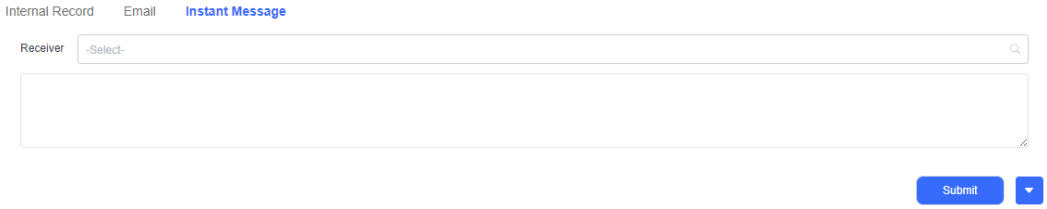
- **Email**: Emails can be sent to customers. Only the email addresses configured when you create customers by referring to **2.9.1.4.2 Creating a Customer** can be selected.

  Figure 2-505 Email

- **Instant Message**: SMS messages can be sent to customers. Only the mobile numbers configured when you create customers by referring to **2.9.1.4.2 Creating a Customer** can be selected.

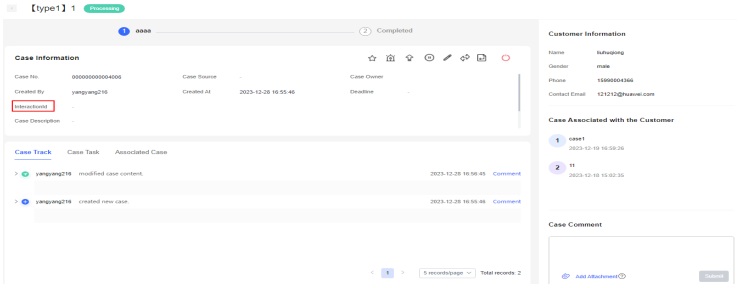
  Figure 2-506 Instant Message

- **InteractionId** field: View contact records. Only contact records generated in the last seven days can be viewed. If the case is created on the voice and video workbench, a contact record ID is generated and displayed in the **Case Information** area. Click an ID in blue to go to the contact record details page.

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Figure 2-507 InteractionId



----End

2.9.1.4.9 Case Report

Prerequisites

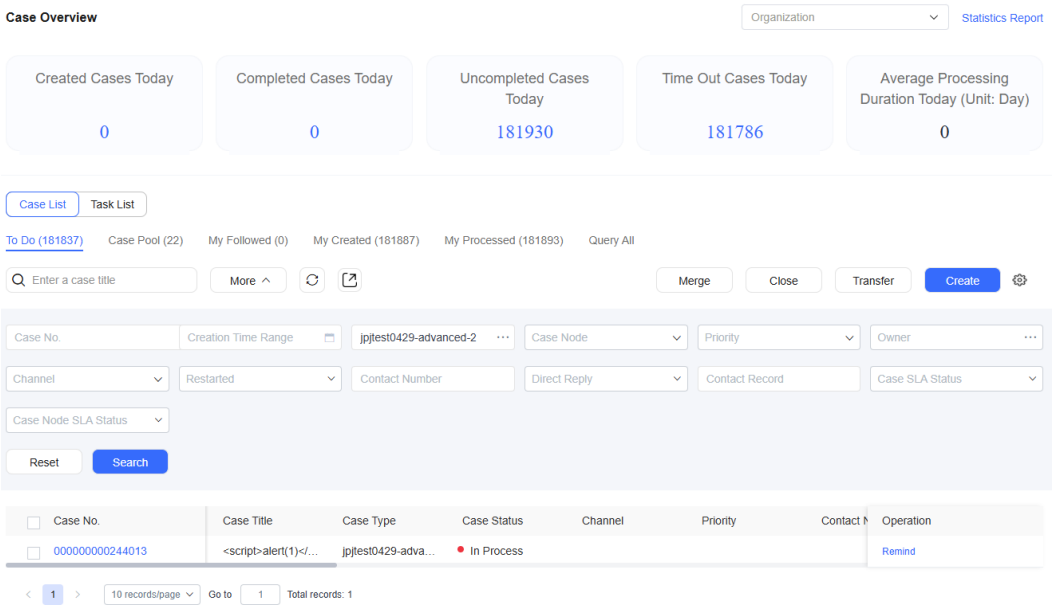
- You have the **Case Workbench** permission.
- The Case 2.0 feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC and choose **Case 2.0** > **Case Workbench**.

Step 2 In the **Overview** area, view statistics on the **Created Cases Today**, **Completed Cases Today**, **Uncompleted Cases Today**, **Overdue unfinished case today**, and **Average Handling Duration Today** cards. Click a number in blue to view the corresponding statistics in the case list.

Figure 2-508 Number in blue

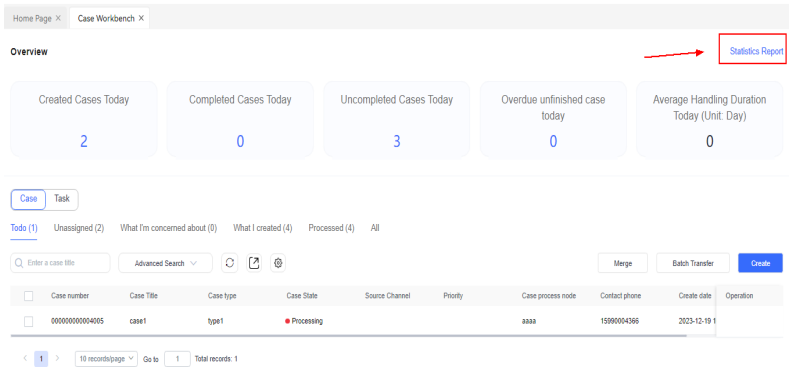


Step 3 (Optional) Click **Organization** in the upper right corner, select organizations, and click the refresh icon to filter indicators based on the selected organizations.

Step 4 Click **Statistics Report**. The **Case Report** page is displayed.

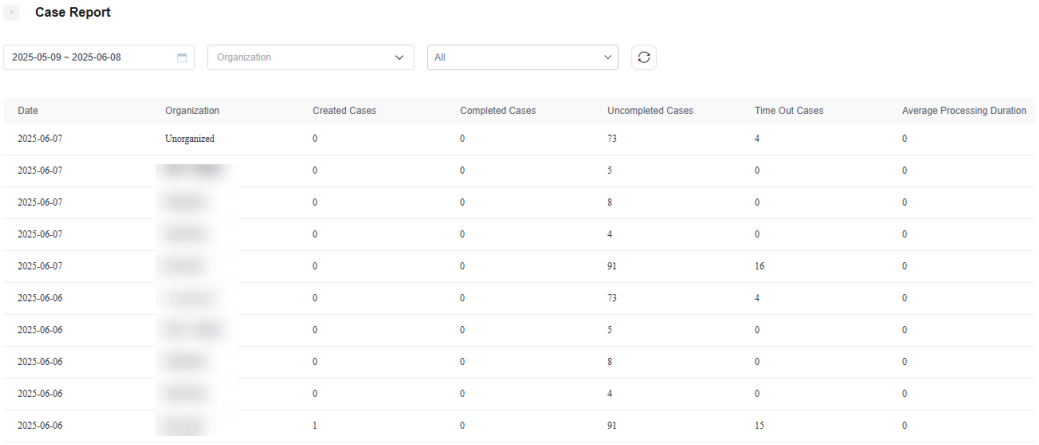
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Figure 2-509 Statistics Report



Step 5 On the **Case Report** page, click the calendar control to set the date range for querying the number of cases on each date. Data of the last 31 days (excluding the current day) can be queried.

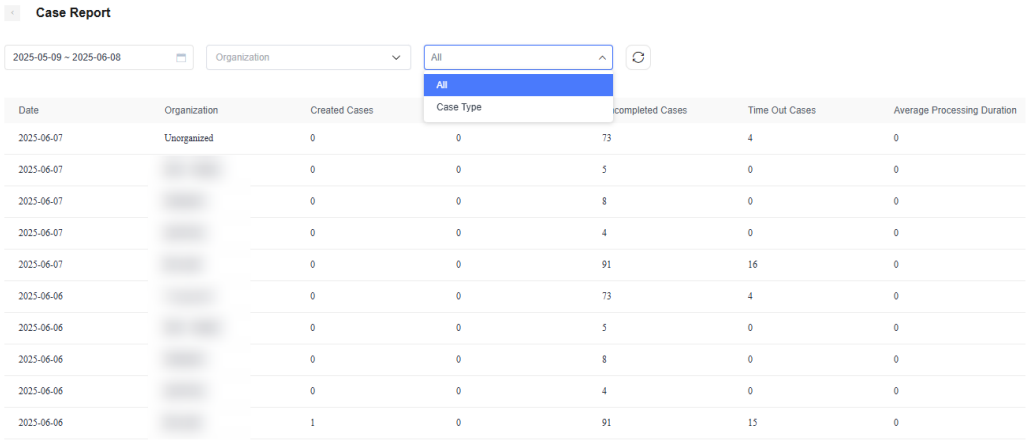
Figure 2-510 Case Report



Step 6 Select **Case Classification** from the drop-down list and select a case type to filter cases by case type.

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Figure 2-511 Filtering cases by case type



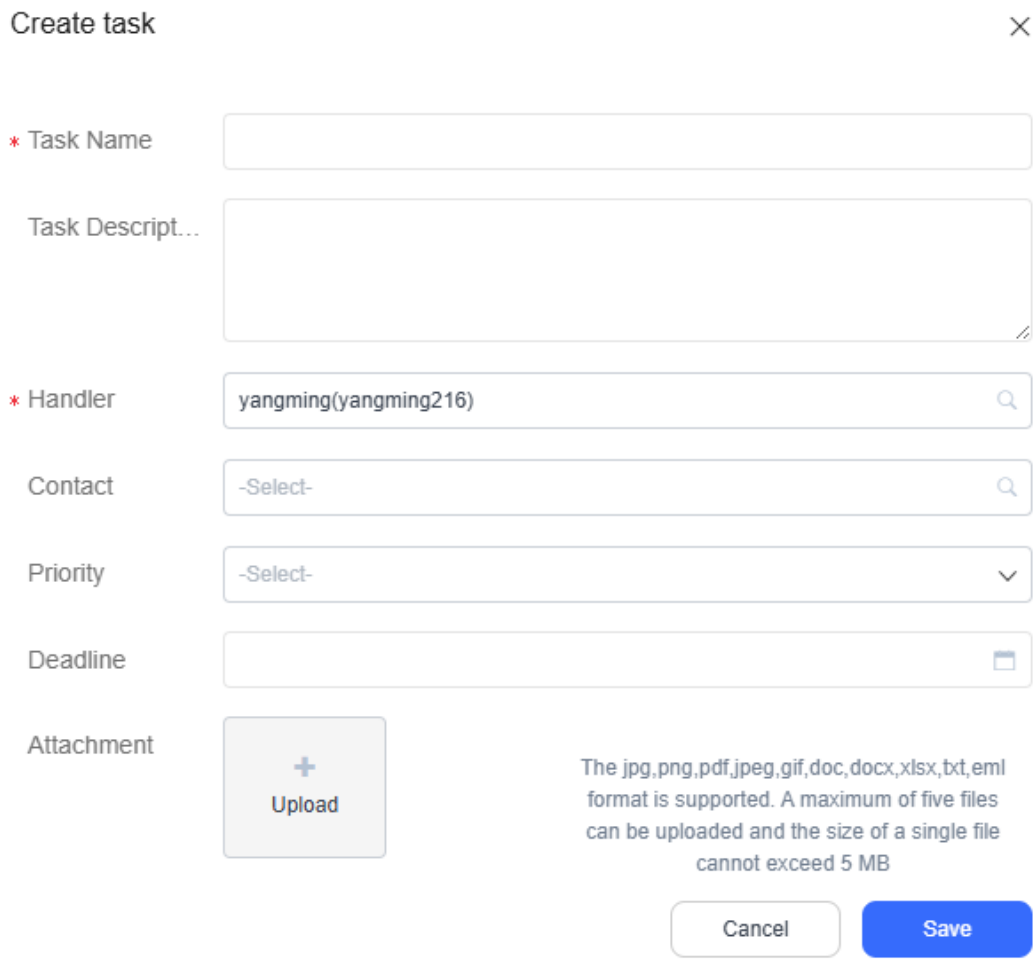
----End

2.9.1.4.10 Handling a Task

Procedure

Step 1 Sign in to the AICC, choose **Case 2.0** > **Case Workbench**, and click a case. On the case details page, click the **Case Task** tab and click Create to create a task.

Figure 2-512 Create task

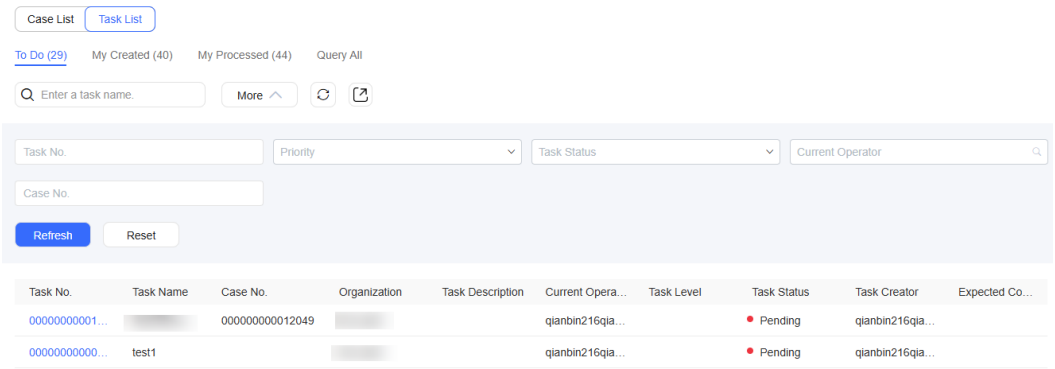


Step 2 Click  . The task is created successfully.

Step 3 Click the **Task** tab, enter a task name, and press **Enter** to search for the task.

Step 4 Click **Advanced Search** and set advanced search criteria to search for tasks.

Figure 2-513 Advanced Search



Step 5 Click a task. The task details page is displayed.

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Step 6 On the task details page, click to transfer the task or click to edit the task.

Step 7 Click Submit to change the task status based on the current task handling status.

----End

2.9.1.5 Historical Case

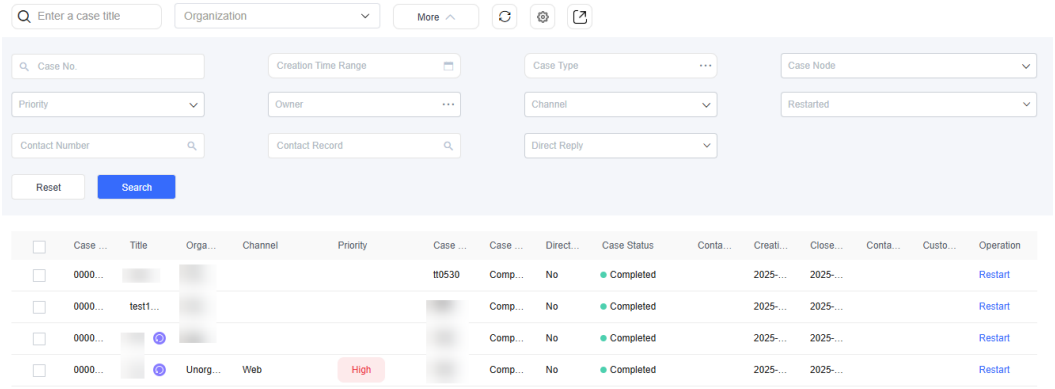
Prerequisites

- You have the **Case Management 2.0** > **Case** > **Historical Case** permission.
- The case 2.0 feature has been enabled for the tenant space.

Procedure

Step 1 Sign in to the AICC and choose **Case 2.0** > **Historical Case**. On the page that is displayed, enter a case title to search for the case or set advanced search criteria to search for cases.

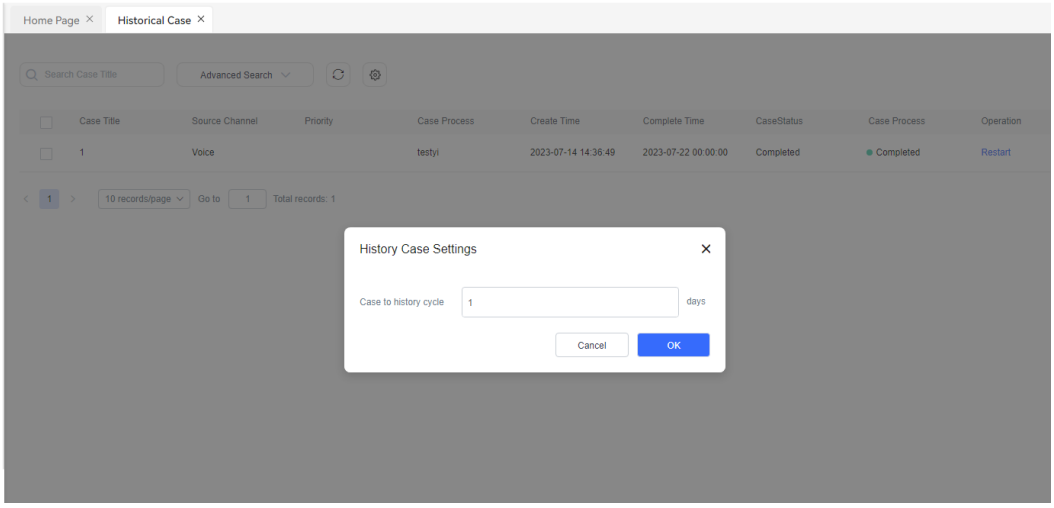
Figure 2-514 Historical Case page



Step 2 Click to set the period for moving cases to the historical case list. The default period is 90 days.

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Figure 2-515 Setting Case to history cycle



NOTE

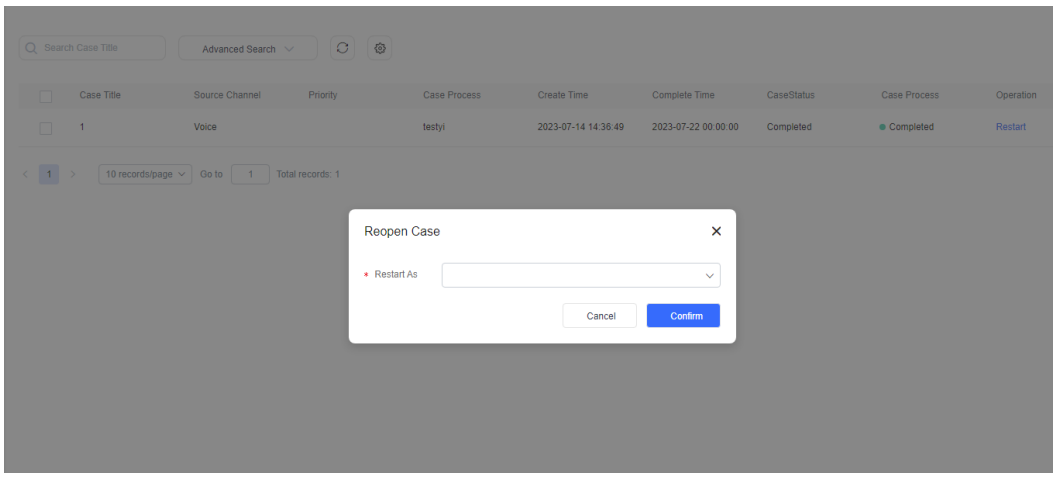
When a completed or canceled case in the tenant space reaches the configured period, the case is moved to the historical case list.

Step 3 Click  to export data records in the historical case list. A maximum of 10,000 data records can be exported.

Step 4 Click a case title to view the case details and task details.

Step 5 Click **Restart** to restart a historical case as a pending or completed case.

Figure 2-516 Restarting a case



NOTE

You do not need to specify an owner when restarting a historical case as a completed case.

----End

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2.9.1.6 FAQs

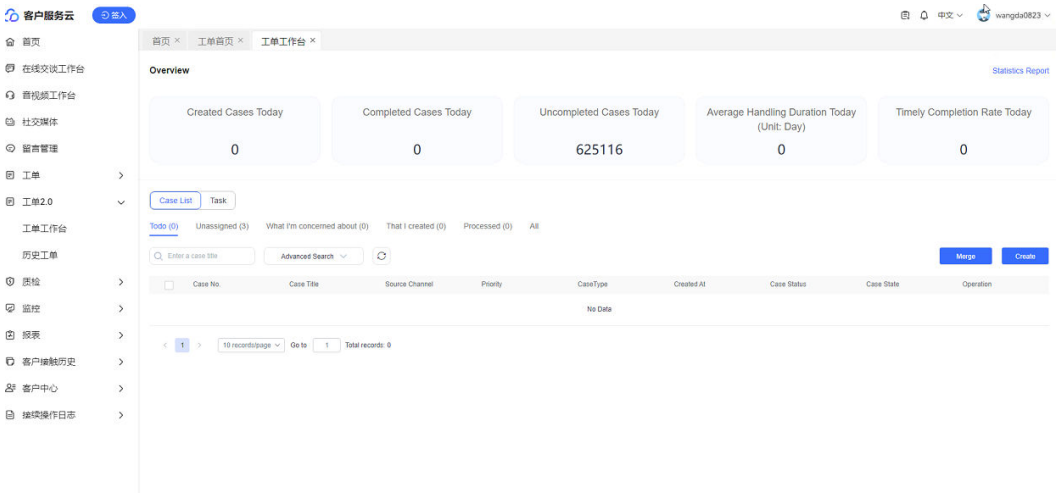
This section provides solutions to case operation questions to help you better use case functions.

2.9.1.6.1 What Do I Do If Two Languages Are Displayed on the Case Page After Language Switching

Symptom

After you switch the language, the language of some GUI elements is switched successfully, but the language of some GUI elements remains unchanged, as shown in 1.

Figure 2-517 Case workbench



Analysis

The Case 2.0 is developed based on AppCube. If the language environment of the Case 2.0 is different from that of AppCube, this problem occurs.

Solution

Switch the AICC language to another language and then switch it back. In this way, the language environment of the Case 2.0 becomes consistent with that of AppCube.

2.10 Managing Inspections

The AICC provides the manual and AI post-event inspection functions. This section describes how to configure rating rules for inspectors to perform corresponding inspections.

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2.10.1 Overview on Inspection Management

Inspection management refers to post-event inspection managed to restrict and rate agent statements and behavior during the service process, and evaluate their service quality.

Currently, the system supports the following inspection modes:

- Manual inspection: The system allocates call records to an inspector based on rules, and the inspector evaluates the recordings and manually rates them based on the configured rating template.
- AI inspection: Specified rules are preset in the system, for example, the points deducted when a sensitive word is found, or when the agent is silent for a specified period or interrupts a customer. The system automatically identifies all call records and allocates a proportion of the rated records to an inspector based on manual review rules, and the inspector then rechecks the call records.

The roles involved in an inspection are as follows:

- AI trainer: sorts out and configures the violation or compliance rules for an AI inspection, for example, forbidden words and speaking speed limit. For accuracy and fairness purposes, AI trainers check call recordings for multiple times to adjust the rules.
- Inspection supervisor: reviews a result appeal submitted by an agent and assigns the appeal to an inspector for reevaluation.
- Inspector: listens to call recordings and evaluates the service process manually.
- Agent supervisor: reviews an appeal submitted by an agent.
- Agent: generates call records and recordings for an inspector or the system to evaluate services. If an agent does not agree on an AI inspection result, the agent can submit an appeal.

Currently, roles such as AI trainer, inspection supervisor, and agent supervisor are not preset in the AICC. If you want to manage the tenant administrator and the preceding roles separately, you can choose **Configuration Center** > **Employee Center** > **Role** to create a role and add required menu permissions, or add required menu permissions to an existing role. In general, employees with the required menu permissions can perform the corresponding manual inspection operations.

2.10.2 Typical Scenario: Configuring Manual Inspection Tasks

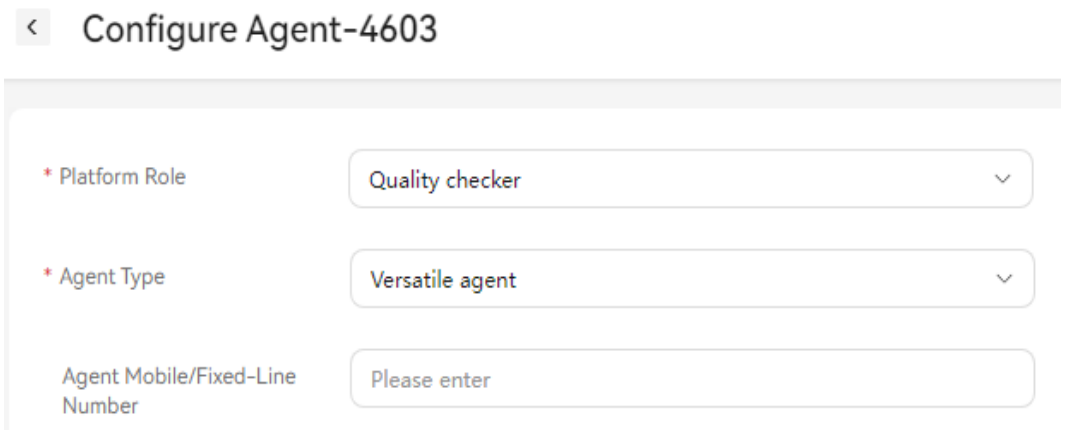
Manual inspection refers to the process in which an inspector extracts details from call records based on specified inspection rules, plays back the records, and evaluates agent services based on the rating criteria.

To enable the inspection, create rating items and templates, maintain inspection relationships, and configure the policy for extracting call details in advance.

Prerequisites

You have configured **Platform Role** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

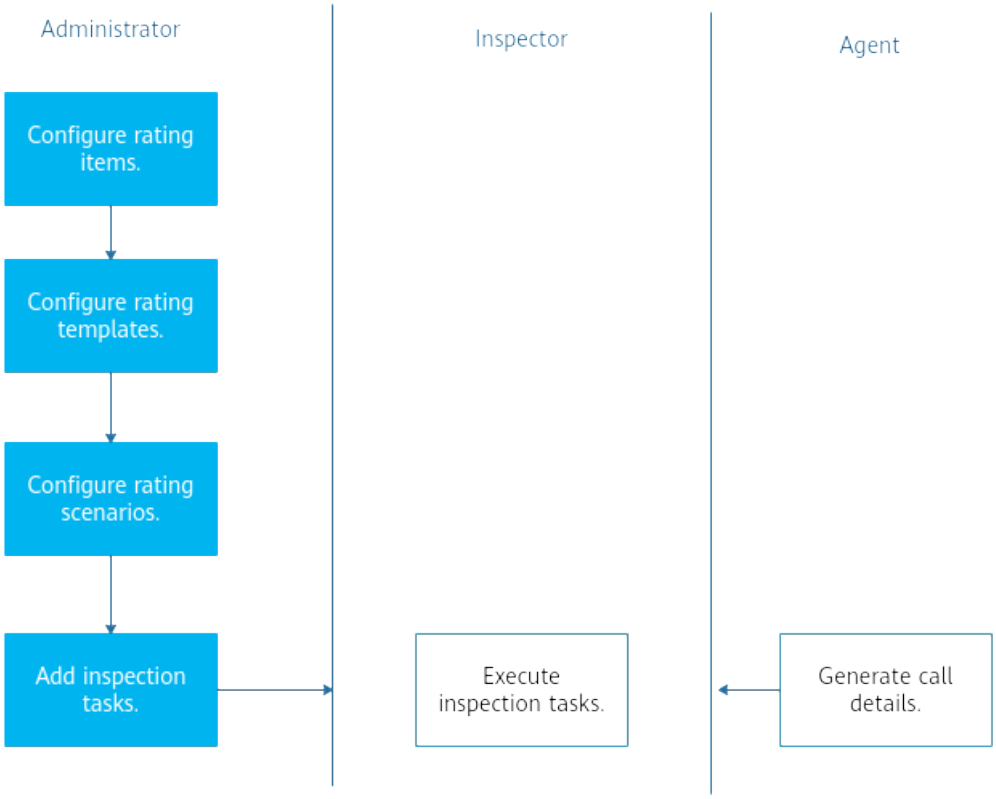
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Context

After the tenant space is enabled, the administrator needs to configure the following items for inspectors in the tenant space to execute inspection tasks.

Figure 2-518 Configuration flow



Scenario Description

The following rating rules are specified in a call center to evaluate the agent standardized service, attitude, and skills during calls:

- **Service Awareness**

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  - Whether an agent answers questions effectively.
  - Whether an agent confirms with a customer about other questions before the service ends.
- **Process Specifications**
  - Whether an agent begins with greetings and a self-introduction.
  - Whether an agent ends a call with a statement similar to the following: "Thanks for calling. If you have any additional questions, please call us."
- **Service Attitude**
  - Whether an agent argues with a customer.

The current inspection task lasts one week.

Procedure

Step 1 Configure rating items.

1. Choose **Configuration Center** > **Quality Management** > **Rating Item**.
2. Select the rating categories on the left in sequence and click **Add** on the right to add the rating items in **Context** by referring to **2.10.3.1 Configuring Rating Items**.

   Service Awareness, **Process Specifications**, and **Service Attitude** are preset. If these categories are unavailable, they may be deleted by other operators.

   Click  to add the categories.

Step 2 Configure a rating item template.

1. Choose **Configuration Center** > **Quality Management** > **Rating Template**.
2. Click **Add** on the right to add **Agent inspection rating template** by referring to **2.10.3.2 Configuring Rating Templates**.
3. Save the settings and click **Release**.

Step 3 Configure an inspection task.

1. Choose **Quality Inspection** > **Inspection Task Management**.
2. Click **Add** on the right to add **Agent inspection task of September** by referring to **2.10.3.6 Configuring Inspection Tasks**.

   Set **Task Type** and **Channel** to **Manual post-event inspection** and **Audio**, respectively.

   NOTICE

   Currently, the AICC supports manual post-event inspection only for voice and multimedia channels. The features corresponding to other options will be implemented in later versions.

   If no inspector is available, check whether you have configured the **Quality checker** role in **Prerequisites**.
3. Click **Release**.

----End

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Follow-up Procedure

After an inspection task is added, the specified inspector can perform the following operations within the task validity period:

1. Choose **Quality Inspection** > **Inspection Task Management** to view the inspection task.
2. Click **Task**. On the page that is displayed, click **Obtain To-Be-Inspected Record** to view the call records that can be inspected.

   If no record is available, the inspector added to the inspection task has not completed a call and generated a call record.
3. Click **Start Inspection**. On the **Manual Inspection** page, rate the desired record based on the rating items and click **Submit**.

2.10.3 Managing Manual Inspections

This section describes how to configure the manual inspection management, including the inspection score, inspection relationship, and inspection object.

2.10.3.1 Configuring Rating Items

This section describes how to configure the rating items for the inspections on agents.

Context

After the tenant space is enabled, the AICC provides the following rating categories by default. You can add or modify the rating categories as required.

- **Service Awareness**
- **Process Specifications**
- **Service Attitude**

A maximum of five category levels are supported. Rating items can be added only to the rating category of a leaf node. No rating category can be added to a rating category that contains rating items.

The rating category name must be unique under the current tenant. The rating item name must be unique under the current tenant.

A maximum of five levels can be created for a rating category tree.

Rating categories that contains rating items cannot be deleted. At least one rating category must exist.

Business Scenario

An administrator adds the rating category **Professional Skill** and adds the rating item **Answering Proficiency** to the category to specify the proficiency in answering customer questions. The score ranges from 1 to 10.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Rating Item**.

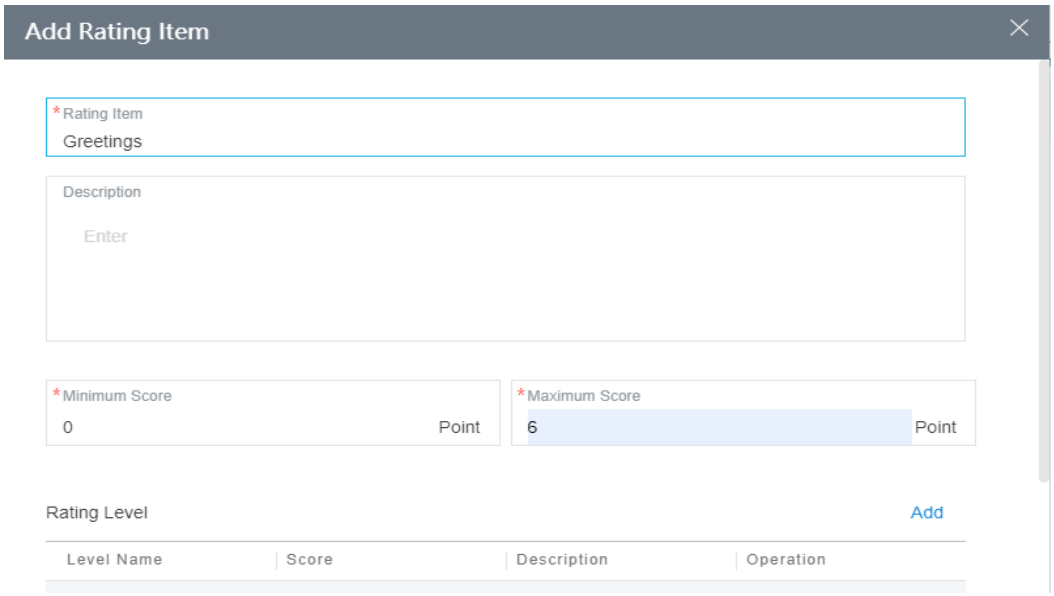
Step 2 Click on the left to add the rating category **Professional Skill** under a root category.

To add a category under a non-root node, click and ensure that no rating item exists under the selected parent category.

Step 3 Select the new category **Professional Skill** and click **Add**. The **Add Rating Item** dialog box is displayed.

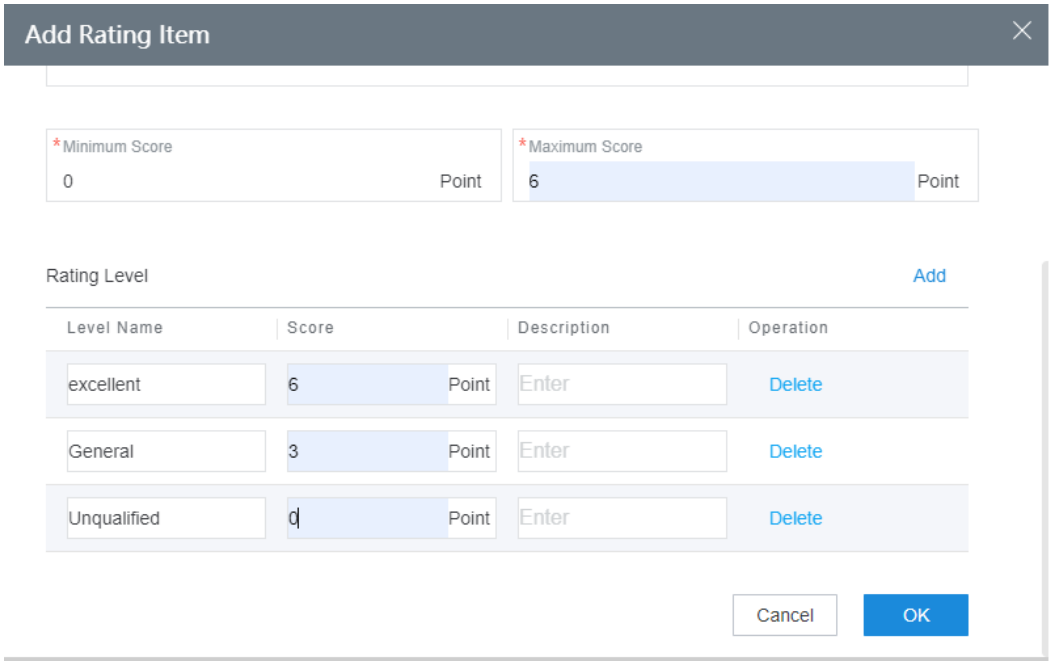
Step 4 Configure a rating item.

Figure 2-519 Basic information in the Add Rating Item dialog box



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Figure 2-520 Rating Level area in the Add Rating Item dialog box



Set the following parameters:

- **Rating Item**: Name of a rating item, for example, **Answering Proficiency**.
- **Minimum Score**: Lowest score for rating, for example, **1**.
- **Maximum Score**: Highest score for rating, for example, **10**.
- **Rating Level**: Click **Add** to add a rating level.
  - **Level Name**: Name of the level to which a score belongs, for example, **Excellent**.
  - **Score**: Score corresponding to a rating level, for example, **10**.
  - **Description**: Description of a rating level.
  - **Operation**: Click **Delete** to delete a rating level.

Step 5 Click **OK**. The rating item configuration is saved.

----End

2.10.3.2 Configuring Rating Templates

A rating template contains rating items and their display sequence. When creating an inspection task, you need to associate it with a rating template.

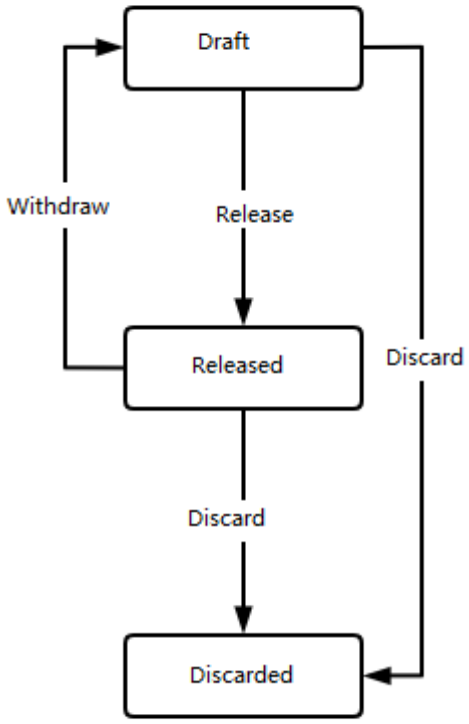
Context

You can configure different rating templates for inspection tasks in different scenarios. For example, to evaluate the agent service quality during an inspection, including the service attitude, clearness, instruction effectiveness, you can create a template and add the preceding rating items to the template.

A rating template can be in **Draft**, **Released**, or **Discarded** state. The following figure shows the relationships between the three states.

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Figure 2-521 Life cycle of a rating template



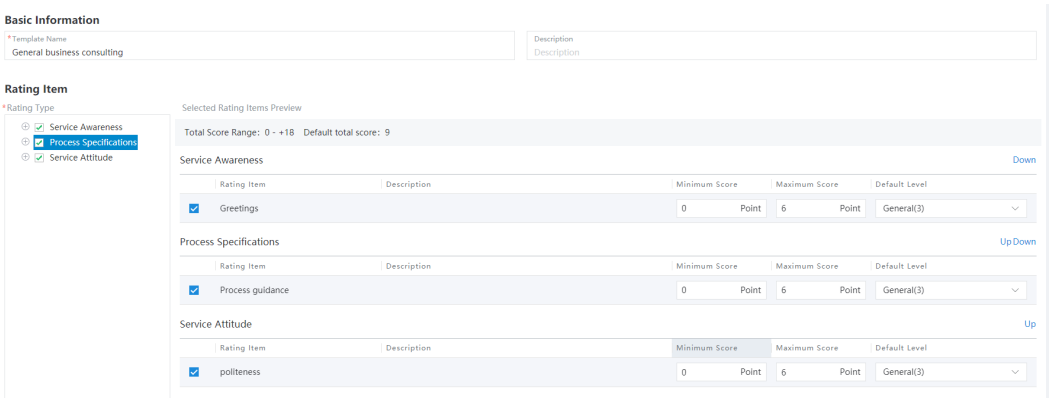
Only a template in **Released** state can be associated with an inspection task. After a task in **Released** or **Draft** state is deleted, the template enters the **Discarded** state.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Rating Template**.

Step 2 Click **Add**. On the **Create Rating Template** page, set template parameters.

Figure 2-522 Create Rating Template page



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Set the following parameters:

- **Template Name**: Customized name, which is mandatory.
- **Description**: Template description, which is optional.
- **Rating Item**: Rating item. If multiple rating items are selected, their display sequence can be adjusted.

Step 3 Click **Save**. The rating template configuration is complete, and the rating template list page is displayed.

Step 4 Select the new template and click **Release**. In the dialog box that is displayed, click **YES** to release the template.

Step 5 The message "The template is released successfully." is displayed, and the template can be used.

----End

Follow-up Procedure

You can perform the following operations on a rating template in **Draft** state:

- Click **Details** to view the template content.
- Click **Modify** to modify the template.
- Click **Discard** to change the template status to **Discarded**. Discarded templates cannot be modified, released, or used.

You can perform the following operations on a rating template in **Released** state:

- Click **Details** to view the template content.
- Click **Discard** to change the template status to **Discarded**. Discarded templates cannot be modified, released, or used.
- Click **Withdraw** to change the template status to **Draft**. Draft templates cannot be used for rating.

You can perform the following operations on a rating template in **Discarded** state:

- Click **Details** to view the template content.

2.10.3.3 Managing Inspection Categories

Inspection category management includes the management of inspection categories and inspection category items under the categories. After creating an inspection category, you can add inspection category items for the category. You can select multiple inspection categories when managing inspection object types.

Context

You can define inspection category items from different dimensions to categorize inspection results. For example, you can define inspection category items from the rating level and business type dimensions. If you associate the defined inspection category with the inspection object type and inspection task, you can select the rating level and business type when rating the records related to an inspection task.

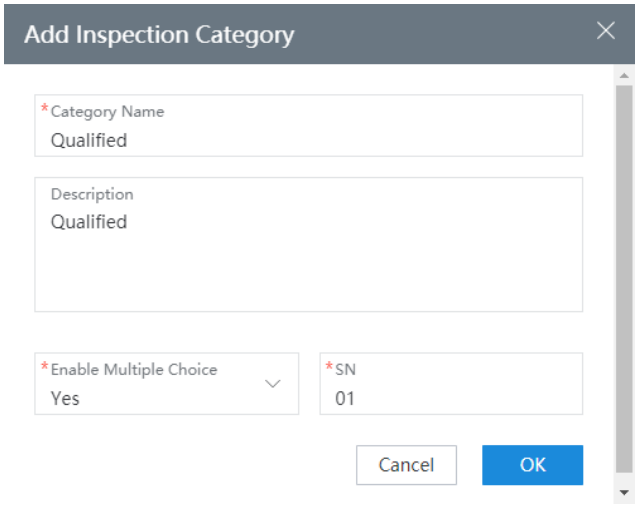
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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Category**.

Step 2 Choose **Add**. In the **Add Inspection Category** dialog box, set category parameters.

Figure 2-523 Add Inspection Category dialog box



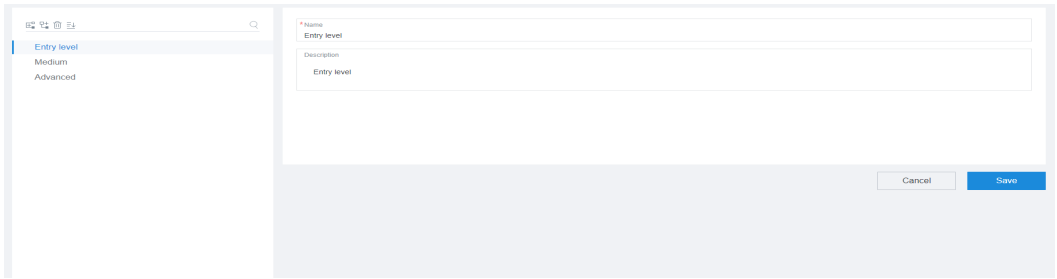
Set the following parameters:

- **Category Name**: Customized name, which is mandatory. The value can contain a maximum of 1024 characters.
- **Description**: Category description, which is optional.
- **Enable Multiple Choice**: Whether a category supports selection of multiple category items. The options are **Yes** and **No**.
- **SN**: Display sequence of a category on the manual inspection page.

Step 3 Click **OK**. The category configuration is saved, and the inspection category list page is displayed.

Step 4 Select the new inspection category and click **Set Category Item**. The **Modify Inspection Category Item** page is displayed.

Figure 2-524 Modify Inspection Category Item page



Step 5 Click  to add a category item and set category item parameters.

- **Name**: Name of a category item.

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- **Description**: Description of a category item.

Step 6 Click **Save**. The category item configuration is complete.

----End

Follow-up Procedure

Click **Modify** to modify an inspection category.

Click **Delete** to delete an inspection category that is no longer used.

2.10.3.4 Managing Inspection Object Types

Inspection category management includes the definition of inspection levels and inspection category items for different object types. When creating an inspection task, you need to select an inspection object type.

Context

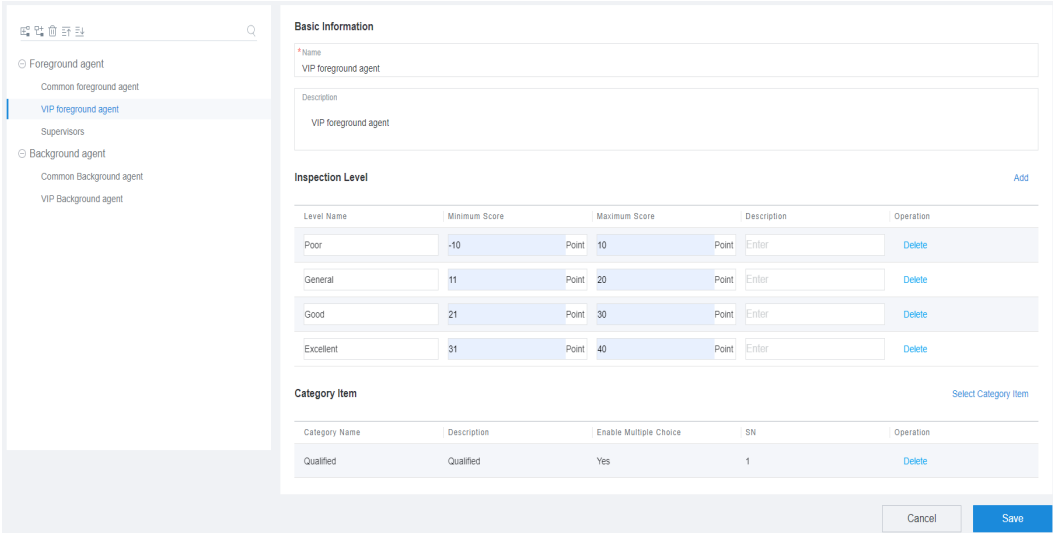
You can define different object types based on agent capabilities or businesses. For example, you can define common and VIP frontend and backend agents, and define different inspection levels and categories for different object types.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Object Type**.

Step 2 Click  to add an inspection object. Set basic information, inspection levels, and category items as prompted, and click **Save**.

Figure 2-525 Page for creating an inspection object type



Step 3 Set inspection object parameters.

1. Set **Name** and **Description**.

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2. Click **Add** and set the parameters in the **Inspection Level** area.
3. Click **Select Category Item** and select category items.

Step 4 Click **Save**. The inspection object configuration is complete, and a saving success message is displayed.

----End

2.10.3.5 Managing Inspection Relationships

A tenant space administrator manages the organizations to which inspectors belong and allocates inspected tasks in a unified manner.

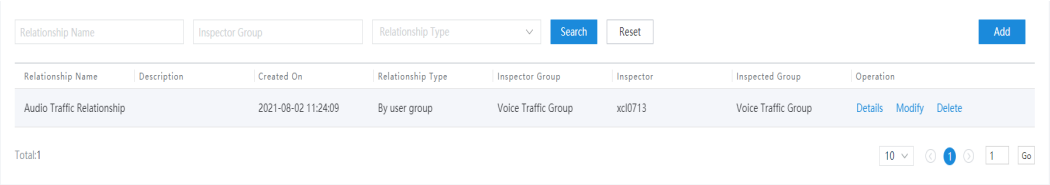
Context

You can define inspection relationships based on organizations and user groups. For example, if you want to classify user organizations by province or city, you can define inspection relationships to maintain the inspection relationships between different organizations. For a single organization, you can define whether the inspection relationship is applicable to all the members or lower-level organizations of the organization. Similarly, this also applies to the user group. You can select the relationship type when creating an inspection relationship. However, only one inspection relationship can be used.

Procedure

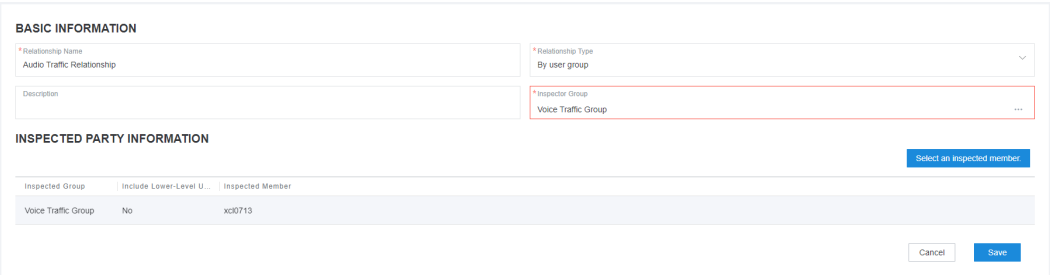
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Relationship**.

Figure 2-526 Page for managing inspection relationships



Step 2 Click **Add** and set the name, description, and relationship type as prompted.

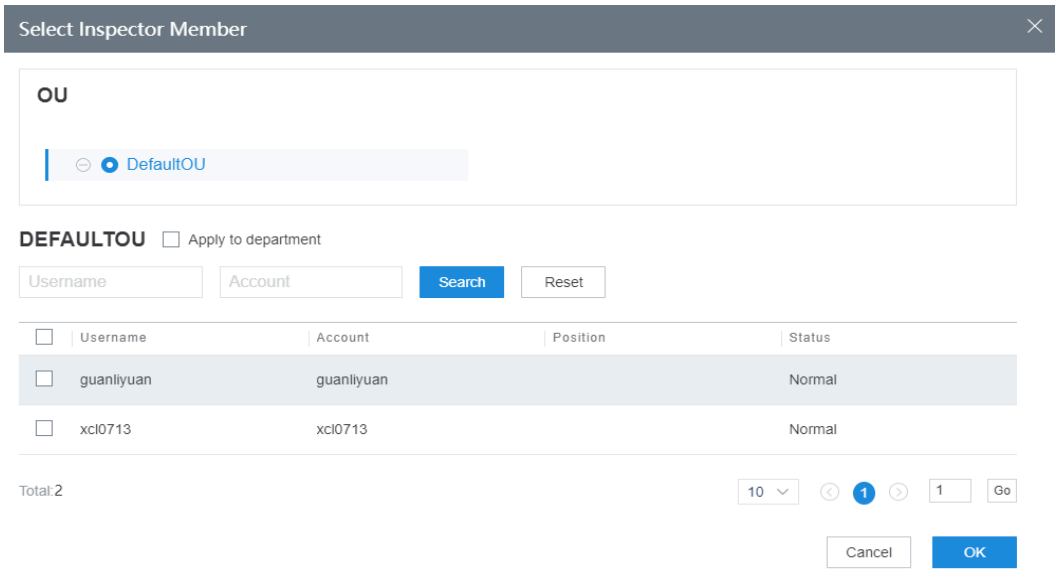
Figure 2-527 Page for creating an inspection relationship



Step 3 Click ••• on the right of the **Inspector Group** text box to select an inspector group and inspectors.

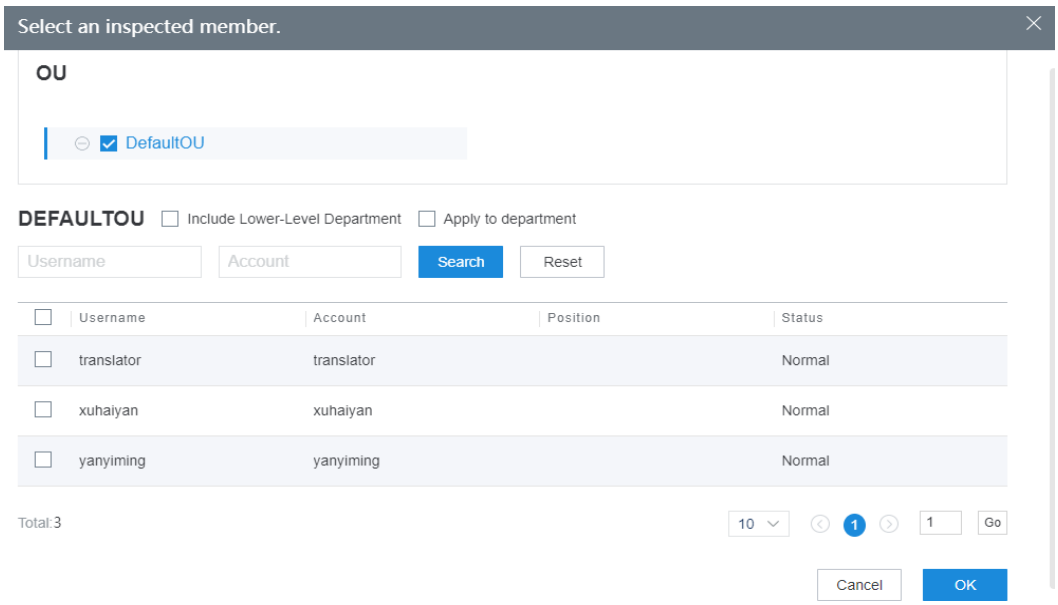
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Figure 2-528 Dialog box for selecting inspector members



Step 4 Click **Select an inspected member.** and select an inspected member.

Figure 2-529 Dialog box for selecting an inspected member



Step 5 Click **Save**.

Step 6 Check that a message is displayed, indicating that the settings have been saved successfully.

----End

Follow-up Procedure

Click **Modify** to modify an inspection relationship.

Click **Delete** to delete an inspection relationship that is no longer used.

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2.10.3.6 Configuring Inspection Tasks

A tenant administrator can create, query, modify, release, or delete inspection tasks, and configure inspection rules for inspectors.

Context

An inspection task can be in the **Draft** or **Released** state. In the **Draft** state, the inspection task can be modified, deleted, or released. In the **Released** state, the inspection task cannot be modified or deleted.

You can view the task details and results of released manual inspection tasks.

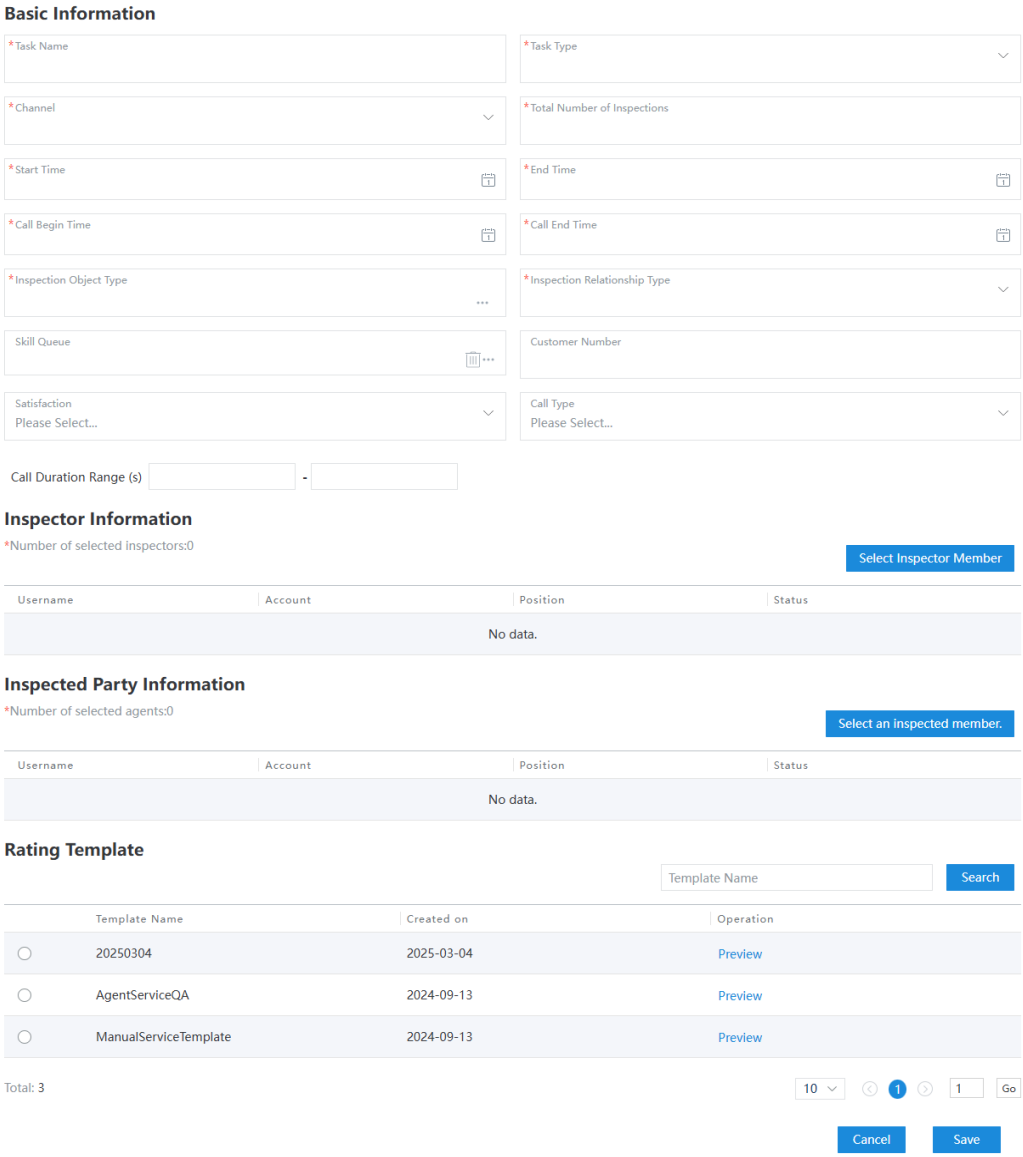
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Inspection** > **Task Mgmt**.

Step 2 Click **Add**. The **Create Inspection Task** page is displayed.

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Figure 2-530 Create Inspection Task page



Step 3 Configure basic inspection task information.

- **Task Name**: task name, which is customized. The value can contain a maximum of 1024 characters.
- **Task Type**: The options are **Manual post-event inspection** and **Automatic post-event inspection**.
- **Channel**: call channel. The options are **Audio**, **Video**, and **Multimedia**.
- **Total Number of Inspections**: number of inspections to be performed. The value is an integer ranging from 0 to 99999.
- **Start Time**: start time of an inspection task.
- **End Time**: end time of an inspection task.
- **Call Begin Time**: start time of the communication in an inspection task.
- **Call End Time**: end time of the communication in an inspection task.

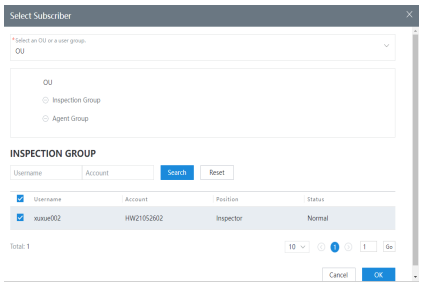
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- **Inspection Object Type**: inspection object type. For details about how to configure inspection object types, see **2.10.3.4 Managing Inspection Object Types**.
- **Inspection Relationship Type**: inspection relationship type. The options are **Custom**, **By organization**, and **By user group**.
- **Skill Queue**: You can select all skill queues in the tenant space. After an inspection task is bound to a skill queue, you can filter inspection tasks by skill queue in the inspection task list.
- **Customer Number**: customer number. The value can contain a maximum of 50 characters.
- **Satisfaction**: satisfaction. The default options are **Very dissatisfied**, **Dissatisfied**, **General**, **Satisfied**, and **Very satisfied**.
- **Call Type**: call type. The options are **Outgoing Call**, **Incoming Call**, **Predicted outbound call**, **Preview outgoing call**, **Collaborative call**, and **Click-to-dial**.
- **Call Duration Range (s)**: call duration range. The value is an integer ranging from 0 to 9999.

Step 4 If **Inspection Relationship Type** in the **BASIC INFORMATION** area is set to **Custom**, configure **INSPECTOR INFORMATION** and **INSPECTED PARTY INFORMATION**.

- **INSPECTOR INFORMATION**
  a. Click **Select Inspector Member**. The inspector information configuration page is displayed.

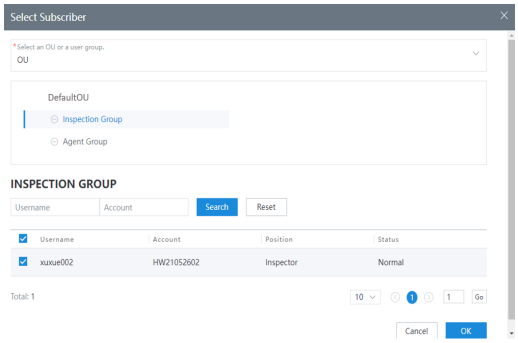
  Figure 2-531 Page for selecting users

  b. Set **Select an OU or a user group.** and select a specific group or OU.
  c. Select inspector accounts and click **OK** to save the inspector information.
- **INSPECTED PARTY INFORMATION**
  a. Click **Select an inspected member.** to access the information configuration page.

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Figure 2-532 Page for selecting users



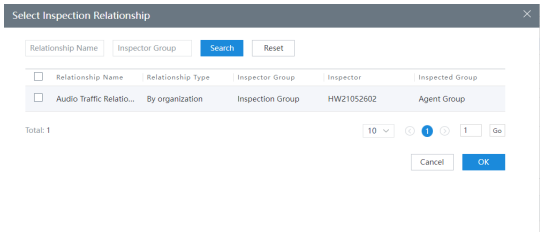
b. Set **Select an OU or a user group.** and select a specific group or OU.

c. Select inspected member accounts and click **OK** to save the inspected member information.

Step 5 If **Inspection Relationship Type** in the **BASIC INFORMATION** area is set to **By organization** or **By user group**, configure **INSPECTION RELATIONSHIP**.

1. Click **Select Inspection Relationship**. The relationship list page is displayed.

Figure 2-533 Page for selecting inspection relationships

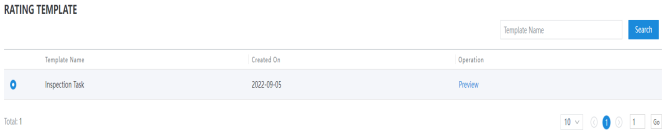


2. Select inspection relationships. For details about how to configure inspection relationships, see **2.10.3.5 Managing Inspection Relationships**.
3. Click **OK** to save the selected inspected relationships.

Step 6 Configure a rating template.

In the **RATING TEMPLATE** area, select a template and click **Save** to generate an inspection task. Manual inspection rating templates in **Released** state are displayed in the area. You can click **Preview** in the **Operation** column to preview a template.

Figure 2-534 Area for selecting a rating template



Step 7 (Optional) Choose **Inspection** > **Task Mgmt**, query an inspection task, and click **Downloading an Inspection Task** to export the inspection result of the inspection task to a file. You can set **Export format** to **Export in horizontal format** or **Export in vertical format**. When **Export format** is set to **Export in vertical format**, the scores are split. If there are multiple levels of scores, use hyphens (-) to separate them.

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NOTE

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

----End

2.10.3.7 Viewing All Inspection Results

A tenant administrator can view all inspection results.

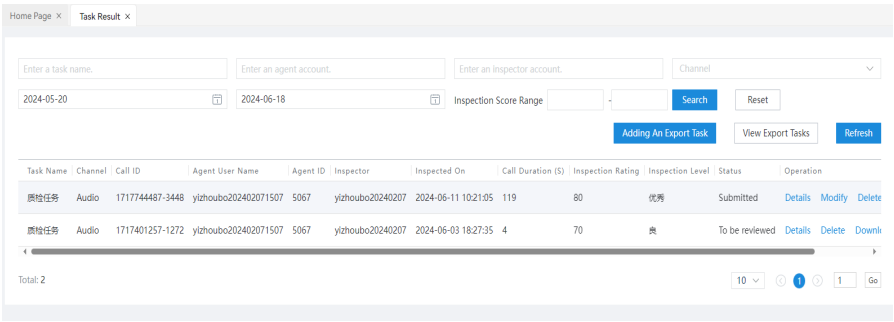
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Step 3 Click **Details** in the **Operation** column corresponding to an inspection result to go to the **Manual Inspection** page.

Figure 2-535 Page for searching for inspection results



----End

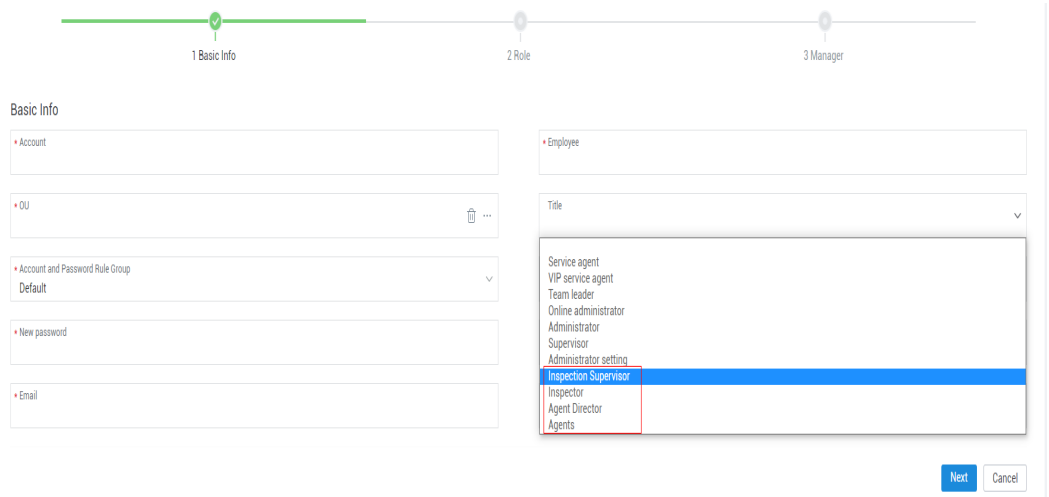
2.10.4 Typical Scenario: Configuring AI Inspection Tasks

AI inspection refers to the process in which the AICC automatically rates agent call records based on specified rules such as wording, pause, and silence during a call between an agent and a customer. This reduces the inspection workload and labor cost in the call center. In addition, the AICC supports the second inspection by an inspector to supplement the AI inspection result, which avoids misjudgment.

Prerequisites

- You have set positions for employees involved in AI inspection on the **Configuration Center** > **Employee Center** > **Employee** page.

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The titles and corresponding operations are as follows:

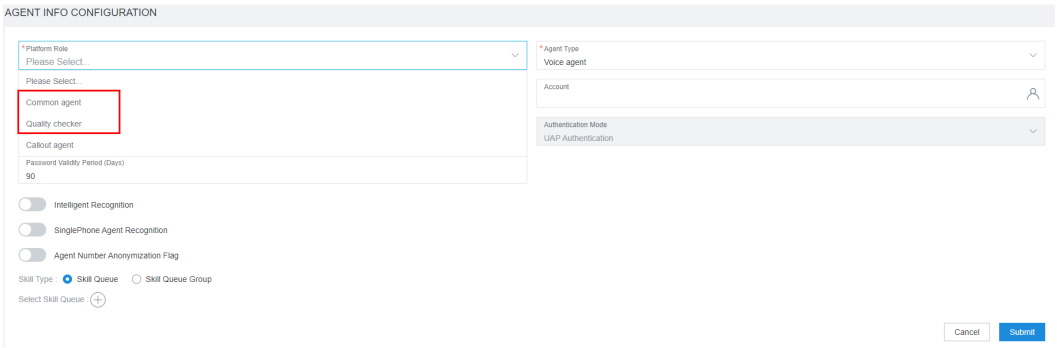
- **Inspection Supervisor**: allocates an agent appeal application to an inspector.
- **Inspector**: performs the second inspection based on the AI inspection result.
- **Agent Director**: reviews the appeal application submitted by an agent.
- **Agents**: provides call records for inspection and files possible appeals.

NOTICE

You have synchronized the preceding personnel titles to the AI inspection engine (currently, a third-party AI inspection engine).

By default, the AICC synchronizes information to the AI inspection engine every 10 minutes. If the information modified in the AICC is required, wait for 10 minutes before performing operations.

- You have configured **Platform Role** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.

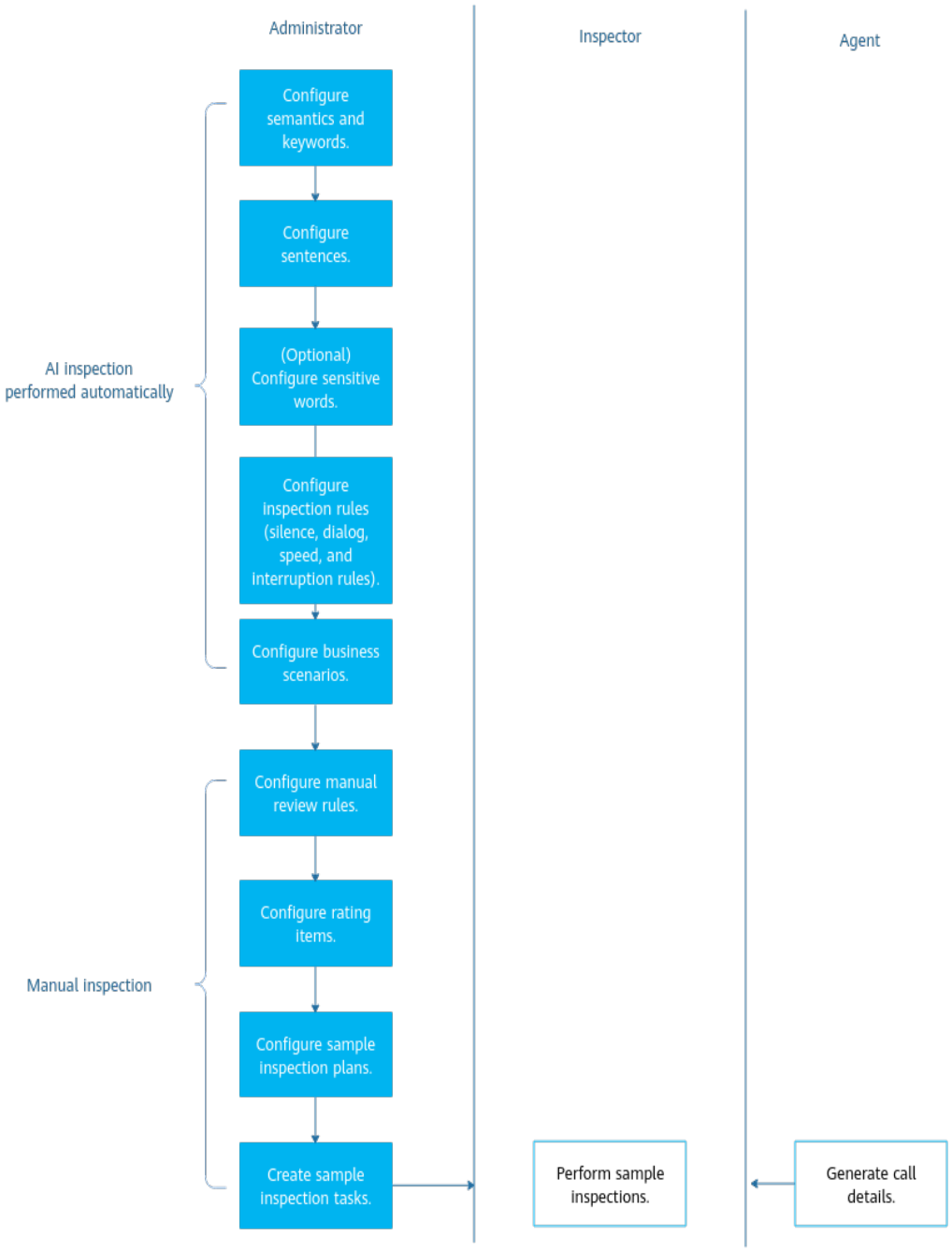


Context

After the tenant space is enabled, the administrator needs to configure the following items for the AICC to execute AI inspection tasks.

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Figure 2-536 Configuration flow



Scenario Description

The following AI inspection scenarios and sample inspection plans are specified in a call center:

- Points are deducted if an agent does not begin with a self-introduction.
- Points are deducted if agent statements contain abusive words during a call.
- Points are deducted if an agent pauses for more than 5 seconds during a call without telling a customer "Please wait".

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- Points are deducted if an agent interrupts a customer during a call.
- All call records are inspected intelligently and 5% of them are inspected manually.
- The rating items for manual sample inspection are the same as those for manual post-event inspection.

Procedure

Step 1 Configure semantics and keywords.

1. Choose **Configuration Center** > **Quality Management** > **Sentence**.
2. Add the following tags by referring to **2.10.5.1 Managing Sentences**.

Table 2-179 Configuring semantics and keywords

Tag Name	Tag Type	Description
Self-introduction at the beginning	Semantics	Hello, this is agent ABC of the XXX call center.
Sensitive words	Keyword	Use commas (,) to separate multiple sensitive words.
Waiting prompt	Semantics	Please wait. Please wait a moment. Please hold on.

Step 2 Configure sentences.

1. Choose **Configuration Center** > **Quality Management** > **Sentence**.
2. Click **Create Sentence** in the upper right corner to add a sentence for each of the three tags in the previous step. For details, see **2.10.5.1 Managing Sentences**.
3. Click **Training Quality Inspection Model** in the upper right corner to train semantics, keywords, and related configurations.

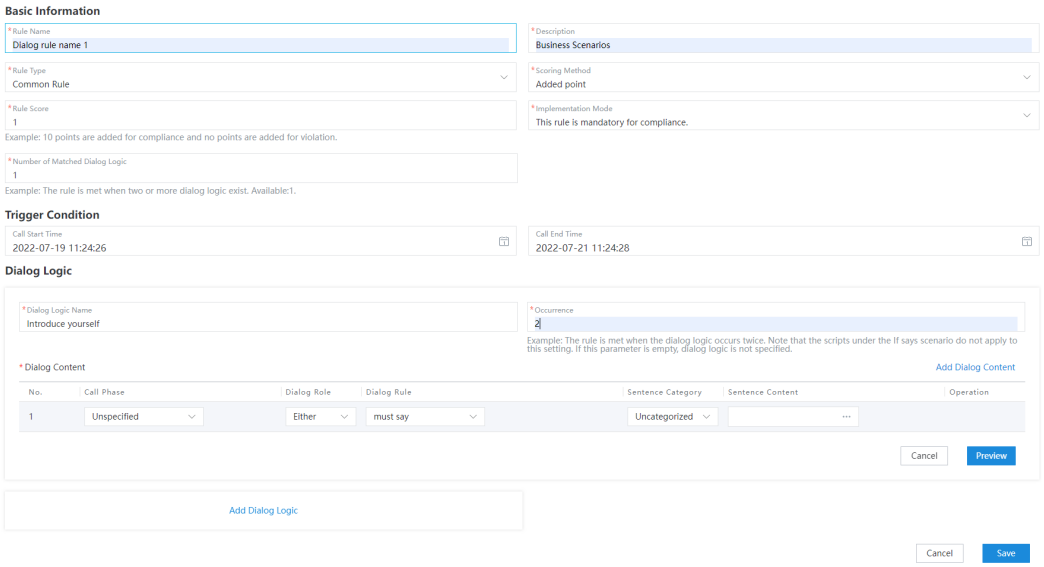
Step 3 Configuring inspection rules.

1. Add a dialog rule by referring to **2.10.5.3.2 Configuring Dialog Rules**.

   Based on the scenario, you can add two dialog rules. One is used to check whether an agent begins with a self-introduction, and the other is used to check whether sensitive words are contained in a call.

   The following uses the rule **Introduction at the call beginning** as an example.

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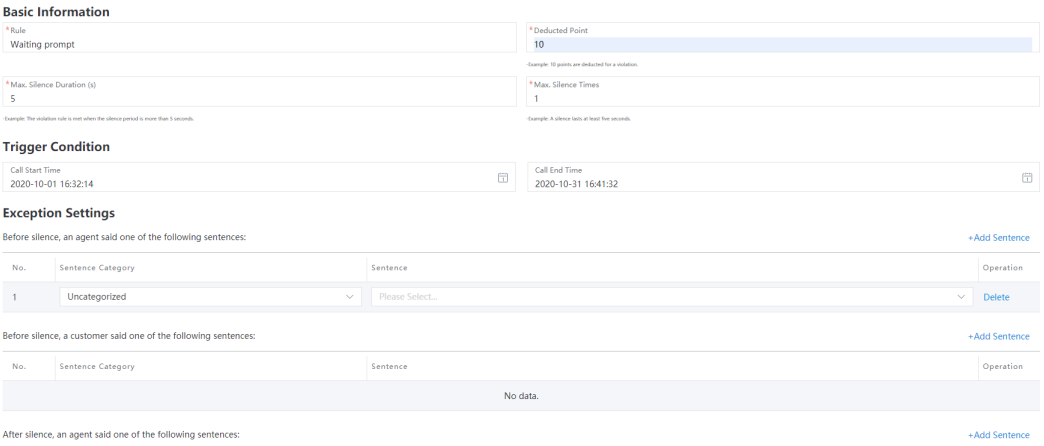
During the configuration, pay attention to the following points:

- **Scoring Method** and **Implementation Mode**: used to configure whether the rule is mandatory for compliance and whether the score is deducted when the rule logic is met.

  For example, if **Scoring Method** and **Implementation Mode** are set to **Deducted point** and **This rule is mandatory for compliance**, respectively, the rule is mandatory for compliance and no point is added or deducted when its logic is met. When its logic is not met, points are deducted. Similarly, if **Scoring Method** and **Implementation Mode** are set to **Added point** and **This rule is forbidden for compliance.**, respectively, the rule is forbidden for compliance and no point is added or deducted when its logic is not met. When its logic is met, points are added.
- **Number of Matched Dialog Logic**: The current rule is met only when a specified number of logics are successfully matched in the rule. **Occurrence** in the **Dialog Logic** area: The logic is met only when it occurs for the number of specified times.
- Configure the optional items properly, including **Description** and **Trigger Condition**. If these items are not configured, the inspection rule cannot be associated in subsequent configuration due to incompleteness.

2. Add a silence rule by referring to **2.10.5.3.1 Configuring Silence Rules**, as shown in the following figure.

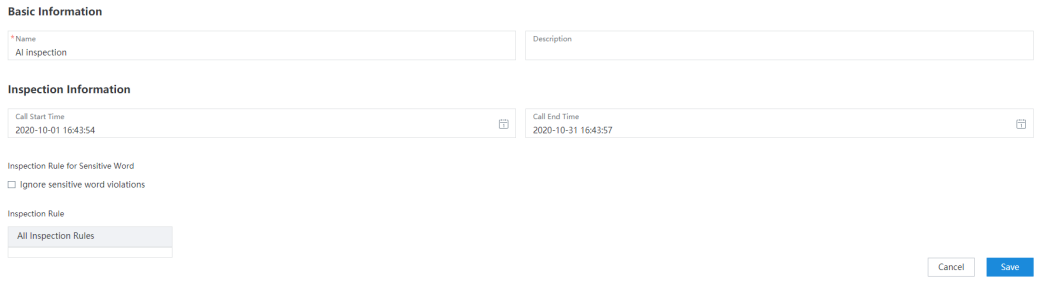
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Step 4 Configure an inspection rating rule. For details, see **2.10.5.4 Configuring Inspection Rating Rules**.

Step 5 Configure a business scenario.

1. For details, see **2.10.5.5 Configuring Business Scenarios**.

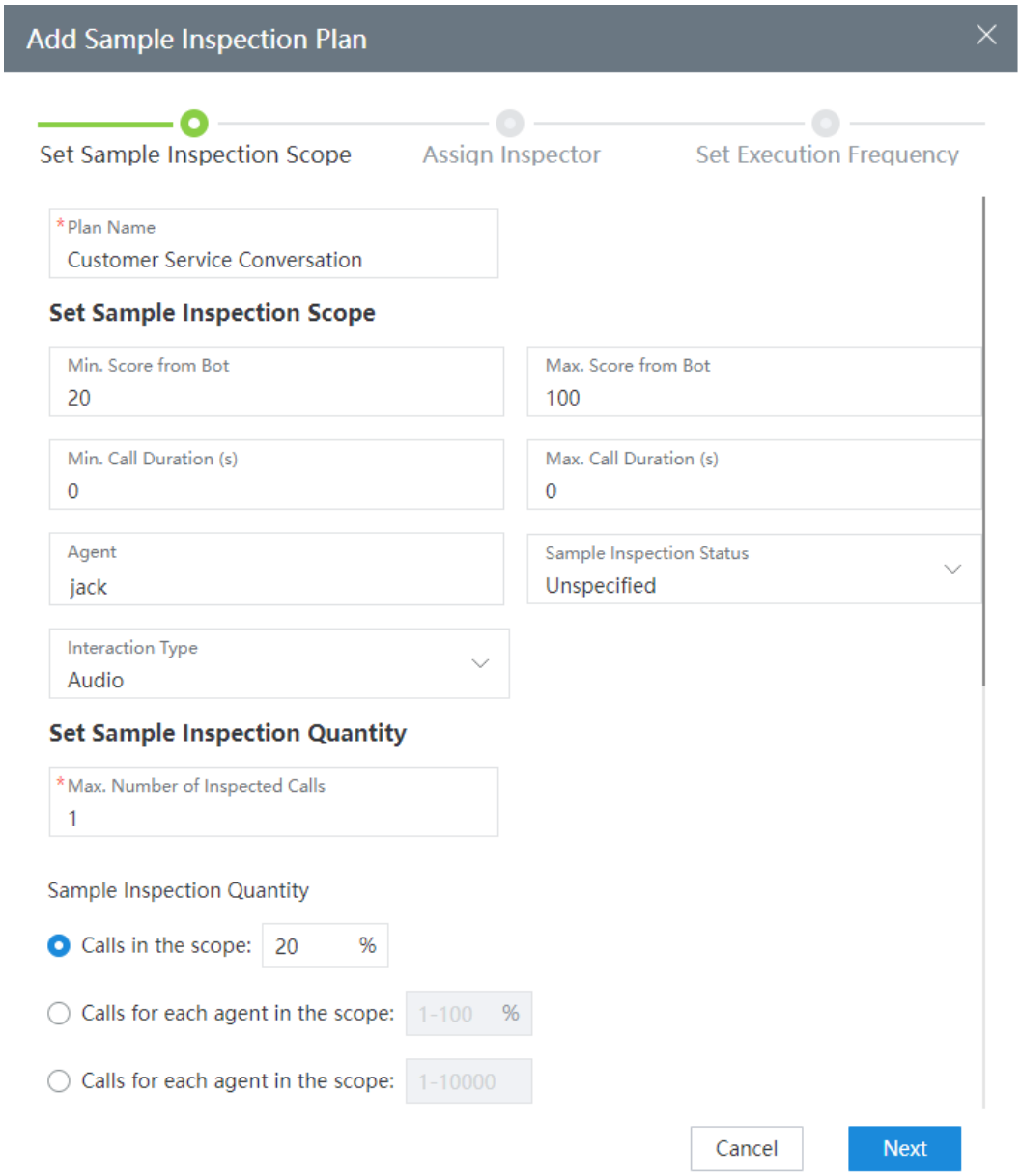


In the preceding configuration, **Inspection Rule for Sensitive Word** specifies whether to display sensitive word violations in inspection reports. Currently, the AICC does not rate sensitive words. For details about how to configure sensitive words, see **2.10.5.1 Managing Sentences**.

2. On the **Business Scenario** page, click **Enable** next to the new business scenario.

Step 6 Configure a sample inspection plan. For details, see **2.10.5.7 Configuring Sample Inspection Plans**.

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NOTICE

If no inspector or agent is available, check whether the corresponding titles in **Prerequisites** have been added for the employees.

----End

Follow-up Procedure

After operations in **Step 5** are complete, the administrator can view the AI inspection result by referring to **2.10.5.6 Viewing AI Inspection Results**.

After the operation in **Step 6** is complete, the inspector can execute the inspection task by referring to **2.10.5.8 Creating Sample Inspection Tasks**.

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2.10.5 Managing AI Inspections (Self-Developed)

Tenant administrators can configure sentences, sensitive words, inspection rules, and scores to implement intelligent inspection management.

2.10.5.1 Managing Sentences

Sentences consist of a group of elements such as semantics and keywords to generally specify a complete purpose. This section describes how to manage sentences.

Context

Sentences are used to form rules. You can classify and manage sentences.

Sentences can be added on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Sentence**.

Step 2 Click  to add a sentence category.

Step 3 Enter a sentence category name and click **OK**.

Step 4 Select the configured sentence category and click **Create Sentence**. The **Create Sentence** page is displayed.

Step 5 Configure a sentence.

1. Enter **Sentence Name** and select **Sentence Category**. The category to which a new sentence belongs can be modified.
2. Select **Semantics and keyword** and click **Add**. The **Add Label** page is displayed.
3. Set **Tag Type**, configure **Synonymous Corpus** and **Antonym Corpus**, click **Add**, and click **OK**. The tag is added.
4. On the **Create Sentence** page, click **OK**. If the sentence is created successfully, the message "Operation succeeded" is displayed. In the dialog box that is displayed, click **OK**.

Step 6 (Optional) If your sentence category is improper, select the sentence and click **Move Category** to move the sentence to the new category.

----End

2.10.5.2 Managing Sensitive Words

This section describes how to configure sensitive words in inspection rules for inspection management.

Context

Sensitive words in inspection rules can be configured and managed by category.

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Sensitive words can be added on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Sensitive Word**.

Step 2 Click to add a sensitive word category.

Step 3 Enter a sensitive word category name and click **OK**.

Step 4 Select the created sensitive word category and click **Add Sensitive Word**. On the page that is displayed, set the parameters as required and click **OK**.

Step 5 (Optional) To move a sensitive word to a new category, select the sensitive word and click **Move Category**.

----End

2.10.5.3 Configuring Inspection Rules

Inspection rules include silence rules, dialog rules, speed rules, and interruption rules. This section describes how to manage and configure these rules.

2.10.5.3.1 Configuring Silence Rules

The behavior of an agent can be reviewed based on the duration in which the agent falls silent in a call. This section describes how to maintain silence rules.

A silence rule regulates the silence duration in a conversation between an agent and customer. If the silence duration is too long, it may affect the satisfaction of the customer. Therefore, silence rules can be configured to review agents on the **Inspection Rule** page. For some special situations, for example, a customer needs to find something in a call with an agent. During this period, the agent falls silent. In this case, exception rules can be set for reviewing agents more fairly

Silence rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **SILENCE RULE** tab.

Step 2 Click **Add Rule**. The **Add Silence Rule** page is displayed.

Figure 2-537 Adding a silence rule

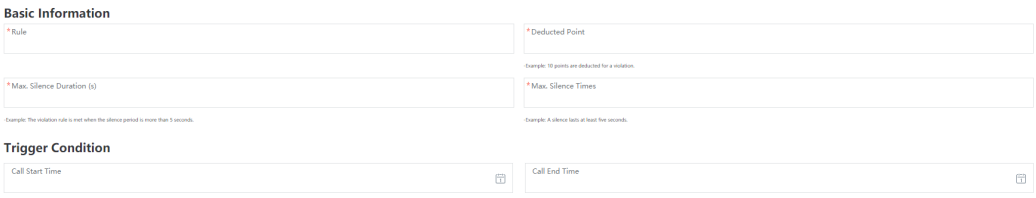
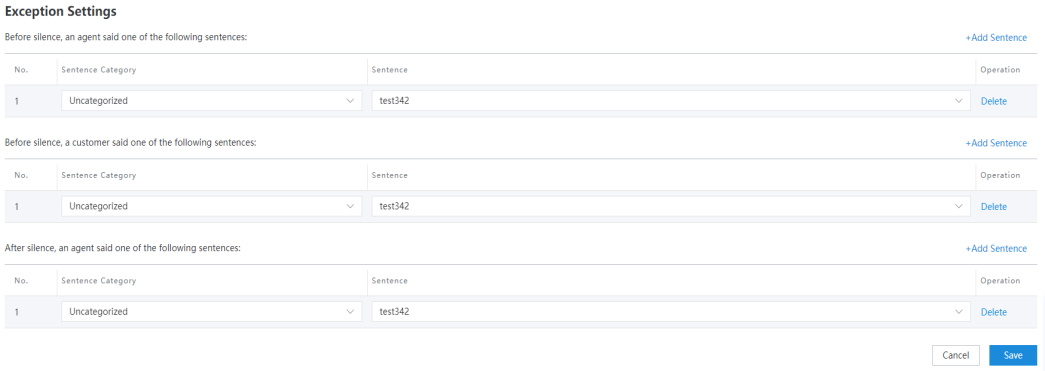


Figure 2-538 Exception settings



Step 3 Set parameters as required and click **Save**. The silence rule is added successfully.

----End

2.10.5.3.2 Configuring Dialog Rules

A dialog rule contains basic rule information, inspection conditions, and dialog logic. A dialog logic contains the dialog content which describes what the customer and agent need to say in different call phases.

Context

You can configure different dialog rules to be referenced when business scenarios are configured. For example, you can configure an agent introduction in a dialog rule for the return visit scenario, including the employee ID and thanks. The introduction semantics can be configured on the **Sentence** and **Semantic/ Keyword** pages. To configure a complete dialog rule, you can reference a series of sentences to form a dialog logic.

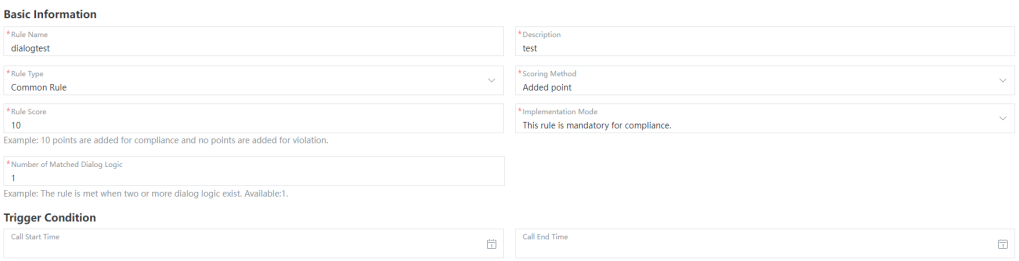
Dialog rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **DIALOG RULE** tab.

Step 2 Click **Add Rule** and configure rule information.

Figure 2-539 Creating a dialog rule



- **Basic Information** includes **Rule Name**, **Description**, **Rule Type**, **Scoring Method**, **Rule Score**, **Implementation Mode**, and **Number of Matched Dialog Logic**.

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- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Configure the dialog logic.

1. Click **Add Dialog Logic**, and set the dialog logic name and number of occurrences as prompted.
2. Click **Add Dialog Content**, and set the call phase, dialog role, dialog rule, sentence category, and sentence content as prompted.
3. Click ⊕ to add a sentence category and a sentence. Click ⊖ to delete a sentence category and a sentence. Click **Delete** to delete the dialog content.
4. Click **Preview** to preview the added dialog logic. On the preview page, click **Modify** to modify the dialog logic. On the preview page, click **Delete** to delete the undesired dialog logic.

Figure 2-540 Adding and modifying a dialog logic

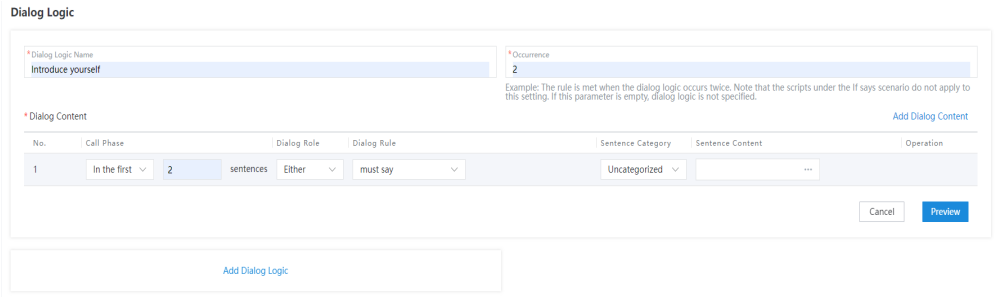
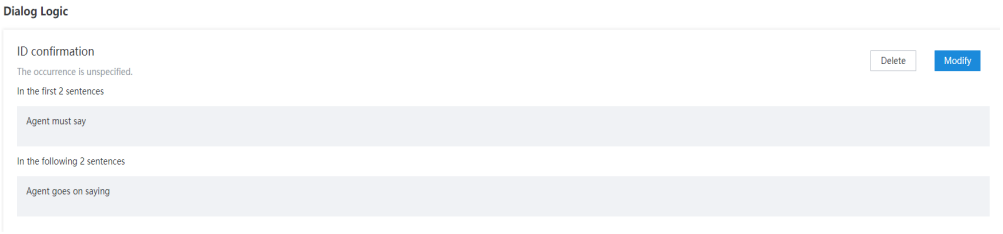


Figure 2-541 Previewing a dialog logic



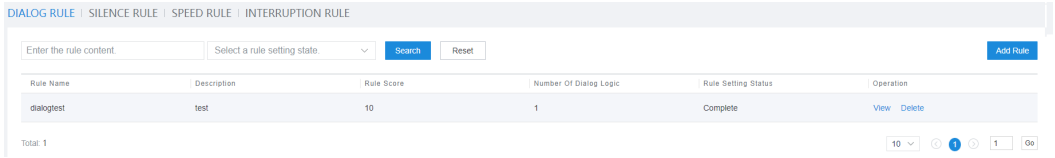
Step 4 Click **Save** to save the dialog rule and return to the **DIALOG RULE** page.

----End

Follow-up Procedure

On the **DIALOG RULE** page, you can click **Search** to search for desired dialog rules based on the search criteria, click **Reset** to reset the search criteria, click **View** to modify the dialog rules, and click **Delete** to delete undesired dialog rules.

Figure 2-542 DIALOG RULE page



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2.10.5.3.3 Configuring Speed Rules

A speed rule contains basic rule information, inspection conditions, and exception sentences. In a scenario where an exception sentence exists, the violation rule is not met.

Context

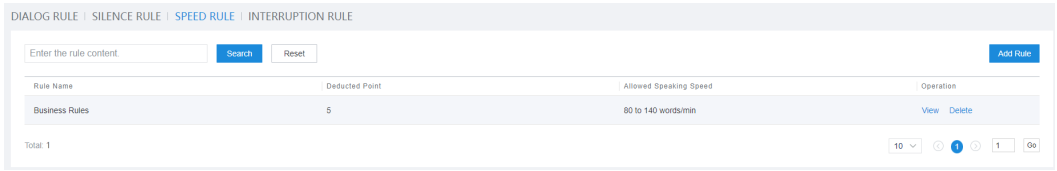
You can configure different speed rules to be referenced when business scenarios are configured.

Speed rules can be created on the GUI.

Procedure

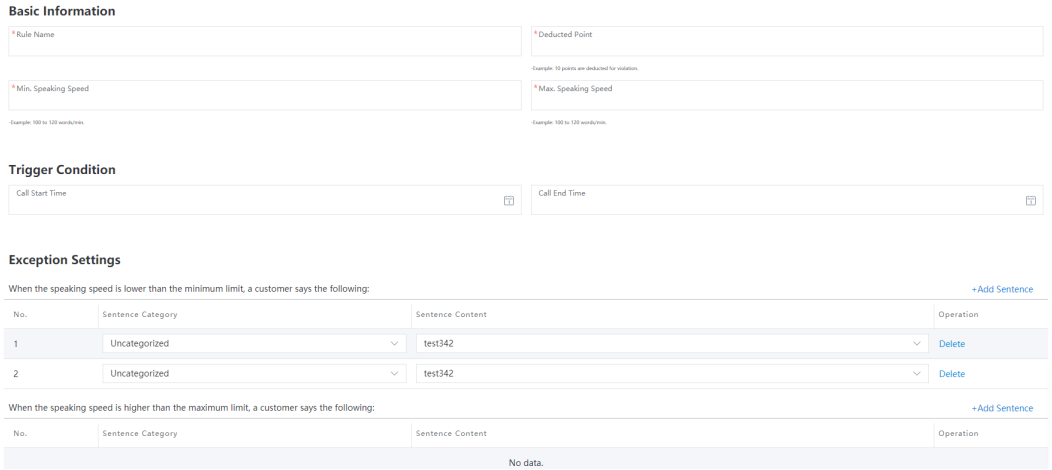
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **SPEED RULE** tab.

Figure 2-543 SPEED RULE page



Step 2 Click **Add Rule** and configure rule information.

Figure 2-544 Creating a speed rule



- **Basic information** includes **Rule Name**, **Deducted Point**, **Min. Speaking Speed**, and **Max. Speaking Speed**.
- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Configure parameters for exception settings.

1. Click **+Add Sentence**, and set the sentence category and sentence content.
2. Click **Delete** to delete the created sentence.

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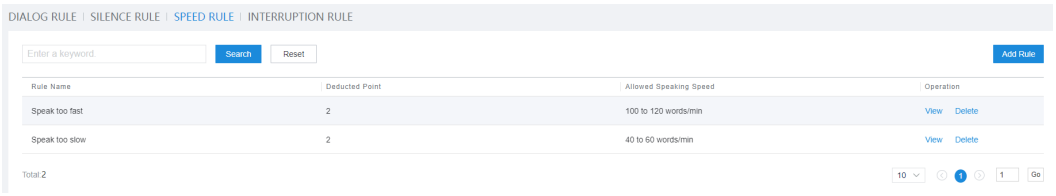
Step 4 Click **Save** to save the speed rule and return to the **SPEED RULE** page.

----End

Follow-up Procedure

On the **SPEED RULE** page, you can click **Search** to search for desired speed rules based on the search criteria, click **Reset** to reset the search criteria, click **View** to modify the speed rules, and click **Delete** to delete undesired speed rules.

Figure 2-545 Speed rules



2.10.5.3.4 Configuring Interruption Rules

An interruption rule contains the rule name, upper limit for crosstalk seconds and times, deducted points, and trigger conditions.

Context

When an agent and a customer speak at the same time, the agent is regarded as interrupting the customer during the call. You can configure different interruption rules to be referenced when business scenarios are configured. In an interruption rule, you can configure the upper limit for crosstalk seconds and times to determine whether an agent is compliant with the rule during a call. If the rule is violated, points are deducted.

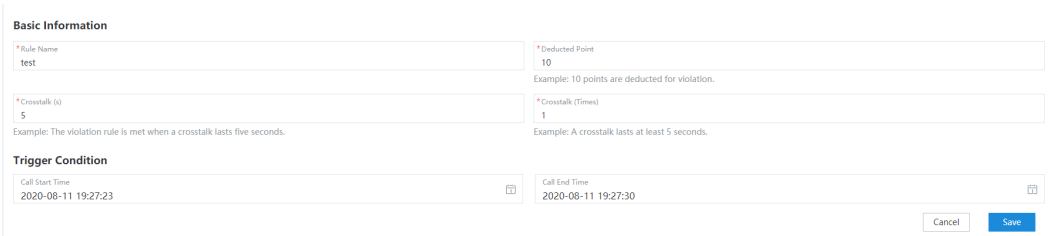
Interruption rules can be created on the GUI.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **INTERRUPTION RULE** tab.

Step 2 Click **Add Rule** and configure rule information.

Figure 2-546 Creating or modifying an interruption rule



- **Basic information** includes **Rule Name**, **Deducted Point**, **Crosstalk (s)**, and **Crosstalk (Times)**.

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- **Trigger Condition** includes **Call Start Time** and **Call End Time**.

Step 3 Click **Save** to save the interruption rule and return to the **INTERRUPTION RULE** page.

----End

2.10.5.4 Configuring Inspection Rating Rules

You can customize inspection rating rules for AI inspection tasks. This section describes how to set inspection scores.

Business Scenario

An inspection trainer sets inspection scores for an insurance industry template online. The start score, minimum score, and maximum score are set to 80, 0, and 100, respectively.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Appraise Score Setting**.

Step 2 Click **Add** to add an inspection rating rule.

Step 3 Configure a rating item.

Set **Rule Name**, **Start Score**, **Minimum Score**, and **Maximum Score**.

Step 4 Click **OK** to save the rating configuration.

Step 5 Click **Apply** to apply the new inspection rating rule. The inspection rating rule is then applied to the AI inspection of call recording.

----End

2.10.5.5 Configuring Business Scenarios

Inspection business scenarios can be configured. Each scenario contains multiple inspection rules. The system implements AI inspections based on business scenarios.

Context

A business scenario is a set of multiple inspection rules. A condition can be set for a business scenario. Calls that meet the condition will be inspected. An inspection rule can belong to multiple business scenarios. For example, a call of a business department belongs to business scenario A. After the business scenario is modified, inspected calls will not be inspected again. Only new calls belong to this modified business scenario will be inspected.

Only business scenarios in **Enabled** state can be used for AI inspections. You can manually switch the business scenario states.

You can maintain business scenarios by adding them on the GUI or by importing them offline.

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In the offline scenario, you can fill in an Excel template offline and import elements such as business scenarios, semantics, keywords, sensitive words, sentences, and rules for specified AI inspection tasks.

NOTE

Data that is not associated with businesses can be imported individually. For example, to import a sensitive word associated with a sentence, you need to configure the corresponding sentence data. If the sensitive word is not associated with a sentence, you can directly import it.

In the Excel template scenario, pay attention to the following:

- One sheet corresponds to the configuration item of one element. When a template is imported, only the configuration items corresponding to the sheet with content are updated.

  The following lists the sheets in a template and the corresponding content to be entered:

  - **business-scenario**: Enter business scenarios.
  - **intent-category**: Enter sentences.
  - **intent-corpus**: Enter the semantics content.
  - **intent-rule-corpus**: Enter keywords.
  - **sensitive-group-word**: Enter sensitive words.
  - **dialog-rule**: Enter the basic content of dialog rules.
  - **dialog-flow**: Enter the logic content of dialog rules.
  - **dialog-sentence-group**: Enter sentences of dialog rules.
  - **silence-rule**: Enter the content of silence rules.
  - **speed-rule**: Enter the content of speed rules.
  - **interruption-rule**: Enter the content of interruption rules.
- The business scenarios in each sheet are identified by name. If the name of a business scenario is different from that of the element of the same type in the system, the configuration item can be added. If they are the same, the configuration item cannot be added.

  NOTE

  If the name of a business scenario already exists in the system, update the name of the existing business scenario.
- The column names in the Excel file can be modified based on site requirements, but they cannot be deleted. In addition, the sequence of each column must be fixed. Otherwise, errors may occur during the import.
- Pay attention to special characters in the Excel file, such as < (less-than sign) and > (greater-than sign), which indicates hypertext tags. Otherwise, the import may fail.

Procedure

Scenario 1: Adding a business scenario online

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Business Scenario**.

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Step 2 Click **Add** to add a business scenario.

Step 3 On the **Add Business Scenario** page, set **Name**, **Description**, **Call Start Time**, and **Call End Time**, set **Inspection Type** to **Voice Type** or **Text Type**, select inspection rules, and click **Save**.

Step 4 In the dialog box that is displayed, click **OK**.

----End

Scenario 2: Importing business data offline

Step 1 Download the import template from the GUI.

Step 2 Fill in the sheets of the import template by referring to the following table.

NOTICE

The content on each sheet is imported to the corresponding configuration page in the system. If data with the same name exists on the configuration page, the import fails.

Table 2-180 business-scenario sheet

Column	Description	Value Example
Scenario Name	Business scenario name. This column is mandatory.	-
Scenario Description	Business scenario description.	-
Ignore Sensitive Words	Whether to ignore sensitive words. This parameter is mandatory. • **0**: no • **1**: yes	1
Scenario Status	Whether a business scenario is enabled. This parameter is mandatory. • **0**: no • **1**: yes	1
Call Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Call End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Dialog Rule	Dialog rule, which must be configured in the **dialog-rule** sheet.	-

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Column	Description	Value Example
Silence Rule	Silence rule, which must be configured in the **silence-rule** sheet.	-
Speed Rule	Speed rule, which must be configured in the **speed-rule** sheet.	-
Interruption Rule	Interruption rule, which must be configured in the **interruption-rule** sheet.	-
Interaction Type	Interaction type of a business scenario. If this parameter is not set, the voice type is used by default. • **0**: voice type • **2**: text type	0

Table 2-181 intent-category sheet

Column	Description	Value Example
Sentence Category Name	Sentence category name. This column is mandatory.	-
Sentence Name	Sentence name. This column is mandatory.	-
Sentence Category Usage	Sentence category usage. • **dialog_rule**: dialog rule • **speaker_identify_rule**: rule for distinguishing speaker roles	dialog_rule

Table 2-182 intent-corpus sheet

Column	Description	Value Example
Sentence Name	Sentence name. This column is mandatory.	-
Corpus	Semantic name. This column is mandatory.	-
Language	Semantic internationalization. This column is mandatory. • **zh_CN**: Chinese • **en_US**: English	-

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Column	Description	Value Example
Negative Sample	Whether the corpus is an antonym corpus. This column is mandatory. • **false**: synonym corpus. • **true**: antonym corpus.	-
Full Match	Whether the semantic content needs to be fully matched. This column is mandatory. • **false**: partial match. • **true**: full match.	false

Table 2-183 intent-rule-corpus sheet

Column	Description	Value Example
Sentence Name	Sentence name. This column is mandatory.	-
Corpus	Keyword. This column is mandatory.	-
Language	Keyword internationalization. This column is mandatory. • **zh_CN**: Chinese • **en_US**: English	-
Negative Sample	Whether the corpus is an antonym corpus. This column is mandatory. • **false**: positive sample. • **true:** negative sample.	-
Full Match	Whether full match is required for the keyword content. This column is mandatory. • **false**: partial match. • **true**: full match.	false

Table 2-184 sensitive-group-word sheet

Column	Description	Value Example
Sensitive Word Category Name	Sensitive word category name. This column is mandatory.	-

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Column	Description	Value Example
Sensitive Word	Sensitive word. This column is mandatory.	-
Score	Rule score, which indicates that points are deducted for violation. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Agent Exception	Sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2
Customer Exception	Sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 2

Table 2-185 rule-dialogue sheet

Column	Description	Value Example
Rule Name	Dialog rule name. This column is mandatory.	-
Rule Description	Description of a dialog rule.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to +100. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value. • If the rule is used for point deduction, points deducted for violation are displayed. • If the rule is used for point adding, points added for compliance are displayed. • If the rule score is 0, the score is not calculated.	-5

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Column	Description	Value Example
Rule Type	Rule type. This column is mandatory. • **normal**: general rule. • **critical**: important rule.	normal
Rule Mode	Rule mode. This column is mandatory. • **positive**: positive rule. This rule is mandatory for compliance. • **negative**: negative rule. This rule is mandatory for violation.	negative
Number of Dialog Logics for Compliance	Number of dialog logics for compliance. This column is mandatory. The value is an integer ranging from 1 to 100. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-

Table 2-186 dialog-flow sheet

Column	Description	Value Example
Dialog Logic Name	Dialog logic name. This column is mandatory.	-
Dialog Rule	Dialog rule name. This column is mandatory.	-
Sentence Group Name	Name of the sentence group. This column is mandatory. Multiple sentence groups can be separated by vertical bars (|).	Sentence group name 1|Sentence group name 2

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Column	Description	Value Example
Expression	Expression of a sentence group. • **must**: must say • **must|then**: must say|goes on saying • **must|and**: must say|also says • **must|and|then**: must say|also says|goes on saying • **if|after**: Before the previous sentence|must say • **if|after|and**: Before the previous sentence|must say|also says • **if|after|then**: Before the previous sentence|must say|goes on saying • **if|iand**: If says|must say (Either) • **if|iand|and**: If says|must say (Either)|also says • **if|iand|then**: If says|must say (Either)|goes on saying • **if|then not**: cannot say • **if|then**: After the previous sentence|must say • **if|then|and**: After the previous sentence|must say|also says • **if|then|then**: After the previous sentence|must say|goes on saying	if|then not
Minimum Number of Repetitions	Number of times the dialog logic is repeated. The value is an integer ranging from 2 to 127. If a decimal point exists, round down the value.	-

Table 2-187 dialog-sentence-group sheet

Column	Description	Value Example
Sentence Group Name	Sentence group name. This column is mandatory.	-
Dialog Rule Name	Dialog rule name. This column is mandatory.	-

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Column	Description	Value Example
Dialog Logic Name	Dialog logic name. This column is mandatory.	-
Dialog Type	Dialog rule type. This column is mandatory. • **must**: must say • **if**: if says • **must_say**: must say • **must_not_say**: cannot say • **then**: goes on saying • **and**: also says	-
Optional	Reserved field. This parameter is mandatory. • **true**: optional • **false**: mandatory	-
Dialog Role	Matching role, which specifies whether a customer or an agent speaks in a dialog rule. This column is mandatory. • **any**: not specified. • **staff**: agent. • **customer**: customer	any
Call Phase	Call phase. • **any**: not specified. • **top**: beginning of a call. • **bottom**: end of a call. • **set**: sets the interval.	any
Interval	Call interval. The value ranges from 1 to 9999. The value must be an integer. If a decimal point exists, round down the value. This column is mandatory only when **Call Phase** is set to **top**, **bottom**, or **set**.	-
Sentence	Sentence name. Multiple sentences can be separated by vertical bars (|).	-

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Table 2-188 silence-rule sheet

Column	Description	Value Example
Rule Name	Name of a silence rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Consecutive Silence Seconds for Violation	Consecutive silence seconds for violation. This column is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	3
Number of Silence Times for Violation	Number of silence times for violation. This column is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Exception Settings for an Agent Before Silence	Exception settings for an agent before silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2
Exception Settings for a Customer Before Silence	Exception settings for a customer before silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2
Exception Settings for an Agent After Silence	Exception settings for an agent after silence. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2

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Table 2-189 speed-rule sheet

Column	Description	Value Example
Rule Name	Name of a speed rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Minimum Number of Words/min	If the value is less than the value of this parameter, the speaking speed is too low and a violation is met. This parameter is mandatory. The value is an integer ranging from 1 to 220. If a decimal point exists, round down the value.	180
Maximum Number of Words/min	If the value is greater than the value of this parameter, the speaking speed is too high and a violation is met. This parameter is mandatory. The value is an integer ranging from 1 to 2147483647. If a decimal point exists, round down the value.	300
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-
Customer Statement When the Speed Is Higher Than the Maximum	Customer statement when the speed is higher than the maximum. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2
Customer Statement When the Speed Is Lower Than the Minimum	Customer statement when the speed is lower than the minimum. Enter the sentence name. Multiple sentences can be separated by vertical bars (|).	Sentence name 1|Sentence name 2

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Table 2-190 interruption-rule sheet

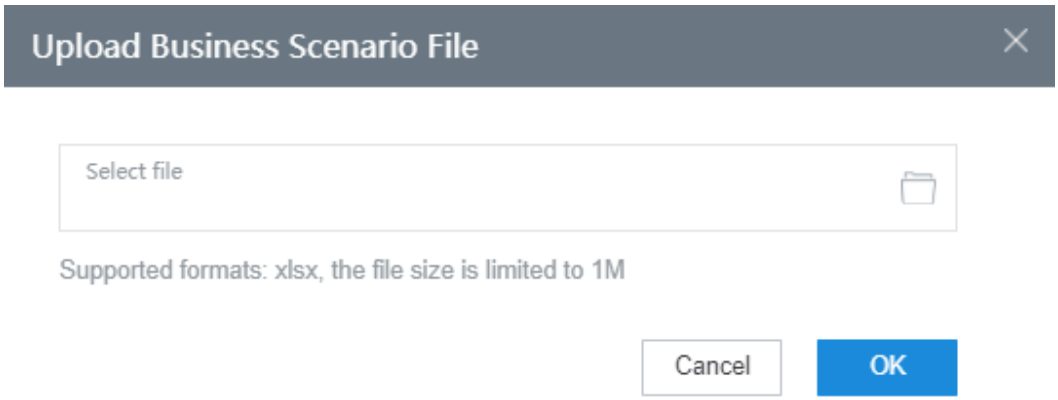
Column	Description	Value Example
Rule Name	Name of the interruption rule. This column is mandatory.	-
Score	Rule score. This column is mandatory. The value is an integer ranging from –100 to 0. If this parameter is left empty, the value **0** is automatically assigned. If a decimal point exists, round down the value.	-5
Crosstalk Duration (s)	Crosstalk seconds. This column is mandatory. The value is an integer ranging from 1 to 10000. If a decimal point exists, round down the value.	5
Number of Crosstalks	Number of crosstalk times. This column is mandatory. The value is an integer ranging from 1 to 10000. If a decimal point exists, round down the value.	1
Trigger Start Time	Call start time. Format: *YYYY/MM/DD HH:MM:SS*	-
Trigger End Time	Call end time. Format: *YYYY/MM/DD HH:MM:SS*	-

Step 3 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Business Scenario**.

Step 4 Click **Import** to import the business scenario file.

If the import fails, the system displays the message "Failed to import the file. Check the data." In the dialog box that is displayed, click **OK** to reselect the business scenario file.

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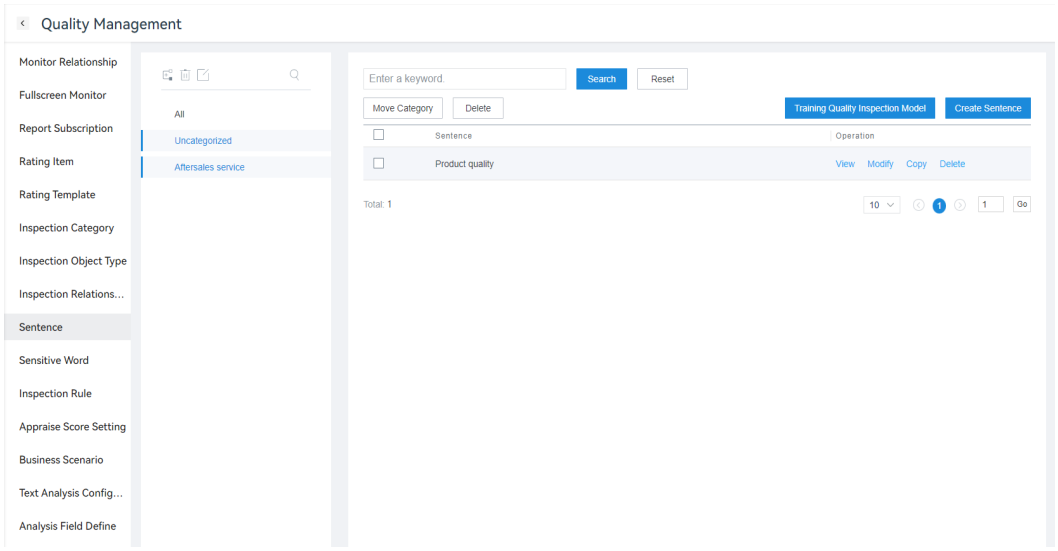


Step 5 Click **OK**. The task is successfully imported.

Step 6 (Optional) Select a business scenario and click Export. A message is displayed, asking you whether to download the business scenario. After you click OK, the business scenario is exported successfully.

The dialog rules associated with the selected business scenario cannot contain sentences or sensitive words in the **Uncategorized** category. Otherwise, the exported Excel file cannot be imported.

Figure 2-547 Uncategorized page

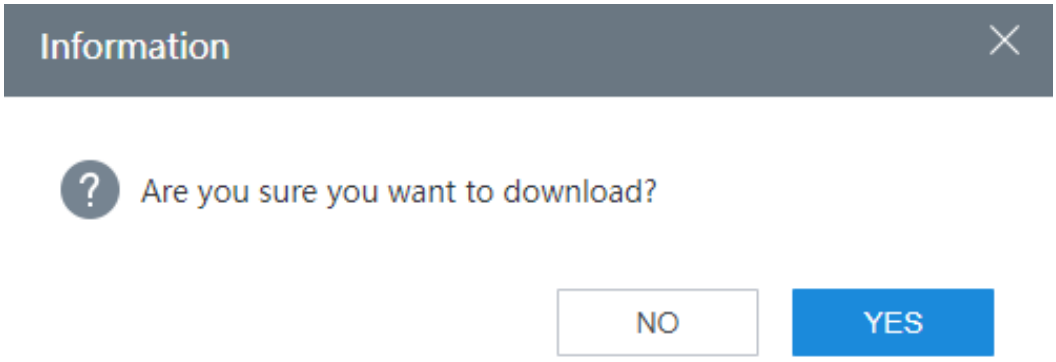


NOTE

A maximum of 100 records can be exported.

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Figure 2-548 Confirmation dialog box



----End

2.10.5.6 Viewing AI Inspection Results

A tenant administrator can query inspection records. After call files are uploaded, the AI inspection and manual review results can be viewed.

Context

A tenant administrator can upload desired call files. The AI inspection system checks the business rules for the call recordings on the backend to determine whether the customer or agent violates the rules. For example, the system checks whether dirty words or sensitive words exist. This improves inspection efficiency.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Inspected Call List**.

On the **Inspected Call List** page, brief search criteria and the list of inspected calls are displayed.

Step 2 Click **Upload Call** to upload the desired calls. Set **File Type** to **Audio** or **Text**, click to select a file from the local PC, set other information, and click **OK** to upload the file.

NOTE

A text file must be in CSV format, and its size cannot exceed 1 MB. If the file contains Chinese characters, set the CSV encoding format to UTF-8 or use the template to upload.

Step 3 (Optional) On the **Inspected Call List** page, click **To-Be-Inspected Call List** to switch from the completed call list to the pending call list.

Step 4 Click **View** in the list. The **Inspected Call Details** page is displayed.

Step 5 Click Session Content | Call Information on the left to switch between the session content page and the call information page as required.

Step 6 Click of the recording player to play the recording. You can click or to rewind or fast-forward the recording for 10 seconds.

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Step 7 Click **Audio Track Marking**. A red dot is displayed in the player on the left, and you can click the red dot to locate the audio track. Click **Unmark Audio Tracks**. The red dot is hidden in the player on the left

Step 8 (Optional) Implement fuzzy search in the text box. The keywords are highlighted in the dialog box below. On the **Call Information** tab page, you can view the call information details.

Step 9 (Optional) Click **Switch Speaker Role** and click **YES** in the dialog box that is displayed to exchange the customer role with the agent role. The call is inspected again and the inspection result is updated.

Step 10 (Optional) Click  next to an agent or customer to play the corresponding voice.

Step 11 Click **Switch to Other Inspection Scenarios**. The page for selecting an inspection scenario is displayed on the right.

After an inspection scenario is selected, the details about the scenario are displayed in the table on the main page.

----End

2.10.5.7 Configuring Sample Inspection Plans

An inspection supervisor needs to configure a scheduled sample inspection plan before creating manual sample inspection tasks to re-inspect the calls that have been intelligently inspected.

Context

An inspection supervisor can set a scheduled sample inspection plan to perform the intelligent sample inspection. The inspection supervisor can assign new sample inspection tasks to inspectors.

Procedure

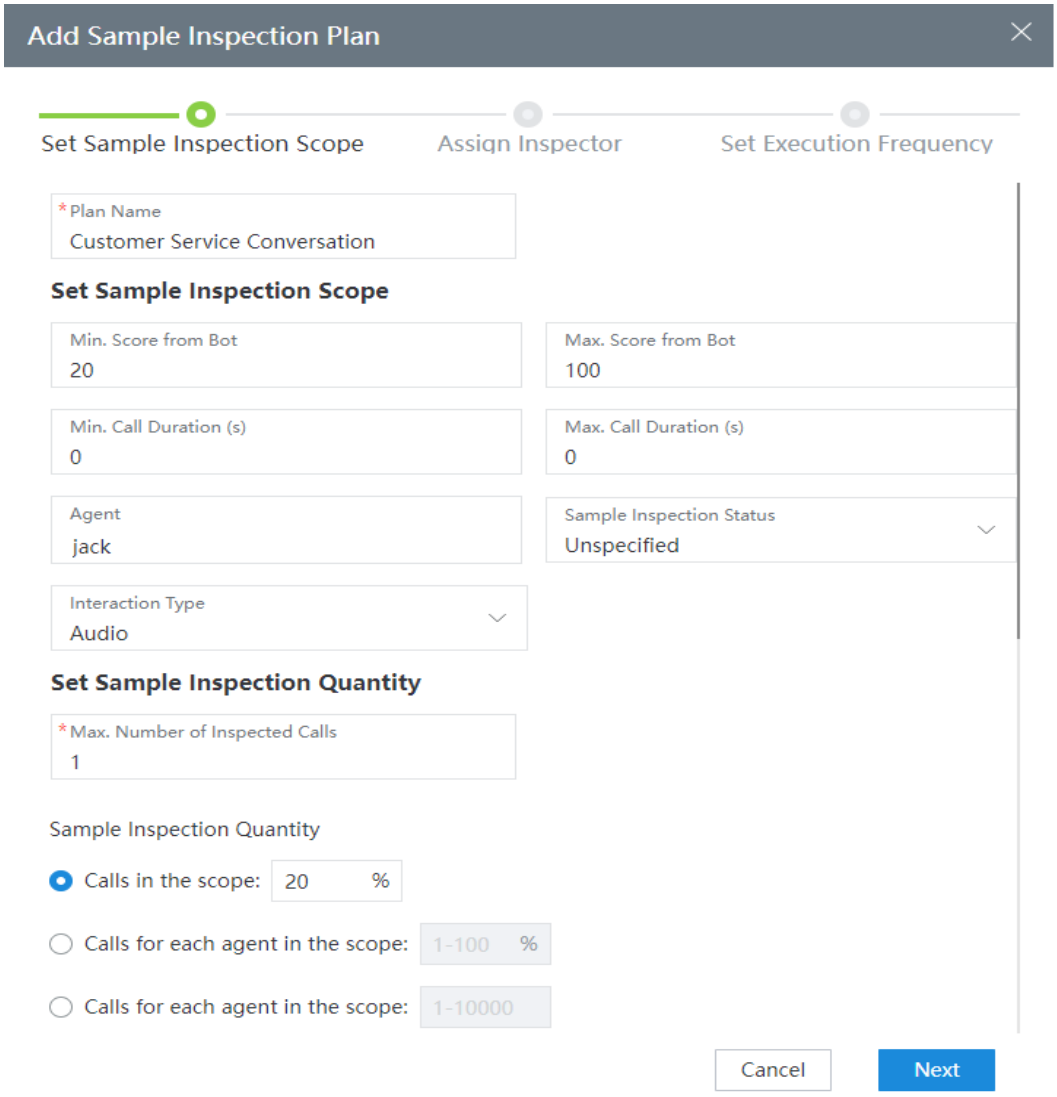
Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Spot-Check Plan**.

Step 2 Click **New** to create and configure a sample inspection plan.

Step 3 Configure the new sample inspection plan.

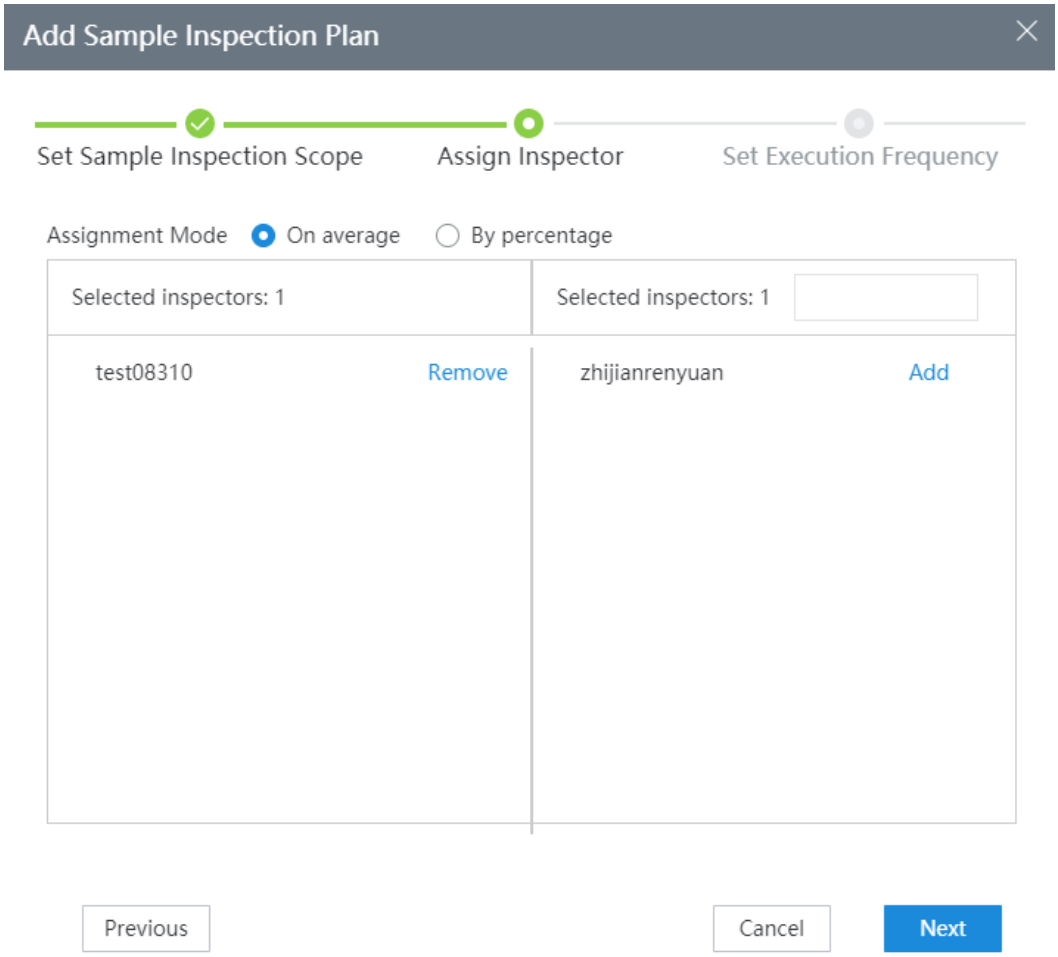
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Figure 2-549 Add Sample Inspection Plan page



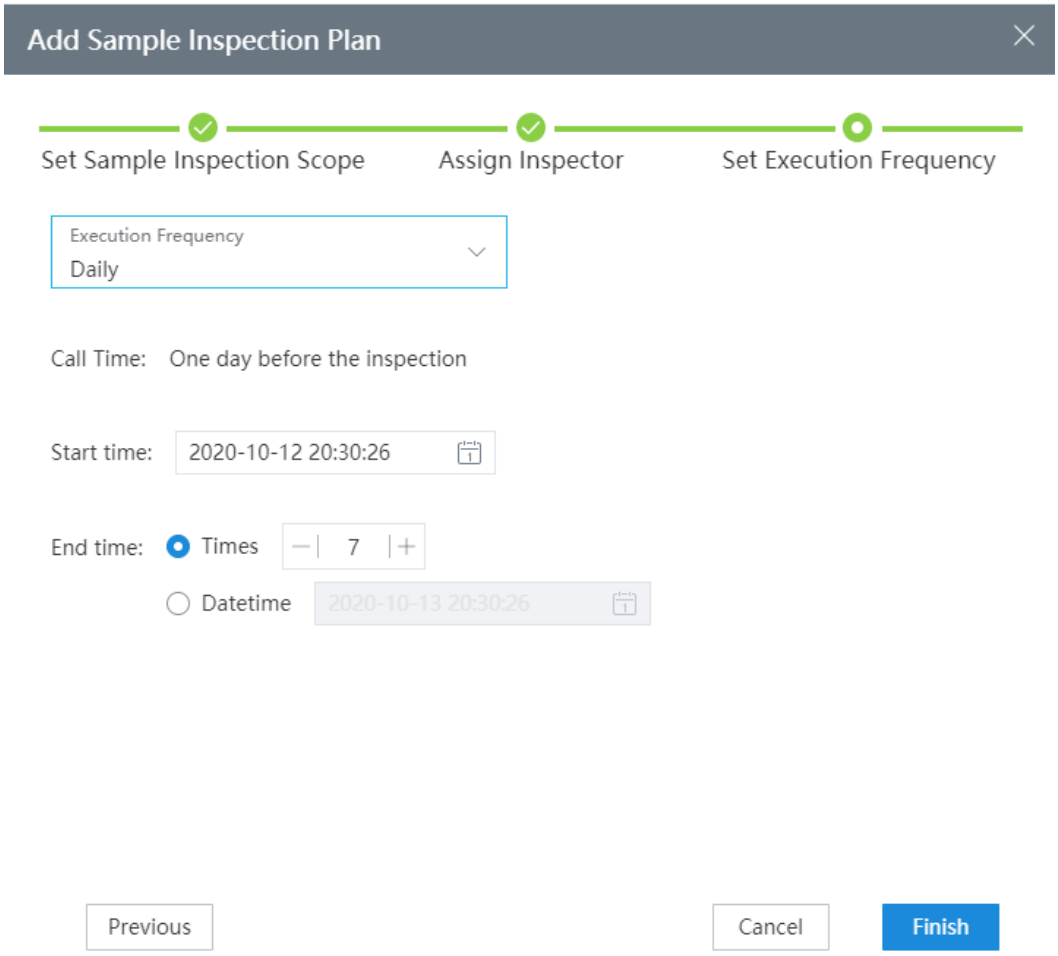
 Copyright © Huawei Technologies Co., Ltd.

Figure 2-550 Assign Inspector page



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Figure 2-551 Set Execution Frequency page



Step 4 Click **Finish**. A scheduled sample inspection plan is created.

----End

2.10.5.8 Creating Sample Inspection Tasks

An inspection supervisor can create manual sample inspection tasks to re-inspect the calls that have been intelligently inspected.

Prerequisites

- A sample inspection plan has been configured.
- The AI inspection has been performed on the call records.

Context

On the **My Inspection Task** page, the calls that have been intelligently inspected can be assigned to inspectors for manual inspection. An inspection supervisor can view, create, modify, delete, assign, reserve, validate, or terminate inspection tasks.

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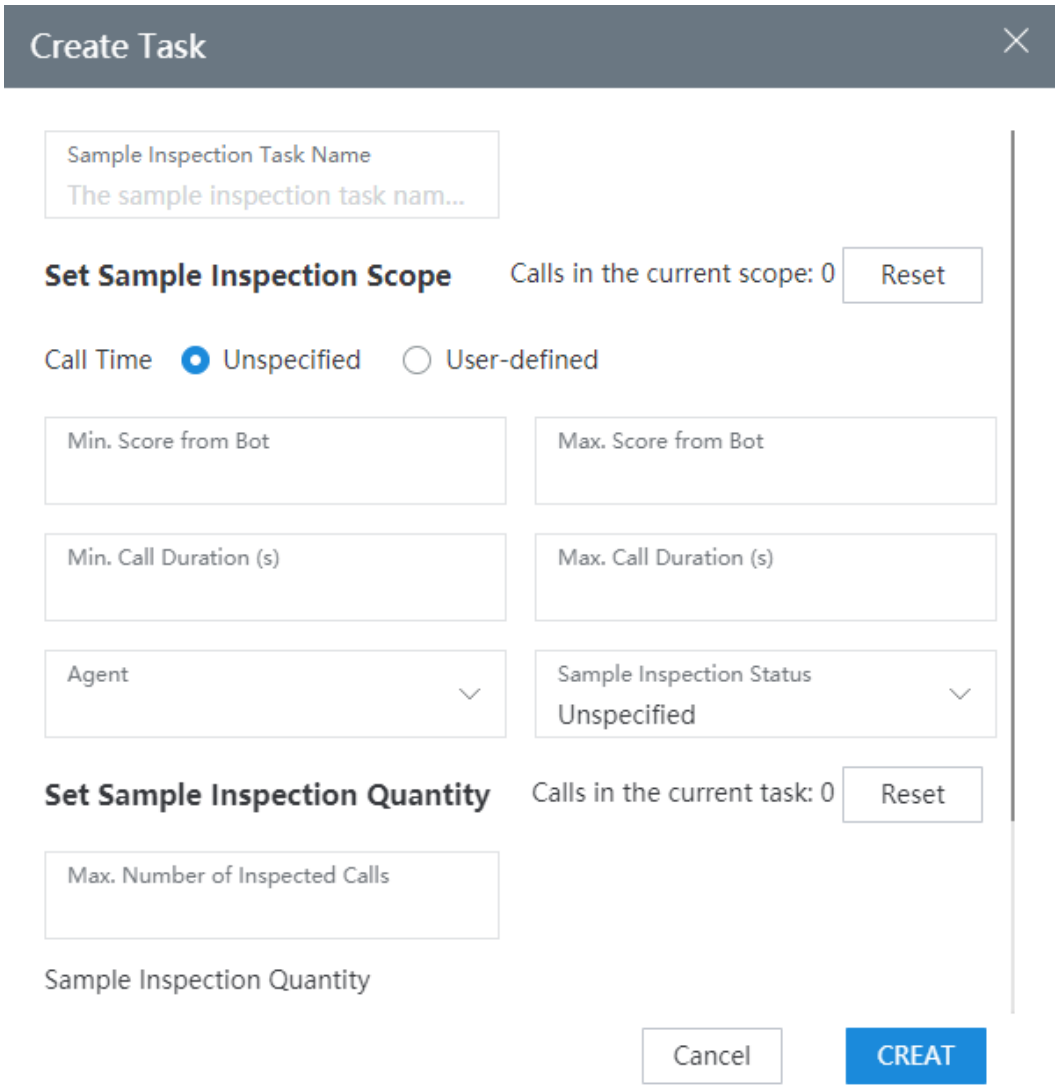
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **My Inspection Task**.

Step 2 Click **Pending Task List**. The **Pending Task List** page is displayed. Click **New** to configure a manual sample inspection.

The new task can be created only when at least one call exists.

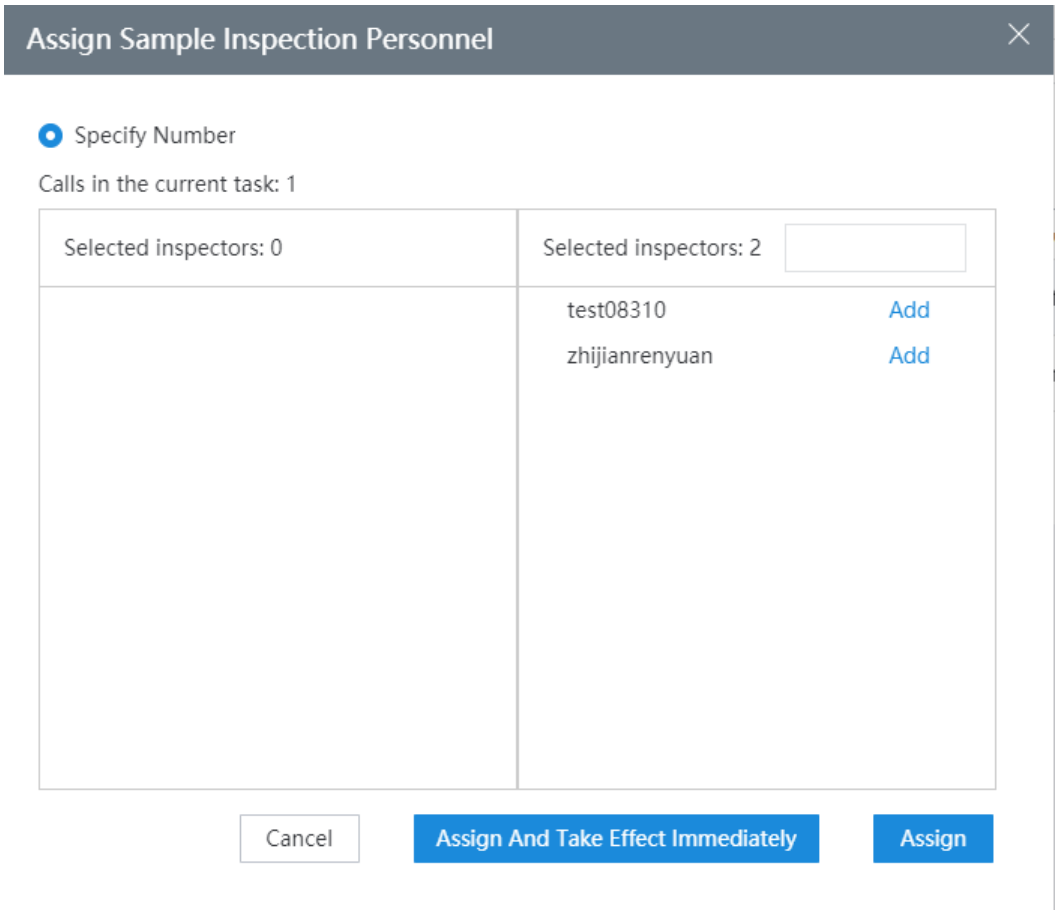
Figure 2-552 Creating a task



Step 3 Click **Back to My Sample Inspection** and select a created manual sampling inspection. Click **Assign** to assign an inspector to inspect the call.

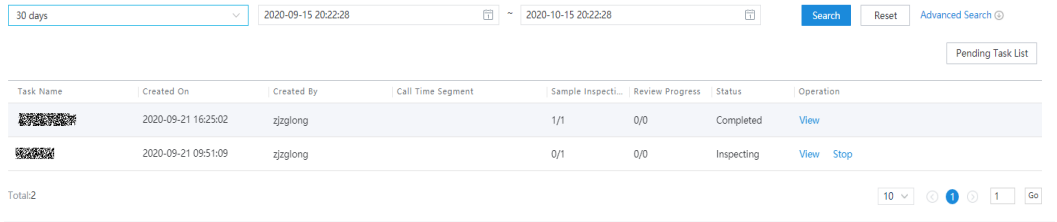
Copyright © Huawei Technologies Co., Ltd.

Figure 2-553 Page for assigning inspectors



You can click **Reserve**, **Effective**, **Modify**, **Delete**, or **Stop** to perform the corresponding operation on an inspection task.

Figure 2-554 Managing inspection tasks



Step 4 On the **My Inspection Task** page, click **View** next to a desired task. The task details page is displayed. You can assign reviewers to the completed inspection tasks.

Figure 2-555 Task details page



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Step 5 On the **Basic Task Details** page, click **View**. The **Call Inspection Details** page is displayed. The inspection administrator can view the call details and modify the sample inspection result.

----End

2.10.5.9 Performing Text and Speech Analysis

2.10.5.9.1 Configuring Text Analysis

You can enable text and speech analysis by setting the analysis interaction type, analysis percentage, and agents to be analyzed.

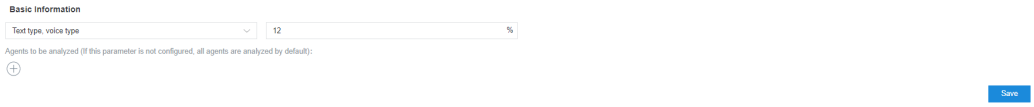
NOTE

To enable text and speech analysis, you must set the analysis type (text, speech, or both) on the **Text Analysis Configuration** page and enable the text analysis feature.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Text Analysis Configuration**.

Figure 2-556 Text Analysis Configuration page



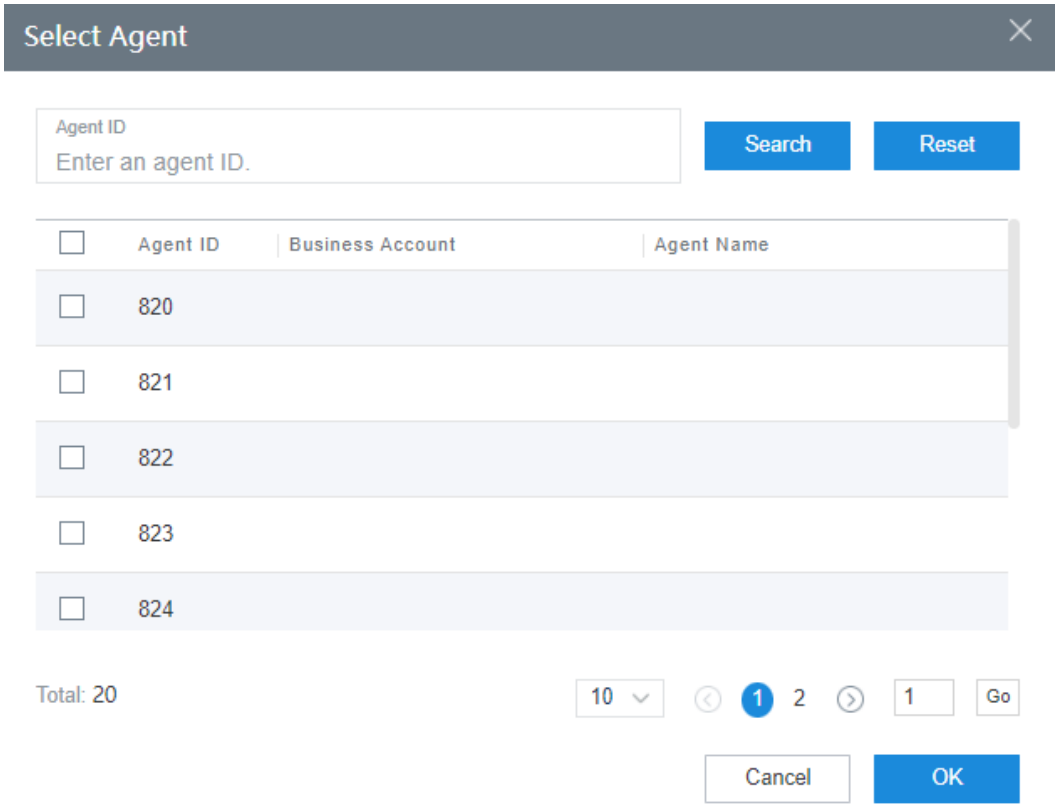
Step 2 Select an interaction type. The options are **Text type**, **voice type**, and **Text type, voice type**.

Step 3 Set the analysis percentage to a number ranging from 0 to 100. If this parameter is not set, the default value **100** is used. The backend determines whether to enable text and speech analysis based on the analysis percentage.

Step 4 Set the agents to be analyzed. Click **+**. On the **Select Agent** page that is displayed, select agents.

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Figure 2-557 Select Agent page



Step 5 Click **OK** to save the text analysis configuration.

----End

2.10.5.9.2 Searching for Inspection Results Based on Keywords

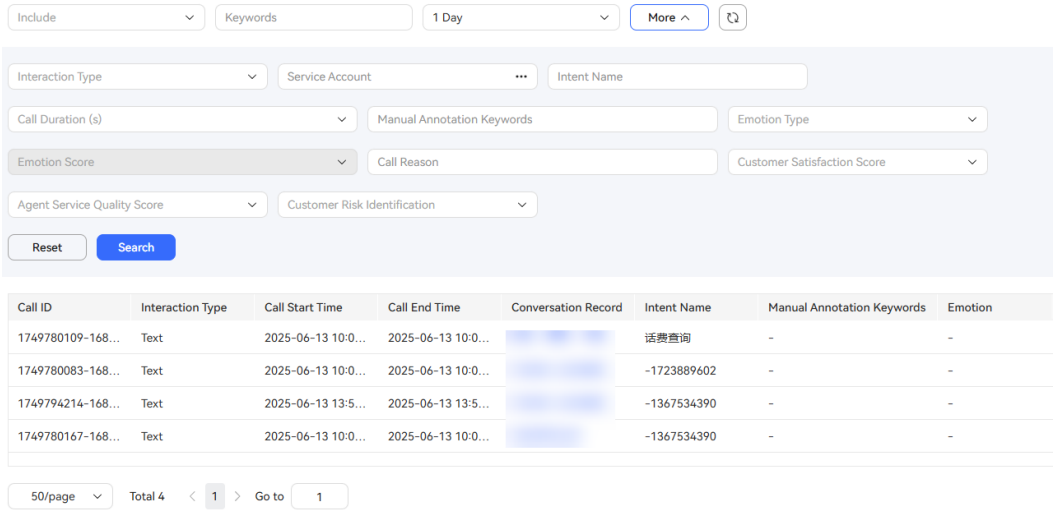
Inspection results after text and speech analysis can be filtered based on keywords and other conditions.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Text Analysis** > **Keyword Search**.

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Figure 2-558 Keyword Search page



Step 2 Set the start time and end time, and click **Search**. The default value is the last day.

NOTE

The time range must be less than or equal to 31 days.

----End

2.10.5.9.3 Viewing the Word Frequency

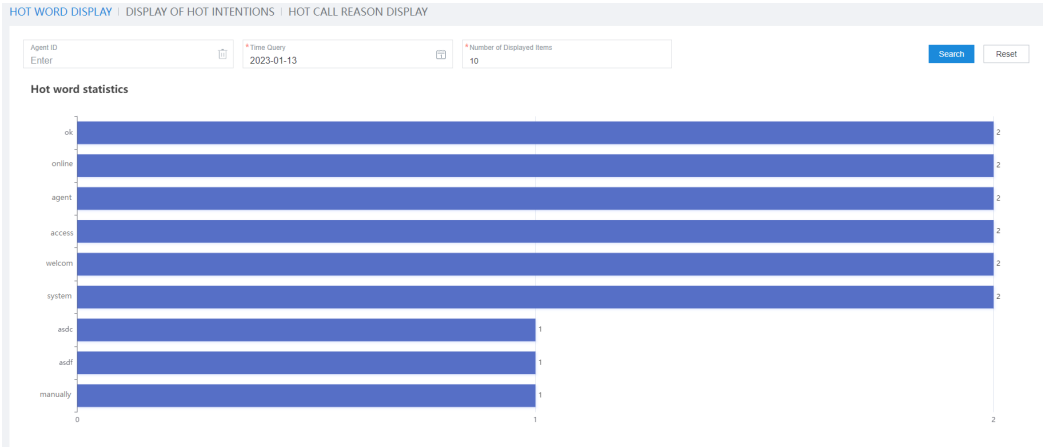
The word frequency display function is used to collect statistics on hot words generated during calls after AI inspection is complete.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Word Frequency Display**.

Step 2 Click the **HOT WORD DISPLAY** tab. By default, the bar chart of hot word statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

Figure 2-559 HOT WORD DISPLAY tab page



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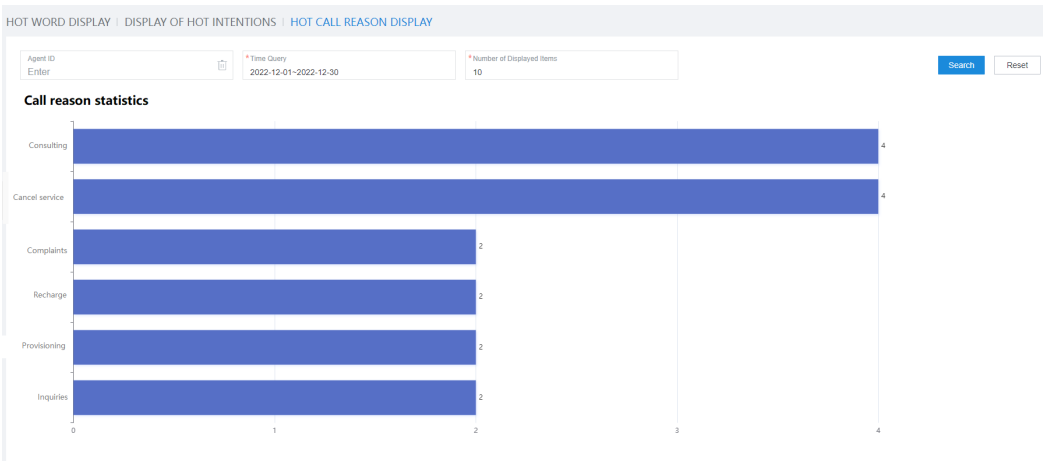
Step 3 Click the **DISPLAY OF HOT INTENTIONS** tab. By default, the bar chart of hot intention statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

Figure 2-560 DISPLAY OF HOT INTENTIONS tab page



Step 4 Click the **HOT CALL REASON DISPLAY** tab. By default, the bar chart of hot call reason statistics in the last month is displayed. You can set **Agent ID**, **Time Query**, and **Number of Displayed Items** to filter data based on criteria.

Figure 2-561 HOT CALL REASON DISPLAY tab page



----End

2.10.5.9.4 Collecting Text Analysis Indicator Statistics

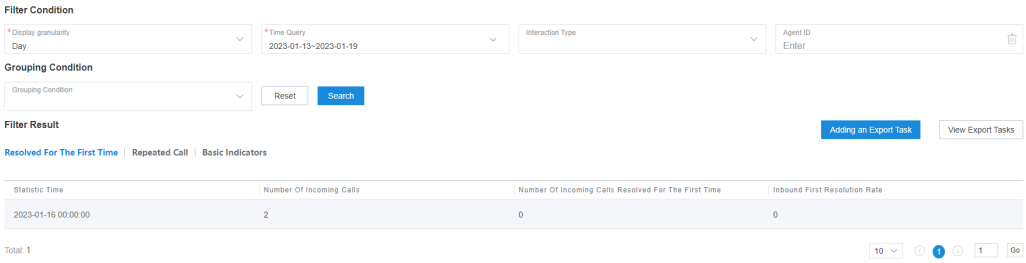
The text analysis indicator statistics function is used to query call record statistics after AI inspection is complete.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Text Analysis Indicator Statistics**.

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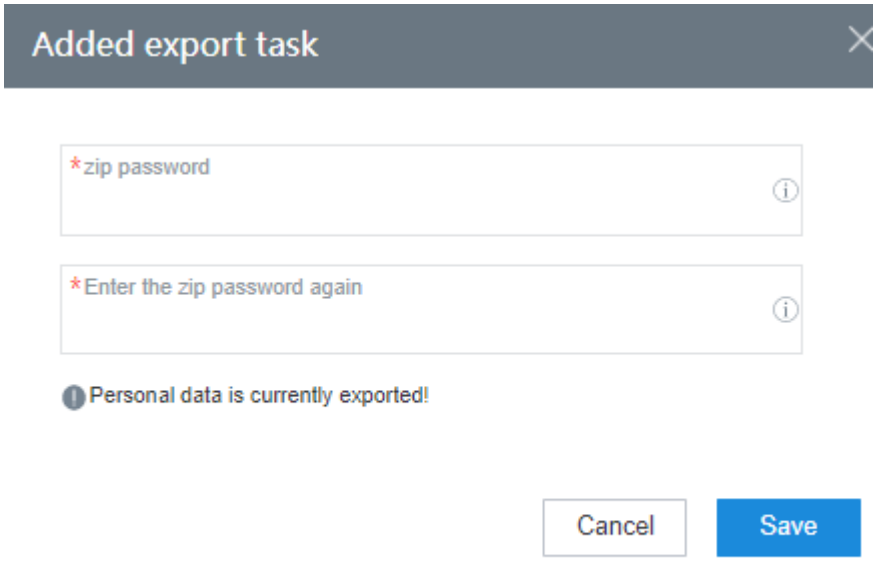
Figure 2-562 Text Analysis Indicator Statistics page



Step 2 Set **Display granularity**, **Time Query**, **Interaction Type**, **Agent ID**, and **Grouping Condition** to filter data based on criteria.

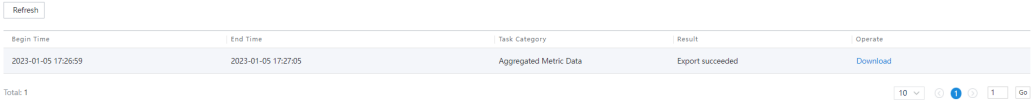
Step 3 Click **Adding an Export Task**. On the page that is displayed, set **zip password** and click **Save**.

Figure 2-563 Added export task page



Step 4 Click **View Export Tasks** to go to the **Export Results** page to view export tasks. Click **Download** to download a package.

Figure 2-564 Export Results page



NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

----End

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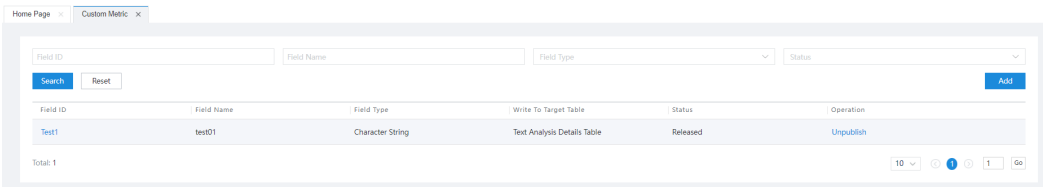
2.10.5.9.5 Configuring Custom Indicators

Indicators generated based on custom filter criteria and calculation logic can be used for indicator statistics display.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Analysis Field Define**.

Figure 2-565 Custom Metric page

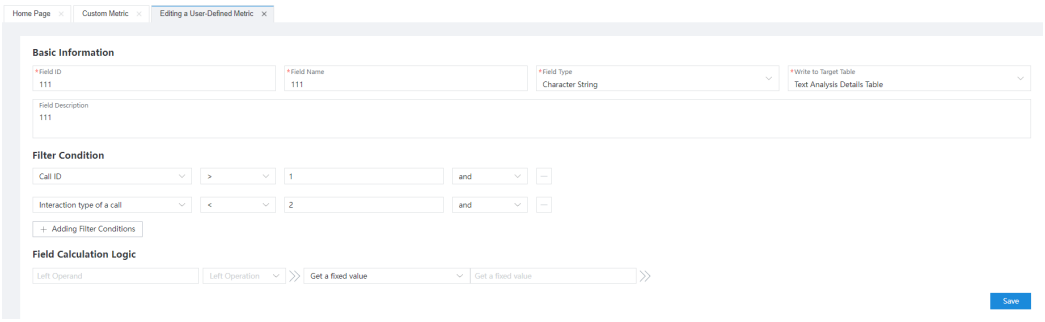


Step 2 Click **Search**. All custom indicators of the tenant are queried by default. You can query indicators based on the field ID, field name, field type, or status.

Step 3 Click **Add** to go to the **Adding a user-defined counter** page. Click **Modify** to go to the **Editing a User-Defined Metric** page. Click **Delete** to delete a custom indicator. Click **Release** to publish a custom indicator. Click **Unpublish** to unpublish a custom indicator.

Step 4 Enter basic information (**Field ID**, **Field Name**, **Field Type**, **Write to Target Table**, and **Field Description**) and add filter condition (**New Conditions** or **Added Brackets And Conditions.**), enter the field calculation logic, and click **Save**.

Figure 2-566 Editing a User-Defined Metric page

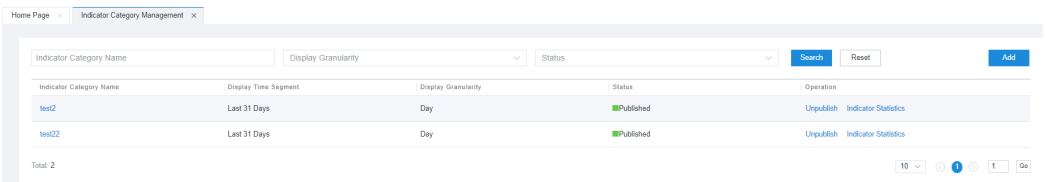


----End

2.10.5.9.6 Managing Indicator Categories

Step 1 Sign in to the AICC as a tenant administrator and choose **Speech Text Analysis** > **Indicator Category Management**.

Figure 2-567 Indicator Category Management page



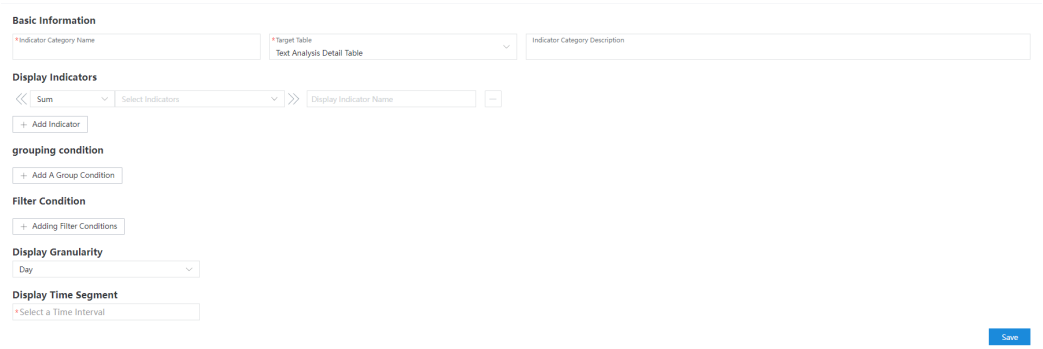
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Step 2 Click **Search**. All indicator categories of the tenant are queried by default. You can query the indicator category based on the indicator category name, display granularity, and status.

Step 3 Click **Add** to go to the **Add Indicator Category** page. Click **Modify** to go to the **Edit Indicator Category** page. Click **Delete** to delete an indicator category. Click **Publish** to publish a custom indicator category. Click **Unpublish** to unpublish a custom indicator category.

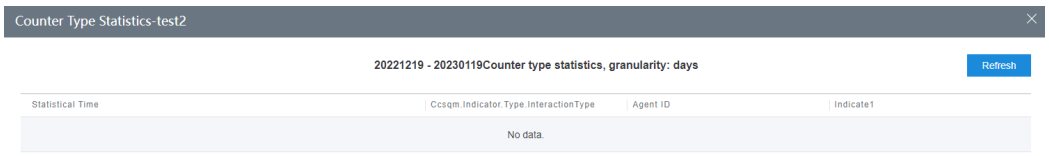
Step 4 Enter the basic information (**Indicator Category Name**, **Target Table**, and **Indicator Category Description**), set display indicator (**Add Basic Indicator** or **Add Custom Indicator**), grouping condition, filter condition (**Add Basic Filter Condition**, **Add Custom Filter Condition**, **Add Basic Brackets Filter Condition**, or **Add Custom Brackets Filter Condition**), display granularity (**15min**, **30min**, **60min**, or **Day**), and display time segment (**On the same day**, **7 Days**, **31 Days**, or a custom period), and click **Save**.

Figure 2-568 Add Indicator Category page



Step 5 Click **Publish** and then click **Indicator Statistics**. A dialog box is displayed, showing the data of the current indicator category.

Figure 2-569 Counter Type Statistics page



----End

2.10.5.9.7 Customer Satisfaction Analysis

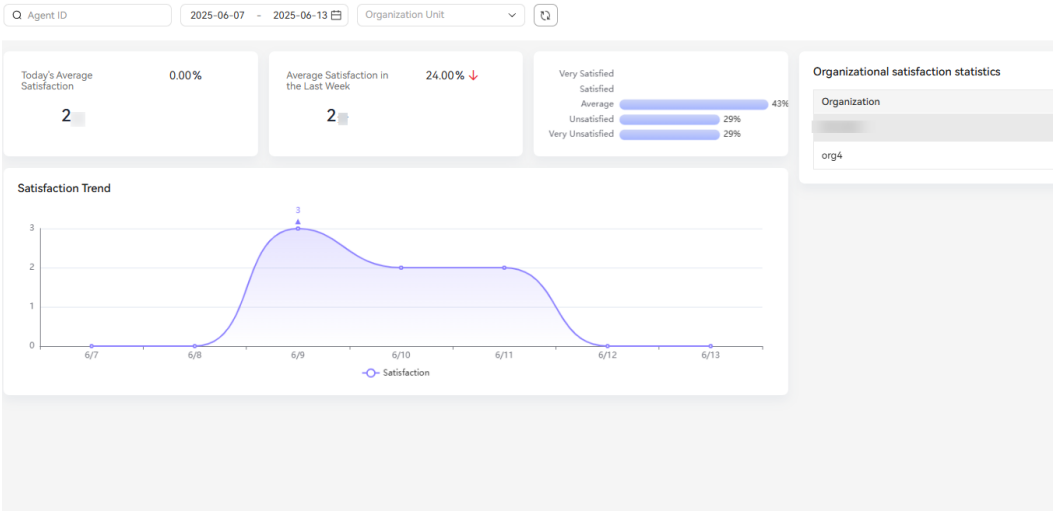
Satisfaction data can be filtered based on the search criteria.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Text Analysis** > **Customer Satisfaction Analysis**.

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Figure 2-570 Customer Satisfaction Analysis page



Step 2 Enter the agent ID, select the start time and end time (the default value is the last seven days), and select an OU.

----End

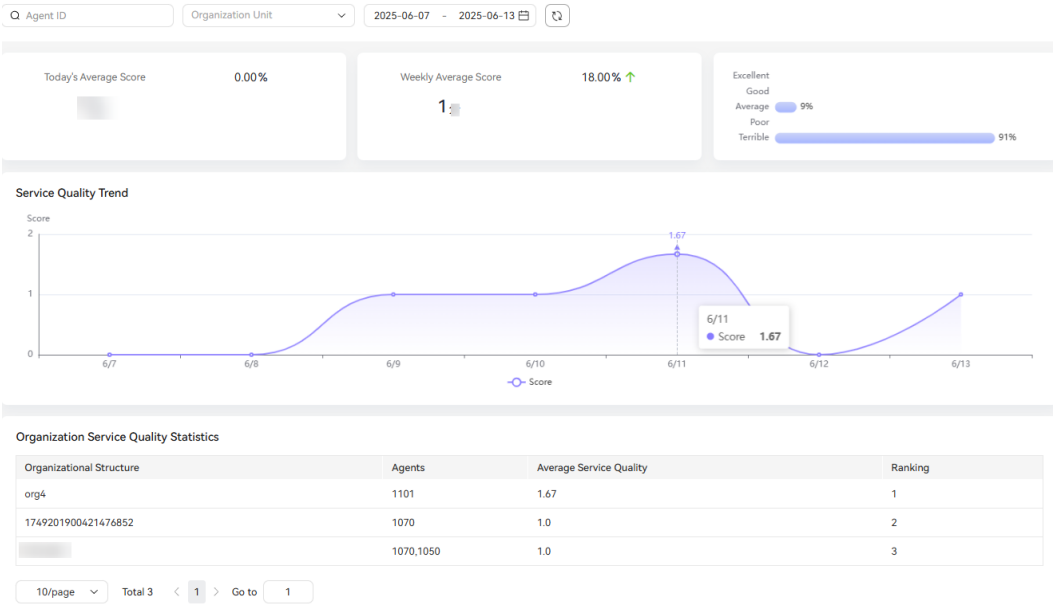
2.10.5.9.8 Service Quality Analysis

Service quality data can be filtered based on the search criteria.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Text Analysis** > **Service quality analysis**.

Figure 2-571 Service quality analysis page



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Step 2 Enter the agent ID, select the start time and end time (the default value is the last seven days), and select an OU.

----End

2.11 Managing the Notification Center

This section describes how to manage notifications in the notification center.

NOTICE

The notification center can send Huawei Cloud SMS messages. To use this function, configure SMS messages by referring to **2.11.2 Configuring SMS Messages**.

2.11.1 Configuring Bulletin Types

An administrator can configure bulletin types for recipients to distinguish bulletins.

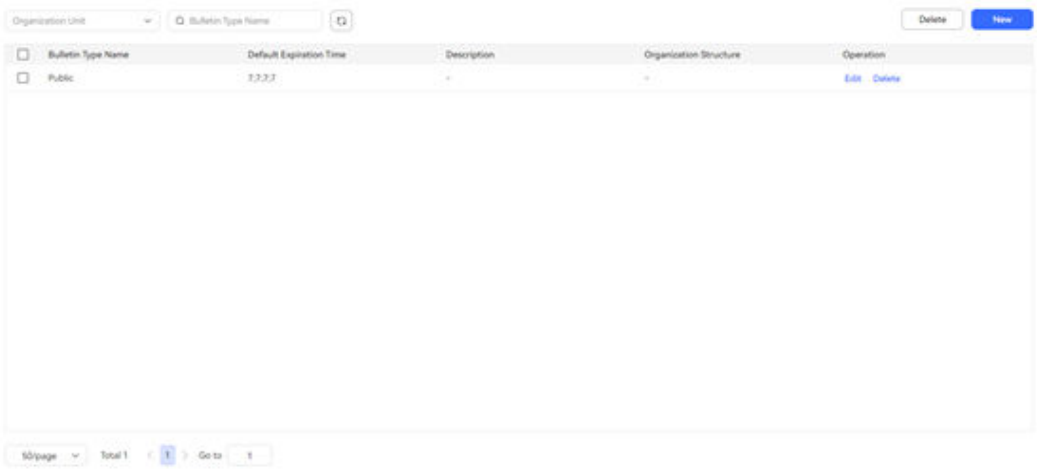
Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Type**.

Figure 2-572 Notification Type



Organization Unit: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

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- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
  - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
  - Operations supported for OU selection:
    - **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
    - **Load Lower-Level Data**: If this option is selected, you can select the selected OU and its sub-OUs for **Common Type Name**.

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NOTE

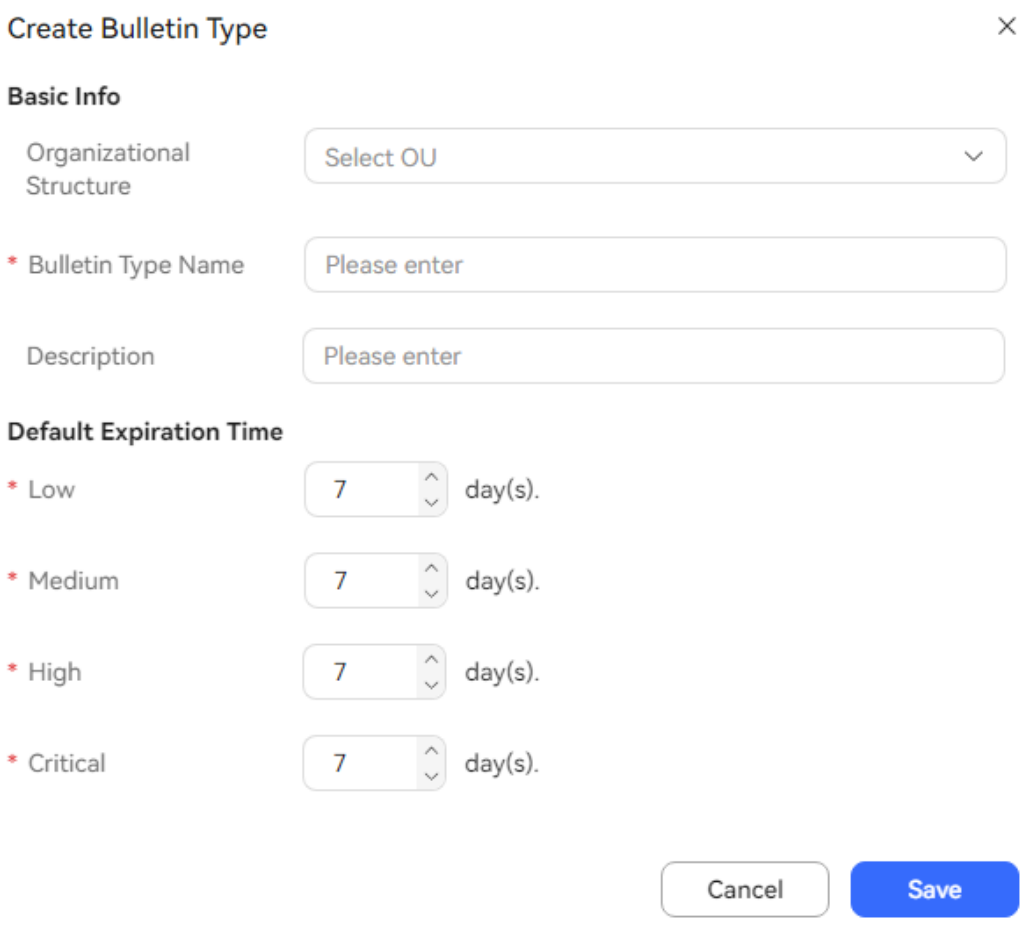
Before using this parameter, ensure that all the following conditions are met:

- The **Whether to enable the capability to load and query lower-level data** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
- Relevant OU permissions have been configured. Either of the following is acceptable:
  - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
  - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.

- If the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

Step 2 Click **New**.

Figure 2-573 Create Bulletin Type



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- **Basic Info**
  - **Organization Unit**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
    - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
      - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
        - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

          NOTE

          If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
        - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
        - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
      - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
    - If the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.
  - **Bulletin Type Name**: Enter a customized name. The value can contain a maximum of 128 characters.
  - **Description**: Enter a customized description. The value can contain a maximum of 256 characters.
- **Default Expiration Time**
  - **Low**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
  - **Medium**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
  - **High**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.
  - **Critical**: Enter a value ranging from 1 to 2000, in days. The default value is **7**.

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Step 3 Click **Save**.

Step 4 (Optional) You can perform the following operations on the new bulletin type:

- **Edit**: Edit the bulletin type information.
- **Delete**: Delete the bulletin type.

----End

2.11.2 Configuring SMS Messages

An administrator can set SMS parameters for the notification center to send Huawei Cloud SMS messages. A tenant administrator can configure an SMS message sender number to enable the public number to send SMS gateway messages.

Prerequisites

To use the Huawei SMS function, you must have enabled the Huawei Cloud SMS service at **Message & SMS**.

Context

If information, such as the app key and app secret, is changed on Huawei Cloud SMS, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **SMS Configuration**, click **Edit**, and update the values of parameters, such as **App Key** and **App Secret**.

Configuring Huawei Cloud SMS Messages

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **SMS Configuration**.

Step 2 Click the **HUAWEI CLOUD SMS** tab and click **Edit** to enter the editing mode.

Step 3 Set the following SMS parameters:

- **App Key**
- **App Secret**
- **App Access Address**
- **Signature Channel ID**

  NOTE

  The preceding parameters are obtained from the enabled Huawei Cloud service.

- **Whether to enable certificate verification**
  - If this parameter is set to **YES**, certificate verification is enabled. You need to obtain a certificate file from the Huawei Cloud SMS service and upload it on the **Configuration Center** > **System Management** > **Certificate** page.
  - If this parameter is set to **NO**, certificate verification is disabled, which may cause peer identity spoofing risks. Exercise caution when using this value.

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- **Certificate File**: This parameter is available only when certificate verification is enabled. Select the Huawei Cloud SMS certificate uploaded on the **Configuration Center** > **System Management** > **Certificate** page.

Step 4 Click **Save**.

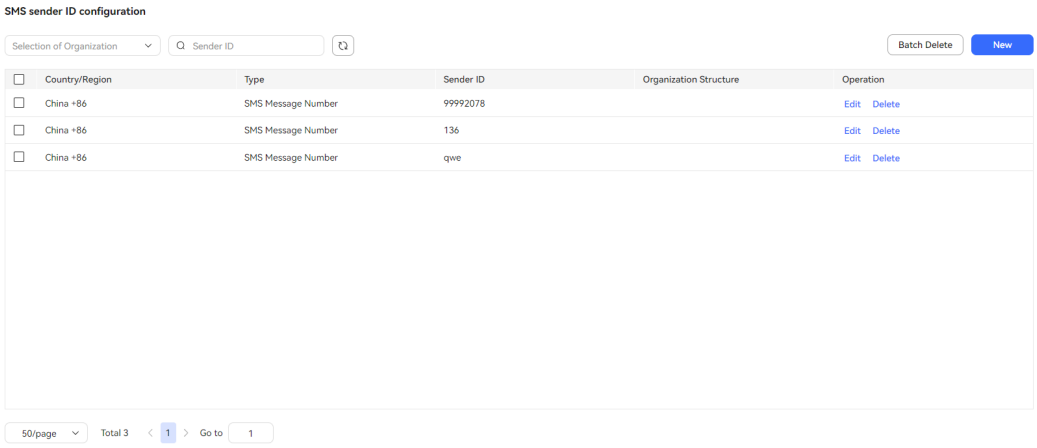
----End

Configuring SMS Message Sender IDs

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **SMS Configuration**.

Step 2 Click the **SMS sender ID configuration** tab.

Figure 2-574 SMS sender ID configuration



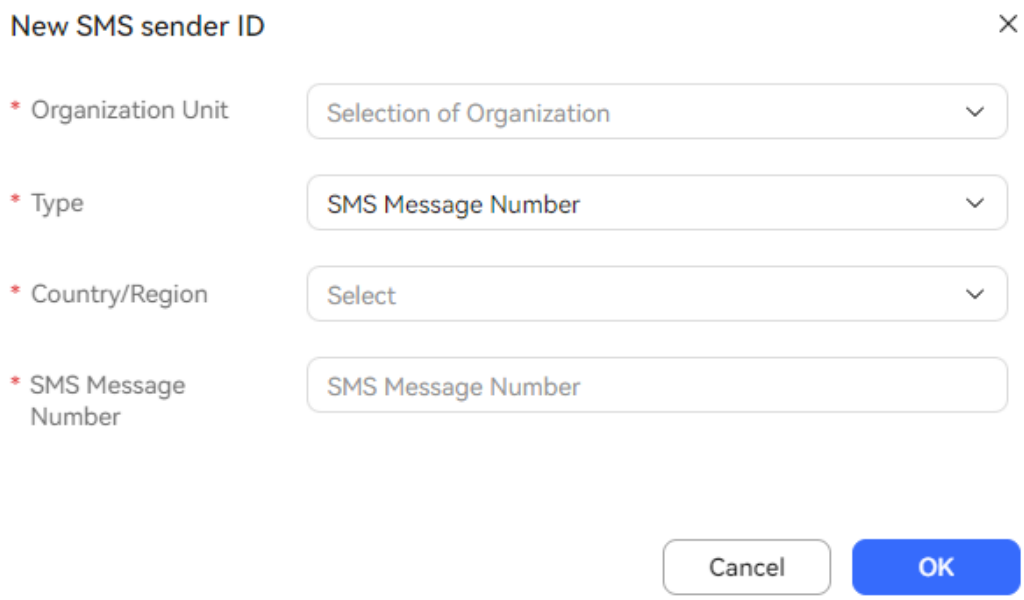
Organization Structure: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
  - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
- After the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

Step 3 Click **New**. The **New SMS sender ID** dialog box is displayed.

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Figure 2-575 New SMS sender ID



- **Organization Unit**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
    - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
    - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
  - After the preceding tenant parameter is set to **No**, the **Organization Unit** parameter is not displayed.
- **Type**: Type of an SMS message sender ID. The options are **SMS Message Number** and **Company/Brand Name**.
- **Sender Country Code**: SMS message sender number.
- **SMS Message Number**: A specific number is required when **Type** is set to **SMS Message Number**. Enter the SMS sender ID. The value is a string of 1 to 20 digits and case-sensitive characters.
- **Company/Brand Name**: A specific company/brand name is required when **Type** is set to **Company/Brand Name**.

  The company or brand name can contain only digits, letters, and spaces. It cannot start or end with a space and can contain a maximum of 11 characters.

Step 4 Click **OK**.

----End

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2.11.3 Configuring M365 Applications

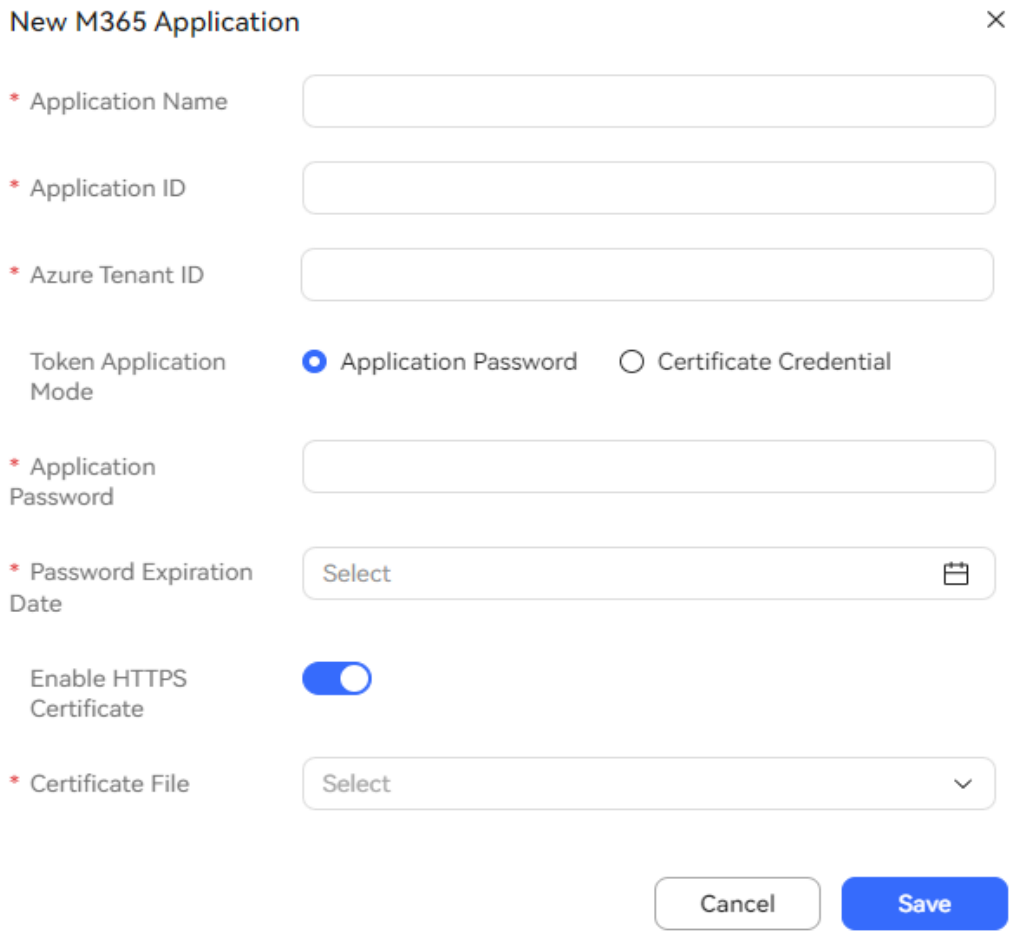
You can configure an application template of the M365 channel.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **M365 Application Configuration**.

Step 2 Click **New** to add an application.

Figure 2-576 Creating an application



- **Application Name**: Enter a customized application name.
- **Azure Tenant ID**: Contact O&M personnel to obtain the directory (tenant) ID in the Microsoft Azure account applied for and configured during email channel access.
- **Application ID**: Contact O&M personnel to obtain the application (client) ID in the Microsoft Azure account applied for and configured during email channel access.
- **Token Application Mode**: Select a value based on the M365 configuration. The options are **Application Password** and **Certificate Credential**.

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- **Application Password**: This parameter is mandatory only when **Token Application Mode** is set to **Application Password**. Contact O&M personnel to obtain the client password in the Microsoft Azure account applied for and configured during email channel access.
- **Password Expiration Date**: This parameter is mandatory only when **Token Application Mode** is set to **Application Password**. Contact O&M personnel to obtain the expiration date of the client password configured in the Microsoft Azure account applied for and configured during email channel access.
- **Public Key Certificate File**: This parameter is mandatory only when **Token Application Mode** is set to **Certificate Credential**. Contact O&M personnel to obtain the public key certificate file exported from the Microsoft Azure account applied for and configured during email channel access. Before selecting a file, sign in to the AICC as a tenant administrator, choose **Configuration Center** > **System Management** > **Certificate**, and import the file.
- **Private Key**: This parameter is mandatory only when **Token Application Mode** is set to **Certificate Credential**. Contact O&M personnel to obtain the certificate private key obtained for the Microsoft Azure account applied for and configured during email channel access.
- **Enable HTTPS Certificate**: Select whether to enable certificate verification.
- **Certificate File**: When **Enable HTTPS Certificate** is enabled, a certificate file needs to be configured. For details, see **Step 1**.

Step 3 Click **Save**.

Step 4 Click **Validate** to check whether the application configuration is correct. If the configuration is correct, the message "Verification succeeded" is displayed.

Step 5 (Optional) Select a created application template. The following operations are supported:

- Click **Delete** to delete the created application template.
- Click **Edit** to modify template parameters. For details, see **Step 2**.

----End

2.11.4 Configuring Gateways

An administrator can configure gateway parameters to implement the SMS and email notification functions.

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NOTICE

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Before deleting an SMS or email gateway, ensure that the gateway is not used by other businesses. Otherwise, the configured businesses will become invalid.

Determine the gateway application scenario based on the actual business configuration. The involved scenarios are as follows:

- Notification center: **2.11.8 Configuring Message Receiving Routes** and **2.11.9 Sending Notifications as an Administrator**
- Channel configuration: **2.5.6 Configuring the Email Channel** and **2.5.9 Configuring the SMS Channel**
- One-click trial use on Huawei Cloud: automatic email sending and automatic SMS message sending
- Intelligent IVR: **2.7.8 Warning Condition**

2.11.4.1 Configuring SMS Gateways

An administrator can configure SMS gateways to send and receive SMS messages.

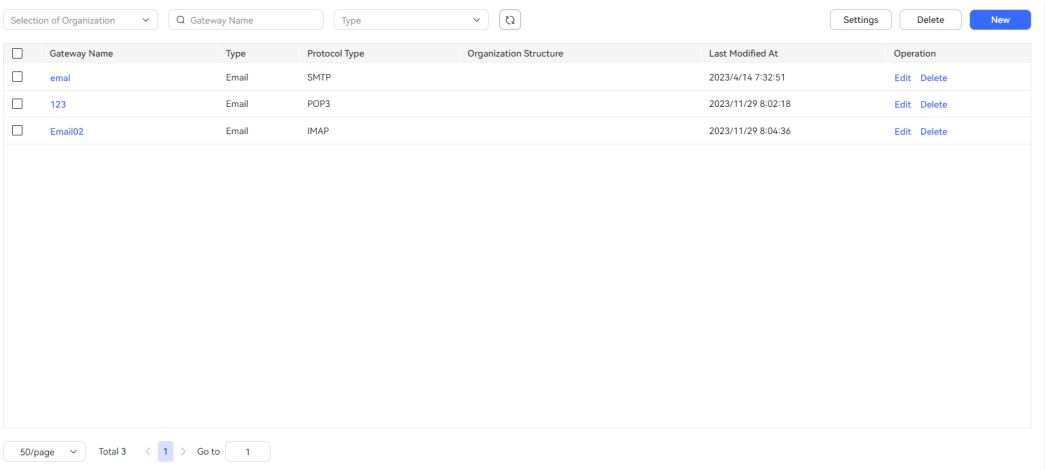
Context

If the user password for connecting to the SMS gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Message protocol parameters** tab, and enter the new login password.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**.

Figure 2-577 Gateway Configuration



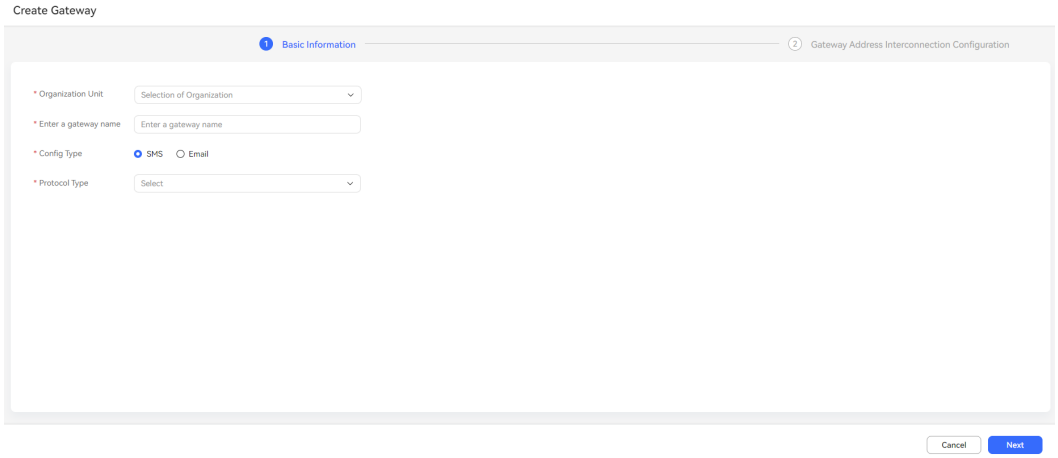
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Organization Structure: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
  - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
- After the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

Step 2 Click **New**. The **Create Gateway** page is displayed.

Figure 2-578 Create Gateway - Basic Information



Organization Unit: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

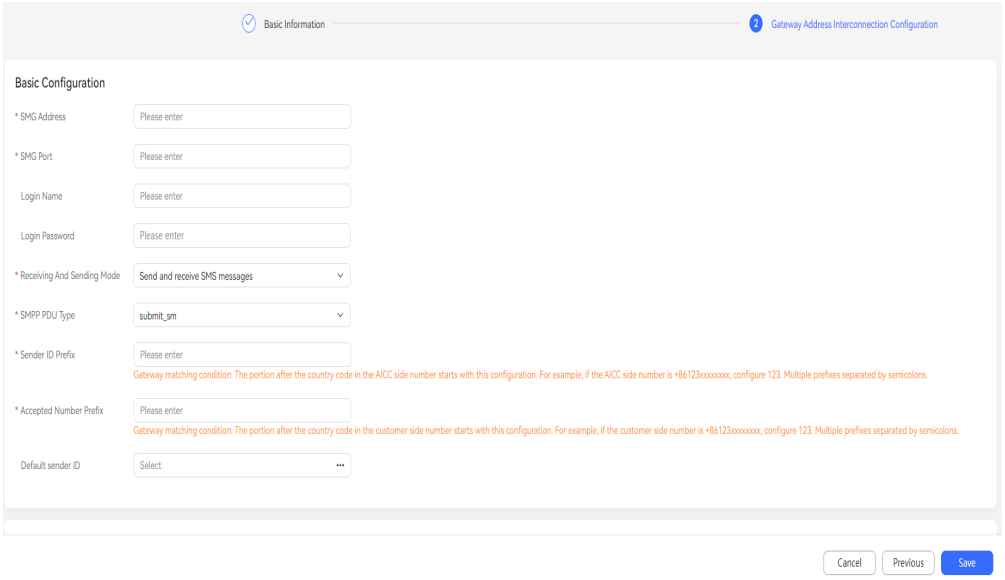
- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
  - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
- After the preceding tenant parameter is set to **No**, the **Organization Unit** parameter is not displayed.

Step 3 After basic information is configured, click **Next**. The **Gateway Address Interconnection Configuration** page is displayed.

- **Basic Configuration**: Parameters in this area are mandatory.

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Figure 2-579 Gateway Address Interconnection Configuration - Basic Configuration



- **SMG Address** (mandatory): IP address of the SMS gateway, for example, **10.10.10.10**.
- **SMG Port** (mandatory): Port number of the SMS gateway.
- **Login Name**: Account for logging in to the gateway. This parameter is optional when a gateway simulator is used.
- **Login Password**: Password for logging in to the gateway. This parameter is optional when a gateway simulator is used.
- **Receiving And Sending Mode** (mandatory): Whether the protocol device is used to send or receive SMS messages. The default value is **Send and receive SMS messages**. The options are as follows:
  - **Send and receive SMS messages**: The protocol device is used to process messages received from the SMSC and send SMS messages.
  - **Receive SMS messages**: The protocol device is used to process messages received from the SMSC.
  - **Send SMS Messages**: The protocol device is used to send SMS messages.
- **SMPP PDU Type** (mandatory): Type of the SMPP PDU used for sending SMS messages. The default value is **submit_sm**. The options are as follows:
  - **submit_sm**
  - **data_sm**
- **Sender ID Prefix** (mandatory): Prefix of the number segment configured on the gateway for which SMS messages can be sent. The value can contain only letters and digits.

  Sender ID prefix rule: In a number in the AICC, the part following the country code starts with a sender ID prefix. For example, if the number in

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the AICC is **+86123***xxxxxxxx*, set this parameter to **123**. Use semicolons (;) to separate multiple prefixes.

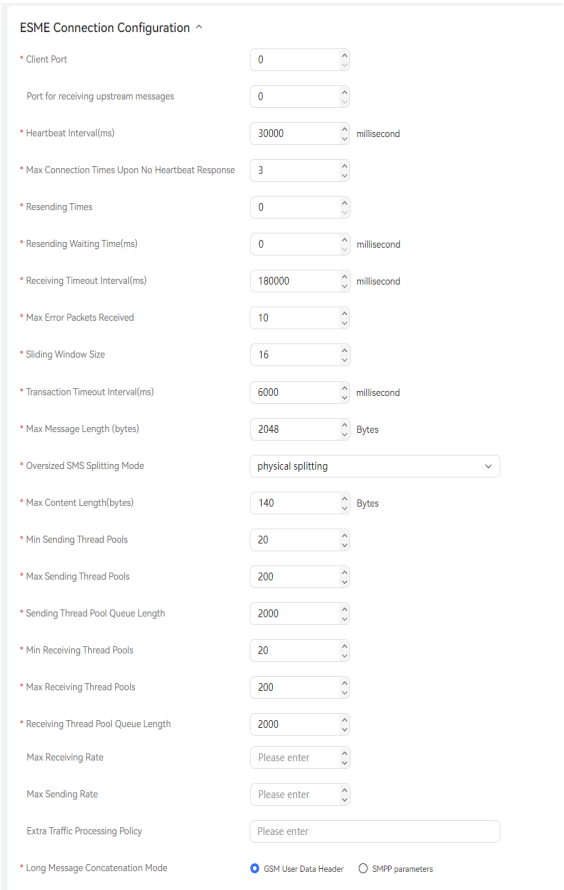
- **Accepted Number Prefix** (mandatory): Prefix of the number segment configured on the gateway for which SMS messages can be received. Value range: a number made up of digits

  Accepted number prefix rule: In a customer number, the part following the country code starts with an accepted number prefix. For example, if the customer number is **+86123***xxxxxxxx*, set this configuration item to **123**. Use semicolons (;) to separate multiple prefixes.

- **Default sender ID:** default sender ID of the gateway. The value is the ID configured in **Configuring SMS Message Sender IDs**.

- **ESME Connection Configuration**: Parameters in this area are set by default and can be modified as required.

Figure 2-580 Gateway Address Interconnection Configuration - ESME Connection Configuration



- **Client Port** (mandatory): Number of an unoccupied port for the CC-Notification server. The port number is used to connect to the SMS gateway. If the client port needs to be specified for the SMS gateway, set this parameter. The value ranges from 0 to 65535.

  The default value is **0**, indicating that the CC-Notification randomly allocates a port number.

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- **Port for receiving upstream messages**: Port number for receiving MO messages. The value ranges from 0 to 65535.

  The default value is **0**, indicating that the CC-Notification automatically allocates a port number.

- **Heartbeat Interval(ms)**: Interval for sending heartbeat messages to the SMS gateway to maintain the persistent connection between the CC-Notification and SMS gateway. This parameter specifies the interval for sending heartbeat messages. The value is a number of 1 to 10 digits. The value must be greater than that of **Transaction Timeout Interval(ms)** and less than that of **Receiving Timeout Interval(ms)**.

  The default value is **30000**, in milliseconds.

- **Max Connection Times Upon No Heartbeat Response**: Maximum number of consecutive heartbeat response failures. When this value is exceeded, the CC-Notification disconnects from the gateway. The value is a number of 0 to 5 digits.

  The default value is **3**.

- **Resending Times**: Maximum number of resending times. After the CC-Notification sends a heartbeat message, if the CC-Notification does not receive a heartbeat response within the transaction timeout interval, the CC-Notification waits for a period of time (specified by **Resending Waiting Time(ms)**) and then resends the heartbeat message. The value is a number of 0 to 10 digits.

  The default value is **0**.

- **Resending Waiting Time(ms)**

  Interval for resending an SMS message after the CC-Notification receives an SMS message sending failure response from the SMS gateway. The value is a number of 0 to 10 digits.

  The default value is **0**.

- **Receiving Timeout Interval(ms)** (mandatory): Maximum duration for allowing no data transmission after an SMS device connects to the gateway. If the SMS device does not receive data from the peer device within this duration, automatic disconnection occurs. The value is a number of 1 to 10 digits. The value must be greater than those of **Heartbeat Interval(ms)** and **Transaction Timeout Interval(ms)**. To prevent invalid connections, do not set this parameter to **0**.

  The default value is **180000**.

- **Max Error Packets Received**: Number of error packets consecutively received by a device. If this value is reached, the link is faulty and will be disconnected. The value is a number of 0 to 10 digits.

  The default value is **10**.

- **Sliding Window Size** (mandatory): Instantaneous concurrent processing capability of the CC-Notification. This parameter is used to limit the number of messages sent by the CC-Notification, preventing errors that may occur on the SMSC due to great pressure. The value is a number of 2 to 5 digits.

  The default value is **16**. Generally, set this parameter to a multiple of 16.

- **Transaction Timeout Interval(ms)**: Maximum duration for an SMS device to wait for a response from the peer device after sending a

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message. If the peer device does not respond within this duration, the SMS device does not wait any longer. The value is a number of 0 to 10 digits. The value must be less than those of **Heartbeat Interval(ms)** and **Receiving Timeout Interval(ms)**.

The default value is **6000**, in milliseconds.

- **Max Message Length (bytes)** (mandatory): Maximum message length specified by the protocol. The value is a number of 1 to 5 digits.

  The default value is **2048**, in bytes.

- **Oversized SMS Splitting Mode** (mandatory): Mode of splitting an SMS message when the message content length exceeds the value of **Max Content Length (bytes)**. The options are as follows:

  - **disabled**: A long SMS message is not sent, and an exception is reported on the CC-Notification.
  - **not split**: The system directly sends an SMS message without checking whether it is too long.
  - **physical splitting**: A long SMS message is segmented into multiple independent SMS messages based on the value of **Max Content Length(bytes)**.
  - **ultra-long split**: A long SMS message is split into several continuous SMS messages, that is, the system adds the combination control information to each sub-message. Terminals that support continuous SMS messages can combine the sub-messages into a complete SMS message.

  The default value is **disabled**.

- **Max Content Length(bytes)** (mandatory): Maximum message content length specified by the protocol. A long SMS message is split based on the value of this parameter. The value is a number of 1 to 5 digits.

  The default value is **140**, in bytes.

- **Min Sending Thread Pools** (mandatory): Minimum number of threads that start in the thread pool when the protocol stack is used to send messages. The value is a number of 1 to 5 digits.

  The default value is **20**.

- **Max Sending Thread Pools** (mandatory): Maximum number of threads that start in the thread pool when the protocol stack is used to send messages. The value is a number of 1 to 5 digits.

  The default value is **200**.

- **Sending Thread Pool Queue Length** (mandatory): Length of the thread queue to be processed in the sending thread pool. The value is a number of 1 to 5 digits.

  The default value is **2000**.

- **Min Receiving Thread Pools** (mandatory): Minimum number of state report receiving threads. Set this parameter by referring to the settings of the sending thread pool, but the values can be different. The value is a number of 1 to 5 digits.

  The default value is **20**.

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- **Max Receiving Thread Pools** (mandatory): Maximum number of state report receiving threads. The value is a number of 1 to 5 digits.

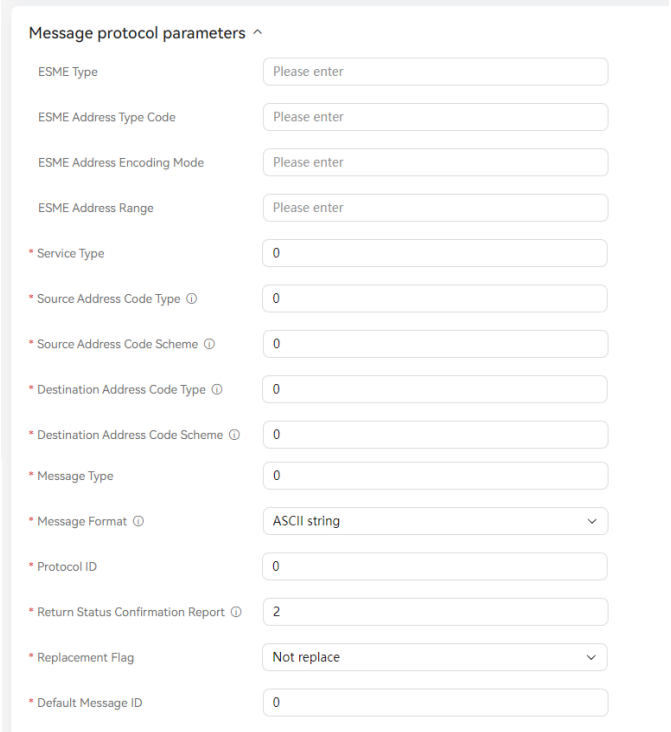
  The default value is **200**.
- **Receiving Thread Pool Queue Length** (mandatory): State report receiving thread queue length. The value is a number of 1 to 5 digits.

  The default value is **2000**.
- **Max Receiving Rate**: Maximum rate at which messages are received using a protocol. The value can be empty or a positive integer. If the value is empty, the values of **Max Sending Rate** and **Extra Traffic Processing Policy** must also be empty.
- **Max Sending Rate**: Maximum rate at which messages are sent using a protocol. The value can be empty or a positive integer. If the value is empty, the values of **Max Receiving Rate** and **Extra Traffic Processing Policy** must also be empty.
- **Extra Traffic Processing Policy**: Policy for sending messages when the traffic exceeds the threshold. The value can be empty or a positive integer. If the value is empty, the values of **Max Receiving Rate** and **Max Sending Rate** must also be empty.
- **Long Message Concatenation Mode** (mandatory): Mode of combining long SMS messages. The options are **GSM User Data Header** and **SMPP parameters**.

  The default value is **GSM User Data Header**.

- **Message protocol parameters**: Parameters in this area are set by default and can be modified as required.

Figure 2-581 Gateway Address Interconnection Configuration - Message protocol parameters



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- **ESME Type**: External short message entity (ESME) type. The value can contain a maximum of 13 characters.

  For details, see the description of the **system_type** field in the bind message of the SMPP protocol.
- **ESME Address Type Code**: Address type ID of the extended SMS message entity. The value is a positive integer less than 2^8.

  For details, see the description of the **addr_ton** field in the bind message of the SMPP protocol.
- **ESME Address Encoding Mode**: Address encoding mode of the extended SMS message entity. The value is a number of 0 to 10 digits.

  For details, see the description of the **addr_npi** field in the bind message of the SMPP protocol.
- **ESME Address Range**: Address encoding mode of the extended SMS message entity. The value can contain a maximum of 15 characters.

  For details, see the description of the **address_range** field in the bind message of the SMPP protocol.
- **Service Type**: Type of the SMS application service specified by the gateway. The value can contain a maximum of 500 characters.

  For details, see the description of the **service_type** field in the submit_sm/data_sm message of the SMPP protocol.
- **Source Address Code Type** (mandatory): Type of the code in the source address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **source_addr_ton** field in the submit_sm/data_sm message of the SMPP protocol.
- **Source Address Code Scheme** (mandatory): Scheme of the code in the source address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **source_addr_npi** field in the submit_sm/data_sm message of the SMPP protocol.
- **Destination Address Code Type** (mandatory): Type of the code in the destination address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **dest_addr_ton** field in the submit_sm/data_sm message of the SMPP protocol.
- **Destination Address Code Scheme** (mandatory): Scheme of the code in the destination address in SMPP SubmitMessage. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **dest_addr_npi** field in the submit_sm/data_sm message of the SMPP protocol.
- **Message Type** (mandatory): Message type. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **esm_class** field in the submit_sm/data_sm message of the SMPP protocol.

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- **Message Format** (mandatory): SMS message encoding mode. The options are as follows:
  - **ASCII string**: ASCII string in which one character occupies one byte
  - **binary information**
  - **UCS2 encoding**: ISO/IEC-10646 in which one character occupies two bytes

  The default value is **ASCII string**.
- **Protocol ID** (mandatory): GSM protocol ID. The value is a number of 1 to 10 digits.

  The default value is **0**. For details, see the description of the **data_coding** field in the submit_sm message of the SMPP protocol.
- **Return Status Confirmation Report** (mandatory): State reports to be returned. The options are as follows:
  - **0**: No state report is received.
  - **1**: Success and failure state reports are returned.
  - **2**: Failure state reports are returned.

  The default value is **2**.
- **Replacement Flag** (mandatory): Whether to replace the existing SMS messages whose source addresses and destination addresses are the same. The options are **Not replace** and **Replace**.

  The default value is **Not replace**.
- **Default Message ID** (mandatory): ID of a predefined SMS message. It is the index of a predefined SMS message created by the administrator of the message center. The value can contain a maximum of 500 characters.

  The default value is **0**. For details, see the description of the **sm_default_msg_id** field in the submit_sm message of the SMPP protocol.

Step 4 After gateway interconnection information is configured, click **Save**.

----End

Follow-up Procedure

- Rebuild a gateway.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Rebuilding**.
- Disconnect a gateway that fails to be connected.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Disconnected**.

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2.11.4.2 Configuring Email Gateways

An administrator can configure gateways to enable the AICC to send and receive emails.

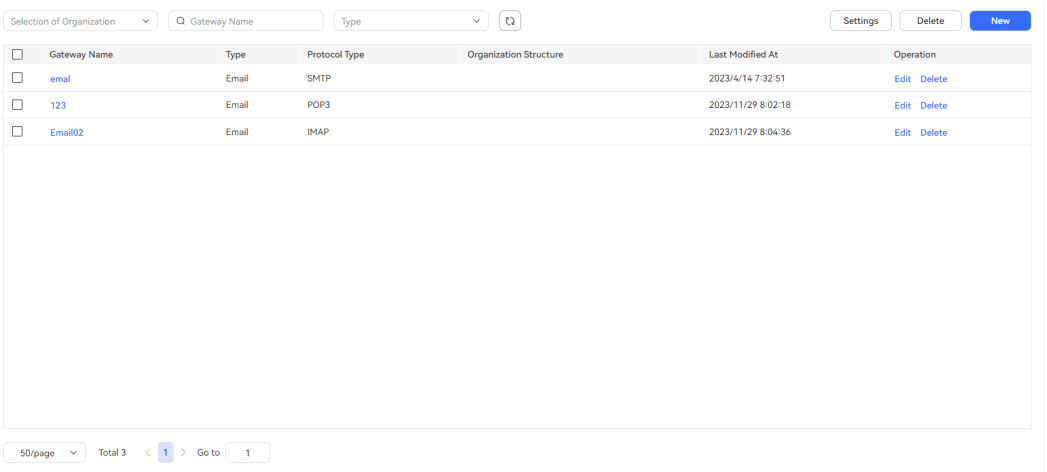
Context

If the user password for connecting to the email gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Gateway Address Interconnection Configuration** tab, and enter the new user password.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**.

Figure 2-582 Gateway Configuration



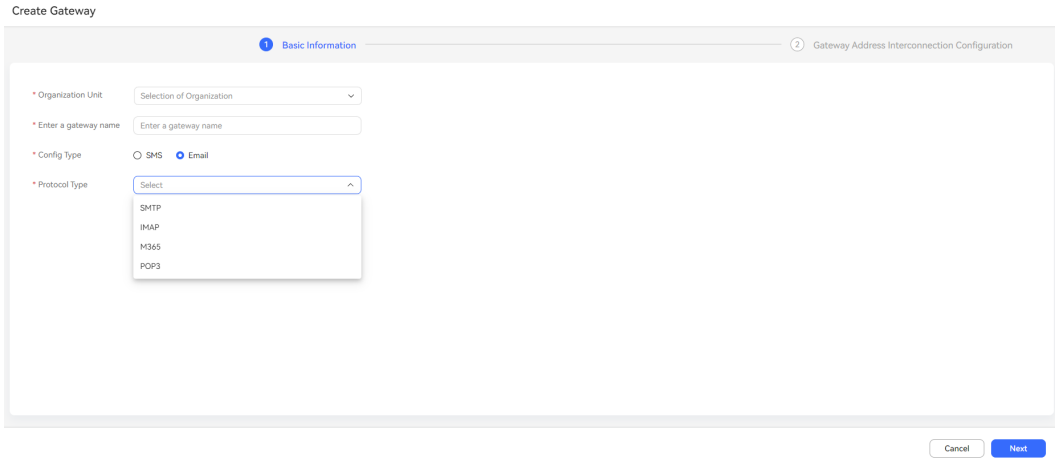
Organization Structure: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
  - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
- After the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

Step 2 Click **New**. The **Create Gateway** page is displayed.

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Figure 2-583 Create Gateway - Basic Information

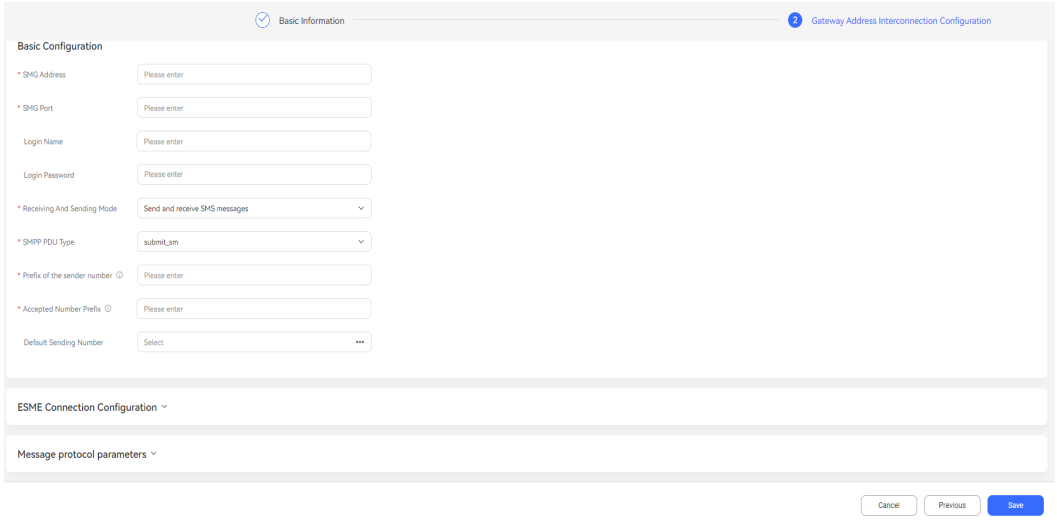


- **Organization Unit**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
    - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
    - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
  - After the preceding tenant parameter is set to **No**, the **Organization Unit** parameter is not displayed.
- **Enter a gateway name**: Enter a customized gateway name. The value can contain a maximum of 10 characters, including only digits and letters.
- **Config Type**: Select **Email**.
- **Protocol Type**: Select **SMTP**, **POP3**, or **IMAP**.

Step 3 After basic information is configured, click **Next**. The **Gateway Address Interconnection Configuration** page is displayed.

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Figure 2-584 Gateway Address Interconnection Configuration



- **Host** (mandatory): Address of the email server, for example, **10.10.10.1** or **www.****.com**.
- **User ID**: Username for logging in to the email server. The value can contain a maximum of 500 characters.
- **User Password**: Password for logging in to the email server. The value can contain a maximum of 64 characters.
- **Default Email Address**: Default email address for sending emails.
- **Default User Name**: Default username for sending emails. After this parameter is set, the username is displayed in front of the email address when an agent sends an email through the email channel on the text chat workbench. The username is not displayed when an email is sent using the notification sending function of the notification center.
- **Authentication Flag**: Whether the email address requires password authentication. The options are **True** and **False**. The default value is **True**.

  CAUTION

  False may cause security risks. **True** is recommended to enable password authentication.

- **Encoding Mode**: Email encoding mode. The default value is **UTF-8**.
- **Port**: Host port number. Contact the O&M personnel of the email server.
- **Encryption Mode**: Email encryption mode. The options are as follows:
  - **NONE**: Data is transmitted in plaintext.
  - **TLS**: TLS is used to create a secure connection between two applications through the network to prevent data from being intercepted or tampered with during data exchange.
  - **STARTTLS**: STARTTLS is an extension of plaintext communication protocols, which offers a way to upgrade a plaintext connection to an encrypted (using TLS or SSL) connection instead of using a separate port for encrypted communication. STARTTLS uses opportunistic encryption.

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> **CAUTION**
>
> **NONE** indicates that data is transmitted in plaintext, which may cause information leakage.
>
> **STARTTLS** is an insecure protocol, which may cause security risks. TLS is recommended.
>
> **TLS** indicates TLSv1.2 by default.

- **Certificate File**: Certificate file. This parameter is mandatory when **Encryption Mode** is set to **TLS** or **STARTTLS**. For details about how to manage certificates, see **Managing Certificates**.
- Case sensitivity: Select whether the email address is case sensitive. By default, it is case insensitive. The sender's email address is in lowercase when the CC-Notification receives emails and sends MO messages.

Step 4 After gateway interconnection information is configured, click **Save**.

----End

Follow-up Procedure

- Rebuild a gateway.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Rebuilding**.
- Disconnect a gateway that fails to be connected.
  a. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
  b. Click **Disconnected**.

2.11.4.3 Configuring M365 Email Gateways

An administrator can configure M365 email gateways to send and receive M365 emails.

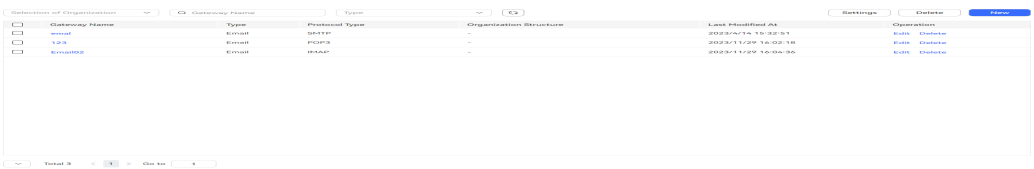
Prerequisites

The M365 application has been configured. For details, see **2.11.3 Configuring M365 Applications**.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**.

Figure 2-585 Gateway Configuration page



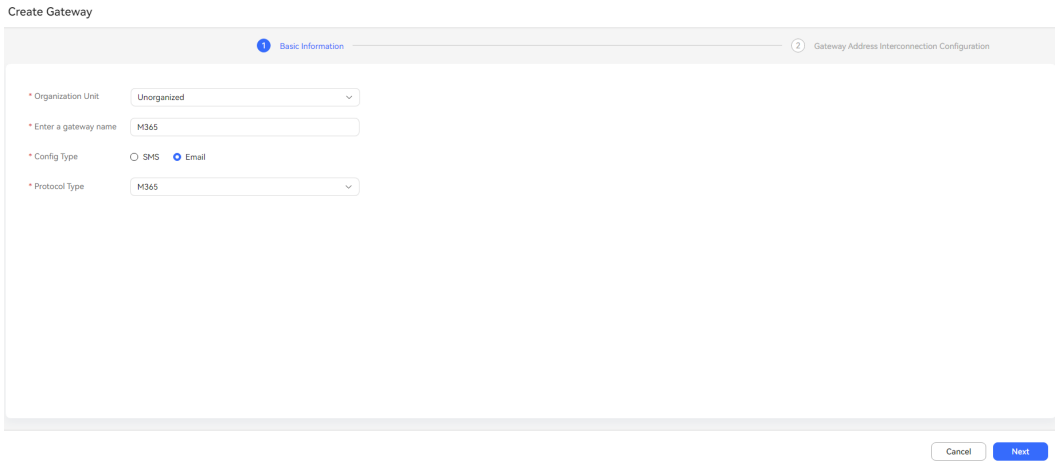
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Organization Structure: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, use either of the following methods to configure the OU data scope based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the role configured for the current account.
  - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.
- After the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

Step 2 Click **New**. The **Create Gateway** page is displayed.

Figure 2-586 Create Gateway - Basic Information

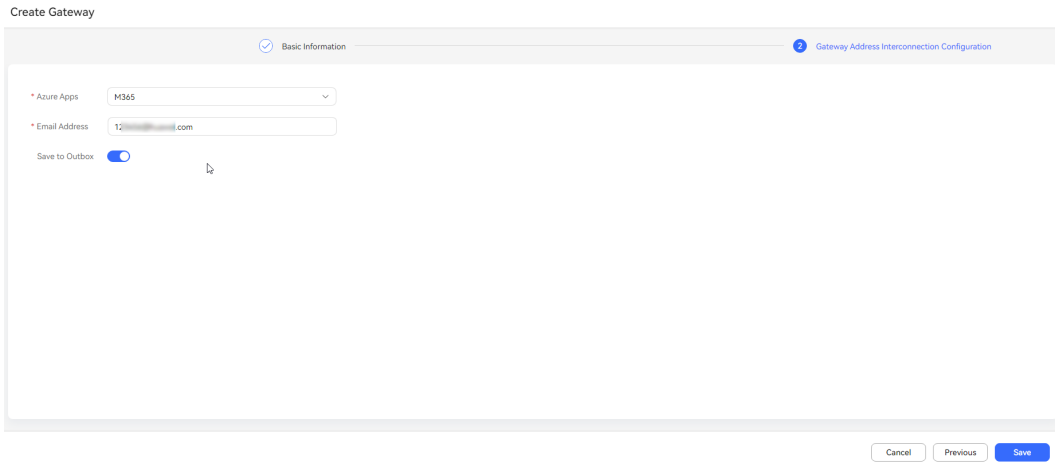


- **Organization Unit**: Select an OU to which an M365 email gateway belongs.
- **Enter a gateway name**: Enter a customized gateway name. The value can contain a maximum of 10 characters, including only digits and letters.
- **Config Type**: Select **Email**.
- **Protocol Type**: Select **M365**.

Step 3 After basic information is configured, click **Next**. The **Gateway Address Interconnection Configuration** page is displayed.

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Figure 2-587 Gateway Address Interconnection Configuration

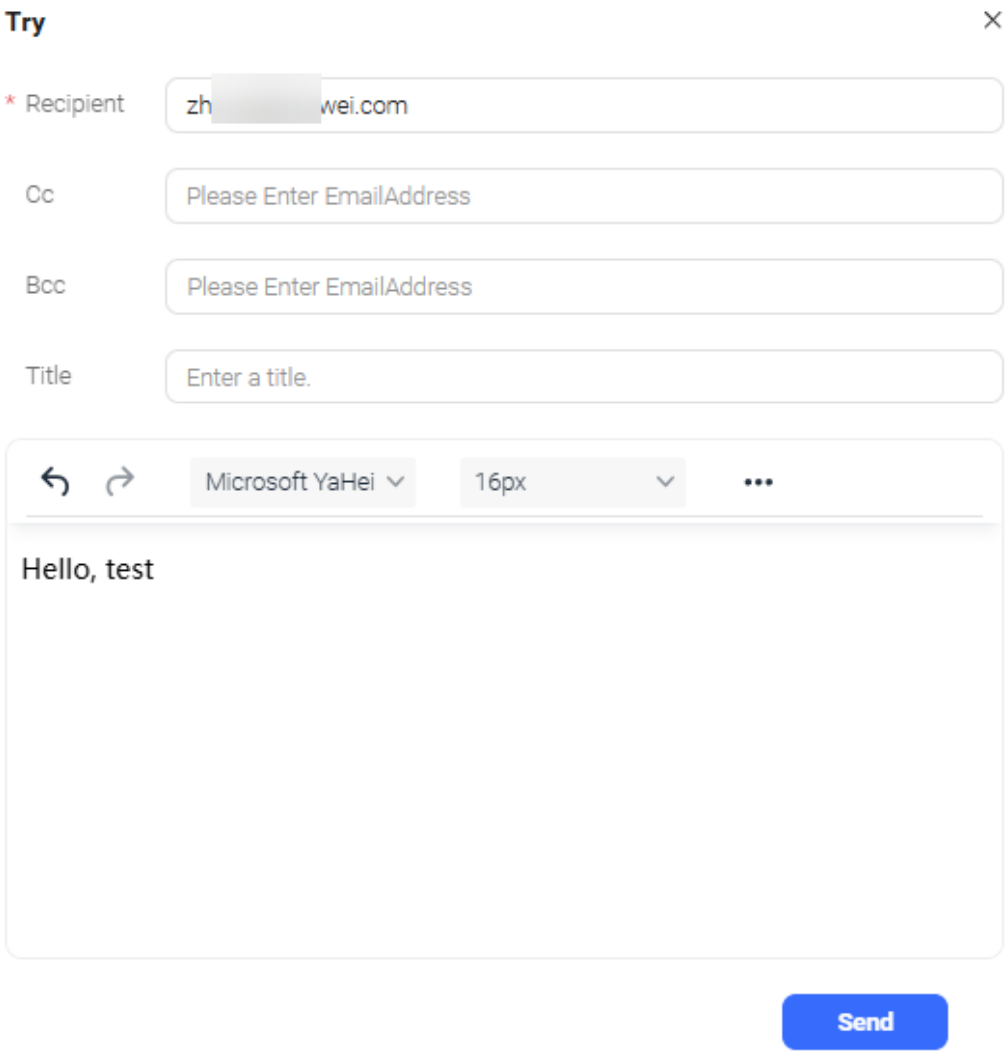


- **Azure Apps**: Select the configured M365 application template. For details, see **2.11.3 Configuring M365 Applications**.
- **Email Address**: Enter the email address of the recipient.
- **Save to Outbox**: Select whether to save the email to the outbox.
  - Enabled: Emails sent through the email address are saved to the outbox of the email server.
  - Disabled: Sent emails are not saved.

Step 4 After gateway interconnection information is configured, click **Save**.

Step 5 You can click **Try** in the **Operation** column for the M365 gateway configuration to test whether the gateway configuration is correct. Enter the recipient email address, email title, and body, and then click **Send**. If the recipient receives the email, the gateway configuration is correct and services are normal.

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----End

2.11.4.4 Monitoring Gateways

An administrator can view the gateway status on the **Gateway Monitoring** page and perform operations such as rebuilding and disconnection.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

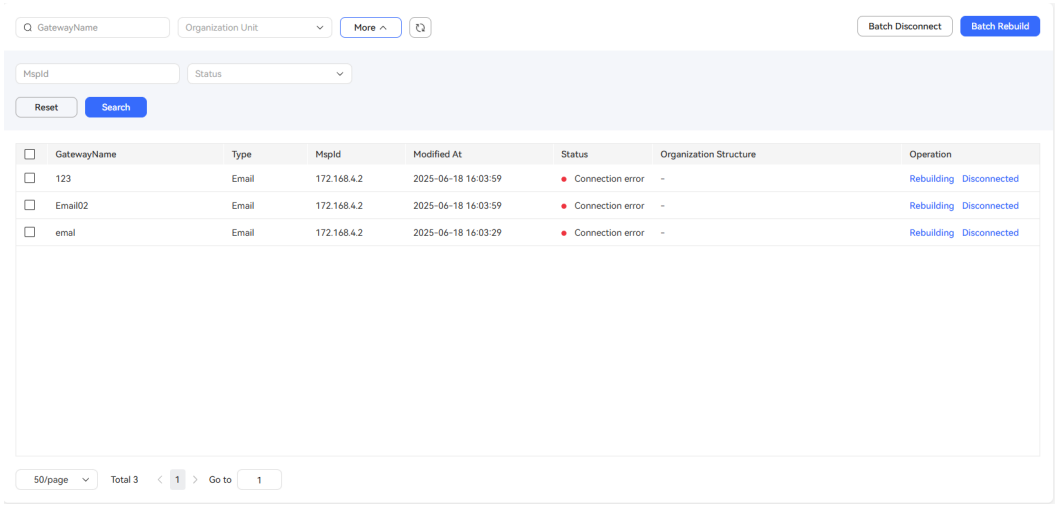
Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **System Management** > **Gateway Monitoring**.

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NOTE

Note: The M365 email gateway configuration is not displayed on the **Gateway Monitoring** page.

Figure 2-588 Gateway Monitoring page



Step 2 Set data filter criteria.

- Enter a gateway name and click to search for the gateway status based on the gateway name.
- Organization Unit:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**:
    - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

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- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
  - **Load Lower-Level Data**: If this option is selected, you can select the selected OU and its sub-OUs for **Gateway Name**.

    NOTE

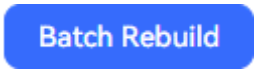
    Before using this parameter, ensure that all the following conditions are met:
    - The **Whether to enable the capability to load and query lower-level data** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
    - Relevant OU permissions have been configured. Either of the following is acceptable:
      - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
      - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– If the preceding tenant parameter is set to **No**, the **Organization Structure** parameter is not displayed.

- Click **More** to expand advanced search criteria. Set **Mspld** and **Status**, and click **Search** to filter detailed data.
- Click  to refresh real-time data or search for data based on filter criteria.

Step 3 Configure the gateway connection status.

- Select multiple gateways in **Connection error** state and click 

to disconnect them in batches.
- Select multiple gateways and click 

to rebuild them in batches.
- Click **Disconnected** or **Rebuilding** in the **Operation** column corresponding to a gateway to update its connection status.

----End

2.11.4.5 Setting Notification Configuration

An administrator sets the country code, SMS message sender number, and gateway data threshold in notification settings to control data.

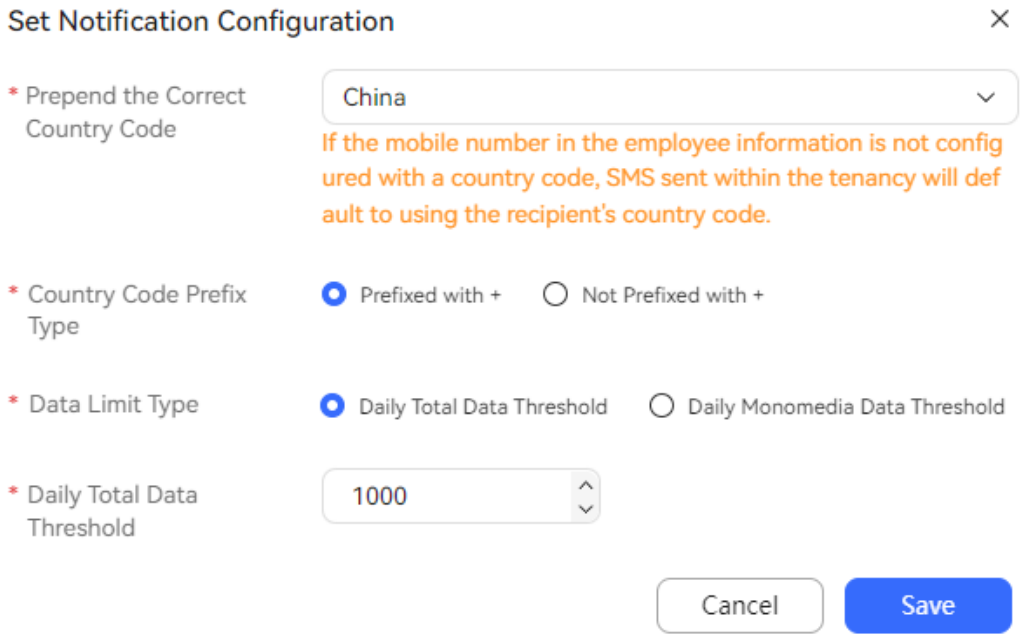
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Procedure

Step 1 Sign in to the AICC as an administrator, choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, and click **Settings**.

Step 2 Set notification configuration.

Figure 2-589 Set Notification Configuration



- **Recipient Country Code**: Select the country where recipients are located.
- **Country Code Prefix Type**: Determine whether to add the plus sign (+) before the notification sender number when sending an SMS notification.
- **Data Limit Type**: Select a notification data limit type. The options are **Daily Total Data Threshold** and **Daily Monomedia Data Threshold**.
- **Daily Total Data Threshold**: Set the maximum number of notifications, including SMS messages and emails, that all gateways can send in a day. The value ranges from 1 to 1000000. Set this parameter when **Data Limit Type** is set to **Daily Total Data Threshold**.
- **Daily Data Threshold For SMS Messages**/**Daily Data Threshold For Emails**: Set the maximum number of notifications that SMS or email gateways can send in a day. The value ranges from 1 to 1000000. Set these parameters when **Data Limit Type** is set to **Daily Monomedia Data Threshold**.

NOTE

If the current page cannot be edited, contact the administrator to add the corresponding operation permission.

Step 3 Click **Save**.

----End

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2.11.5 Configuring Notification Variables

After an administrator configures notification variables, these variables can be used for configuring a notification template, and can be applied when the notification template is used to send notifications.

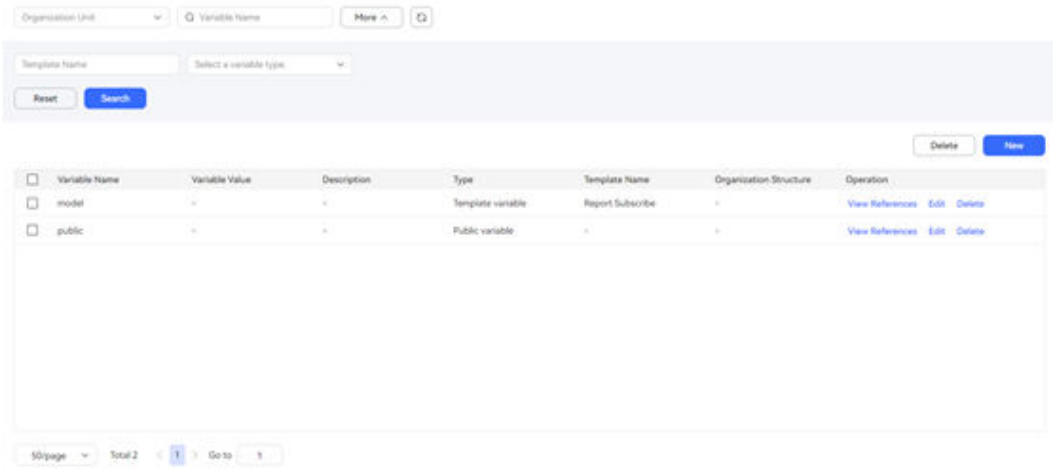
Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Variables**.

Figure 2-590 Notification Variables



Organization Unit: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
  - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

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- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

– Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
– The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
– Operations supported for OU selection:

- **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
- **Load Lower-Level Data**: If this option is selected, you can select the selected OU and its sub-OUs for **Variable Name**.

  NOTE

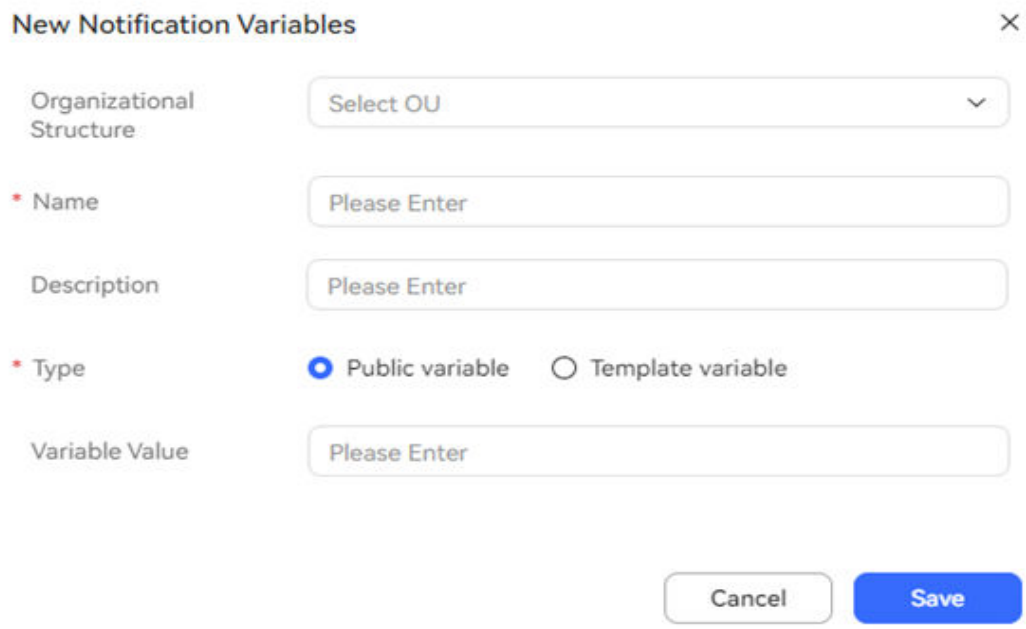
  Before using this parameter, ensure that all the following conditions are met:

  - The **Whether to enable the capability to load and query lower-level data** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
  - Relevant OU permissions have been configured. Either of the following is acceptable:
    - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
    - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.

- If the preceding tenant parameter is set to **No**, the **Organization Unit** parameter is not displayed.

Step 2 Click **New**.

Figure 2-591 New Notification Variables



- **Organizational Structure**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

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  - If the preceding tenant parameter is set to **No**, the **Organization Unit** parameter is not displayed.
- **Name** (mandatory): Enter a customized name. The value can contain a maximum of 100 characters, including only letters, digits, underscores (_), and periods (.).
- **Description**: Enter a variable description. The value can contain a maximum of 200 characters.
- **Type**
  - **Template variable**: If a variable is unique to a template, select this value.
  - **Public variable**: If a variable can be used by all templates, select this value.
- **Variable Value**: Enter a default value. The value can contain a maximum of 500 characters, including only letters, digits, spaces, and the following special characters: -;@.

Step 3 Click **Save**.

Step 4 Click **View References** corresponding to the new notification variable to view notification templates that reference the variable.

Figure 2-592 View References



Step 5 (Optional) You can perform the following operations on the new notification variable:

- Click **Edit** to modify the notification variable information. The variable name and type cannot be modified.
- Click **Delete** to delete the notification variable. Variables that have been referenced by templates cannot be deleted.

----End

2.11.6 Managing Email Signatures

After a tenant administrator adds an email signature, enables the email signature switch, and selects the email signature during email channel configuration, the configured email signature is carried when an agent replies to or forwards an email. This section describes how to add an email signature.

Context

- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- Before deleting an email signature, ensure that the email signature is not used by other businesses. Otherwise, the configured businesses will become invalid.

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- Determine the email signature application scenario based on the actual business configuration. The involved scenario is as follows:

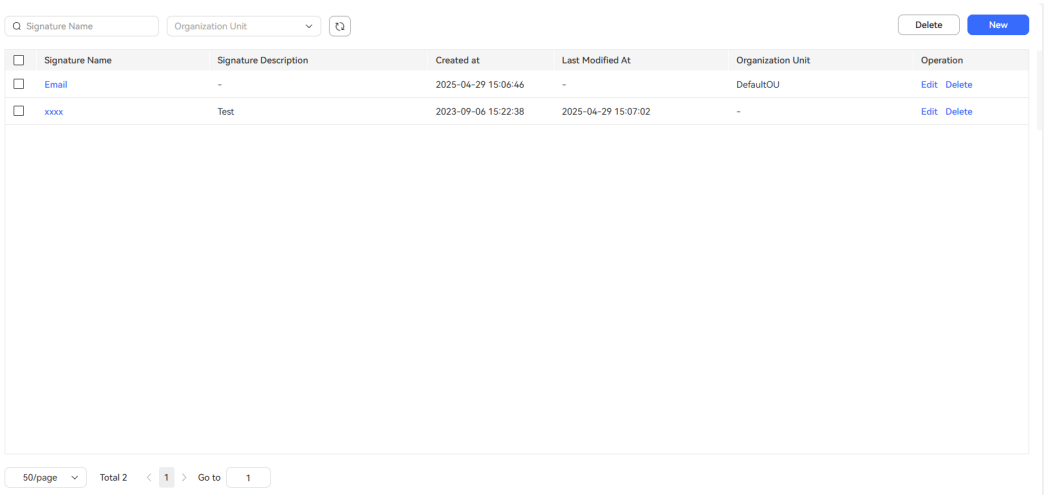
  Channel configuration: **2.5.6 Configuring the Email Channel**

- If an agent configures a personalized email signature in **Personal Center**, the email signature configured by a tenant administrator does not take effect. The signature priority is as follows: agent signature > tenant signature.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Email Signature**.

Figure 2-593 Email Signature



Organization Unit: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the parameter is set to **Yes**:
  - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.

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- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

– Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

– Operations supported for OU selection:

- **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
- **Load Lower-Level Data**: If this option is selected, you can select the selected OU and its sub-OUs for **Signature Name**.

  NOTE

  Before using this parameter, ensure that all the following conditions are met:

  - The **Whether to enable the capability to load and query lower-level data** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
  - Relevant OU permissions have been configured. Either of the following is acceptable:
    - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
    - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.

– The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

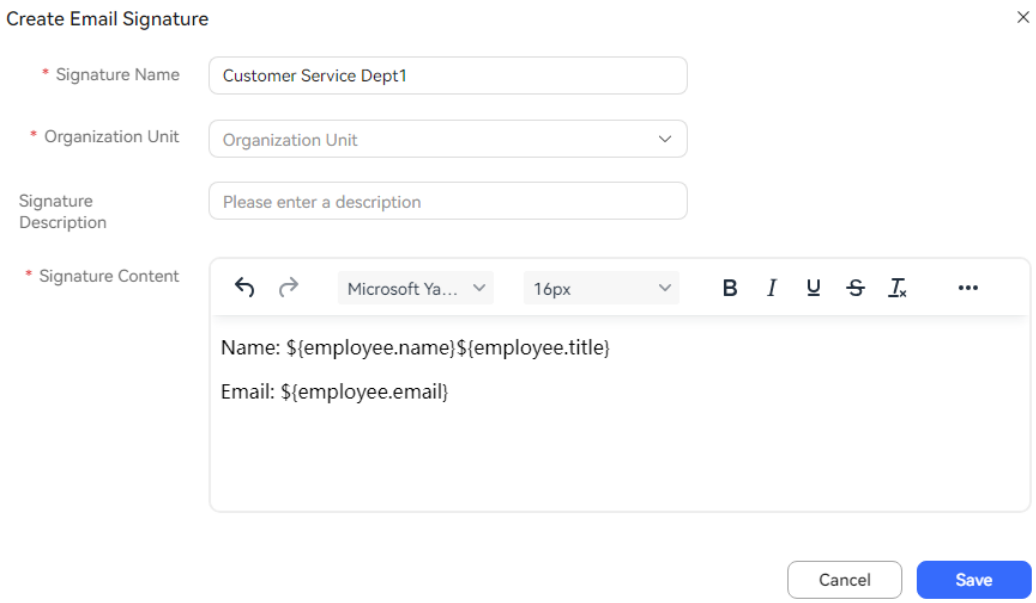
- If the parameter is set to **No**, the **Organization** parameter is not displayed.

Step 2 Click **New**. The page for creating an email signature is displayed.

Step 3 Configure an email signature.

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Figure 2-594 Creating an email signature



Signature Name: This parameter is mandatory. The signature name must be unique in the tenant space, and cannot contain **eval**, **exec**, or the following special characters: <=>/\"

Organization Unit: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

- After the parameter is set to **Yes**:

  For accounts without the **View All Organization Data** permission in **System Public Permissions**:

  - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

    NOTE

    If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

  - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
  - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- If the parameter is set to **No**, the **Organization** parameter is not displayed.

Signature Content

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- : Undo an operation.
- : Redo an operation.
- Microsoft YaHei : Select a font. The default value is **Microsoft YaHei**.
- 16px : Select a font size. The default value is **16px**.
- : Mark content in bold.
- : Mark content in italics.
- : Add an underscore (_).
- : Add a strikethrough.
- : Clear formatting.
- : Set the font color.
- : Set the background color.
- : Insert a table.
- : Insert an image.
- : Align content on the left.
- : Align content in the center.
- : Align content on the right.
- : Justify content.
- Insert Variable : Insert a variable. When a signature with a variable is used, the variable in the signature is replaced with the actual user information. The available variables are as follows:
  - **User Name**: **${employee.name}**
  - **User email address**: **${employee.email}**
  - **User Position**: **${employee.title}**

Step 4 After the configuration is complete, click **Complete** to create and save the email signature.

Step 5 (Optional) Click **Edit** or **Delete** in the **Operation** column corresponding to an email signature to edit or delete it.

(Optional) Select one or more email signatures and click **Delete** to delete them in batches.

----End

2.11.7 Configuring Notification Templates as an Administrator

An administrator can configure notification templates to reference when sending common notifications.

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NOTICE

Before deleting an SMS or email notification template, ensure that the template is not used by other businesses. Otherwise, the configured businesses will become invalid.

Determine the notification template application scenario based on the actual business configuration. The involved scenarios are as follows:

- Agent monitoring and inspection: **4.3.1.3 Configuring Report Subscription**
- Intelligent outbound call: SMS template referenced during outbound call task creation in **2.13.2.6 Creating Outbound Call Templates** and **2.13.3 Managing Outbound Call Tasks**
- Configuration center: conference link SMS template in **2.3.3.2 Configuring Satisfaction Surveys** and **2.17.3 Setting Tenant Parameters**
- Agent workbench: notification sending on the voice and video workbench (**3.8.7 Sending Notifications**), conference link SMS message sending, and notification sending on the contact details page of a contact record.
- One-click trial use on Huawei Cloud: automatic email sending and automatic SMS message sending
- Robot management: SMS message diagram element and SMS template referenced during outbound call risk monitoring

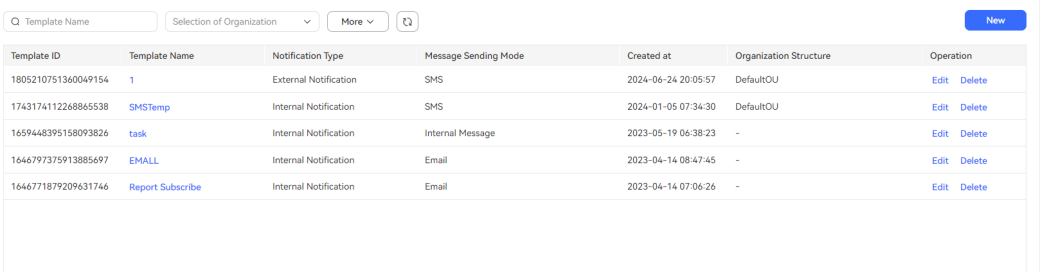
Prerequisites

- Variables can be inserted into notification templates. You can configure some variables in advance. For details, see **2.11.5 Configuring Notification Variables**.
- An administrator can directly reference configured notification templates when sending notifications.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Template**.

Figure 2-595 Notification Template



Organization Structure: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

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- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
  - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
  - Operations supported for OU selection:
    - **Include Sub-Organizations**: When this option is selected, the selected OUs and their sub-OUs are selected by one click.
    - **Load Lower-Level Data**: If this option is selected, you can select the selected OU and its sub-OUs for **Template Name**.

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NOTE

Before using this parameter, ensure that all the following conditions are met:

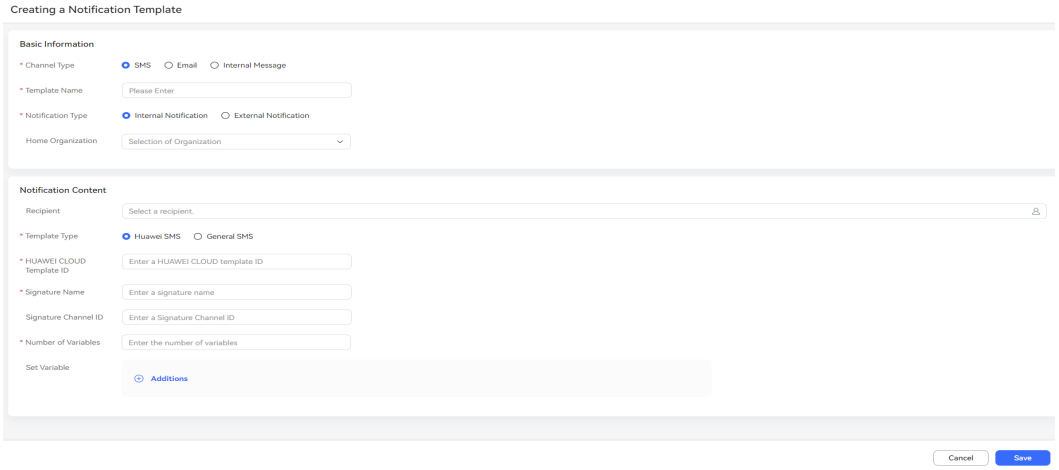
- The **Whether to enable the capability to load and query lower-level data** parameter has been set to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.
- Relevant OU permissions have been configured. Either of the following is acceptable:
  - When the **View All Organization Data** permission under **System Public Permissions** has been granted, select an OU which is not at the lowest level.
  - When the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, select the home OU to which the current account belongs or its sub-OU, and ensure that the selected OU is not at the lowest level.

- If the tenant parameter is set to **No**, all OUs can be selected.

Step 2 Create an SMS notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

Figure 2-596 Creating a Notification Template - SMS



2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters and cannot contain special characters. The template name must be unique.
   - **Notification Type** (mandatory): Select a notification template type. The options are **Internal Notification** and **External Notification**.
   - **Home Organization**: This parameter is specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
     - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.

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- For accounts without the **View All Organization Data** permission in **System Public Permissions**:
  - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

    NOTE

    If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
  - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
  - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

- If the tenant parameter is set to **No**, all OUs can be selected.

3. Configure the notification content.
   - **Recipient**: Select recipients. The value can contain a maximum of 4000 characters.
   - **Template Type**: Select an SMS notification template type. The options are **Huawei SMS** and **General SMS**.
   - **HUAWEI CLOUD Template ID**, **Signature Name**, and **Signature Channel ID**: Set these parameters when **Template Type** is set to **Huawei SMS**. You need to enable and log in to Huawei Cloud, enable the SMS message sending service, and obtain the Huawei Cloud template ID, signature name, and signature channel ID.
   - **Number of Variables**: Enter a value ranging from 1 to 10. Set this parameter when **Template Type** is set to **HUAWEI CLOUD SMS Messages**.
   - **Set Variable**: Click 

to add a variable and set the following parameters:
     - **No.**: Enter a variable No. The value is a positive integer.
     - **Type**: Select a variable type. The options are **PHONE**, **DATETIME**, **CHARDIGIT**, and **MONEYTEXT**.
     - **Description**: Enter a variable description. The value can contain a maximum of 50 characters.

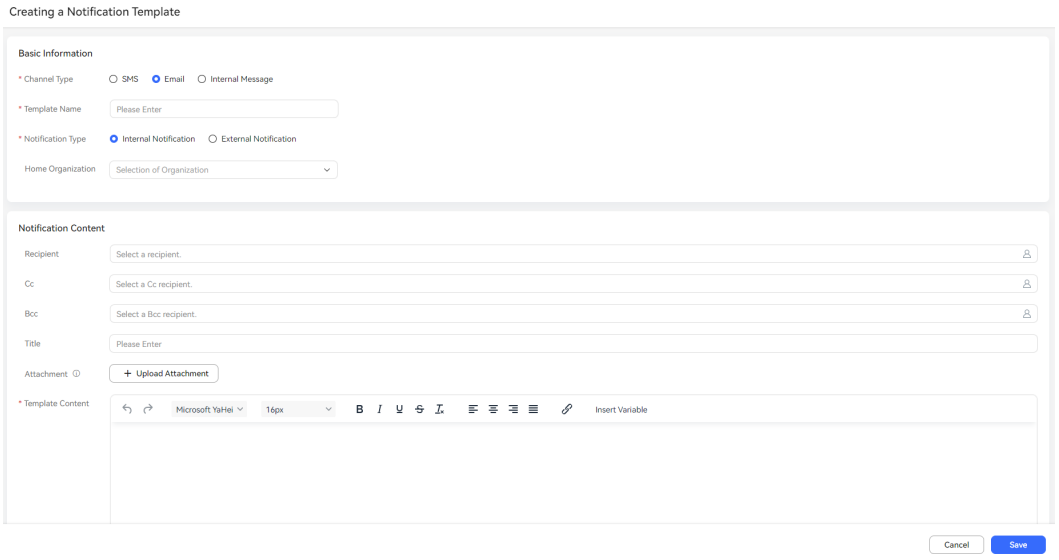
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- **Default Value**: Enter a default variable value.
  - For the **PHONE** type, the value is a number of 1 to 15 digits.
  - For the **DATETIME** type, the date format is *yyyy-MM-dd*, and the time format is *HH:mm:ss*.
  - For the **CHARDIGIT** type, the value is a string of 1 to 20 digits and letters.
  - For the **MONEY** type, the value is a number of 1 to 20 digits. Only digits and decimal points that can properly express the amount can be passed.
  - For the **TEXT** type, the value is a string of 1 to 20 characters and cannot contain the following special characters: .{}

Step 3 Create an email notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

Figure 2-597 Creating a Notification Template - Email



2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters and cannot contain special characters. The template name must be unique.
   - **Notification Type** (mandatory): Select a notification template type. The options are **Internal Notification** and **External Notification**. External notifications are used to send email notifications for multimedia marketing during outbound calls.
   - **Home Organization**: This parameter is specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
     - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.

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- For accounts without the **View All Organization Data** permission in **System Public Permissions**:
  - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

    NOTE

    If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
  - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
  - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.

- If the tenant parameter is set to **No**, all OUs can be selected.

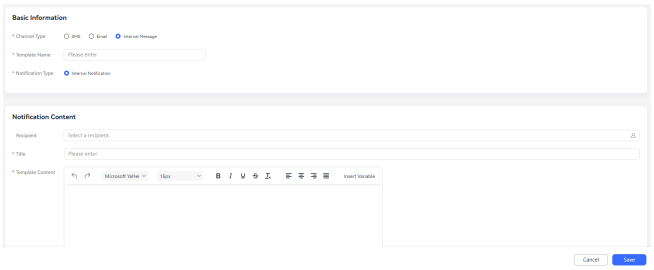
3. Configure the notification content.
   - **Recipient**, **Cc**, and **Bcc**: Select recipients, Cc recipients, and Bcc recipients.
   - **Title**: Enter a notification template title. The value can contain a maximum of 200 characters.
   - **Attachment**: Click 

and select a local file to add it to the email as an attachment. The file must be a DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, or PPTX file whose size is less than 10 MB. A maximum of 10 files can be uploaded.
   - **Template Content**: Enter the notification content. When a template is used through the robot reply diagram element, the entered variables are unavailable.

Step 4 Create an internal message notification template.

1. Click **New**. The **Creating a Notification Template** page is displayed.

Figure 2-598 Creating a Notification Template - Internal Message



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2. Configure basic information.
   - **Channel Type** (mandatory): Select a notification sending type.
   - **Template Name** (mandatory): Enter a customized notification template name. The value can contain a maximum of 200 characters. The template name must be unique.
   - **Notification Type** (mandatory): Select a notification template type. The options are **Internal Notification**, **System Notification**, and **Merchant Notification**. Merchant notifications are notifications sent to merchants.
   - **Home Organization**: This parameter is specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
     - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
       - For accounts without the **View All Organization Data** permission in **System Public Permissions**:
         - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

           NOTE

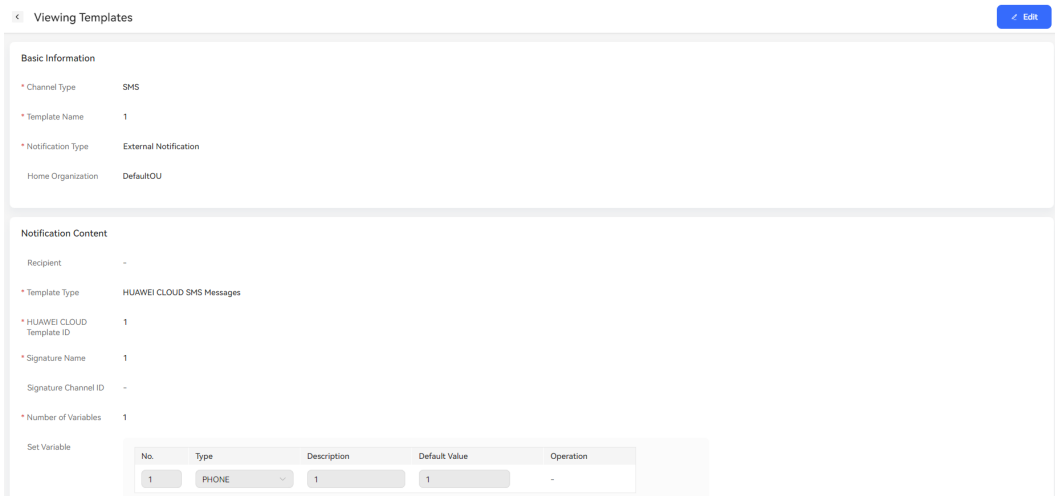
           If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
         - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
         - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
       - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
     - If the tenant parameter is set to **No**, all OUs can be selected.
3. Configure the notification content.
   - **Recipient**: Select recipients.
   - **Title**: Enter a notification template title. The value can contain a maximum of 200 characters.
   - **Template Content**: Enter the notification content.

Step 5 Click **Save**.

Step 6 Return to the **Notification Template** page, select the created template, and click the template name to view the template content.

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Figure 2-599 Viewing Templates



NOTE

If the **Edit** button is unavailable, contact the administrator to add the corresponding operation permission.

----End

2.11.8 Configuring Message Receiving Routes

An administrator can create an email receiving route to store emails in the default inbox configured in the gateway configuration to the AICC inbox, and create an SMS receiving route to store SMS messages in the recipient address to the AICC inbox.

Prerequisites

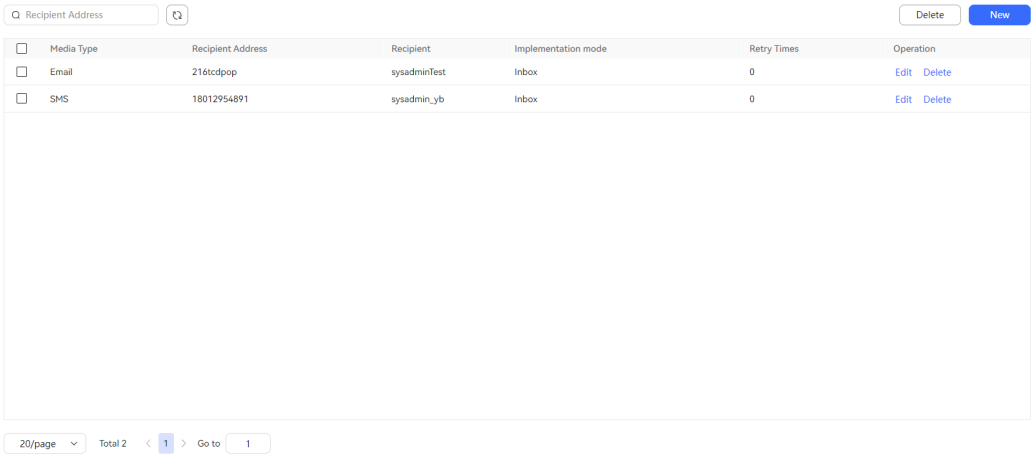
Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an administrator and choose **Configuration Center** > **Access Configuration** > **Notification Route**.

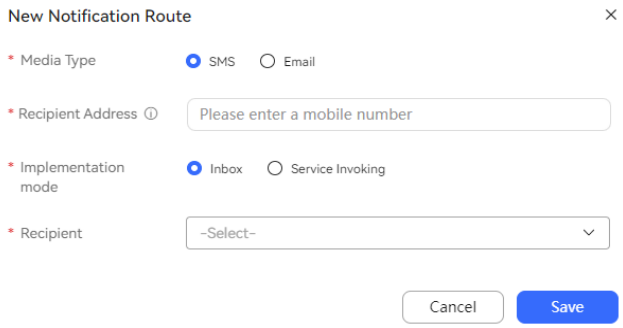
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Figure 2-600 Notification Route



Step 2 Choose **New**. The **New Notification Route** dialog box is displayed.

Figure 2-601 New Notification Route



- **Media Type**: Media type of received messages. The options are **SMS** and **Email**.
- **Recipient Address**: Address for receiving messages. When **Media Type** is set to **SMS**, enter a mobile number. You can enter multiple numbers and separate them with commas (,). The mobile number must be unique.
- **Gateway**: Gateway for receiving messages. When **Media Type** is set to **Email**, select a gateway. The options are email gateways whose **Protocol Type** is **POP3** or **IMAP** in the tenant space.
- **Implementation mode**: Implementation mode of a notification route.

  This parameter is mandatory when **Media Type** is set to **SMS**.

  This parameter is hidden when **Media Type** is set to **Email**.

  Value options:
  - **Inbox**: Notification routing is implemented through the inbox.
  - **Service Invoking**: Notification routing is implemented through service invocation. Value range: satisfaction survey.
- **Recipient**: Select a business account in the tenant space.

Step 3 Click **Save**.

----End

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2.11.9 Sending Notifications as an Administrator

An administrator can send internal notifications.

Prerequisites

- To send bulletins, a bulletin type has been configured on the **Configuration Center** > **Workbench Configuration** > **Notification Type** > **Bulletin Type** page. If no bulletin type has been configured, configure one by referring to **2.11.1 Configuring Bulletin Types**.
- To send Huawei Cloud SMS messages:
  - Huawei Cloud SMS requires that the server has the permission to access the external network.
  - The Huawei Cloud SMS service has been purchased, and SMS configuration has been completed on the **Configuration Center** > **Access Configuration** > **SMS Configuration** page. If SMS configuration has not been completed, complete it by referring to **2.11.2 Configuring SMS Messages**.
  - A Huawei Cloud SMS notification template has been configured on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. If no SMS notification template has been configured, configure one by referring to **2.11.7 Configuring Notification Templates as an Administrator**.
- To send SMS gateway messages:
  - An SMS message sender number has been configured on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page. If no SMS message sender number has been configured, configure one by referring to **2.11.2 Configuring SMS Messages**.
  - An SMS gateway has been configured on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page. If no SMS gateway has been configured, configure one by referring to **2.11.4.1 Configuring SMS Gateways**.
- To send emails, an email gateway has been configured on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page. If no email gateway has been configured, configure one by referring to **2.11.4.2 Configuring Email Gateways**.

Procedure

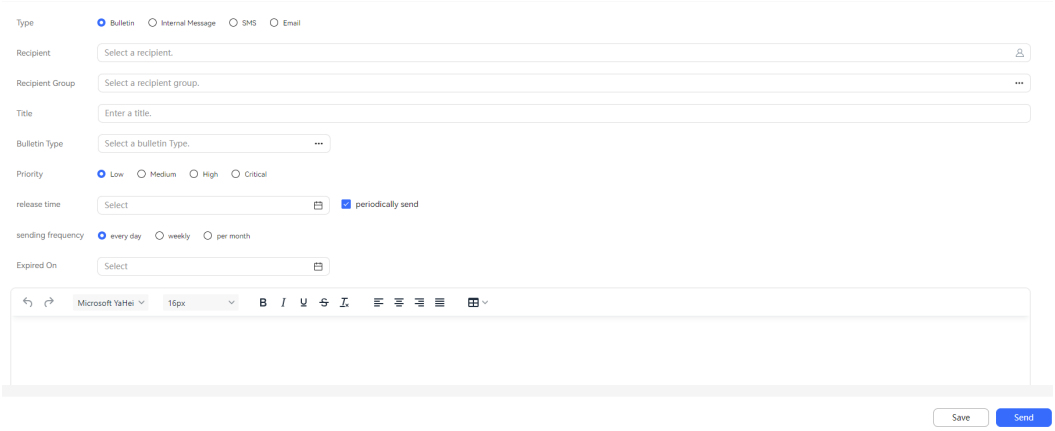
Step 1 Sign in to the AICC as an administrator and click in the upper right corner of the page. The **Notification Center** page is displayed.

Step 2 Click Send notification. The **Send Notification** page is displayed.

Step 3 Send a bulletin notification.

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Figure 2-602 Sending a bulletin notification



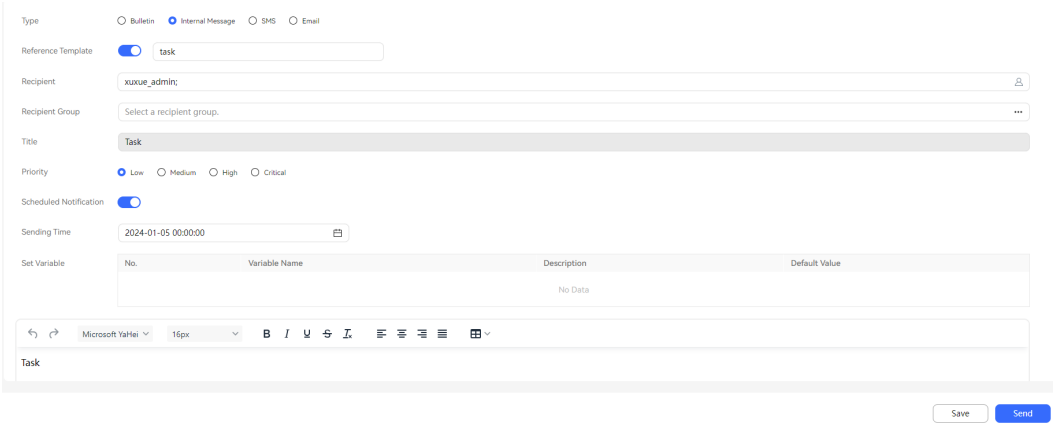
1. Configure the bulletin notification content.
   - **Type**: Select **Bulletin**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.
   - **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select recipient groups and click **Complete**.
   - **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
   - **Bulletin Type**: Select a bulletin type. For details about how to configure bulletin types, see **2.11.1 Configuring Bulletin Types**.
   - **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.
   - **release time**: Set the bulletin release time.
     - If this parameter is set to a specific time, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
     - If this parameter is left blank, the notification content is sent immediately after you click **Send**.
   - **periodically send**: Determine whether to send the notification periodically.
   - **sending frequency**: After you select **periodically send**, select a notification sending frequency. The options are **every day**, **weekly**, and **per month**.
   - **weekly** or **per month**: Select a week or date for sending the notification. The value ranges from **Monday** to **Sunday** or **Day 1** to **Day 31**. This parameter is mandatory when **sending frequency** is set to **weekly** or **per month**.
   - **Expired On**: Set the time when the notification expires. After the notification expires, the notification will not be sent.
   - Notification content: Enter the notification content.
2. (Optional) Click **Save** to save the notification to the draft box.

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3. Click **Send** to send the notification content.

Step 4 Send an internal message notification.

Figure 2-603 Sending an internal message notification



1. Configure the internal message notification content.
   - **Type**: Select **Internal Message**.
   - **Reference Template**: Determine whether to reference a notification template.
   - **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **Internal Message** in the tenant space and click **Complete** to reference it.

     For details about how to configure notification templates, see **2.11.7 Configuring Notification Templates as an Administrator**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.
   - **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select recipient groups and click **Complete**.
   - **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
   - **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.
   - **Scheduled Notification**: Determine whether to specify the notification sending time.
     - If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
     - If this function is disabled, the notification content is sent immediately after you click **Send**.
   - **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.
   - **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.

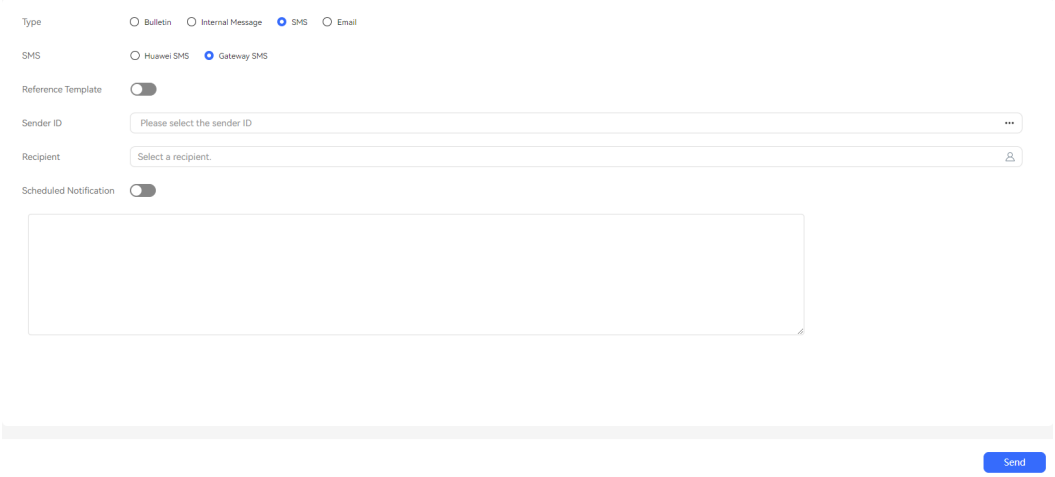
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- **Preview**: Update the variables in the notification content to the default values.
- Notification content: Enter the notification content.

2. (Optional) Click **Save** to save the notification to the draft box.
3. Click **Send** to send the notification content.

Step 5 Send an SMS notification.

Figure 2-604 Sending an SMS notification



1. Configure the SMS notification content.
   - **Type**: Select **SMS**.
   - **SMS**: Select an SMS channel. The options are **Huawei SMS** and **Gateway SMS**.
   - **Reference Template**: Determine whether to reference a notification template.
   - **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **SMS** in the tenant space and click **Complete** to reference it.

     For details about how to configure notification templates, see **2.11.7 Configuring Notification Templates as an Administrator**.
   - **Sender ID**: Set this parameter when **SMS** is set to **Gateway SMS**. For details about how to configure sender numbers, see **Configuring SMS Message Sender IDs**.
   - **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select recipients and click **Complete**.
   - **Scheduled Notification**: Determine whether to specify the notification sending time.
     - If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
     - If this function is disabled, the notification content is sent immediately after you click **Send**.

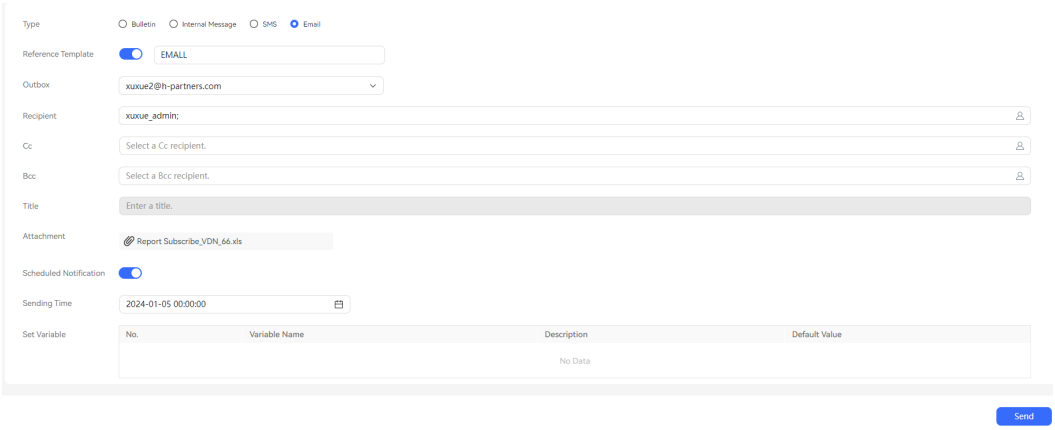
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- **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.
- **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.
- **Preview**: Update the variables in the notification content to the default values when **SMS** is set to **Gateway SMS**.
- Notification content: Enter the notification content when **SMS** is set to **Gateway SMS**.

2. Click **Send** to send the notification content.

Step 6 Send an email notification.

Figure 2-605 Sending an email notification



1. Configure the email notification content.
   - **Type**: Select **Email**.
   - **Reference Template**: Determine whether to reference a notification template.
   - **Select Template**: After you enable **Reference Template**, select a notification template whose **Message Sending Mode** is **Email** in the tenant space and click **Complete** to reference it.

     For details about how to configure notification templates, see **2.11.7 Configuring Notification Templates as an Administrator**.
   - **Recipient**, **Cc**, and **Bcc**: Click **Recipient**, **Cc**, or **Bcc**. In the **Recipient**, **Cc**, or **Bcc** dialog box, select objects and click **Complete**.

     NOTE

     The Cc and Bcc recipients are optional. If the Cc or Bcc recipient does not exist, the email can still be sent. However, the system displays a message indicating that the Cc or Bcc recipient does not exist.
   - **Title**: Enter a notification title. The value can contain a maximum of 200 characters.
   - **Attachment**: Click + Add Attachmer and select a local file to add it to the email as an attachment. The file must be a DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, PPTX, or PDF file whose size is less than 10 MB. A maximum of 10 files can be uploaded.

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  - **Scheduled Notification**: Determine whether to specify the notification sending time.
    - If this function is enabled, the notification is created and saved after you click **Send**, and the notification content is sent at the specified time.
    - If this function is disabled, the notification content is sent immediately after you click **Send**.
  - **Sending Time**: After you enable **Scheduled Notification**, select a specific time for sending the notification.
  - **Set Variable**: After you enable **Reference Template** and select a template, you can change the default values of variables in the template.
  - **Preview**: Update the variables in the notification content to the default values.
  - Notification content: Enter the notification content.
2. Click **Send** to send the notification content.

----End

2.11.10 Viewing Notifications

An administrator can view bulletins that have been sent, emails that have been sent and received, notification sending records, and notification drafts.

Prerequisites

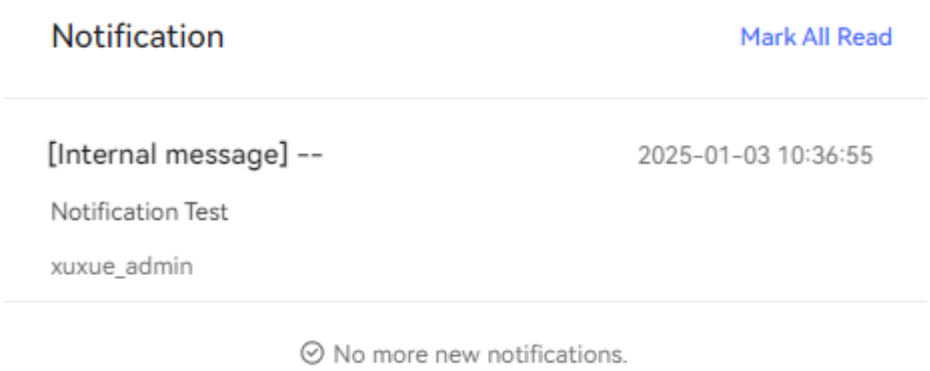
- To view emails in the inbox, an email message route has been configured on the **Configuration Center** > **Access Configuration** > **Notification Route** page. If no email message route has been configured, configure one by referring to **2.11.8 Configuring Message Receiving Routes**.
- To view Huawei Cloud SMS messages or SMS gateway messages in the inbox, an SMS message route has been configured on the **Configuration Center** > **Access Configuration** > **Notification Route** page. If no SMS message route has been configured, configure one by referring to **2.11.8 Configuring Message Receiving Routes**.

Procedure

Step 1 Sign in to the AICC as an administrator and move the pointer over  to preview unread messages of the current account.

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Figure 2-606 Notification message preview



- Click **Mark All Read** to mark preview messages as read.
- Select a notification message to view part of the message content.
- Click a notification message to go to the message viewing page and view the message details.
- Select a notification message and click **Mark messages as read** to mark the notification message as read.

Step 2 Verify the new message notification function.

When a new message is received under the current account, a dialog box is displayed in the upper right corner of the page. You can click the message to view the message content.

The new message is displayed for 3 seconds, after which the notification disappears. You can view the message content in the notification center.

The new message notification function is supported only for internal messages and bulletins, and is not supported for other types of messages.

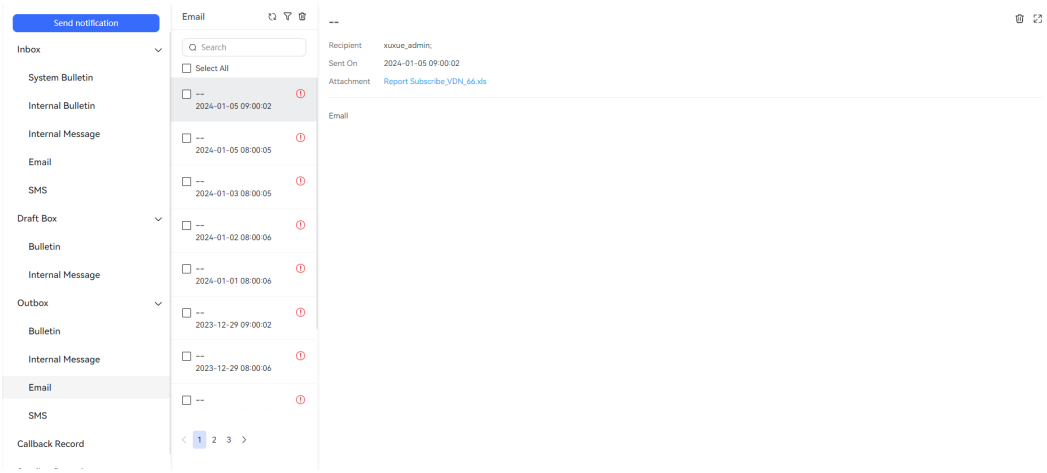
Figure 2-607 Message notification



Step 3 Click in the upper right corner. The page for viewing notifications is displayed.

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Figure 2-608 Notification viewing



Step 4 Select a mailbox and click > to view the notification types contained in the mailbox.

- **Inbox**, containing **System Bulletin**, **Internal Bulletin**, **Internal Message**, **Email**, and **SMS**
- **Draft**, containing **Bulletin** and **Internal Message**
- **Outbox**, containing **Bulletin**, **Internal Message**, **Email**, and **SMS**
- **Callback Record**
- **Sending Record**

Step 5 Select a notification type and view the corresponding notification list.

- **Inbox**
  - Enter a notification title and click to search for notifications based on the notification title.
  - Click to refresh notifications of the selected notification type.
  - Click and choose **All**, **Read**, or **Unread** to filter notifications of the selected notification type based on the notification status.
  - Select multiple notifications, click , and choose **Mark messages as read** or **Delete** to operate them in batches. These operations are not supported for emails.
  - Click and choose **Delete all read messages** to delete notifications in batches. This operation is not supported for emails.
  - Select multiple notifications and click to mark them as read in batches. This operation is supported only for emails.
- **Draft Box**
  - Enter a notification title and click to search for notifications based on the notification title.
  - Click to refresh notifications of the selected notification type.
  - Select multiple notifications and click to delete them in batches.

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- **Outbox**
  - Enter a notification title and click to search for notifications based on the notification title.
  - Click to refresh notifications of the selected notification type.
  - Click and choose **All**, **Read**, or **Unread** to filter notifications of the selected notification type based on the notification status.
  - Select multiple notifications and click to delete them in batches.
- **Callback Record**
  - Select a notification callback time range and click to search for notification callback records. The options are **1 Day**, **Last 3 days**, **Last 7 days**, and **Customization**.
  - Set **Recipient**, **Sender**, and **Callback Status** to further filter notification callback records.
- **Sending Record**
  - Select a notification sending time range and a notification sending state, and click to search for notification sending records. The options are **1 Day**, **Last 3 days**, **Last 7 days**, and **Customization**.
  - Set **Recipient** to further filter notification sending records.

Step 6 Select a notification and view its details.

- **Inbox**
  - Click to delete the notification.
  - Click to reply to the notification. This operation is not supported for internal bulletins.
  - Click to maximize the notification.
- **Draft Box**
  - Click to modify the notification.
  - Click to delete the notification.
  - Click to maximize the notification.
- **Outbox**
  - Click to delete the notification.
  - Click to maximize the notification.
  - Click the name of an attachment to download the attachment and view its content.

    NOTE

    The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

----End

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2.12 Managing the Customer Center

A tenant administrator or an agent can view customer information and customer contact records, and add customer information.

Prerequisites

- The common agent has the **Customer Center Management** menu permission and the **Edit Contacts**, **Batch Edit Contacts**, and **Import Contacts** permissions. By default, a tenant administrator has this permission.
- The **Customer Center** feature has been enabled for the tenant space.
- The tenant parameter **Display Unified Customer Contact Information** has been set to **Yes**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Center** > **Customer Center Management**.

Step 2 On the **Public Phonebook** or **Personal Phonebook** tab page, set search criteria to search for customer information based on the criteria.

Table 2-191 GUI elements on the Customer Center Management - Public Phonebook page

Element	Type	Description
Search for name/ mobile number	Text box	Enter the name, mobile number, or email address for searching for customer information. The value can contain 0 to 255 characters.

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Element	Type	Description
Organization	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. Value options: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available. You can click ⊗ to clear the field. You can select **Include Sub-Organizations** to search for customers of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. If the system parameter **SCDomain** on AppCube is left empty, AppCube is not integrated with the AICC. In this case, this parameter is not displayed.
	Button	Refresh the page.
	Button	Import customer information. This button is not displayed if the agent does not have the write permission on any OU or the **Import Contacts** permission.
Batch Delete	Button	Select names and delete them. This button is not displayed if the agent does not have the write permission on any OU or the **Batch Edit Contacts** permission.
Create	Button	Add customer information. This button is not displayed if the agent does not have the write permission on any OU or the **Edit Contacts** permission.
Name	Label	Customer name.

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Element	Type	Description
Organization	Label	OU to which a customer belongs. If the system parameter **SCDomain** on AppCube is left empty, AppCube is not integrated with the AICC. In this case, this parameter is not displayed.
Contact Number	Label	Customer mobile number.
Email	Label	Customer email address.
Remark	Label	Customer information description.
Create Time	Label	Time when customer information is created.
Update Time	Label	Time when customer information is updated.
Operation	Button group	Operations that can be performed. • **View**: View customer information and customer contact records. • **Delete**: Delete customer information. The **Delete** button is not displayed if the agent does not have the write permission on any OU or the **Edit Contacts** permission.

Table 2-192 GUI elements on the Customer Center Management - Personal Phonebook page

Element	Type	Description
Search for name/ mobile number	Text box	Enter the name or mobile number for searching for customer information. The value can contain 0 to 255 characters.
	Button	Refresh the page.
	Button	Import customer information.
Batch Delete	Button	Select names and delete them. This button is not displayed if the agent does not have the write permission on any OU.

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Element	Type	Description
Create	Button	Add customer information.
Name	Label	Customer name.
Contact Number	Label	Customer mobile number.
	Button	Dial a customer number. Click  on the **Personal Phonebook** tab page to dial a customer number.
Remark	Label	Customer information description.
Create Time	Label	Time when customer information is created.
Update Time	Label	Time when customer information is updated.
Operation	Button group	Operations that can be performed. • **Edit** • **Delete** The **Edit** and **Delete** buttons are not displayed if the agent does not have the write permission on any OU.

Step 3 Add a customer on the **Public Phonebook** tab page.

You can add customers one by one or import customers in batches as required.

- Adding customers one by one
  a. Click **Create**.
  b. Configure customer information.

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Table 2-193 GUI elements on the Add Customer page

Element	Type	Description
Organization	Drop-down list	Set the OU to which the customer belongs. Value options: ■ Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ■ Common agent: ○ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. ○ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available. You can filter OUs by keyword. You can click ⊗ to clear the field. If the system parameter **SCDomain** on AppCube is left empty, AppCube is not integrated with the AICC. In this case, this parameter is not displayed. This parameter is mandatory if the system parameter **AICC__forcibleDataIsolationSwitch** on AppCube is set to **true**.
Name	Text box	Customer name. The value can contain 1 to 80 characters.
Gender	Drop-down list	Customer gender. ■ **Male** ■ **Female** ■ **UnKnownSex**
Contact Number	Text box	Customer mobile number. Click ⊕ Add on the right to add a mobile number. A maximum of five mobile numbers can be configured. The value can contain 0 to 20 digits.
Email	Text box	Customer email address. Click ⊕ Add on the right to add an email address. A maximum of two email addresses can be configured. The value can contain 0 to 128 characters.

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Element	Type	Description
Company	Text box	Company to which a customer belongs. The value can contain 0 to 80 characters.
Address	Drop-down list	Contact address of a customer.
Address Detail	Text box	Detailed contact address of a customer. The value can contain 0 to 80 characters.
Channel	Drop-down list+text box	Channel information. Click Add to add a channel. ▪ **wechat** ▪ **twitter** ▪ **weibo** ▪ **facebook** ▪ **skype** ▪ **linkedin** ▪ **web** ▪ **line** ▪ **instagram** ▪ **telegram** ▪ **whatsapp** Enter a customer login channel account in the text box, for example, a WeChat account. The value can contain 0 to 255 characters.
Remark	Text box	Customer information description. The value can contain a maximum of 255 characters.

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c. Click **Save**.

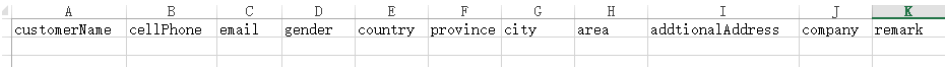
- Importing customers in batches

a. Click  .

b. Click **Customer Information Import Template** to obtain the import template.

c. Open the downloaded template file and configure the data to be imported by referring to **Figure 2-609**.

Figure 2-609 Adding data



A	B	C	D	E	F	G	H	I	J	K
customerName	cellPhone	email	gender	country	province	city	area	addtionalAddress	company	remark

i. **customerName**: This field is mandatory. Other fields are optional.

ii. **customerName**, **additionalAddress**, **company**, and **remark**: It is recommended that the values contain a maximum of 80 characters.

iii. **cellPhone1**, **cellPhone2**, **cellPhone3**, **cellPhone4**, and **cellPhone5**: It is recommended that the values contain a maximum of 20 characters. **email**: It is recommended that the value contain a maximum of 128 characters.

iv. **gender**: The value can only be **male**, **female**, or **unKnownSex**.

v. **country**, **province**, **city**, and **area**: The values are address names preset in the address instance list. Invalid address data is not imported.

vi. Duplicate records in the table are not verified. All records are new customer records.

vii. When importing data, delete the **readme** sheet from the downloaded template.

d. Save the file.

e. Click  and select the configured .xlsx file.

f. Click **Save** to upload the customer information.

Step 4 Add a customer on the **Personal Phonebook** tab page.

You can add customers one by one or import customers in batches as required.

- Adding customers one by one

a. Click **Create**.

b. Configure customer information.

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Table 2-194 GUI elements on the Add Customer page

Element	Type	Description
Name	Textbox	Customer name. The value can contain 1 to 80 characters.
Gender	Drop-down list	Customer gender. ▪ **Male** ▪ **Female** ▪ **UnKnownSex**
Contact Number	Textbox	Customer mobile number. Click Add on the right to add a mobile number. A maximum of three mobile numbers can be configured. The value can contain 0 to 20 digits.
Remark	Textbox	Customer information description. The value can contain a maximum of 255 characters.

c. Click **Save**.

- Importing customers in batches

a. Click .

b. Click **Personal Address Book Import Template** to obtain the import template.

c. Open the downloaded template file and configure the data to be imported by referring to **Figure 2-610**.

Figure 2-610 Adding data

A	B	C	D	E	F	G	H
customerName	cellPhone1	cellPhone2	cellPhone3	cellPhone4	cellPhone5	gender	remark

i. **customerName**: This field is mandatory. Other fields are optional.

ii. **customerName** and **remark**: It is recommended that the values contain a maximum of 80 characters.

iii. **cellPhone1**, **cellphone2**, **cellphone3**, **cellphone4**, and **cellphone5**: It is recommended that the values contain a maximum of 20 characters.

iv. **gender**: The value can only be **male**, **female**, or **unKnownSex**.

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v. Duplicate records in the table are not verified. All records are new customer records.

vi. When importing data, delete the **readme** sheet from the downloaded template.

d. Save the file.

e. Click  and select the configured .xlsx file.

f. Click **Save** to upload the customer information.

----End

2.13 Making Intelligent Outbound Calls

This section describes how to configure intelligent automatic outbound calls, manage outbound call tasks by category (including automatic and manual outbound call tasks), and properly plan outbound call tasks.

2.13.1 Overview of Outbound Call Tasks

To maintain customer relationships, improve customer satisfaction, or seek business opportunities, enterprises often call customers for return visits, surveys, additional information, product promotion, or other activities.

The AICC is a comprehensive outbound call management platform for enterprises. It supports the following types of outbound call tasks.

NOTE

If the number of predicted outbound call tasks is greater than or equal to 4 and the number of outbound call records configured for each task is greater than or equal to 100,000, performance risks may arise when all tasks are being executed and the database is running on a server with an 8-core CPU.

Table 2-195 Outbound call task types

Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Common IVR outbound call task	No	Revisit, survey, standardized information collection, or other scenarios with standard script processes.	IVR channel	• This method is cost-effective, because agent participation is not required. • IVR flows are used to interact with customers by playing voices, collecting digits, and routing calls.

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Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Predicted outbound call task	Yes	Customer care, product marketing, and business opportunity seeking.	Skill queue	• This method is more friendly and flexible due to agent participation. • This method ensures efficient outbound calls, because the AICC dynamically assigns calls based on factors such as the call completion rate and rejection rate.
Intelligent robot outbound call task	No	Revisit, survey, standardized information collection, or other scenarios with standard script processes.	Enabled intelligent IVR TTS and ASR channels	• This method is cost-effective, because agent participation is not required. • This method optimizes the experience and shortens the operation and service durations due to the semantic recognition technology of the intelligent IVR flow.
Manual outbound call task	Yes	Customer care, product marketing, and business opportunity seeking	Skill queue	• This method is more friendly due to agent participation. • Agents determine the number of outbound calls.

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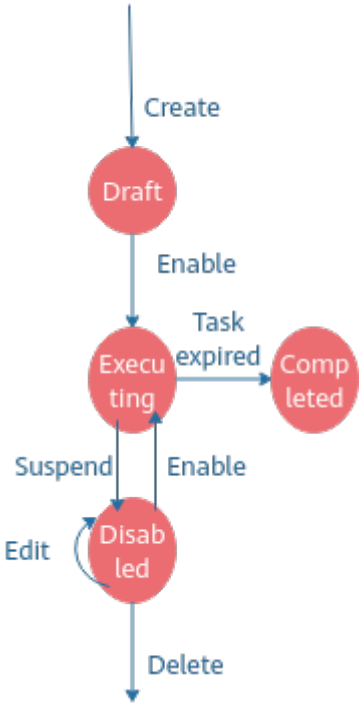
Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Previewed outbound call task	Yes	Scenarios where customer background information needs to be obtained in advance, for example, dunning tasks.	Skill queue	• This method is more friendly due to agent participation. • Agents have enough time to learn about the customer's background information, which provides better experience.
Preempted outbound call task	Yes	Agents are preoccupied. After a customer is connected, the call is directly connected to an agent, reducing the customer's waiting time.	Skill queue	• This method is more friendly due to agent participation. • This method reduces the probability of hang-up due to waiting. After a customer accesses the system, the customer can be connected to the preoccupied agent immediately.
Fixed outbound call task	Yes	Customer care, product marketing, and business opportunity seeking.	Skill queue	• This method is more friendly due to agent participation. • Outbound call tasks can be assigned based on the idle agent rate.
Manual assignment outbound call task	Yes	Customer care, product marketing, and business opportunity seeking.	Skill queue	An administrator can assign customer numbers to specified agents to execute outbound call tasks.

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You can select a desired outbound call task based on the application scenarios and advantages.

The following figure shows the task states and corresponding operations in the AICC.

Figure 2-611 Status of the outbound call task



2.13.2 Preparations for Creating Outbound Call Tasks

2.13.2.1 Managing Special Dates

Special dates are specified in automatic outbound call tasks. For example, if a call center expects the agents to make outbound calls on workdays at a time different from that on weekends and public holidays, set weekends and public holidays to special dates which can be selected when you create automatic outbound call tasks.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

You can set special dates in any of the following ways:

- Specify one or more days in a week, usually weekends or workdays.

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- Specify a date or time period. Generally, usually holidays or workdays temporarily adjusted.
- Specify one or more days in a year, usually public holidays.

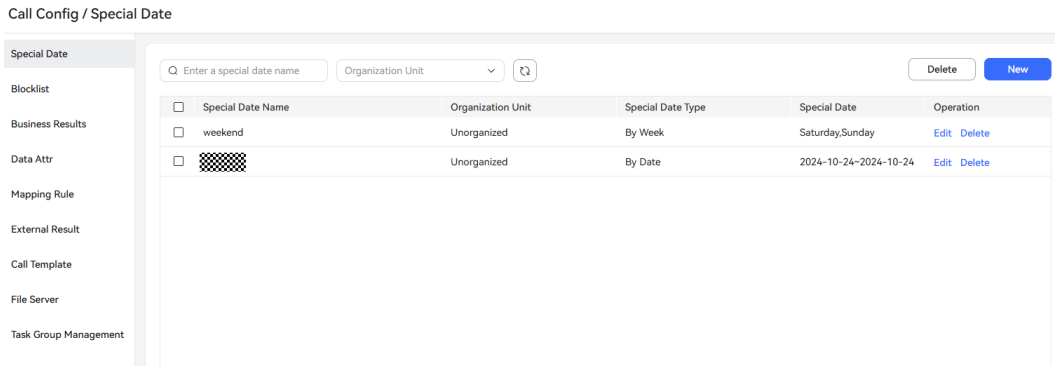
Business Scenario

In a call center, Saturday and Sunday are special days, and no agent needs to be on duty.

Procedure

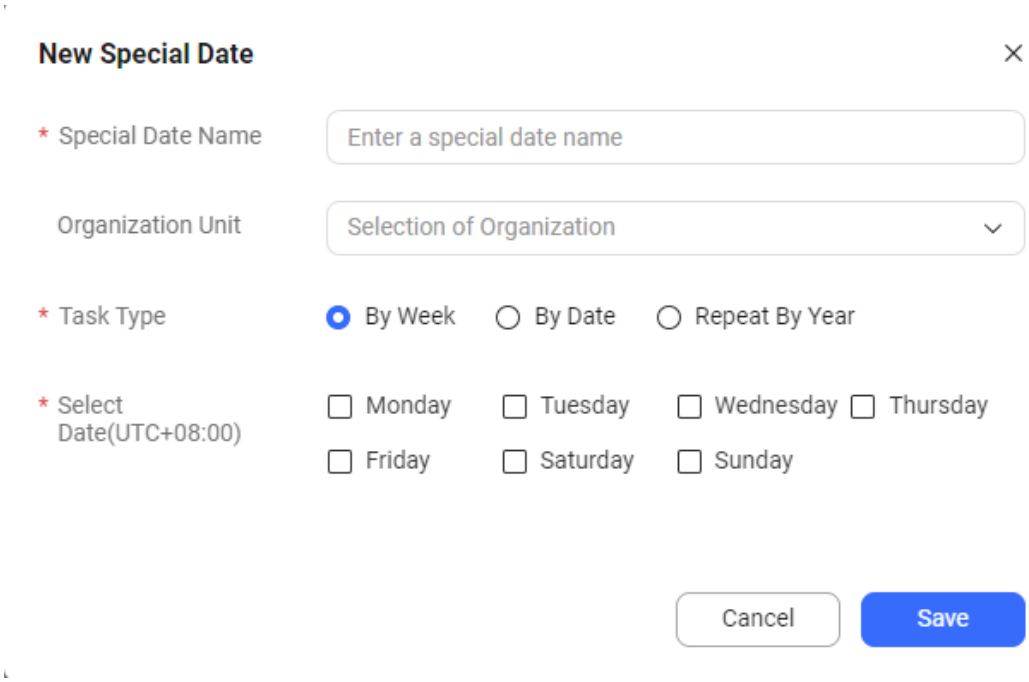
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Holidays**.

Figure 2-612 Holidays page



Step 2 Click **New** to create a special date.

Figure 2-613 New Special Date page



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Step 3 Set **Task Type** to **By Week**, and select **Saturday** and **Sunday**. The following table describes the parameters on the page.

Table 2-196 Parameters on the Create Special Date page (By Week)

Parameter	Description
Special Date Name	Enter a special date name.
Organization Unit	The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Task Type	Set this parameter to **By Week**.
Select Date	Select dates as required, for example, select **Saturday** and **Sunday**.

Table 2-197 Parameters on the Create Special Date page (By Date)

Parameter	Description
Special Date Name	Enter a special date name.

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Parameter	Description
Organization Unit	The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Task Type	Set this parameter to **By Date**.
Select Date	Set **Start Date** and **End Date**. The end date must be later than or equal to the start date.

Table 2-198 Parameters on the Create Special Date page (Repeat By Year)

Parameter	Description
Special Date Name	Enter a special date name.

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Parameter	Description
Organization Unit	The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Task Type	Set this parameter to **Repeat By Year**.
Select Date	Set **Start Date** and **End Date**. The end date must be later than or equal to the start date.

Step 4 Click **OK**.

----End

2.13.2.2 Managing Blocklisted Outbound Numbers

You can blocklist the numbers of unfriendly customers or known numbers that cannot be called. These blocklisted numbers will not be called during the execution of outbound call tasks.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

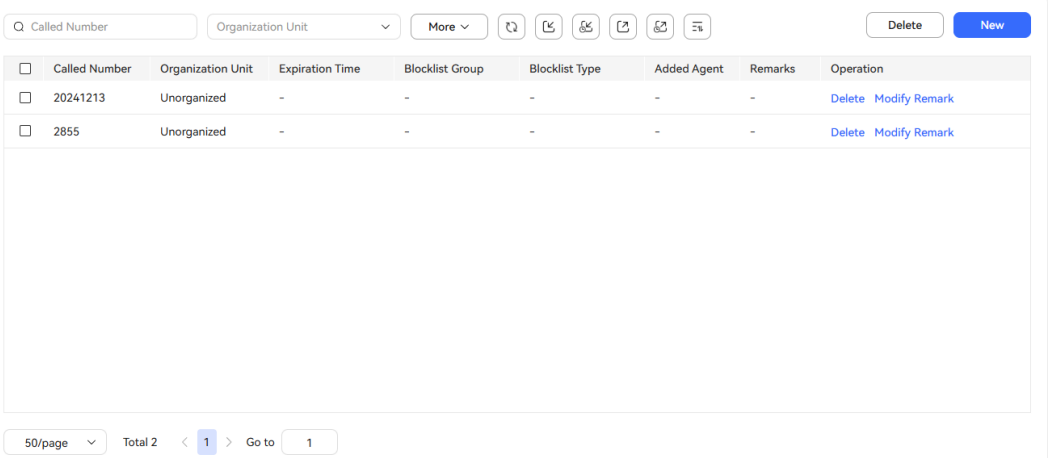
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Blocklist**.

By default, the outbound number blocklist displays the blocklisted numbers of the tenant space.

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Figure 2-614 Blocklist page



Step 2 Add a blocklist group.

1. Click **New**. The **Add Number to Blocklist** dialog box is displayed.
2. Click the **Blocklist Group** selection box. The **Select Blocklist Group** dialog box is displayed.
3. In the **Select Blocklist Group** dialog box, click **New**.
4. Set **Group Name**, **Organization Unit**, and **Group Description**, and click **OK**.

Step 3 Add a blocklist type.

1. Click the **Blocklist Type** selection box. The **Select Blocklist Type** dialog box is displayed.
2. In the **Select Blocklist Type** dialog box, click **New** to create a blocklist type.
3. Set parameters such as **Type Name**, **Type Description**, and **Operation Type**. The options of **Operation Type** are **Auto Wrap Up** and **Pop Up**. For details, see **Table 2-199**.

Table 2-199 Operation type description

Operation Type	Procedure
Auto Wrap Up	1. Set **Type Name**, **Organization Unit**, and **Type Description**. 2. Set **Operation Type** to **Auto Wrap Up**. 3. Set **Business Result** based on site requirements. 4. Click **OK**.
Pop Up	1. Set **Type Name**, **Organization Unit**, and **Type Description**. 2. Set **Operation Type** to **Pop Up**. 3. Set **Prompt Content**, **Jump Address**, and **Business Result** based on site requirements. 4. Click **OK**.

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Step 4 Configure outbound number blocklist data.

- Adding numbers one by one
  a. Click **New**. The **Add Number to Blocklist** dialog box is displayed.

Figure 2-615 Add Number to Blocklist page

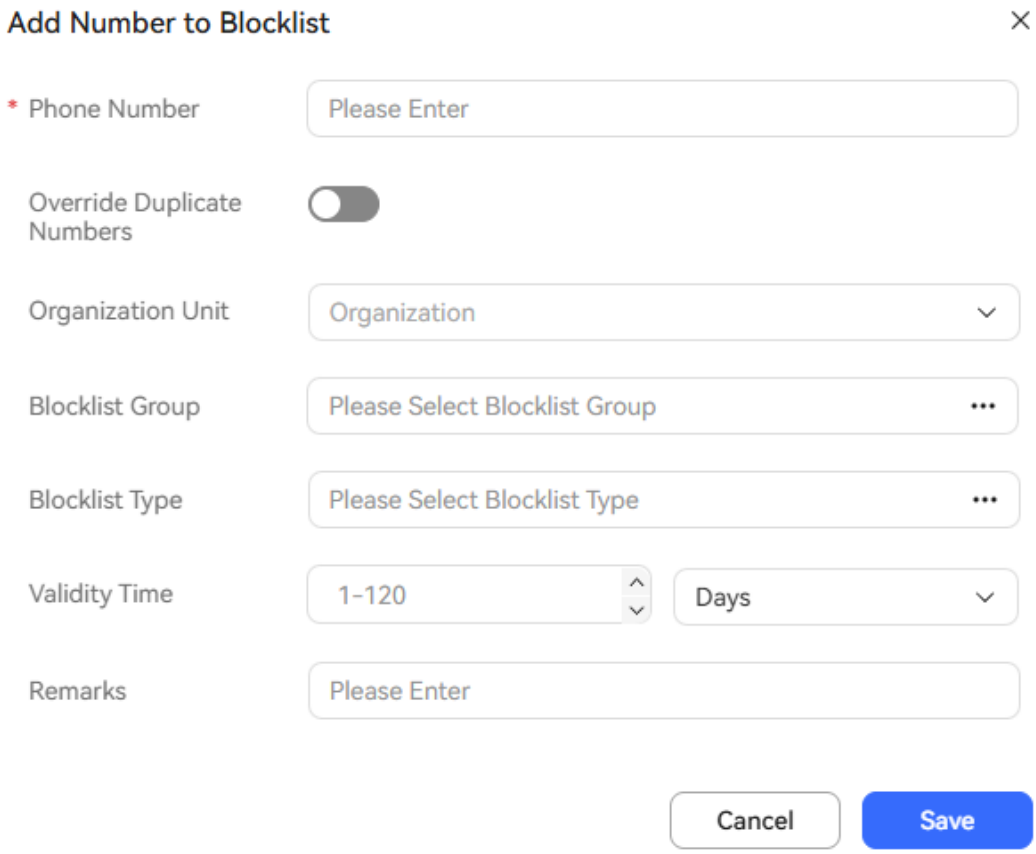


Table 2-200 GUI elements on the Add Number to Blocklist page

Element/Component	Description
Called Number	Blocklisted number.
Override Duplicate Numbers	After this switch is turned on, duplicate numbers can be overwritten.

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Element/Component	Description
Organization Unit	The options are as follows: ■ Tenant administrator: All OUs under the current tenant are available. ■ Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Blocklist Group	■ If there is no blocklist group, create one by referring to **Step 2**. ■ If a blocklisted number is not bound to a group, the number is a globally blocklisted number and takes effect for all outbound call tasks. ■ If a blocklisted number is bound to a group and the group is bound to an outbound call task, the blocklisted number takes effect only for the outbound call task.
Blocklist Type	If there is no blocklist type, create one by referring to **Step 3**. The values of **Operation Type** in the **Create Blocklist Type** dialog box are as follows: ■ **Auto Wrap Up** ■ **Pop Up**

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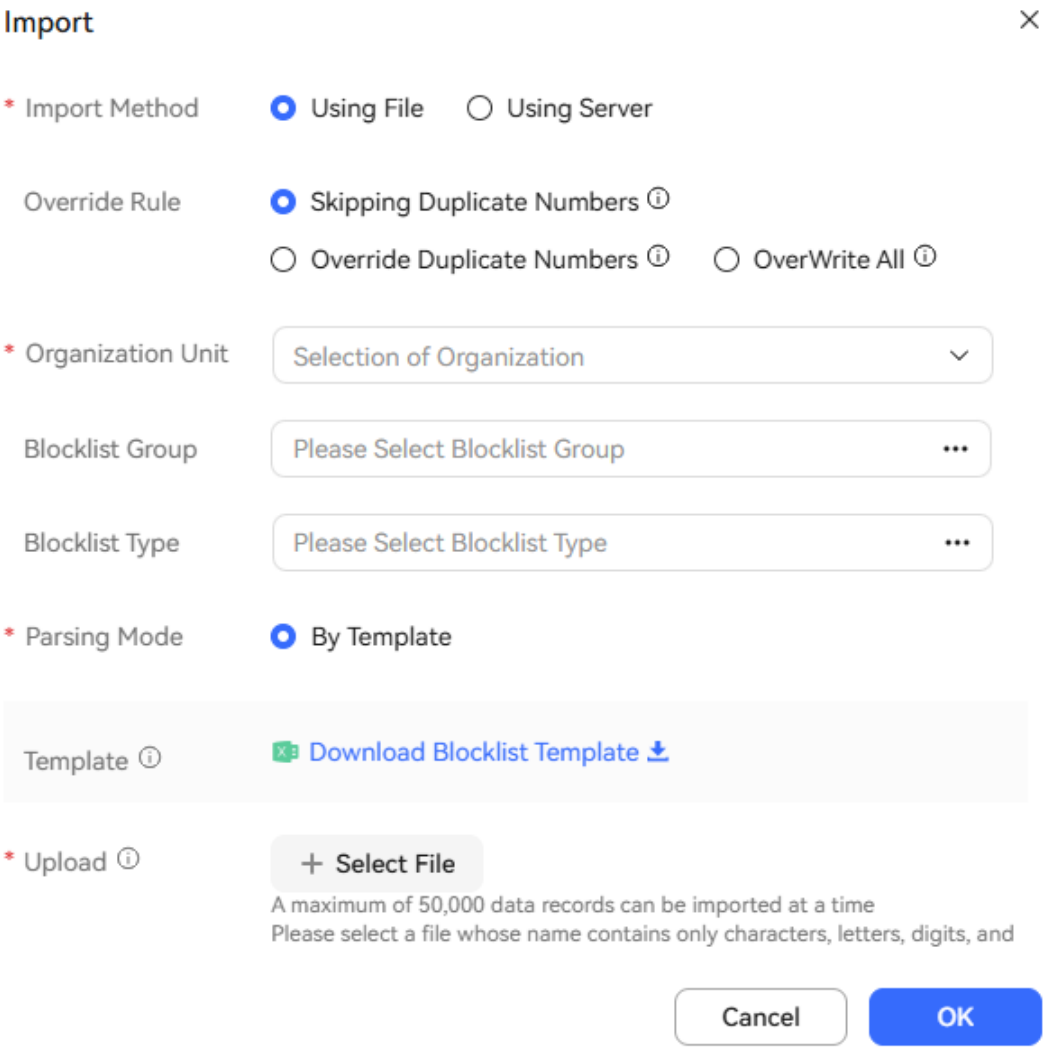
Element/Component	Description
Validity Time	Validity period of a blocklist. ■ The value ranges from 1 to 120. ■ The unit can be year, month, day, or hour. For example, if you enter **1** and set the unit to **Hours**, the blocklist is valid within one hour after being created.
Remarks	Remarks of a blocklisted number.

b. Enter information as prompted and click **OK**.

- Importing numbers in batches

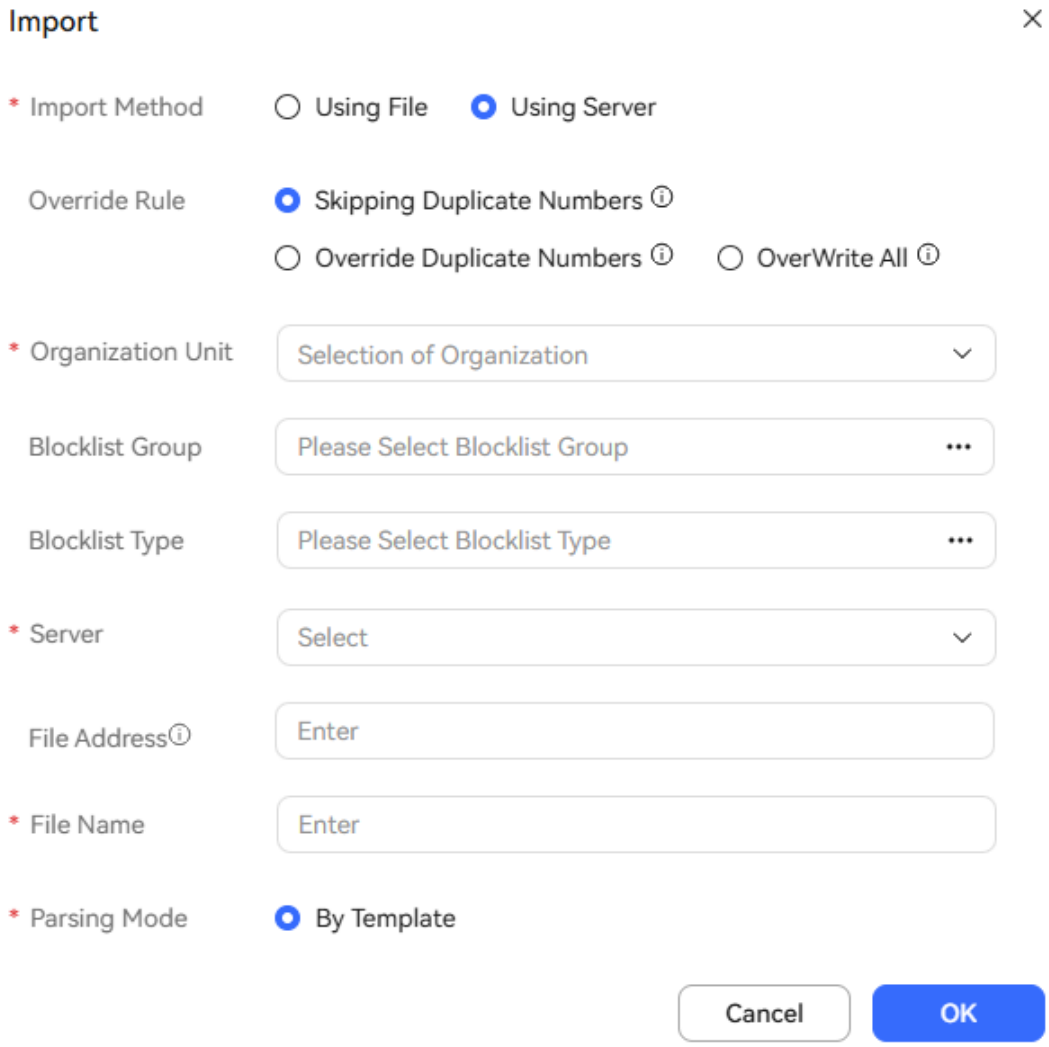
a. Click  .

Figure 2-616 Setting Import Method to Using file



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Figure 2-617 Setting Import Method to Using server



b. Set the file upload parameters.

Table 2-201 File upload parameters

Parameter	Description
Import Method	The options are as follows: ▪ **Using file**: A maximum of 50,000 data records can be imported at a time. ▪ **Using server**: A maximum of 2,000,000 data records can be imported at a time.

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Parameter	Description
Override Rule	▪ **Skipping Duplicate Numbers** ▪ **Override Duplicate Numbers** ▪ **OverWrite All**: After this rule is selected, the numbers filtered out are deleted and only the retained numbers are imported. Exercise caution when you select this rule. Blocklists to be imported are filtered by **Organization Unit** and **Blocklist Group**.
Organization Unit	The options are as follows: ▪ Tenant administrator: All OUs under the current tenant are available. ▪ Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Blocklist Group	Blocklist group.
Blocklist Type	Operation type of a blocklist.
Server	Set this parameter to the IP address of the server where the blocklist file is located. This parameter is available when **Import Method** is set to **Using server**.
File Address	Set this parameter to the relative path of the default path on the file server where the blocklist file is located. This parameter is available when **Import Method** is set to **Using server**.
File Name	Enter the import file name including the file name extension. This parameter is available when **Import Method** is set to **Using server**.

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Parameter	Description
Parsing Mode	The option is as follows: ■ **By template**: Click Downloading a Blocklist Template to download the import file template.
Select File	If **Import Method** is set to **Using File**, upload a local file.

c. Click  to create a scheduled task for importing an outbound number blocklist.

i. In the dialog box that is displayed, click **New** to create a scheduled task for importing a blocklist. Set parameters by referring to **Table 2-201**.

ii. Click  as shown in **Figure 2-619** to start the scheduled task.

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Figure 2-618 Scheduled Import page

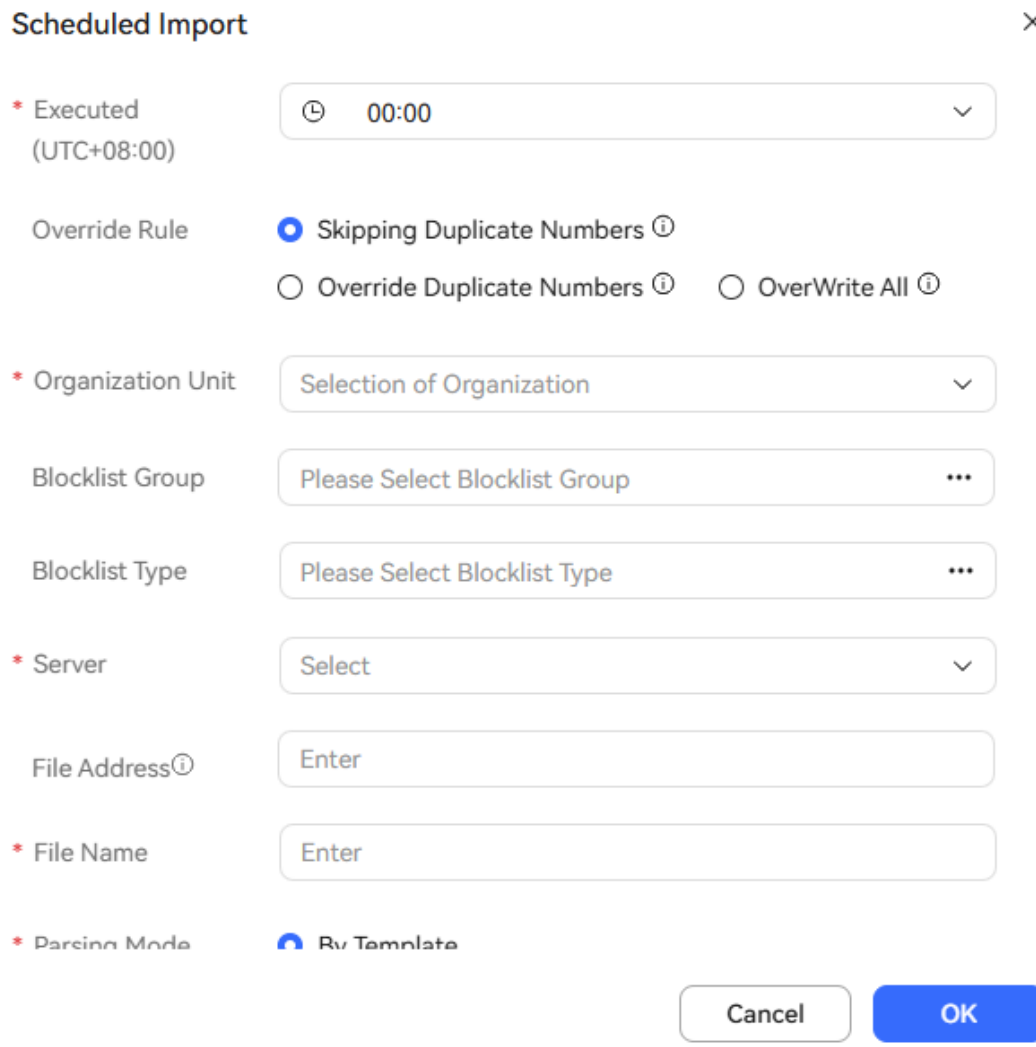
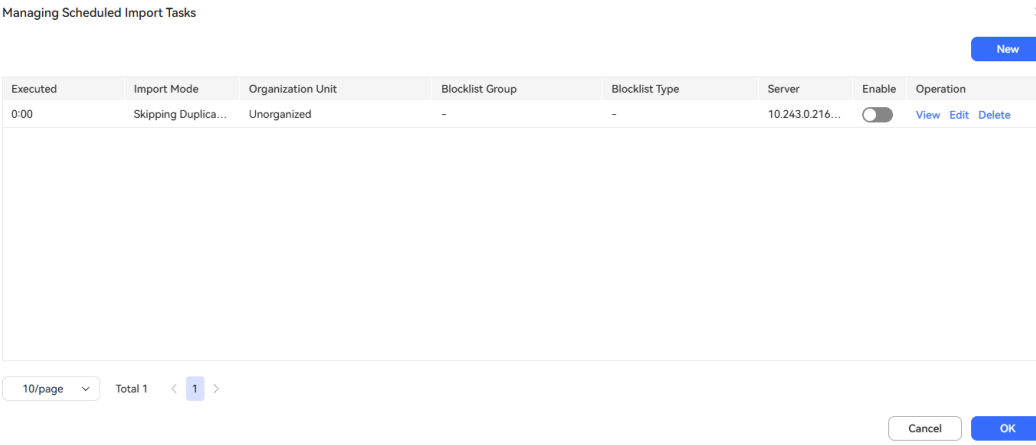


Figure 2-619 Managing Scheduled Import Tasks page



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NOTE

The number of scheduled tasks for importing blocklisted numbers is restricted by the tenant parameter **Maximum number of scheduled tasks for importing outgoing call blocklists**. The default value is **10**. You can change the value on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

d. Click **OK**.

e. Click  on the **Blocklist** page. In the **Task View** dialog box, view the import result.

Step 5 Query a blocklisted outbound number.

1. Click **More** on the **Blocklist** page.
2. Blocklisted numbers can be queried based on the following search criteria:
   - **Phone Number**: Enter a phone number to be queried.
   - **Blocklist Group**: Select a blocklist group from the drop-down list.
   - **Blocklist Type**: Select a blocklist type from the drop-down list.
3. Click **Search**.

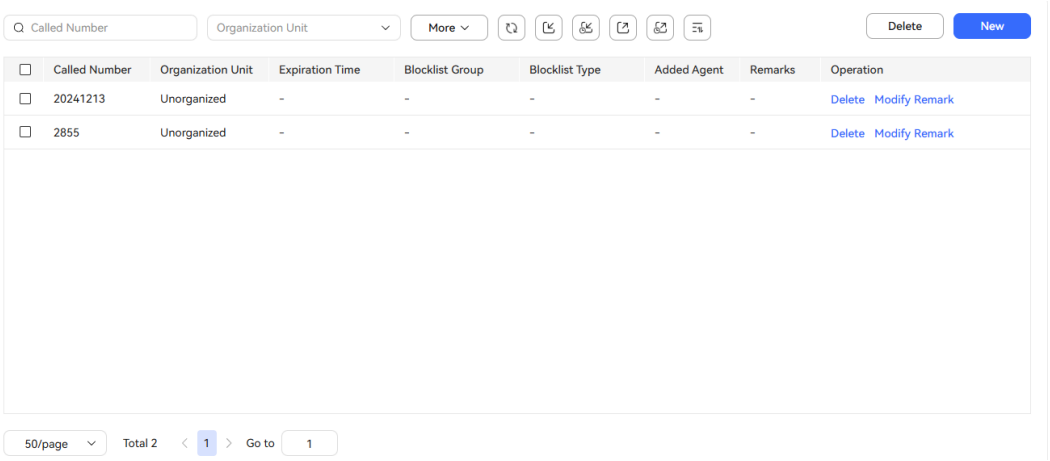
----End

Exporting Blocklisted Outbound Numbers

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Blocklist**.

By default, the outbound number blocklist displays the blocklisted numbers of the tenant space.

Figure 2-620 Blocklist page



Step 2 Export blocklisted outbound numbers.

1. Click  to export blocklisted outbound numbers by file or server. Enter a compression password and click  to view the plaintext of the compression password.

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Figure 2-621 Setting Export Mode to File export

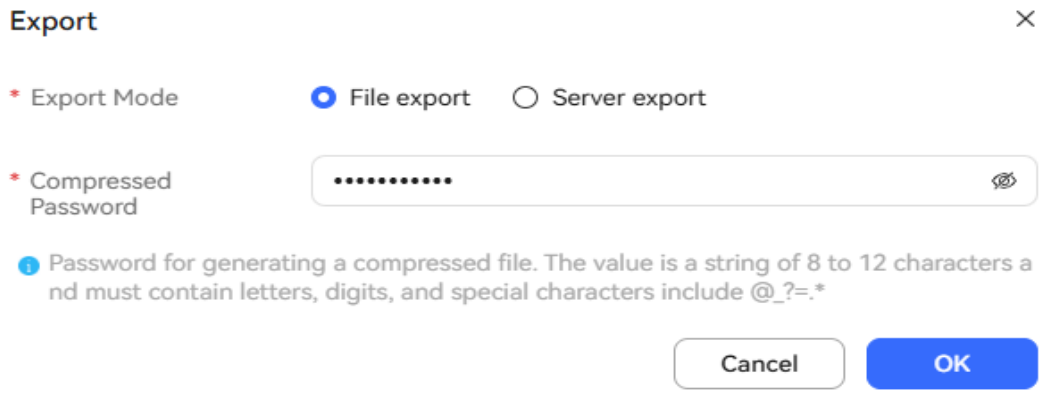
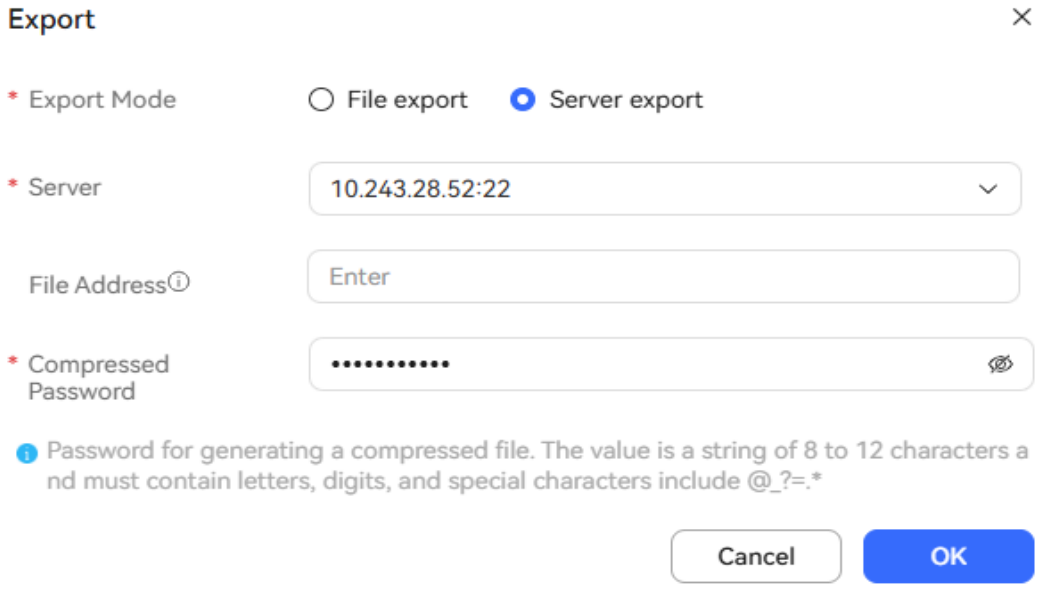


Figure 2-622 Setting Export Mode to Server export



a. Set related parameters. Click **OK**. An outbound number blocklist is exported.

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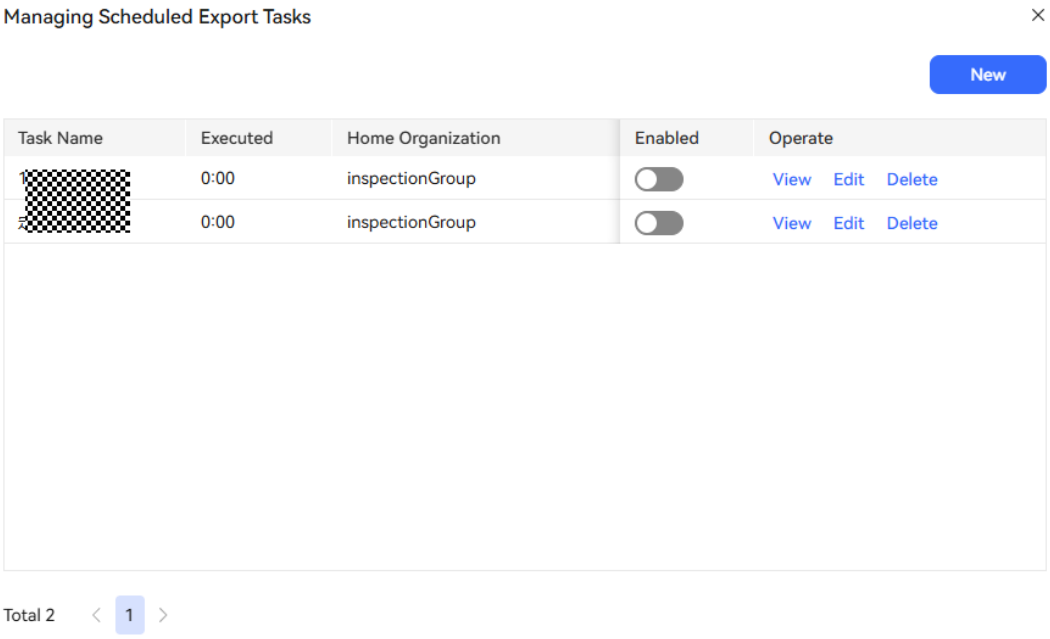
Table 2-202 Parameters in the Export dialog box

Parameter	Description
Export Mode	Mode of exporting blocklisted outbound numbers. The options are as follows: **NOTE** ▪ A single file can contain a maximum of 100,000 data records, and the file is exported as a compressed package. If the number of data records to be exported exceeds this threshold, multiple files are exported and compressed into one package. ▪ In addition, a maximum of 2 million data records can be exported at a time, regardless of which export mode is used. ▪ **File export** ▪ **Server export**
Server	Address of the target server that stores the outbound number blocklist data when the export mode is set to **Server export**.
File Address	Relative path in the default path of the target file server that stores the outbound number blocklist data when the export mode is **Server export**.
Compressed Password	Password for generating compressed files. The password must meet the following requirements: ▪ The password can contain 8 to 12 characters. ▪ The value must contain letters, digits, and the following special characters: @_?=.*

2. Click  to create a scheduled task for exporting an outbound number blocklist.

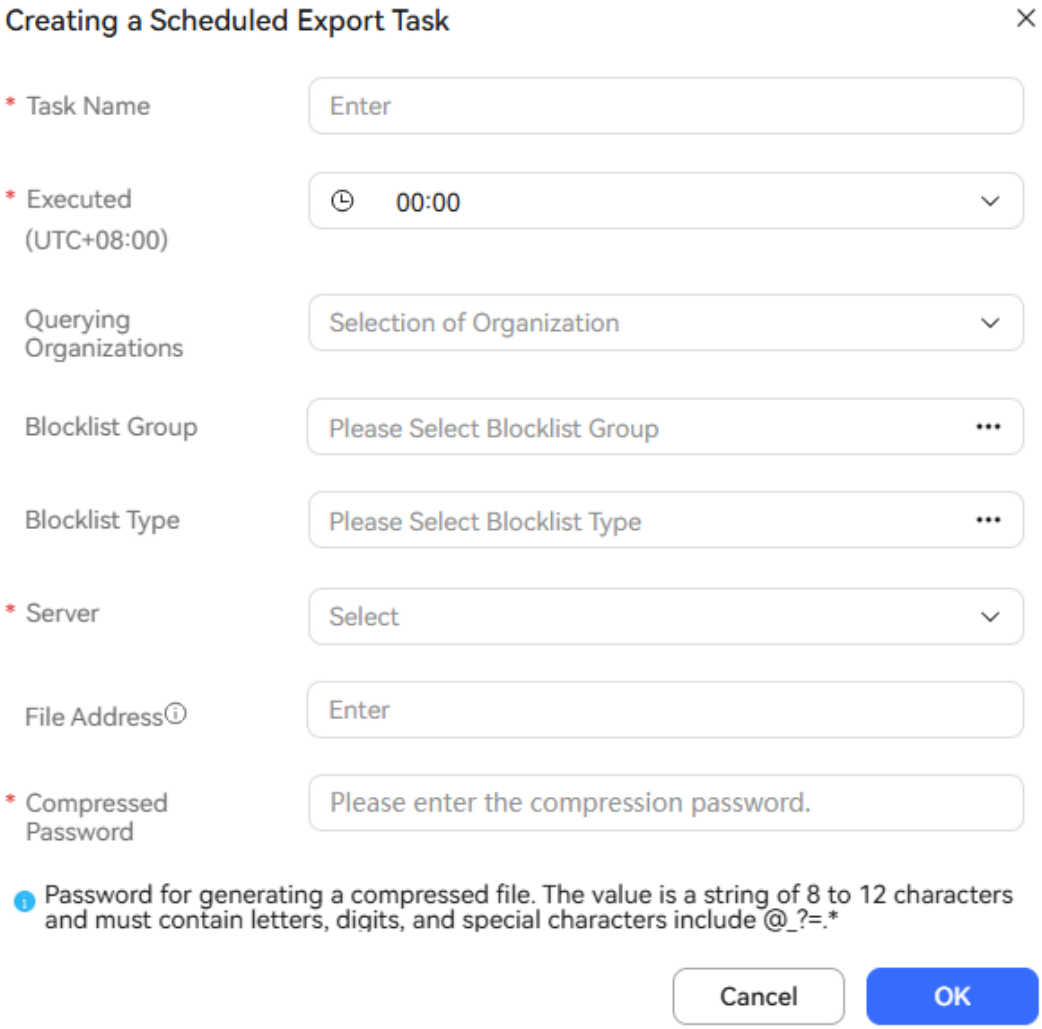
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Figure 2-623 Managing Scheduled Export Tasks page



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Figure 2-624 Creating a Scheduled Export Task page



a. Set related parameters. Click **OK**. A scheduled export task is created.

Table 2-203 Parameters in the Creating a Scheduled Export Task dialog box

Parameter	Description
Task Name	Name of a scheduled export task.
Executed	Execution time of a scheduled task.
Querying Organizations	Home OU of a blocklisted number.
Blocklist Group	For details, see **Step 2**.
Blocklist Type	For details, see **Step 3**.
Server	Address of the target server that stores the outbound number blocklist data.

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Parameter	Description
File Address	Relative path in the default path of the target file server that stores the outbound number blocklist data when the export mode is **Server export**.
Compressed Password	Password for generating compressed files. The password must meet the following requirements: ■ The password can contain 8 to 12 characters. ■ The value must contain letters, digits, and the following special characters: @_?=.*

Step 3 View the export result.

Click  on the **Blocklist** page. In the **Task View** dialog box, view the export result.

----End

2.13.2.3 Defining Business Results

The business result refers to the processing result of the outbound call service. Tenant administrators define common business result types. Agents mark the business result based on the business execution result during the outbound call process.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

For outbound calls, tenant A has the following business results:

1: success

2: failure

3: uncertain

The business result **2** (failure) has the following sub-business results:

1: The customer does not want to purchase the product.

2: The customer has purchased the product.

The business result **3** (uncertain) has the following two sub-business results:

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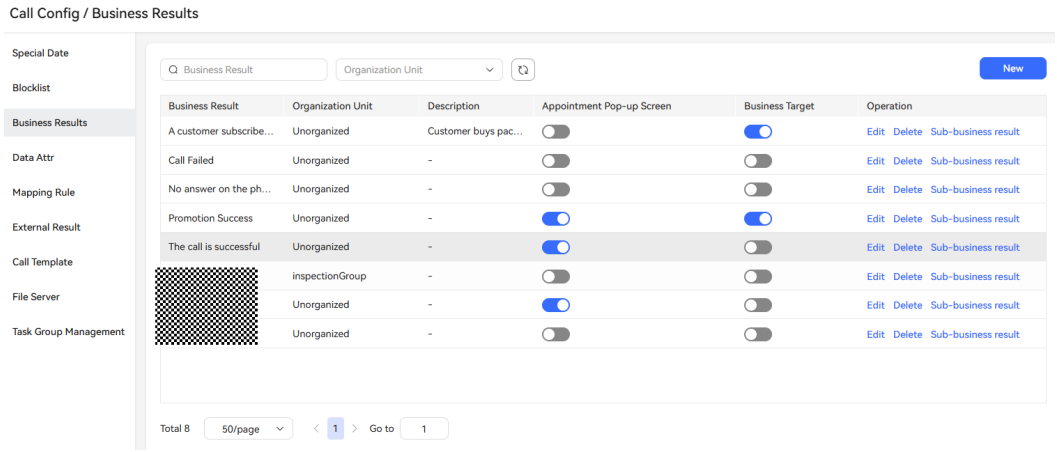
1: The call is not answered by the customer.

2: The call is interrupted.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Business Results**.

Figure 2-625 Business Results



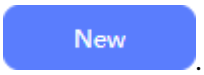
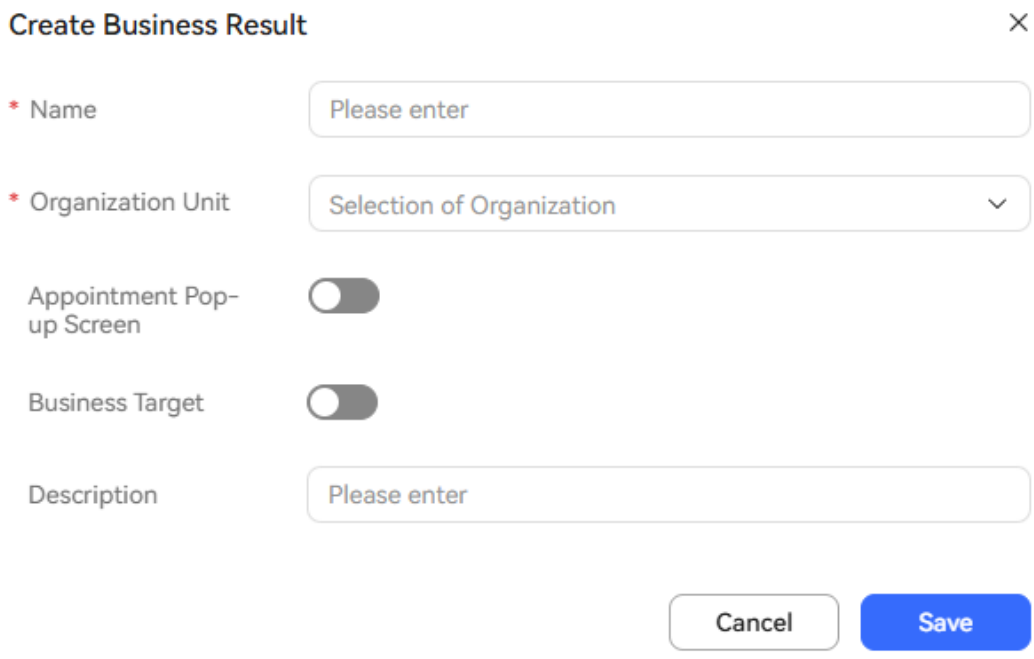
Step 2 Click  . In the **Create Business Result** dialog box, enter related information.

Figure 2-626 Create Business Result

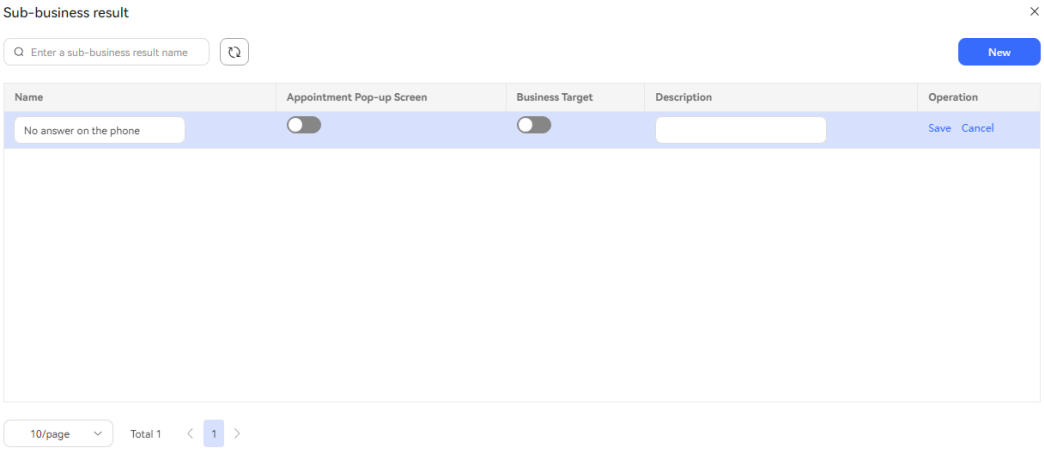


Step 3 Click **OK**.

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Step 4 Click **Sub-business result** in the **Operation** column corresponding to the new business result and click **New**. The maximum number of sub-business result levels is specified by the tenant parameter **Maximum level of the outgoing call service result**. The default value is **6**, and the value ranges from 2 to 6. You can adjust the number of levels under **Configuration Center** > **System Management** > **Tenant Parameter** > **Intelligent Outbound Call** > **Managing Configurations**.

Figure 2-627 Page for creating a sub-business result



Step 5 Configure the sub-business result content and click **Save**.

Step 6 (Optional) Click **Edit** to modify the name and description of the sub-business result.

NOTE

The name of a referenced sub-business result cannot be modified.

Step 7 Enable **Appointment Pop-up Screen** corresponding to the business result. After an agent selects and saves the business result on the outbound call workbench, the reserved outbound call task dialog box is displayed.

Step 8 Enable **Business Target** corresponding to the business result. After an agent selects and saves the business result on the outbound call workbench, the number of calls that have achieved the business target is incremented by 1 on the **Outbound Call** > **Call Monitor** page.

----End

2.13.2.4 Defining Outbound Call Data Attributes

The purpose of defining outbound call attributes is to create customized attributes for outbound call data configuration. The attributes can be used for outbound call filtering and sorting.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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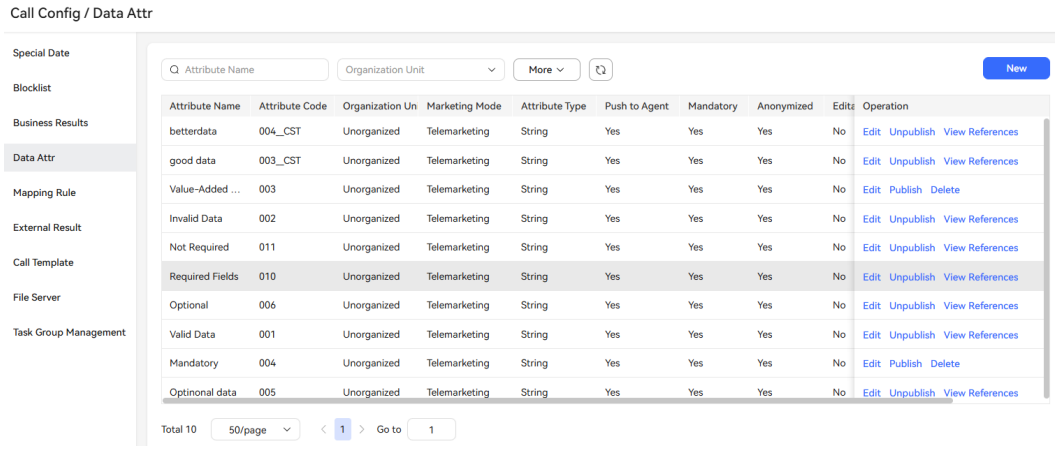
Context

A tenant can set business information about a specific enterprise, for example, the customer name and arrears amount defined in an outbound call attribute.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Data Attr**.

Figure 2-628 Data Attr



Step 2 Click **New** and configure attribute parameters.

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Figure 2-629 Create Attribute

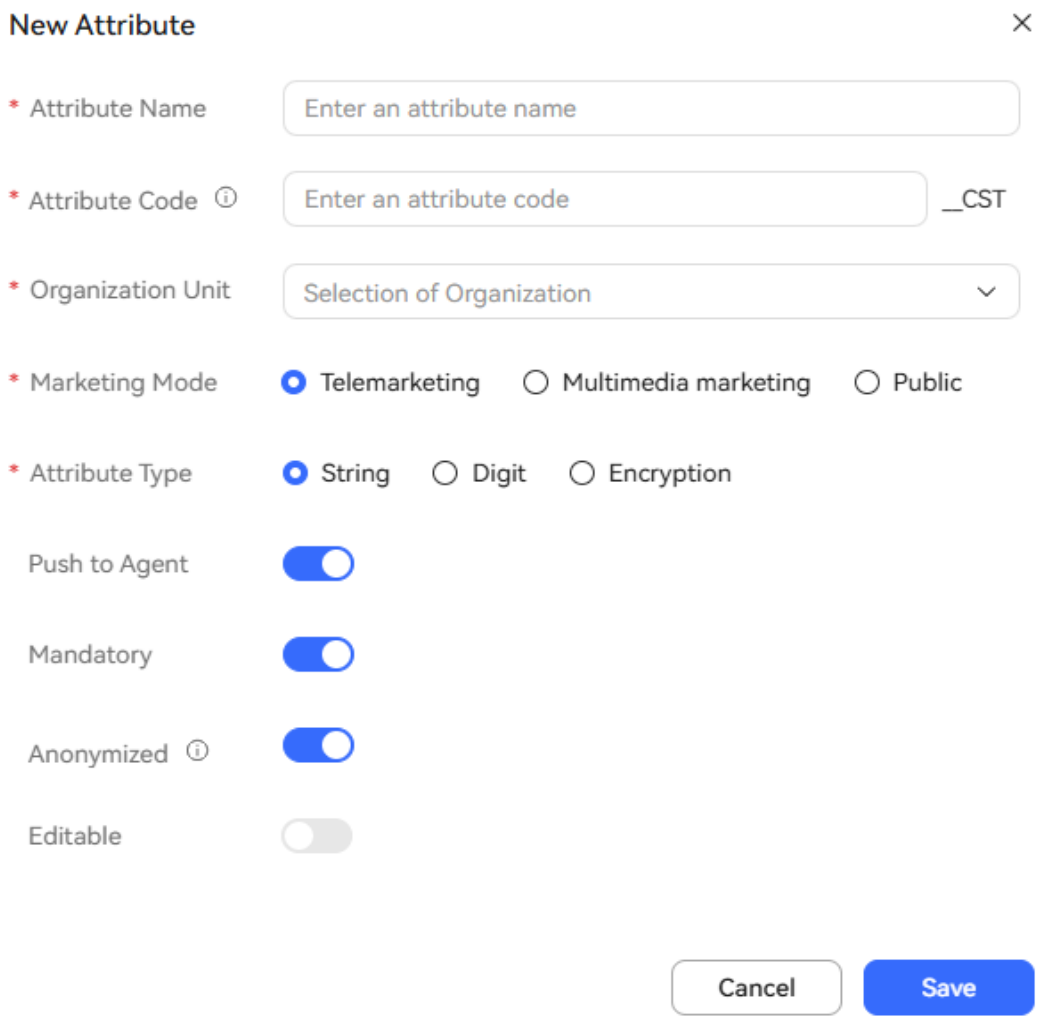


Table 2-204 Parameters on the Create Attribute page

Parameter	Description
Attribute Name	Attribute name, which is customized. The value can contain a maximum of 20 characters.
Attribute Code	Attribute code, which is customized. The value can contain a maximum of 30 characters. Digits, letters, and hyphens (-) are allowed. When letters are used as attribute codes, outbound call attributes can be sorted in alphabetical order.

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Parameter	Description
Organization Unit	The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Marketing Mode	• **Telemarketing** • **Multimedia marketing** • Public (available for both **Telemarketing** and **Multimedia marketing**)
Attribute Type	Attribute type. The options are as follows: • **String** • **Digit** • **Encryption** **NOTE** For security purposes, set **Attribute Type** to **Encryption** if the attribute contains personal data, such as the customer ID card number.
Push to Agent	The options are as follows: •  : The attribute is displayed on the outbound call workbench. • 
Mandatory	The options are as follows: •  • 

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Parameter	Description
Anonymized	The options are as follows: •  •  **NOTE** For security purposes, set **Anonymized** to **Yes** if the attribute contains personal data, such as the customer ID card number.
Editable	The options are as follows: •  • 

Step 3 Click **OK**. The attribute is successfully created and is in unpublished state.

Step 4 (Optional) If the created data attribute is incorrect, click **Edit** in the **Operation** column to edit the attribute content, including **Attribute Name**, **Push to Agent**, **Mandatory**, **Anonymized**, and **Editable**.

(Optional) If the data attribute is no longer needed, click **Delete** in the **Operation** column to delete it.

Step 5 Click **Publish** in the **Operation** column corresponding to the new data attribute to publish it.

Step 6 Select a published data attribute and click **Unpublish** to cancel it.

----End

2.13.2.5 Defining Outbound Call Results

Outbound call results can be defined to identify the causes of failed outbound call tasks.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

For failed calls, the outbound call system records cause codes based on the failed process nodes and communication signaling. Cause codes can be configured in sequence based on business scenarios. Multiple cause codes can be aggregated into one outbound call failure cause, based on which outbound call results are pushed back.

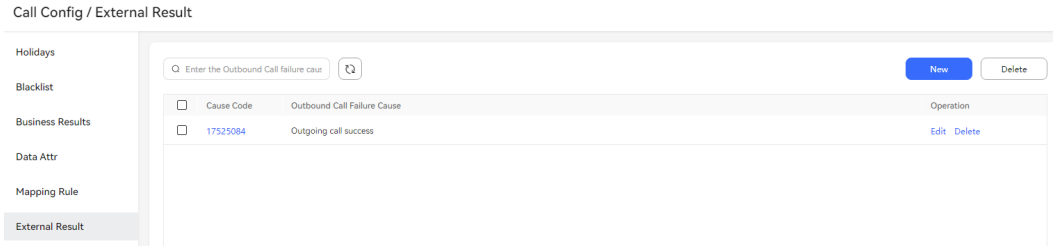
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The mappings between outbound call failure causes and cause codes are preset in the system before delivery. You can customize the mappings as required.

Procedure

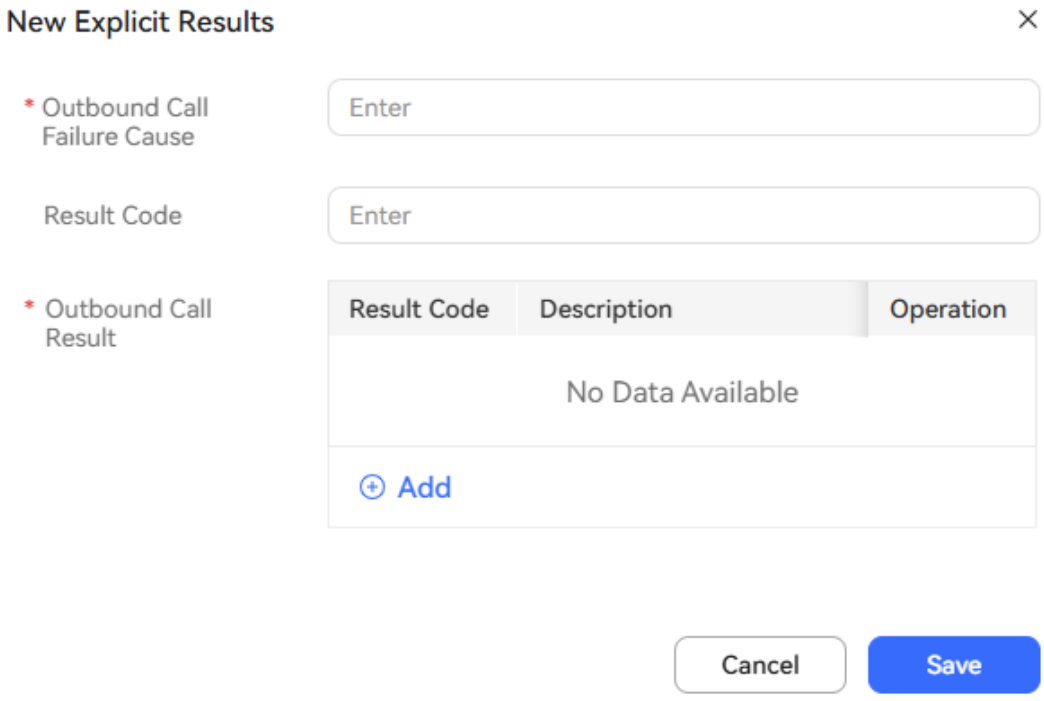
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **External Result**.

Figure 2-630 External Result



Step 2 Click **New** to create an outbound call result.

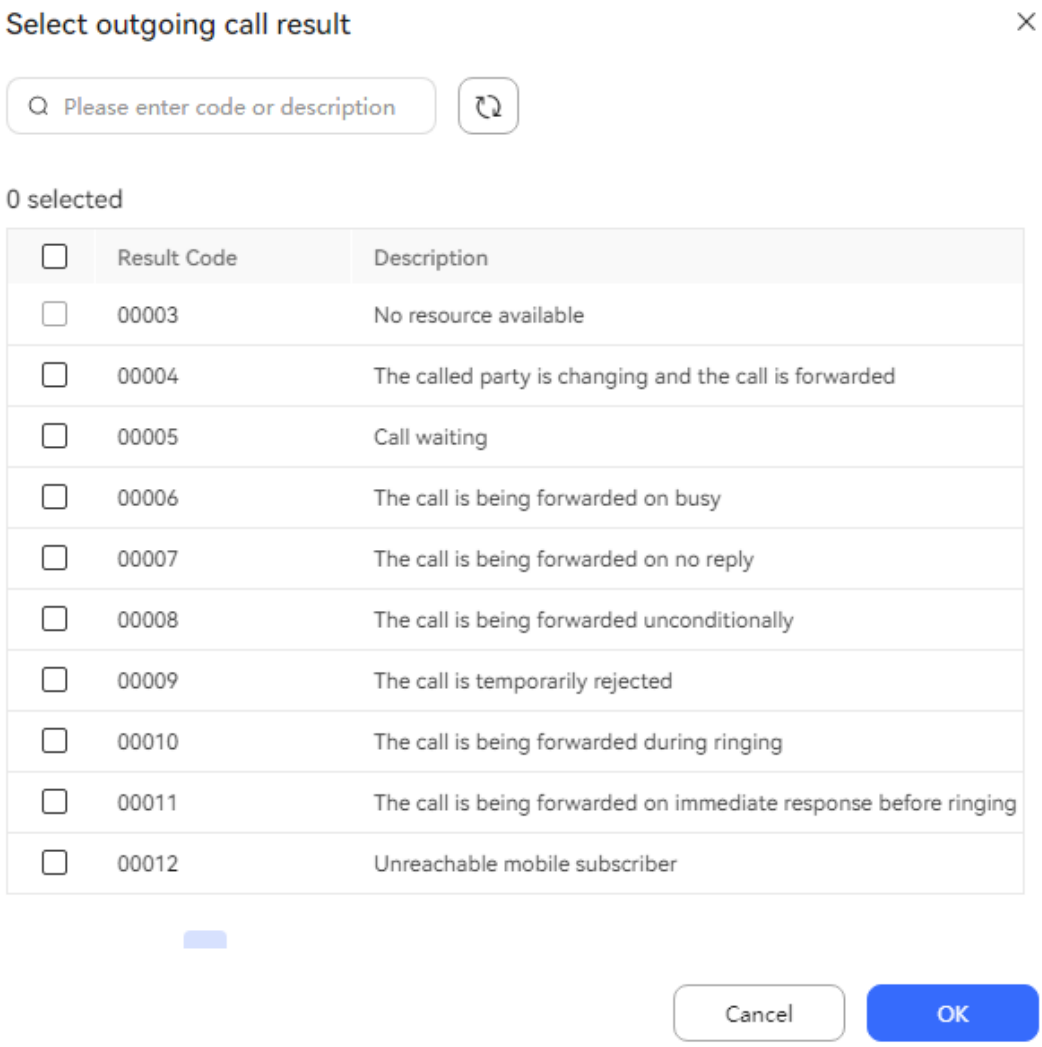
Figure 2-631 New Explicit Results page



Step 3 Configure the outbound call failure cause and click **Add** to add outbound call results.

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Figure 2-632 Adding outbound call results



Step 4 Select one or more outbound call results and click **OK**.

Step 5 Click **OK**.

----End

2.13.2.6 Creating Outbound Call Templates

The use of outbound call templates facilitates creation of outbound call tasks. Many outbound call tasks use similar settings, except time and names. Therefore, using an existing outbound call template considerably shortens the time spent in creating outbound call tasks.

Prerequisites

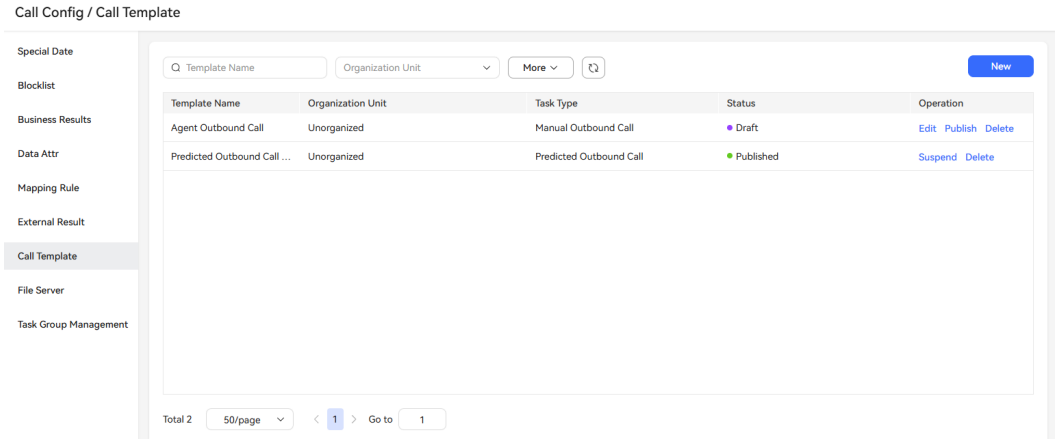
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Scenario 1: Creating a Common IVR Template

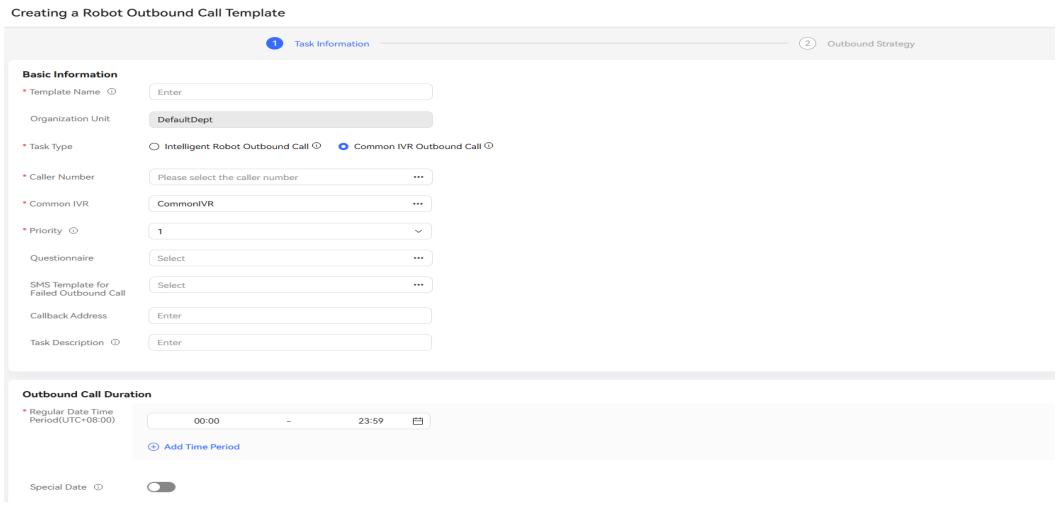
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Figure 2-633 Call Template page



Step 2 Click **New** and select **Robot Outbound Call** from the **Call Type** drop-down list.

Figure 2-634 Page for creating a common IVR outbound call template

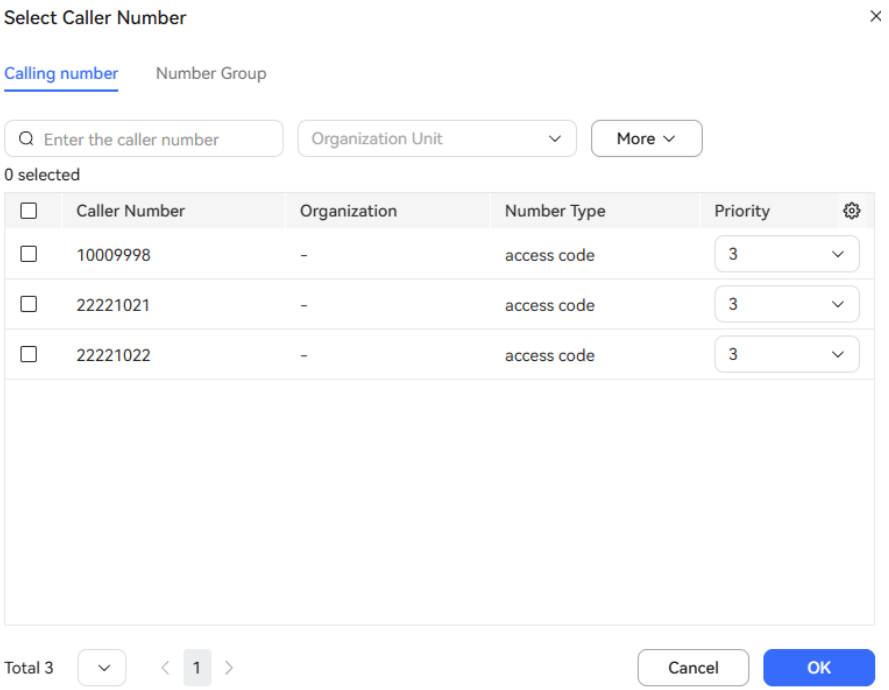


Step 3 Configure basic template information.

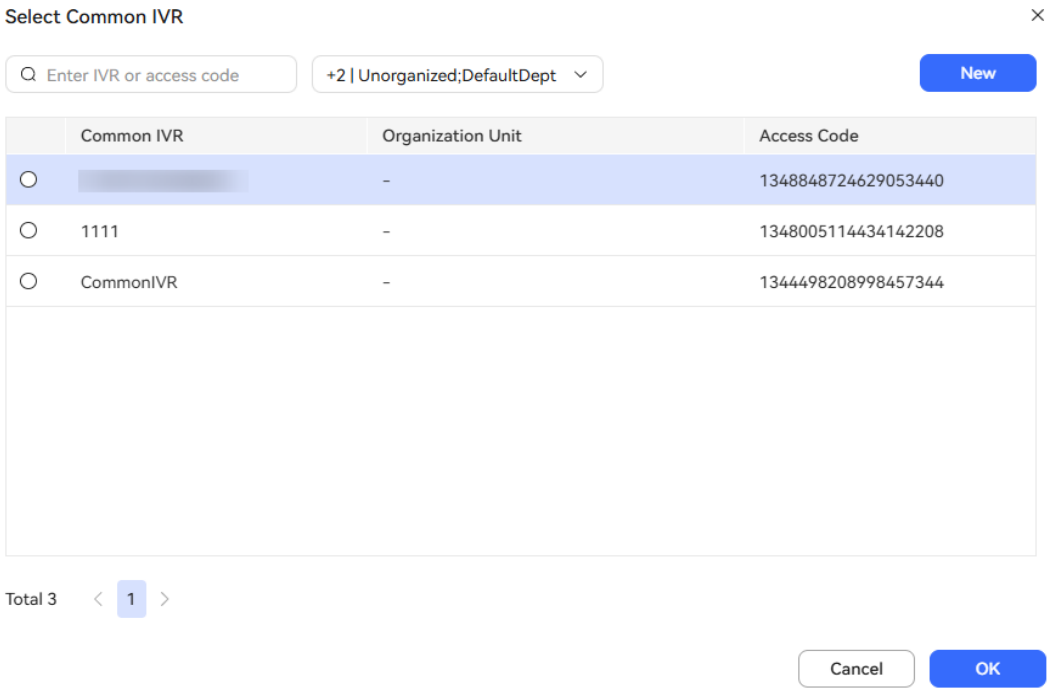
1. Click the **Caller Number** selection box. The **Select Caller Number** dialog box is displayed. The default value of **Priority** is **3**. You can select a value from the drop-down list.

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Figure 2-635 Select Caller Number page



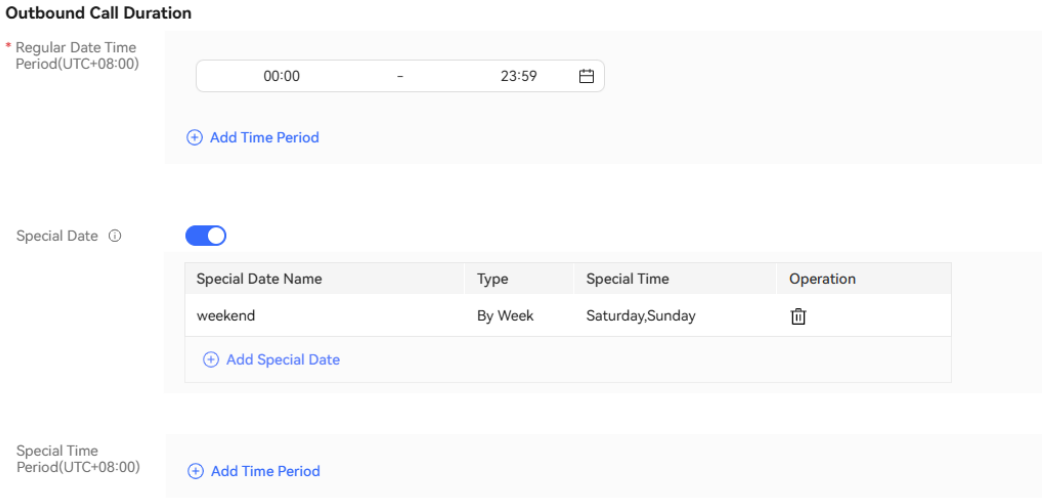
2. Select a calling number or number group and click **OK**. You can select only one number group and cannot select numbers from the number list at the same time.
3. Select an IVR flow and click **OK**.

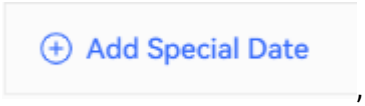


Step 4 Set the outbound call duration.

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Figure 2-636 Outbound Call Duration page

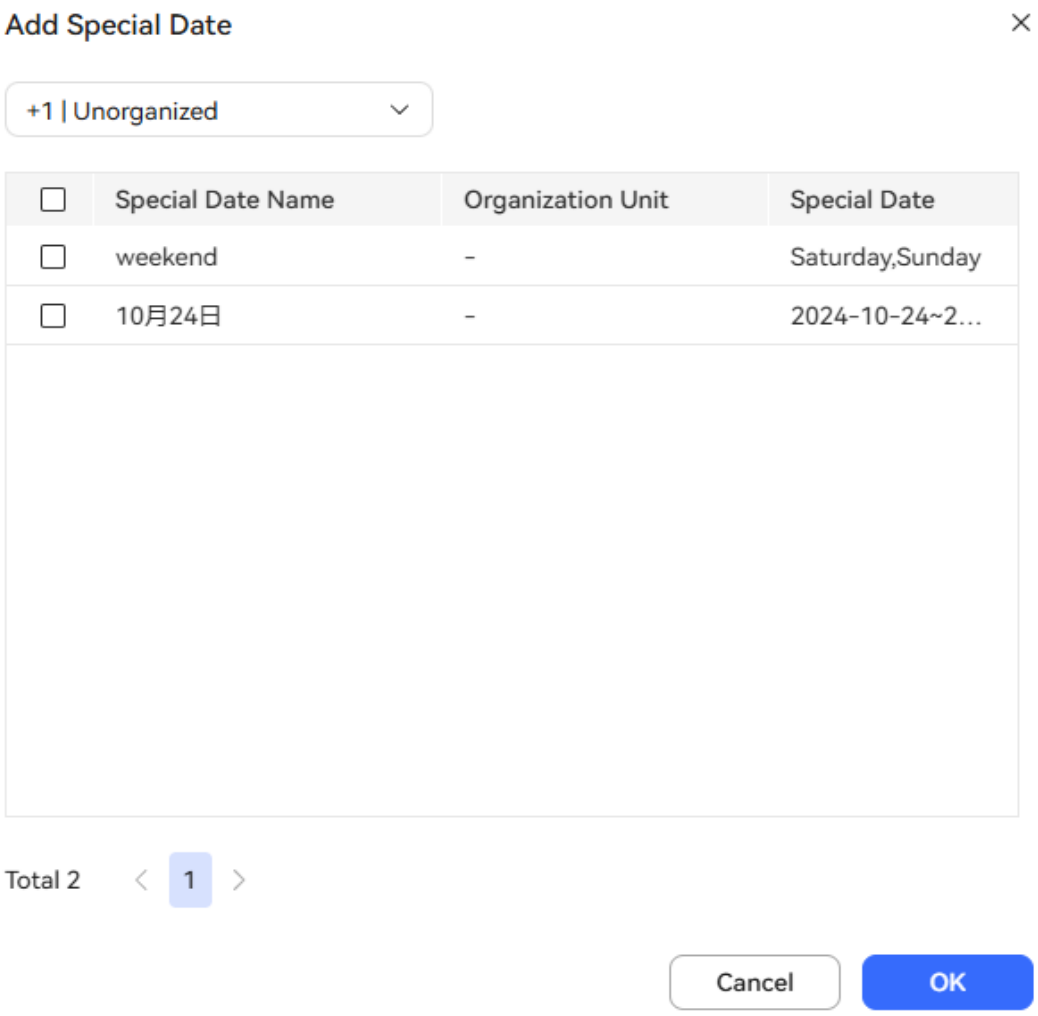


- **Regular Date Time Period(UTC+08:00)**: (Mandatory) Set at least one outbound call time period.
- **Special Time Period(UTC+08:00)**: (Optional) If special dates are configured, set at least one outbound call time period for the special dates.
- **Special Date**: (Optional) Click 

, select special dates in the **Add Special Date** dialog box, and click **OK**. For details about how to configure special dates, see **2.13.2.1 Managing Special Dates**.

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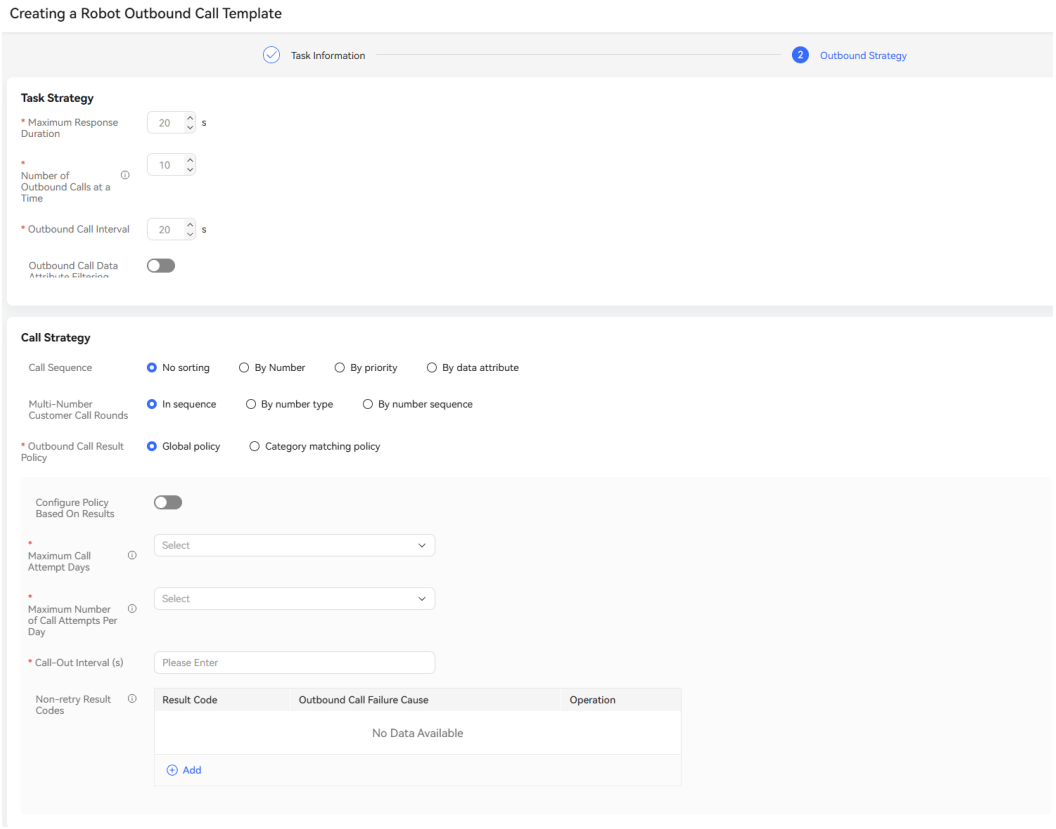
Figure 2-637 Add Special Date page



Step 5 Click **Next**.

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Figure 2-638 Outbound Strategy page



NOTE

By default, **Outbound Call Data Attribute Filtering** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 6 Click **Confirm**.

Step 7 On the **Call Template** page, click **Publish** corresponding to the new outbound call template in **Draft** state. The template changes to the **Published** state.

Step 8 (Optional) To modify a published outbound call template, click **Suspend**. After the template changes to the **Suspended** state, click **Edit** to edit the template. After the editing is complete, click **Publish** to change the template to the **Published** state. (Optional) To delete an unnecessary outbound call template, click **Delete**.

----End

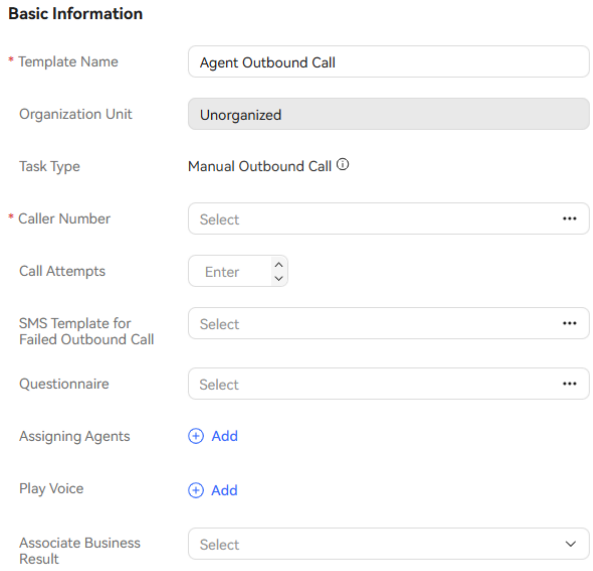
Scenario 2: Creating a Manual Outbound Call Template (This scenario is not supported in independent deployment mode.)

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Step 2 Choose **New** > **Manual outgoing call template**.

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Figure 2-639 Create Manual Outbound Call Template



Step 3 Enter basic information as required and click **Save**.

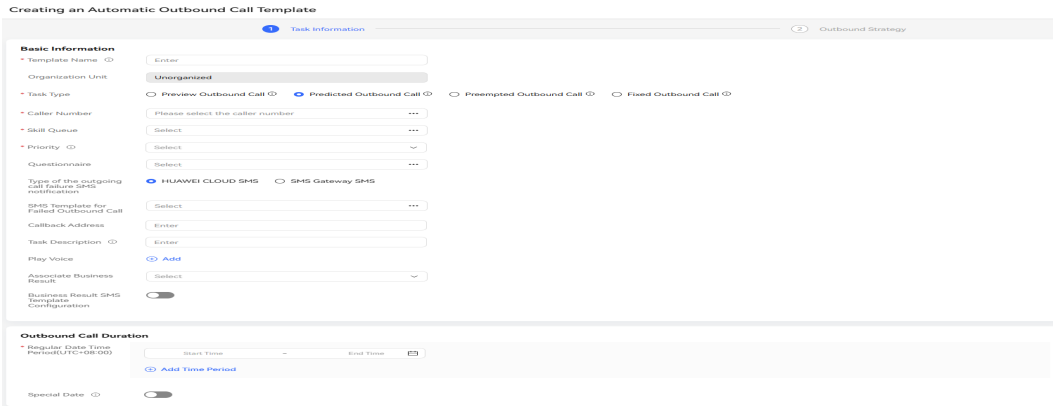
----End

Scenario 3: Creating an Automatic Outbound Call Template

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Step 2 Choose **New** > **System Automatic Outbound Call**.

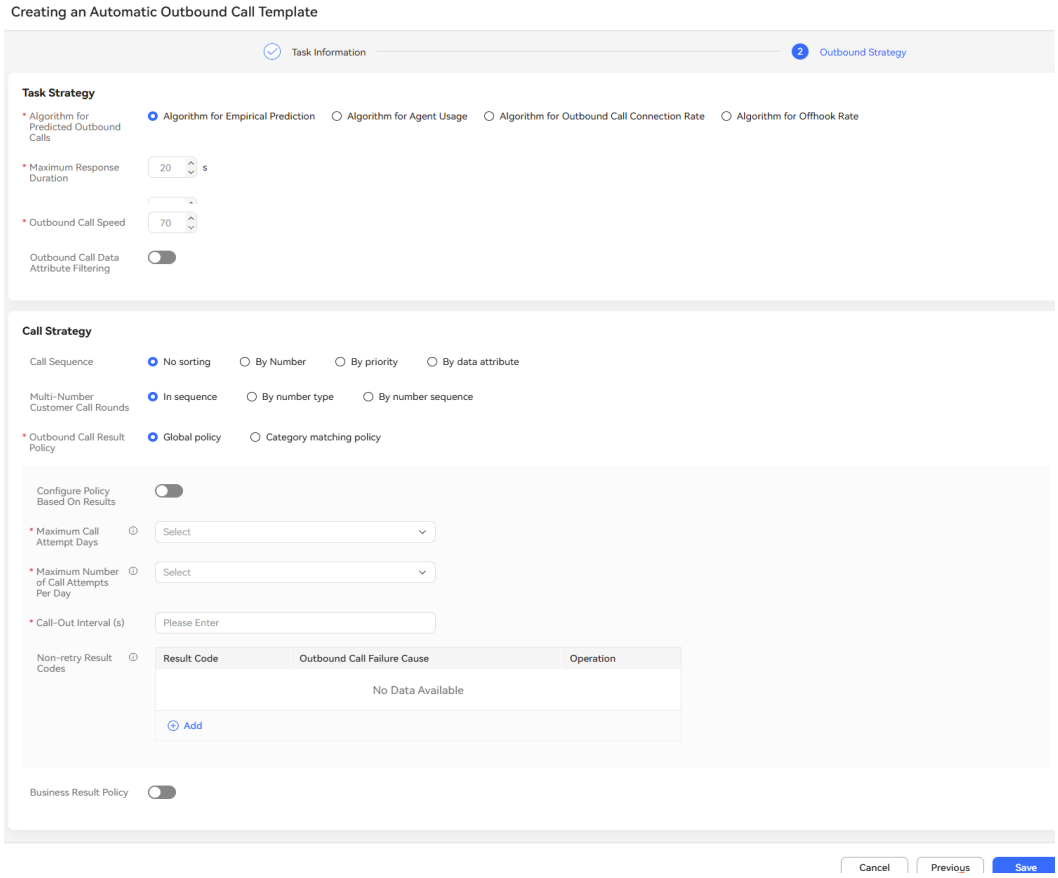
Figure 2-640 Creating an Automatic Outbound Call Template page



Step 3 Enter information on the **Task Information** and **Outbound Strategy** tab pages as required and click **Confirm**.

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Figure 2-641 Outbound Strategy page



NOTE

By default, **Outbound Call Data Attribute Filtering** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

----End

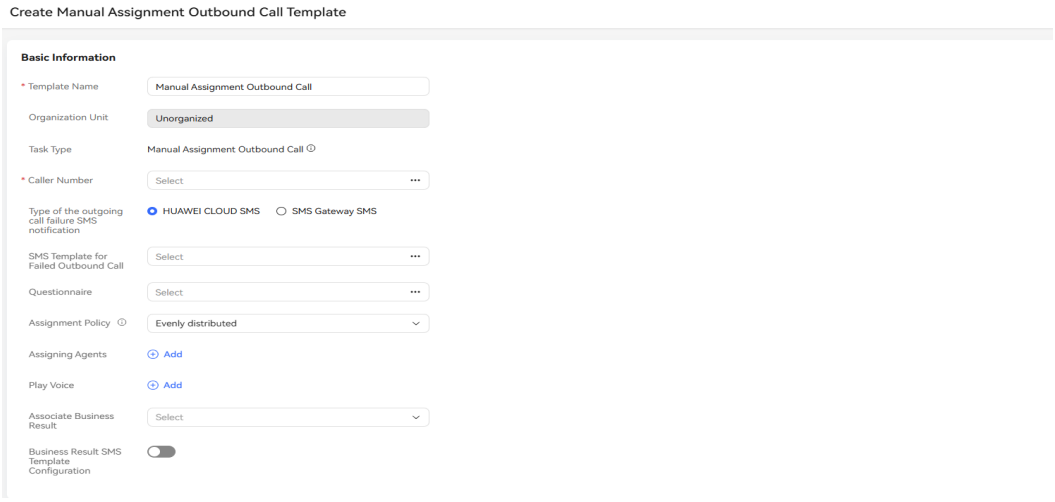
Scenario 4: Creating a Manual Assignment Outbound Call Template

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Call Template**.

Step 2 Click **New** and select **Manual Assignment Outbound Call** from the **Call Type** drop-down list. The **Create Manual Assignment Outbound Call Template** page is displayed.

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Figure 2-642 Create Manual Assignment Outbound Call Template page



Step 3 Set parameters in the **Basic Information**, **Call Policy**, and **Outbound Call Duration** areas, and click **Save**. The manual assignment outbound call template is successfully created.

Table 2-205 Manual assignment outbound call

Manual Assignment Outbound Call	Description
Basic Information	
Task Name	Task name, which is customized. This parameter is mandatory. The value can contain a maximum of 100 characters.
Organization Unit	The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
Task Type	Manual assignment outbound call.
Task Template	Select a template.
Caller Number	1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers of all OUs, including **Unorganized**, can be selected. 3. A maximum of 100 calling numbers can be added.
Task Time	Start time and end time of an outbound call task.

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Manual Assignment Outbound Call	Description
Call Attempts	Maximum number of call attempts. This parameter is mandatory. A failed call can be manually initiated again. When the number of call attempts reaches the maximum, unless the call is successful, the call cannot be initiated again. The value is an integer ranging from 1 to 6.
Type of the outgoing call failure SMS notification	• **HUAWEI CLOUD SMS** • **SMS Gateway SMS**
SMS Template for Failed Outbound Call	1. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS**. The recipient of an SMS message for a failed outbound call is the customer. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
Questionnaire	Select a published manual questionnaire or manual and IVR questionnaire. For details, see **2.14.1 Configuring Surveys**.
Assignment Policy	• **Evenly distributed**: The pending calls are evenly allocated to agents. For example, if there are two agents, agent A and Agent B, the supervisor allocates 10 numbers for the first time and 20 numbers for the second time, each agent has 15 pending calls. If the supervisor allocates three numbers to agent A and agent B, agent A has two pending calls and agent B has one pending call based on the import sequence. When the outbound call data is imported next time, the data is imported to agent B first. • **Do not assign automatically**: After outbound call data is imported, all pending calls are in the to-be-allocated state. • **Resource pool allocation**: The pending calls are allocated in the import sequence.

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Manual Assignment Outbound Call	Description
Assigning Agents	Click  to select agents in an associated voice skill queue to execute the outbound call task. • If **defaulAudioSkill** in the **Skill Queue** column is selected, the outbound call task is executed by all agents in the skill queue. • If **Specified Agent** is selected, the outbound call task can be executed by a specified agent. • If **Lower Level Administrator** is selected, the outbound call task can be executed by the corresponding supervisor or any lower-level employee.
Blocklist Group	• **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period. 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.
Play Voice	1. A voice can be selected and played to the customer during a call. The options are voice resources configured on the **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** page. A maximum of 10 voice resources can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.

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Manual Assignment Outbound Call	Description
Associate Business Result	1. After you associate a task with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.
Business Result SMS Template Configuration	Set an SMS template whose **Notification Type** is **External Notification** based on the business result. If a business result is selected during a call, the system notifies the customer based on the template. A maximum of 10 templates can be added.
Call Policy: Set call policies for extracting outbound call data. For details about how to extract outbound call data, see **Step 6** and **Step 7**.	

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Manual Assignment Outbound Call	Description
Call Sequence	1. **Number of calls**: Calls are made in descending order based on the number of calls. A phone number with more number of calls has a higher priority. 2. **By Attribute**: Calls are made in ascending or descending order based on the attribute configuration. 3. **By import order**: Calls are made in descending order based on the batch creation time first and then the outbound call data import sequence. 4. **By priority**: After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority. **NOTE** When an agent extracts outbound call data, the maximum number of outbound call data records that can be extracted at a time is specified by the tenant parameter **Maximum number of outgoing call data obtained at a time**. The default value is **5**, and the value ranges from 1 to 20. You can contact the tenant administrator to set the value on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Maximum Call Attempt Days	During extraction of outbound call data for initiating calls, if a number has been called within the configured number of days for call attempts, it cannot be called again.
Maximum Number of Call Attempts Per Day	During extraction of outbound call data for initiating calls, if the number of calls made to a number on the current day is greater than the value of **Maximum Number of Call Attempts Per Day**, the number cannot be called again.
Call-Out Interval (min)	During extraction of outbound call data for initiating calls, multiple calls are not allowed within a specified interval.
Outbound Call Duration	
Prohibited Call Date 	After **Prohibited Call Date** is enabled for a manual assignment outbound call task, the value of **Task Status** of this task is **Suspend** on the **Outbound Call Task** > **Agent Call** page, indicating that this task cannot be executed within the prohibited time range.

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Manual Assignment Outbound Call	Description
Add Prohibited Date	A prohibited date is added. For details, see **2.13.2.1 Managing Special Dates**.
Add Time Period	Add a time period, for example, from 18:00 to 23:59. A maximum of three time periods can be added.

----End

2.13.2.7 Managing the Special List

Invalid numbers can be automatically filtered. The invalid numbers or system prompt tones identified by outbound call tasks can be added to the special list. The tenant administrator determines whether to transfer these numbers to the blocklist or ignore them.

Prerequisites

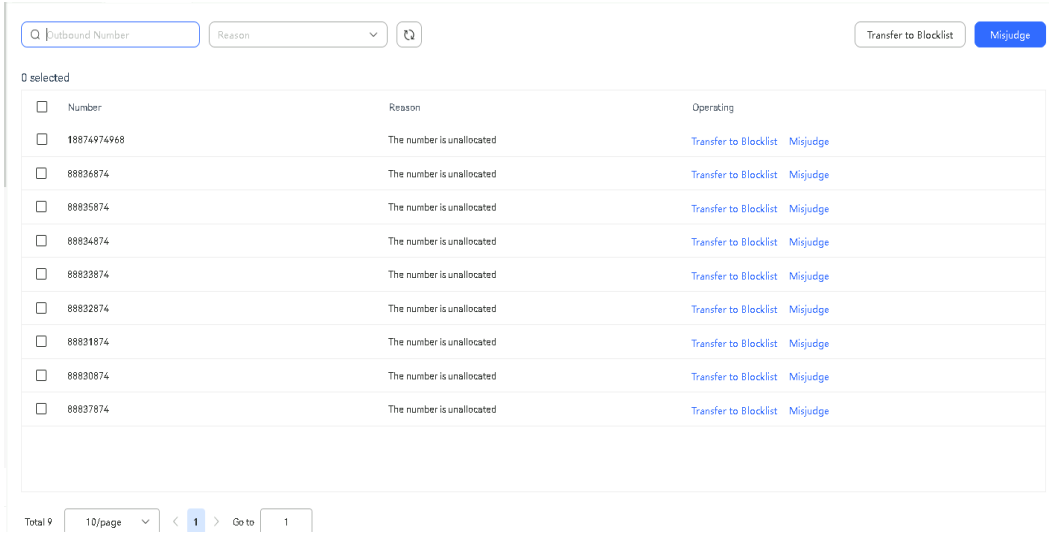
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Special List**.

By default, numbers that have been added to the outbound call special list of the tenant space are displayed.

Figure 2-643 Special List page



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Step 2 Perform the following operations on numbers in the special list:

- **Misjudge**
  a. Select a misjudged number and click **Misjudge**.
  b. In the **Remarks** text box, enter the reason why the number is misjudged.
  c. Click **Save**. The outbound number is removed from the special list.
- **Transfer To Blocklist**
  a. Select a number to be added to the blocklist and click **Transfer To Blocklist**.
  b. Click **OK**. The outbound number is added to the blocklist.

Step 3 Enter a number in the search criteria to query information about the number to be reviewed.

----End

2.13.2.8 Configuring an Outbound Call File Server

A tenant administrator can configure a server for storing outbound call files.

Prerequisites

1. You have contacted the system administrator to add the IP address of a file server to the trustlist.
2. Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

NOTE

If neither the role bound to an agent nor the role bound to the home OU of the agent does not have the **Edit File Server** permission, click the hyperlink in the **Server Information** column to view the file server details.

Context

When configuring outbound call data in an outbound call task, you can import data from a server. In this case, you need to configure the source SFTP server and related file information, and select a file-data mapping rule.

You can import a blocklist from a server. Upload the blocklist template to the corresponding path on the server, and enter the file name and path when importing the blocklist.

You can import multimedia marketing data from a server. Upload the multimedia marketing data template to the corresponding path on the server, and then enter the file name and path when importing multimedia marketing data. In addition, you can select a parsing mode for a mapping rule.

Procedure

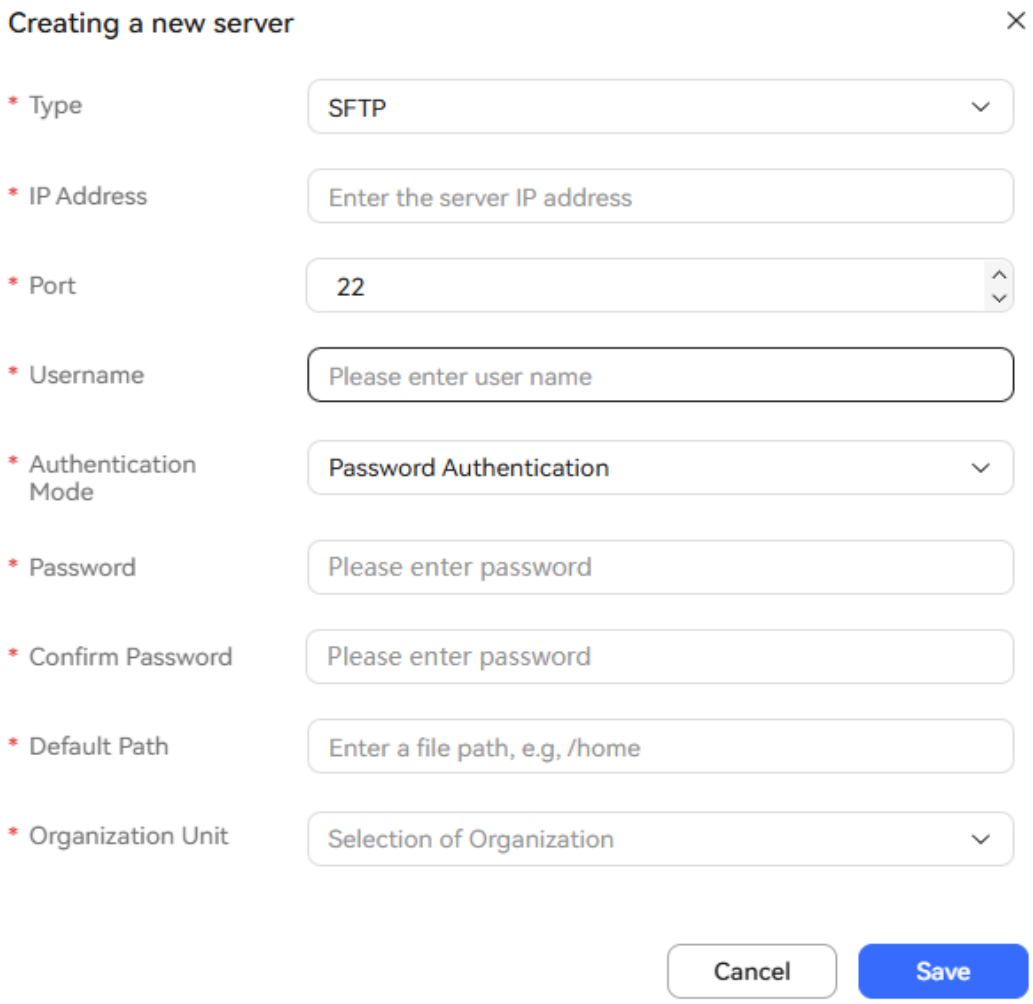
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **File Server**.

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Step 2 Click **New** to add an outbound call file server.

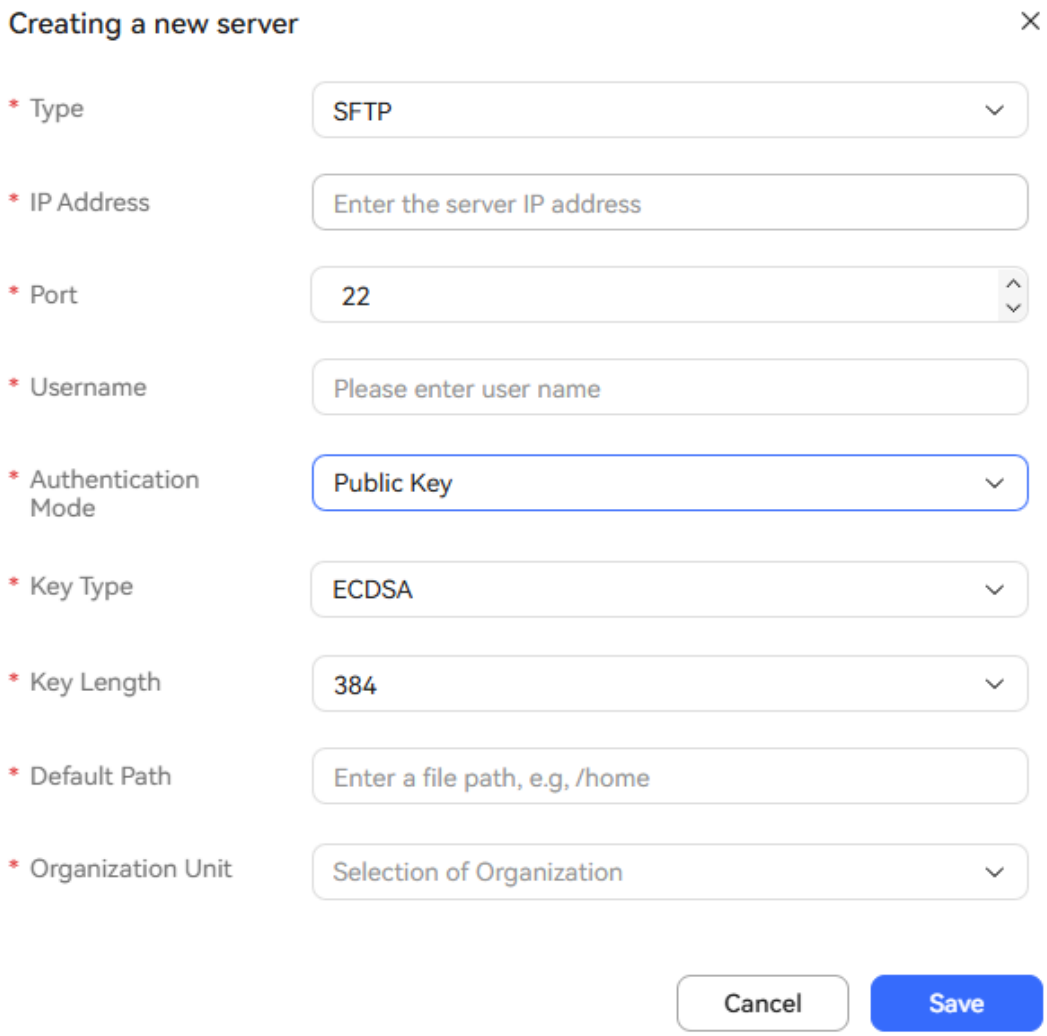
Set **Type** to **SFTP** or **OBS** as required.

Figure 2-644 Adding an SFTP file server



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Figure 2-645 Authentication mode being Public Key



- **Type**: Set this parameter to **SFTP**.
- **IP Address**: IP address of the file server where outbound call data is stored. The IP address must be in the trustlist.
- **Port**: Port number of the server.
- **Username**: Username for logging in to the server. The value can contain a maximum of 30 characters.
- **Authentication Mode**: **Password Authentication** and **Public Key** are supported.
- **Key Type**: **RSA** and **ECDSA** are supported.
- **Key Length**: maximum length of the key; unit: character. If this field is modified, the public key is automatically updated. The public key of the server should be updated in time.
- **Password** and **Confirm Password**: Password for connecting to the server.
- **Default Path**: Path for storing outbound call data. The value must start with **/**.
- **Organization Unit**: The options are as follows:

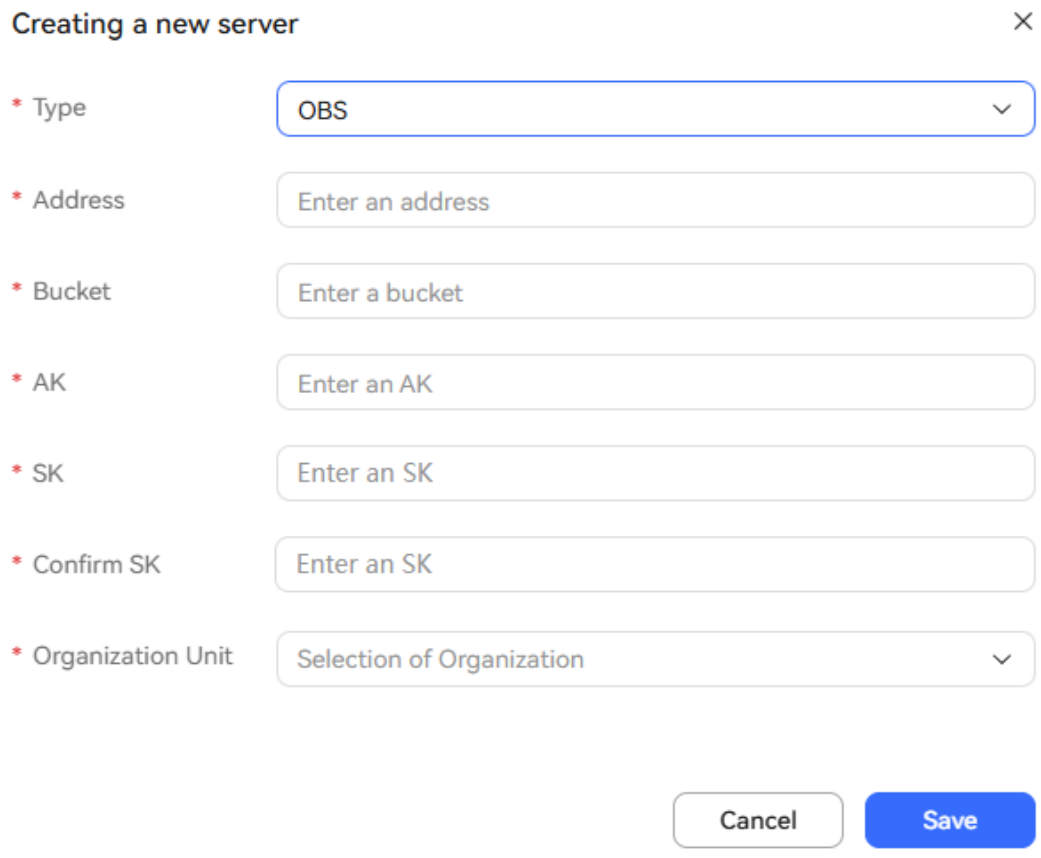
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- Tenant administrator: All OUs under the current tenant are available.
- Agent:
  i. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available.
  ii. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available.
  iii. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available.

  NOTE

  Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Figure 2-646 Adding an OBS file server



- **Type**: Set this parameter to **OBS**. Object Storage Service (OBS) provides customers with secure, highly-reliable, and low-cost data storage of massive data without considering the capacity limit. In addition, OBS provides customers with multiple storage types to meet their requirements in various business scenarios.
- **IP Address**: IP address for storing outbound call data files.
- **Bucket**: Container for storing objects in OBS.

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- **AK** and **SK**: Access key of the OBS server, which is used for authentication. The AK and SK are obtained after OBS is purchased.

  NOTE

  OBS file servers are supported only in the SaaS environment.

- **Organization Unit**: The options are as follows:
  - Tenant administrator: All OUs under the current tenant are available.
  - Agent:
    i. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available.
    ii. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available.
    iii. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available.

    NOTE

    Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 3 Click **OK** to save the outbound call file server configuration.

----End

2.13.2.9 Mapping Rule

A tenant administration can specify the mapping between outbound call data import files and data import rules.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

NOTE

If neither the role bound to an agent nor the role bound to the home OU of the agent does not have the **Edit Mapping Rule** permission, click the hyperlink in the **Rule Name** column to view the mapping rule details.

Context

When configuring outbound call data in an outbound call task, you can import data from a server. In this case, you need to configure the source SFTP server and related file information, and select a file-data mapping rule.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Mapping Rule**.

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Step 2 Click **New** to add a mapping rule between outbound call data fields and the column numbers of the fields in the imported file.

Figure 2-647 Add Rule

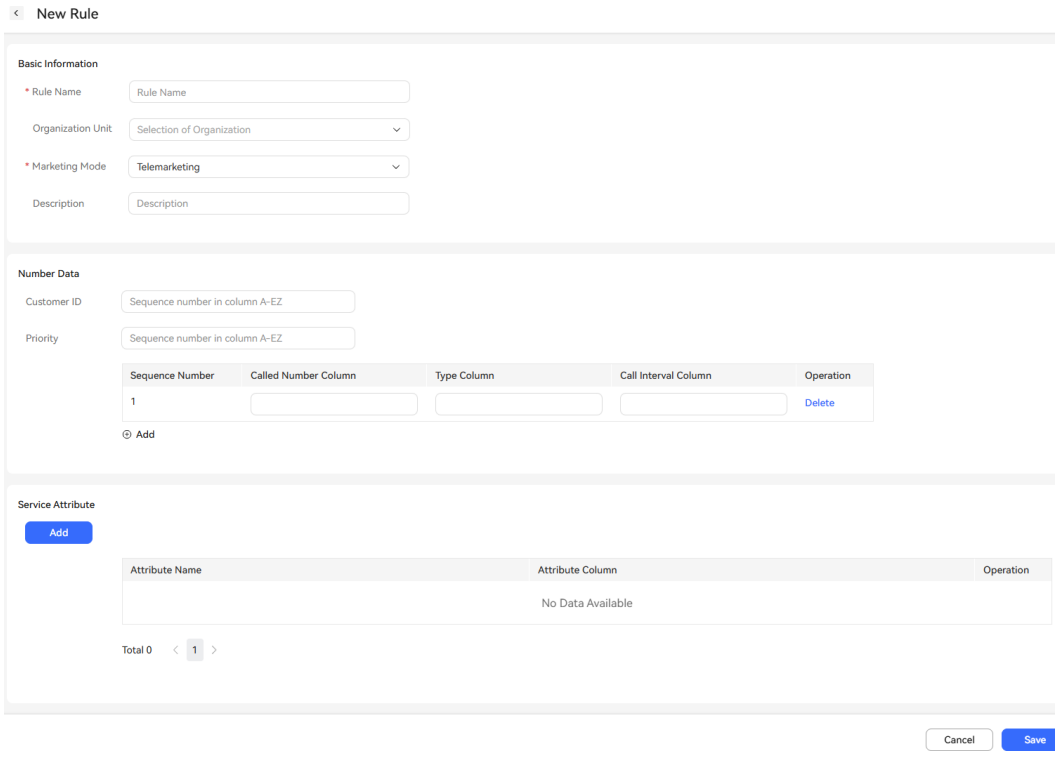


Table 2-206 GUI elements on the Add Rule page

Element/ Component	Description
Basic Information: Mapping rule information.	
Rule Name	Customized rule name.

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Element/ Component	Description
Organization Unit	The options are as follows: • Tenant administrator: All OUs under the current tenant are available. • Agent: 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available. 3. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available. **NOTE** You can contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Marketing Mode	• **Telemarketing** • **Multimedia marketing**
Description	Description of a mapping rule.
Number Data: Mapping rule between outbound call data fields and the column numbers of the fields in the imported Excel file. You are advised to enter the value of **Called Number Column** starting from **A** to ensure that column A is used and contains data.	
Customer ID	Number of the column where the field is located in the imported file.
Priority	Number of the column where the field is located in the imported file. **NOTE** When adding outbound call data, you can set the priority. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.
Called Number Column	Number of the column where the field is located in the imported file.
Type Column	Number of the column where the field is located in the imported file.
Call Interval Column	Number of the column where the field is located in the imported file.
Service Attribute: Mapping rule between outbound call data attribute fields and the column numbers of the fields in the imported file.	

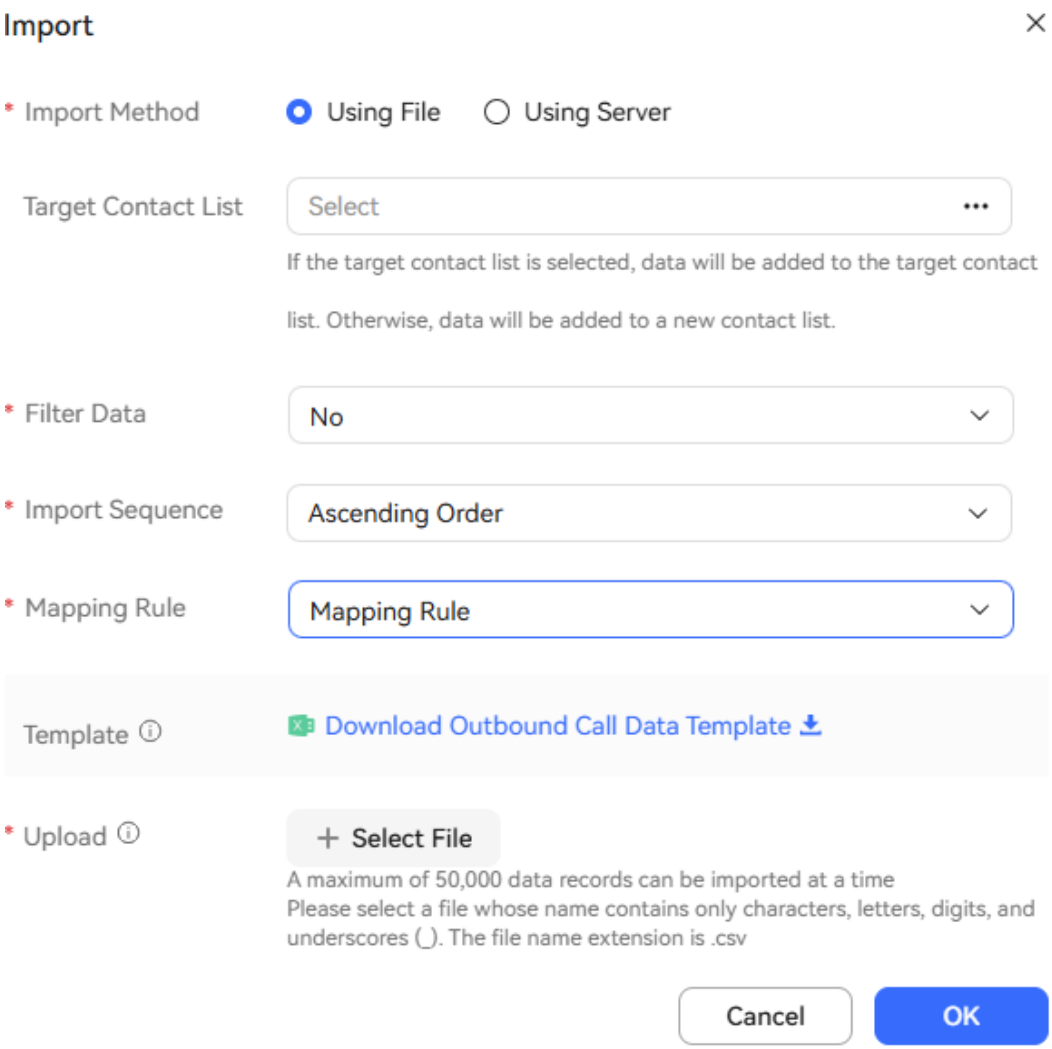
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Element/ Component	Description
Attribute Name	Configured attribute.
Attribute Column	Number of the column where the attribute is located in the imported file.
Operation	Deletion is supported.

Step 3 Click **OK**.

Step 4 (Follow-up operation) On the **Outbound Call** > **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to an outbound call task. Click **Import** and select a mapping rule in the dialog box that is displayed.

Figure 2-648 Using a mapping rule



----End

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2.13.2.10 Managing Task Groups

Context

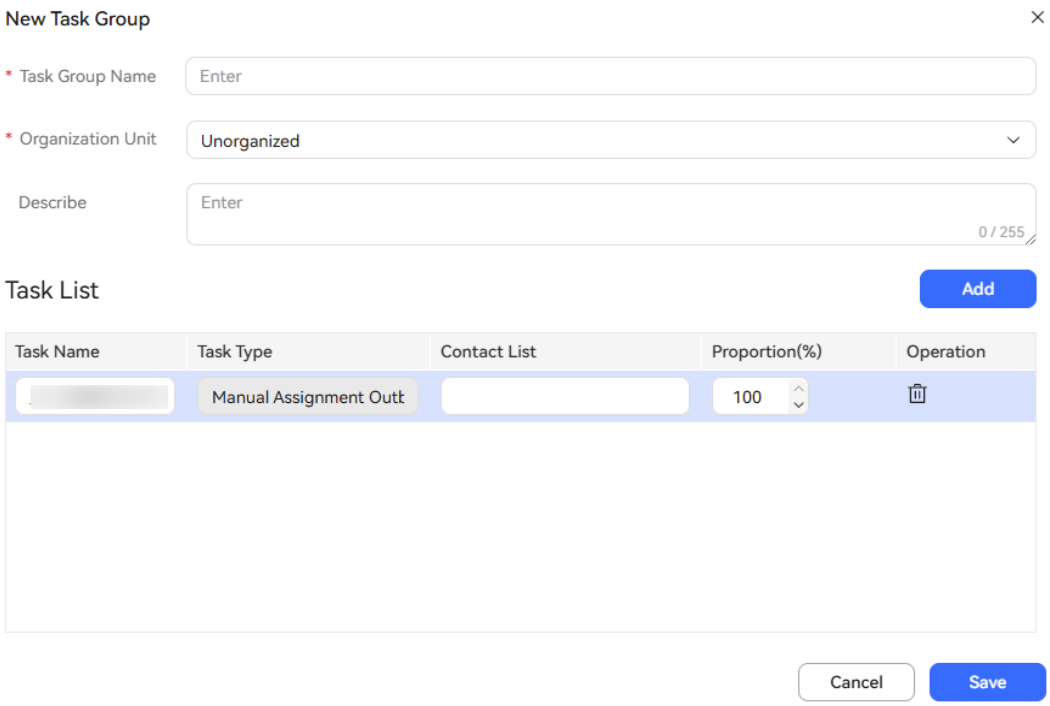
Different percentages (with a sum of 100%) can be set for tasks in a task group. During data import, data is imported to specified outbound call tasks based on the percentages.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Task Group Management**.

Step 2 Click **New**.

Figure 2-649 New Task Group page



- **Task group name**: The task group name must be unique in a tenant space and cannot contain the following special characters: `~!@#$%^&*()+=|{}'":;\[]/?.¥...-,
- **Organization Unit**: The options are as follows:
  - Tenant administrator: All OUs under the current tenant are available.
  - Agent:
    i. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by agents are available.
    ii. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs are available.

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iii. Accessible OUs selected on the **Configuration Center** > **Employee Center** > **Employee** > **Add Employee** page are available.

NOTE

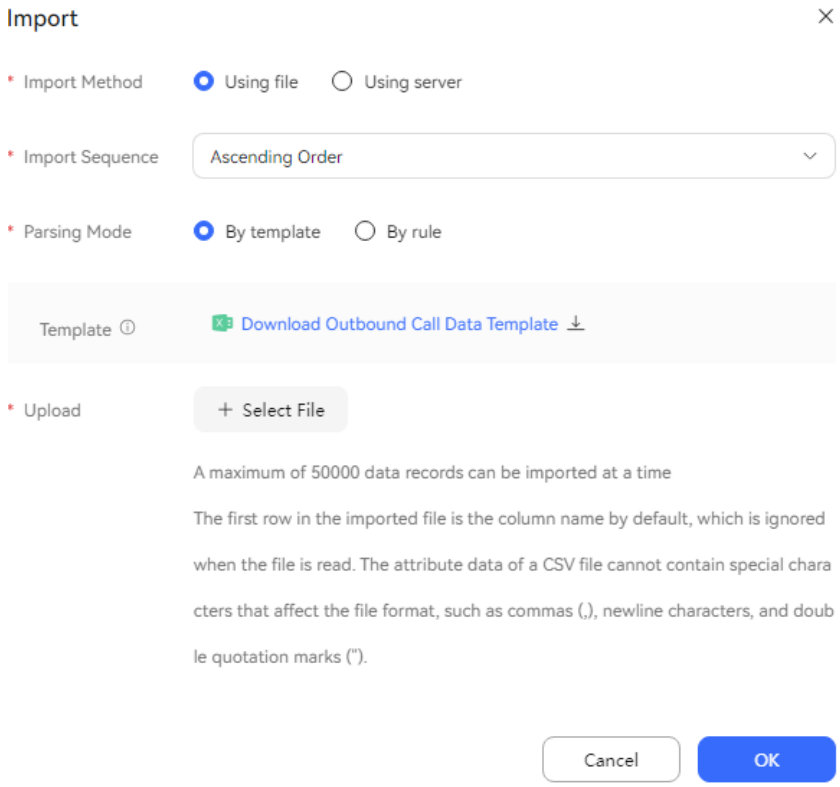
Contact the tenant administrator to set tenant parameters on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

- **Describe**: Enter a task group description. The description cannot exceed 255 characters.
- **Task Name**: Only outbound call tasks in the **Waiting**, **Completed**, **Suspended**, **Executing**, or **Draft** state can be selected. Outbound call tasks that are already in other task groups cannot be selected.
- **Contact List**: View the batch name.
- **Proportion(%)**: Enter a positive integer ranging from 1 to 100. The sum of percentages must be 100%. During data import, data is allocated based on the percentage.

Step 3 Click **Save**.

Step 4 Click **Import**. In the **Import** dialog box, download the outbound call data template, fill in the template, upload the file, and click **OK**. For details about how to import outbound call data, see **Importing Outbound Call Data**.

Figure 2-650 Import



NOTE

If the associated target task has expired or been archived, data cannot be imported again.

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Step 5 Click **Import Result** to check the imported content.

Step 6 (Follow-up activity) After the outbound call data is successfully imported, access the **Outbound Call** > **Call Mgmt** page, enable  , and execute the outbound call task.

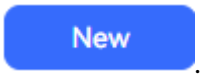
----End

2.13.2.11 Creating a Calling Number Group

To facilitate the management of calling numbers, you can set calling number groups. In this way, you can easily select a specific calling number to execute an outbound call task.

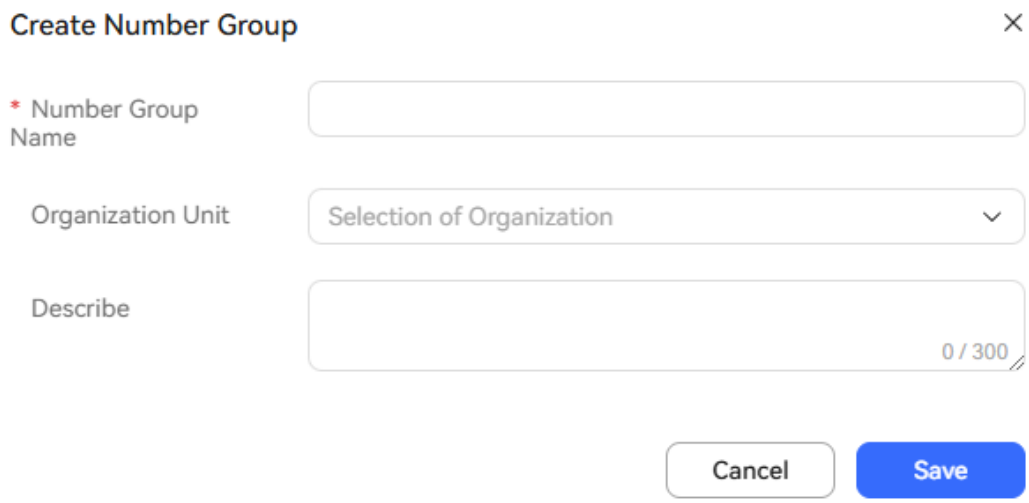
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Caller Number Group**.

Step 2 Click 

. In the **Create Number Group** dialog box that is displayed, set parameters by referring to **Table 2-207**.

Figure 2-651 Create Number Group page



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Table 2-207 Basic information

Field Name	Description	Remarks
Number Group Name	Enter the number group feature, such as the region and position.	1. The value can contain a maximum of 100 characters. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the number group name must be unique in the same OU. If the parameter is set to **No**, the number group name must be unique in the same tenant space.
Organization Unit	Select an OU.	If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the OU is mandatory. If this parameter is set to **No**, the OU is optional.
Describe	-	-

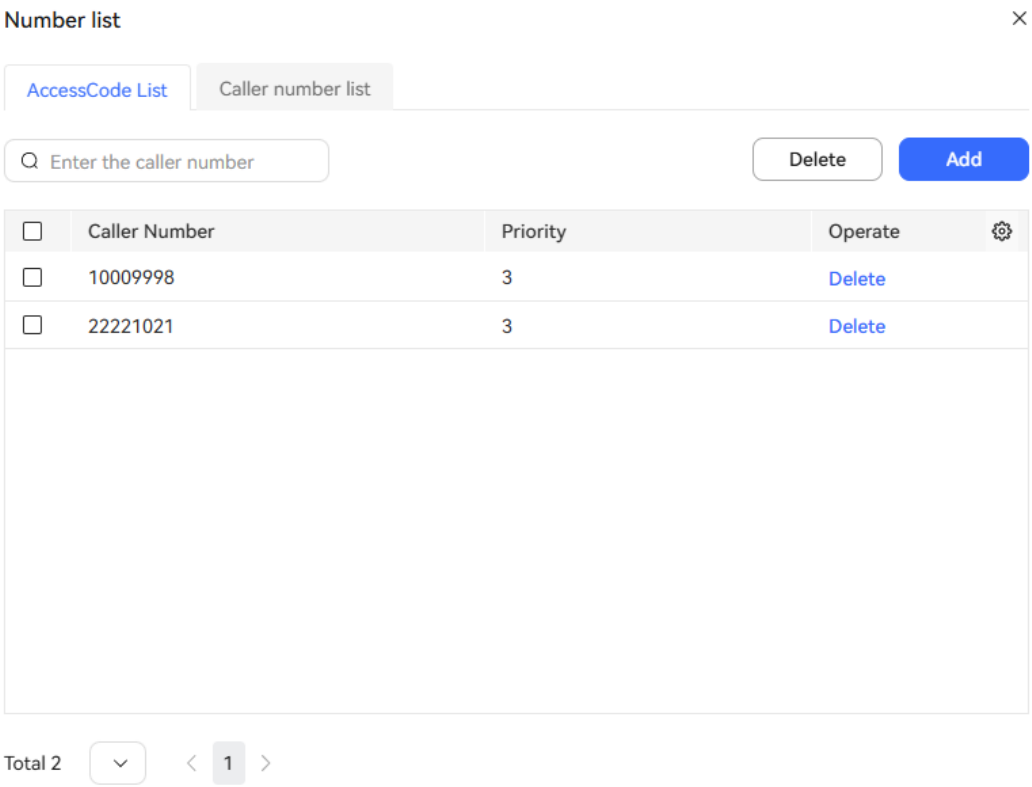
Step 3 Click 

.

Step 4 Click **Maintenance Number**. On the **Caller number list** tab page that is displayed, click **Add** to add a calling number.

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Figure 2-652 Selecting a number group



NOTE

1. A maximum of 10,000 calling numbers can be selected from a calling number group.
2. Calling number groups cannot be referenced by manual assignment outbound call tasks and manual outbound call tasks.
3. The maximum number of calling number groups in the same OU is restricted by the tenant parameter **Maximum number of caller number groups in the same organization**. The default value is **100**. To adjust the number, choose **Configuration Center** > **System Management** > **Tenant Parameter** and adjust the parameter value.

----End

2.13.2.12 Enabling Task-level ACD Detection

- When an outbound call is made, the ACD detection function can be used to:
  a. Check the status of the called party before the outbound call is connected. For example, check whether the called party is busy or whether the called number does not exist.
  b. Check whether the answering party is a person or a device such as a fax, a modem, or an automatic answering machine after the outbound call is connected.
- The ACD detection function supports three control modes: system-level, tenant-level, and task-level.

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Prerequisites

1. You have enabled the corresponding system-level parameter by performing the following operations:
   a. Log in to the WAS as the system administrator, choose **Web Configuration Console** > **System Configuration** > **OBS** > **OBS Parameter**, and enable the ACD detection function.
2. You have enabled the corresponding tenant parameter by performing the following operations:
   a. Log in to the WAS as the system administrator, choose **Web Configuration Console** > **System Configuration** > **VDN**, select the corresponding tenant space, click , and enable the ACD detection function on the **Basic Info** tab page.
3. You have enabled the corresponding system-level parameter of the AICC by performing the following operations:
   a. Sign in to the AICC as the system administrator, choose **Configuration Center** > **System Management** > **System Parameter**, and set **Whether to enable ACD detection capability** to **Yes**.
4. You have enabled the corresponding tenant parameter of the AICC by performing the following operations:
   a. Sign in to the AICC as the system administrator, choose **Call Center** > **Tenant Management**, and set **ACD detection on mode** to **Enable detection** on the **Virtual Call Center** tab page of the corresponding tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **ACD Detect Management**.

Step 2 Enter a task name and click  to query the corresponding task.

NOTE

The ACD detection function is not supported for manual outbound calls, manual assignment outbound calls, and previewed outbound calls.

Step 3 Click **Edit** to enable the task-level ACD detection function.

----End

2.13.3 Managing Outbound Call Tasks

A tenant administrator can manage telemarketing activities for specified customer groups by creating outbound call tasks and importing customer numbers to the tasks.

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2.13.3.1 Creating Common IVR Outbound Call Tasks or Intelligent Robot Outbound Call Tasks

This section describes how to create common IVR outbound call tasks or intelligent robot outbound call tasks.

Prerequisites

- To create a common IVR outbound call task, you have configured and published a main IVR flow. For details about how to configure a common IVR flow, see **2.6.1 Getting Started**. To create an intelligent outbound call task, you have configured and published a main intelligent IVR flow. For details about how to configure an intelligent IVR flow, see **2.6.2 Configuring an Intelligent Robot**.

  NOTE

  In independent deployment mode, you have configured the IVR flow on the web configuration console.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an external SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Context

In a common IVR outbound call task, the system makes an outbound call to a customer and the call is transferred to a specified IVR flow after being connected. The IVR flow then plays a voice and collects digits from the customer.

Select a configured outbound call template where certain outbound call task parameters are preset. For details, see **2.13.2.6 Creating Outbound Call Templates**.

You can modify, start, or delete a task in draft state, and configure outbound call data for the task.

Business Scenario

The following describes how to configure an automatic outbound call task for a call center to notify customers of major product changes by playing voices. The outbound call task is executed in working hours on workdays and also on weekends. If a customer is busy, the call is made to the customer for another two times.

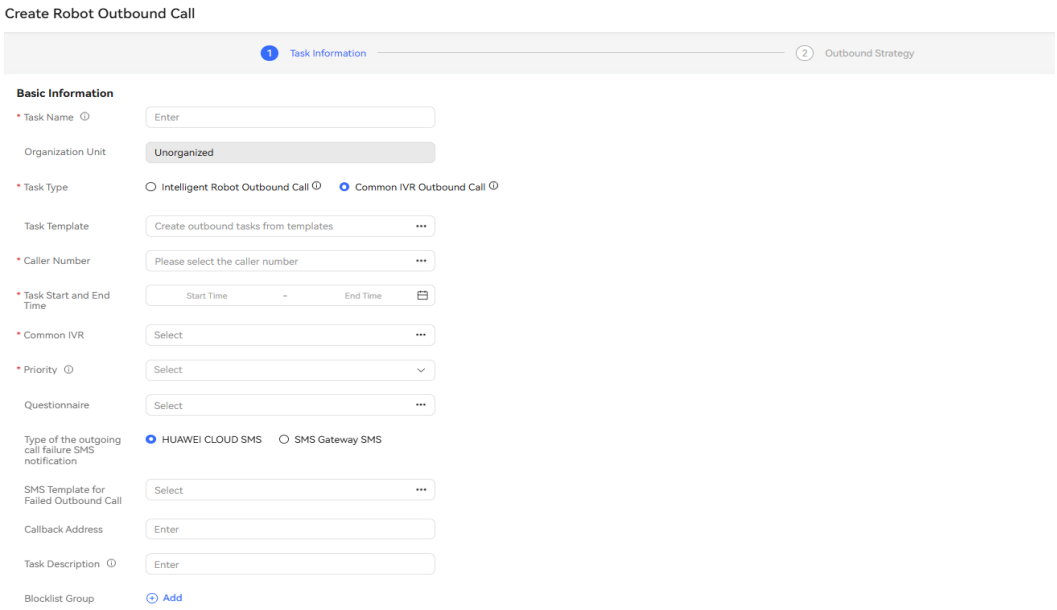
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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and select **Robot Outbound Call** from the drop-down list.

Figure 2-653 Page for creating a common IVR outbound call task



Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Organization Unit**: The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
- **Caller Number**:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers or number groups of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers or number groups of all OUs, including **Unorganized**, can be selected.
  c. A maximum of 100 calling numbers can be added. You can select only one number group and cannot select numbers from the number list at the same time.
  d. Calling numbers can be directly added when the **Calling Number Anonymization** feature is enabled for the tenant space and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.
- **Task Start and End Time**: The start time cannot be later than the end time.
- **Task Type**: Select **Common IVR Outbound Call** or **Intelligent Robot Outbound Call**.

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- **Common IVR Outbound Call**: Select a configured and released IVR flow. The options are as follows:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the IVR flows of the OU bound to the outbound call task and IVR flows of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the IVR flows of all OUs, including **Unorganized**, can be selected.
- **Intelligent Robot Outbound Call**: Only the intelligent robots bound to the main flow can be selected. The options are as follows:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the intelligent robots of the OU bound to the outbound call task and intelligent robots of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the intelligent robots of all OUs, including **Unorganized**, can be selected.
- **Questionnaire**: If **IVR Questionnaire** is selected, the survey needs to be used together with the **Questionnaire** diagram element in an IVR flow. If **Manual and IVR Questionnaire** is selected, the survey can be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.
- **Type of the outgoing call failure SMS notification**: The options are **HUAWEI CLOUD SMS** and **SMS Gateway SMS**.
- **SMS Template for Failed Outbound Call**:
  a. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. The recipient of an SMS message for a failed outbound call is the customer.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected.
  c. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially. If a task with a higher priority is not complete, the task with a lower priority is not executed.
- **Transfer to Skill Queue**: This field is displayed only when **Intelligent Robot Outbound Call** is selected. After a skill queue is selected, the **Variable assignment** diagram element is used to obtain the value of **SkillQueueName** (skill queue name) in the call-associated data in an IVR flow. The skill queue name is used to transfer a call to a skill queue when **Transfer Type** is set to **Skill Queue (Name)** for the **Call Transfer** diagram element.
  a. **Variable assignment**

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Click the **Flow Attribute** tab and create the **FLOW.chuichui** variable in the **Flow Variable** area.

Click the **Node Attribute** tab, click the **Obtaining Associated Data** tab, and create the **FLOW.chuichui=iSales.SkillQueueName** variable.

b. **Call Transfer**

Set **Transfer Type** to **Skill Queue (Name)**.

Set **Route Value** to **FLOW.chuichui**.

Set **Associated Data** to **IVRREQUEST.transin_data**.

Figure 2-654 Variable assignment

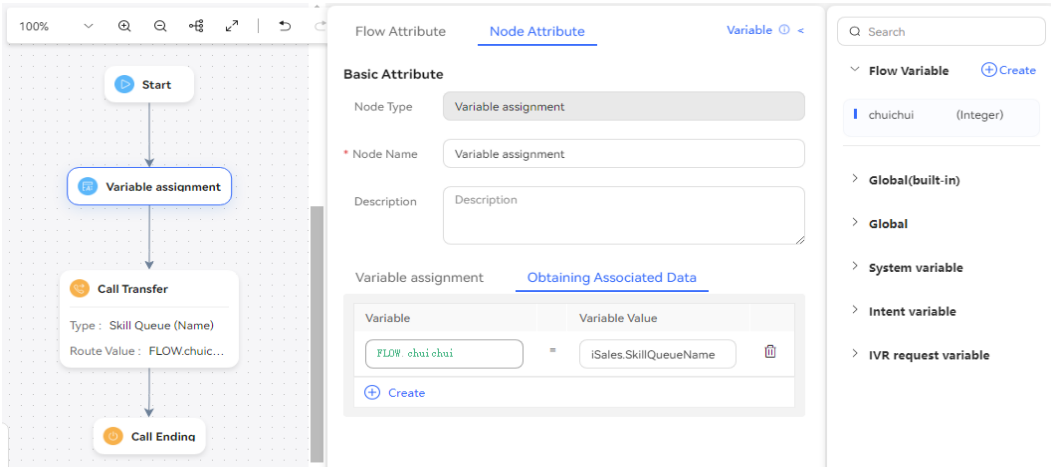
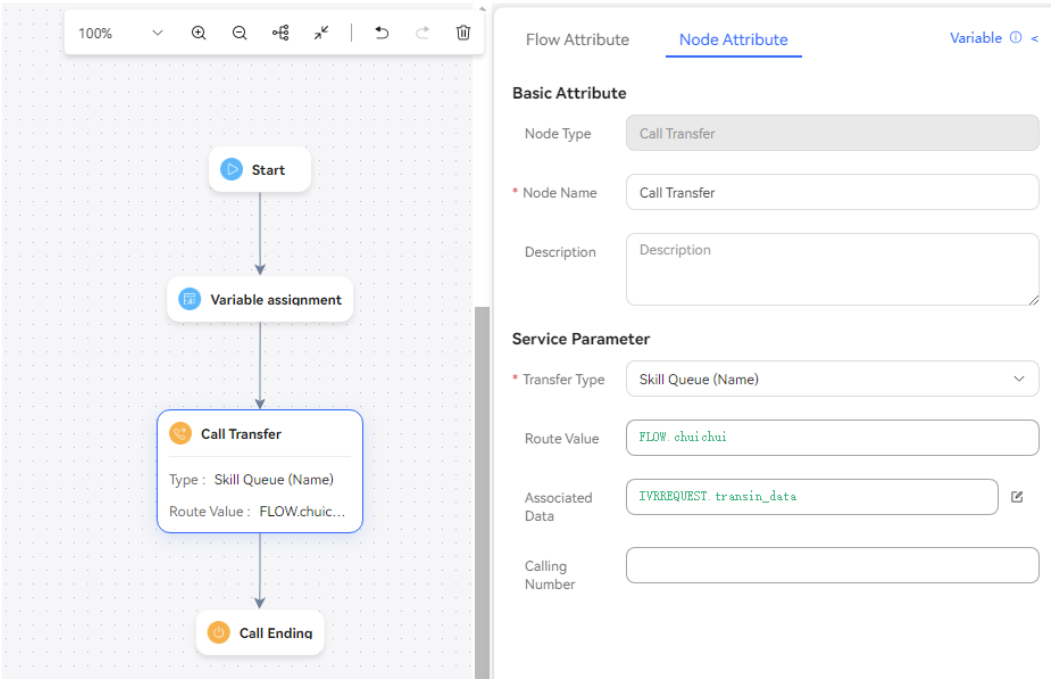


Figure 2-655 Call Transfer



- **Associate Business Result**: This field is displayed only after **Transfer to Skill Queue** is set for an intelligent robot outbound call task. If a business result is associated, only the associated business result and its sub-business results can be selected for outbound calls.

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- **Manual Questionnaire**: This field is displayed only when **Transfer to Skill Queue** is set. Only **Manual Questionnaire** and **Manual and IVR Questionnaire** are available. If **Manual Questionnaire** is selected, the survey is displayed on the outbound call workbench. If **Manual and IVR Questionnaire** is selected, the survey can be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.
- **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period.
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

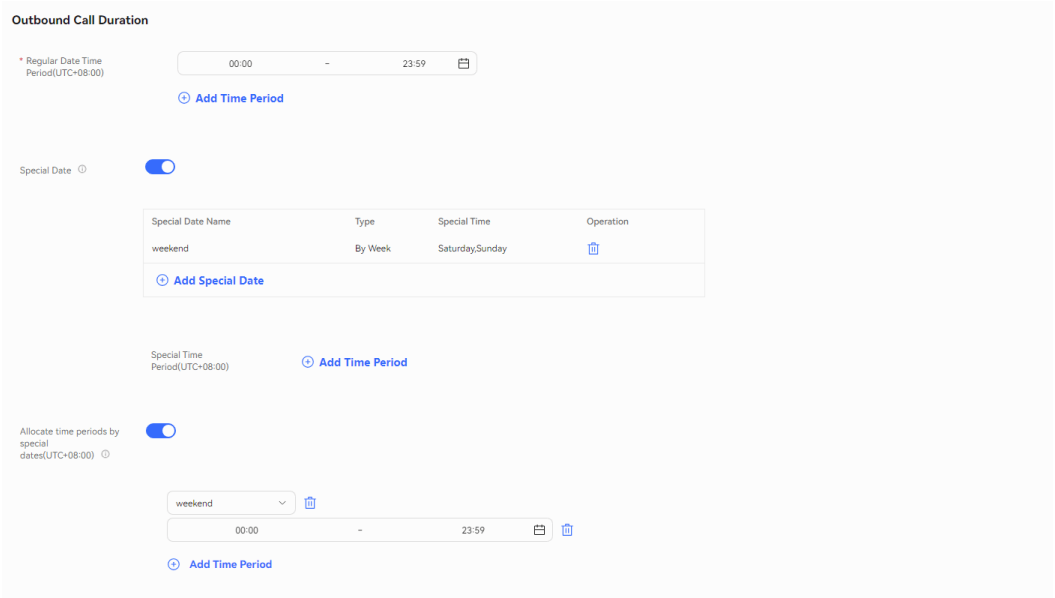
  NOTE

  The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

  In the integrated environment, the callback URL can be configured only in the outbound call task.

Step 4 Configure the outbound call duration. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-656 Outbound Call Duration page



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

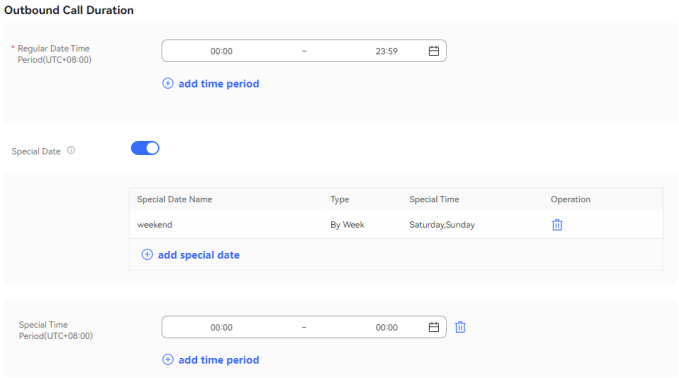
9:00–11:30

14:00–18:00

2. In the **Special Date** area, click **Add Special Date** to add days such as holidays and weekends as special dates.
   a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the special dates of the OU bound to the outbound call task and special dates of **Unorganized** can be selected.
   b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the special dates of all OUs, including **Unorganized**, can be selected.
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

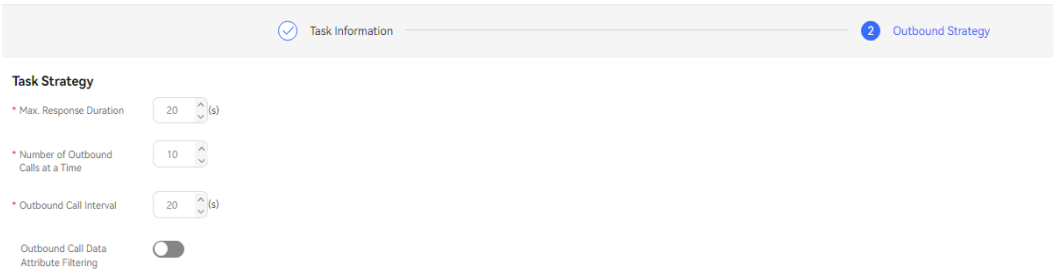
   NOTE

   If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Click **Next** and configure the task policy.

Figure 2-657 Task Strategy page



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Table 2-208 Parameters in the Task Strategy area

Parameter	Description
Max. Response Duration	If the response duration exceeds this value, the current call ends and the next call is to be made. The value ranges from 5 to 120. The default value is **20**.
Outbound Call Interval	Interval for starting an outbound call. Enter an integer ranging from 1 to 9999.
Number of Outbound Calls at a Time	Number of outbound calls each time. The default value is **1**. The value cannot exceed the number of purchased IVR channels in the tenant space. If the value of **Outbound Call Interval** is greater than 3, the number of outbound calls initiated by the system is calculated as follows: Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval** x 3.
Outbound Call Data Attribute Filtering	1. By default, **Outbound Call Data Attribute Filtering** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page. 2. You can customize data attributes on the **Configuration Center** > **Call Config** > **Data Attr** page. Enable this parameter to customize filter criteria. The system initiates an outbound call only when the pre-called customer number meets the conditions and sub-conditions. Encrypted attributes cannot be used as filter criteria. 3. The relationships between multiple filtering conditions must be the same. Select either **AND** or **OR**. 4. The options are as follows: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call data attributes of the OU bound to the outbound call task and outbound call data attributes of **Unorganized** can be selected. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call data attributes of all OUs, including **Unorganized**, can be selected.

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NOTE

Outbound Call Interval and **Number of Outbound Calls at a Time** should be configured to make a fixed number of outbound calls on average with proper intervals rather than make all outbound calls at once.

For example, if you want to make 60 outbound calls in 1 minute, you are advised to set both **Outbound Call Interval** and **Number of Outbound Calls at a Time** to **3** instead of **60**.

For a key robot outbound call or intelligent outbound call task, the number of outbound calls is calculated as follows: (Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval**) × 3, rounded up. Outbound calls are made only when the result is greater than 1. If the value of **Outbound Call Interval** is greater than 3, 3 is used for calculation. If the value of **Outbound Call Interval** is less than 3, the actual value is used.

- Q1: If the value of **Outbound Call Interval** is greater than 3, 3 is used for calculation. If the value of **Outbound Call Interval** is less than 3, the actual value is used. What is the meaning?

  A1: If the outbound call interval is set to an interval greater than 3 seconds, the OBS still uses 3 seconds as the call interval. If the outbound call interval is set to an interval less than 3 seconds, the configured call interval is used.

- Q2: If I set **Outbound Call Interval** to **10** and **Number of Outbound Calls at a Time** to **100**, how many outbound calls are made every 10 seconds? 100 or 30?

  A2: The outbound call interval configured for the outbound call task is used only to calculate the number of calls made each time. When the value is greater than 3, it does not indicate the actual call interval. If you set **Outbound Call Interval** to **10**, the actual call interval is 3 seconds. In this case, the number of calls made each time is 30 based on the formula: (Value of **Number of Outbound Calls at a Time**/Value of **Outbound Call Interval**) × 3. That is, 30 outbound calls are made every 3 seconds.

- Q3: If I set **Outbound Call Interval** to **1** and **Number of Outbound Calls at a Time** to **10**, will 30 outbound calls be made every second?

  A3: In this case, 10 outbound calls are made every second.

- Q4: What will happen if the calculated number of outbound calls is less than 1?

  A4: In this case, no outbound call is made at the first interval. An outbound call is made until the decimal part of the value of **Number of Outbound Calls at a Time** accumulates to greater than 1.

Step 6 Configure the call strategy.

1. In the **Call Strategy** area, customize the call strategy for pre-called customer numbers. Set parameters based on **Table 2-209**.

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Figure 2-658 Call Strategy page

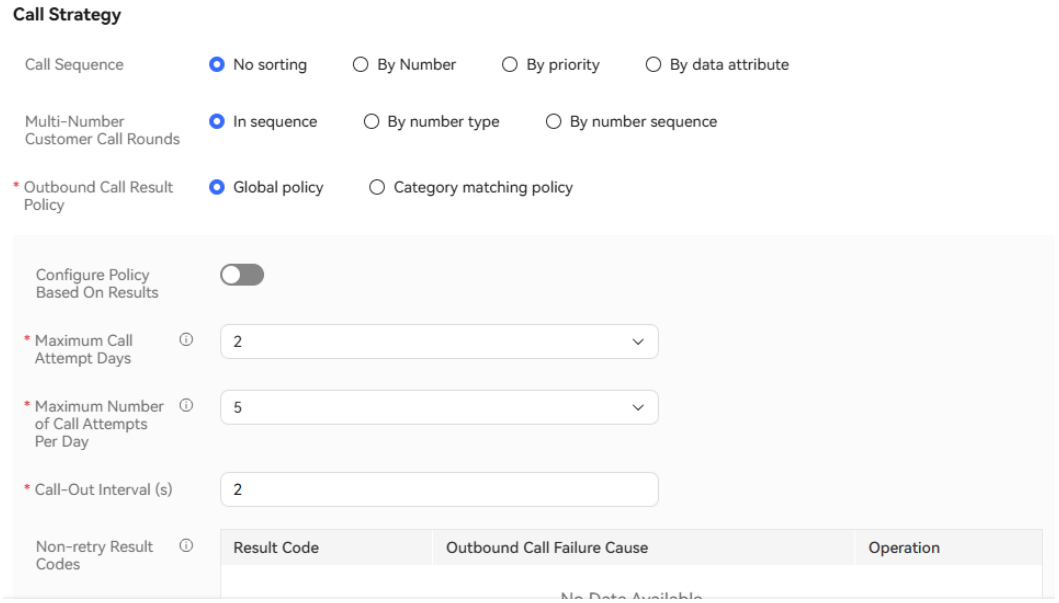
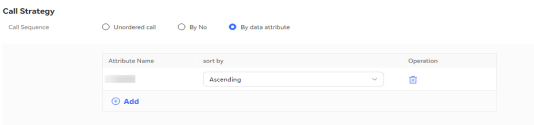


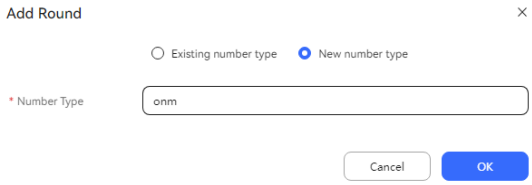
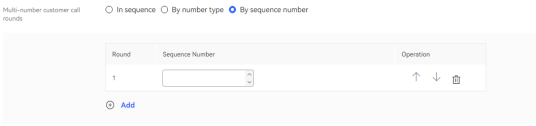
Table 2-209 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
No sorting	-
By Number	-
By priority	After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.

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Parameter	Description
By data attribute	1. By default, **By data attribute** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page. Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 2. The options are as follows: ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call data attributes of the OU bound to the outbound call task and outbound call data attributes of **Unorganized** can be selected. ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call data attributes of all OUs, including **Unorganized**, can be selected. ■ If **Mandatory** is disabled for an outbound call data attribute, the attribute cannot be selected. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.

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Parameter	Description
By number type	1. You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the new number type is bound to the OU selected during creation of the outbound call task by default. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the new number type belongs to **Unorganized**. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

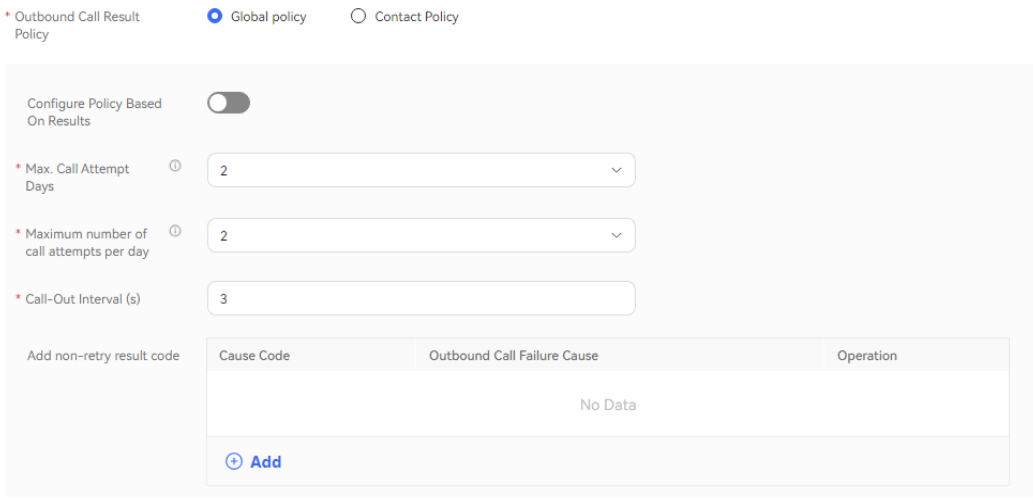
2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

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Figure 2-659 Disabling Configure Policy Based On Results

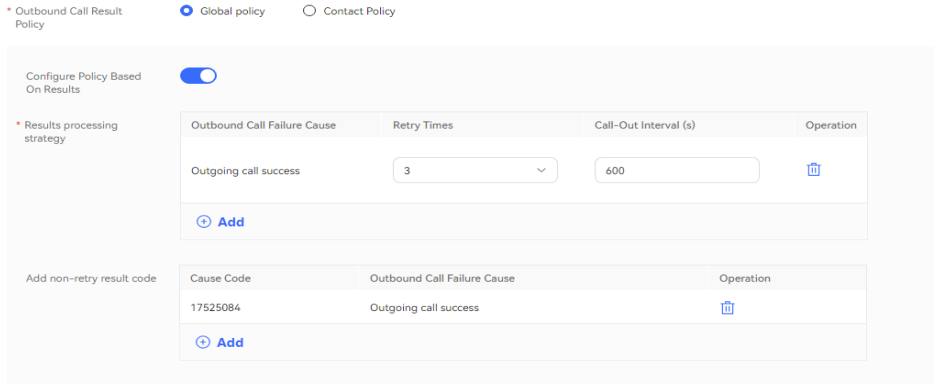


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-660 Enabling Configure Policy Based On Results



NOTE

If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

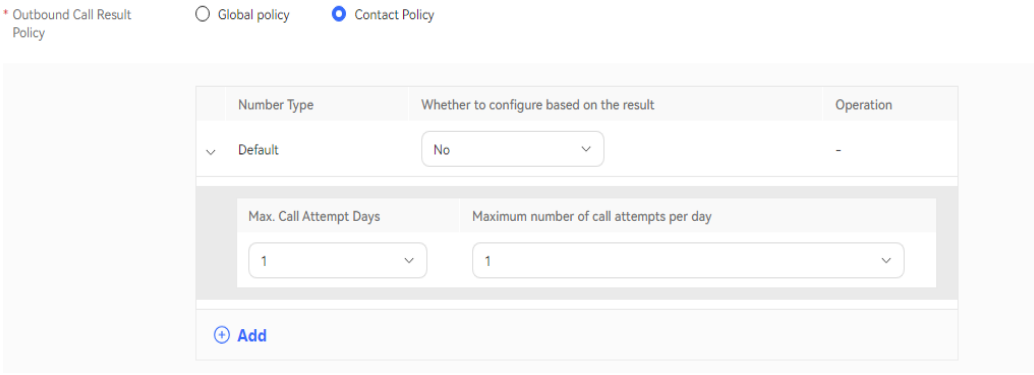
After the **Configure Policy Based On Results** switch is turned on, if the external result codes configured for **Results processing strategy** and **Add non-retry result code** are the same, the system does not retry.

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- **Contact Policy**
  - **Default** number type: Set **Whether to configure based on the result** to configure the policy.

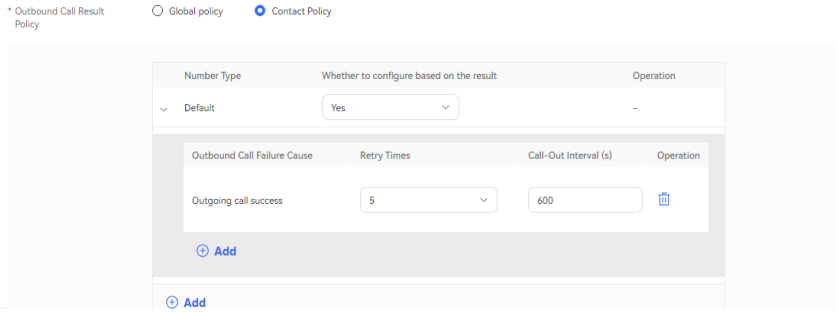
    If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

    Figure 2-661 Setting Whether to configure based on the result to No

    If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

    Figure 2-662 Setting Whether to configure based on the result to Yes

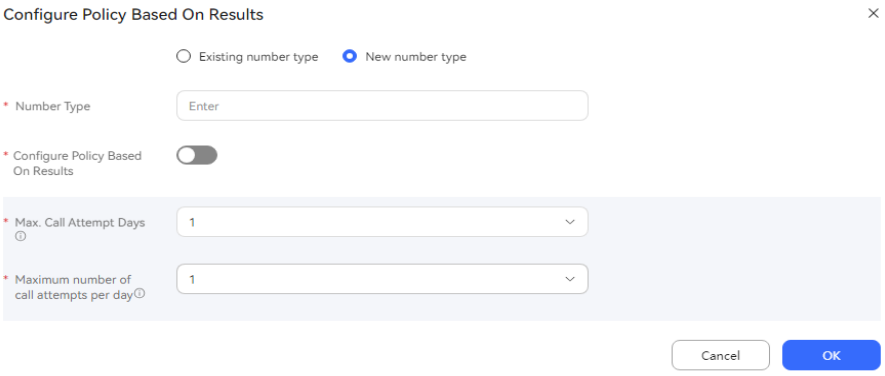
    

  - Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

    If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

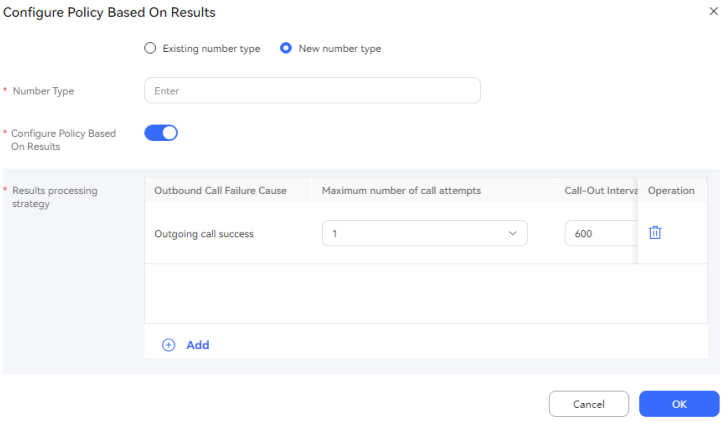
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Figure 2-663 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-664 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click corresponding to the new outbound call task.

----End

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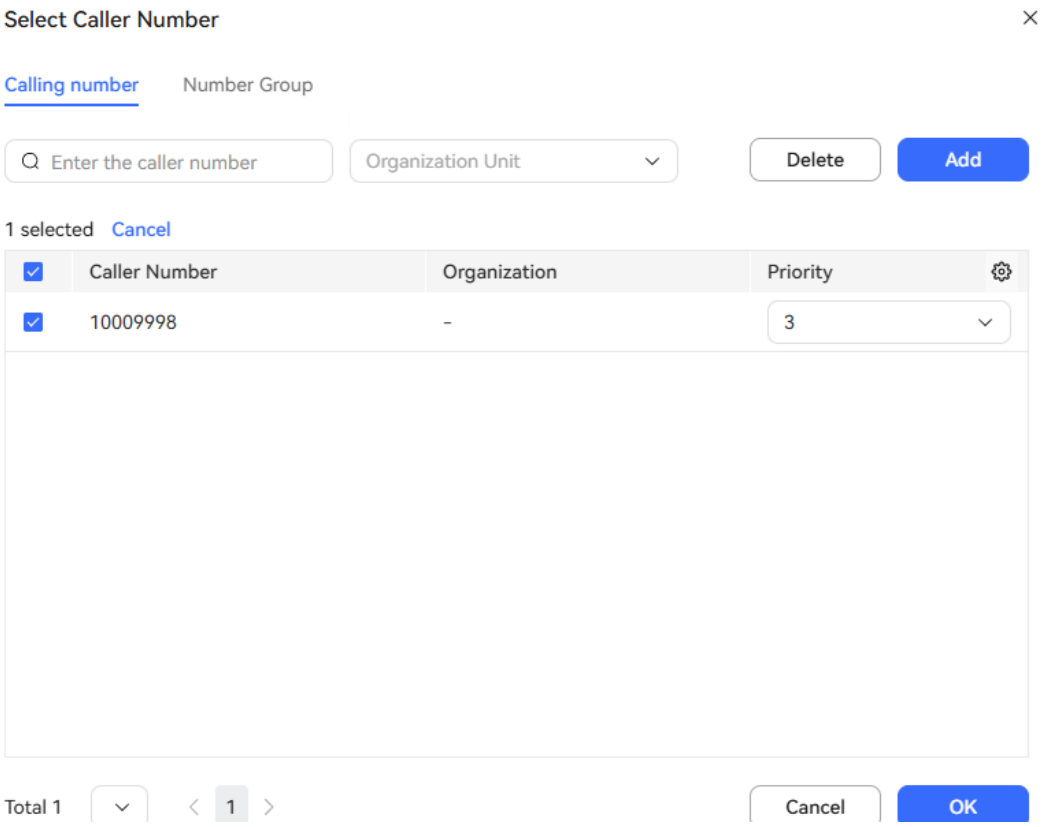
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

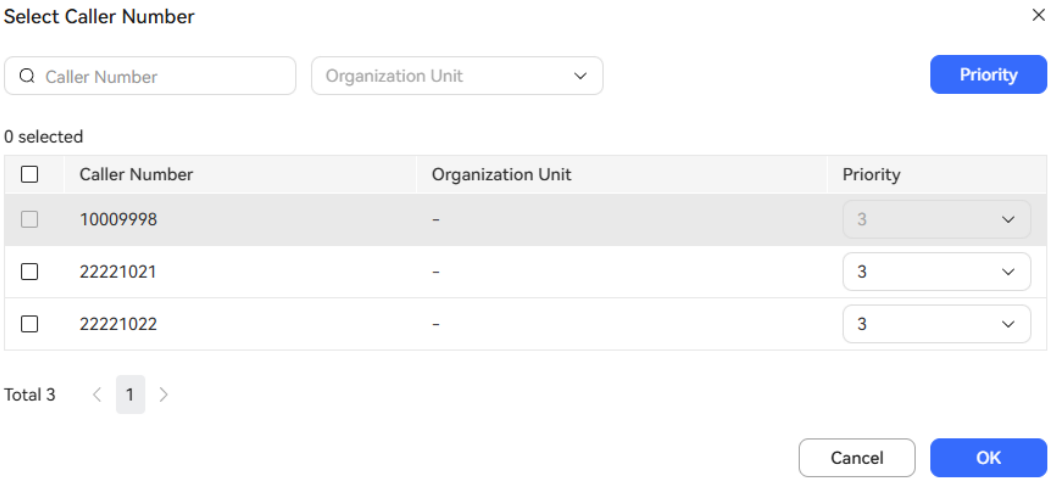
   Figure 2-665 Select Caller Number page



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

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Figure 2-666 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.2 Creating Predicted Outbound Call Tasks

To ensure call efficiency and connect to as many customers as possible without annoying them, the system dynamically adjusts the number of agent outbound calls and automatically assigns the calls to agents according to multiple algorithms. This task is time-effective for the agents.

Prerequisites

- The platform role of a user account is agent.

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- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Context

A predicted outbound call task depends on algorithms. The system provides the following algorithms for a call center to automatically calculate the number of calls to be assigned to each agent:

- **Algorithm for Empirical Prediction**: monitors and collects statistics on parameters such as the off-hook rate, average call duration, and number of queuing calls in real time to control the outbound call speed to indirectly reduce queuing calls. In this way, the agent usage is maximized under acceptable call loss conditions.

  This algorithm applies to the scenarios with more than 15 agents, a relatively stable call process, and all factors following the normal distribution, that is, objective factors such as the off-hook rate, call duration, number of agents in working state, wrap-up state duration, and queuing duration do not change dramatically and can be collected.
- **Algorithm for Agent Usage**: dynamically adjusts the number of calls assigned to each agent by controlling the agent usage and call loss rate.
- **Algorithm for Outbound Call Connection Rate**: dynamically adjusts the number of calls assigned to each agent by controlling the call loss rate, customer waiting time, and call connection rate.
- **Algorithm for Offhook Rate**: makes predicted outbound calls based on the current off-hook rate. This algorithm reduces the changes in the number of agents and call duration, and minimizes the call loss caused by the changes.

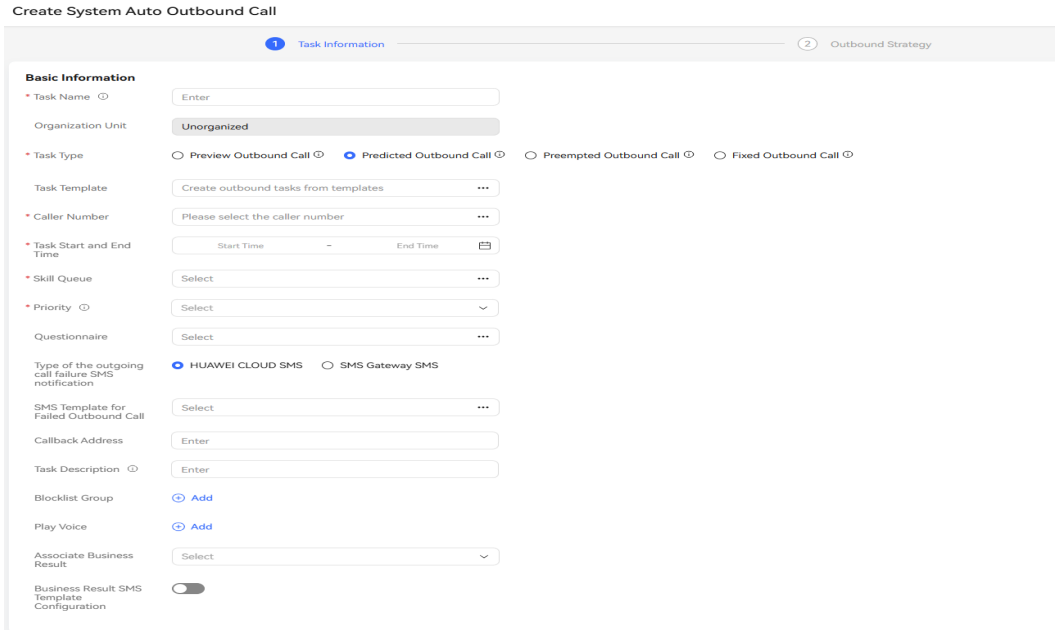
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Predicted Outbound Call**.

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Figure 2-667 Page for configuring the basic information of a predicted outbound call task



Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Organization Unit**: The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
- **Caller Number**:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers or number groups of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers or number groups of all OUs, including **Unorganized**, can be selected.
  c. A maximum of 100 calling numbers can be added. You can select only one number group and cannot select numbers from the number list at the same time.
  d. Calling numbers can be directly added when the **Calling Number Anonymization** feature is enabled for the tenant space and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.
- **Task Start and End Time**: Select the task start time and end time.
- **Task Type**: Select **Predicted Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.

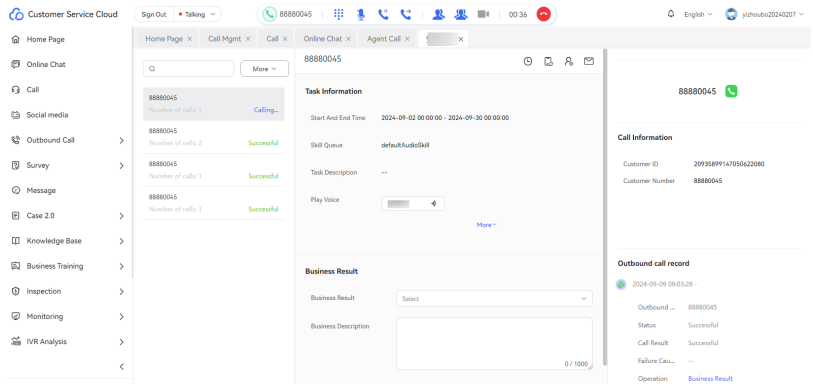
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NOTE

1. For a created outbound call task in the draft, suspended, completed, or waiting state, the predicted outbound call type and preempted outbound call type can be changed to each other.
2. When changing the predicted outbound call to the preempted outbound call, you need to configure **Max. Response Duration** in the **Task Strategy** area. When changing the preempted outbound call to the predicted outbound call, you need to configure **Algorithm for Predicted Outbound Calls**, **Max. Response Duration**, **Max. Average Call Duration**, **Min. Average Call Duration**, and **Outbound Call Speed** in the **Task Strategy** area.

- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining Tenant Space Skill Queues**.
- **Questionnaire**: The options are **Manual Questionnaire** and **Manual and IVR Questionnaire**. If **Manual and IVR Questionnaire** is selected, the survey can be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.
- **Type of the outgoing call failure SMS notification**: The options are **HUAWEI CLOUD SMS** and **SMS Gateway SMS**.
- **SMS Template for Failed Outbound Call**:
  a. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. The recipient of an SMS message for a failed outbound call is the customer.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected.
  c. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially. If a task with a higher priority is not complete, the task with a lower priority is not executed.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-668 Playing a recording



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a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected.

b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.

- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. The options are as follows:

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.

- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side. An example is **https://support.huaweicloud.com/productdesc-cec/cec_01_0001.html**.

  NOTE

  The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

  In the integrated environment, the callback URL can be configured only in the outbound call task.

- **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period.

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected.

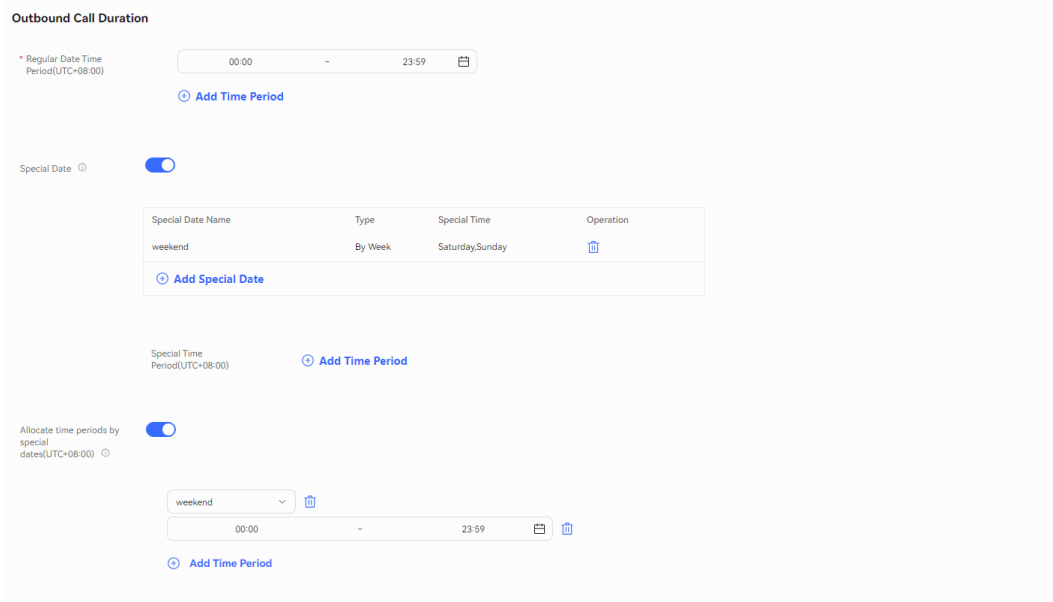
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.

- **Business Result SMS Template Configuration**: Associate business results with external notification templates. If the business result selected during an outbound call is associated with a template, notifications are sent to specified recipients based on the template. A maximum of 10 templates can be added.

Step 4 Configure the outbound call duration. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

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Figure 2-669 Outbound Call Duration page



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

   9:00–11:30

   14:00–18:00

2. In the **Special Date** area, click **Add Special Date** to add days such as holidays and weekends as special dates.

   a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the special dates of the OU bound to the outbound call task and special dates of **Unorganized** can be selected.

   b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the special dates of all OUs, including **Unorganized**, can be selected.

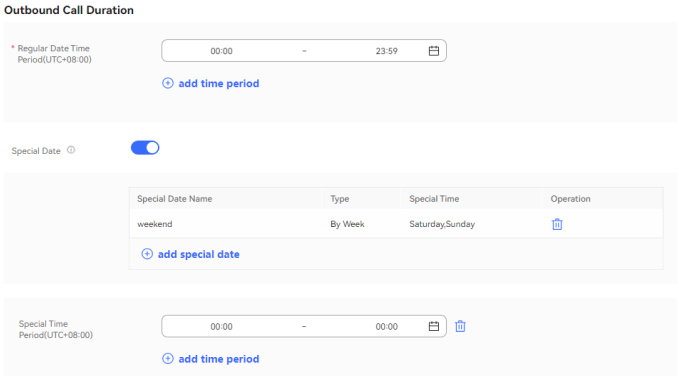
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.

4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

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NOTE

If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.

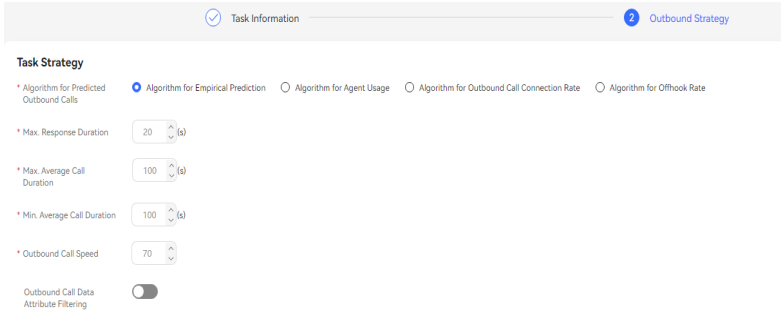


Step 5 Configure the task strategy by referring to **Table 2-210**, which describes the key parameters for each algorithm.

NOTICE

The following parameter settings must be verified and optimized for multiple times. If you are not sure about the initial settings, retain the recommended settings and adjust them later based on the outbound call effect.

Figure 2-670 Task Strategy page



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Table 2-210 Parameters in the Task Strategy area

Algorithm Type	Parameter	Description
Algorithm for Empirical Prediction	Outbound Call Speed	Prediction factor of the maximum outbound call speed, which is calculated by the system based on the empirical model. You are advised to set this parameter based on the project type and dialing test result for each average call duration. Set this parameter to **70** for projects whose average call duration is less than 100 seconds, to **40** for projects whose average call duration is between 100 seconds and 140 seconds, and to **20** for projects whose average call duration is between 140 seconds and 180 seconds.
Algorithm for Agent Usage	Min. Call Loss Rate	The call loss rate is the ratio of calls that are hung up during queuing to the total off-hook calls. Set this parameter to the minimum call loss rate. When the call loss rate calculated by the system is lower than the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Agent Usage	Agent usage threshold. When the agent usage calculated by the system exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Method for Calculating Agent Usage	Whether the numerator includes the working state duration (that is, the wrap-up state duration).
Algorithm for Outbound Call Connection Rate	Min. Call Loss Rate	The call loss rate is the ratio of calls that are hung up during queuing to the total off-hook calls. Set this parameter to the minimum call loss rate. When the call loss rate calculated by the system exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent the call loss rate from increasing.
	Outbound Call Connection Rate	Ratio of connected calls to the total calls. Set this parameter to the maximum connection rate. When the call connection rate is less than the value of this parameter, the system reduces the calls assigned to the agent.

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Algorithm Type	Parameter	Description
	Called Party's Waiting Time	Maximum customer waiting time, in seconds. If the waiting time exceeds the value of this parameter, the system reduces the calls assigned to the agent to prevent customers from waiting for a long time.
Algorithm for Offhook Rate	Calculation Factor	Off-hook rate calculation factor. If multiple agents meet the routing rules, the system preferentially assigns calls to the agent with a high off-hook rate.

Step 6 Configure the call strategy.

1. In the **Call Strategy** area, customize the call strategy for pre-called customer numbers. Set parameters based on **Table 2-211**.

Figure 2-671 Call Strategy page

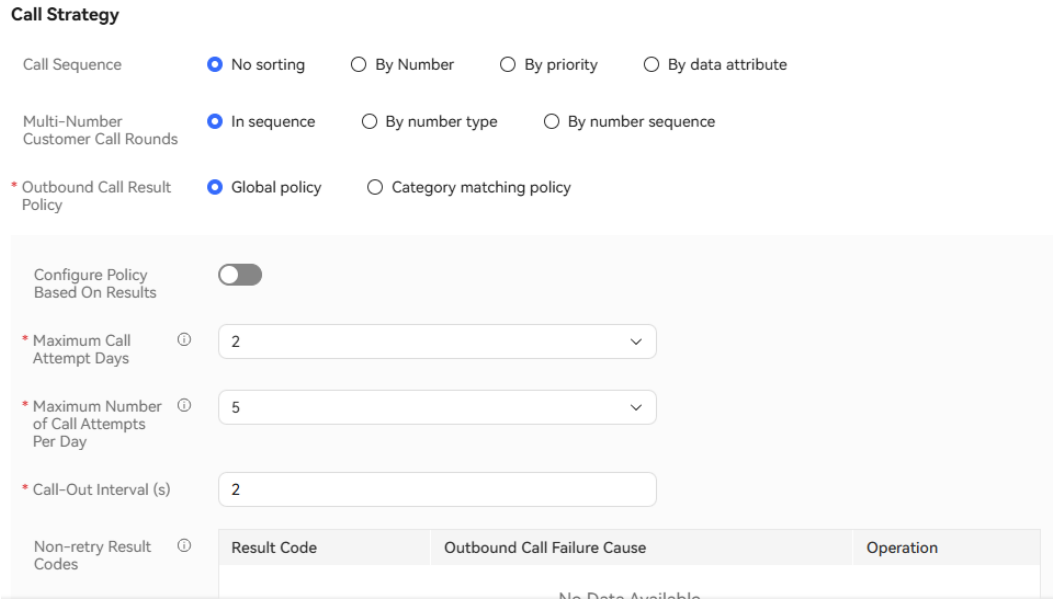
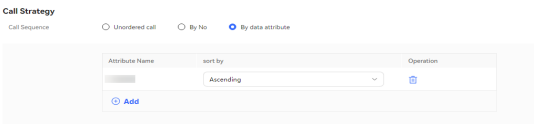
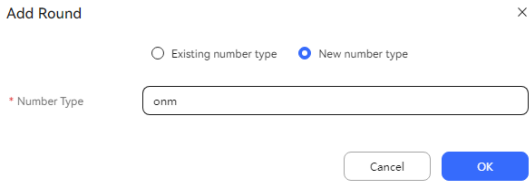
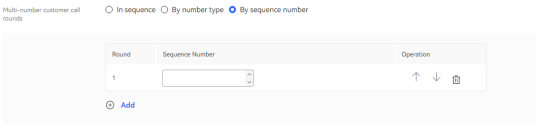


Table 2-211 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
No sorting	-
By Number	-

Parameter	Description
By priority	After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.
By data attribute	1. By default, **By data attribute** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page. Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 2. The options are as follows: ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call data attributes of the OU bound to the outbound call task and outbound call data attributes of **Unorganized** can be selected. ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call data attributes of all OUs, including **Unorganized**, can be selected. ■ If **Mandatory** is disabled for an outbound call data attribute, the attribute cannot be selected. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.

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Parameter	Description
By number type	1. You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the new number type is bound to the OU selected during creation of the outbound call task by default. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the new number type belongs to **Unorganized**. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

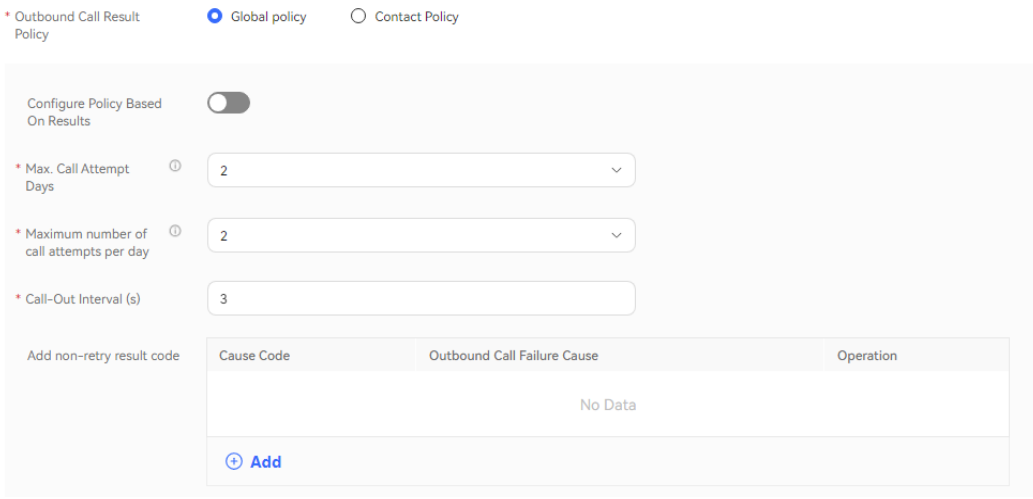
2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

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Figure 2-672 Disabling Configure Policy Based On Results

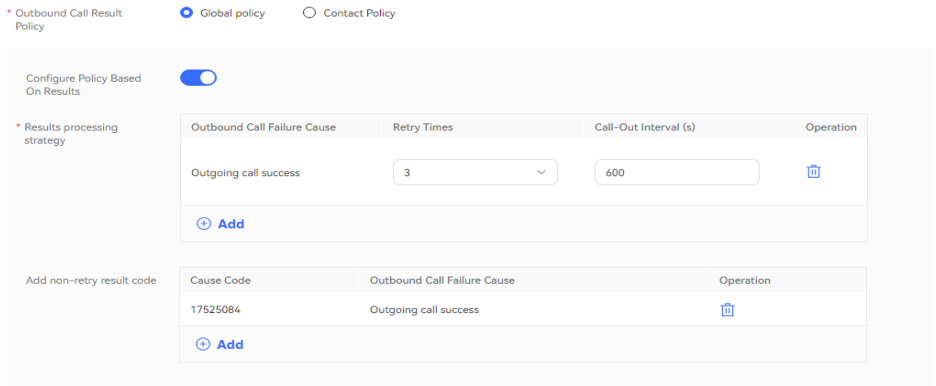


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-673 Enabling Configure Policy Based On Results



NOTE

If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

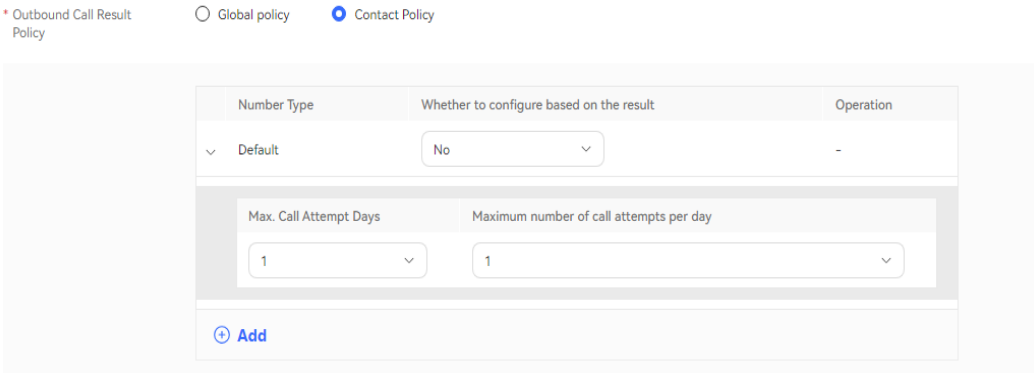
After the **Configure Policy Based On Results** switch is turned on, if the external result codes configured for **Results processing strategy** and **Add non-retry result code** are the same, the system does not retry.

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- **Contact Policy**
  - **Default** number type: Set **Whether to configure based on the result** to configure the policy.

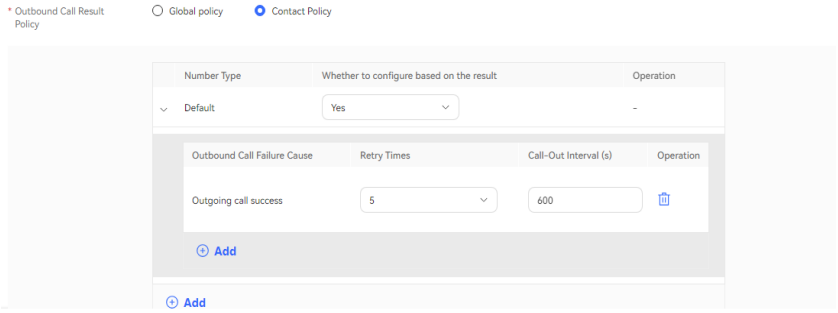
    If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

    Figure 2-674 Setting Whether to configure based on the result to No

    If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

    Figure 2-675 Setting Whether to configure based on the result to Yes

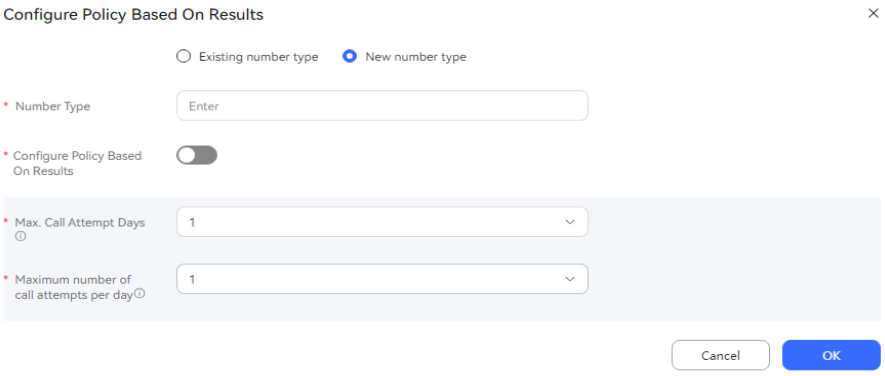
    

  - Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

    If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

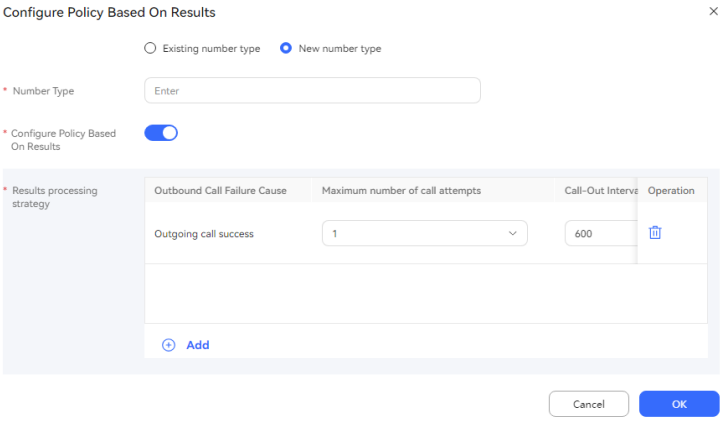
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Figure 2-676 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-677 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click corresponding to the new outbound call task.

----End

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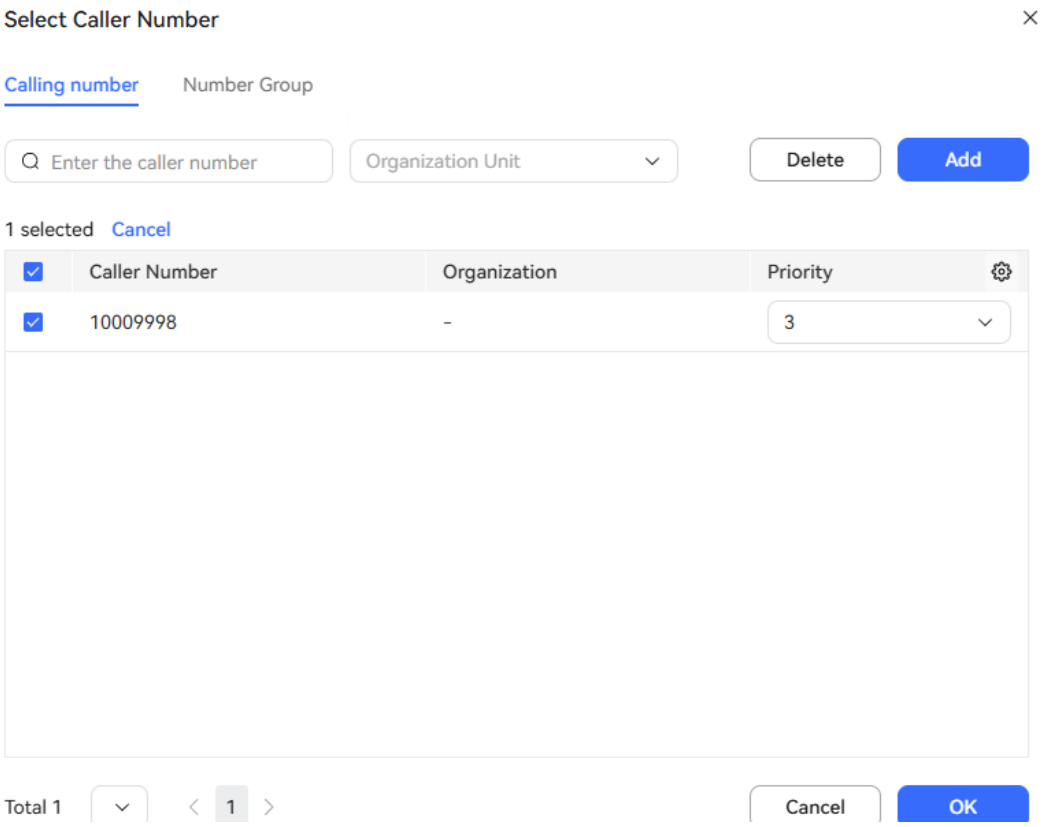
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

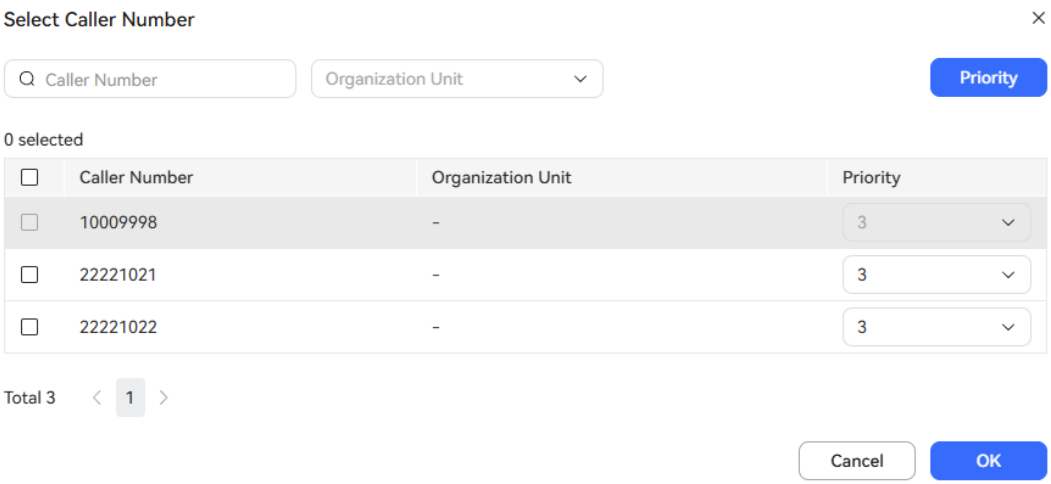
   Figure 2-678 Select Caller Number page



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

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Figure 2-679 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.3 Creating Preview Outbound Call Tasks

In a preview outbound call task, the system pushes a customer to an agent (not to call the agent). After previewing the customer information, the agent manually executes calls.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.

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- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Context

In the predicted outbound call scenario, a call is made to a customer and then to an agent. When the call reaches the agent, the customer is already online and waiting. Therefore, the agent does not have enough time to understand the customer's background information.

In a preview outbound call task, the system pushes a customer to an agent (not to call the agent). After previewing the customer information, the agent manually makes a call.

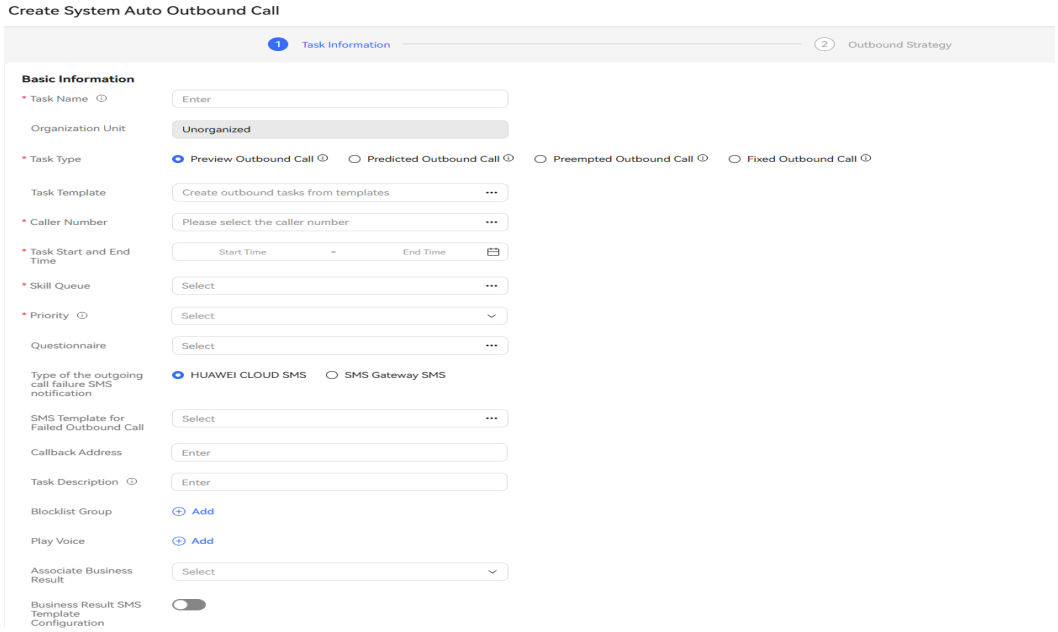
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Preview Outbound Call**.

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Figure 2-680 Page for configuring the basic information of a preview outbound call task



Step 3 Configure basic information.

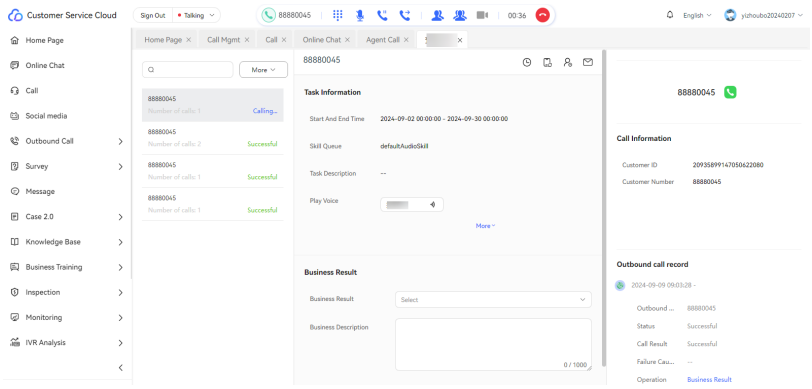
- **Task Name**: Enter a customized task name.
- **Organization Unit**: The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
- **Caller Number**:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers or number groups of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers or number groups of all OUs, including **Unorganized**, can be selected.
  c. A maximum of 100 calling numbers can be added. You can select only one number group and cannot select numbers from the number list at the same time.
  d. Calling numbers can be directly added when the **Calling Number Anonymization** feature is enabled for the tenant space and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.
- **Start Time**: Set this parameter to a value not earlier than the current time.
- **End Time**: Set this parameter to a value not earlier than the start time.
- **Task Type**: Select **Preview Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining Tenant Space Skill Queues**.
- **Questionnaire**: The options are **Manual Questionnaire** and **Manual and IVR Questionnaire**. If **Manual and IVR Questionnaire** is selected, the survey can

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be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.

- **Type of the outgoing call failure SMS notification**: The options are **HUAWEI CLOUD SMS** and **SMS Gateway SMS**.
- **SMS Template for Failed Outbound Call**:
  a. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. The recipient of an SMS message for a failed outbound call is the customer.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected.
  c. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially. If a task with a higher priority is not complete, the task with a lower priority is not executed.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-681 Playing a recording



  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.
- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected

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for an outbound call, the dialog box for creating a reserved outbound call task is displayed. The options are as follows:

a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected.

b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.

- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

  NOTE

  The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

  In the integrated environment, the callback URL can be configured only in the outbound call task.

- **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period.

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.

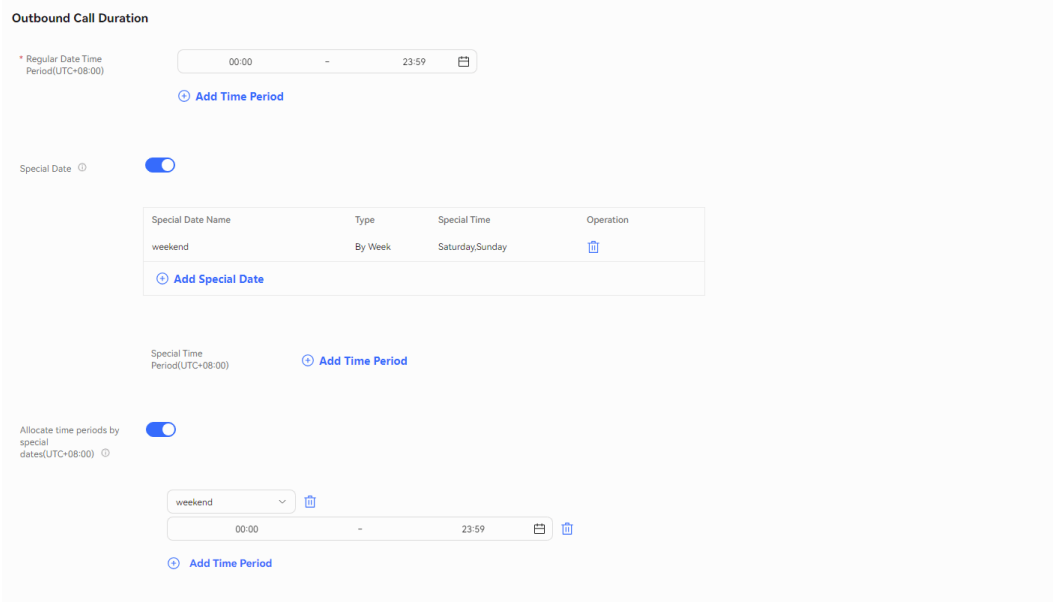
- **Business Result SMS Template Configuration**: Associate business results with external notification templates. If the business result selected during an outbound call is associated with a template, notifications are sent to specified recipients based on the template. A maximum of 10 templates can be added.

After the configuration is complete, click **Next**.

Step 4 Configure the outbound call duration. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

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Figure 2-682 Outbound Call Duration page



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

   9:00–11:30

   14:00–18:00

2. In the **Special Date** area, click **Add Special Date** to add days such as holidays and weekends as special dates.

   a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the special dates of the OU bound to the outbound call task and special dates of **Unorganized** can be selected.

   b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the special dates of all OUs, including **Unorganized**, can be selected.

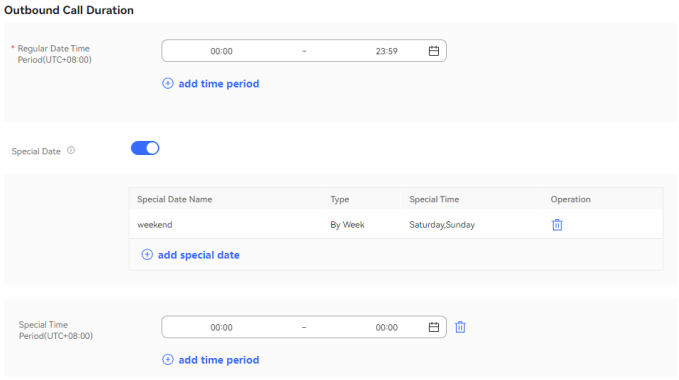
3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.

4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

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NOTE

If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure an outbound call strategy. Set **Preview Timeout Interval (s)** and **Previewed Outbound Call Duration**.

Step 6 Configure the call strategy.

1. In the **Call Strategy** area, customize the call strategy for pre-called customer numbers. Set parameters based on **Table 2-212**.

Figure 2-683 Call Strategy page

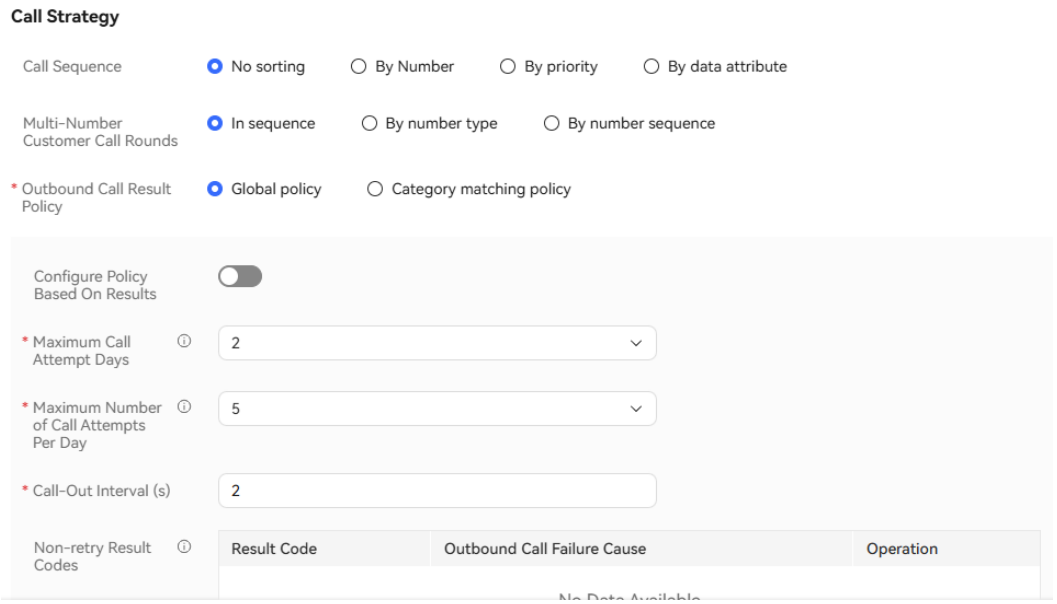
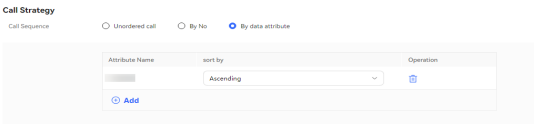


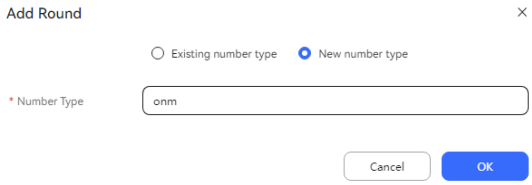
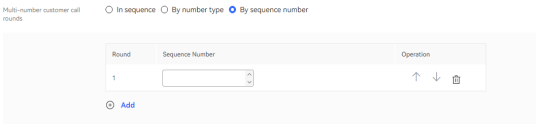
Table 2-212 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
No sorting	-

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Parameter	Description
By Number	-
By priority	After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.
By data attribute	1. By default, **By data attribute** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page. Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 2. The options are as follows: ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call data attributes of the OU bound to the outbound call task and outbound call data attributes of **Unorganized** can be selected. ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call data attributes of all OUs, including **Unorganized**, can be selected. ■ If **Mandatory** is disabled for an outbound call data attribute, the attribute cannot be selected. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.

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Parameter	Description
By number type	1. You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the new number type is bound to the OU selected during creation of the outbound call task by default. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the new number type belongs to **Unorganized**. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

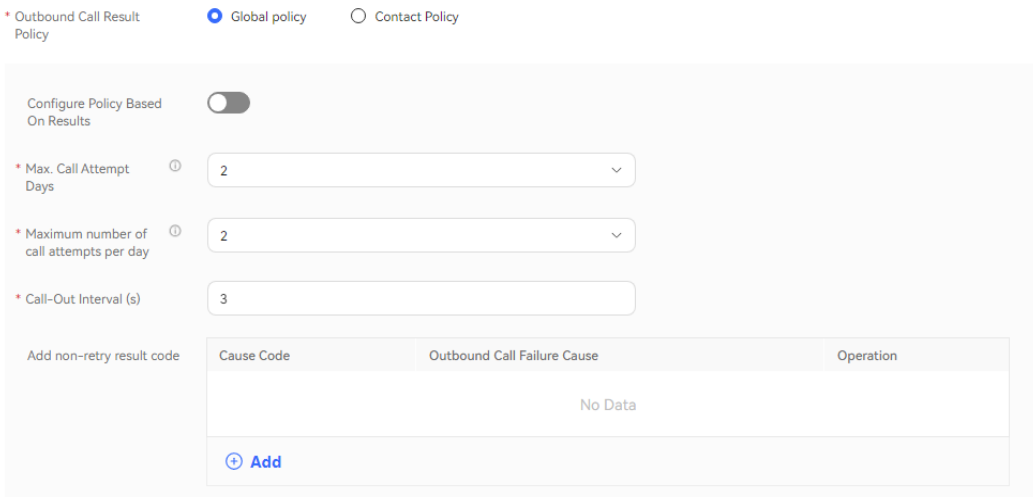
2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

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Figure 2-684 Disabling Configure Policy Based On Results

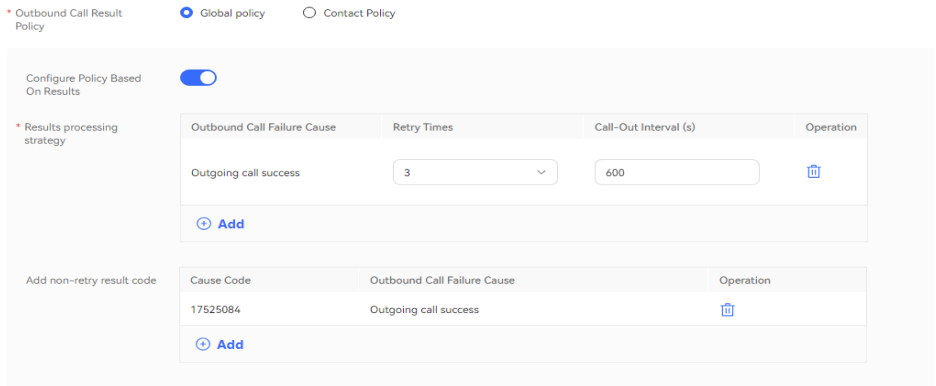


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-685 Enabling Configure Policy Based On Results



NOTE

If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

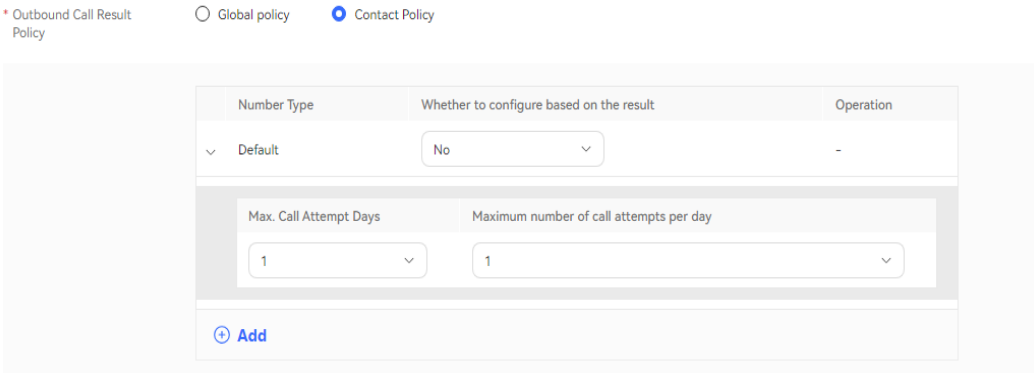
After the **Configure Policy Based On Results** switch is turned on, if the external result codes configured for **Results processing strategy** and **Add non-retry result code** are the same, the system does not retry.

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- **Contact Policy**
  - **Default** number type: Set **Whether to configure based on the result** to configure the policy.

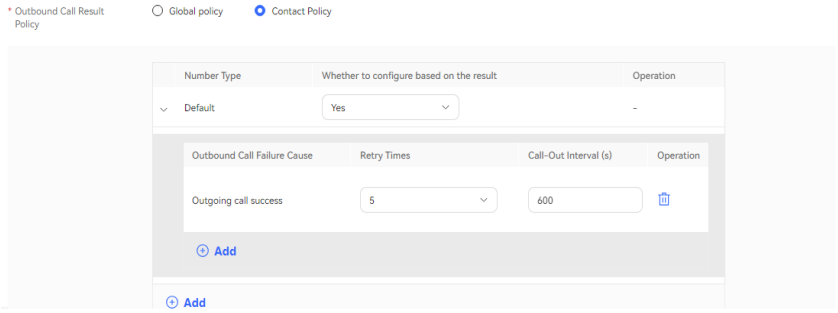
    If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

    Figure 2-686 Setting Whether to configure based on the result to No

    If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

    Figure 2-687 Setting Whether to configure based on the result to Yes

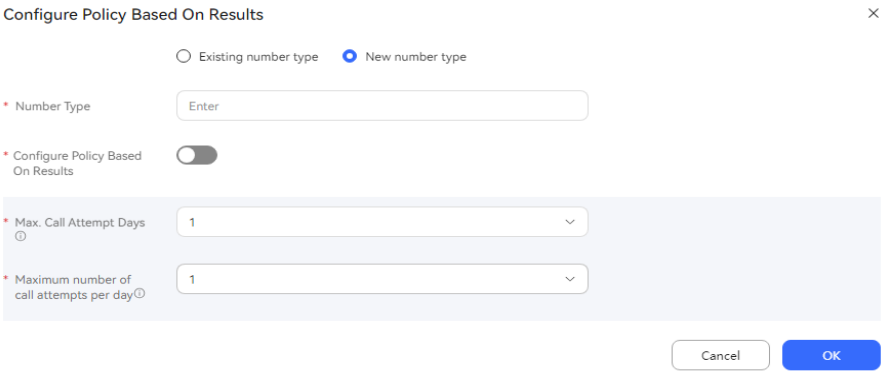
    

  - Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

    If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

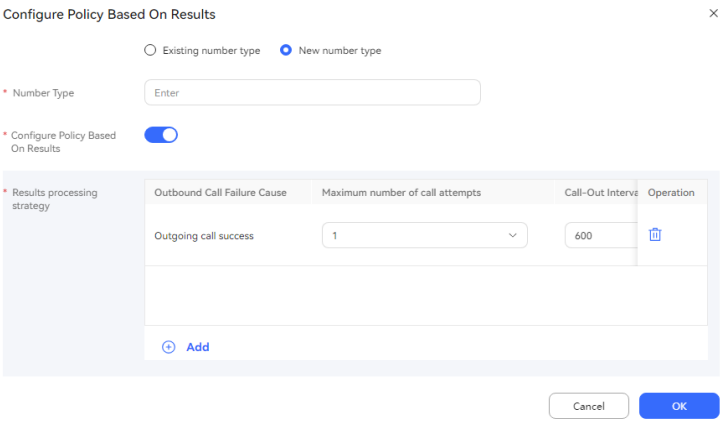
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Figure 2-688 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-689 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click corresponding to the new outbound call task.

----End

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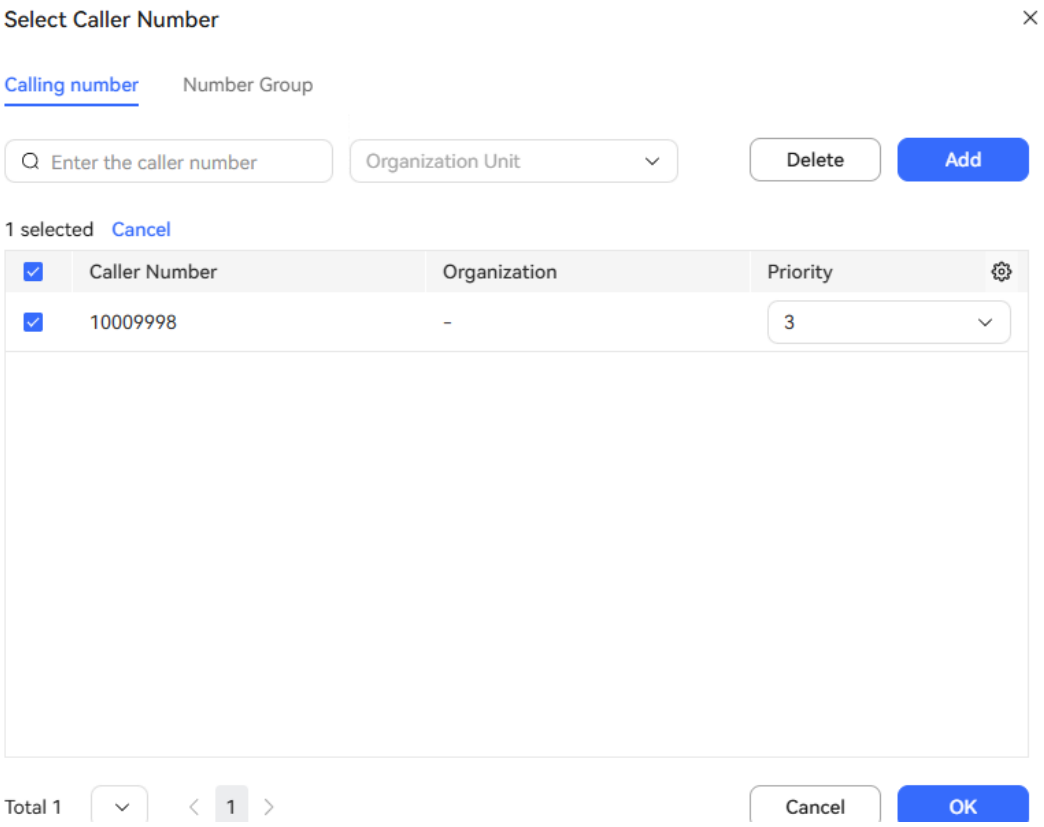
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

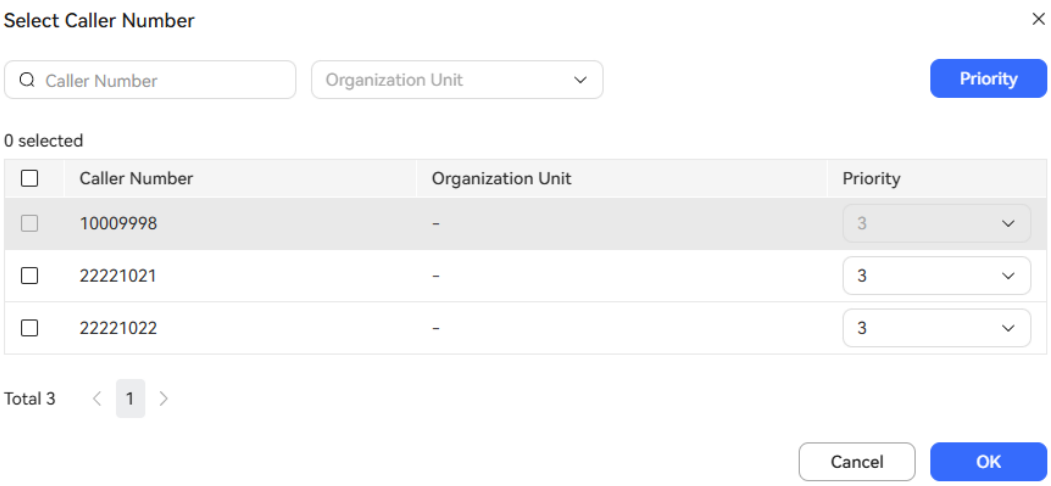
   Figure 2-690 Select Caller Number page



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

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Figure 2-691 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.4 Creating Preempted Outbound Call Tasks

In a preempted outbound call, an agent is preempted. After the agent answers the call, the agent and customer are connected.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.

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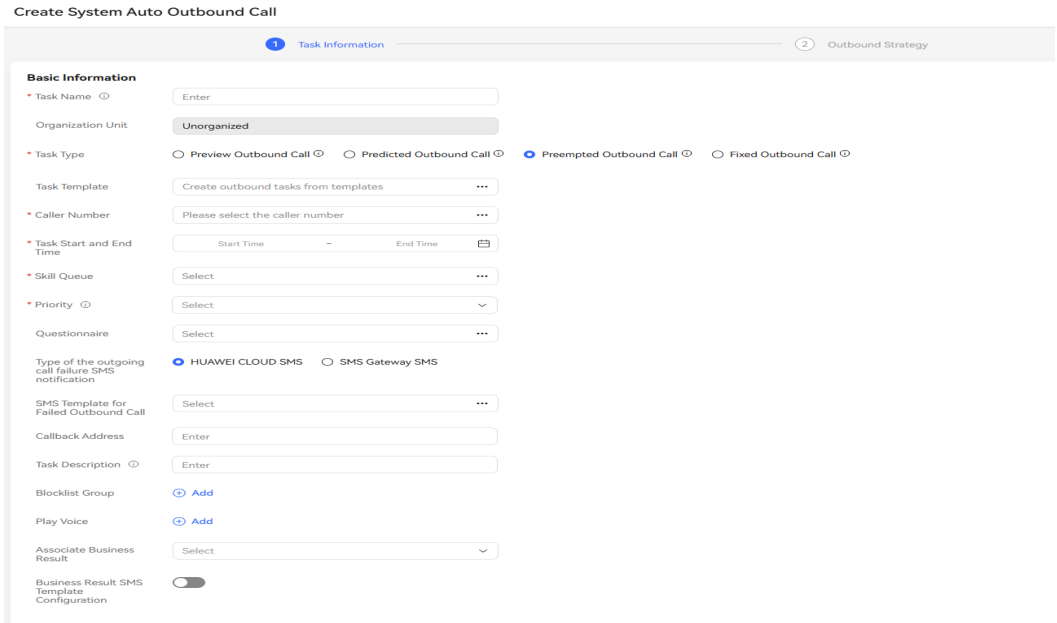
- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **System Automatic Outbound Call**. On the **Create System Auto Outbound Call** page, set **Task Type** to **Preempted Outbound Call**.

Figure 2-692 Page for configuring the basic information of a preempted outbound call task



Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Organization Unit**: The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
- **Caller Number**:

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a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers or number groups of **Unorganized** can be selected.

b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers or number groups of all OUs, including **Unorganized**, can be selected.

c. A maximum of 100 calling numbers can be added. You can select only one number group and cannot select numbers from the number list at the same time.

d. Calling numbers can be directly added when the **Calling Number Anonymization** feature is enabled for the tenant space and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.

- **Task Start and End Time**: Select the task start time and end time.
- **Task Type**: Select **Preempted Outbound Call**. For an outbound call task created using a template, the value of this parameter is the type configured in the template by default and cannot be changed.

  NOTE

  1. For a created outbound call task in the draft, suspended, completed, or waiting state, the predicted outbound call type and preempted outbound call type can be changed to each other.
  2. When changing the predicted outbound call to the preempted outbound call, you need to configure **Max. Response Duration** in the **Task Strategy** area. When changing the preempted outbound call to the predicted outbound call, you need to configure **Algorithm for Predicted Outbound Calls**, **Max. Response Duration**, **Max. Average Call Duration**, **Min. Average Call Duration**, and **Outbound Call Speed** in the **Task Strategy** area.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining Tenant Space Skill Queues**.
- **Questionnaire**: The options are **Manual Questionnaire** and **Manual and IVR Questionnaire**. If **Manual and IVR Questionnaire** is selected, the survey can be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.
- **Type of the outgoing call failure SMS notification**: The options are **HUAWEI CLOUD SMS** and **SMS Gateway SMS**.
- **SMS Template for Failed Outbound Call**:

  a. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. The recipient of an SMS message for a failed outbound call is the customer.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected.

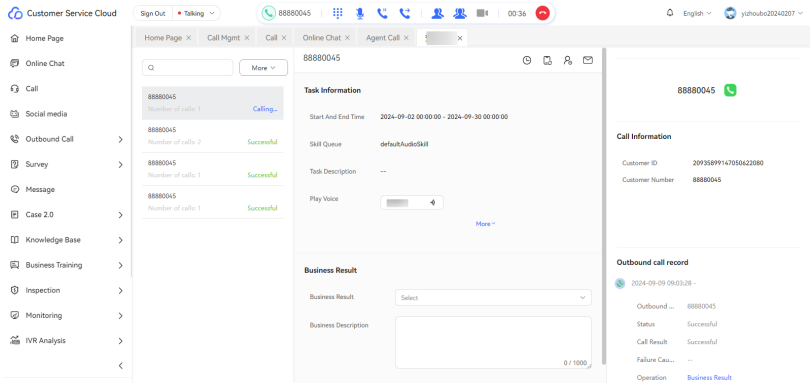
  c. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called

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preferentially. If a task with a higher priority is not complete, the task with a lower priority is not executed.

- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

  Figure 2-693 Playing a recording

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.

- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. The options are as follows:

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.

- **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period.

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.

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- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.

  NOTE

  The callback URL is a third-party URL and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

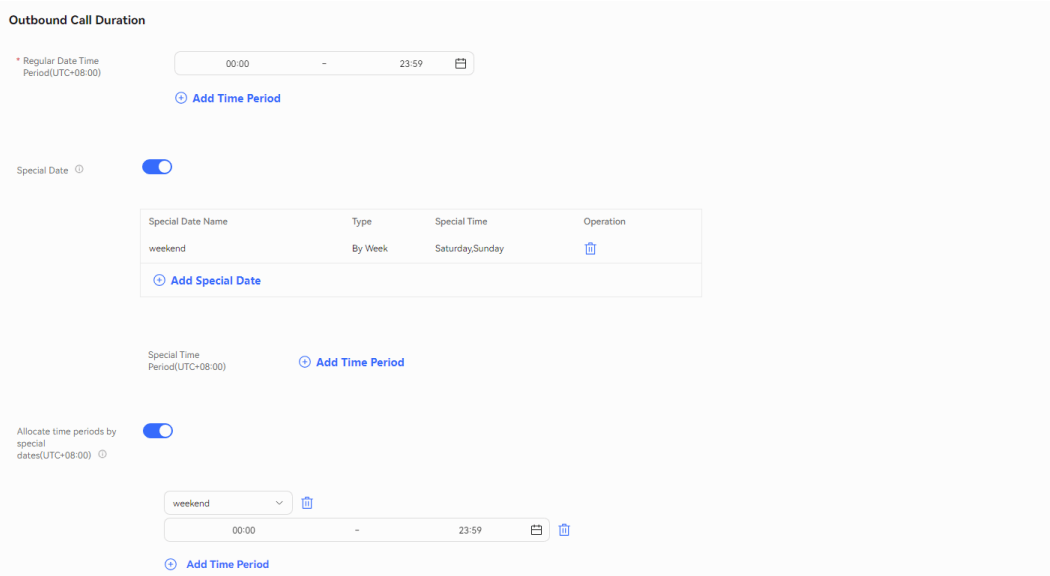
  In the integrated environment, the callback URL can be configured only in the outbound call task.

- **Business Result SMS Template Configuration**: Associate business results with external notification templates. If the business result selected during an outbound call is associated with a template, notifications are sent to specified recipients based on the template. A maximum of 10 templates can be added.

After the configuration is complete, click **Next**.

Step 4 Configure the outbound call duration. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-694 Outbound Call Duration page



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

   9:00–11:30

   14:00–18:00

2. In the **Special Date** area, click **Add Special Date** to add days such as holidays and weekends as special dates.

   a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the special dates of the OU bound to the outbound call task and special dates of **Unorganized** can be selected.

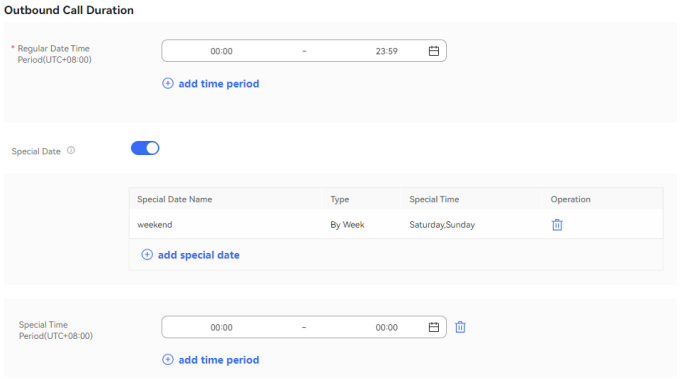
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b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the special dates of all OUs, including **Unorganized**, can be selected.

3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

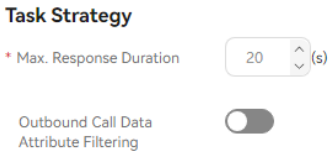
NOTE

If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



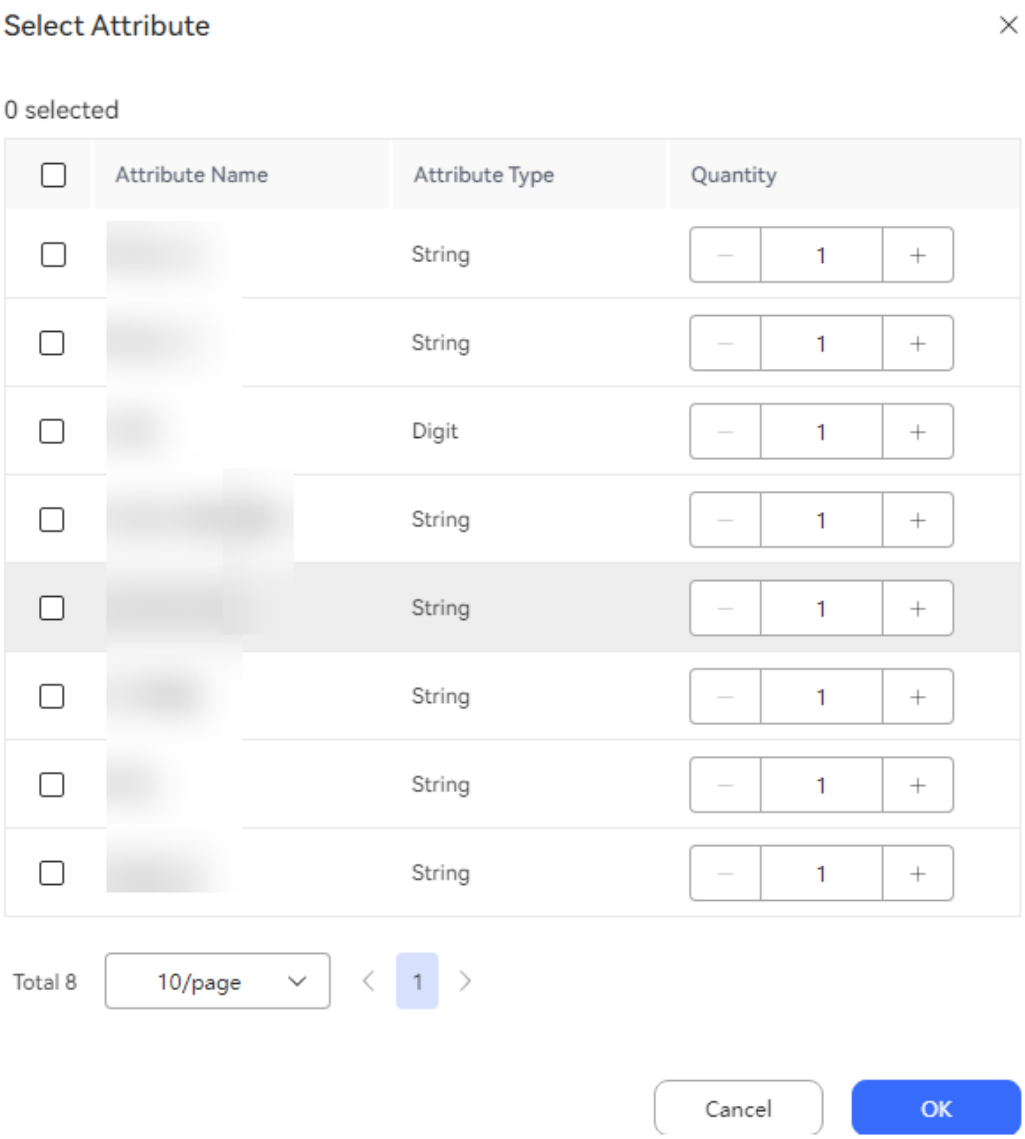
Step 5 Configure a task strategy. Set **Max. Response Duration**, enable **Outbound Call Data Attribute Filtering**, and select attributes.

Figure 2-695 Task Strategy page



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Figure 2-696 Select Attribute page



NOTE

By default, **Outbound Call Data Attribute Filtering** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 6 Configure the call strategy.

1. In the **Call Strategy** area, customize the call strategy for pre-called customer numbers. Set parameters based on **Table 2-213**.

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Figure 2-697 Call Strategy page

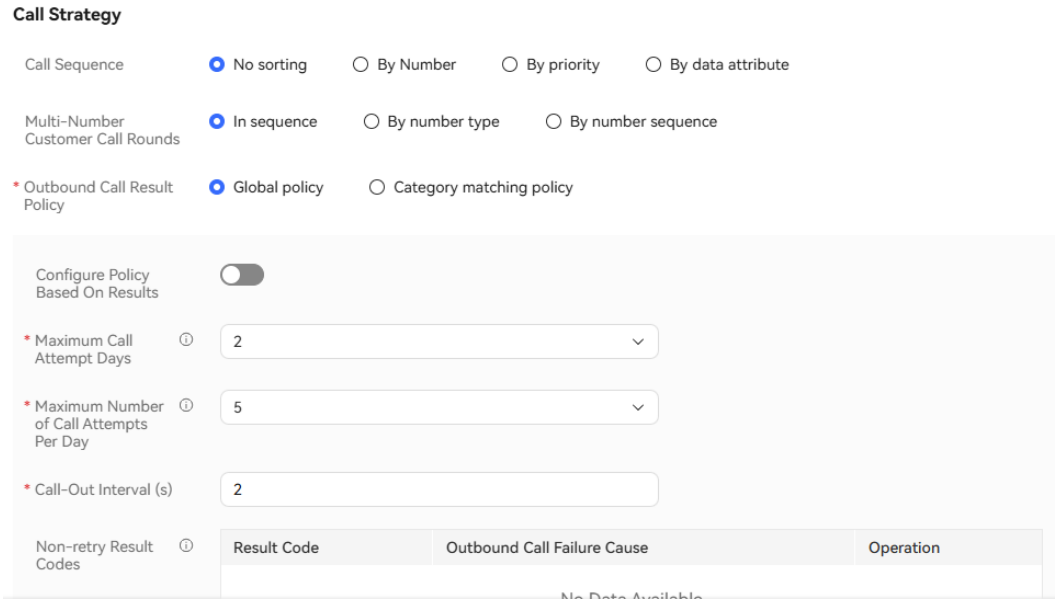
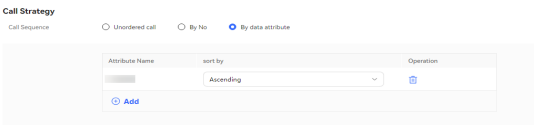


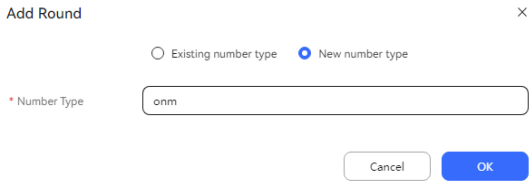
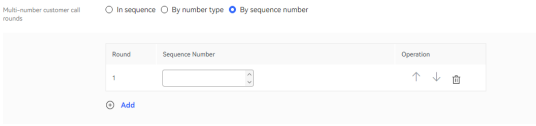
Table 2-213 Parameters in the Call Strategy area

Parameter	Description
Call Sequence: Customize the call sequence of pre-called customer numbers.	
No sorting	-
By Number	-
By priority	After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.

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Parameter	Description
By data attribute	1. By default, **By data attribute** is hidden. To display this parameter, contact the tenant administrator to set **Switch for filtering outgoing call data attributes and calling by data attribute sequence** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page. Click **Add**, select attributes, and set the sorting type. You can adjust the attribute sequence after adding the attributes. 2. The options are as follows: ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call data attributes of the OU bound to the outbound call task and outbound call data attributes of **Unorganized** can be selected. ■ If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call data attributes of all OUs, including **Unorganized**, can be selected. ■ If **Mandatory** is disabled for an outbound call data attribute, the attribute cannot be selected. 
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.

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Parameter	Description
By number type	1. You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the new number type is bound to the OU selected during creation of the outbound call task by default. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the new number type belongs to **Unorganized**. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

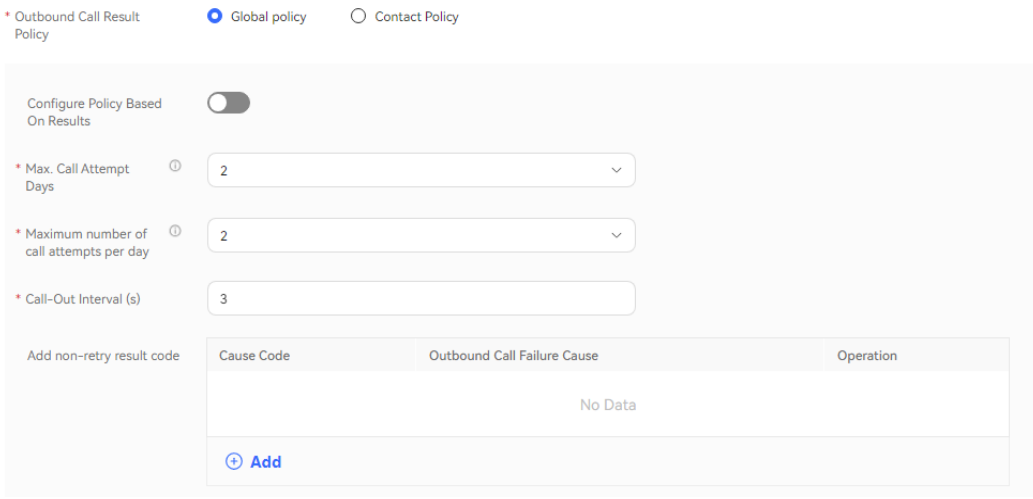
2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**
     - Disable **Configure Policy Based On Results**.

       Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

       Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

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Figure 2-698 Disabling Configure Policy Based On Results

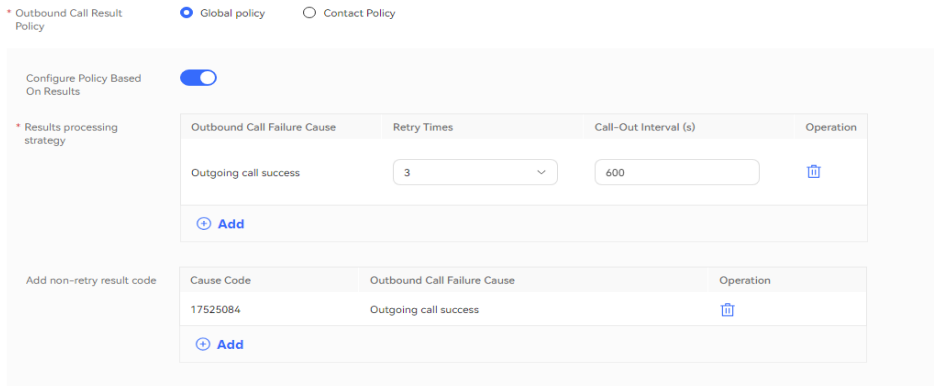


- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

Figure 2-699 Enabling Configure Policy Based On Results



NOTE

If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

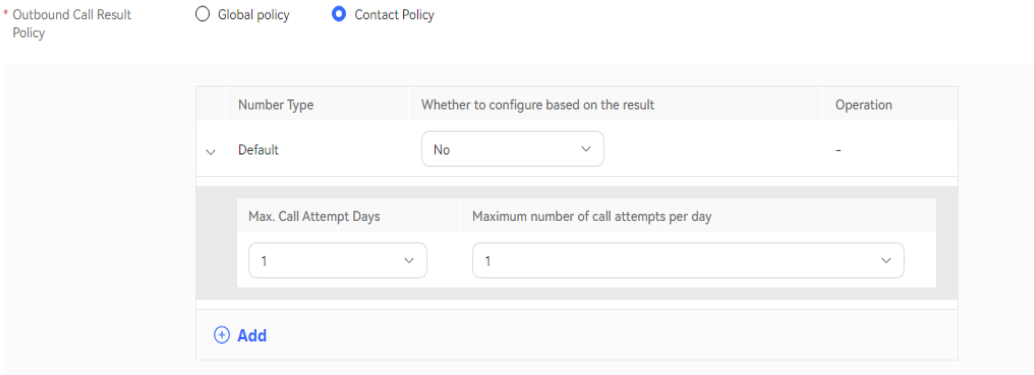
After the **Configure Policy Based On Results** switch is turned on, if the external result codes configured for **Results processing strategy** and **Add non-retry result code** are the same, the system does not retry.

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- **Contact Policy**
  - **Default** number type: Set **Whether to configure based on the result** to configure the policy.

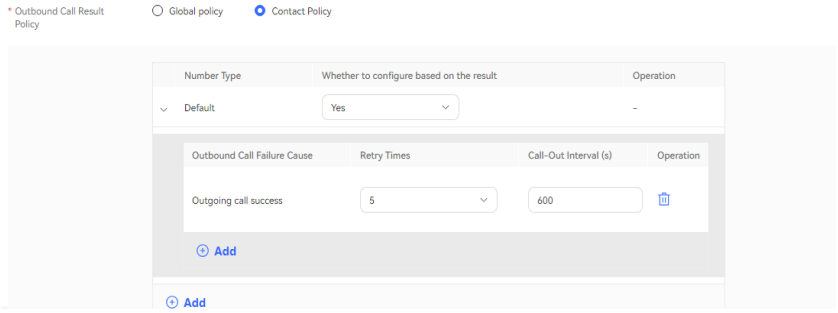
    If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

    Figure 2-700 Setting Whether to configure based on the result to No

    If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

    Figure 2-701 Setting Whether to configure based on the result to Yes

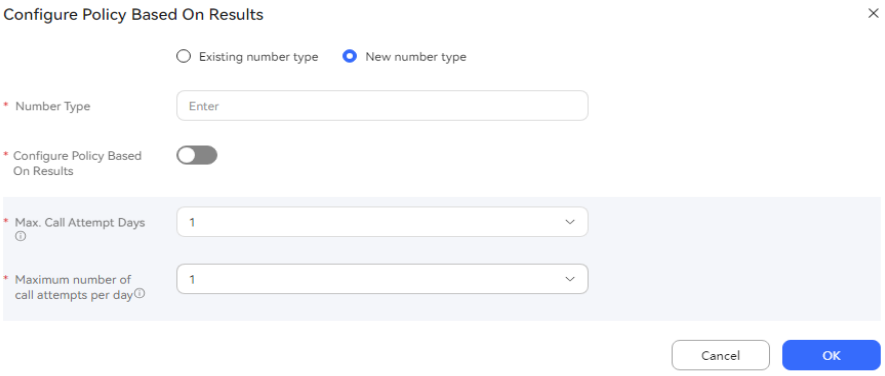
    

  - Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

    If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

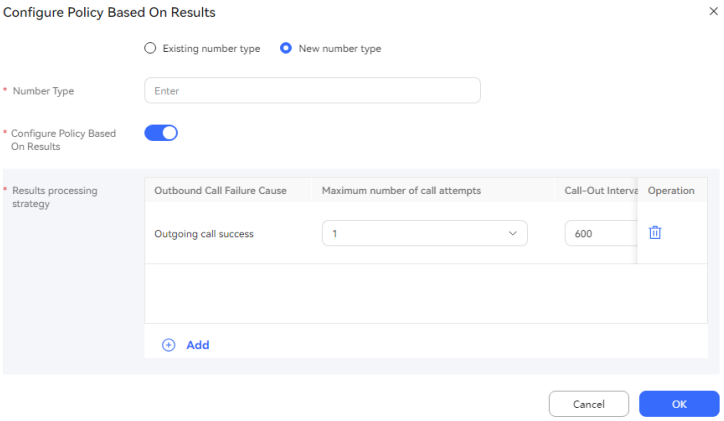
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Figure 2-702 Disabling Configure Policy Based On Results



If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

Figure 2-703 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click corresponding to the new outbound call task.

----End

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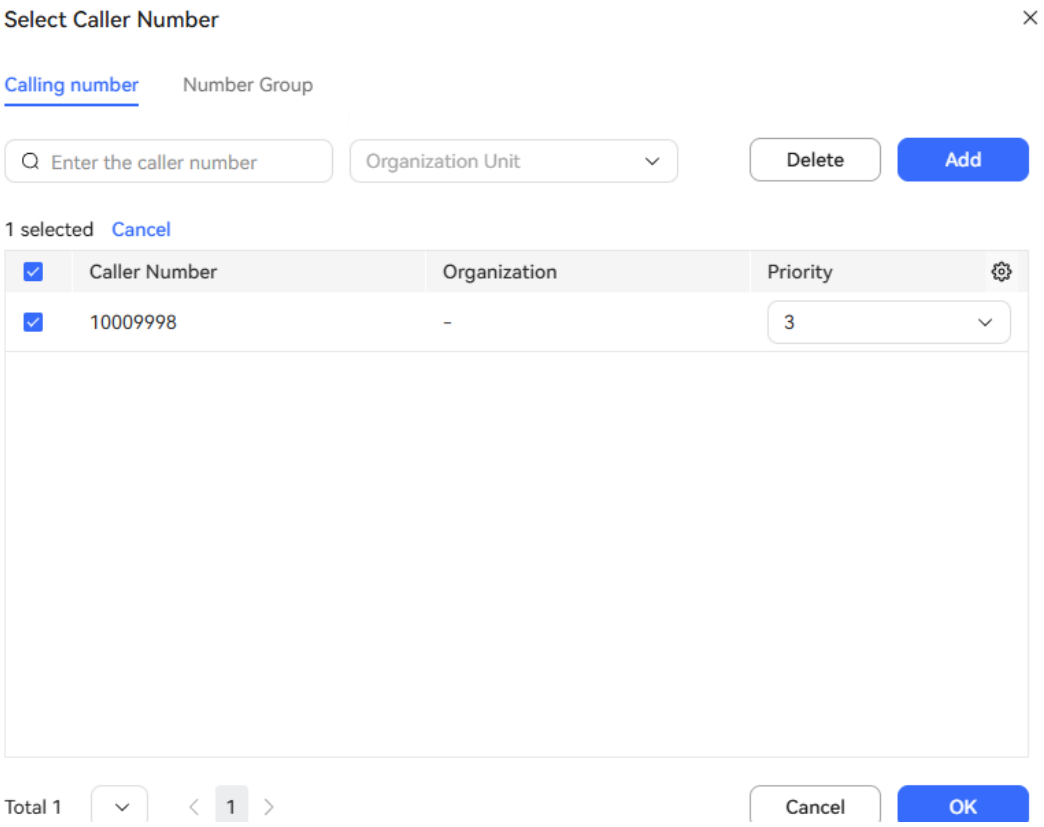
Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

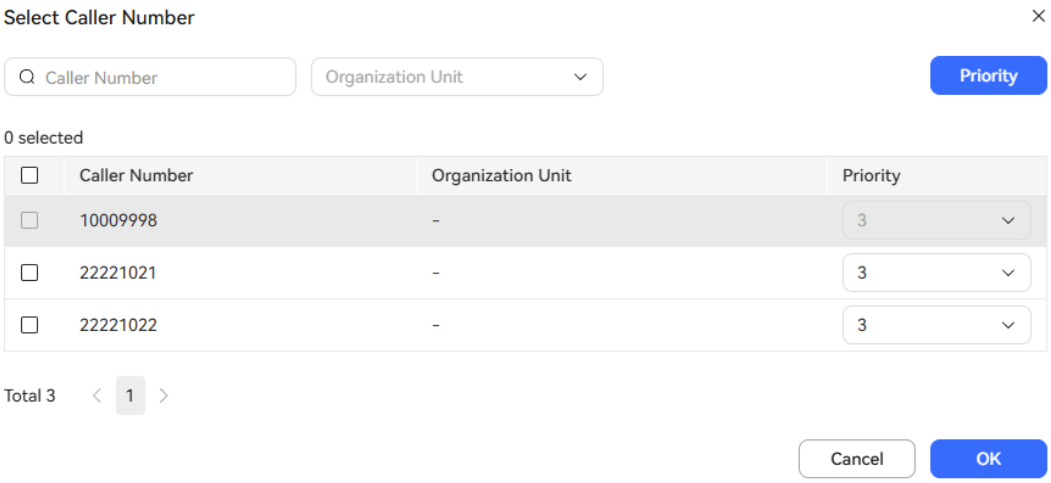
   Figure 2-704 Select Caller Number page



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

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Figure 2-705 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.5 Creating Fixed Outbound Call Tasks

In a fixed outbound call task, outbound calls are assigned to idle agents by ratio to improve call efficiency. The ratio can be adjusted based on the business target and the number of idle agents. Fixed outbound call tasks can be used to quickly contact with potential customers. When there are a large number of customer numbers to be called, fixed outbound call tasks have significant advantages over other types of outbound call tasks.

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Prerequisites

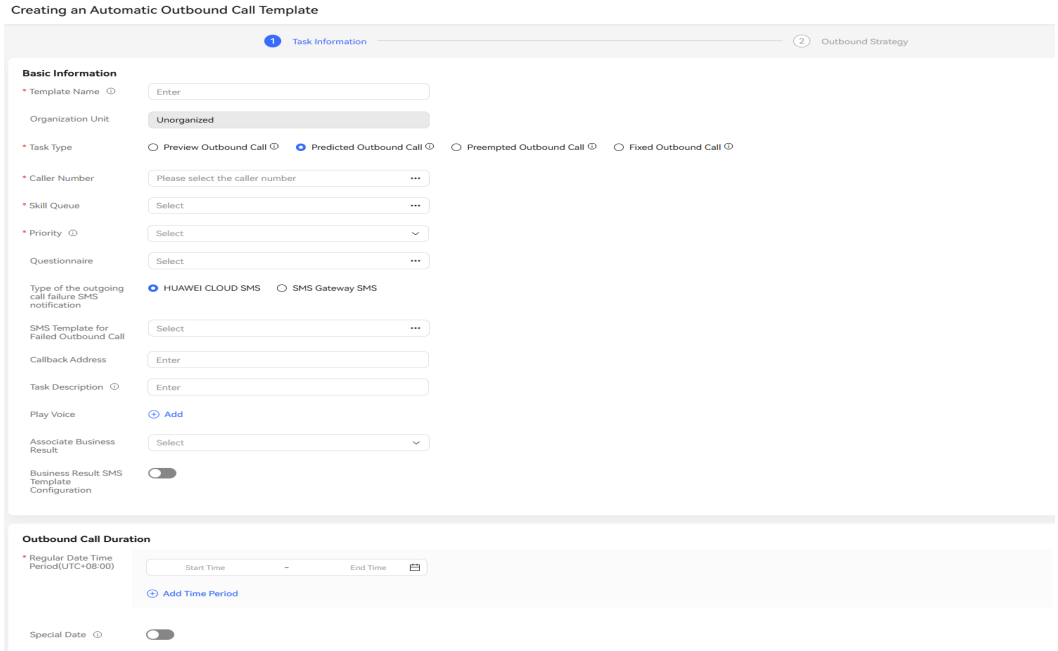
- The platform role of a user account is agent.
- You have contacted the system administrator to enable the system parameter **Display Fixed Proportion of Outgoing Calls** under **System Parameter** > **Intelligent Outbound Call** > **Managing Configurations**.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
- To configure a callback URL, an application has been submitted to the system administrator and approved to add the callback URL to the address trustlist.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **System Automatic Outbound Call**.

Figure 2-706 Page for creating a fixed outbound call task



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Step 3 Configure basic information.

- **Task Name**: Enter a customized task name.
- **Organization Unit**: The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
- **Caller Number**:
  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers or number groups of **Unorganized** can be selected.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers or number groups of all OUs, including **Unorganized**, can be selected.
  c. A maximum of 100 calling numbers can be added. You can select only one number group and cannot select numbers from the number list at the same time.
  d. Calling numbers can be directly added when the **Calling Number Anonymization** feature is enabled for the tenant space and the system parameter **Allowing Tenants to Maintain Calling Numbers.** is set to **Yes**.
- **Task Type**: Select **Fixed Outbound Call**.
- **Task Template**: Select a fixed outbound call template whose **Status** is **Published** on the **Configuration Center** > **Call Config** > **Call Template** page.
- **Task Start and End Time**: Select the task start time and end time.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **2.3.1.1 Maintaining Tenant Space Skill Queues**.
- **Smart Robot**: Select an intelligent robot. During the execution of a fixed outbound call task, the value of **Call Result** is **Successful** for a call only when the call is routed from an intelligent robot to an agent, and a contact record is generated for the call with the agent.
- **Questionnaire**: The options are **Manual Questionnaire** and **Manual and IVR Questionnaire**. If **Manual and IVR Questionnaire** is selected, the survey can be used on the outbound call workbench or used together with the **Questionnaire** diagram element in an IVR flow.
- **Play questionnaire process**: Select a survey flow. This parameter is displayed when the selected survey is a manual and IVR survey.
- **Type of the outgoing call failure SMS notification**: The options are **HUAWEI CLOUD SMS** and **SMS Gateway SMS**.
- **SMS Template for Failed Outbound Call**:
  a. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. The recipient of an SMS message for a failed outbound call is the customer.
  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected.

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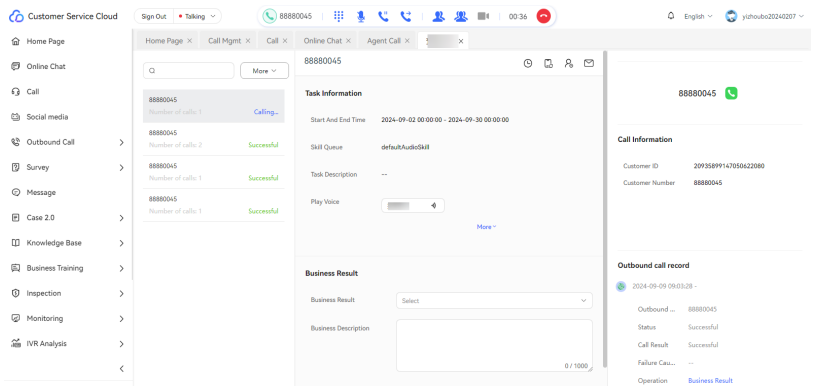
c. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.

- **Priority**: Select a value from 1 to 5. A smaller value indicates a higher priority. If tasks are started at the same time, the task with a higher priority is called preferentially. If a task with a higher priority is not complete, the task with a lower priority is not executed.
- **Callback Address**: Enter the URL for callback upon call connection or release on the customer side.
- **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period.

  a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected.

  b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.
- **Play Voice**: When an agent makes an outbound call, a recording can be played to the customer. Voice resources are prompt tones with **Status** being **Approved** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. A maximum of 10 voice resources can be selected.

Figure 2-707 Playing a recording



a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected.

b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.

- **Associate Business Result**: After an outbound call task is associated with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. The options are as follows:

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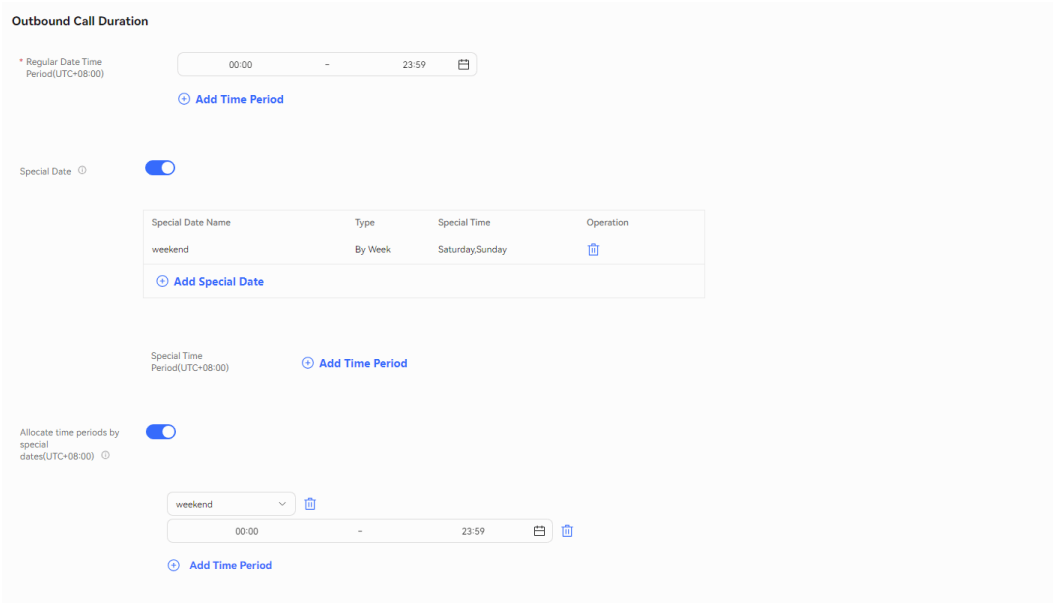
a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected.

b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.

- **Business Result SMS Template Configuration**: Associate business results with external notification templates. If the business result selected during an outbound call is associated with a template, notifications are sent to specified recipients based on the template. A maximum of 10 templates can be added.

Step 4 Configure the outbound call duration. The parameters take effect according to the following priority: **Allocate time periods by special dates** > **Special Date** > **Regular Date Time Period**.

Figure 2-708 Outbound Call Duration page



1. In **Regular Date Time Period(UTC+08:00)**, set the start time and end time of the working period. Examples are as follows:

   9:00–11:30

   14:00–18:00

2. In the **Special Date** area, click **Add Special Date** to add days such as holidays and weekends as special dates.

   a. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the special dates of the OU bound to the outbound call task and special dates of **Unorganized** can be selected.

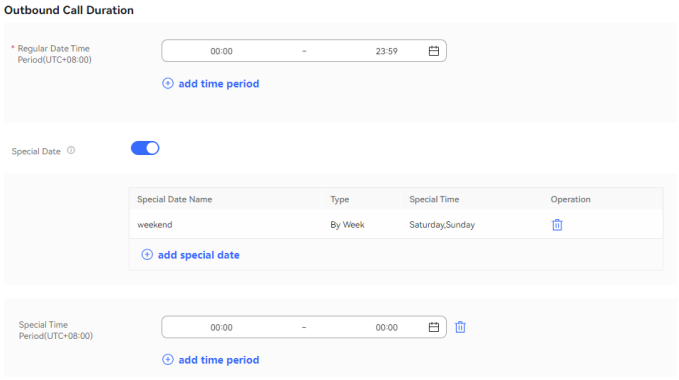
   b. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the special dates of all OUs, including **Unorganized**, can be selected.

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3. In **Special Time Period(UTC+08:00)**, click **Add Time Period** and set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. In **Allocate time periods by special dates(UTC+08:00)**, set a period. If this function is not required, disable it.

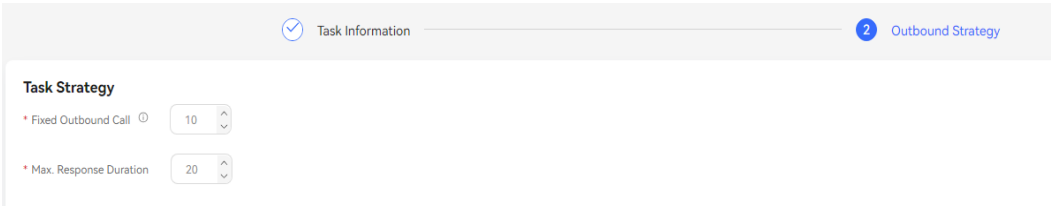
   NOTE

   If calls do not need to be made on some special dates, for example, weekends, you can set **Regular Date Time Period(UTC+08:00)** to **00:00 - 23:59**, set weekends as special dates, and set **Special Time Period(UTC+08:00)** to **00:00 - 00:00**, as shown in the following figure.



Step 5 Configure a task strategy. Set **Fixed Outbound Call** to a value ranging from 1 to 20 and set **Max. Response Duration**.

Figure 2-709 Task Strategy



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Table 2-214 Parameters for configuring the policy of a fixed outbound call task

Parameter	Value Range	Description
Fixed Outbound Call	The value ranges from 1 to 20. The default value is **10**.	• Fixed outbound call ratio = Number of outbound calls/ Number of idle agents • The number of outbound calls indicates the number of calls obtained from the business side during execution of a fixed outbound call task. • Number of outbound calls = Number of idle agents x Fixed outbound call ratio • The maximum number of outbound calls is 900.
Max. Response Duration	The value ranges from 5 to 120. The default value is **20**.	If the response duration exceeds this value, the current call ends and the next call is to be made. The value ranges from 5 to 120. The default value is **20**.

Step 6 Configure the call strategy.

1. In the **Call Strategy** area, customize the call strategy for pre-called customer numbers. Set parameters based on **Table 2-215**.

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Figure 2-710 Call Strategy page

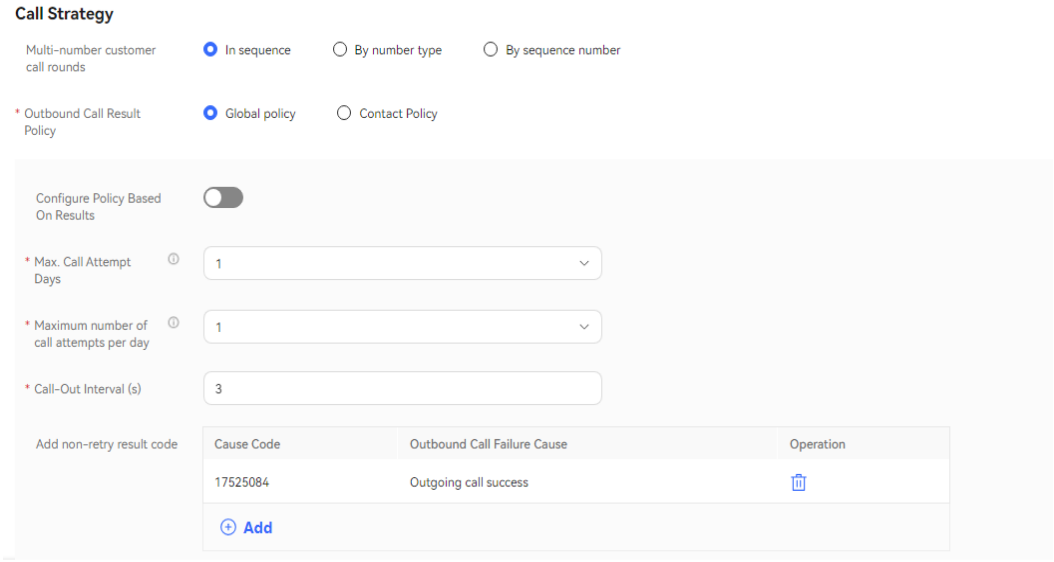
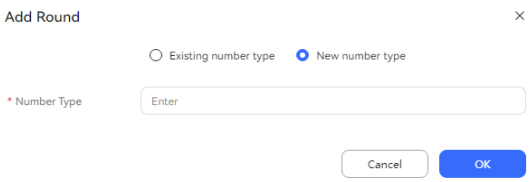
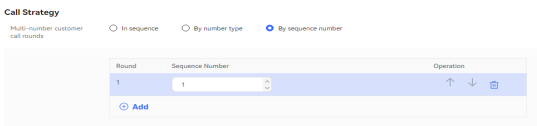


Table 2-215 Parameters in the Call Strategy area

Parameter	Description
Multi-number customer call rounds: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By number type	You can select **Existing number type** or **New number type**. After the configuration, the number with the specified type placed ahead is called first. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 

2. Configure **Outbound Call Result Policy**, which indicates the processing method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy**.
   - **Global policy**

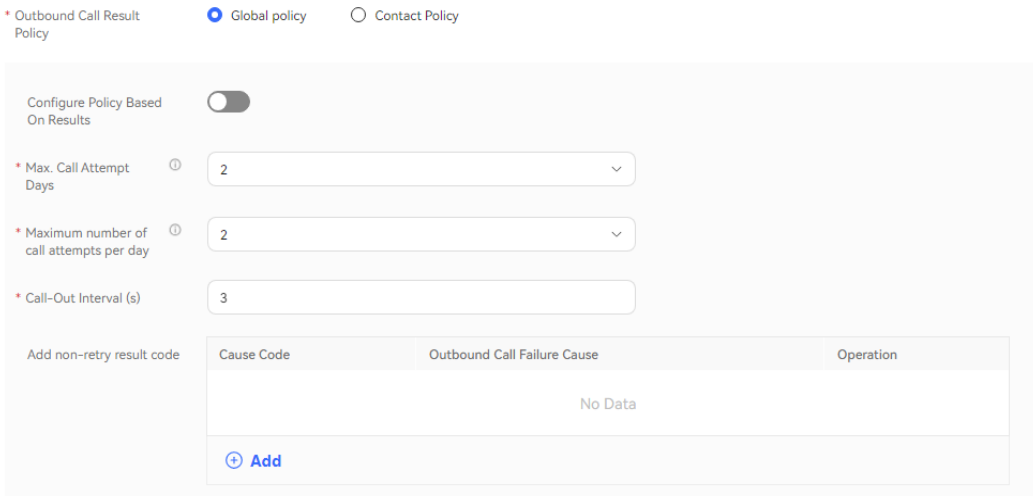
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- Disable **Configure Policy Based On Results**.

  Set **Max. Call Attempt Days**, **Maximum number of call attempts per day**, and **Call-Out Interval (s)**.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

  Figure 2-711 Disabling Configure Policy Based On Results

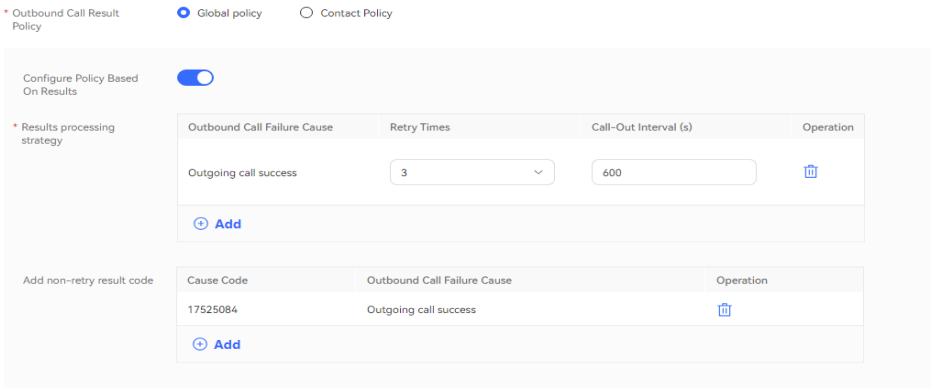
- Enable **Configure Policy Based On Results**.

  In **Results processing strategy**, click Add and set **Outbound Call Failure Cause**, **Retry Times** and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

  Click Add and set **Add non-retry result code**. When the result of an outbound call to a customer matches a result code configured in **Add non-retry result code**, the system stops retrying calling all other numbers of the customer.

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Figure 2-712 Enabling Configure Policy Based On Results



NOTE

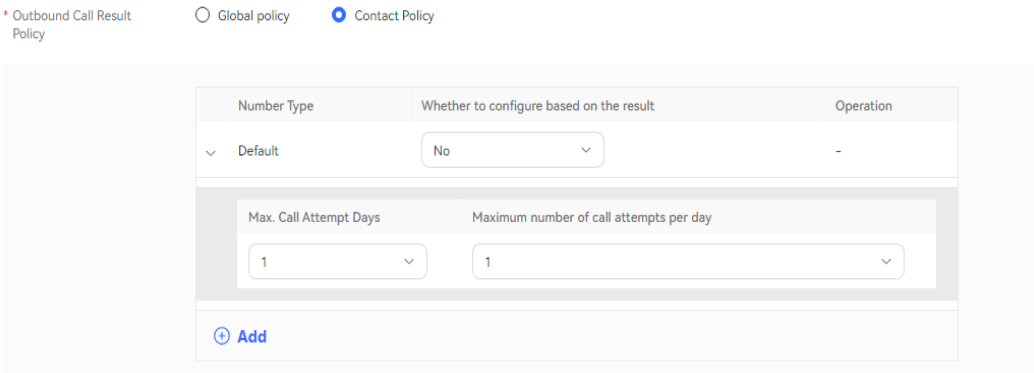
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

After the **Configure Policy Based On Results** switch is turned on, if the external result codes configured for **Results processing strategy** and **Add non-retry result code** are the same, the system does not retry.

- **Contact Policy**
  - **Default** number type: Set **Whether to configure based on the result** to configure the policy.

    If it is set to **No**, you can set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

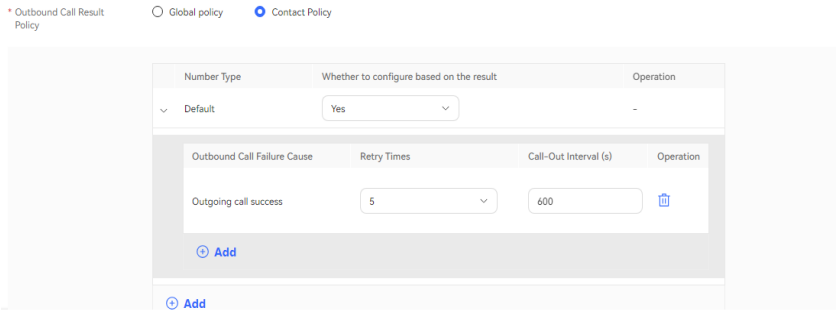
    Figure 2-713 Setting Whether to configure based on the result to No

    If it is set to **Yes**, you can set **Outbound Call Failure Cause**, **Retry Times**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

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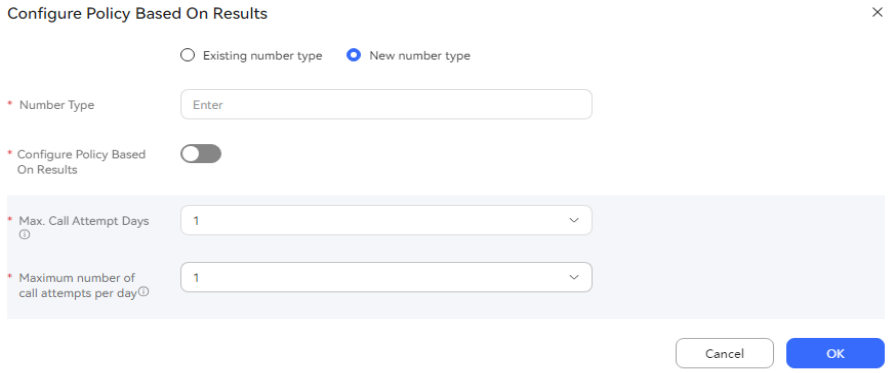
Figure 2-714 Setting Whether to configure based on the result to Yes



- Added number type: Click Add to access the **Configure Policy Based On Results** dialog box. You must set **Number Type** first regardless of whether **Configure Policy Based On Results** is enabled, and then set other parameters.

  If **Configure Policy Based On Results** is disabled, set **Number Type** to **New number type** and set **Max. Call Attempt Days** and **Maximum number of call attempts per day**.

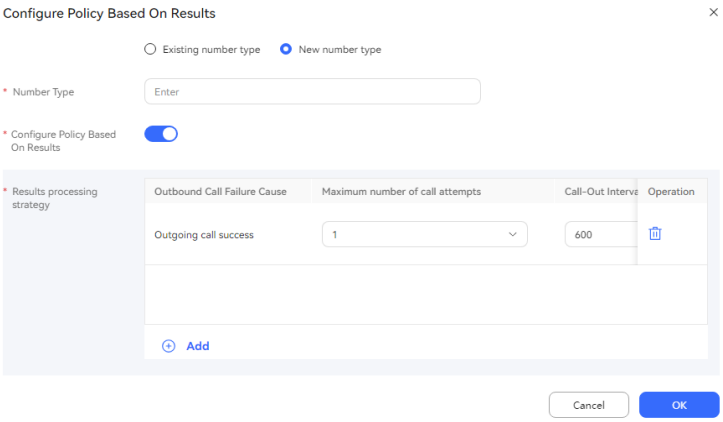
  Figure 2-715 Disabling Configure Policy Based On Results

  If **Configure Policy Based On Results** is enabled, set **Number Type** to **New number type**, click Add, and set **Outbound Call Failure Cause**, **Maximum number of call attempts**, and **Call-Out Interval (s)**. Click Add for multiple times to add multiple policies one by one. Policies with the same values of **Outbound Call Failure Cause** cannot be added.

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Figure 2-716 Enabling Configure Policy Based On Results



Step 7 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 8 Click **Save**.

Step 9 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

Follow-up Procedure

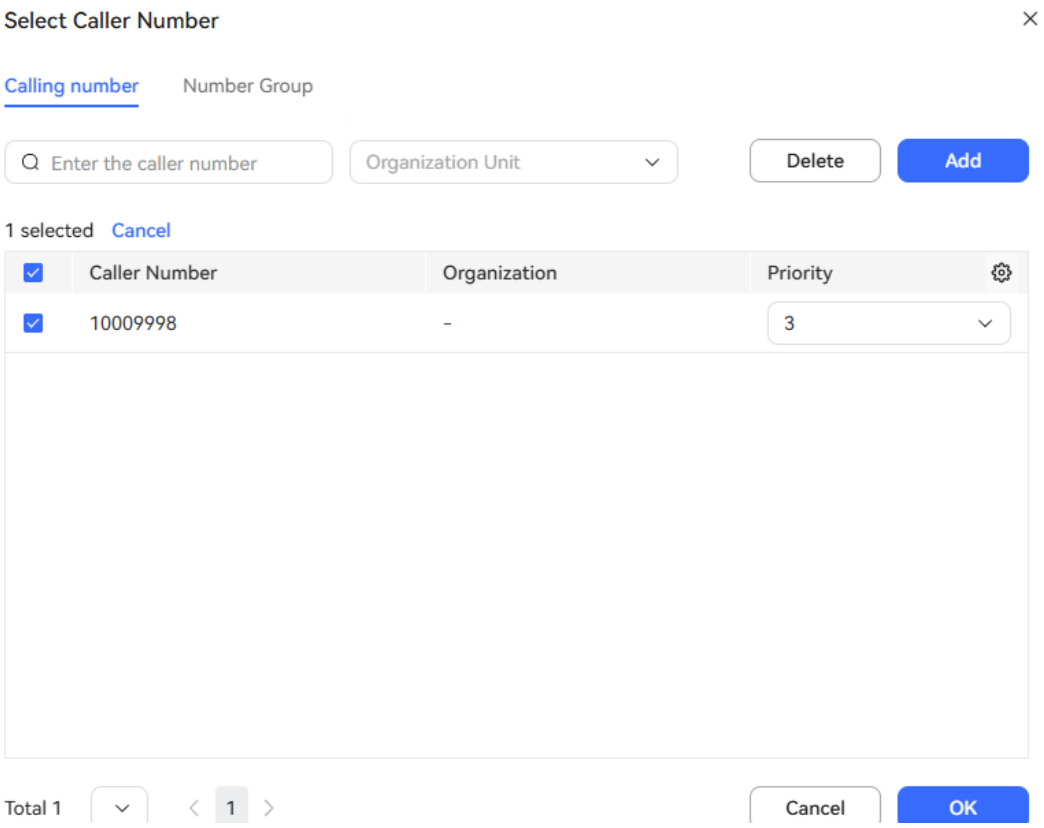
To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

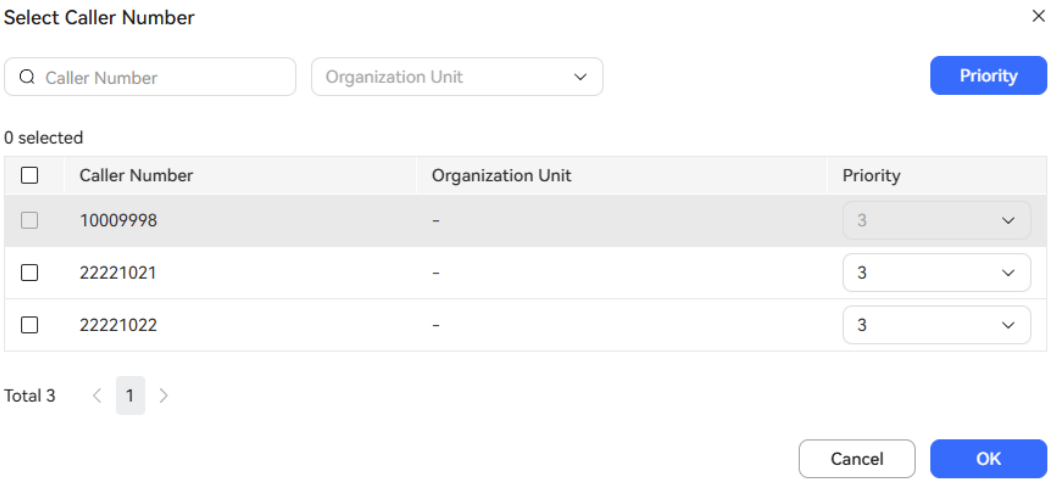
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Figure 2-717 Select Caller Number page



2. Click **Add** and select another calling number. The selected calling number cannot be selected again. The number of new calling numbers cannot exceed the **Maximum number of calling numbers** configured by an administrator.

Figure 2-718 Adding a calling number



3. Click **OK**. Return to the **Select Calling Number** page and click **OK**.

To view the task result, you can click a task to access the outbound call task details page and click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

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NOTE

To enable the recording function for intelligent robot outbound call results, choose **Configuration Center** > **Chatbot Management** > **Flow Configuration** > **System** > **System Settings**, click the **System Settings** tab, and set **FLOWRECORDFLAG** (whether to enable the recording function for intelligent IVR call flows) to **Enable**. In this way, **Play** is displayed for intelligent robot outbound call results.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to remark the called outbound numbers.
- Click **Export** to export the task result.
- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2.13.3.6 Creating Manual Outbound Call Tasks

In a manual outbound call task, an agent in a specified skill queue manually locks an outbound call task and executes the outbound call. This task applies to the scenarios with flexible scripts and agent service time.

Prerequisites

- The platform role of a user account is agent.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an internal SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.

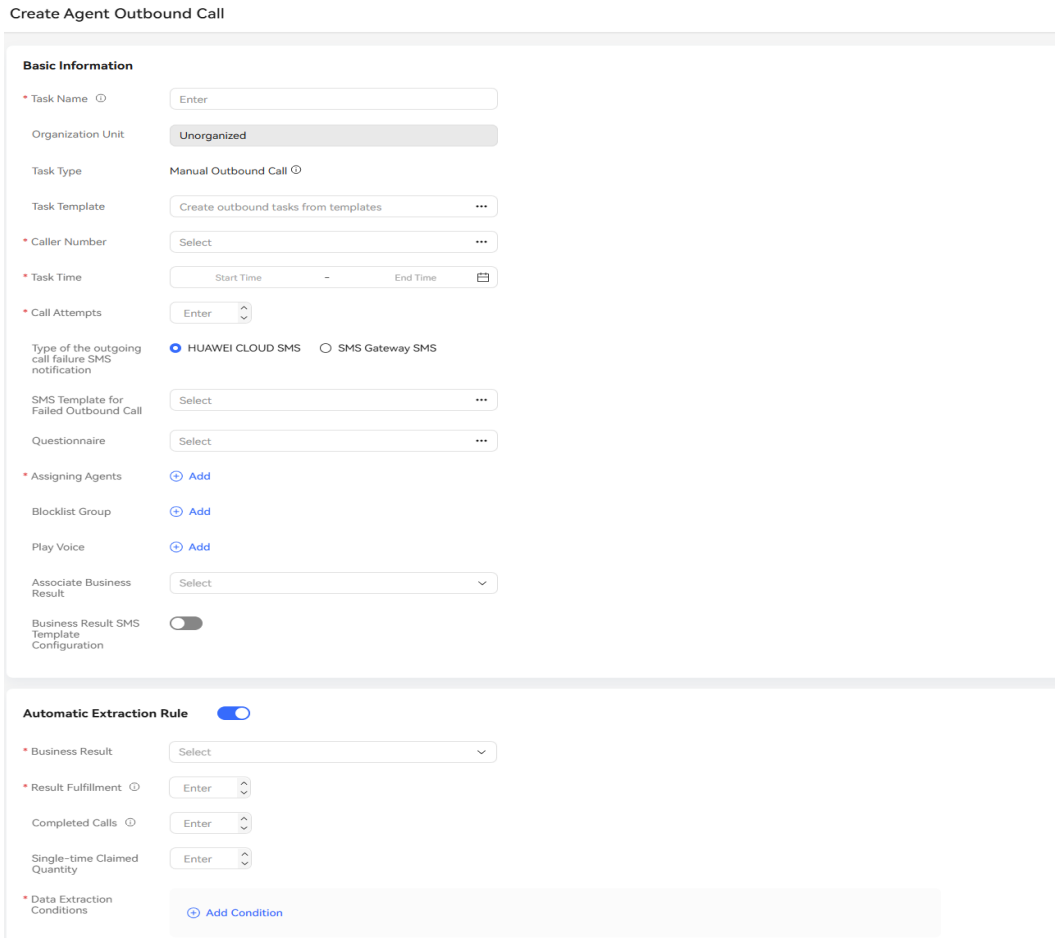
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and choose **Manual Outbound Call**.

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Figure 2-719 Create Agent Outbound Call page



NOTE

- You can select a survey based on the version number.
- For an outbound call task created using a template, the task type cannot be changed. Determine the outbound call task template type before creating an outbound call task.

Step 3 Configure manual outbound call task information.

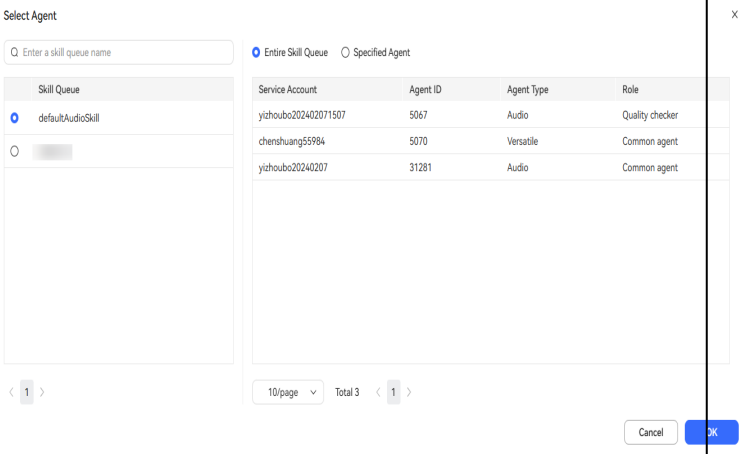
Table 2-216 Manual outbound call task parameters

Parameter	Description
Basic Information	
Task Name	Task name, which is customized. This parameter is mandatory. The value can contain a maximum of 100 characters.
Organization Unit	The OU selected on the **Create** page when an outbound call task is created is automatically displayed.

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Parameter	Description
Caller Number	1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers of all OUs, including **Unorganized**, can be selected. 3. A maximum of 100 calling numbers can be added.
Call Attempts	Maximum number of call attempts. This parameter is mandatory. A failed call can be manually initiated again. When the number of call attempts reaches the maximum, unless the call is successful, the call cannot be initiated again. The value is an integer ranging from 1 to 6.
Type of the outgoing call failure SMS notification	• **HUAWEI CLOUD SMS** • **SMS Gateway SMS**
SMS Template for Failed Outbound Call	1. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS**. The recipient of an SMS message for a failed outbound call is the customer. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.

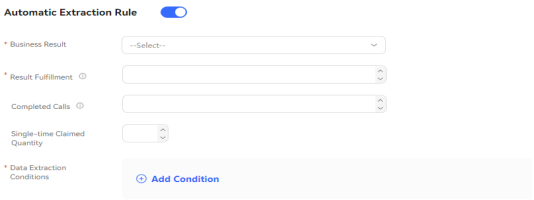
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Parameter	Description
Assigning Agents	Click  to select agents in an associated voice skill queue to execute the outbound call task. 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the skill queues and agents of the OU bound to the outbound call task can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the skill queues and agents of all OUs, including **Unorganized**, can be selected. 
Blocklist Group	• **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period. 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.

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Parameter	Description
Play Voice	1. A voice can be selected and played to the customer during a call. The options are voice resources configured on the **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** page. A maximum of 10 voice resources can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.
Associate Business Result	1. After you associate a task with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.
Business Result SMS Template Configuration	Set an SMS template whose **Notification Type** is **External Notification** based on the business result. If a business result is selected during a call, the system notifies the customer based on the template.
Automatic Extraction Rule	

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Parameter	Description
	Whether to enable the automatic extraction rule. After the automatic extraction rule is enabled, a specified agent can click the extraction button during a manual outbound call. 10 outbound call records that meet criteria are automatically extracted each time. 
Restrictions	
Business Result	1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.
Result Fulfillment	Number of calls marked with the selected business result in the current task. The value is a positive integer.
Completed Calls	Number of calls that need to be made before the outbound call task is complete. The value ranges from 1 to 100000.
Single-time Claimed Quantity	Number of outbound call records extracted each time before the outbound call task is complete. The value is a positive integer.
Data Extraction Conditions	

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Parameter	Description
Add Condition	1. Select **And** or **Or**. – **And**: All conditions must be met. – **Or**: Any one of the conditions is met. 2. The options for outbound call attributes are as follows: – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the outbound call attributes of the OU bound to the outbound call task and outbound call attributes of **Unorganized** can be selected. – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the outbound call attributes of all OUs, including **Unorganized**, can be selected.
Add Subcondition	Add a subcondition as an additional condition.

Step 4 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 5 Click **Save**.

Step 6 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details, see **2.13.3.8.1 Configuring Outbound Call Data**.

Step 7 Return to the **Call Mgmt** page and click  corresponding to the new outbound call task.

----End

Follow-up Procedure

To modify an outbound call task, click **Suspend** to suspend it.

After the task is suspended, you can perform the following operations:

- Click **Edit** to modify an outbound call task.

To view the task result, you can click a task to access the outbound call task details page and view the outbound call result for each customer.

On the task result page, you can perform the following operations:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Play** to play the recording of a completed call.

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- Click  to export the task result.

  NOTE

  The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- Click **View Export Result** to view the export result. On the displayed page, you can download the result.

2.13.3.7 Creating Manual Assignment Outbound Call Tasks

The creator of an outbound call task can manually assign outbound call data to a specified agent or skill queue to execute the outbound call task.

Prerequisites

- The **Platform Role** of the agent account has been set to **Agents**.
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue has been configured by referring to **2.3.1.1 Maintaining Tenant Space Skill Queues**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **2.3.1.3 Associating an Allocated Agent ID with a Business Account and Skill Queue**.
- If the tenant space is in trial commercial use, you have contacted O&M personnel to add the numbers used for making outbound calls to the tenant space trustlist.
- To send SMS notifications for failed outbound calls, you have configured an SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about how to configure an SMS notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
- You have contacted the system administrator to enable the system parameter **Display Manual Assignment of Outbound Calls** under **System Parameter** > **Intelligent Outbound Call** > **Managing Configurations**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **Manual Assignment Outbound Call**.

Step 3 Configure manual outbound call task information.

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Figure 2-720 Create Manual Assignment Outbound Call page

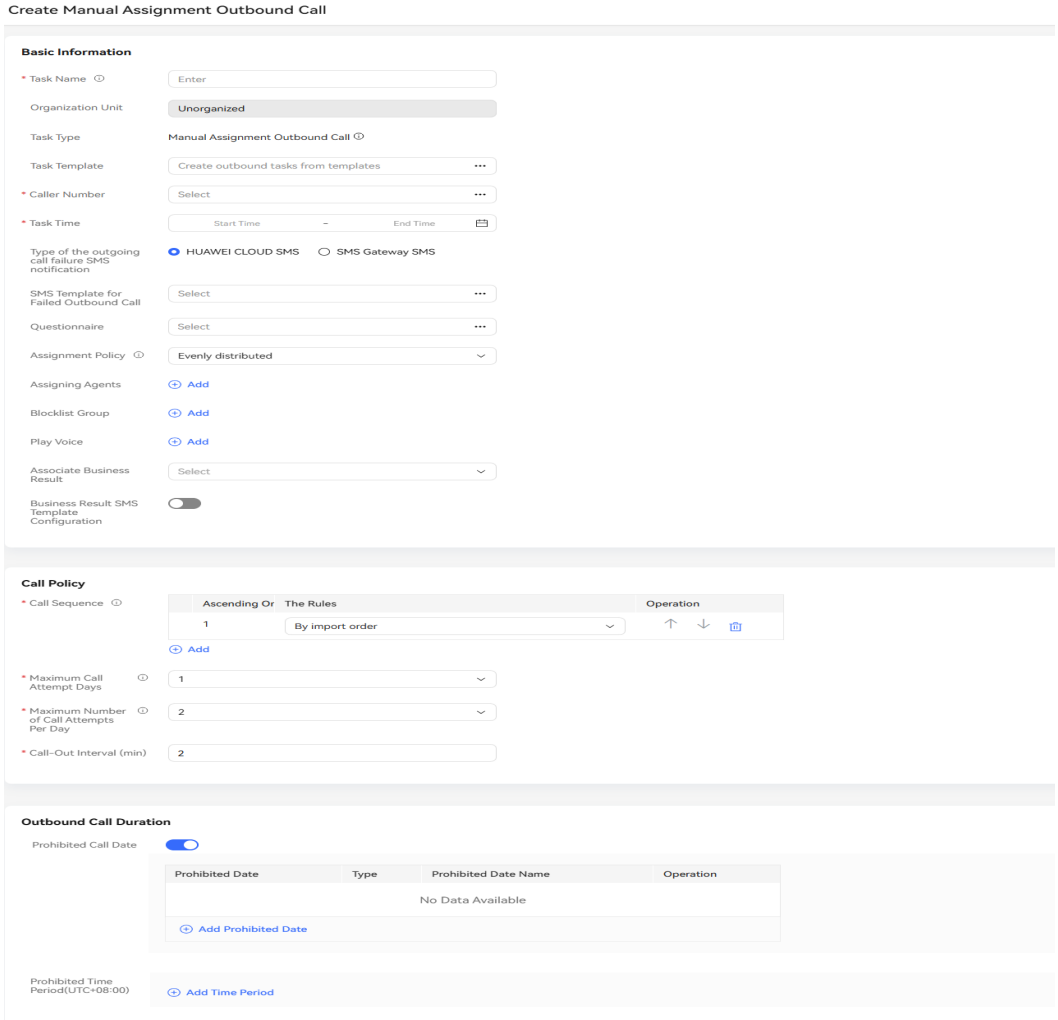


Table 2-217 Manual assignment outbound call

Manual Assignment Outbound Call	Description
Basic Information	
Task Name	Task name, which is customized. This parameter is mandatory. The value can contain a maximum of 100 characters.
Organization Unit	The OU selected on the **Create** page when an outbound call task is created is automatically displayed.
Task Type	Manual assignment outbound call.
Task Template	Select a template.

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Manual Assignment Outbound Call	Description
Caller Number	1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the calling numbers of the OU bound to the outbound call task and calling numbers of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the calling numbers of all OUs, including **Unorganized**, can be selected. 3. A maximum of 100 calling numbers can be added.
Task Time	Start time and end time of an outbound call task.
Call Attempts	Maximum number of call attempts. This parameter is mandatory. A failed call can be manually initiated again. When the number of call attempts reaches the maximum, unless the call is successful, the call cannot be initiated again. The value is an integer ranging from 1 to 6.
Type of the outgoing call failure SMS notification	• **HUAWEI CLOUD SMS** • **SMS Gateway SMS**
SMS Template for Failed Outbound Call	1. External SMS notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**. Set **Template Type** to **HUAWEI CLOUD SMS**. The recipient of an SMS message for a failed outbound call is the customer. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the SMS templates for failed outbound calls of the OU bound to the outbound call task and SMS templates for failed outbound calls of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the SMS templates for failed outbound calls of all OUs, including **Unorganized**, can be selected.
Questionnaire	Select a published manual questionnaire or manual and IVR questionnaire. For details, see **2.14.1 Configuring Surveys**.

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Manual Assignment Outbound Call	Description
Assignment Policy	• **Evenly distributed**: The pending calls are evenly allocated to agents. For example, if there are two agents, agent A and Agent B, the supervisor allocates 10 numbers for the first time and 20 numbers for the second time, each agent has 15 pending calls. If the supervisor allocates three numbers to agent A and agent B, agent A has two pending calls and agent B has one pending call based on the import sequence. When the outbound call data is imported next time, the data is imported to agent B first. • **Do not assign automatically**: After outbound call data is imported, all pending calls are in the to-be-allocated state. • **Resource pool allocation**: The pending calls are allocated in the import sequence.
Assigning Agents	Click  to select agents in an associated voice skill queue to execute the outbound call task. • If **defaulAudioSkill** in the **Skill Queue** column is selected, the outbound call task is executed by all agents in the skill queue. • If **Specified Agent** is selected, the outbound call task can be executed by a specified agent. • If **Lower Level Administrator** is selected, the outbound call task can be executed by the corresponding supervisor or any lower-level employee.
Blocklist Group	• **Blocklist Group**: If a blocklist group is selected, all numbers in this group are not called within a specified period. 1. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the blocklist groups of the OU bound to the outbound call task and blocklist groups of **Unorganized** can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the blocklist groups of all OUs, including **Unorganized**, can be selected.

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Manual Assignment Outbound Call	Description
Play Voice	1. A voice can be selected and played to the customer during a call. The options are voice resources configured on the **Configuration Center** > **Resource Management** > **Audio and Video Resource Management** page. A maximum of 10 voice resources can be selected. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the prompt tones of the OU bound to the outbound call task and prompt tones of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the prompt tones of all OUs, including **Unorganized**, can be selected.
Associate Business Result	1. After you associate a task with a business result, only the associated business result and its sub-business results can be selected for outbound calls in the task. If **Appointment Pop-up Screen** is enabled for the business result, after the business result is selected for an outbound call, the dialog box for creating a reserved outbound call task is displayed. 2. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only the business results of the OU bound to the outbound call task and business results of **Unorganized** can be selected. 3. If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the business results of all OUs, including **Unorganized**, can be selected.
Business Result SMS Template Configuration	Set an SMS template whose **Notification Type** is **External Notification** based on the business result. If a business result is selected during a call, the system notifies the customer based on the template. A maximum of 10 templates can be added.
Call Policy: Set call policies for extracting outbound call data. For details about how to extract outbound call data, see **Step 6** and **Step 7**.	

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Manual Assignment Outbound Call	Description
Call Sequence	1. **Number of calls**: Calls are made in descending order based on the number of calls. A phone number with more number of calls has a higher priority. 2. **By Attribute**: Calls are made in ascending or descending order based on the attribute configuration. 3. **By import order**: Calls are made in descending order based on the batch creation time first and then the outbound call data import sequence. 4. **By priority**: After **By priority** is selected, you can set the priority when adding outbound call data. The priority ranges from 1 to 5. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority. **NOTE** When an agent extracts outbound call data, the maximum number of outbound call data records that can be extracted at a time is specified by the tenant parameter **Maximum number of outgoing call data obtained at a time**. The default value is **5**, and the value ranges from 1 to 20. You can contact the tenant administrator to set the value on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
Maximum Call Attempt Days	During extraction of outbound call data for initiating calls, if a number has been called within the configured number of days for call attempts, it cannot be called again.
Maximum Number of Call Attempts Per Day	During extraction of outbound call data for initiating calls, if the number of calls made to a number on the current day is greater than the value of **Maximum Number of Call Attempts Per Day**, the number cannot be called again.
Call-Out Interval (min)	During extraction of outbound call data for initiating calls, multiple calls are not allowed within a specified interval.
Outbound Call Duration	
Prohibited Call Date 	After **Prohibited Call Date** is enabled for a manual assignment outbound call task, the value of **Task Status** of this task is **Suspend** on the **Outbound Call Task** > **Agent Call** page, indicating that this task cannot be executed within the prohibited time range.

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Manual Assignment Outbound Call	Description
Add Prohibited Date	A prohibited date is added. For details, see 2.13.2.1 Managing Special Dates.
Add Time Period	Add a time period, for example, from 18:00 to 23:59. A maximum of three time periods can be added.

Step 4 (Optional) Click **Save as Template**. In the dialog box that is displayed, enter a template name and click **confirm** to save the current configuration as an outbound call template.

Step 5 Click **Save**.

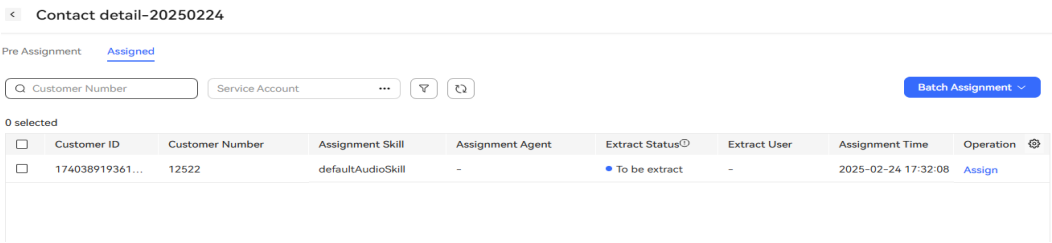
Step 6 Return to the **Call Mgmt** page, click **Contact list** in the **Operation** column corresponding to the new outbound call task, and add outbound call data to the outbound call task. For details about how to add outbound call data, see 2.13.3.8.1 Configuring Outbound Call Data.

Step 7 (Optional) Click Create batch to create a batch if the outbound call task does not have an outbound call batch. After the batch is created, click  to start the batch.

Step 8 Click **Pending Calls** and enter the customer to be called.

Step 9 Click **Assign** after the customer to be called is created. The data assignment page is displayed.

Figure 2-721 Data assignment page



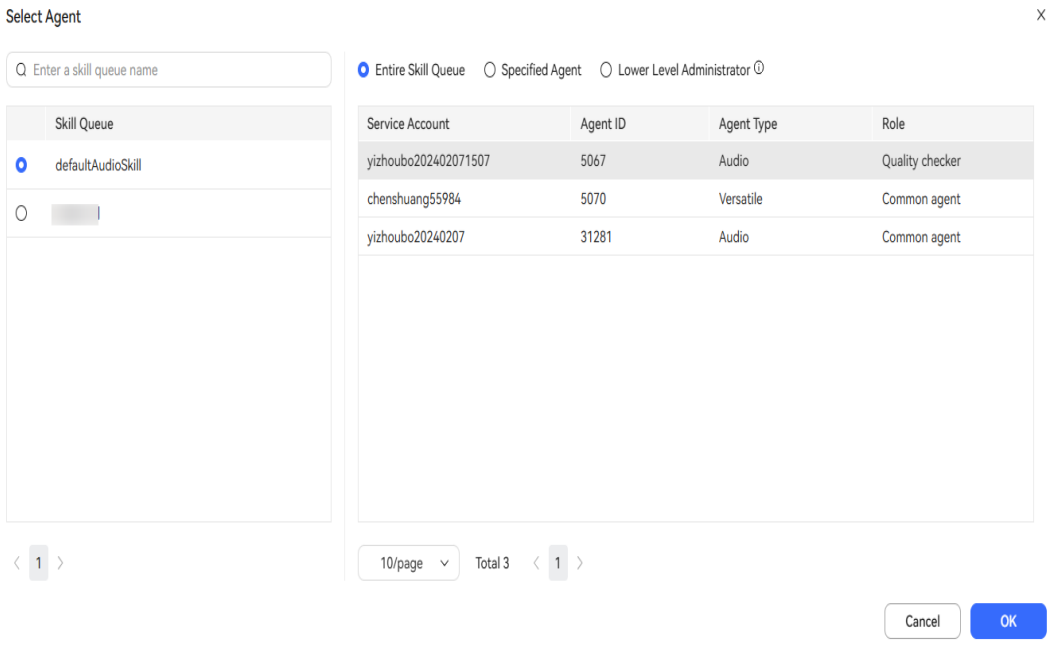
NOTE

- If the manual assignment outbound call task is not assigned to any agent when it is created, customers to be called are displayed on the **Pre Assignment** tab page. If the outbound call task has been assigned to an agent, customers to be called are displayed on the **Assigned** tab page.
- If the configuration of agents bound to an outbound call task is canceled during multi-round call creation, the system displays a message indicating that the configuration of agents has been canceled when the tenant space administrator accesses the data assignment page.

Step 10 Click **Assign** on the **Assigned** tab page to assign a customer number to another agent or lower-level administrator to execute the outbound call task.

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Figure 2-722 Reassignment



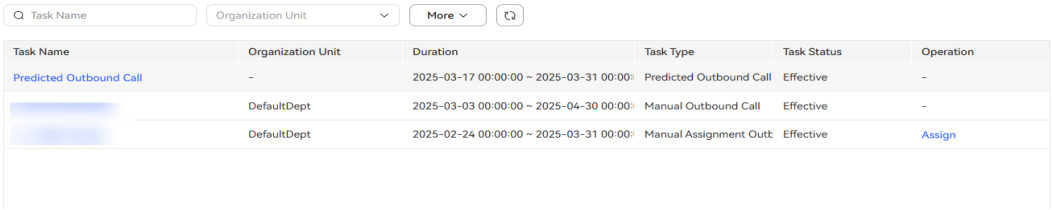
NOTE

If a customer number has been extracted by agents, the customer number cannot be reassigned.

Step 11 Sign in to the AICC as the assigned agent, select the assigned outbound call task, and click  to start the task.

Step 12 Click the name of the manual assignment outbound call task on the **Outbound Call** > **Agent Call** page. The call page is displayed.

Figure 2-723 Manual assignment outbound call task name



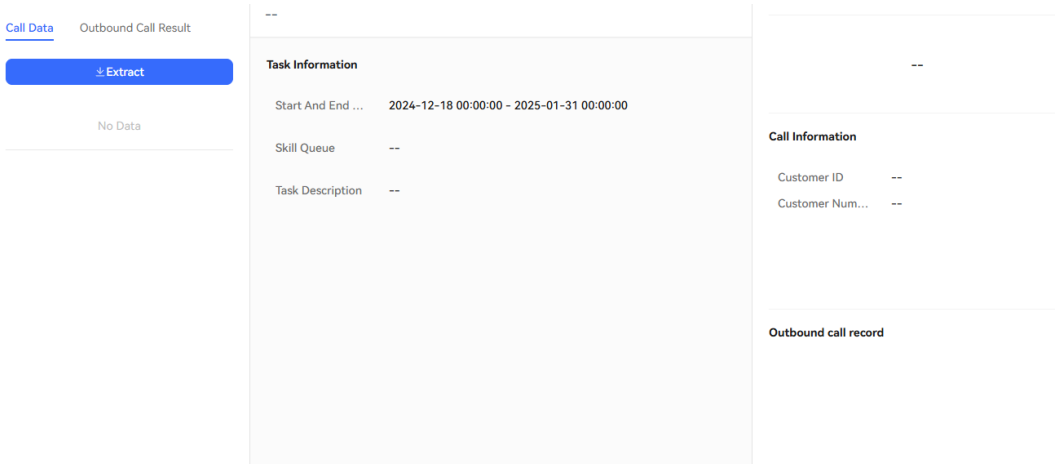
NOTE

A lower-level administrator can click **Assign** on the **Agent Call** page to continue to assign the outbound call task.

Step 13 Click **Extract** on the call page to extract the customer number assigned in **Step 10**.

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Figure 2-724 Extracting outbound data



NOTE

- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is **Auto Wrap Up**, after you click **Extract**, the number is marked as completed and will not be called, and its business result is that specified for the blocklist. For details about how to configure a blocklist type, see **2.13.2.2 Managing Blocklisted Outbound Numbers**.
- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is **Pop Up**, the extraction is successful after you click **Extract**. After you click , a screen pop-up is displayed, and you can make a call.
- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is not set, after the extraction is complete, the customer number is marked as completed and its business result is empty.
- If the tenant parameter **Whether to enable Manual Assignment Outbound Call to record business result without calling** is set to **Yes**, after you click **Extract**, the customer number is marked as completed, and the business result is directly entered without calling with **Call Result** recorded as **Failed** and **Cause** recorded as the business result. You can also contact the tenant administrator to set this parameter to **No** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

----End

Creating a Multi-round Call

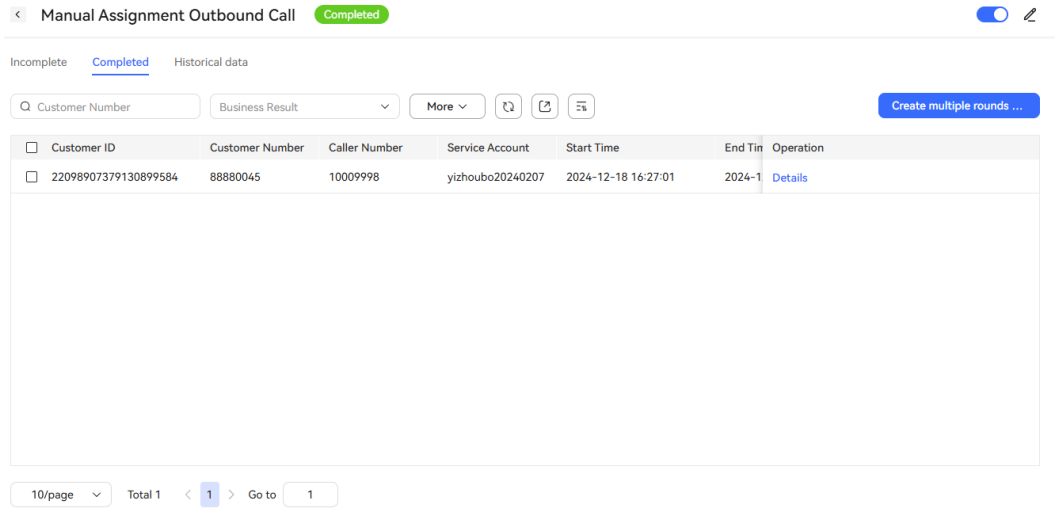
After outbound call tasks are manually assigned, the tenant space administrator or agent can select a customer number for which a call has been completed and call the number again.

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click the name of a manual assignment outbound call. On the page that is displayed, click the **Completed** tab.

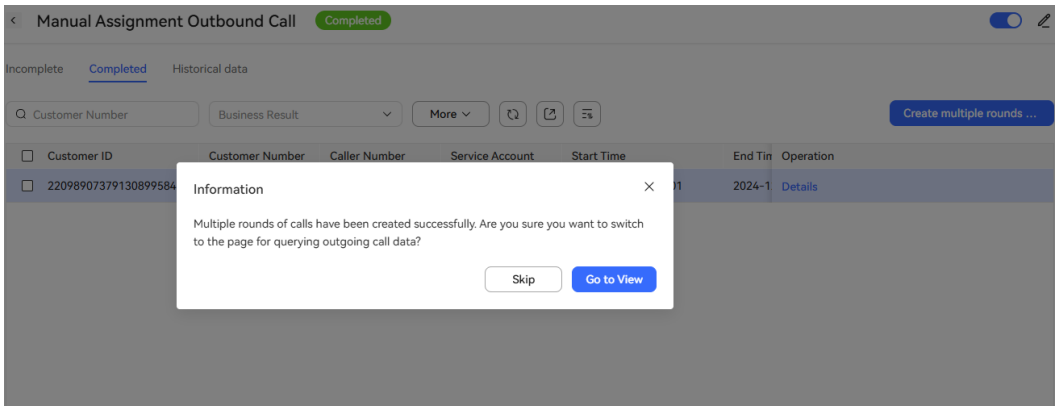
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Figure 2-725 Manual assignment outbound call details page



Step 3 Select a customer number to be called and click Create Multi-round Call to create a batch. The batch name consists of **multiRoundCallData** and a random number.

Figure 2-726 Page showing that a multi-round call is created successfully



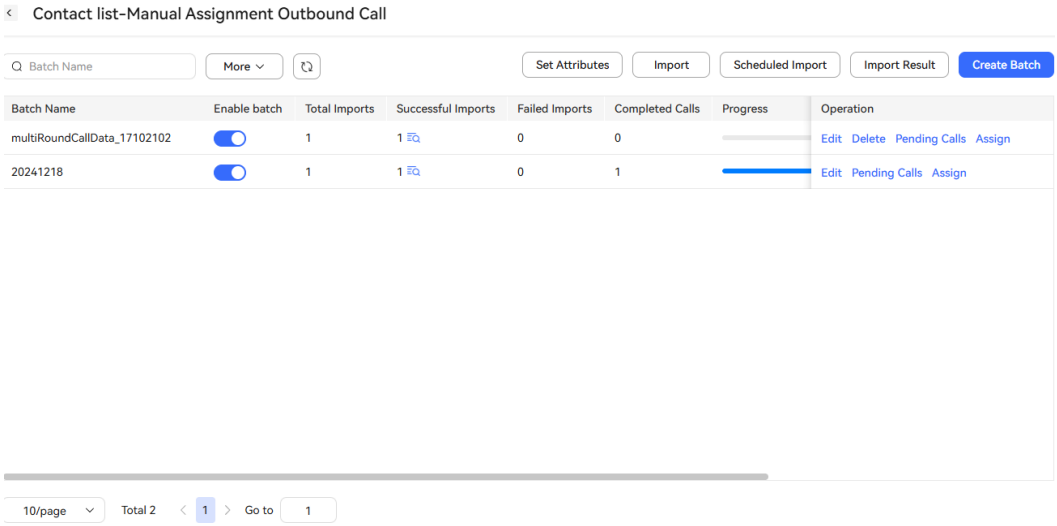
NOTE

- If the selected customer number is within the validity period of a blocklist and its **Blocklist Type** is **Auto Wrap Up**, after the batch is created successfully, the number is marked as completed and will not be called, and its business result is that specified for the blocklist. For details about how to configure a blocklist type, see **2.13.2.2 Managing Blocklisted Outbound Numbers**.
- If the selected customer number is within the validity period of a blocklist and its **Blocklist Type** is **Pop Up**, after the batch is created successfully, the number can be called.
- If the selected customer number is within the validity period of a blocklist and its **Blocklist Type** is not set, when you click **Create Multiple-round Call**, a batch cannot be created and a message is displayed, indicating that the selected customer number is blocklisted.

Step 4 In the dialog box that is displayed, click **Go to View**. On the batch management page that is displayed, view the batch created in **Step 3**.

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Figure 2-727 Batch management page



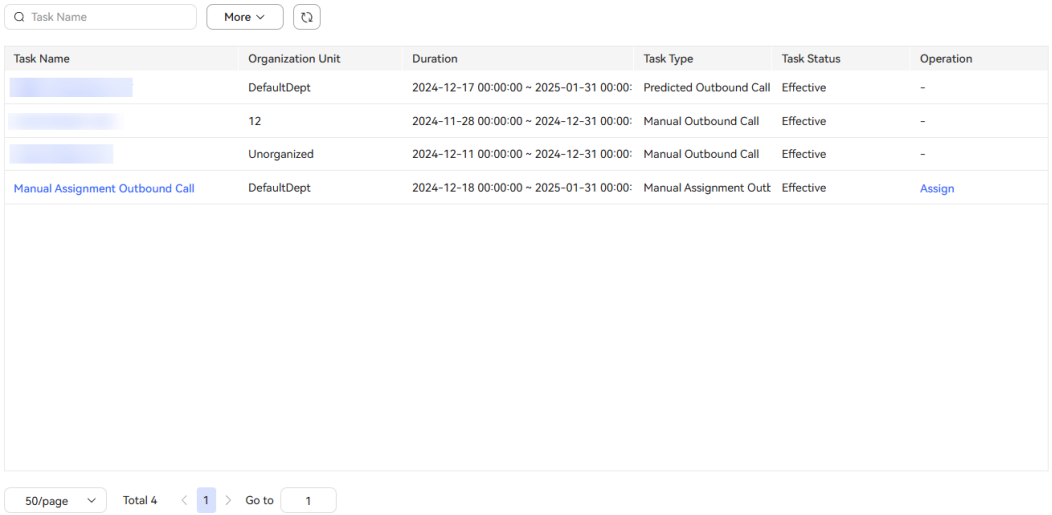
Step 5 Click **Assign** to reassign the batch. If you do not need to reassign the batch, skip this step.

NOTE

Maximum number of outbound call data records is specified by the tenant parameter **Maximum number of manual allocations**. The default value is **500**. You can contact the tenant administrator to set the value on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 6 Sign in to the AICC as the assigned agent, choose **Outbound Call** > **Agent Call**, and click the name of the manual assignment outbound call task. The call page is displayed.

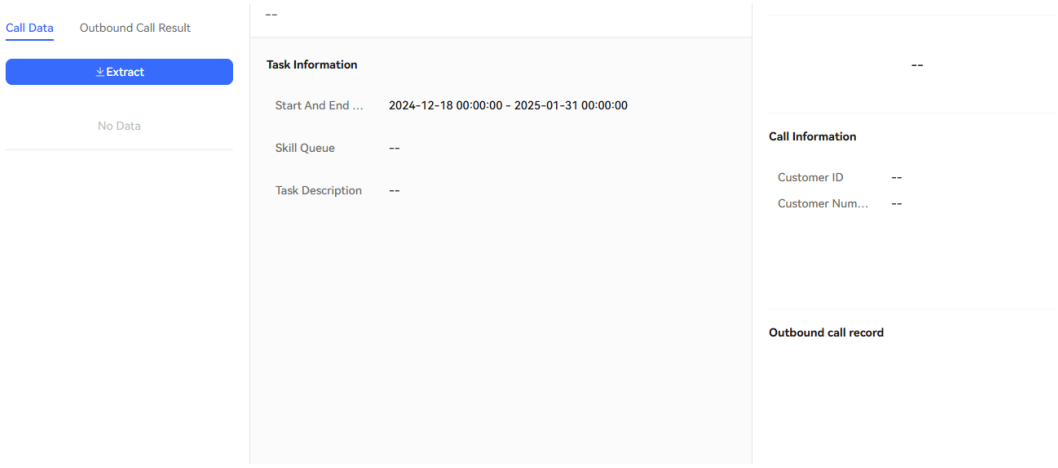
Figure 2-728 Manual assignment outbound call task name



Step 7 Click **Extract** on the call page to extract the customer number assigned in **Step 5**.

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Figure 2-729 Extracting outbound data



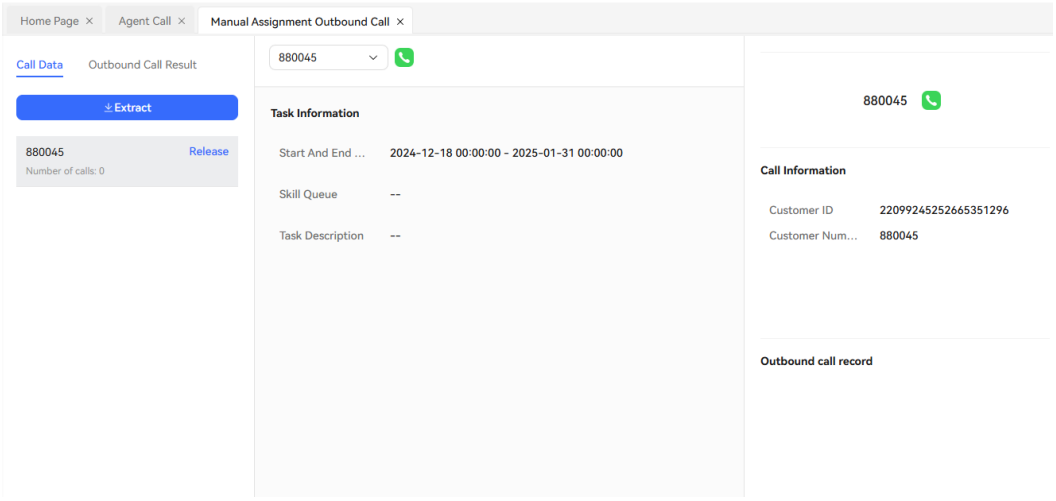
NOTE

- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is **Auto Wrap Up**, after you click **Extract**, the number is marked as completed and will not be called, and its business result is that specified for the blocklist. For details about how to configure a blocklist type, see **2.13.2.2 Managing Blocklisted Outbound Numbers**.
- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is **Pop Up**, the extraction is successful after you click **Extract**. After you click , a screen pop-up is displayed, and you can make a call.
- If a customer number to be extracted is within the validity period of a blocklist and its **Blocklist Type** is not set, after the extraction is complete, the customer number is marked as completed and its business result is empty.
- If the tenant parameter **Whether to enable Manual Assignment Outbound Call to record business result without calling** is set to **Yes**, after you click **Extract**, the customer number is marked as completed, and the business result is directly entered without calling with **Call Result** recorded as **Failed** and **Cause** recorded as the business result. You can also contact the tenant administrator to set this parameter to **No** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 8 Click to make a call.

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Figure 2-730 Outbound call data



----End

2.13.3.8 Configuring an Outbound Call Task

After an outbound call task is created, you need to configure outbound call data for the task so that the task can be executed properly. Manual outbound call tasks support the configuration of reserved outbound calls.

2.13.3.8.1 Configuring Outbound Call Data

Outbound call data is customer numbers to be called in outbound call tasks. You can configure customer numbers one by one or import them in batches based on the number of customers.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 If batch information is not configured for an outbound call task, click Create batch to create a batch. Enter a batch name and click Save.

Step 3 Click **Pending Calls**.

Table 2-218 Batch data parameters

Parameter	Description
Customer ID	Unique ID of a customer. If multiple available numbers are configured for a customer ID, the system considers the call complete as long as any number is called successfully, and will not call other numbers.

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Parameter	Description
Customer Number	Customer number. This parameter is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**. These tenant parameters are set under **Configuration Center** > **System Management** > **Tenant Parameter**.
Available Calls	Number of available numbers of a customer ID.
Operation	Operations that can be performed. • **Edit** • **Delete**

Step 4 (Optional) Click **Set Attributes** and configure attributes by referring to **Configuring Outbound Call Data Attributes**.

Step 5 Configure outbound call data.

Select a data configuration method and configure outbound call data as required by referring to **Adding Outbound Call Data Records One by One**, **Importing Outbound Call Data**, **Adding Outbound Call Data Through Scheduled Import**, or **Importing Outbound Call Data to Multiple Tasks Through a Task Group**.

Step 6 (Optional) Click **Details** corresponding to the configured outbound call data record to view details about the outbound call data. Click **Modify** to modify configuration items other than **Customer ID**. Click **Delete** to delete the configured outbound call data record. Select multiple outbound call data records and click **Batch Delete** on the top to delete them in batches.

----End

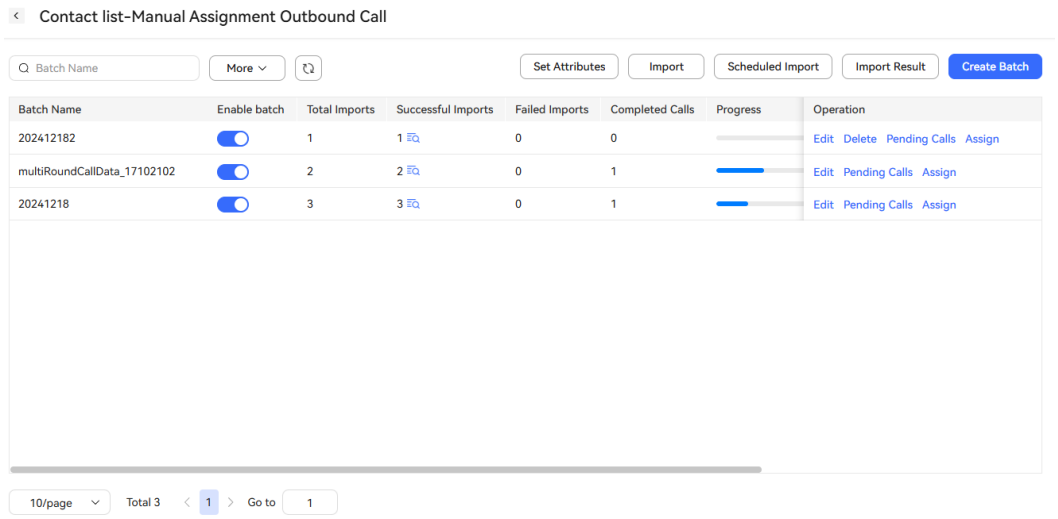
Configuring Outbound Call Data Attributes

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Contact list** corresponding to an outbound call task in the **Draft** state.

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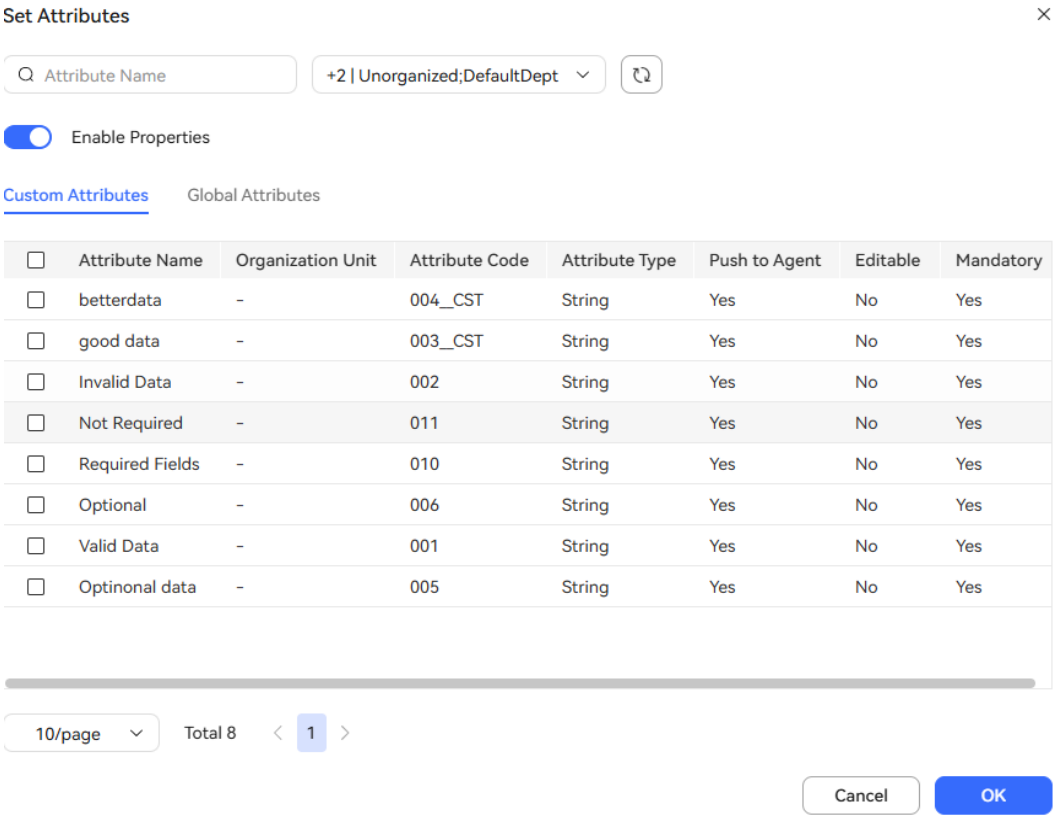
Figure 2-731 Batch management page



Step 3 Click **Set Attributes**.

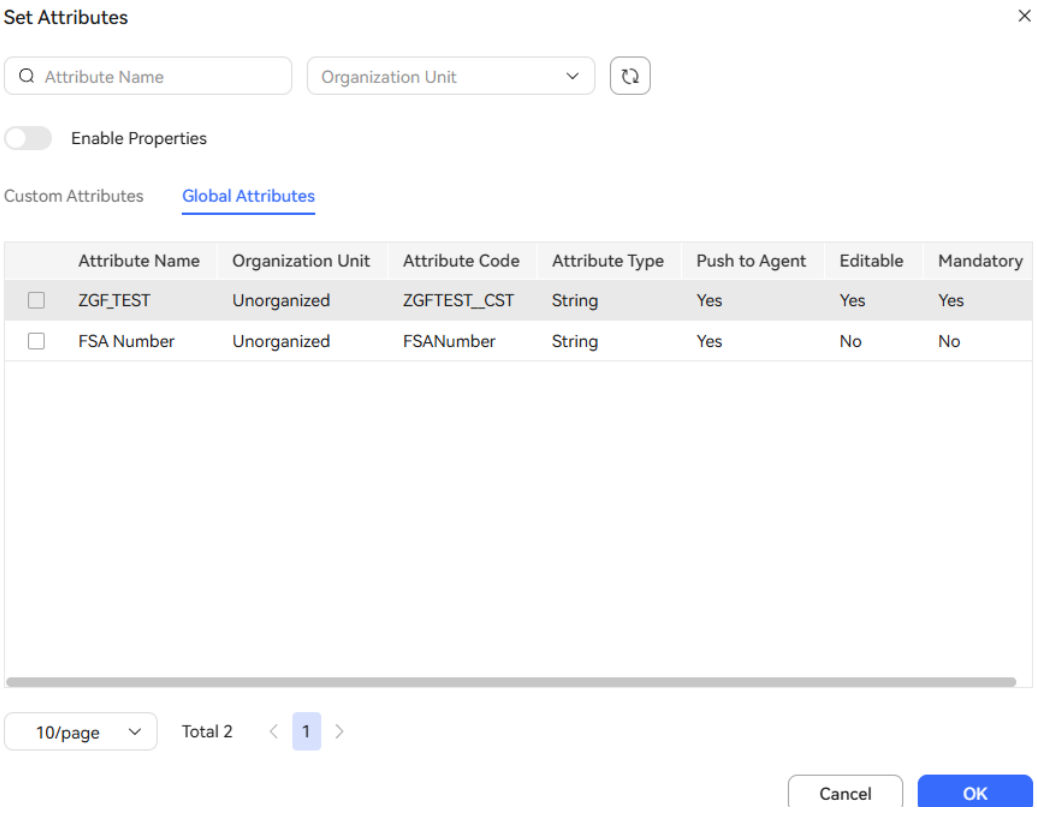
1. By default, all defined outbound call data attributes are displayed. For details about how to configure customized attributes, see **2.13.2.4 Defining Outbound Call Data Attributes**.
2. Click to enable an attribute.
3. Select the attributes to be configured as required.

Figure 2-732 Set Attributes - Custom Attributes page



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Figure 2-733 Set Attributes - Global Attributes page



NOTE

- If **Enable Properties** is disabled, attributes do not need to be configured for the outbound call data.
- If **Enable Properties** is enabled but no attribute is selected, attributes whose **Mandatory** is **Yes** need to be configured for the outbound call data.
- If **Enable Properties** is enabled and attributes are selected, the selected attributes need to be configured for the outbound call data.
- It is recommended that the value of an attribute contain only digits and letters. If other formats need to be supported, configure the connection string by referring to "Commissioning the Intelligent Outbound Call Business > Configuring an ApLogic Data Source" in the commissioning guide.
- Contact O&M personnel to execute SQL statements to create global attributes. By default, all global attributes are selected.

Step 4 Click **OK**.

NOTE

The outbound call data attributes configured here can be displayed on the outbound call result page.

----End

NOTE

If you choose to import outbound call data by using a template, you need to disable **Enable custom attribute** first. In this mode, customized attributes cannot be configured for outbound call data.

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Importing Outbound Call Data

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Contact list** corresponding to an outbound call task in the **Draft** state.

Step 3 Click **Import** and set import parameters.

Figure 2-734 Import

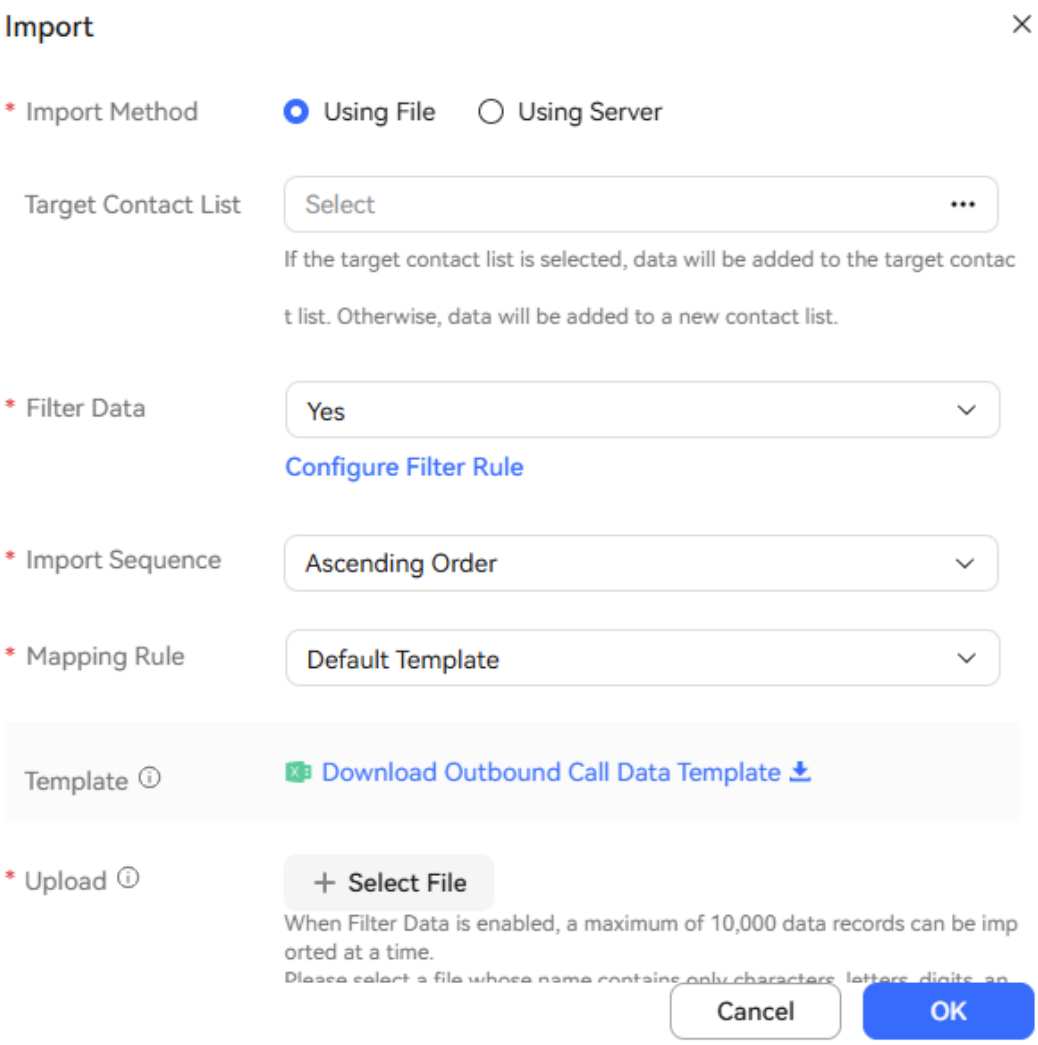
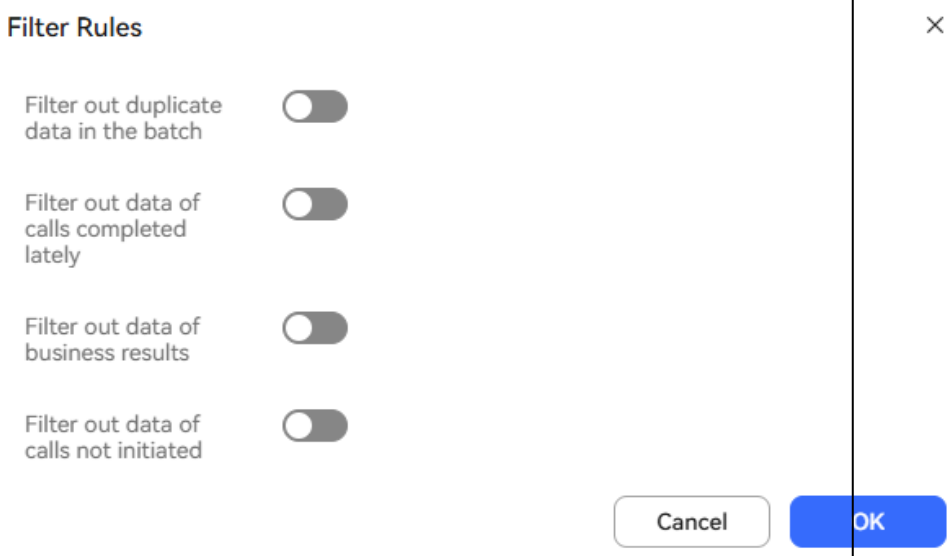


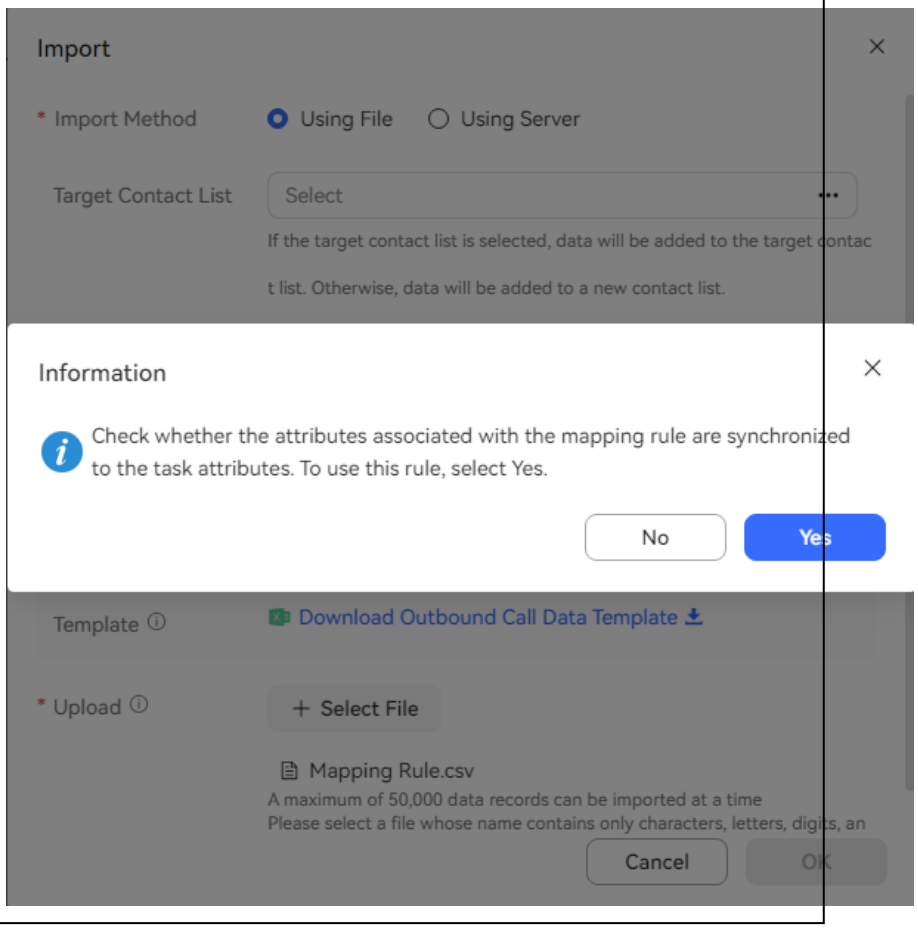
Table 2-219 Parameters for importing outbound call data

Parameter	Description
Import Method	File import mode. The options are as follows: • **Using file**: Upload an outbound call data file from the local PC. • **Using server**: Upload an outbound call data file from a remote server.

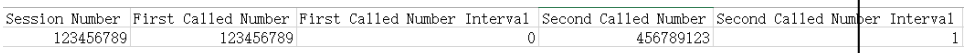
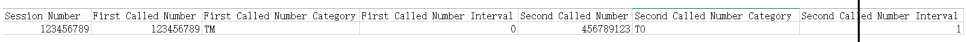
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Parameter	Description
Target Contact List	Import batch. Data of an outbound call task may need to be imported for multiple times. Since different batches of data have different execution logic, batch management is required.
Filter Data	The default value is **No**. If this parameter is set to **Yes**, outgoing call data can be filtered based on filtering rules. **Figure 2-735** Filter Rules dialog box 
Import Sequence	The options are as follows: • **Ascending Order** • **Descending Order**

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Parameter	Description
Mapping Rule	1. Configure the mapping rule by referring to **2.13.2.9 Mapping Rule**. 2. If the attributes associated with the outbound call task are different from those associated with the mapping rule, the service attributes associated with the mapping rule can be synchronized to the outbound call task attributes when the outbound call data is imported, as shown in **Figure 2-736**. **Figure 2-736** Synchronizing associated attributes of the mapping rule 

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Parameter	Description
Download Outbound Call Data Template	• An outbound call data template is generated based on the mapping rule. • The outbound call data template varies depending on the policy type selected for outbound call logic of the outbound call task. The following figures show the template content. **Figure 2-737** Import template for the global policy  Session Number, First Called Number, First Called Number Interval, Second Called Number, Second Called Number Interval 123456789, 123456789, 0, 456789123, 1 **Figure 2-738** Import template for the contact policy  Session Number, First Called Number, First Called Number Category, First Called Number Interval, Second Called Number, Second Called Number Category, Second Called Number Interval 123456789, 123456789, TM, 0, 456789123, TO, 1
Upload	Click + Select File and select a local file. The file storage period is seven days.
Server	IP address of the server where the outbound call data file is stored when **Import Method** is set to **Using server**. For details about how to configure a server, see **2.13.2.8 Configuring an Outbound Call File Server**.
File Address	Path of the server where the outbound call data file is stored when **Import Method** is set to **Using Server**.
File Name	Name of the outbound call data file when **Import Method** is set to **Using server**. The file name contains the file name extension.

NOTE

Set the cell format of the file to be imported to text. If you import data using a file, a maximum of 50,000 records can be imported at a time. If you import data using a server, a maximum of 2,000,000 records can be imported at a time. It is recommended that a maximum of 50,000 records be imported at a time. Otherwise, the outbound call rate may be affected.

The format of **Called Number** is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**.

Step 4 In the **Import** dialog box, set the required parameters, select the file prepared in the previous step, and click **OK**.

Step 5 Click **Import Result** to view the import result, that is, the numbers of records that are successfully imported and that fail to be imported.

- Click a value in the **Number of Failed Records** column to download and view the outbound call data records that fail to be imported.

  Possible import failure causes: number of numbers exceeding the maximum, incorrect separator, empty called number, empty interval, interval exceeding

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the range, empty number type, nonexistent number type, and blocklisted number.

- Click a value in the **Number of Duplicate Records** column to download and view the duplicate outbound call data.
- Click a value in the **Number of Automatic Write Back** column to download and view the blocklisted outbound call numbers.

  NOTE

  1. When files are imported using a server, after the import is complete (successful or failed), the original files are moved to a new directory, which is created by date (the date directory is created in the default path of the outbound call file server), for example, **20230714**.

     Pay attention to the disk space of the server to prevent import failures caused by full disk space.
  2. A number not bound to **Blocklist Type** is handled as a blocklisted number during import and counted into **Number of Failed Records** in the import result.
  3. A number with **Blocklist Type** set to **Auto Wrap Up** is counted into **Number of Automatic Write Back** in the import result.
  4. A number with **Blocklist Type** set to **Pop Up** is handled as a common number.

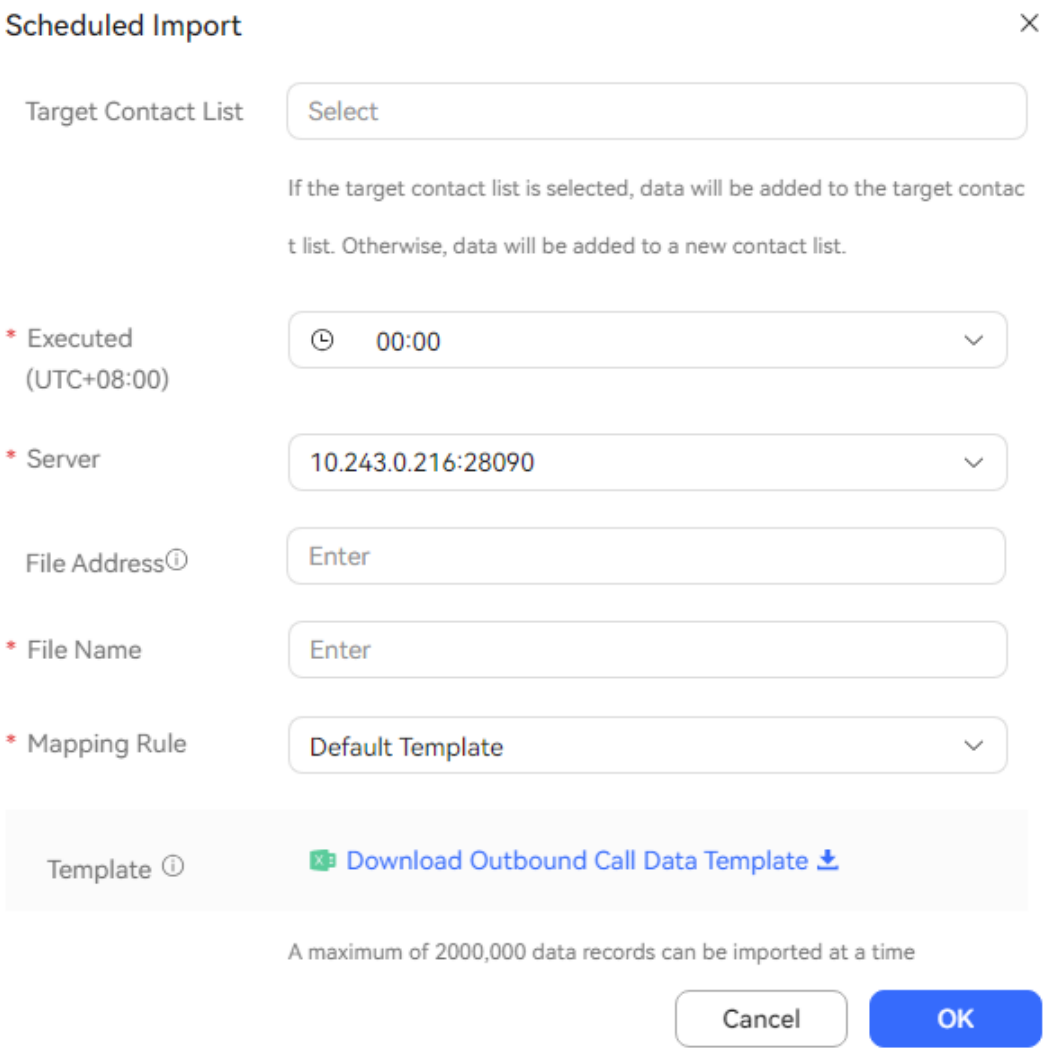
----End

Adding Outbound Call Data Through Scheduled Import

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact List**. Click **Scheduled Import**.

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Figure 2-739 Scheduled Import



Step 2 Click **OK**.

NOTE

When scheduled import is configured, after the import is complete (successful or failed), the original files are moved to a new directory, which is created by date (the date directory is created in the default path of the outbound call file server), for example, **20230714**.

Pay attention to the disk space of the server to prevent import failures caused by full disk space.

----End

Adding Outbound Call Data Records One by One

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** in the **Operation** column.

Step 2 If batch information is not configured for an outbound call task, click Create batch to create a batch. Enter a batch name and click Save.

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Step 3 Click **Pending Calls** in the **Operation** column corresponding to the batch.

Step 4 On the batch data page, click **New**. The outbound call data configuration list is displayed, as shown in the following figure.

Figure 2-740 Create Outbound Call Data page

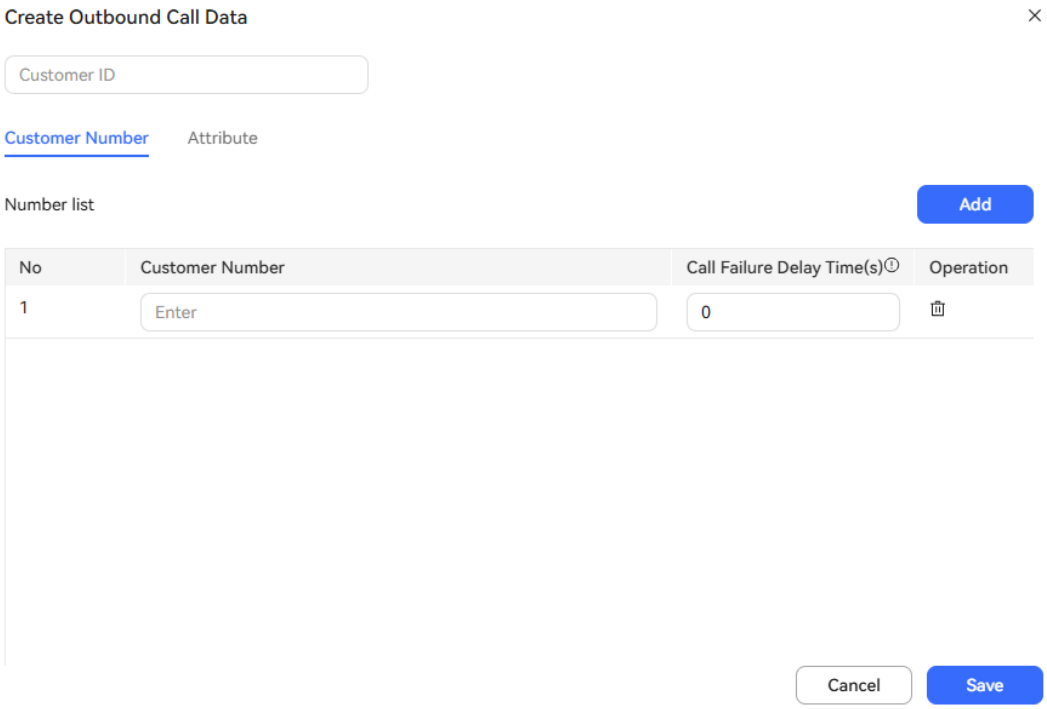


Table 2-220 GUI elements on the Create Outbound Call Data page

Element/Component	Description
Customer ID	This parameter is optional. If it is empty, a random number of 20 digits is used by default.
Priority	This field is displayed when **Call Sequence** is set to **By priority** in Table 2-209. The priority value ranges from 1 to 5. The default value is **3**. **1** indicates the highest priority, and **5** indicates the lowest priority. When an outbound call task is executed, the outbound call data is extracted by priority.
Customer Number	• This parameter is mandatory. This parameter is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**. These tenant parameters are set under **Configuration Center** > **System Management** > **Tenant Parameter**.

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Element/Component	Description
Call Failure Delay Time(s)	This parameter is optional. If **Call Failure Delay Time(s)** is set to **0** or is not set, the call interval is the outbound call interval configured in the **Outbound Call Result Policy** area on the **Outbound Strategy** page during outbound call task creation.
Attribute	For details about how to configure the attribute content, see **2.13.2.4 Defining Outbound Call Data Attributes**.

Step 5 Click **OK**.

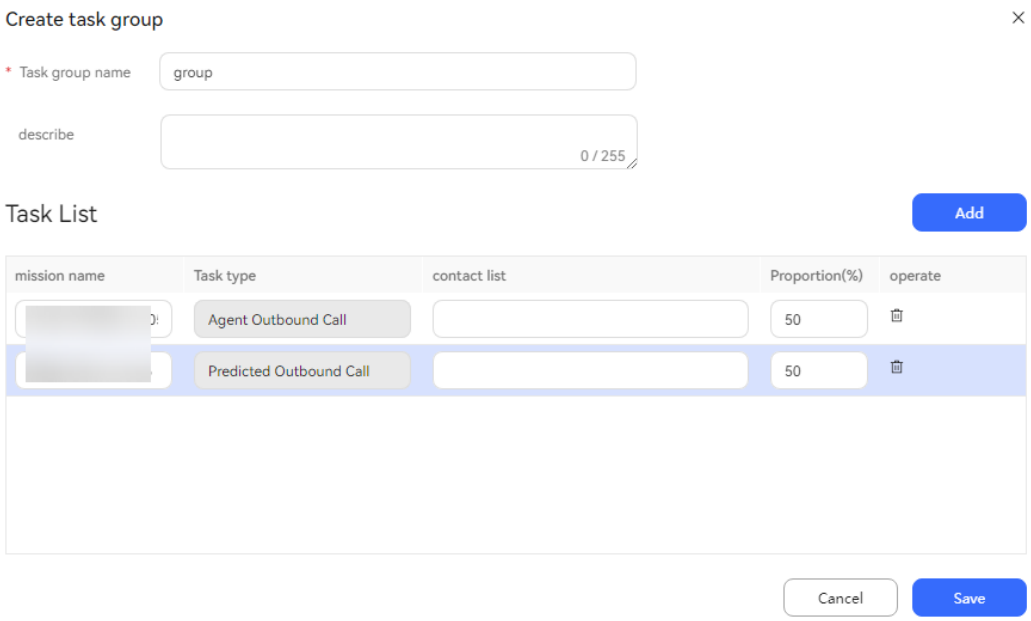
----End

Importing Outbound Call Data to Multiple Tasks Through a Task Group

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Task Group Management**.

Step 2 Click **New**.

Figure 2-741 Create task group



Step 3 Set parameters and click **Save**.

Step 4 Click **Import**. In the **Import** dialog box, download the outbound call data template, fill in the template, upload the file, and click **OK**.

----End

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(Optional) Adding Watermarks

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

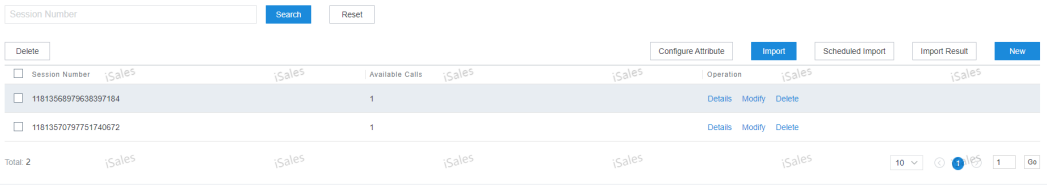
Step 2 Choose **Tenant parameters** > **Unified Public Configuration**.

Step 3 Set watermark parameters.

- **Whether to enable page watermarking**: Click **Edit**, set **Parameter Value** to **Yes**, and click **Save**.
- **Page Watermark Character**: Click **Edit**, set **Parameter Value** to the watermark to be displayed, and click **Save**.

Step 4 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** corresponding to an outbound call task to go to the outbound call data management page to view the watermark effect.

Figure 2-742 Outbound call data



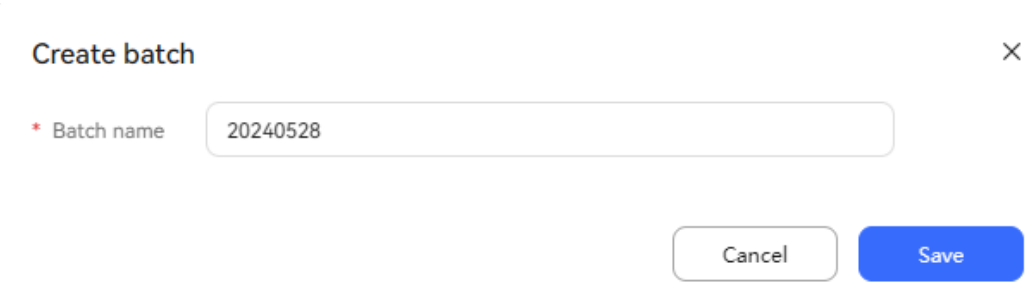
----End

Batch Management

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Contact list** in the **Operation** column.

Step 2 Click **Create batch**. In the **Create batch** dialog box, enter a batch name and click **Save**.

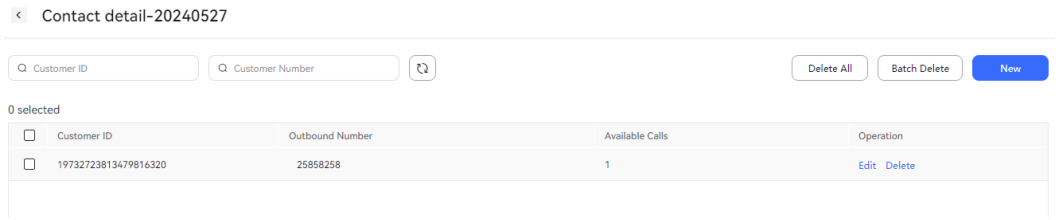
Figure 2-743 Create batch



Step 3 Click **Pending Calls** corresponding to the new batch on the right. On the batch data page, you can add batch data.

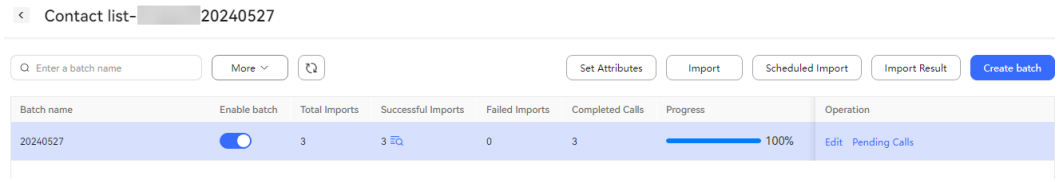
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Figure 2-744 Batch data



Step 4 Return to the batch management page and click  to enable the batch.

Figure 2-745 Batch management page



----End

2.13.3.8.2 Configuring Recall Policies

For completed outbound call data, the outbound call data that meets the recall policy can be recalled. If **Outbound Call Failure Cause** and **Business Result** are not specified in the recall policy, only the outbound call failure data is called.

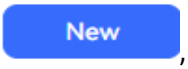
Prerequisites

- You have contacted the system administrator to set **OBS URL Mode** to **HTTP-based Interconnection** on the **Call Center** > **Tenant Management** page.
- You have the right to click the **Recycle** button.
- Only **System Automatic Outbound Call** tasks (**Preview Outbound Call**, **Predicted Outbound Call**, **Preempted Outbound Call**, and **Fixed Outbound Call**) and **Robot Outbound Call** tasks are supported.

Procedure (Predicted Outbound Call as an Example)

Step 1 Sign in to the AICC as a tenant administrator and click 

to sign in as an agent.

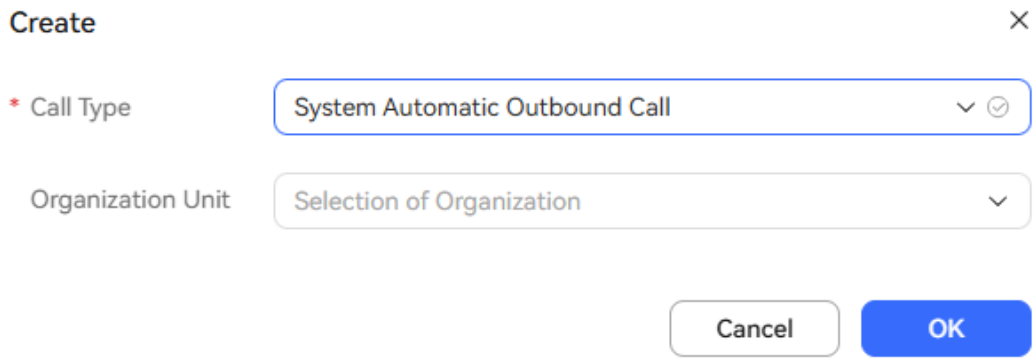
Step 2 Choose **Outbound Call** > **Call Mgmt**, click 

, set **Call Type** to **System Automatic Outbound Call**, and click 

.

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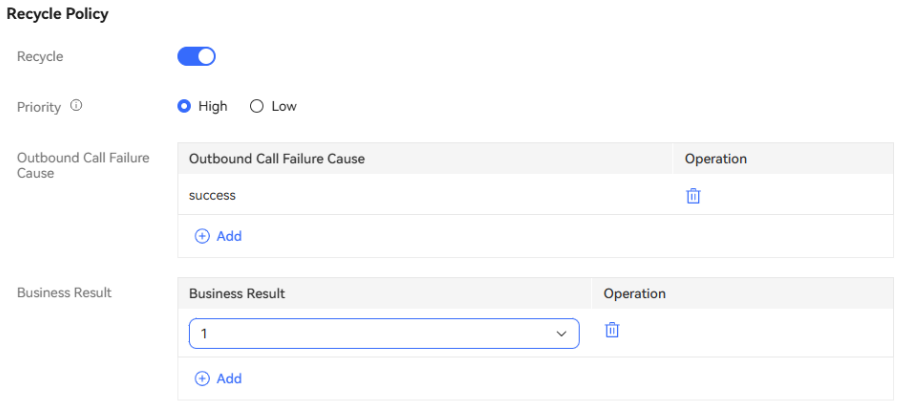
Figure 2-746 System Automatic Outbound Call



Step 3 On the **Create System Auto Outbound Call** page, set **Task Type** to **Predicted Outbound Call**. Set **Basic Information**, **Outbound Call Duration**, **Task Strategy**, and **Call Strategy** by referring to **2.13.3.2 Creating Predicted Outbound Call Tasks**.

Step 4 Click Recall to enable the recall policy. Set **Outbound Call Failure Cause** and **Business Result**.

Figure 2-747 Recycle Policy page

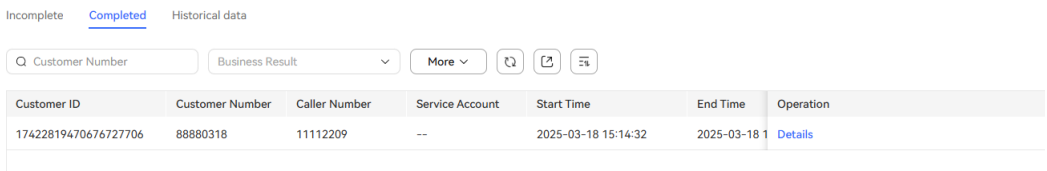


Step 5 Create and start a batch by referring to **Batch Management**.

Step 6 Add outbound call data by referring to **2.13.3.8.1 Configuring Outbound Call Data**.

Step 7 Return to the **Call Mgmt** tab page, select the created outbound call task, and click . The outbound call task starts to be executed. After the call is completed, click the outbound call task name to view the generated completed call data.

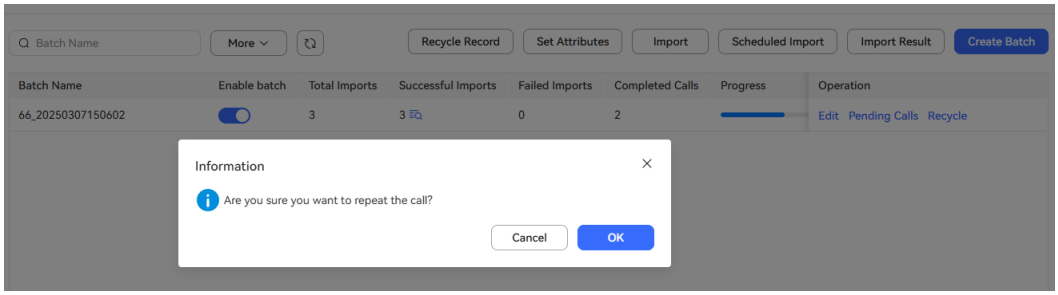
Figure 2-748 Completed call data



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Step 8 Click **Contact List** in the **Operation** column corresponding to an outbound call task. On the **Batch Management** page that is displayed, click the **Recycle** button. The recall confirmation page is displayed.

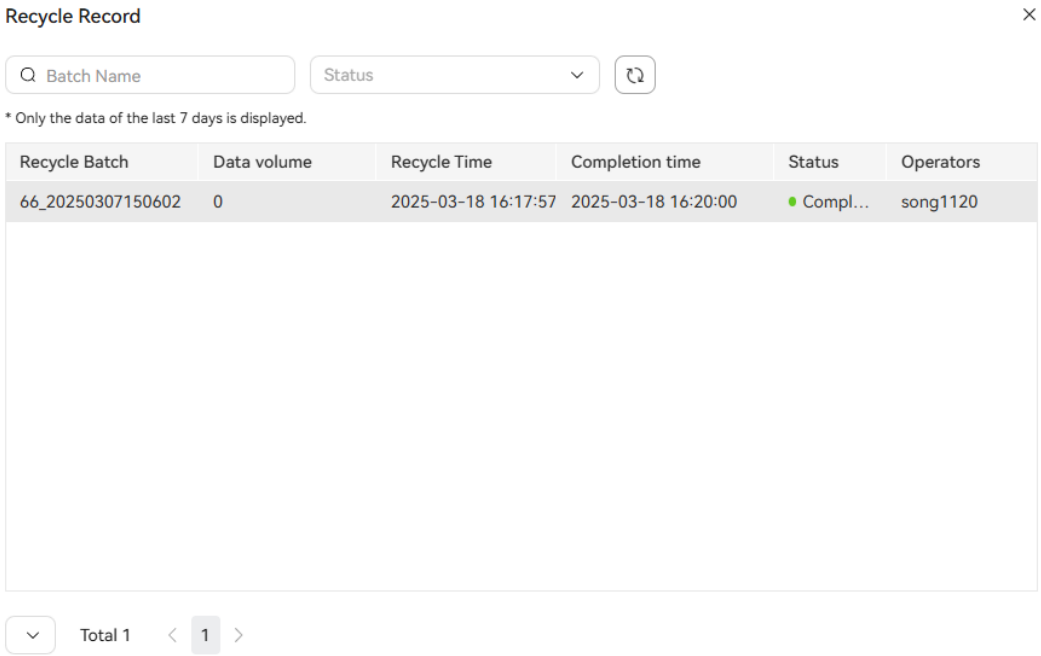
Figure 2-749 Recall confirmation dialog box



Step 9 On recall confirmation page, click **OK**.

Step 10 Click Recycle Record. On the **Recycle Record** page, a record in the **Waiting** state is added to the recall record. After the background scheduled task identifies the record, the outbound call is re-executed.

Figure 2-750 Recycle Record page



NOTE

1. The number of recall records is controlled by the tenant parameter **Maximum number of single recycle task**. The default value is **500000**, and the maximum value is 2 million.
2. The background scheduled task is executed every 5 minutes.

----End

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2.13.3.8.3 Viewing Reservation Details of an Outbound Call Task

A tenant administrator can view the reservation status of all outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Reservation**. View the list of reserved outbound calls associated with the current outbound call task. The following table describes the parameters in the list.

Table 2-221 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Number used for a reserved call. Customer numbers are displayed anonymously if the current operator does not have the **User Numbers are Displayed in Plaintext** permission.
Reserved Call Time	Reserved call time. If a call is not processed after the reserved time, the value of this parameter is displayed in red. If the reservation is about to expire in the next 5 minutes, it is displayed in yellow.
Initiated by	Account of the agent who makes the reserved outbound call.
Call Time Segment	Call time segment.
Status	Status of a call. • **Pending** • **Executing** • **Completed**
Result	Call result. • **Failed** • **Successful** • **Reject**
Failure Cause	Cause of a call failure.
Reservation Status	• **Reserved** • **Callback** • **Expired** • **Completed** • **Ready to call back**
Remarks	Remarks.
Business Result Path	Business result of a call.

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Parameter	Description
Business Description	Description of a business result.
Reserved call type	• **Reservation for manual outbound calls** • **Reserve automatic outbound calls**
Created On	Creation time.
Operation	• **Modify** • **Adjustment Record** • **Play** • **Business Result** • **Survey Result**

Step 3 Click **Query** to query desired outbound calls.

Table 2-222 Search criteria for querying reserved outbound calls

Parameter	Description
Customer Number	Customer number. Fuzzy search by suffix is supported.
Call Result	Call result. • **Failed** • **Successful** • **Reject**
Start time of a reserved call – End time of a reserved call	Start time and end time of a reserved call.
Business Result	Business result. The source is the existing business result of the tenant.

Step 4 Select multiple reservation records and click **Adjust** in the upper right corner to adjust agents in batches.

----End

2.13.3.8.4 Viewing Outbound Call Results

Tenant administrators can view the execution results of all outbound call tasks.

Procedure

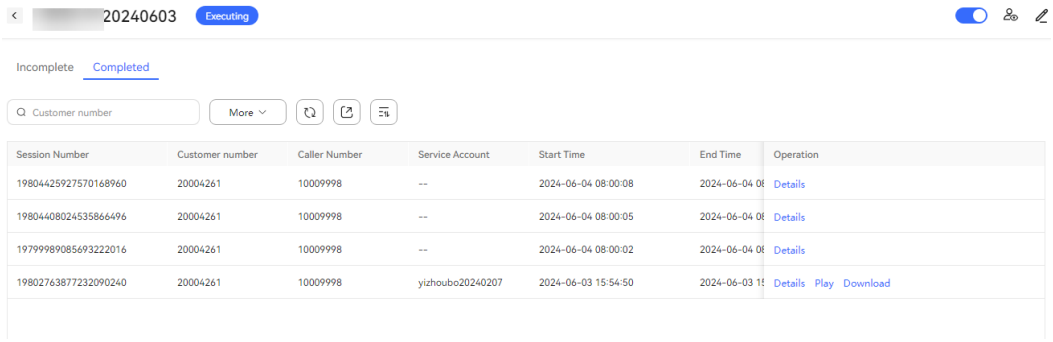
Step 1 Choose **Outbound Call** > **Call Mgmt**, click a task, and view the outbound call result of each customer on the outbound call task details page.

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NOTE

After blocklisted numbers whose **Operation Type** for **Blocklist Type** is set to **Auto Wrap Up** are imported to the outbound call data, a business result is directly generated on the **Completed** tab page (choose **Call Mgmt**, click the task name in the **Task Name** column, and click the **Completed** tab). Click **Details** to see the outbound call failure cause at all levels. **Call Result** is recorded as **Failed**, and **Cause** is recorded as **Blocked by blocklist**.

Figure 2-751 Outbound call results



Step 2 Click **Details** to view the call details of a called number.

Figure 2-752 Call Result Details

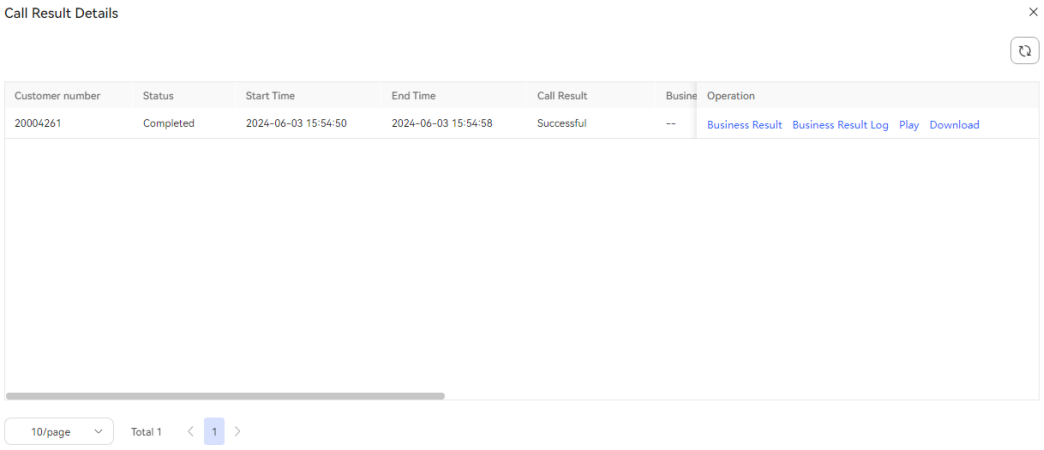


Table 2-223 Parameters in the outbound call result details list

Parameter	Description
Customer ID	Customer ID, which is created when outbound call data is created.
Customer number	Customer number. Customer numbers are displayed anonymously if the current operator does not have the **User Numbers are Displayed in Plaintext** permission.

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Parameter	Description
Status	Status of a call. • **Executing** • **Completed**
Start Time	Time when a call starts.
End Time	Time when a call ends.
Call Attempts	Number of times that a customer number is called.
Call Result	Call result. • **Failed** • **Successful** • **Reject**
Cause	Call failure cause.
Business Result Path	Business result of a call.
Business Description	Business result description.
Call ring duration	Ringing duration.
Manual call duration	Manual call duration.
IVR call duration	IVR call duration.
ACW	Wrap-up duration after a call ends.
Total call duration	Outbound call end time minus outbound call start time.
Operation	Operations that can be performed on an outbound call result. • **Business Result** • **Business Result Log** • **Play** • **Download**

NOTE

- The outbound call data attributes configured in **Configuring Outbound Call Data Attributes** are displayed next to the **Operation** column.
- **Call ring duration**, **Manual call duration**, **IVR call duration**, and **ACW** on the **Completed** tab page depend on the CC-CMS's function of importing CDRs to the database using the CCDIS. Therefore, you need to commission this function first. Otherwise, the values of these parameters are 0.

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Step 3 Click a task, click the **Completed** tab, and click  to export task results.

----End

Follow-up Procedure

Watermarks can be displayed on the outbound call task result page.

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant parameters** > **Unified Public Configuration**.

Step 3 Set watermark parameters.

- **Whether to enable page watermarking**: Click **Edit**, set **Parameter Value** to **Yes**, and click **Save**.
- **Page Watermark Character**: Click **Edit**, set **Parameter Value** to the watermark to be displayed, and click **Save**.

Step 4 Choose **Outbound Call** > **Call Mgmt** and view the watermark effect.

----End

2.13.3.8.5 Viewing Survey Statistics

Tenant administrators can view survey answer statistics.

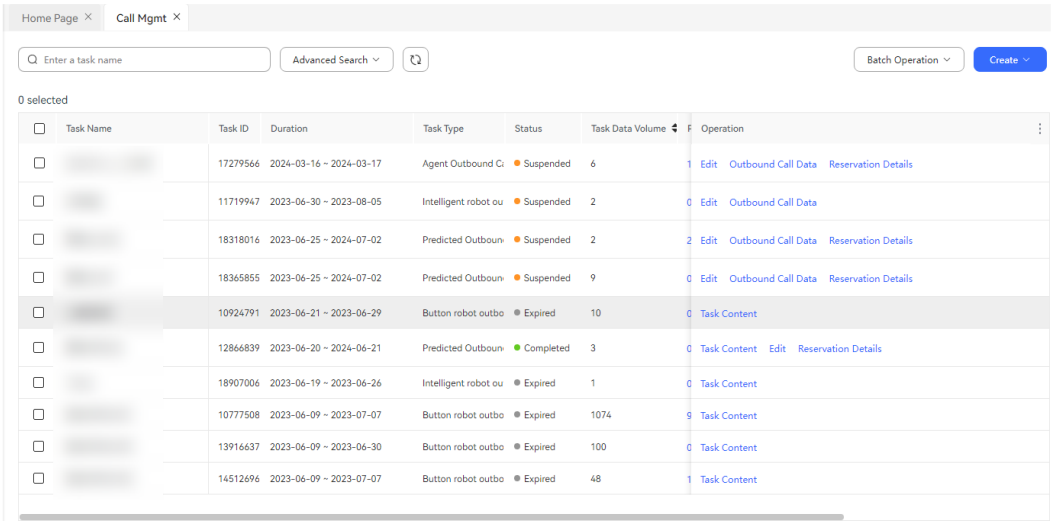
Prerequisites

- A survey has been configured for an outbound call task.
- An outbound call task is not in the draft state.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Figure 2-753 Task management page



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Step 2 Select an outbound call task that is being executed or has been completed, and click **Respondent Statistics**.

----End

2.13.3.9 Managing Outbound Call Tasks in Batches

When there are a large number of outbound call tasks, a tenant administrator can handle outbound call tasks in batches.

The following batch operations can be performed on outbound call tasks:

- **Batch Start**

  Only outbound call tasks in **Draft** or **Suspended** state can be started in batches.

- **Batch Suspend**

  Only outbound call tasks in the **Executing** or **Completed** state can be suspended in batches.

- **Batch Modify Basic Information**

  This operation will change the basic information of the selected tasks to the same content. Exercise caution when performing this operation. The following information can be modified:

  – Basic information: **Caller Number**, **Start Time**, **End Time**, and **SMS Template for Failed Outbound Call**

  – Automatic extraction rule: If the selected tasks contain manual outbound call tasks, the rule content can be modified.

  – Common parameters: If the selected outbound call tasks are of different types, only common parameters can be modified.

  NOTE

  The manual outbound call task and the key chatbot outbound call task cannot be modified at the same time.

- **Batch Change Outbound Call Time**

  This operation is not supported if the selected tasks contain manual outbound call tasks.

- **Batch Modify Outbound Call Policy**

  – This operation is not supported if the selected tasks contain manual outbound call tasks.

  – Only outbound call tasks of the same type can be modified in batches.

- **Batch Modify Outbound Call Logic**

  – This operation is not supported if the selected tasks contain manual outbound call tasks.

  – Only outbound call tasks of the same type can be modified in batches.

  – Business result policies cannot be configured for key chatbot outbound call tasks and intelligent chatbot outbound call task.

  – Only outbound call tasks with the same outbound call mode in **CALL POLICY** can be modified in batches.

  – Only outbound call tasks with the same policy type in **OUTBOUND CALL RESULT POLICY** can be modified in batches.

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2.13.4 Managing Multimedia Marketing

Enterprises often proactively conduct businesses, such as SMS return visits and email push, to maintain customer relationships, improve customer satisfaction, or seek business opportunities.

The AICC provides a multimedia marketing platform for enterprises and supports the following marketing modes.

Table 2-224 Multimedia marketing modes

Task Type	Agent Participation (Yes/No)	Application Scenario	Advantages
SMS marketing task	No	Activities such as SMS return visit and marketing.	This method is cost-effective, because agent participation is not required.
Email marketing task	No	Activities such as email promotion, notification, and return visit.	This method is cost-effective, because agent participation is not required.
WhatsApp marketing task	No	WhatsApp promotional activities and WhatsApp channel notifications.	1. This method is cost-effective, because agent participation is not required. 2. When creating a WhatsApp marketing task, you can directly add an agent to follow up customers' known issues.

You can create and manage multimedia marketing tasks for target customers.

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

2.13.4.1 Configuring Multimedia Marketing Tasks

Multimedia marketing tasks support SMS marketing and email marketing. Tenant administrators can configure multimedia marketing tasks as required.

Prerequisites

- The intelligent outbound call, SMS marketing, email marketing, WhatsApp marketing, and SmartCare features have been enabled for the tenant.

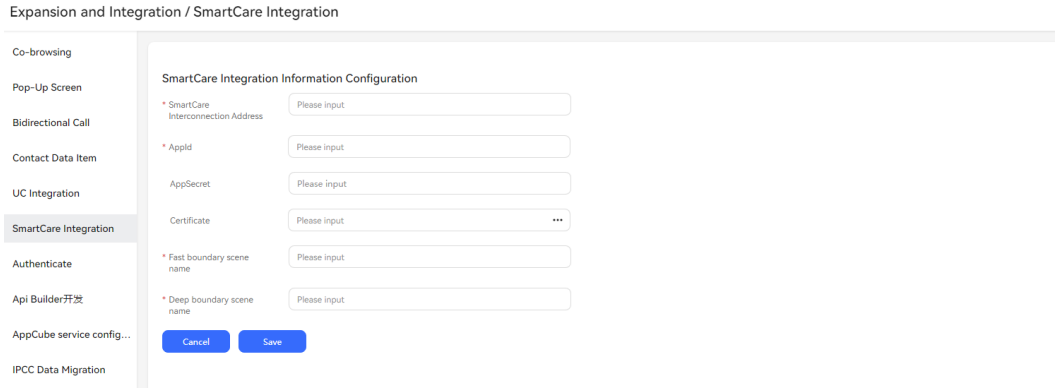
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- To use the care task function, you have contacted the system administrator to add the SmartCare interconnection address on the **Call Center** > **Address Trustlist** page.

Procedure

Step 1 (Optional) Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Expansion and Integration** > **SmartCare Integration**, and configure SmartCare integration information. If the care task function is not required, skip this step.

Figure 2-754 Configuring SmartCare integration information



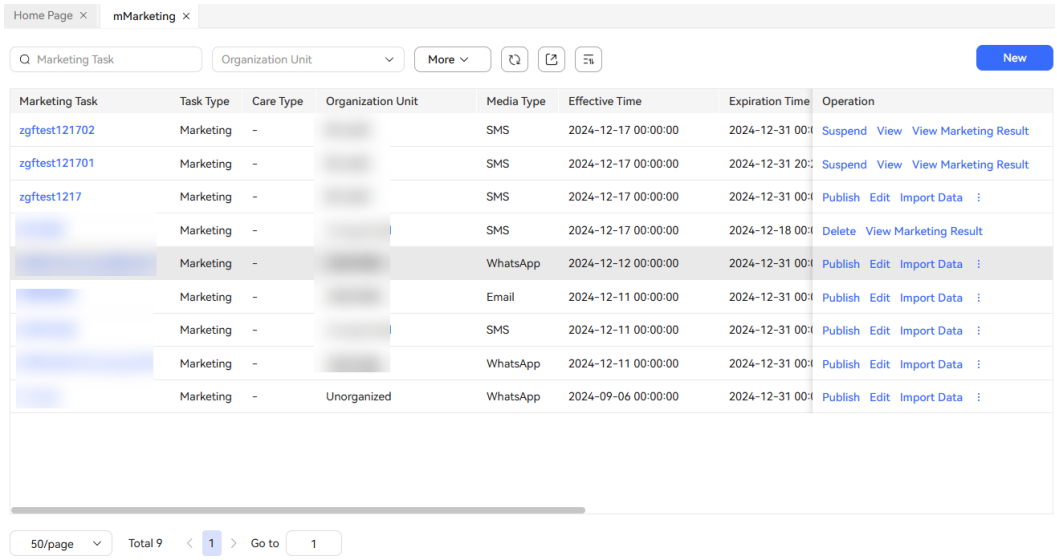
1. **SmartCare Interconnection Address**: Contact Huawei O&M personnel to obtain the address, and contact the system administrator to add the address to the trustlist on the **Call Center** > **Address Trustlist** page.
2. **AppId**: Contact Huawei O&M personnel to obtain the value.
3. **AppSecret**: Contact Huawei O&M personnel to obtain the value.
4. **Certificate**: Contact the system administrator to upload the certificate to **Configuration Center** > **System Management** > **Certificate**.

Step 2 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 3 View the created multimedia marketing tasks in the list.

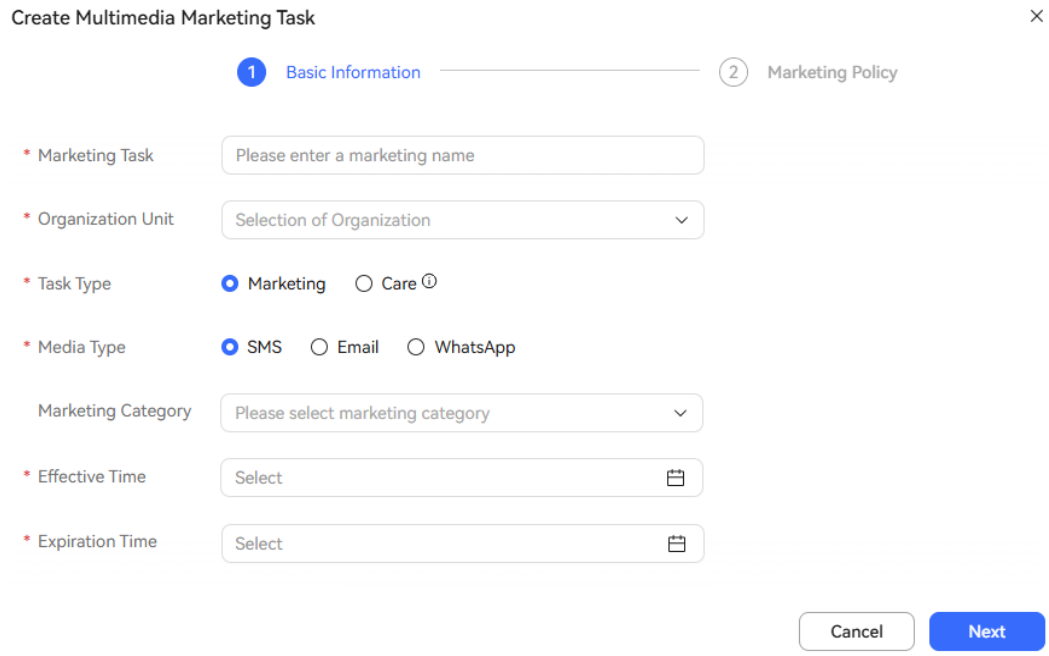
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Figure 2-755 mMarketing



Step 4 Click **New**, and configure marketing task information on the **Create Multimedia Marketing Task** page.

Figure 2-756 Basic Information



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Figure 2-757 Marketing Policy page

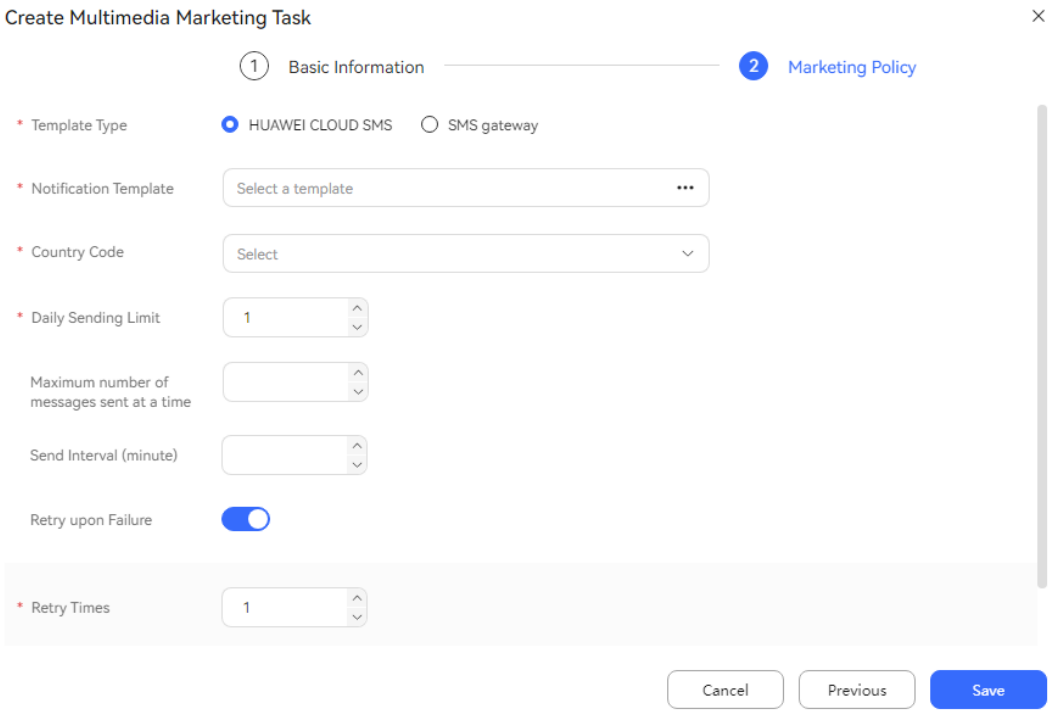
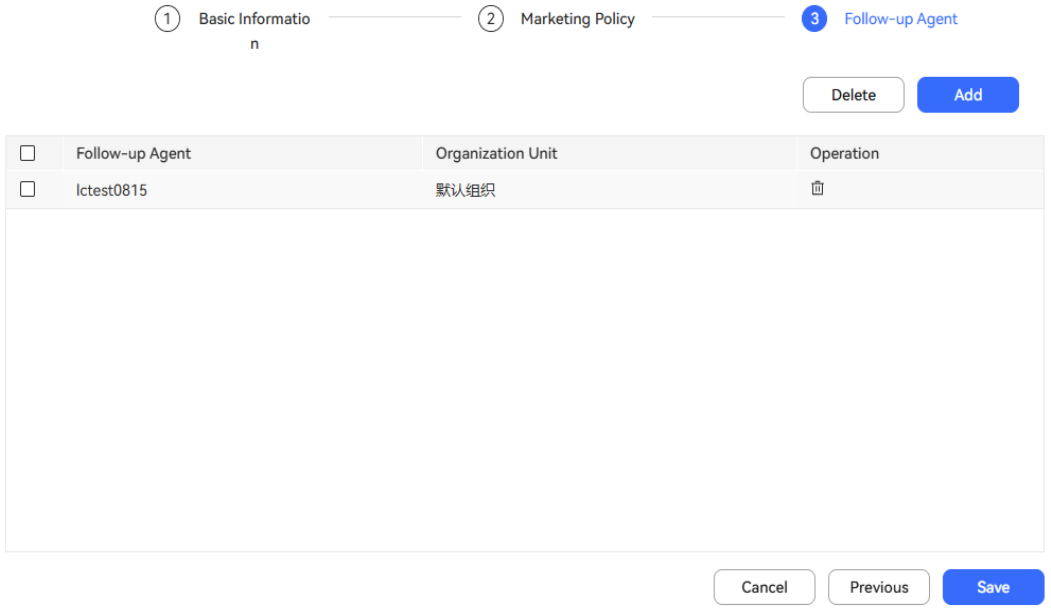


Figure 2-758 Follow-up Agent page (displayed only when WhatsApp is selected)



1. **Task Type**: The options are **Marketing** and **Care**. In a care task, an agent needs to call a customer back who intends to make a complaint to pacify the customer and improve customer satisfaction. The **SmartCare** feature must be enabled for care tasks. Care task data is imported through scheduled tasks in the background. A tenant can publish only one voice scenario–based care task and one data scenario–based care task.

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2. **Marketing Category**: The options are obtained from **Configuration Center** > **Call Config** > **Marketing Category Management**. You can add a customer to the marketing message unsubscription list based on the associated marketing category.
3. The supported media types of multimedia marketing tasks are as follows:

- **SMS**: Marketing campaigns are carried out by SMS message. The notification template can be a Huawei Cloud SMS message template or SMS gateway message template.
  - For details about how to configure a marketing notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
  - To use an SMS gateway message template, you need to configure a gateway. For details about how to configure a gateway, see **2.11.4.1 Configuring SMS Gateways**.
  - By default, the country codes of China and Brazil are available. To add a country code, configure the dictionary value.

    The configuration method is as follows:

    ```
    DELETE FROM SYS_DATADICT_ITEM WHERE rel_id = '88001202102081808';
    INSERT INTO SYS_DATADICT_ITEM (rel_id, dict_code, item_code, item_name, be_code, order_no, description, oper_id, oper_time, oper_org_id, ext1, ext2, ext3, ext4, ext5, be_id) VALUES ('88001202102081808', 'CCN.COUNTRY_CODE', '+55', 'Brazil', '101', '2', null, '101', null, '101', null, null, null, null, null, null)
    DELETE FROM SYS_DATADICT_ITEM_LANG WHERE rel_id = '8800120210208180801';
    INSERT INTO SYS_DATADICT_ITEM_LANG (rel_id, item_rel_id, locale, item_name, be_id) VALUES ('8800120210208180801', '88001202102081808', 'en_US', 'Brazil', null);
    DELETE FROM SYS_DATADICT_ITEM_LANG WHERE rel_id = '8800120210208180802';
    INSERT INTO SYS_DATADICT_ITEM_LANG (rel_id, item_rel_id, locale, item_name, be_id) VALUES ('8800120210208180802', '88001202102081808', 'en_US', 'Brazil', null);
    ```

    In the preceding information, **88001202102081808** is the customized dictionary value ID. **8800120210208180801** and **8800120210208180801** are the customized dictionary internationalization IDs. **Brazil**, **+55**, and **2** are the customized country name, country code, and sequence number, respectively.

    After the configuration, restart the SUMApp for the configuration to take effect.
- **Email**: Marketing activities are carried out by email.
  - For details about how to configure a marketing notification template, see **2.11.7 Configuring Notification Templates as an Administrator**.
  - For details about how to configure a gateway, see **2.11.4.1 Configuring SMS Gateways**.
- **WhatsApp**
  - For details about how to configure the WhatsApp channel, see **2.5.8 Configuring the WhatsApp Channel**.
  - For details about how to configure a WhatsApp template message, see **2.3.2.10 Managing the Multimedia Library**.

Step 5 Click **Save**. The multimedia marketing task is created successfully.

Step 6 Return to the **mMarketing** tab page and click **Import Data** to import data.

Step 7 Return to the **mMarketing** tab page and click **Publish** to publish the marketing task.

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Step 8 Click  to export multimedia marketing tasks. A maximum of 100,000 records can be exported.

----End

Follow-up Procedure

To modify a multimedia marketing task, click **Suspend** to suspend it.

After the task is suspended, you can perform the following operations:

- Click **Edit** to modify the multimedia marketing task.
- Click **Delete** to delete the multimedia marketing task.
- Click **Import Data** to import data.
- Click **View Marketing Result** to view the execution result of the multimedia marketing task.

2.13.4.2 Configuring Multimedia Marketing Data

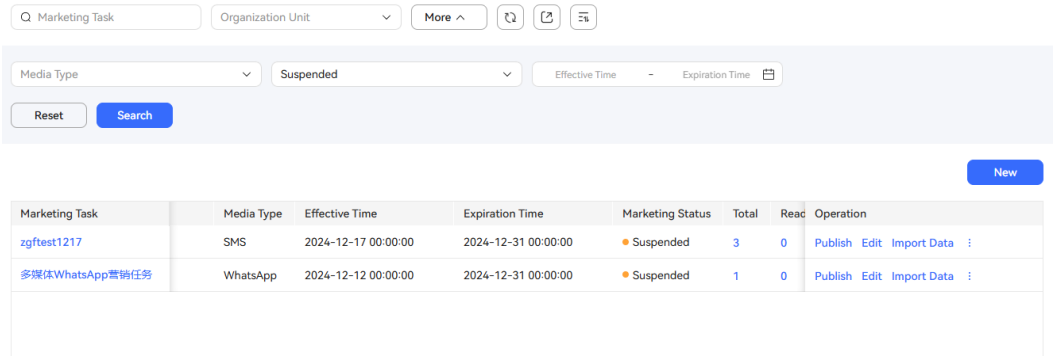
Marketing data of multimedia marketing tasks can be added one by one or imported in batches. Data of the multimedia marketing tasks of the care type is imported by obtaining poor-QoE users from the SmartCare system through scheduled tasks.

Importing Marketing Data in Batches

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 If the marketing activity is in draft or suspended state, click **Import Data**. You can import data by file or by server.

Figure 2-759 Multimedia data import page

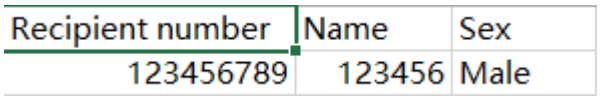


If you select the import mode using a template, click **Download Marketing Data Template**. The following figure shows the preconfigured template. Add marketing data by row in the template.

If you select the import mode using a rule, the file is imported based on the configured rule.

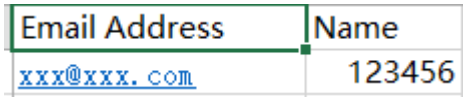
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Figure 2-760 SMS import template



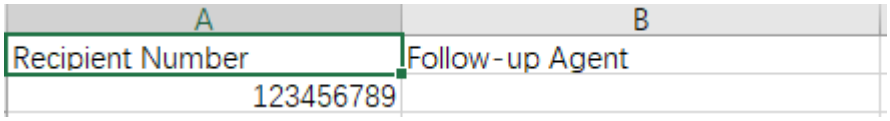
Recipient number	Name	Sex
123456789	123456	Male

Figure 2-761 Email import template



Email Address	Name
xxx@xxx.com	123456

Figure 2-762 WhatsApp import template



A	B
Recipient Number	Follow-up Agent
123456789	

NOTE

1. Set the cell format of the file to be imported to text. If you import data using a file, a maximum of 50,000 records can be imported at a time. If you import data using a server, a maximum of 2,000,000 records can be imported at a time. It is recommended that a maximum of 50,000 records be imported at a time. Otherwise, the outbound call rate may be affected.
2. The import template to be downloaded has the corresponding variables only when the template selected for a marketing task has variables.
3. The format of **Recipient Number** is restricted by the tenant parameters **Minimum length of outbound customer number**, **Maximum length of outbound customer number**, **The begin digits of the customer number**, **International Crown Code**, and **International area code**. These parameters are set under **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 3 In the **Import Marketing Data** dialog box, set the required parameters, select the file prepared in the previous step, and click **OK**.

Step 4 Click **Import Result** to view the import result, that is, the numbers of records that are successfully imported and that fail to be imported. Click the value in the **Number of Failed Records** column to download and view the failed outbound call data, and click the value in the **Number of Duplicate Records** column to download and view the duplicate outbound call data.

----End

Adding Marketing Data Records One by One

Step 1 Choose **Outbound Call** > **mMarketing** and click **Import Data** in the **Operation** column.

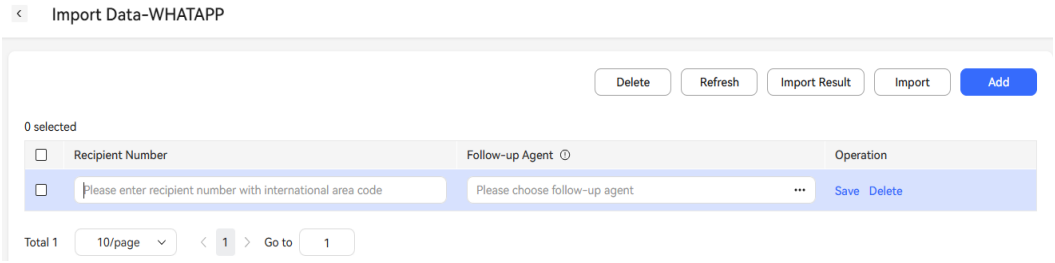
Step 2 Click **Add** and enter the recipient number in the text box. Click **Set Variable** in the **Operation** column and set the variable. If the marketing mode of a marketing task is WhatsApp, you can add an agent to follow up the customer's known issues, as shown in **Figure 2-764**.

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Figure 2-763 Page for adding the multimedia marketing data



Figure 2-764 Importing WhatsApp marketing data



Step 3 Click **Save**.

Step 4 (Optional) Click **Edit** to change the recipient number, and reconfigure the variable for the configured multimedia marketing data.

----End

Importing Marketing Data Using Scheduled Tasks (Multimedia Marketing Tasks of the Care Type)

Step 1 Contact the system administrator to sign in to the AICC, choose **Call Center** > **Tenant Management**, and enable the **SmartCare** feature for the tenant space.

Step 2 Sign in to the AICC as a tenant administrator, choose **Outbound Call** > **mMarketing**, and create a multimedia marketing task of the care type. For details, see **2.13.4.1 Configuring Multimedia Marketing Tasks**.

Step 3 Click **View** in the **Operation** column of the multimedia marketing task of the care type to view the poor-QoE data imported by scheduled tasks.

NOTE

The number of poor-QoE customers (including customers in data and voice scenarios) obtained every day is restricted by the system parameter **Maximum number of caring users**. Modification to this parameter does not take effect immediately. Wait for 1 hour.

Step 4 Select a recipient number and click **Delete** to delete the number. Click **Edit** to modify the recipient number.

----End

2.13.4.3 Viewing Multimedia Marketing Results

An agent can view the result of a single multimedia marketing task on the iSales task list page.

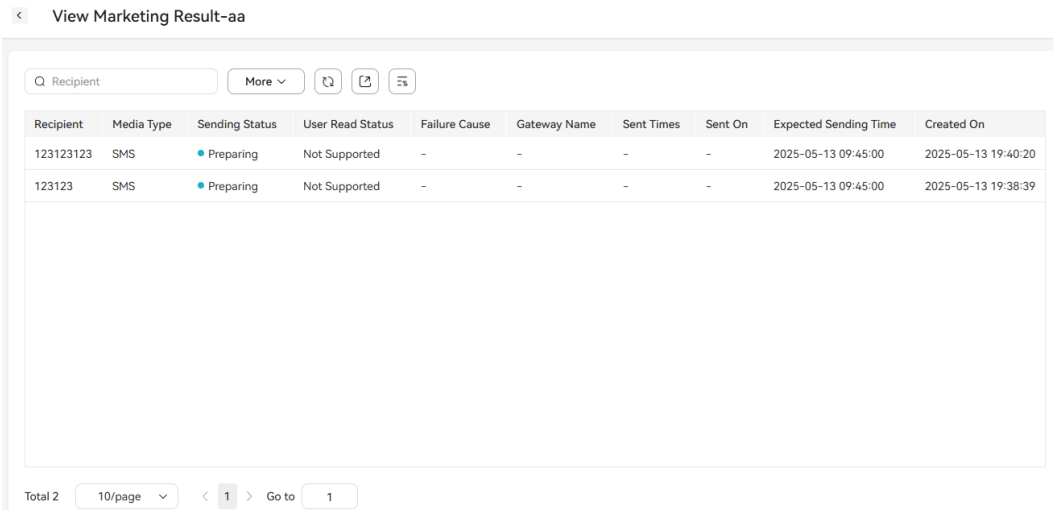
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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 Click **View Marketing Result**.

Figure 2-765 Multimedia marketing result page



You can perform a search as follows:

1. By sending status: Select a sending status and click **Search**.
2. By time: Set the start time and end time, and click **Search**.
3. By recipient: Enter a recipient number or email address, and press **Enter**.
4. Click  to export multimedia marketing results. A maximum of 100,000 records can be exported.
5. Click **View Reply Content** to view the successfully sent WhatsApp dialog content if **Media Type** of a marketing task is **WhatsApp**.

   NOTE

   The start time cannot be later than the current time. Data created within a maximum of three months can be queried. By default, data created within one month is queried.

----End

2.13.4.4 Adding a Customer to the Marketing Message Unsubscription List

After a customer rejects receiving multimedia marketing messages, a tenant space administrator can add the customer to the marketing message unsubscription list and remove the customer from the multimedia marketing list to ensure that the customer does not receive multimedia marketing messages within a specified period.

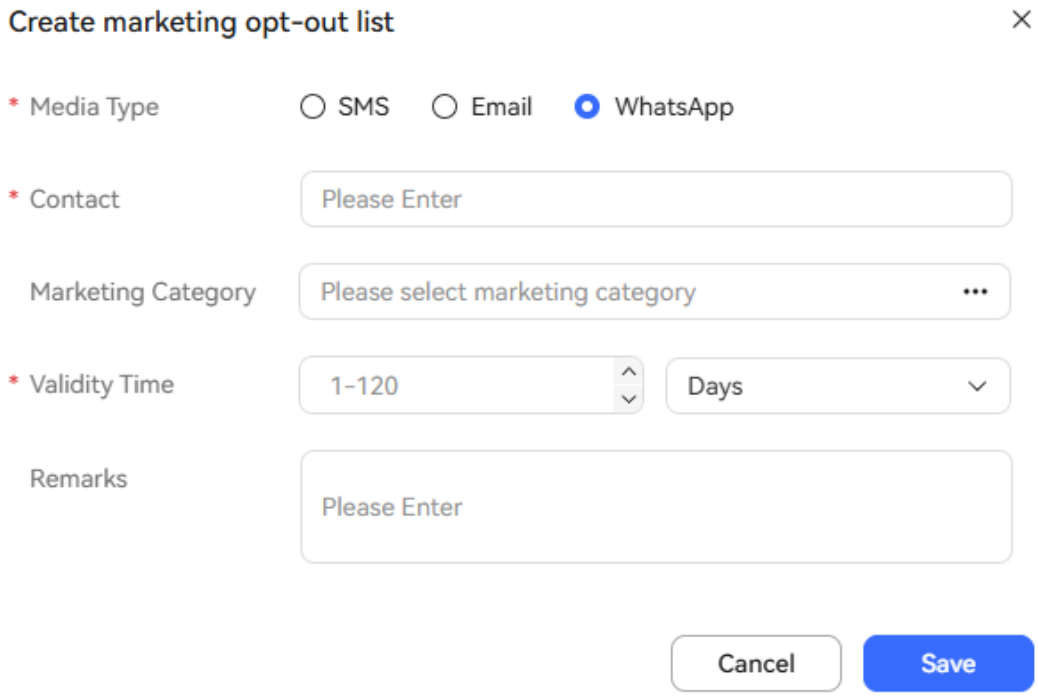
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Method 1: Adding a Customer to the Marketing Message Unsubscription List

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Marketing Opt-out List**.

Step 2 Click New to add a customer to the marketing message unsubscription list.

Figure 2-766 Create marketing opt-out list page



- **Media Type**: Select **WhatsApp**.
- **Contact**: If **Media Type** is set to **SMS** or **WhatsApp**, enter a mobile number. If **Media Type** is set to **Email**, enter an email address.
- **Marketing Category**: The options are obtained from **Configuration Center** > **Call Config** > **Marketing Category Management**.
- **Validity Time**: A customer does not receive multimedia marketing messages within a specified period.
- **Remarks**: Customize this parameter.

Step 3 Click **Save**. The customer is added to the marketing message unsubscription list successfully.

----End

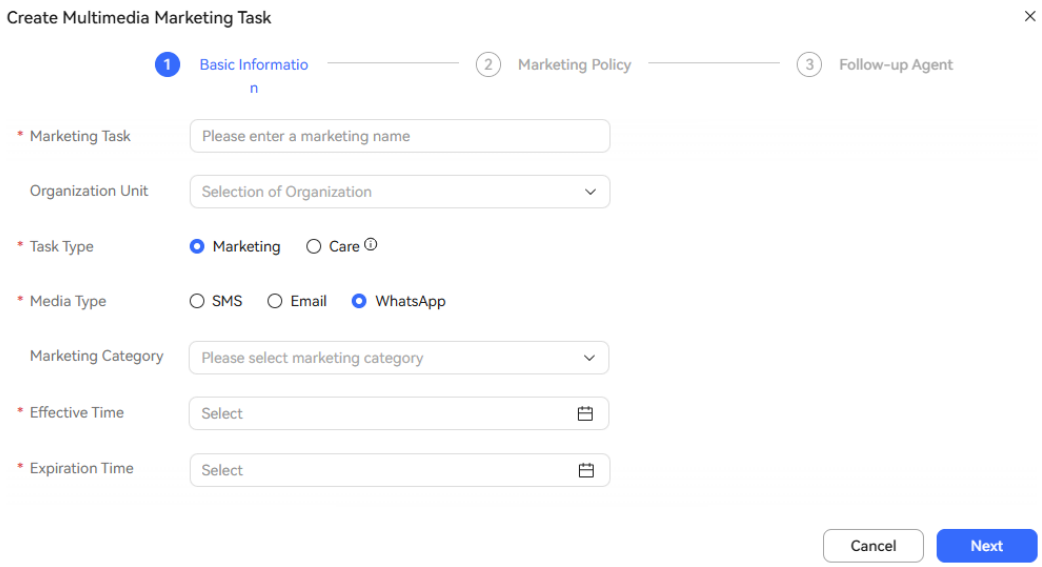
Method 2: Adding Customers to the Marketing Message Unsubscription List Through a Multimedia Marketing Task

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Multimedia Marketing**.

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Step 2 Click **New**. The **Create Multimedia Marketing Task** page is displayed.

Figure 2-767 Create Multimedia Marketing Task page



1. **Marketing Task**: Enter a name.
2. **Task Type**: Select **Marketing**.
3. **Media Type**: Select **WhatsApp**.
4. **Marketing Category**: Configure the number of marketing message unsubscription days by binding a marketing category. The marketing category can be created under **Configuration Center** > **Call Config** > **Marketing Category Management**.

   NOTE

   If a multimedia marketing task is not bound to any marketing category, the value of the tenant parameter **Marketing Unsubscription Duration** is used. The default value of the tenant parameter is **30**.

Step 3 Click **Next** and set the marketing policy and follow-up personnel.

Step 4 Click **Save**.

Step 5 Click **Import Data** and enter customers' WhatsApp accounts.

Step 6 Click **Publish** to release the multimedia marketing task.

Step 7 Log in to WhatsApp as a customer, and unsubscribe from the multimedia marketing message reception service after the released multimedia marketing task message is received.

Step 8 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Call Config** > **Marketing Opt-out List**, and add a record to the list. The unsubscription duration is the sum of the number of unsubscription days set in the marketing category and the time set when the customer is added to the marketing message unsubscription list. The customer does not receive multimedia marketing messages within the unsubscription duration.

----End

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2.13.4.5 Creating a Marketing Category

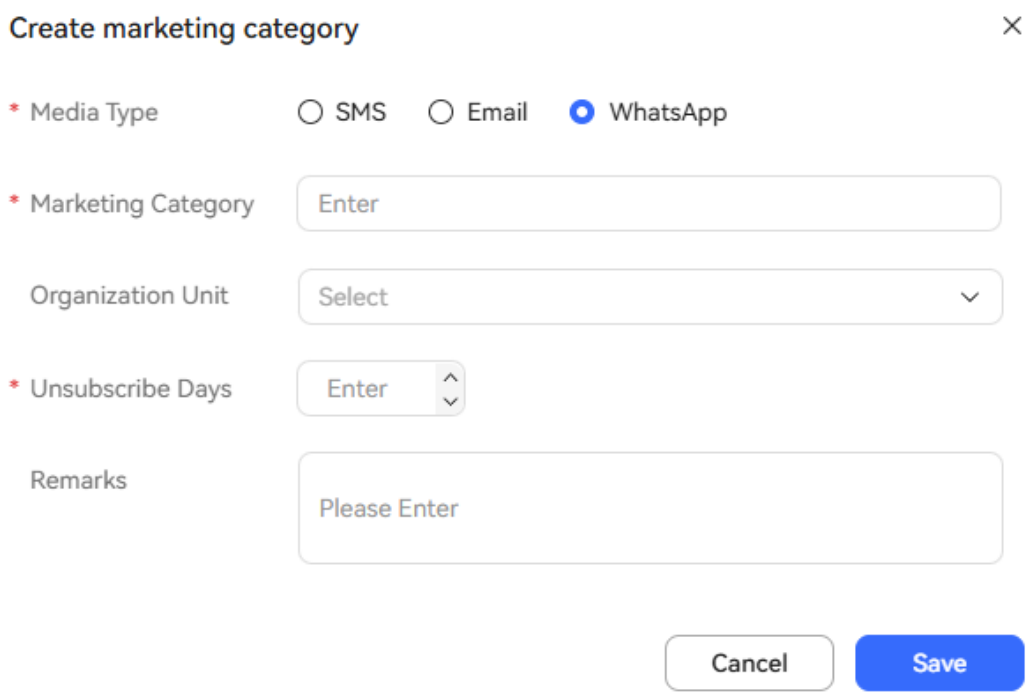
The number of unsubscription days can be set through a marketing category.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Call Config** > **Marketing Category Management**.

Step 2 Click **New** and create a marketing category.

Figure 2-768 Create marketing category page



- **Media Type**: Select **WhatsApp**.
- **Marketing Category**: Enter a marketing category such as social media marketing, meeting marketing, or content marketing.
- **Unsubscribe Days**: A customer does not receive ads related to social media marketing within the unsubscription days. The value ranges from 1 to 10000, in days.
- **Organization Unit**: This parameter is controlled by the tenant-level parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - After the tenant parameter is set to **Yes**, the **Organization Unit** parameter is mandatory.
  - After the tenant parameter is set to **No**, the **Organization Unit** parameter is optional.

Step 3 Click **Save** to save the marketing category.

----End

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2.13.5 Managing Outbound Call Task Reports

2.13.5.1 Outbound Call Task Monitoring Report

The outbound call task monitoring data can be displayed in reports so that administrators can track the execution of outbound call tasks promptly.

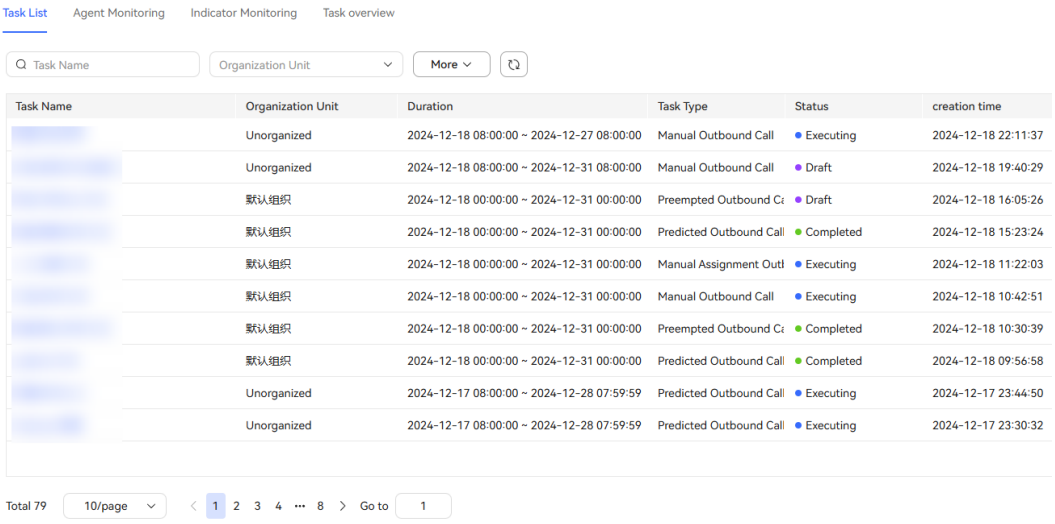
Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Monitor**.

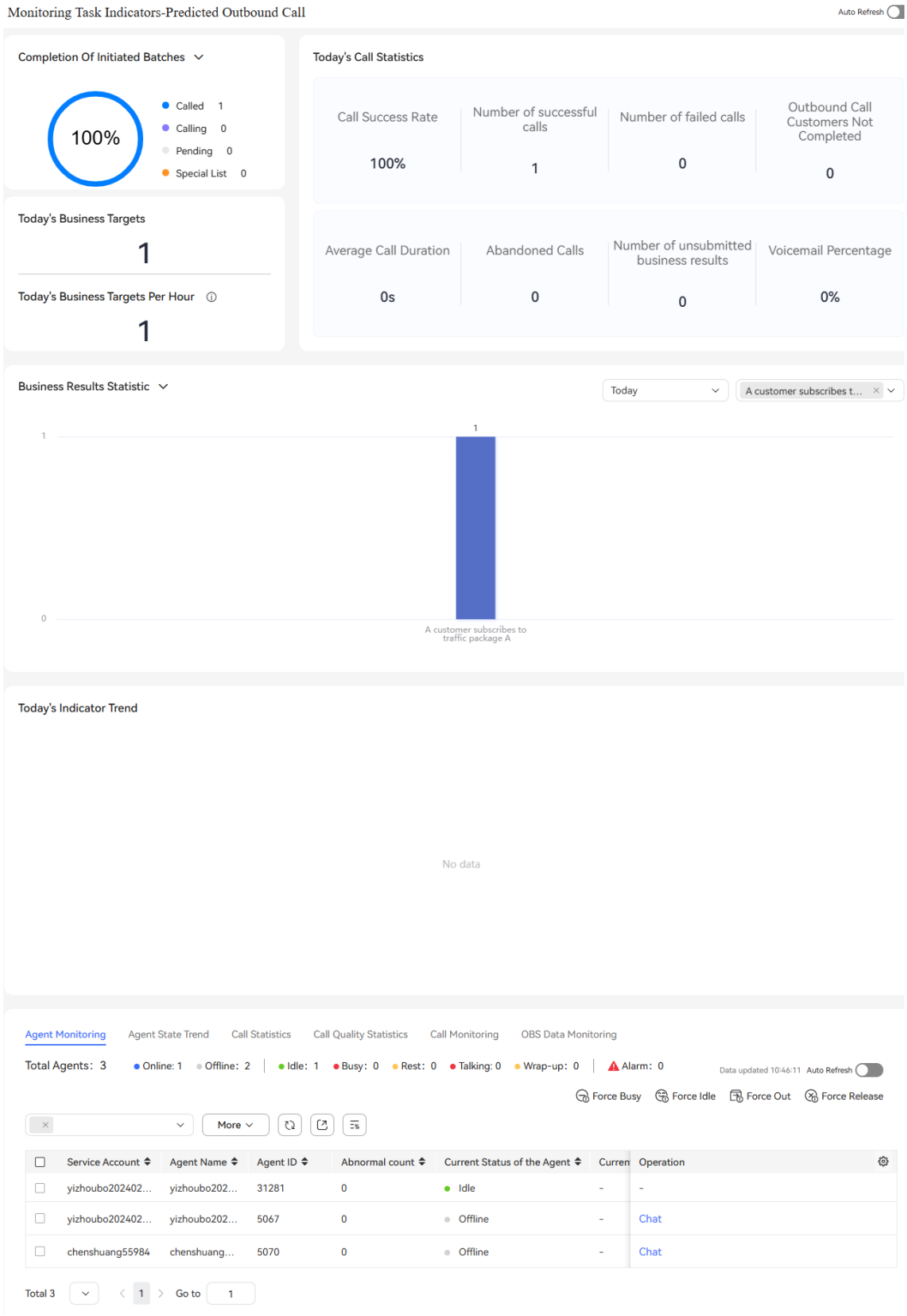
Figure 2-769 Call Monitor



Step 2 Click an outbound call task to access the **Monitoring Task Indicators** page.

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Figure 2-770 Monitoring Task Indicators



- In **Completeness Of All Batches** or **Completion Of Initiated Batches**, view statistics on the completion status of the outbound call task, including the number of completed calls, number of uncompleted calls, number of pending calls, and number of records in the special list.

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- In **Today's Business Targets**, view the number of calls that are completed on the current day with their business results marked as **Business Target**.
- In **Today's Business Targets Per Hour**, view the number of today's calls that have achieved the business target per hour, which is calculated as follows: Number of today's calls that have achieved the business target/Number of valid outbound call hours.
- In **Today's Call Statistics**, view the data of **Call Completion Rate**, **Number of successful calls**, **Number of failed calls**, **Outbound Call Customers Not Completed**, **Average Call Duration**, **Abandoned Calls**, **Number of unsubmitted business results**, and **Voicemail Percentage**.

  Table 2-225 Indicators in the Today's Call Statistics area

Indicator	Description
Call Completion Rate	The formula is as follows: Number of successful calls/(Number of successful calls + Number of failed calls).
Number of successful calls	Number of completed and uncompleted calls that are successful on the current day.
Number of failed calls	Number of completed and uncompleted calls that fail on the current day. **After a reserved manual outbound call made to a customer fails, if another call attempt is made and fails again, only one failure record is counted.**
Outbound Call Customers Not Completed	Number of uncompleted calls.
Average Call Duration	Average call duration.
Abandoned Calls	Number of calls that customers hang up when waiting in skill queues.
Number of unsubmitted business results	Number of completed outbound calls, uncompleted outbound calls, and reserved manual outbound calls that are successful and not marked with business results on the current day.
Voicemail Percentage	The formula is as follows: Number of outbound calls that are transferred to the voice mailbox/(Number of successful outbound calls + Number of failed outbound calls).

- In **Today's business Results Report**, view the details of business results marked for outbound calls in the outbound call task in a specified time range.
- In **Today's Indicator Trend**, view the trends of 15-minute indicators of the outbound call task on the current day, including **Number of completed calls**, **Number of business targets**, **Abandoned Calls**, **Percentage of business targets**, and **Call Success Rate**.

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Table 2-226 Indicators in the Today's Indicator Trend area

Indicator	Description
Number of completed calls	The formula is as follows: Number of completed outbound calls + Number of uncompleted outbound calls + Number of completed reserved manual outbound calls.
Number of business targets	Number of completed outbound calls, uncompleted outbound calls, and reserved manual outbound calls that are successful and whose business results are marked as **Business Target**.
Abandoned Calls	Number of calls that are hung up when waiting in skill queues.
Percentage of business targets	The formula is as follows: Number of calls that have achieved the business target/Number of successful outbound calls.
Call Completion Rate	The formula is as follows: Number of successful outbound calls/Number of outbound calls.

- On the **Agent Monitoring** tab page, view the current status and status duration of all agents in the tenant space.
  - An inspector can perform real-time inspection operations on a specific agent, including **Screen QC**, **Force Busy**, **Force Idle**, **Force Out**, and **Force Release**.
  - When the **Online Chat** and **Intelligent Outbound Call** features are enabled for the current tenant, a supervisor can click **Chat** corresponding to an agent and send an instant message to the agent, as shown in **Figure 2-771**. The agent receives a screen pop-up as shown in **Figure 2-772**, and can click  in the lower right corner of the page to view the session list. To use this function, an agent needs to contact the tenant administrator to grant the **Message Sending** permission. The tenant administrator has this permission by default.

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Figure 2-771 Instant message sent by a supervisor

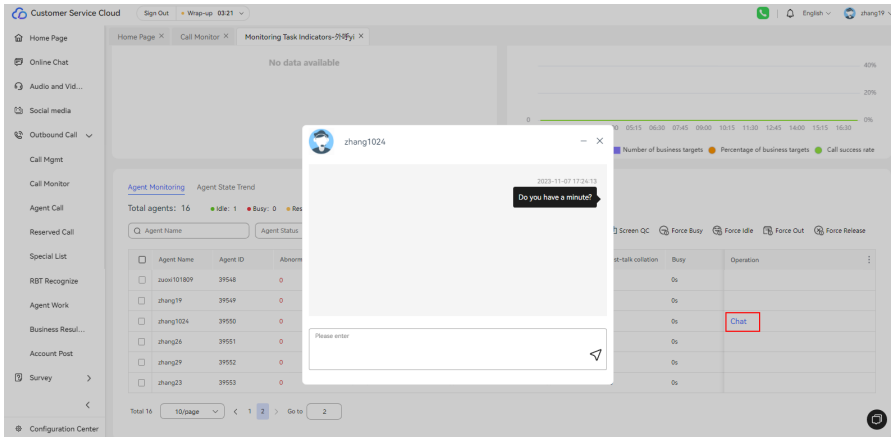
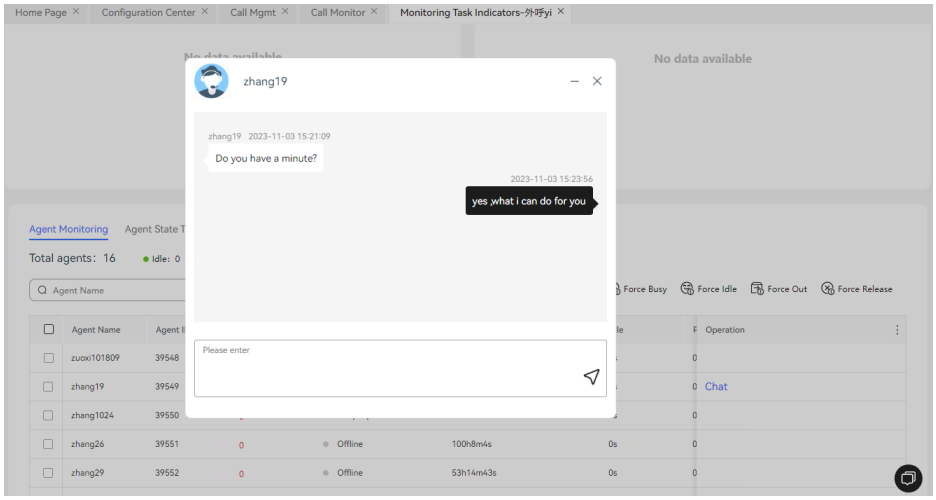


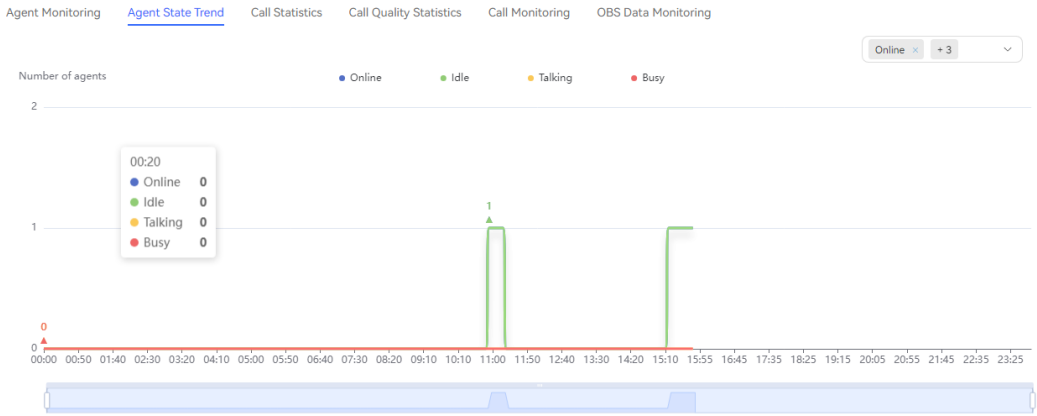
Figure 2-772 Screen pop-up received by an agent



  - Click 0 > to view the indicator statistics of rest or busy reasons. You can configure rest reasons on the **Configuration Center** > **Workbench Configuration** > **Rest Reason** page. You can configure busy reasons on the **Configuration Center** > **Workbench Configuration** > **Busy Reason** page.
  - Click **More**, select **Common agent**, **Quality checker**, or **Callout agent**, and search for data based on the selected platform role.
- On the **Agent State Trend** tab page, view today's statistics on the number of agents in a specified state for every 5 minutes. By default, the statistics on agents in the **Online**, **Idle**, **Talking**, and **Busy** states are displayed.

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Figure 2-773 Agent State Trend

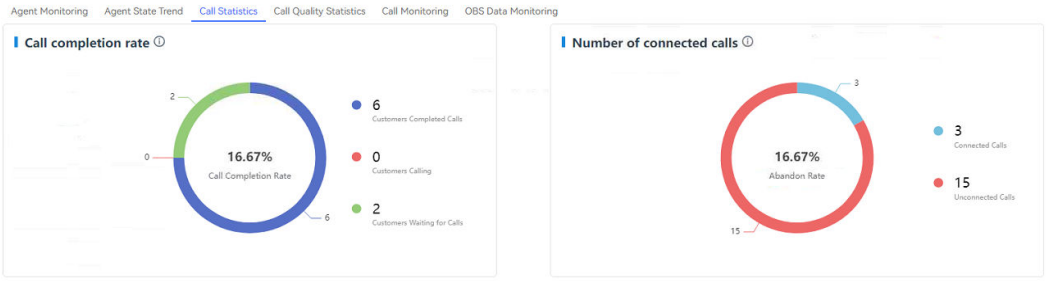


NOTE

The agent state trend chart displays the data of agent states at the data collection time point instead of agent states in a certain time range. For example, if an agent is in the **Idle** state from 19:11:00 to 19:14:00 and in the **Rest** state (marked with rest reason A) at 19:15:00, which is the data collection time point, the number of rest reason As is incremented by 1 at 19:15:00.

- On the **Call Statistics** tab page, view the progress of the outbound call task. (This tab page is displayed only for predicted, preview, and preempted outbound call tasks.)

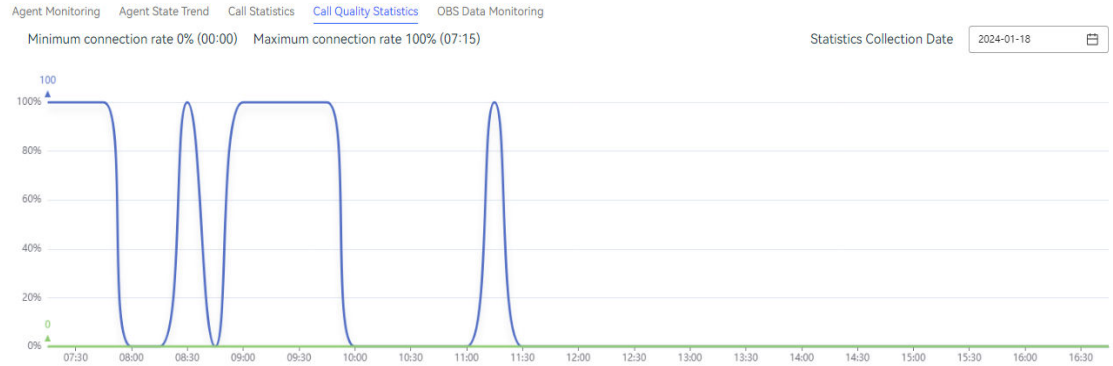
Figure 2-774 Call Statistics



- On the **Call Quality Statistics** tab page, view the call connection rate and abandonment rate (displayed in a line chart). You can select a date that is not earlier than the task start date or later than the current date. (This tab page is displayed only for predicted, preview, and preempted outbound call tasks.)

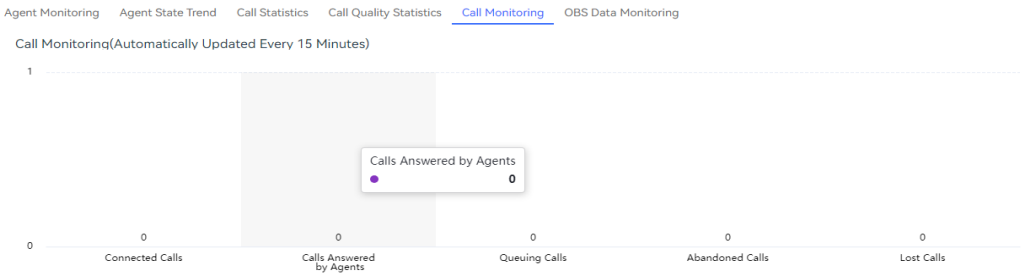
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Figure 2-775 Call Quality Statistics



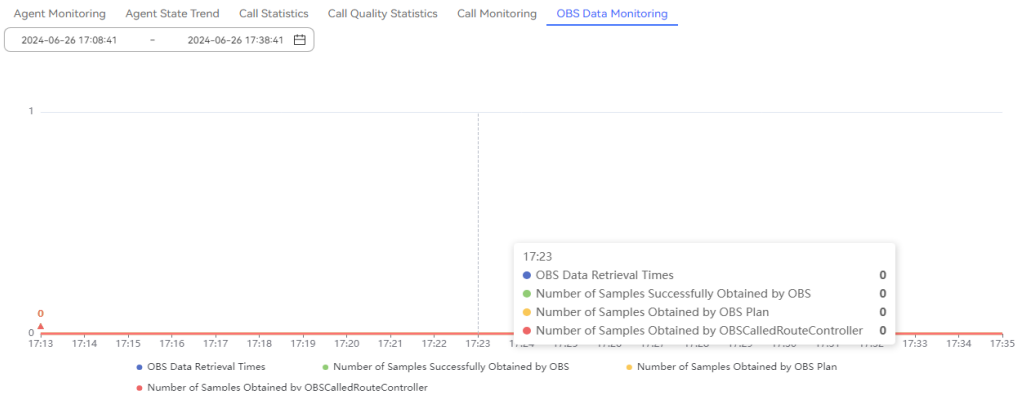
- On the **Call Monitoring** tab page, view the monitoring chart of the task. (This tab page is displayed only for predicted outbound call tasks.) The bar chart is refreshed every 15 minutes and displays the following data: **Connected Calls**, **Calls Answered by Agents**, **Queuing Calls**, **Abandoned Calls**, and **Lost Calls**.

  Figure 2-776 Call Monitoring

- On the **OBS Data Monitoring** tab page, view OBS data monitoring information. (This tab page is displayed only for predicted, preview, preempted, and fixed outbound call tasks.)

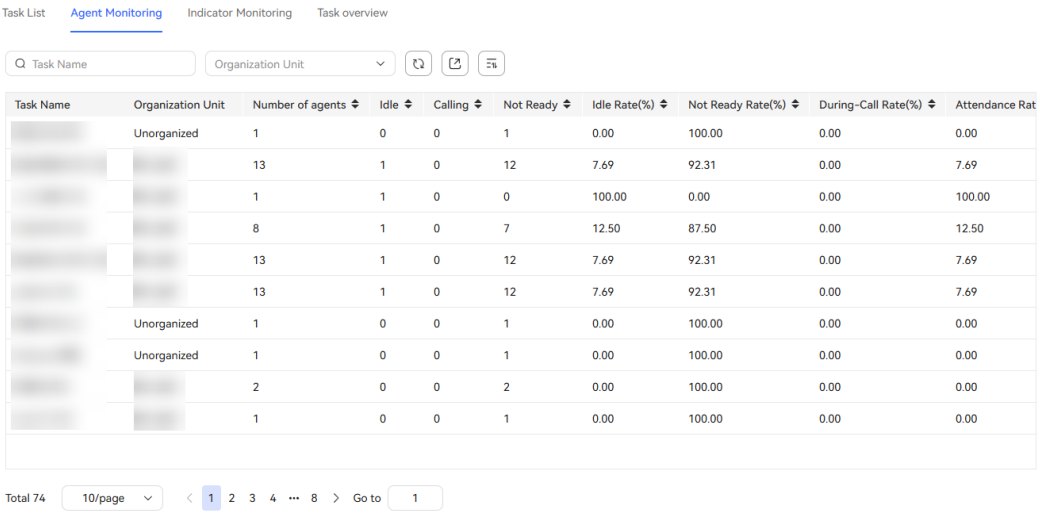
  Figure 2-777 OBS Data Monitoring

Step 3 Click the **Agent Monitoring** tab.

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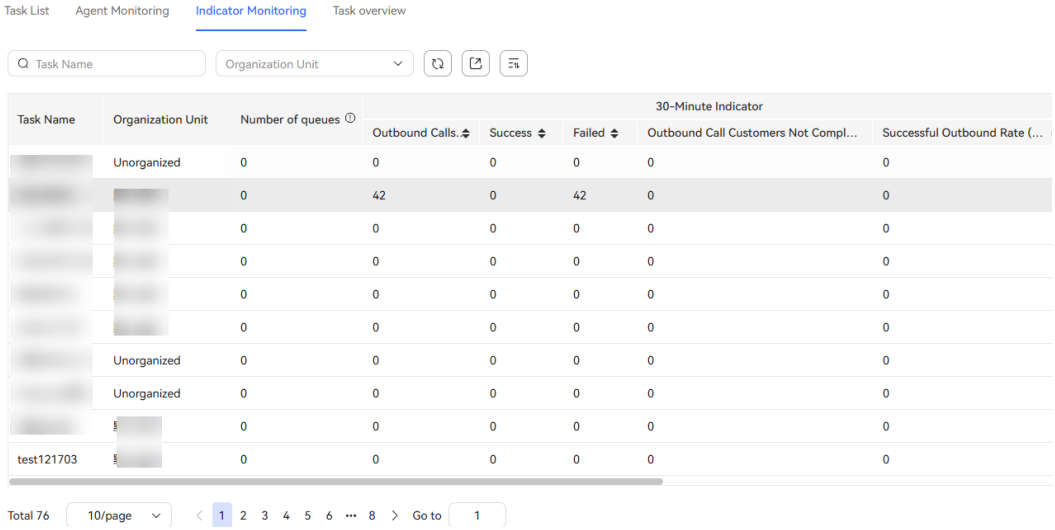
Figure 2-778 Agent Monitoring



- Enter the name of an outbound call task and click  to search for the monitoring data of the outbound call task.
- Click  to export agent monitoring data in CSV or TXT format. **Export Mode** can be set to **File export** or **Server export**.
- Click  to view the export record.
- Click  to sort the data of an indicator in ascending or descending order.

Step 4 Click the **Indicator Monitoring** tab.

Figure 2-779 Indicator Monitoring



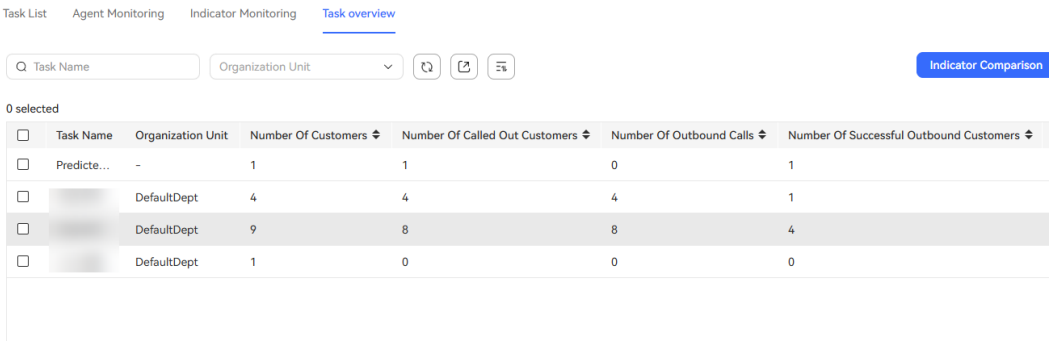
- Indicator monitoring information of **30-Minute Indicator** and **Indicator of the current day** are displayed.

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- Enter the name of an outbound call task and click  to search for the monitoring data of the outbound call task.
- Click  to export indicator monitoring data in CSV or TXT format. **Export Mode** can be set to **File export** or **Server export**.
- Click  to view the export record.
- Click  to sort the data of an indicator in ascending or descending order.

Step 5 Click the **Task overview** tab.

Figure 2-780 Task overview



- Enter the name of an outbound call task and click  to search for the monitoring data of the outbound call task.
- Click  to export task overview data in CSV or TXT format. **Export Mode** can be set to **File export** or **Server export**.
- Click  to view the export record.
- Select an outbound call task and click  to analyze the indicator. A maximum of 10 outbound call tasks can be selected at a time, and a maximum of six indicators can be selected at a time.
- Click  to sort the data of an indicator in ascending or descending order.

----End

2.13.5.2 Viewing Business Result Reports

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations

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are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Service Result Report**.

- **Outbound Call Task**: Select an outbound call task.
- **Report Type**: Select **Daily report**, **Weekly report**, or **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Select the start date and end date. (The time selector converts a date into the corresponding week.)
  - **Monthly report**: Set the start year and month as well as the end ones.

Step 2 Select a report type and click **Search**.

- **Daily report**: Set the start date and end date. The end date cannot be earlier than the start date. The time range cannot exceed 31 days. The end date must be earlier than the current date.
- **Weekly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed 12 weeks. The maximum end week is the week of the current date.
- **Monthly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed six months. The maximum end month is the month of the current date.

Step 3 Select some business results from the **Select** drop-down list and a date, week, or month to view the corresponding bar chart.

Step 4 Select some business results from the **Select** drop-down list to view the corresponding trend line chart.

Step 5 View sub-business result report data.

- Click the bar of a business result in the bar chart to drill down to the sub-business result report of the business result.
- Click the line of a business result in the line chart to drill down to the sub-business result trend chart of the business result.

----End

2.13.5.3 Outbound Call Task Report

You can view indicators such as **Number Of Called Out Customers**, **Number Of Successful Outbound Customers**, and **Number Of Failed Outbound Customers** on the **Task Report** page.

Prerequisites

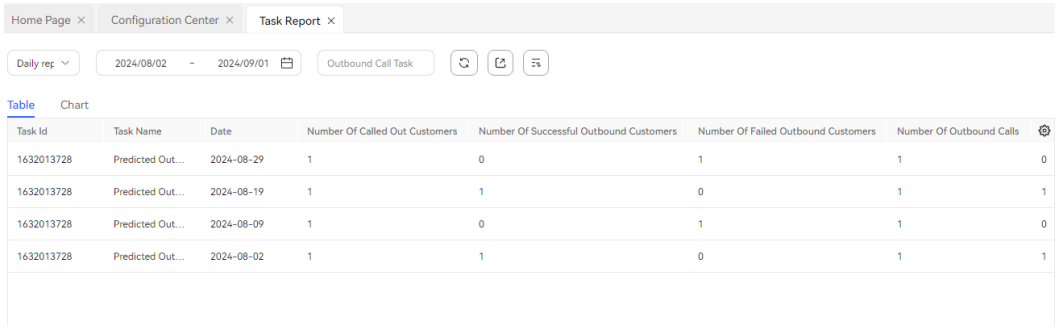
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Task Report**.

Figure 2-781 Task Report

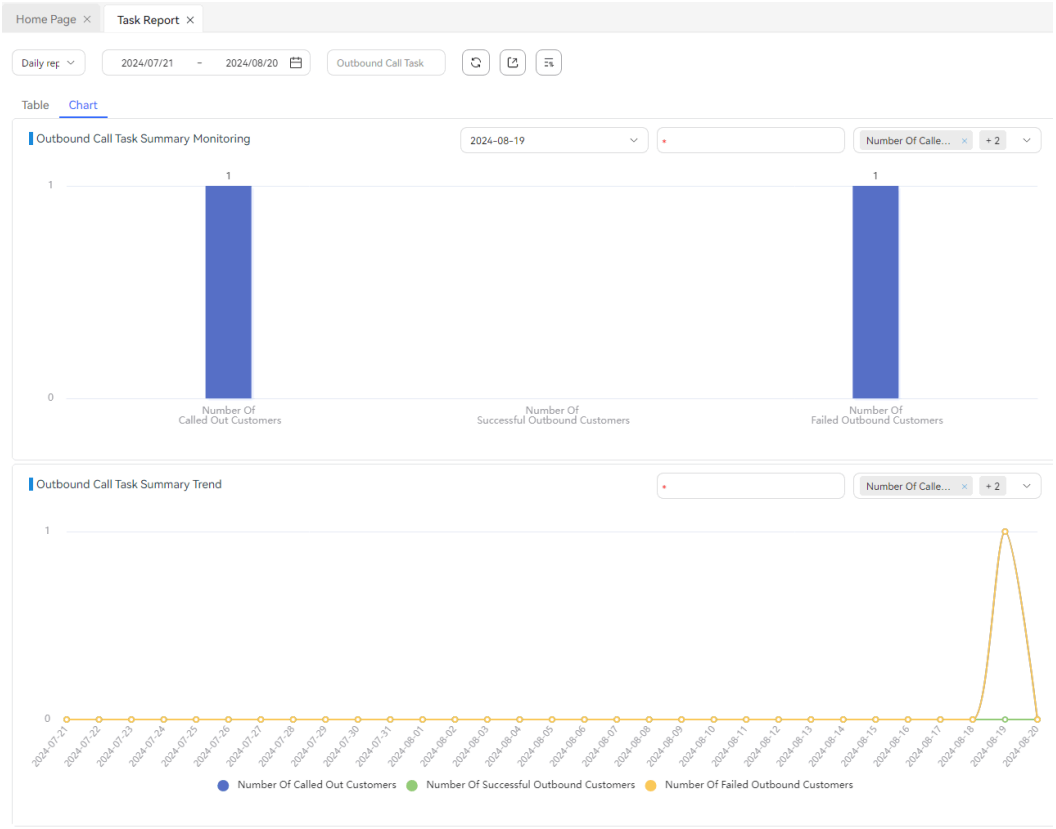


- Report type: Select **Daily report**, **Weekly report**, or **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: Set the start date and end date. The end date cannot be earlier than the start date. The time range cannot exceed 31 days. The end date must be earlier than the current date.
  - **Weekly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed 12 weeks. The maximum end week is the week of the current date.
  - **Monthly report**: The start year and end year can be the current year or the previous year. The time range cannot exceed six months. The maximum end month is the month of the current date.
- **Outbound Call Task**: Select a manual, predicted, preempted, previewed, or fixed outbound call task that is not in the draft state.

Step 2 You can switch to the **Chart** page to view the monitoring indicators and trend of outbound call tasks. Click ⌄ on the right and select indicators as required.

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Figure 2-782 Summary of outbound call tasks



----End

2.13.5.4 Viewing Intelligent Robot Outbound Call Records

Tenant administrators can view the call records of intelligent robot outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click an outbound call task that is not in the draft state to go to the outbound call task details page.

Step 3 On the outbound call task details page, click the **Completed** tab, and view the outbound call result.

Step 4 Click a call record in the outbound call result to view the call record.

----End

2.13.5.5 Agent Work Statistics

You can view agent work statistics by outbound call task or agent.

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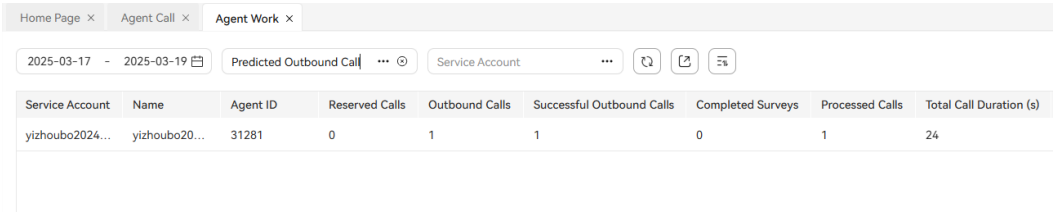
Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Agent Work**.

Figure 2-783 Agent Work page



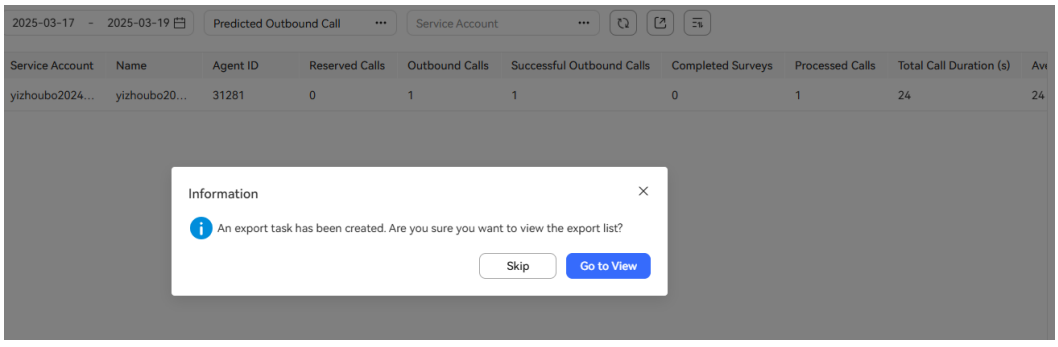
Step 2 Select a start time, an end time, and an outbound call task or business account whose statistics are to be collected.

NOTE

1. The time span must be less than or equal to seven days.
2. Select at least one outbound call task or business account.

Step 3 If the query is successful, click **Export**  . The message "The exported data contains personal information. Exercise caution when performing this operation" is displayed, as shown in **Figure 2-784**. After you click **OK**, the message "An export task has been created. Are you sure you want to view the export list?" is displayed.

Figure 2-784 Exporting a data package



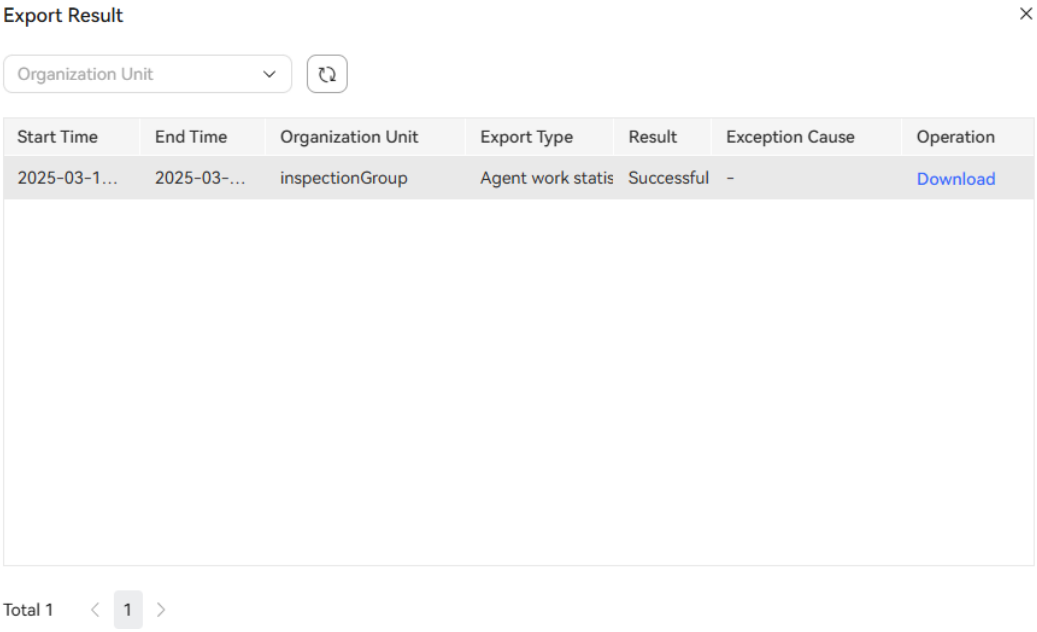
NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

Step 4 Click  to download the exported compressed file.

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Figure 2-785 Export Result page



----End

2.13.5.6 RBT Recognition

When an agent executes an outbound call task, a large amount of failed outbound call data may be generated. The agent may be unable to record and analyze the failure causes due to heavy workload. In this case, a tenant administrator can use the RBT intention recognition function for intention recognition. After outbound call failure results are automatically recognized, they are saved to an RBT report which the tenant administrator can use for analysis.

Prerequisites

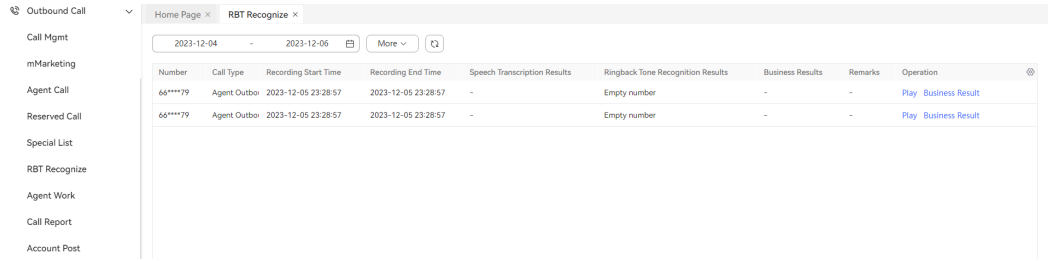
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- Currently, RBT recognition is supported only in manual and preview outbound call scenarios.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **RBT Recognize**.

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Figure 2-786 RBT Recognize



- **Start Time**: Set the recording start time for query.
- **End Time**: Set the recording end time for query.
- **Customer number**: Enter the called number of a customer.
- **Status**: Select **To be confirmed** or **Confirmed**.

Step 2 After the start time and end time are selected, query data. (The end date cannot be earlier than the start date, and the date range cannot cross months.)

Step 3 Click **Advanced Search**. Enter the outbound call number or select a status from the drop-down list and click **Search**.

Step 4 View RBT recognition results. Click **Play** to play the record of a CDR.

Step 5 Click **Business Result**. If the business result of the current data is edited, the updated business result is displayed in the list.

----End

2.13.5.7 Querying an Archiving Task

You can query historical outbound call tasks on the **Querying Archiving Task** page.

Prerequisites

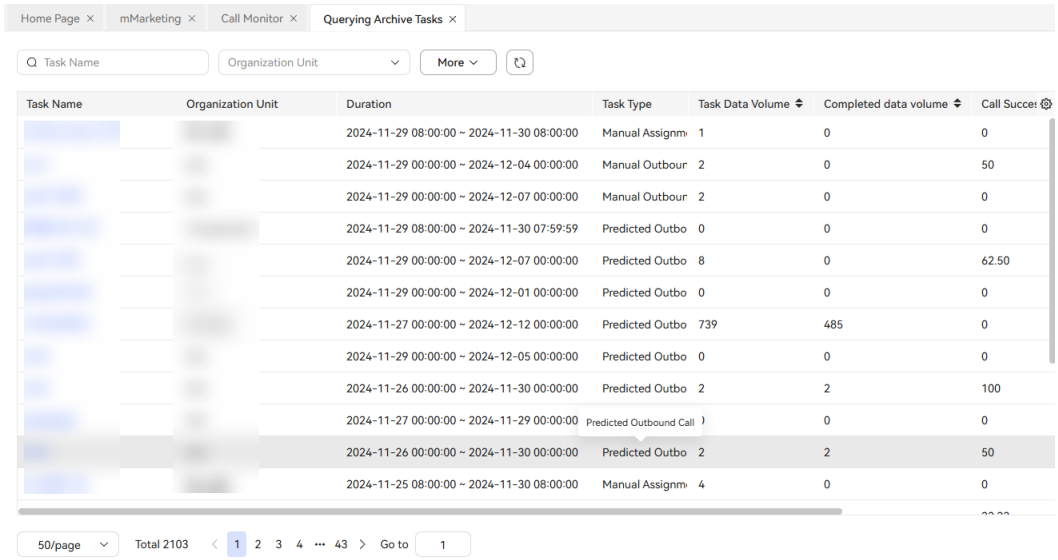
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Querying Archiving Tasks**.

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Figure 2-787 Querying Archiving Task page



Step 2 Enter a task name and click  to query the corresponding archiving task.

Step 3 Click the task name to view the archiving task details.

Step 4 Click **More** to filter archiving tasks by task start/end time, task type, task ID, and creation start/end time.

----End

2.14 Managing Surveys

A survey records the survey content in the form of questions. Administrators can configure surveys for survey statistics collection of other businesses.

2.14.1 Configuring Surveys

Surveys include manual surveys, IVR surveys, and intelligent training surveys. After a tenant administrator configures surveys in a unified manner, the surveys can be used to collect statistics based on scenarios.

Survey types are described as follows:

- Standard surveys can be used by intelligent outbound calls, IVR flows, and intelligent training businesses. Diversified surveys can be configured.

Prerequisites

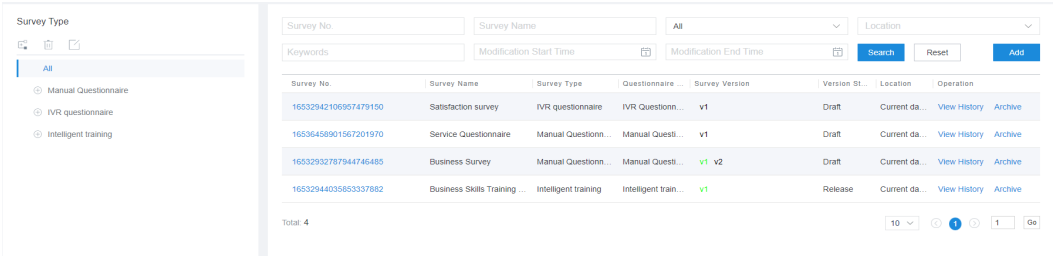
None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Survey Config**.

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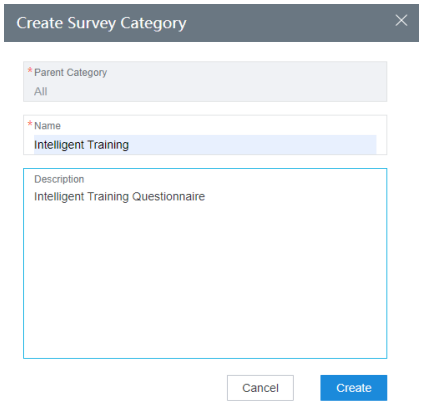
Figure 2-788 Survey Config



Step 2 Configure a survey category.

1. **All** is selected by default. Click  . The **Create Survey Category** dialog box is displayed.
2. Configure a survey category.

   Figure 2-789 Create Survey Category

3. Click **Create** to save the survey category information.

Step 3 Configure a survey.

1. Select the new survey category and click **Add** on the right of the page. The **Create Survey** page is displayed.
2. Configure the survey content.

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Figure 2-790 Adding a manual survey

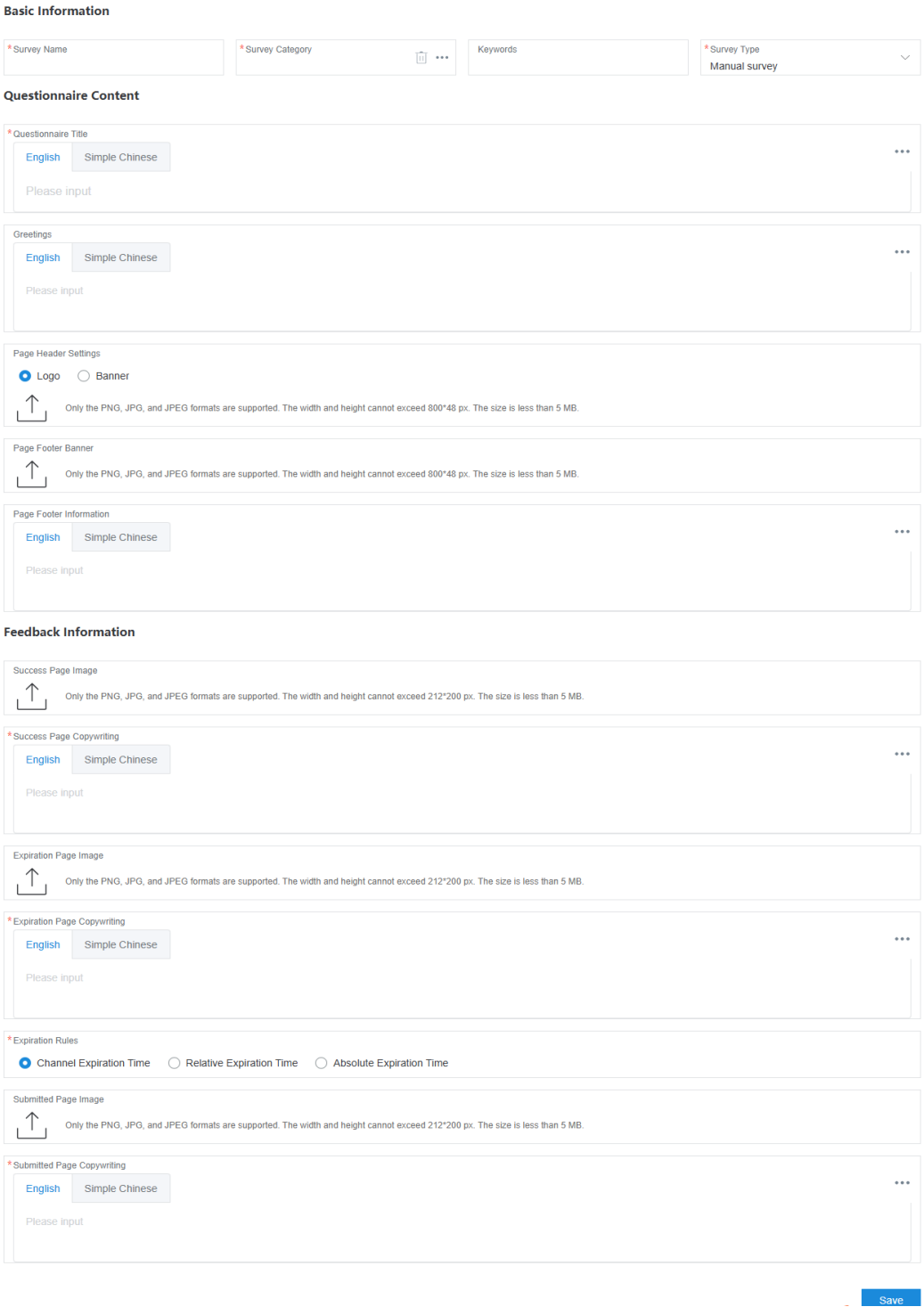


Table 2-227 Adding a manual survey

Element/ Component	Description	Remarks
Basic Information		

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Element/ Component	Description	Remarks
Survey Name	(Mandatory) Survey name, which can contain a maximum of 32 characters.	-
Survey Category	(Mandatory) Created survey category.	-
Keywords	Survey keywords.	-
Survey Type	(Mandatory) Survey scenario. The options are **Intelligent training**, **Manual and IVR survey** **Manual survey**, and **IVR Survey**.	-
Questionnaire Content		
Questionnaire Title	(Mandatory) Survey title, which can contain a maximum of 64 characters.	Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.
Greetings	(Optional) Survey greeting, which can contain a maximum of 512 characters.	
Page Header Settings	(Optional) Upload an image in PNG, JPG, or JPEG format. The dimension of the image cannot exceed 800 pixels × 48 pixels, and the size cannot exceed 5 MB.	-
Page Footer Banner	(Optional) Upload an image in PNG, JPG, or JPEG format. The dimension of the image cannot exceed 800 pixels × 48 pixels, and the size cannot exceed 5 MB.	-
Page Footer Information	(Optional) Page footer information, which can contain a maximum of 128 characters.	Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.
Feedback Information		

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Element/ Component	Description	Remarks
Success Page Image	(Optional) Upload an image in PNG, JPG, or JPEG format. The dimension of the image cannot exceed 212 pixels × 200 pixels, and the size cannot exceed 5 MB.	-
Success Page Copywriting	(Mandatory) Copy for successful submission, which can contain a maximum of 256 characters.	Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.
Expiration Page Image	(Optional) Upload an image in PNG, JPG, or JPEG format. The dimension of the image cannot exceed 212 pixels × 200 pixels, and the size cannot exceed 5 MB.	-
Expiration Page Copywriting	(Mandatory) Copy for survey expiration, which can contain a maximum of 256 characters.	
Expiration Rules	This parameter is mandatory.	– **Channel Expiration Time**: The channel reply time of satisfaction surveys configured on the workbench is used. – **Relative Expiration Time**: After users receive a survey, they must complete and submit the survey within a specified interval (unit: day). – **Absolute Expiration Time**: Regardless of when users receive a survey, they must complete and submit the survey before a specified time point.
Submitted Page Image	(Optional) Upload an image in PNG, JPG, or JPEG format. The dimension of the image cannot exceed 212 pixels × 200 pixels, and the size cannot exceed 5 MB.	-

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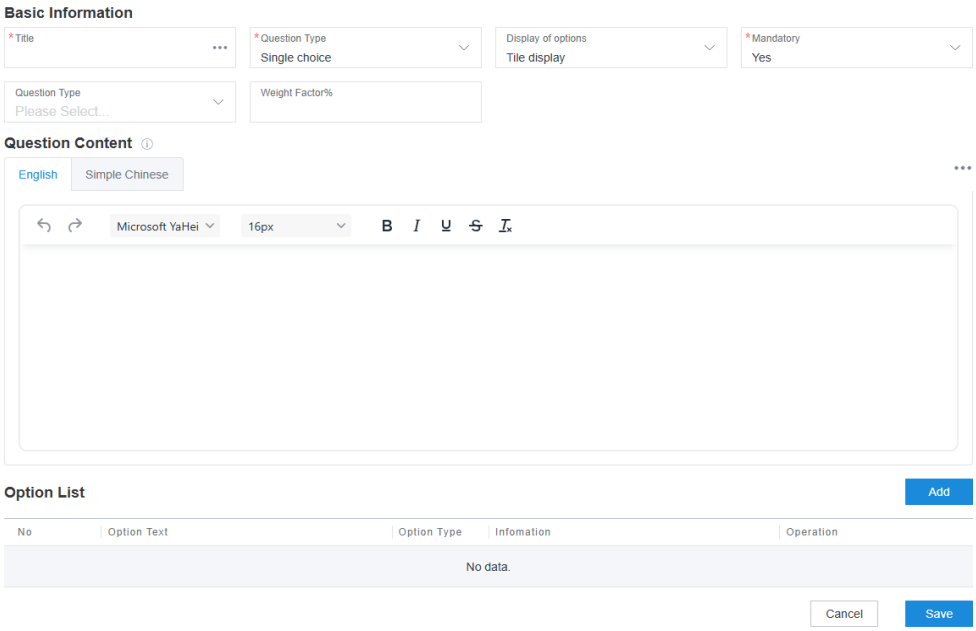
Element/ Component	Description	Remarks
Submitted Page Copywriting	(Mandatory) Copy for repeated submission, which can contain a maximum of 256 characters.	Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.

3. Choose **Save**.

Step 4 Click **Question List** and configure questions.

1. Click **Add**. The **Create Question** page is displayed.
2. Configure the question content.

Figure 2-791 Adding a question to a manual survey



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Figure 2-792 Adding a question (score type) to a manual survey

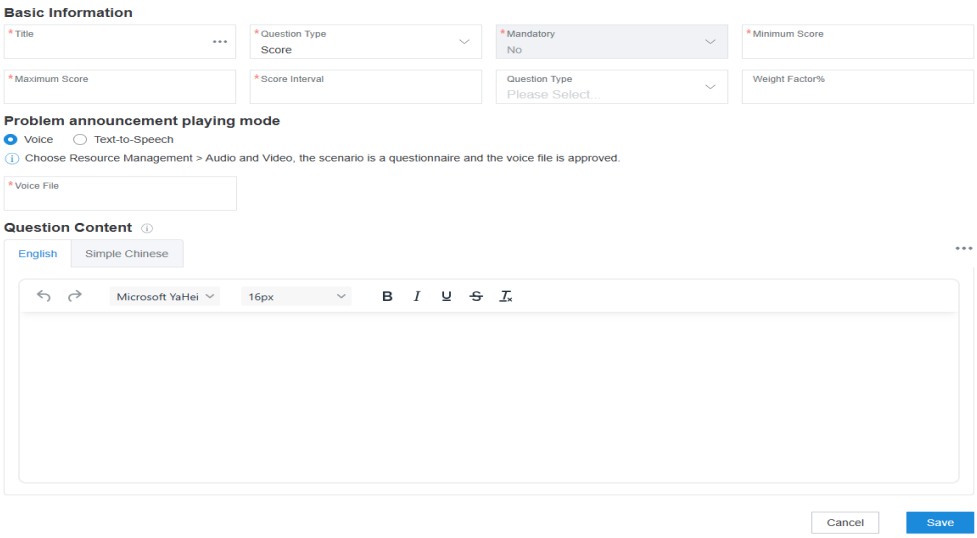
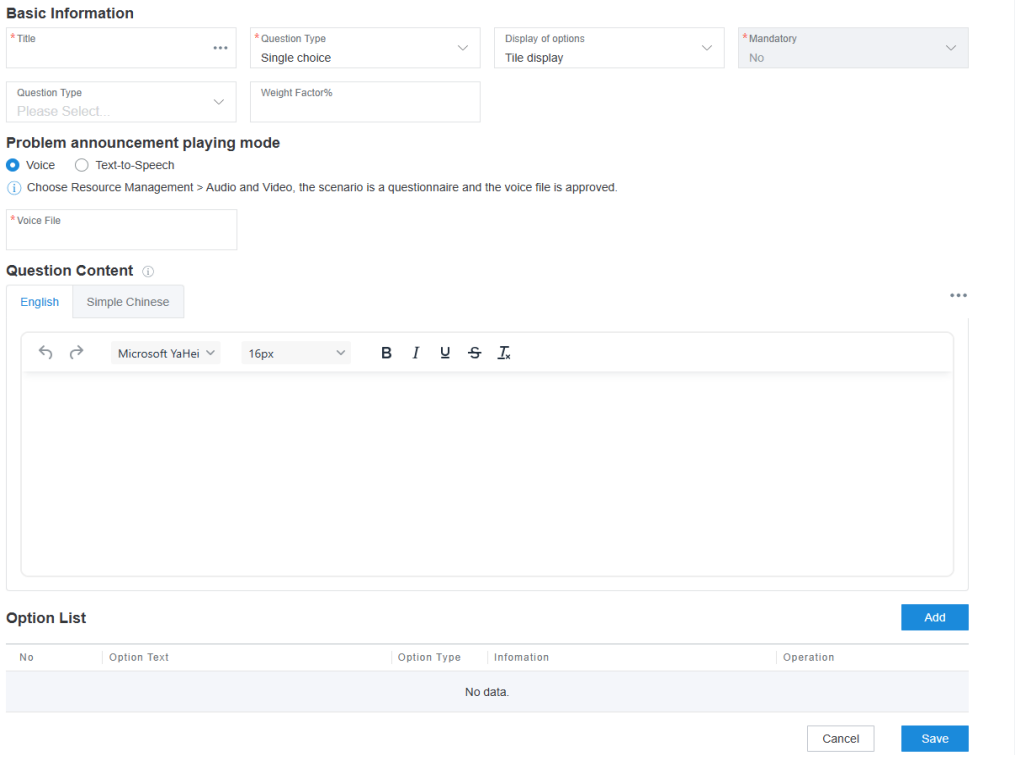


Figure 2-793 Adding a question (single choice type) to an IVR survey



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Figure 2-794 Adding a question (score type) to an IVR survey

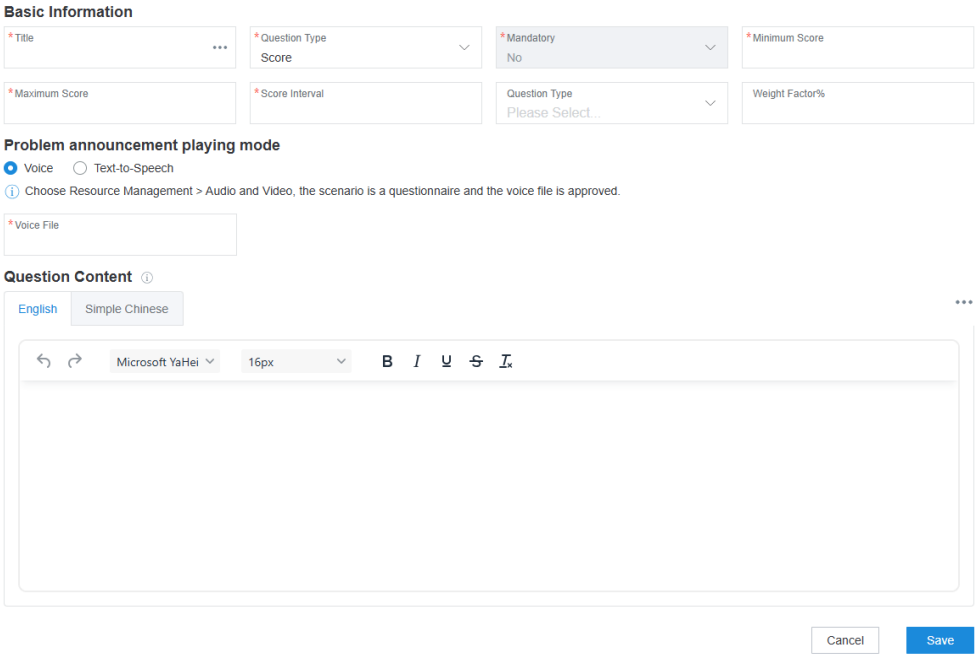


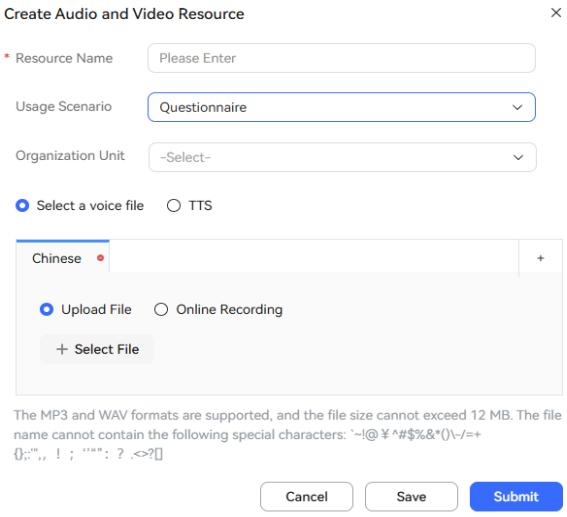
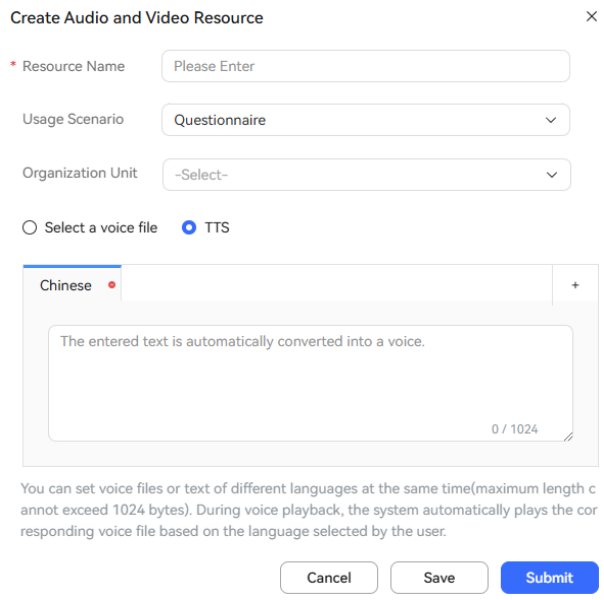
Table 2-228 Survey question configuration

Element	Description
Basic Information	
Title	Question title. Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.
Question Type	Value options: – **Single choice** – **Multiple choices** – **Q&A** – **Score** **NOTE** – Only IVR and manual surveys support questions of the **Score** type. – Only manual surveys support questions of the **Multiple choices** and **Q&A** types. IVR surveys do not support these two types.
Minimum Score	Minimum question score. The value must be 0 or a positive integer. This parameter is displayed when **Question Type** is set to **Score**.

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Element	Description
Maximum Score	Maximum question score. The maximum score must be greater than the minimum score. This parameter is displayed when **Question Type** is set to **Score**.
Score Interval	Question score interval. The value must be 0 or a positive integer. This parameter is displayed when **Question Type** is set to **Score**.
Display of options	Value options: – **Tile display** – **Collapsed display**
Mandatory	Value options: – **Yes** – **No**
Question Type	Value options: – **Business capability** – **Information Quality** – **Customer question** – **Service attitude** – **Service specification execution** – **System question**
Weight Factor%	Question weight.
Problem announcement playing mode	

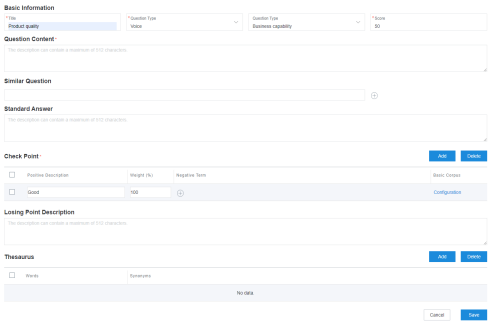
 Copyright © Huawei Technologies Co., Ltd.

Element	Description
Voice File	You can select only an approved voice file whose **Usage Scenario** is **Questionnaire** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. 
TTS	You can select only an approved TTS file whose **Usage Scenario** is **Questionnaire** on the **Configuration Center** > **Resource Management** > **Audio and Video** page. 
Question Content	

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Element	Description
– Survey question content can be configured in different languages. – Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**. – Customized variables can be used in question content, for example, *${staffName}*.	**NOTE** The question content is used for SMS satisfaction surveys of the voice or video channel.

Figure 2-795 Adding a question to an intelligent training survey



3. Click **Add** to add an option list for the question whose **Question Type** is **Single choice** or **Multiple choices**.

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Figure 2-796 Create Option page

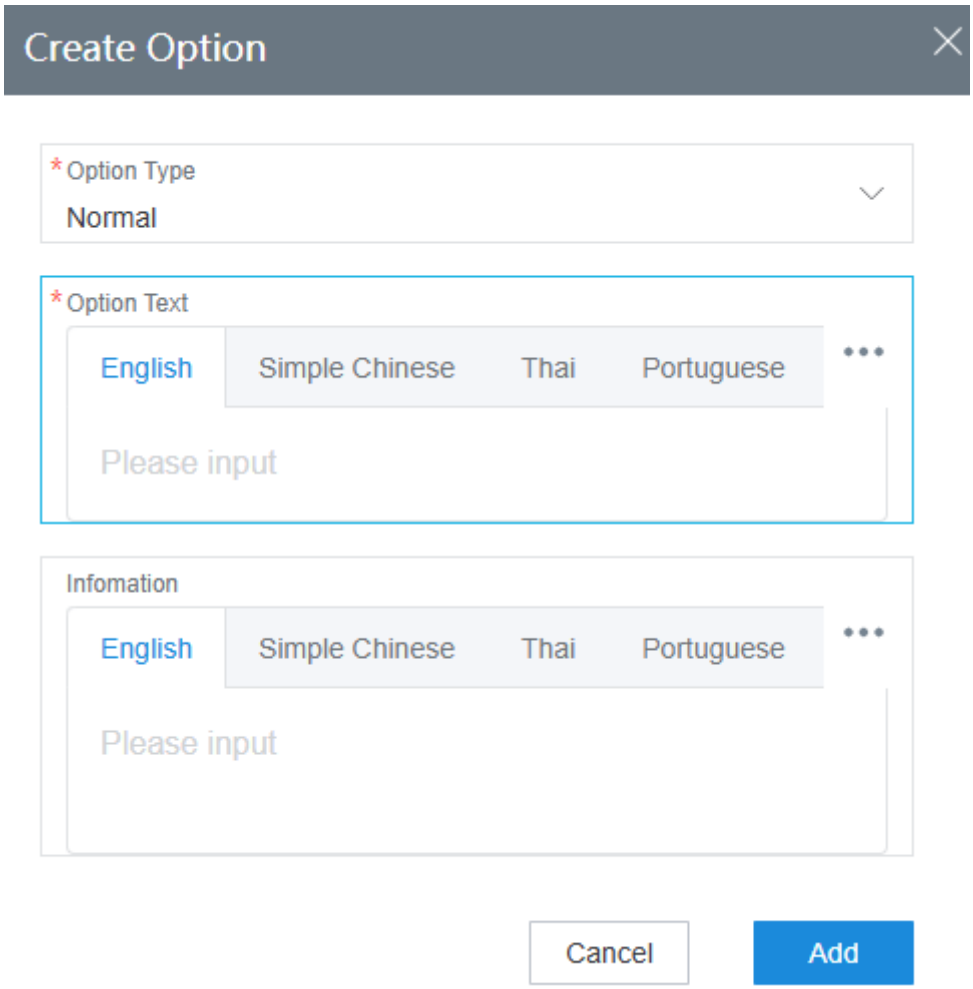


Table 2-229 GUI elements on the Create Option page

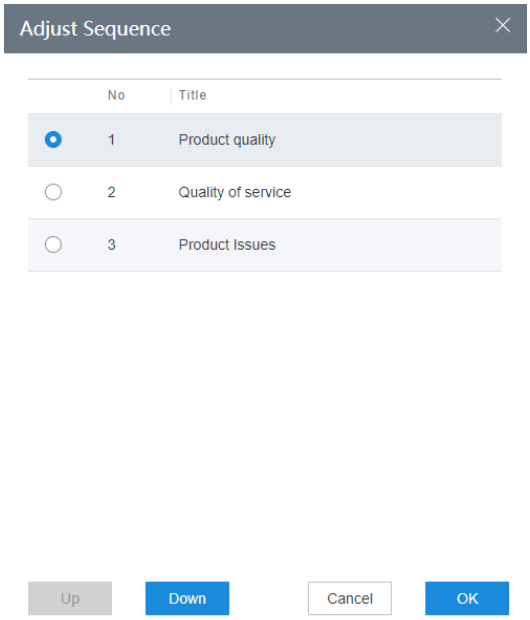
Element	Description	Remarks
Option Type	Question option type. Option: **Normal**	-
Option Text	Question option text.	Option text and information of survey questions can be configured in different languages. Language types are specified by **Languages supported by the questionnaire** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Questionnaire management** > **Common**.
Infomation	Question option information.	

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4. Click **Save**. The question list page is displayed.

Step 5 (Optional) Adjust the sequence of questions in the question list. Click **Adjust Sequence**. In the **Adjust Sequence** dialog box, select the desired question, click **Up** or **Down**, and click **OK**.

Figure 2-797 Adjust Sequence

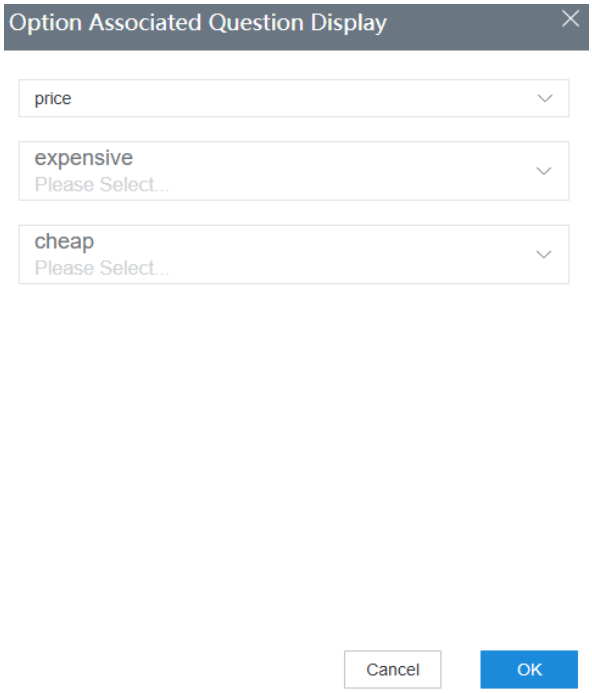


Step 6 (Optional) Click 

on the **Question List** page of a manual survey, and select a question and question options to establish relationships on the **Option Associated Question Display** page. For example, there are two questions: Question 1: Do you think the price of tap water is high? Question 2: What range do you think is reasonable for the price of tap water? If you select **expensive** for question 1, you continue to answer question 2. If you select **cheap** for question 1, you do not need to answer question 2.

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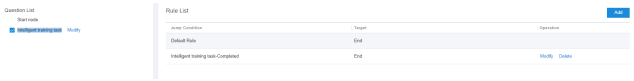
Figure 2-798 Option Associated Question Display page



Step 7 Configure question execution rules.

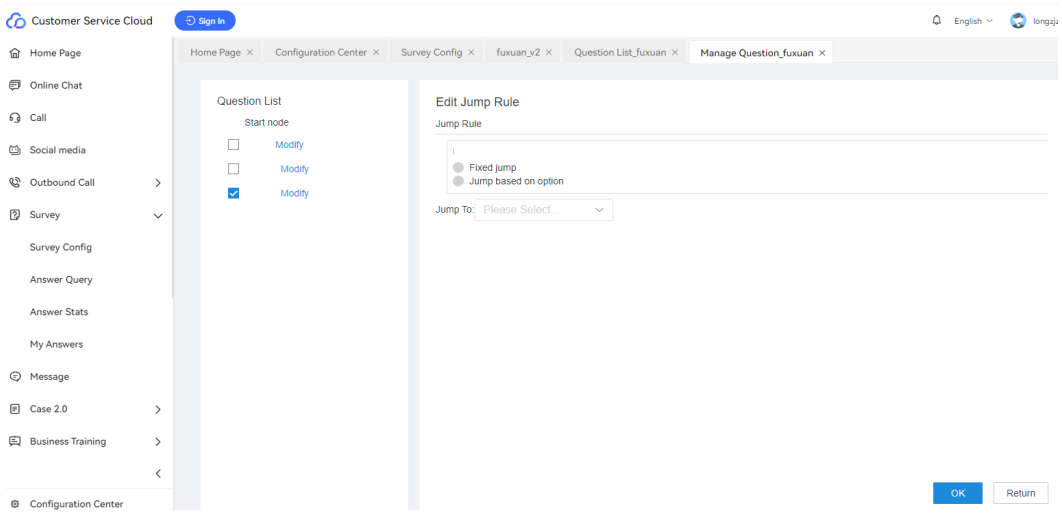
1. Return to the question list page and click **Manage Question**. The **Manage Question** page is displayed.

   Figure 2-799 Manage Question

2. Each question has a default rule. Default rules cannot be modified or deleted. You can click **Add** to customize question execution rules as required. Customized rules cannot be modified or deleted.
3. Set **Question Type** to **Multiple choices** and edit the rule.
   a. Select a question from the question list and set the redirection rule. The default redirection rule is **Jump based on option**.
   b. If **Jump Rule** is set to **Fixed jump**, the system directly jumps to the specified question. If **Jump Rule** is set to **Jump based on option**, the system jumps to the specified question only when the specified option is met.

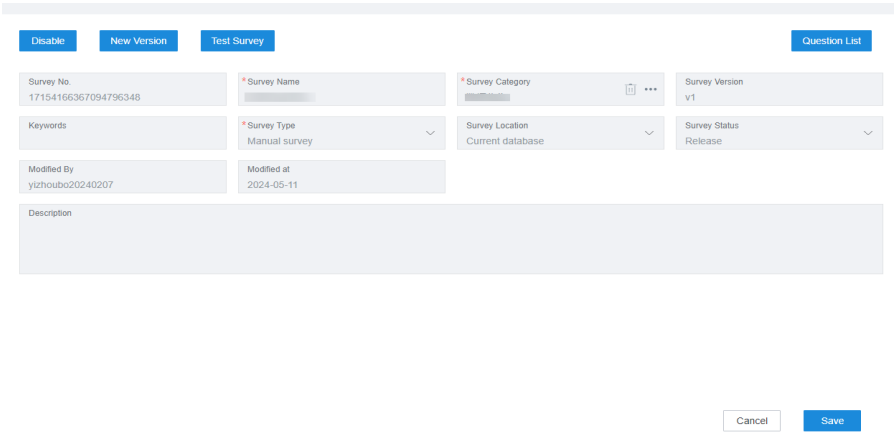
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4. Click **OK**.

Step 8 (Optional) On the survey details page, click **Test Survey** to test the survey before the survey is officially published.

Figure 2-800 Survey details



Step 9 Click **Release** to officially publish the survey.

----End

Follow-up Procedure

You can perform the following operations on a published survey:

- Click **Disable**. The survey of the current version is disabled and cannot be used by other modules.
- Click **New Version** to copy all content of the survey of the current version to create a survey of a new version.

2.14.2 Querying Answers

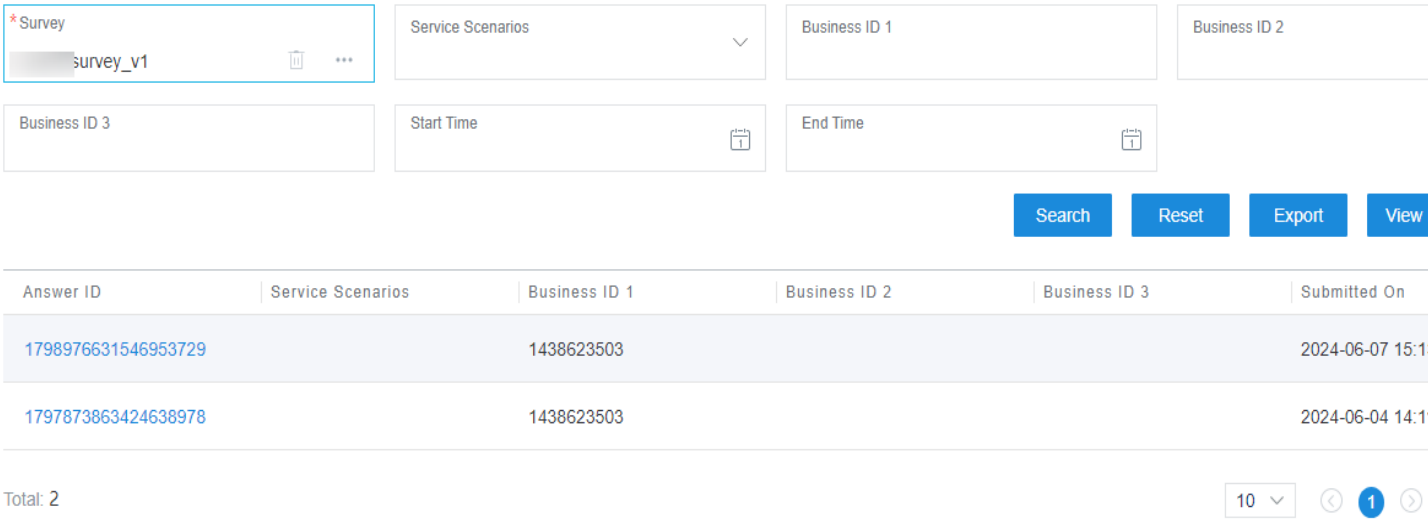
Business scenarios associated with released surveys can be queried.

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Procedure

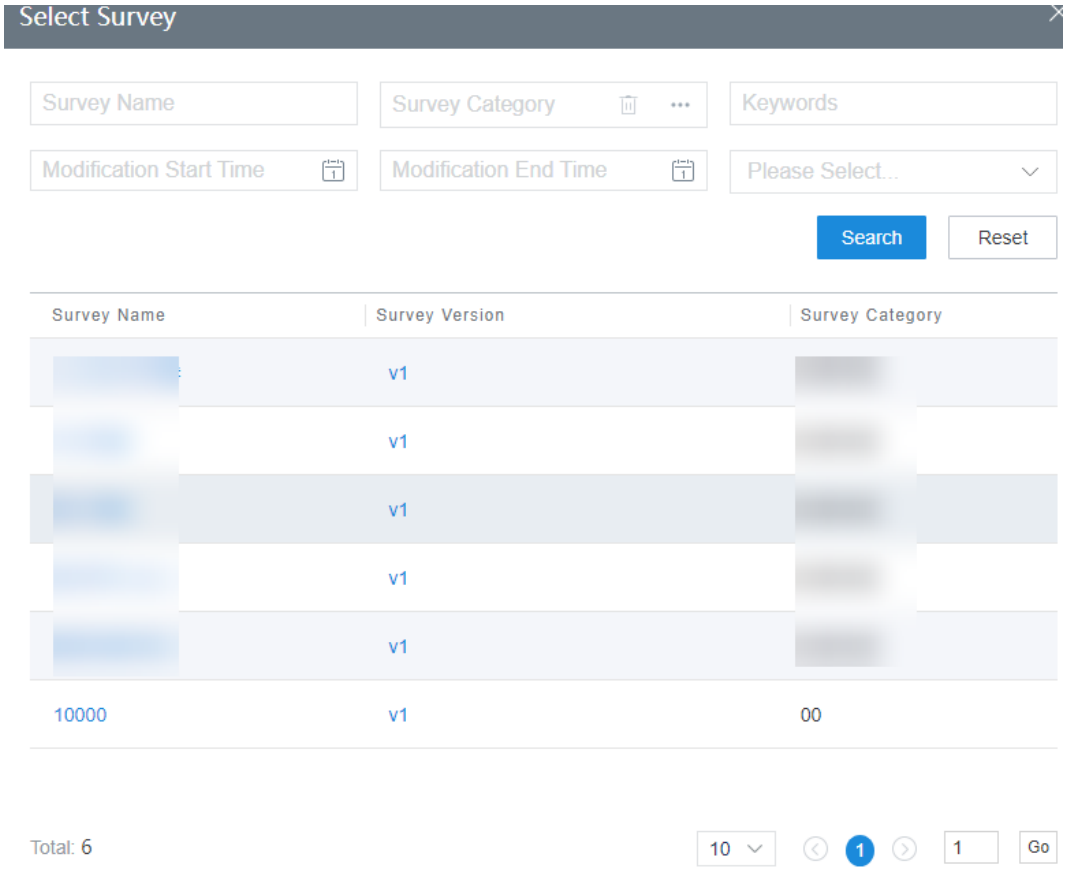
Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Answer Query**.

Figure 2-801 Answer Query



Step 2 Click *** in the **Survey** text box, and select a survey.

Figure 2-802 Select Survey



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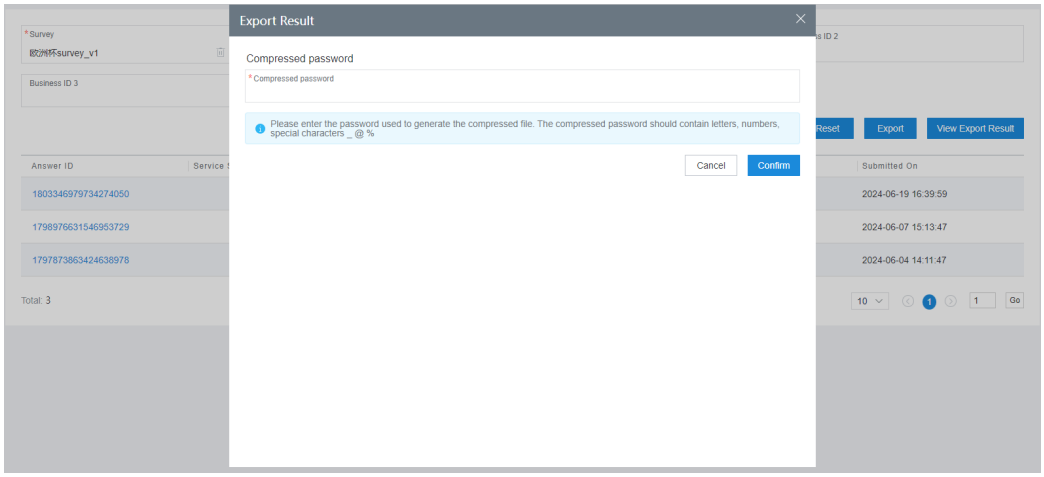
NOTE

Click a survey version to query its details.

Step 3 Click **Search** to search for business scenarios associated with the survey.

Step 4 Click **Export** to export the survey.

Figure 2-803 Export Result



Step 5 Click **View Export Result** to view the survey export result.

Step 6 Click an answer ID to view details about the answer.

----End

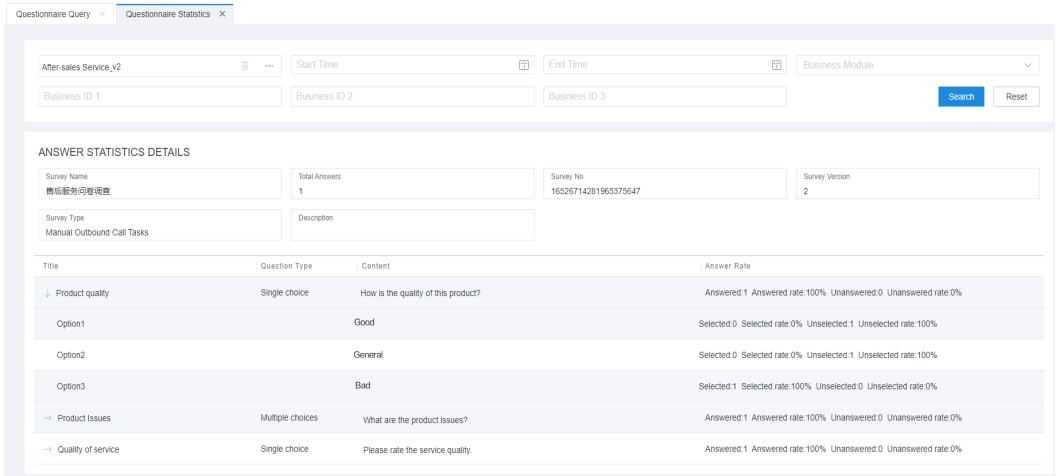
2.14.3 Querying Answer Statistics

Answer statistics details of surveys can be queried. The statistics are displayed by answer rate.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Questionnaire Survey** > **Questionnaire Statistics**.

Figure 2-804 Questionnaire Statistics



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Step 2 Click **Search** to query answer details based on search criteria.

Step 3 Click to query answer details.

----End

2.15 Managing Intelligent Training

Intelligent training tasks can be used to periodically train and test agents through released intelligent IVR flows to check the business skills of the agents.

2.15.1 Managing Training Tasks

A tenant administrator configures intelligent training tasks. Agents can choose to participate in training tasks as required.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

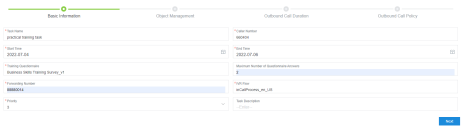
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Business Training** > **Training Task Management**.

Step 2 Click **New**. The **Creating a Training Task** page is displayed.

Step 3 Configure basic information about the training task.

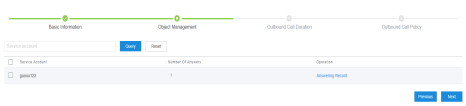
Figure 2-805 Basic Information



- **Maximum Number of Questionnaire Answers**: Enter an integer ranging from 1 to 100. If no value is entered, the number of times for answering the survey is not limited by default.
- **Training Questionnaire**: Select a published intelligent training survey.
- **IVR Flow**: Select a published intelligent IVR flow.

Step 4 Click **Next**. The **Object Management** page is displayed.

Figure 2-806 Object Management

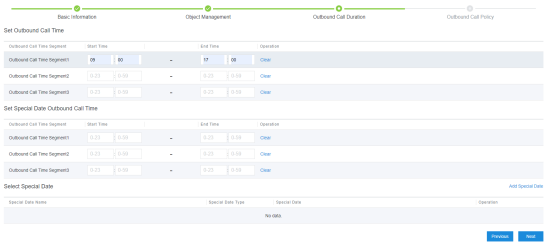


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Click **Add**, and select an agent account to participate in the training task.

Step 5 Click **Next**. The **Outbound Call Duration** page is displayed.

Figure 2-807 Outbound Call Duration

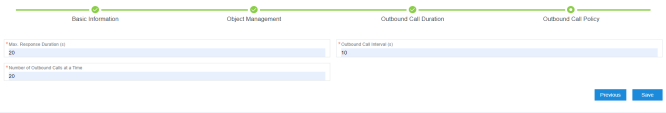


NOTE

An outbound call time segment must be set in the **Set Outbound Call Time** area.

Step 6 Click **Next**. The **Outbound Call Policy** page is displayed.

Figure 2-808 Outbound Call Policy



Step 7 Click **Save**.

Step 8 Return to the **Training Task Management** page, select the configured training task, and click **Start** to start the training task.

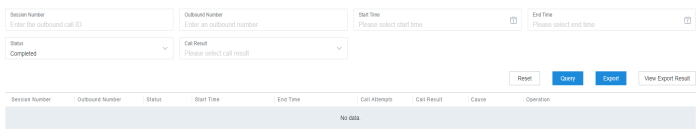
----End

Follow-up Procedure

You can perform the following operations on training tasks:

- Click **Suspend** to stop a training task.
- Click **Edit** to modify all information of a training task.
- Click **Task Result** to view the call result list of a task.

Figure 2-809 Task result



Click **Export** to create a task of exporting training task results. Click **View Export Result** and click **Download** corresponding to the export task whose **Result** is **Successful** to download the training task results to the local PC.

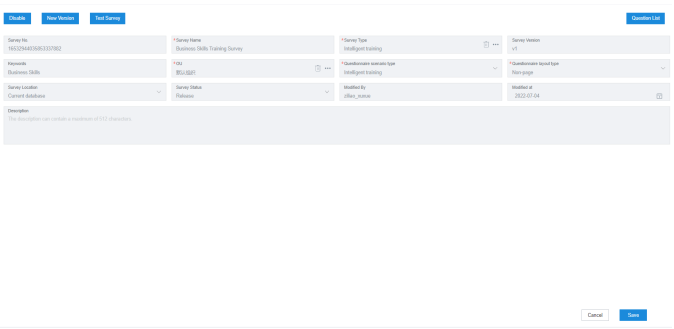
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NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

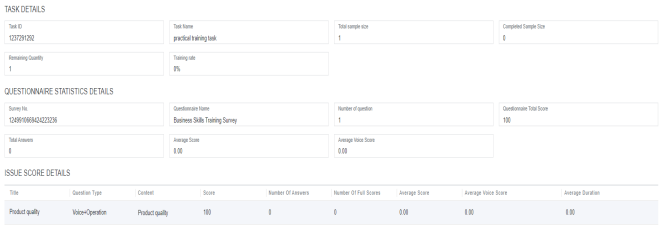
- Click **Associated Questionnaire** to view the survey details.

Figure 2-810 Associated survey



- Click **Result Analysis** to view the answer details.

Figure 2-811 Result analysis



- Click to modify the basic information, task object, task time, and task policy of a training task.

2.16 Configuring the Knowledge Base

This section describes how to configure the knowledge base as a tenant administrator for agents to reference.

2.16.1 Introduction

The knowledge base is a valuable knowledge management tool that helps enterprises, organizations, and individuals better manage and use their knowledge resources to enhance work efficiency, improve decision-making, promote knowledge sharing, improve customer service, and reduce costs.

Related Concepts

- Column: A column is similar to a folder, which is used to store knowledge files. Knowledge compilers can create columns based on the column type, business status, and business effective time, organize columns in a tree structure, and store knowledge in different columns to implement knowledge classification and management.

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- Knowledge: Knowledge is stored in columns. An online editor is provided to edit knowledge content. Common knowledge and Q&A knowledge are supported. Common knowledge can be displayed in texts, charts, audio, and videos. Q&A knowledge can be displayed only in FAQ groups.
- Extended attribute: In addition to the content, knowledge also carries many attribute labels. Different industries and enterprises have different label definitions.
- Consultation table: A consultation table stores business consultation information. When handling businesses, an agent can look up information in a consultation table to answer business questions.

2.16.2 Managing Knowledge in the Background

Knowledge compilers can manage knowledge columns and content in the background and publish knowledge after professional review. Agents can search for and browse knowledge details in the foreground.

2.16.2.1 Configuring Columns

Knowledge compilers organize columns in a tree structure by business dimension to implement knowledge classification and management.

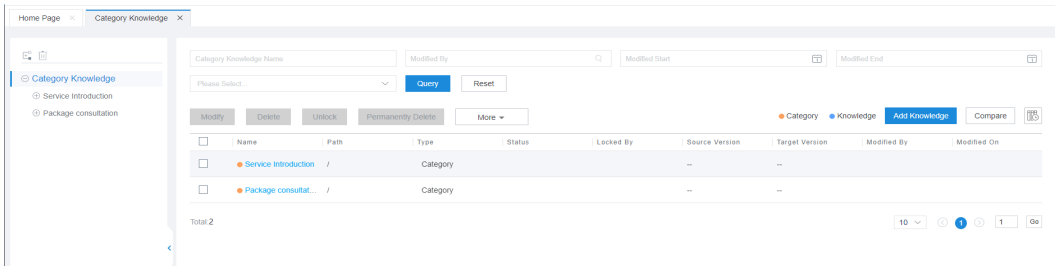
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowledge Column** menu permission.
- Extended attributes can be configured for columns. For details about how to manage extended attributes, see **2.16.2.3 Managing Extended Attributes**.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

Figure 2-812 Category Knowledge



- indicates a column, and indicates a knowledge item.
- You can search for existing column information based on the knowledge column name, modifier, modification start time, modification end time, and column type.
- Historical and valid normal columns are displayed on the left.

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  - For normal columns, column names are displayed.
  - For historical columns, column names are in *Column name***(History)** format.
- Subcolumns and valid knowledge items in the selected column are displayed on the right by default.
  - Click  to display historical subcolumns and expired knowledge items in the selected column.
  - Click  to display normal subcolumns and valid knowledge items in the selected column.

NOTE

The preceding operations are not supported for historical columns.

Step 2 Click  . The page shown in **Figure 2-813** is displayed.

NOTE

Only subcolumns can be added to a root column. Subcolumns or knowledge items can be added to a customized column.

Figure 2-813 Add Category

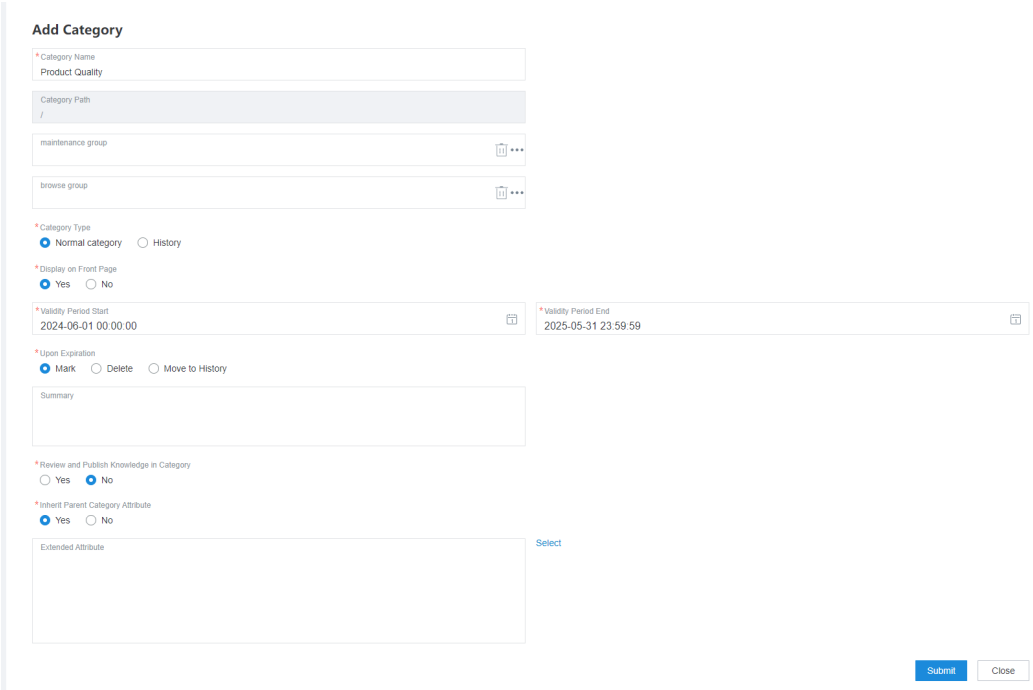


Table 2-230 Parameters on the Add Category page

Element/ Component	Description
Category Name	Mandatory. The value can contain a maximum of 80 characters.
Category Path	Path of a column to be added or modified, which cannot be modified.
maintenance group	Group to which personnel who can maintain the current column belong.
browse group	Group to which the personnel who can browse the current column belong.
Category Type	Mandatory. The options are as follows: • **Normal category**: A column of this type and its knowledge items can be displayed on the knowledge base home page. • **History**: A column of this type and its knowledge items cannot be displayed on the knowledge base home page.
Display on Front Page	Mandatory when **Category Type** is set to **Normal category**. Whether to display a column on the knowledge base home page after the column is published. The options are as follows: • **Yes** • **No**
Validity Period Start/Validity Period End	Mandatory when **Category Type** is set to **Normal category**. The time zone of the validity period must be the same as that of the browser.
Upon Expiration	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: • **Mark**: After a column expires, the column status is changed to **Expired**. **[Expired]** is automatically added to the column name. • **Delete**: Move a column to the recycle bin. (When a column and its subcolumns are deleted, only the parent column is moved to the recycle bin.) • **Move to History**: Move a column to a specified historical column.
Move to History	Mandatory when **Upon Expiration** is set to **Move to History**. Column to which an expired column is moved.
Summary	The value can contain a maximum of 256 characters.

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Element/ Component	Description
Review and Publish Knowledge in Category	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: • **Yes**: Knowledge items in the current column need to be approved before being published. • **No**: Knowledge items in the current column can be directly published without approval.
Inherit Parent Category Attribute	Mandatory when **Category Type** is set to **Normal category**. The options are as follows: • **Yes**: Subcolumns automatically inherit the extended attributes of the parent column. • **No**: Subcolumns do not inherit the extended attributes of the parent column.
Extended Attribute	Label attributes of the current column. Click **Select** and select extended attributes. The options are attributes that have been configured and enabled by referring to **2.16.2.3 Managing Extended Attributes**.

Step 3 Verify that the information is correct and click **Submit**.

Step 4 (Optional) Select a column under a knowledge column and click to delete the column and all its subcolumns and knowledge items.

Step 5 Select the new column, click , and create a subcolumn by referring to **Step 2**.

Step 6 (Optional) Select the new subcolumn on the right.

- Click **Modify** and modify basic column information based on **Table 2-230**. **Category Path** and **Category Type** cannot be modified.
- Click **Delete** to move the column to the recycle bin.
- Click **Unlock** and unlock the locked column.

  If the editing of a column is interrupted due to reasons such as sign-out and the column is not saved, the column will be locked. In this case, the value of **Locked By** is the account of the operator who locks the column.

  NOTE

  Only the operator who has locked the column can unlock it.
- Click **Permanently Delete** to delete the column directly instead of moving it to the recycle bin.

  NOTE

  Before permanently deleting a column, ensure that the column is no longer needed. Deleted data cannot be retrieved.
- Click **More** and choose **Move**. In the dialog box that is displayed, select the target column, click **Submit**, and move the column to the target column.

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- Click **More** and choose **Modify Attribute**. In the **Batch Modify Attributes** dialog box, modify **Display on Front Page**, **Validity Period Start**, and **Validity Period End**.
- Click **More**, choose **Sort**, and click **Up**, **Down**, or **Pin** as required. Alternatively, click **Adjust to**, select the target column, and move the column before or after the target column.

----End

2.16.2.2 Compiling Knowledge

After configuring a knowledge column, a knowledge compiler can configure the information of a knowledge item such as the knowledge type and knowledge content.

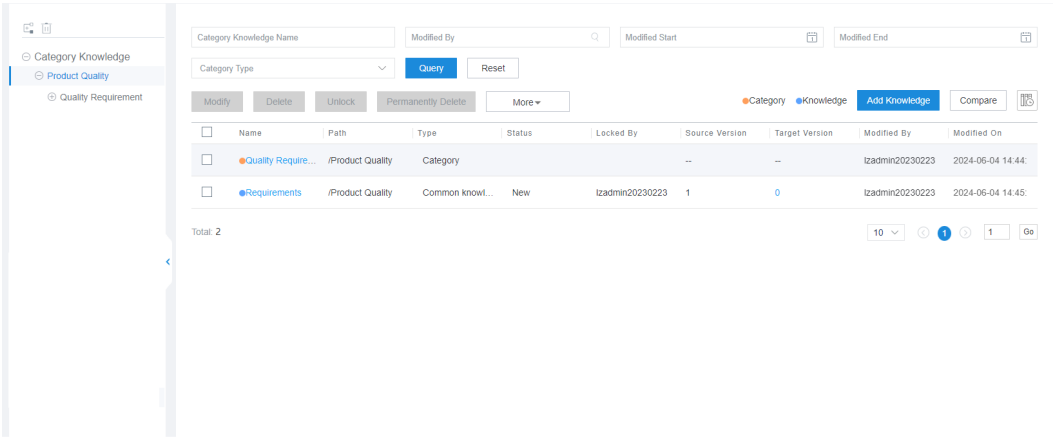
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowledge Column** menu permission.
- A column has been configured under the current tenant.
- Extended attributes can be configured for knowledge items. For details about how to manage extended attributes, see **2.16.2.3 Managing Extended Attributes**.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

Figure 2-814 Knowledge list



- indicates a column, and indicates a knowledge item.
- You can search for existing knowledge information by knowledge column name, modifier, modification start time, modification end time, column type, knowledge type, and knowledge status.

  When **Category Type** is set to **Knowledge**, you can set **Knowledge Type** and **Knowledge Status**.

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- Historical and valid normal columns are displayed on the left.
  - For normal columns, column names are displayed.
  - For historical columns, column names are in *Column name***(History)** format.
- Subcolumns and valid knowledge items in the selected column are displayed on the right by default.
  - Click  to display historical subcolumns and expired knowledge items in the selected column.
  - Click  to display normal subcolumns and valid knowledge items in the selected column.

NOTE

The preceding operations are not supported for historical columns.

Step 2 Select a new column and click **Add Knowledge**.

Step 3 Configure knowledge content.

1. Configure basic knowledge information.

Figure 2-815 Basic Information

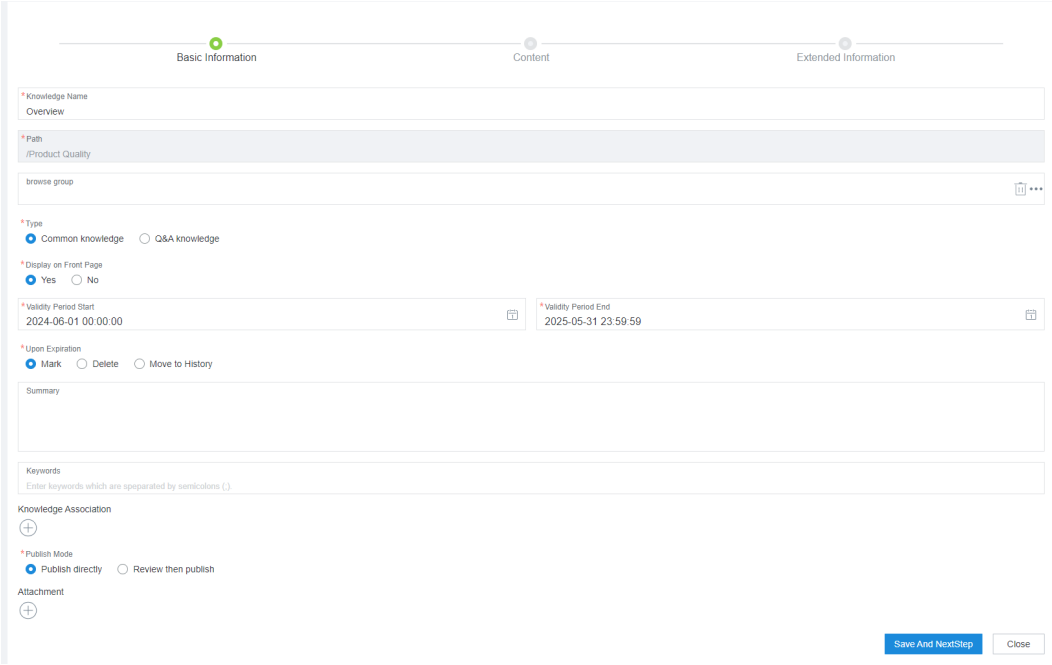


Table 2-231 Parameters on the Basic Information tab page

Parameter	Description
Knowledge Name	Mandatory. The value can contain a maximum of 80 characters.

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Parameter	Description
Path	Path of a knowledge item to be added or modified, which cannot be modified.
browse group	Group to which the personnel who can browse the current knowledge item belong.
Type	Mandatory. The options are as follows: – **Common knowledge**: You can use an editor to edit knowledge content, such as texts, tables, images, audio, and videos, and set their formats. – **Q&A knowledge**: You need to configure at least one question and one answer. A question can have multiple answers.
Display on Front Page	Mandatory. Whether to display a knowledge item on the knowledge base home page after it is published. The options are as follows: – **Yes** – **No**
Validity Period Start/Validity Period End	Mandatory. The time zone of the validity period must be the same as that of the browser.
Upon Expiration	Mandatory. The options are as follows: – **Mark**: After a knowledge item expires, its status is updated to **Expired**, and its name is displayed as *Knowledge name***[expired]**. – **Delete**: Move a knowledge item to the recycle bin. (When a column and its subcolumns are deleted, only the parent column is moved to the recycle bin.) – **Move to History**: Move a knowledge item to a specified historical column.
Move to History	Mandatory when **Upon Expiration** is set to **Move to History**. You can specify the column to which a knowledge item is moved upon expiration.
Summary	The value can contain a maximum of 256 characters.
Keywords	Keywords used to search for knowledge content. Use semicolons (;) to separate multiple keywords.
Knowledge Association	A maximum of 20 published knowledge items can be associated.

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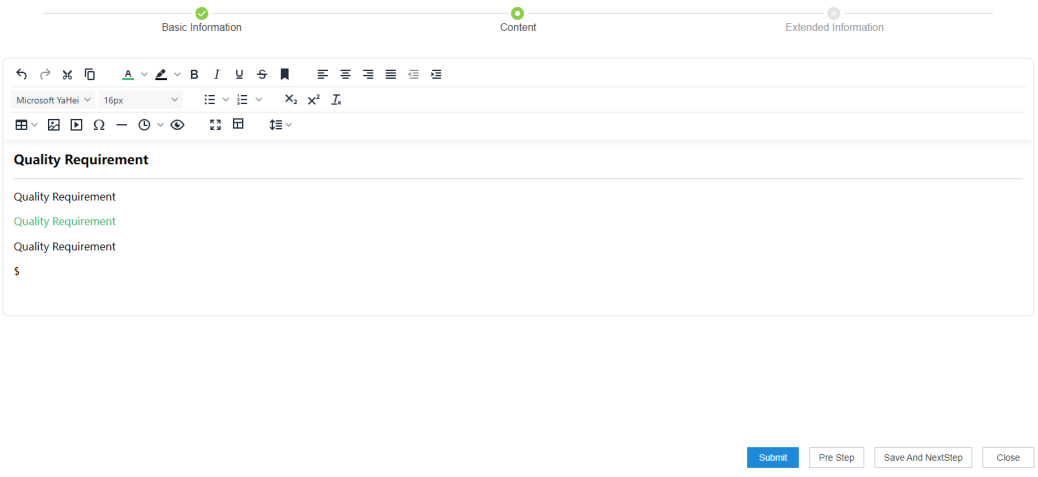
Parameter	Description
Publish Mode	Mandatory. The options are as follows: – **Publish directly**: A knowledge item is directly published to the knowledge base home page without secondary approval. – **Review then publish**: A knowledge item needs to be approved before being published to ensure the accuracy and security of knowledge content.
Reviewed By	Mandatory when **Publish Mode** is set to **Review then publish**.
Attachment	Click  and upload a local file.

2. After confirming that the information is correct, perform the following operations as required:
   - Click **Close** to cancel the knowledge creation.
   - Click **Save and NextStep** and go to the **Content** tab page.
3. Configure knowledge content.
   - Configure common knowledge content.

     When **Type** is set to **Common knowledge**, configure the content based on the following description:

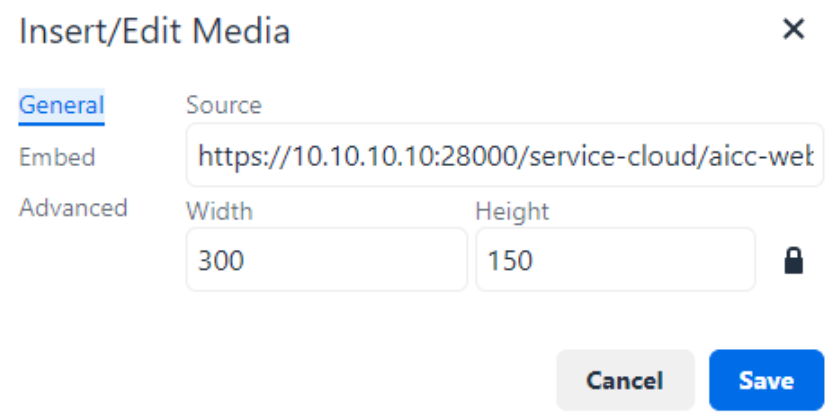
     You can edit common knowledge content, such as texts, tables, images, audio, and videos, and set their formats in an editor.

     Figure 2-816 Common knowledge content

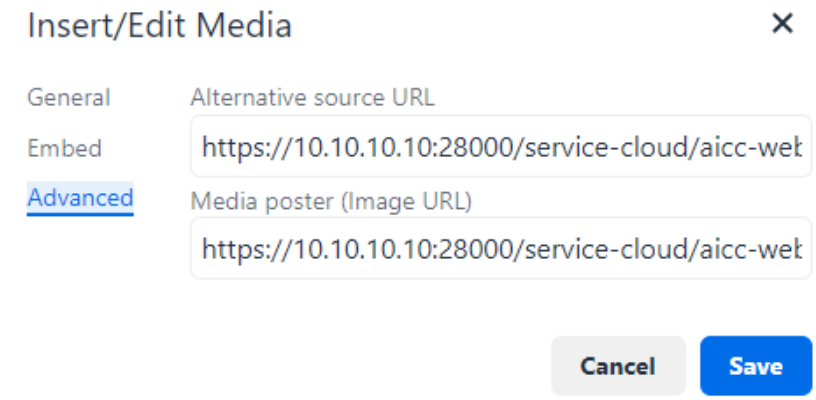
     

     -  : Insert or edit a multimedia file. Local videos cannot be uploaded.
       - **General**: Set the multimedia URL and the width and height. The multimedia URL is the URL of a media resource that can be downloaded.

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- **Embed**: Paste the multimedia embedded code.
- **Advanced**: Set the alternative multimedia URL and media poster (image URL). The alternative multimedia URL is the URL of a media resource that can be downloaded. The media poster is the URL of an image that can be previewed.



- Ω: Insert special characters. The following types of special characters are provided: **Currency**, **Text**, **Quotations**, **Mathematical**, **Extended Latin**, **Symbols**, and **Arrows**.
- : Preview the knowledge display effect during editing.
- : Reference a published **content template**.

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NOTE

- After a content template is used, the content you are editing will be overwritten. Exercise caution when performing this operation.
- After a content template is used, the editing specifications related to the content template are displayed. The **Editing Specifications** dialog box can be moved and collapsed, but cannot be closed.

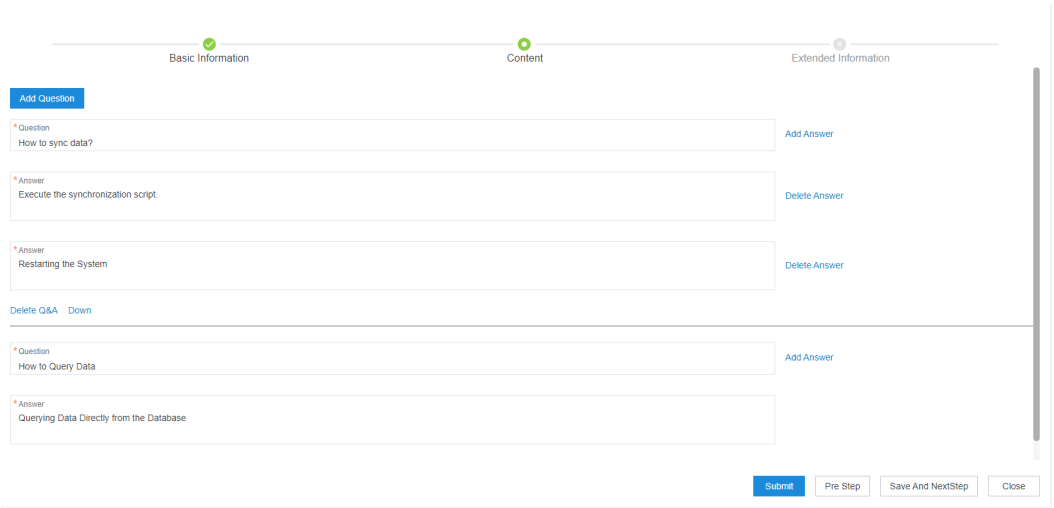


– Configure Q&A knowledge content.

When **Type** is set to **Q&A knowledge**, configure the content based on the following description:

A Q&A knowledge item is displayed in the form of one question and one answer. Only the text format is supported. A question can have one or more answers, and a Q&A knowledge item can have one or more FAQ groups.

Figure 2-817 Q&A knowledge content



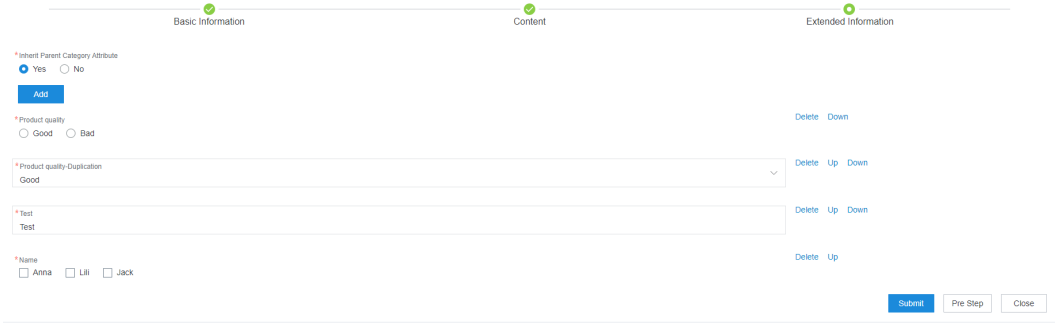
- **Add Question**: Add FAQ groups.
- **Delete Q&A**: Delete an unnecessary FAQ group if there are multiple FAQ groups. There must be at least one FAQ group.
- **Up**/**Down**: Sort FAQ groups.

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- **Question** (mandatory): The value can contain a maximum of 500 characters.
- **Answer** (mandatory): The value can contain a maximum of 500 characters.
- **Add Answer**/**Delete Answer**: A question can have multiple answers and must have at least one answer.

4. After confirming that the information is correct, perform the following operations as required:
   - Click **Submit**. The knowledge item is compiled successfully, and the knowledge status becomes **Published**.
   - Click **Pre Step** to return to the **Basic Information** tab page.
   - Click **Save And NextStep** to go to the **Extended Information** tab page.
   - Click **Close** to save the current knowledge content. The knowledge status becomes **New**.
5. Configure extended knowledge information.

   Figure 2-818 Extended Information

   - **Inherit Parent Category Attribute** (mandatory): Determine whether to inherit the extended attributes of the parent column.
   - **Add**: Click this button and select a configured extended attribute. For details about extended attributes, see **2.16.2.3 Managing Extended Attributes**.

     You can perform the following operations on configured extended attributes:
     - Click **Delete** to delete unnecessary an extended attribute.
     - Click **Up** or **Down** to determine the display position of an attribute.
6. After confirming that the information is correct, perform the following operations as required:
   - Click **Close** to save the current knowledge content. The knowledge status becomes **New**.
   - Click **Submit**. The knowledge item is compiled successfully, and the knowledge status becomes **Published**.

Step 4 (Optional) Select the new knowledge item.

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- Click **Modify** and modify basic knowledge information by referring to **Table 2-231**. **Path** and **Type** cannot be modified.
- Click **Delete** to move the knowledge item to the recycle bin.
- Click **Unlock** and unlock the locked knowledge item.

  If a knowledge item is edited and submitted again, or the editing is interrupted due to reasons such as sign-out and the knowledge item is not saved, the knowledge item is locked. In this case, the value of **Locked By** is the account of the operator who locks the knowledge item.

  NOTE

  Only the operator who has locked the knowledge item can unlock it.
- Click **Permanently Delete** to delete the knowledge item directly instead of moving it to the recycle bin.

  NOTE

  Before permanently deleting the knowledge item, ensure that it is no longer needed. Deleted data cannot be retrieved.
- Click **More** and choose **Move**. In the dialog box that is displayed, select the target column and click **Submit** to move the knowledge item to the column.
- Click **More** and choose **Publish** to publish the new knowledge item. You can publish knowledge items in batches.
- Click **More** and choose **Copy**. On the **Knowledge Compilation** page, configure knowledge content by referring to **Step 3**.
- Click **More** and choose **Modify Attribute**. In the **Batch Modify Attributes** dialog box, modify **Display on Front Page**, **Validity Period Start**, and **Validity Period End**.
- Click **More**, choose **Sort**, and click **Up**, **Down**, or **Pin** as required. Alternatively, click **Adjust to**, select the target knowledge item, and move the knowledge item before or after the target knowledge item.

Step 5 (Optional) Compare knowledge items. You can compare only two common knowledge items.

To compare knowledge items, use either of the following methods:

- Select two common knowledge items and click 

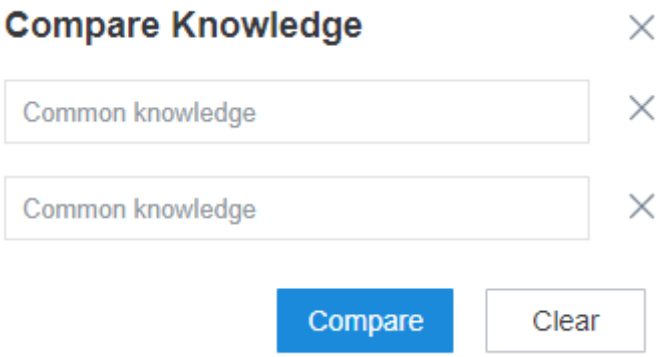
.
- Click 

. On the knowledge selection page, add common knowledge items to the comparison list and click 

.

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Figure 2-819 Selecting knowledge items for comparison



----End

2.16.2.3 Managing Extended Attributes

Labels can be added to knowledge items using extended attributes so that users can quickly locate them.

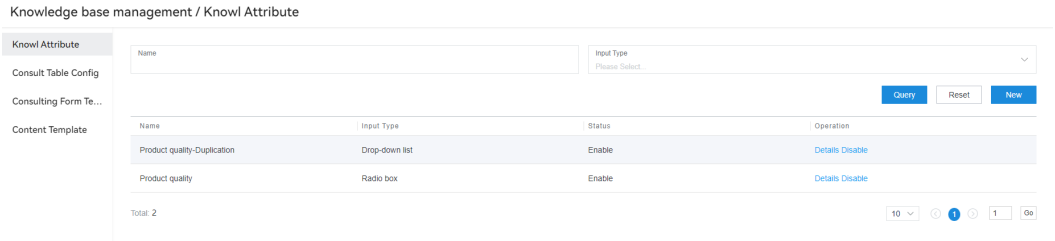
Prerequisites

The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Knowl Attribute** menu permission.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Configuration Center** > **Knowledge base management** > **Knowl Attribute**.

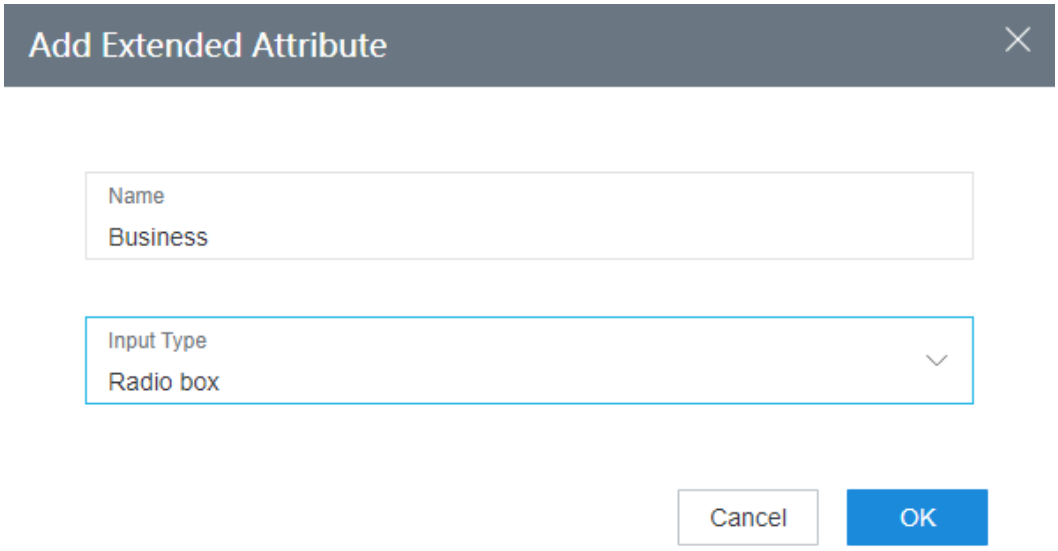
Figure 2-820 Knowl Attribute



Step 2 Click **New**.

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Figure 2-821 Add Extended Attribute



- **Name** (mandatory): The value can contain a maximum of 50 characters.
- **Input Type** (mandatory): Select **Text input**, **Drop-down list**, **Radio box**, or **Check box**.

  NOTE

  The input mode of an extended attribute cannot be modified and updated after being saved.

Step 3 Click **OK**.

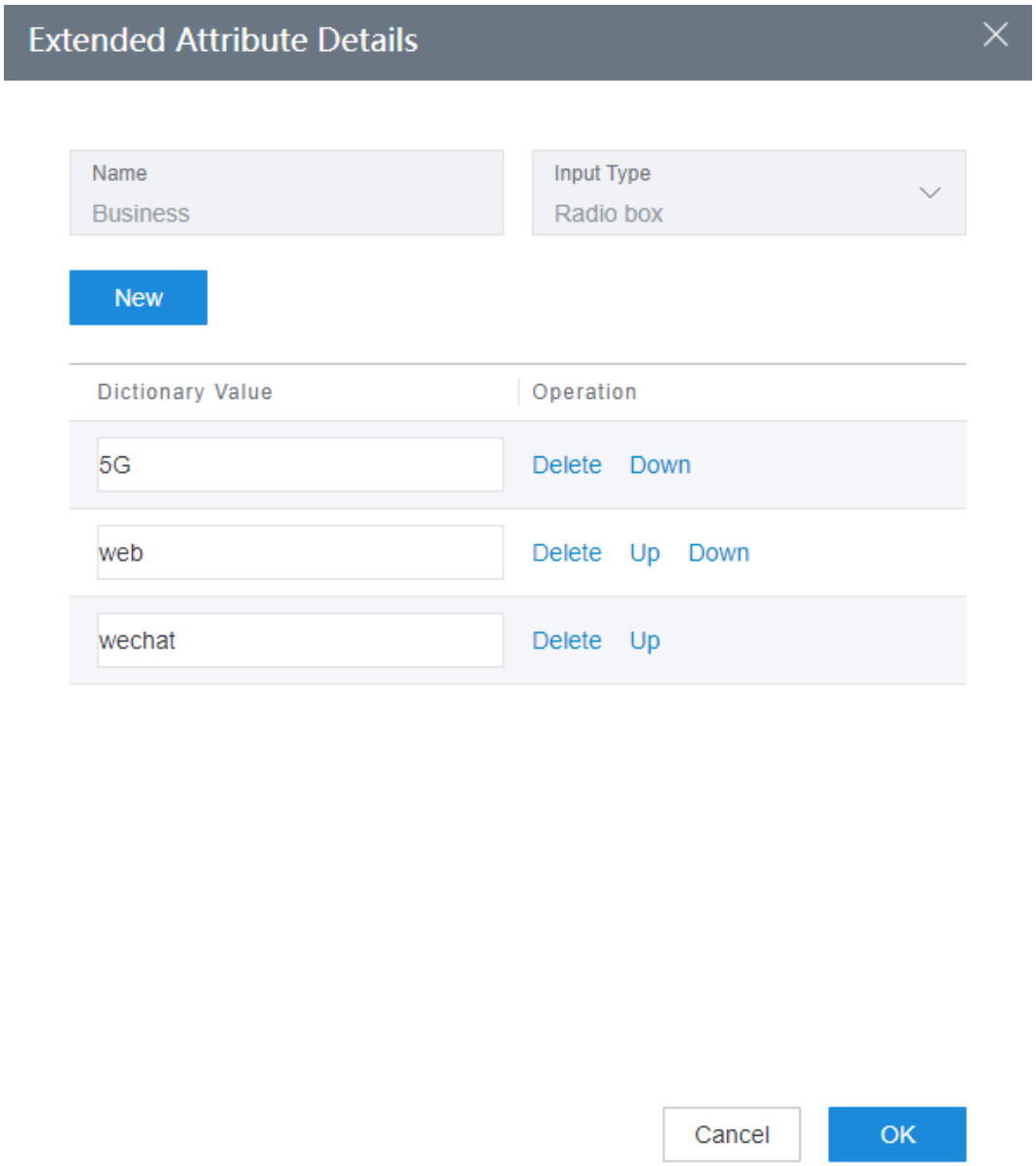
Step 4 Configure extended attribute details.

When **Input Type** is set to **Drop-down list**, **Radio box**, or **Check box**, dictionary values can be configured for the extended attribute.

1. Click **Details** in the **Operation** column corresponding to the new extended attribute.

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Figure 2-822 Extended Attribute Details



2. Click **New** and add attribute dictionary values as required. The extended attribute must have at least one dictionary value.
3. Set **Dictionary Value**, which is mandatory. The value can contain a maximum of 100 characters.
4. (Optional) Click **Delete** to delete an unnecessary dictionary value. Click **Up** or **Down** to sort dictionary values.
5. After the configuration is complete, click **OK**.

Step 5 Click **Enable** corresponding to the configured extended attribute. The extended attribute status becomes **Enable**.

Extended attributes in the **Enable** state can be referenced by columns and knowledge items.

Step 6 (Optional) Perform other operations.

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- By default, a new extended attribute is in the **Draft** state. Click **Edit** and modify the basic information about the extended attribute. Click **Delete** to delete the extended attribute.
- Click **Disable** corresponding to an enabled extended attribute. The extended attribute status becomes **Disable**. In this case, the extended attribute cannot be referenced by columns or knowledge items.

  Enabled extended attributes cannot be modified. You can only view their details.
- Click **Enable** corresponding to a disabled extended attribute. The extended attribute status becomes **Enable**.

----End

2.16.2.4 Reviewing Knowledge

To ensure the correctness of knowledge content, knowledge items need to be reviewed by reviewers before being published or updated.

Prerequisites

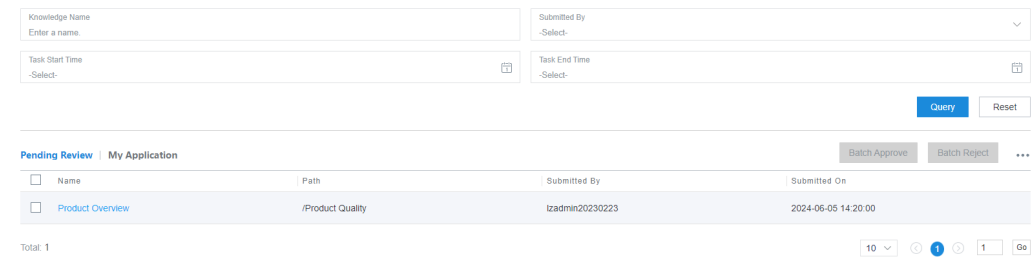
- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Review** > **Knowledge Review** menu permission.
- The current user has tasks to be reviewed.

Procedure

Step 1 Sign in to the AICC as a reviewer and choose **Knowledge Base** > **Knowledge Review**.

By default, all knowledge items to be reviewed are displayed. You can set search criteria, such as **Knowledge Name**, **Submitted By**, **Task Start Time**, and **Task End Time**, to search for knowledge items. You can also directly select a knowledge item for review.

Figure 2-823 Reviewing knowledge items



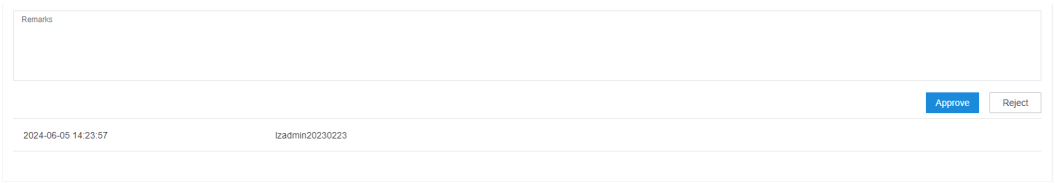
Step 2 Click the **Pending Review** tab and view the list of knowledge items to be reviewed.

Step 3 Click the name of a knowledge item.

Review the knowledge details, enter review remarks at the bottom of the page, click **Approve** or **Reject**, and then confirm the review result.

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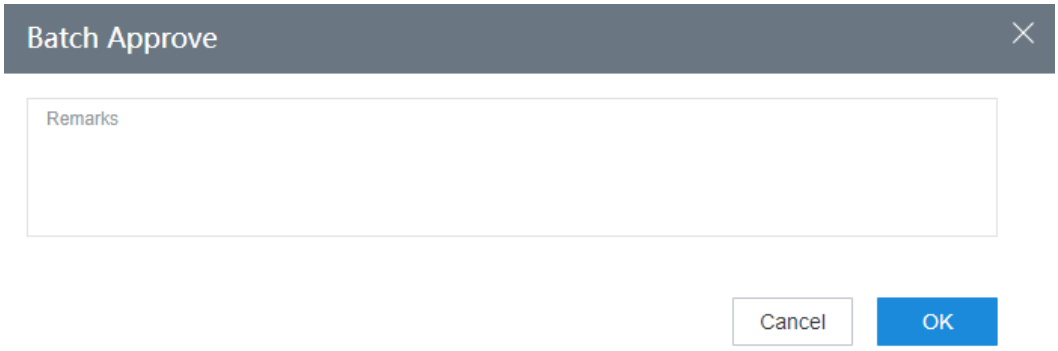
Figure 2-824 Reviewing a knowledge item



Step 4 (Optional) Select multiple knowledge items and click **Batch Approve** or **Batch Reject**.

In the dialog box that is displayed, enter the review remarks and click **OK**. A maximum of 100 records can be selected for batch operation.

Figure 2-825 Batch Approve



Step 5 (Optional) Click the **My Application** tab and view the list of knowledge items submitted by the current account for review.

- Search for knowledge item information by knowledge item name, submitter, task start time, task end time, and review status.
- Click the name of a knowledge item to view its knowledge details submitted by the current account.

----End

Follow-up Procedure

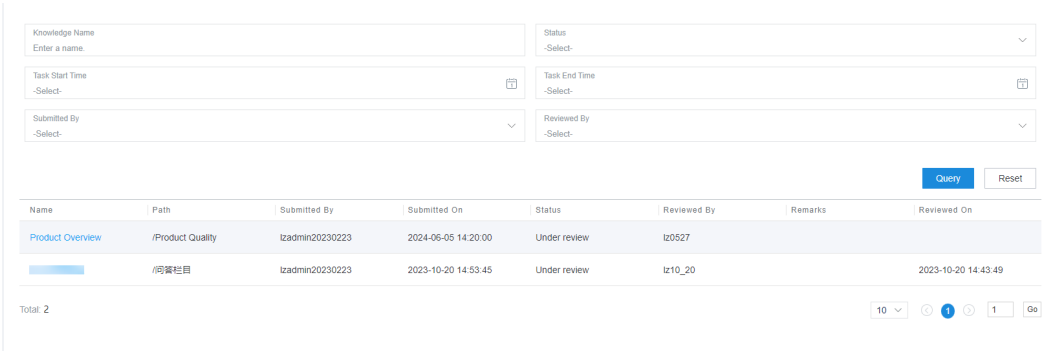
Step 1 Choose **Knowledge Base** > **Review Record** and view knowledge review records.

NOTE

To use the knowledge review record query function, you must have the **Knowledge Base** > **Knowledge Review** > **Review Record** menu permission.

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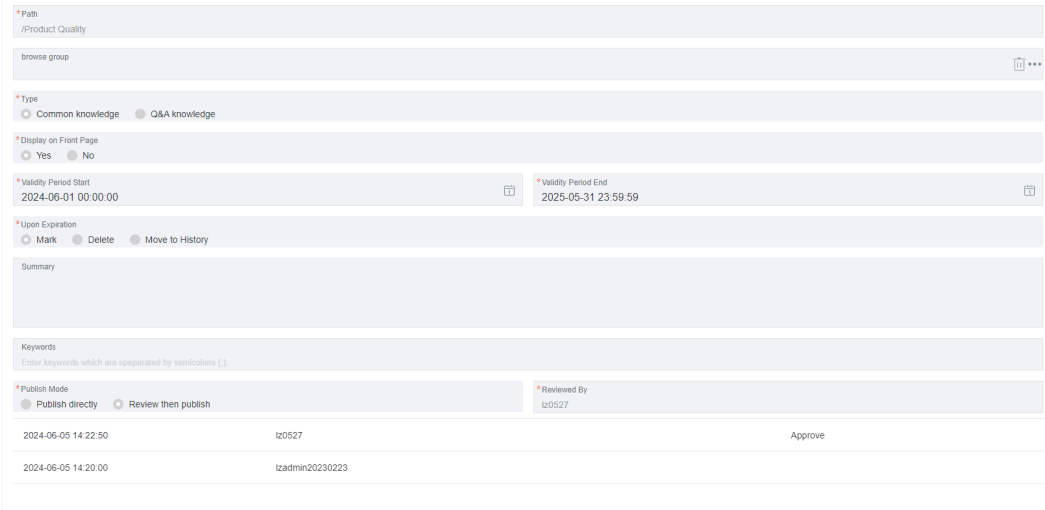
Figure 2-826 Review Record



You can search for data by knowledge item name, review status, task start time, task end time, submitter, and reviewer.

Step 2 Click the name of a review record and view the knowledge details and review process.

Figure 2-827 Review details



----End

2.16.2.5 Managing the Recycle Bin

The CC-iKBS provides the recycle bin function. When deleting columns and knowledge items, you can move them to the recycle bin to prevent data loss caused by misoperations.

Prerequisites

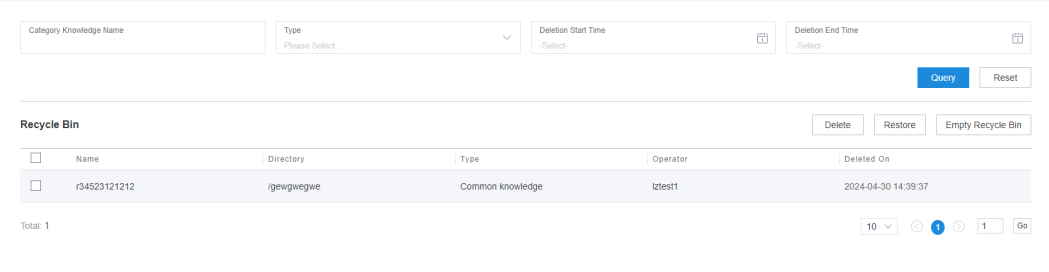
- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Management** > **Recycle Bin** menu permission.
- **Delete** has been clicked to delete a column or knowledge item. If you click **Delete permanently**, the deleted column or knowledge item is not moved to the recycle bin.

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Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Recycle Bin**.

Figure 2-828 Recycle Bin



You can search for deleted columns and knowledge items by knowledge column name, knowledge column type, deletion start time, and deletion end time.

Step 2 Select multiple columns or knowledge items and click **Restore** to restore them to the column management page.

Step 3 Select multiple columns or knowledge items and click **Delete** to delete them permanently.

Step 4 Click **Empty Recycle Bin** to clear all deleted columns and knowledge items by one click.

NOTE

After columns and knowledge items are deleted or the recycle bin is cleared, the columns and knowledge data will be deleted permanently. Exercise caution when performing these operations.

----End

2.16.2.6 Managing Knowledge Versions

Historical knowledge versions are used to identify knowledge maintenance records. Knowledge compilers can manage and maintain historical knowledge versions based on the versions recorded in the system.

Procedure

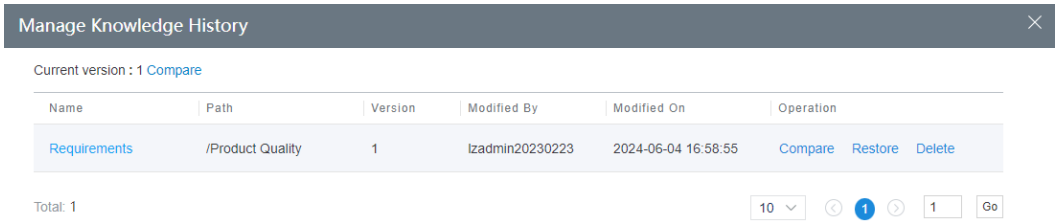
Step 1 Sign in to the AICC as a knowledge compiler and choose **Knowledge Base** > **Knowledge Column**.

- The historical version function is not supported for columns.
- Click a value in the **Source Version** column to view the latest version of a knowledge item. **Target Version** displays the number of historical versions of a knowledge item.

Step 2 Click a value in the **Target Version** column corresponding to a published knowledge item.

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Figure 2-829 Manage Knowledge History



Step 3 (Optional) Click a historical knowledge version name to view its details.

Step 4 Click **Restore** corresponding to a historical knowledge version. The page for configuring a new knowledge version is displayed, and the current knowledge item is automatically changed to a historical version.

Step 5 (Optional) Perform the following operations on historical knowledge versions:

- Click **Delete** corresponding to a historical knowledge version to delete it.
- Select different knowledge versions and click **Compare** to compare them.

----End

2.16.2.7 Managing Content Templates

You can use a content template when configuring common knowledge content in the editor to quickly reference the content configured in the template, facilitating knowledge compilation.

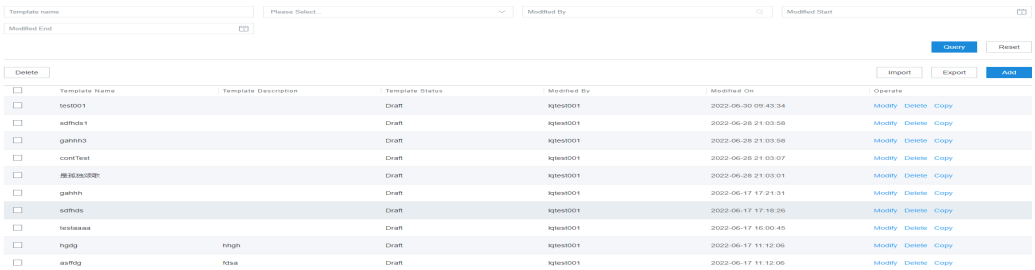
Prerequisites

The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Template management** > **Content template** menu permission.

Procedure

Step 1 Sign in to the AICC as a knowledge compiler and choose **Configuration Center** > **Knowledge base management** > **Content Template**.

Figure 2-830 Content template management



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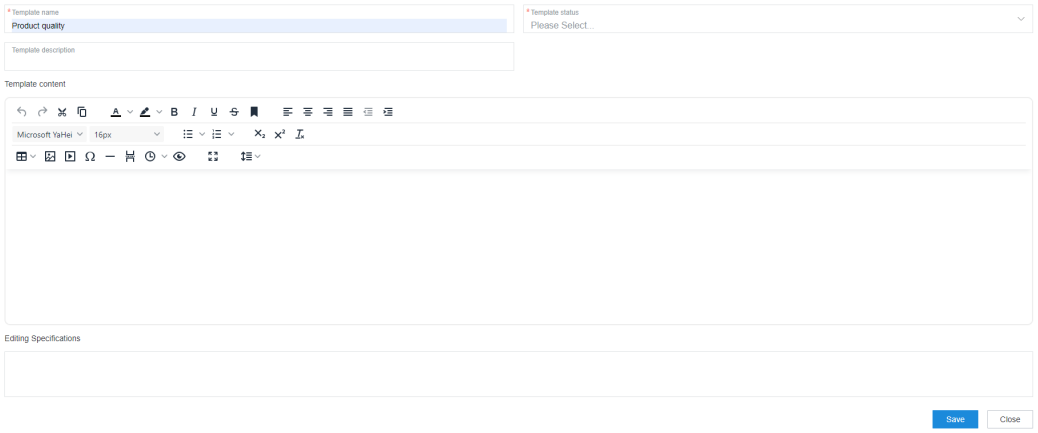
You can search for content template data based on the template name, template status, modifier, modification start time, and modification end time.

Step 2 Add a content template.

Use one of the following methods as required:

- Add a template at a time.
  a. Click **Add**. On the page that is displayed, configure template information.

  Figure 2-831 Adding a content template

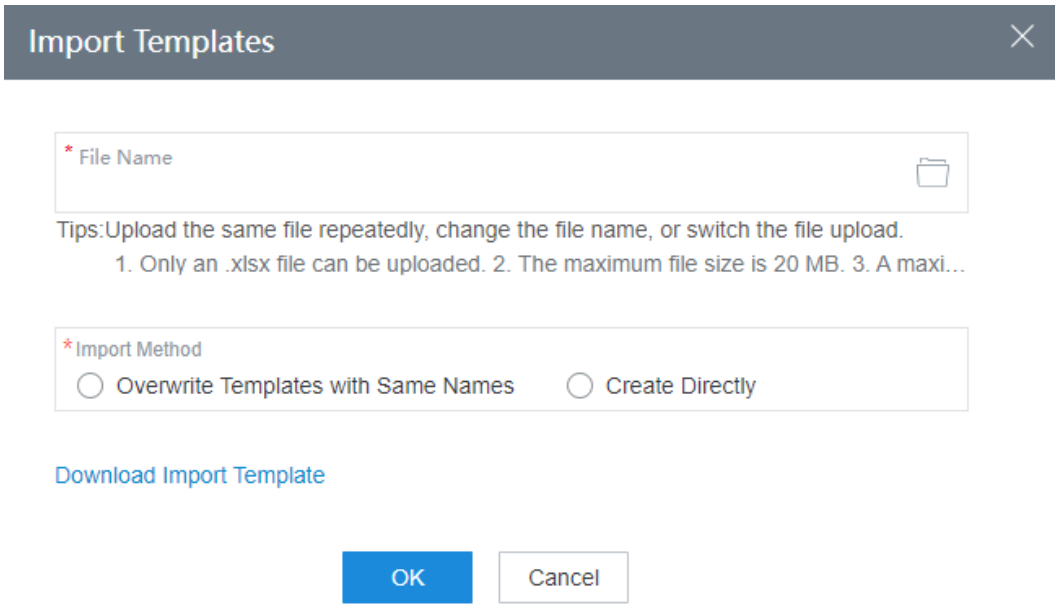
  

  - **Template name** (mandatory): Enter a value of no more than 80 characters.
  - **Template status** (mandatory): Select **Draft** or **Valid**.
  - **Template description**: Enter a value of no more than 400 characters.
  - **Template content**: Configure the common knowledge content by referring to **2.2-1 Configure common knowledge content**.
  - **Editing Specifications**: Specify the editing requirements for referencing the common knowledge content template.

  b. Click **Save**.
- Import templates in batches.
  a. Click **Import**.

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Figure 2-832 Import Templates



b. Click **Download Import Template** to download the import template to the local PC.

c. Edit the file content and then save the file.

d. Click to upload the template file.

e. Set **Import Method**. If you select **Overwrite Templates with Same Names**, the uploaded content template overwrites an existing content template with the same name. If you select **Create Directly**, the uploaded content template is directly created without overwriting an existing content template with the same name.

f. Click **OK**.

Step 3 (Optional) Perform the following operations on content templates:

- Select multiple content templates and click **Delete** to delete them in batches.
- Select multiple content templates and click **Export** to export them to the local PC.
- Click **Modify** corresponding to a content template to modify the template content. **Template status** can be set to **Invalid**.
- Click **Delete** corresponding to a content template to deleted it.
- Click **Copy** corresponding to a content template. The content template configuration page is displayed for you to add a content template with the same content. The name of the new template is ***-copy**, and its status is **Draft**. For details about how to configure a template copy, see **2.7-2 Add a content template**.

----End

Follow-up Procedure

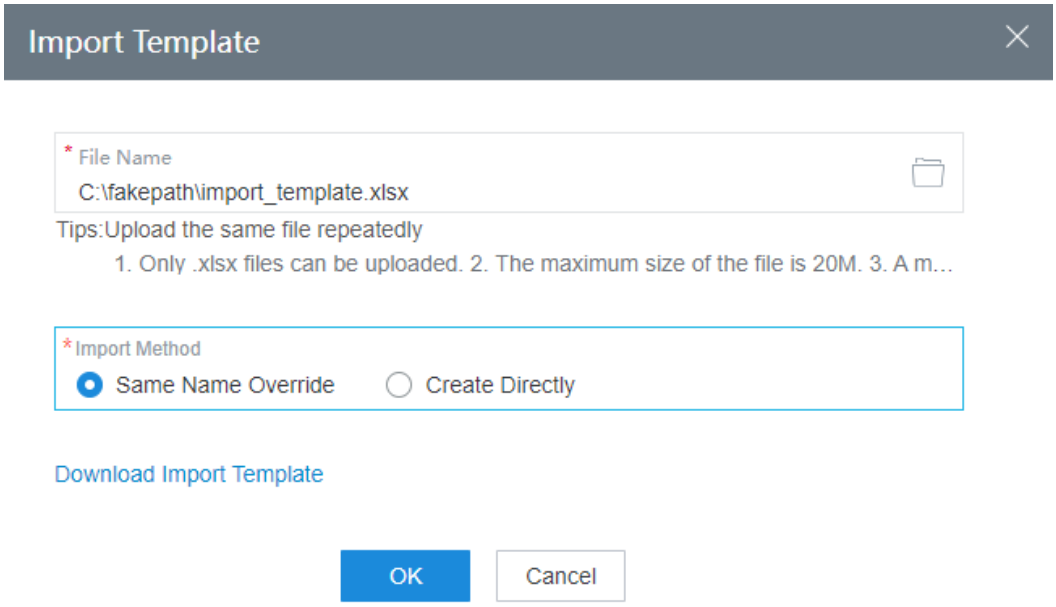
Content templates can be imported and exported. A maximum of 10 templates can be imported and exported at a time.

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Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Content Template**.

Step 2 Click **Import**.

Figure 2-833 Import Template



Step 3 Select the template data file, and then click **OK** to upload the file.

NOTE

Before the import, you can download the import template, edit it in the specified format, and then upload it.

----End

2.16.3 Managing Knowledge in the Foreground

The knowledge base allows agents to search for and browse knowledge based on business requirements, improving agent service efficiency.

2.16.3.1 Knowledge Base Home Page

The knowledge base home page is provided for agents to search for knowledge by keyword.

Prerequisites

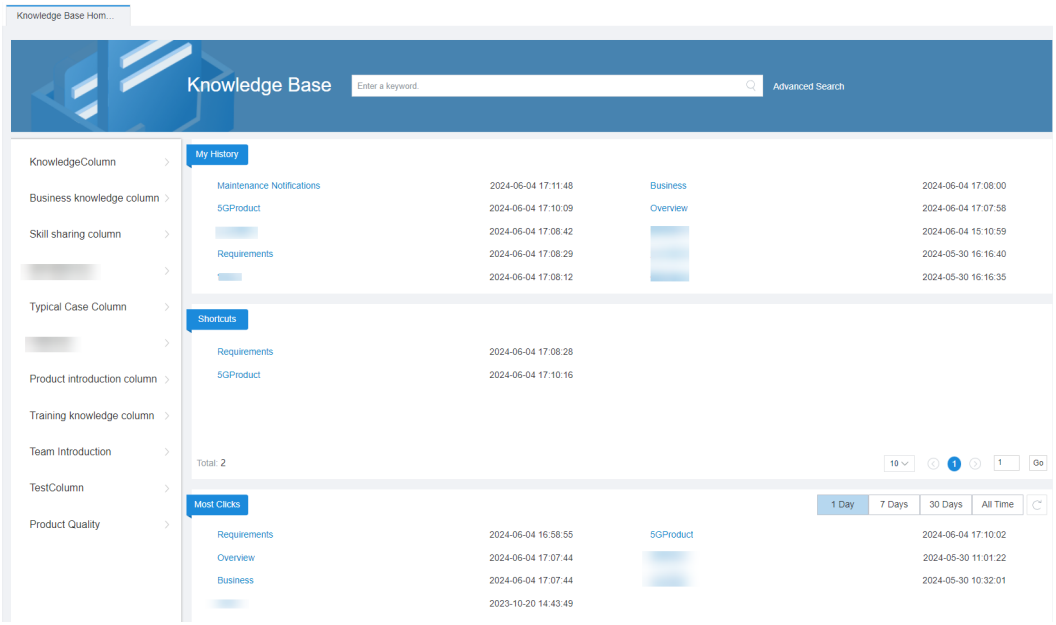
The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Application** > **Knowledge Home** menu permission.

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Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Knowledge Home**.

Figure 2-834 Knowledge Home



- **My History**: displays all knowledge items viewed by the current account in descending order of the time on the right of the items, which indicates the time when they were viewed.
- **Shortcuts**: displays all favorite knowledge items of the current account in ascending order of the time on the right of the items, which indicates the time when they were added to favorites.
- **Most Clicks**: displays all knowledge items that have been clicked in descending order of the number of views and the last update time on the right of each item.

  You can view the number of views on the knowledge details page.

Step 2 Search for knowledge items.

Use either of the following methods:

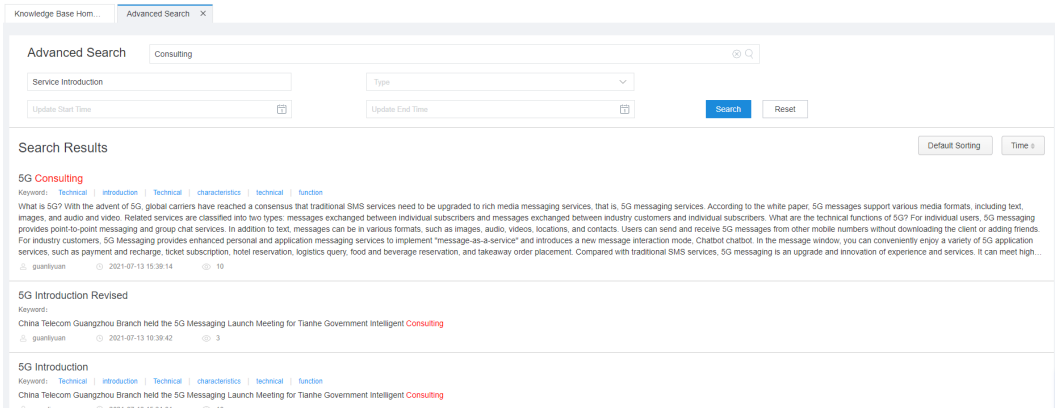
- Enter a keyword in the text box on the top and click to search for required knowledge items.

  The knowledge names, content, or keywords are matched based on the entered content. The matched keywords are displayed in red in the search results.
- Click **Advanced Search**.

  You can set keyword, column name, knowledge type, update start time, and update end time, and then search for required knowledge items. The matched keywords are displayed in red in the search results.

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Figure 2-835 Advanced Search

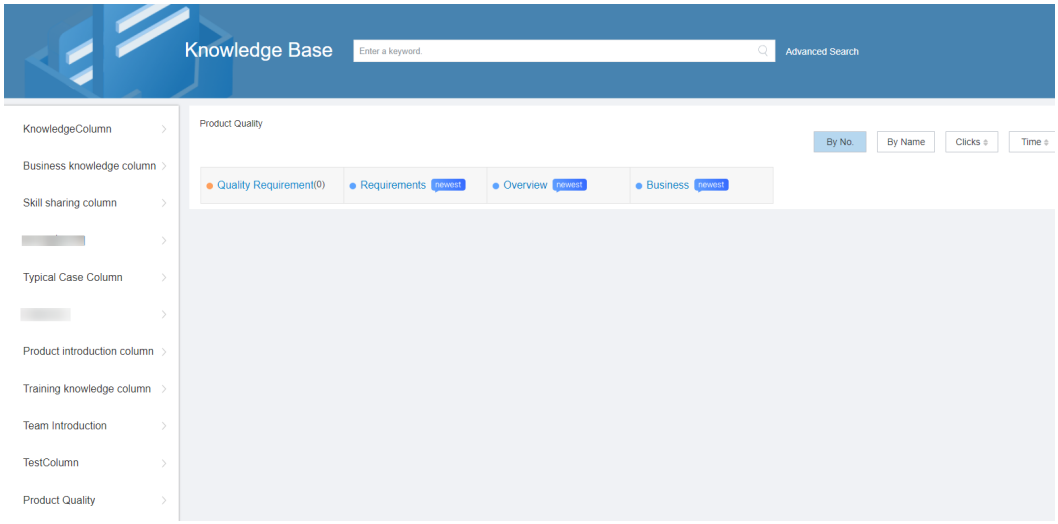


Step 3 Click 

on the top to refresh the knowledge base home page and return to the page shown in **Figure 2-834**.

Step 4 Choose a column on the left. The subcolumns and knowledge items in the column are displayed on the right.

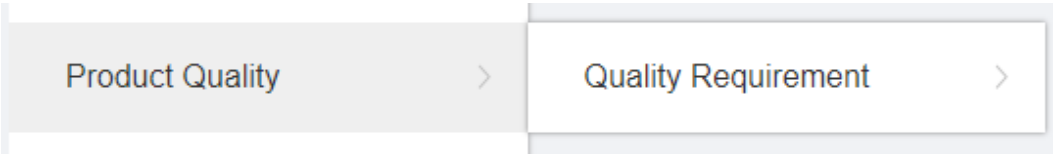
Figure 2-836 Knowledge columns



- Name:  indicates a column, and  indicates a knowledge item.
- If a subcolumn has knowledge items, its name is *Subcolumn name*(*Number of knowledge items*). You can click a subcolumn name to view the columns and knowledge items in the subcolumn.
- Click on the right of a column name to display the subcolumns in the column.

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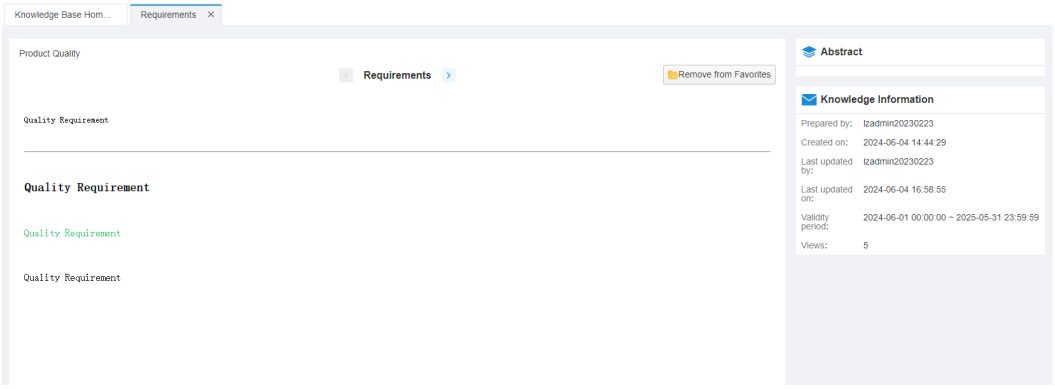
Figure 2-837 Subcolumn

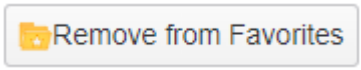


- Display and sorting: Click **By No**, **By Name**, **Clicks**, or **Time** and then to sort the columns and knowledge items in ascending or descending order.

Step 5 Click a knowledge item name to view the knowledge details.

Figure 2-838 Knowledge details



Step 6 Click 

to add the current knowledge item to my favorites.

----End

2.16.3.2 Managing Favorites

Favorites folders are used by agents to save required knowledge to quickly access the knowledge.

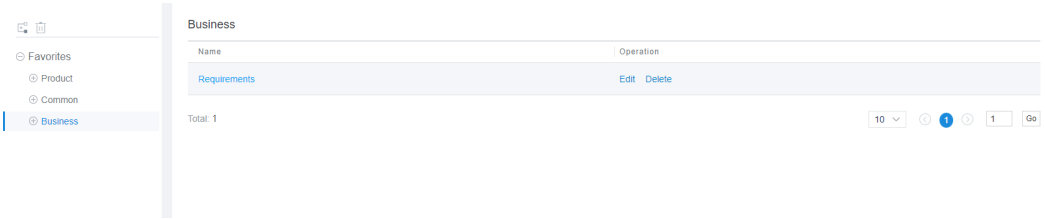
Prerequisites

- The **Knowledge Base** feature has been enabled for the tenant space, and the operator has the **Knowledge Base** > **Knowledge Application** > **Favorites** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Favorites**.

Figure 2-839 Favorites



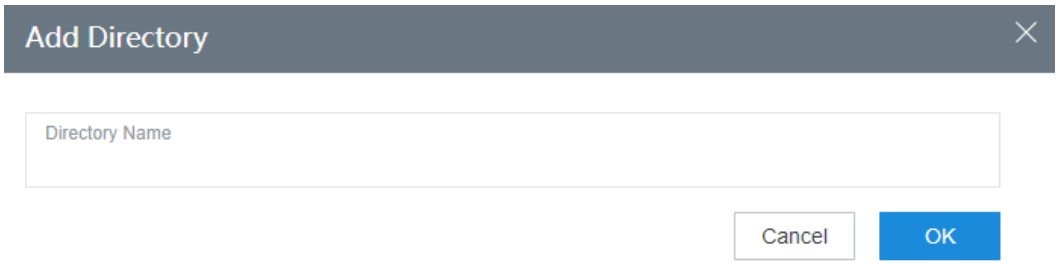
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NOTE

On the **Favorites** page, the favorites directory tree on the left can be expanded. A maximum of three directory levels are supported.

Step 2 Click to add a favorites directory.

Figure 2-840 Add Directory



Directory Name (mandatory): Enter a value of no more than 80 characters.

Step 3 Click **OK**.

Step 4 (Optional) Click corresponding to the new favorites directory to delete it.

NOTE

After a favorites directory is deleted, all favourite knowledge items in the directory will be deleted. Exercise caution when performing this operation.

Step 5 Choose a favorites directory. All knowledge items in the directory are displayed on the right.

- Click a favourite knowledge item name to view the knowledge details.
- Click **Edit** and modify the knowledge item name displayed on the **Favorites** page.
- Click **Delete** to delete a knowledge item from favorites.

----End

2.16.4 Managing Consultation Tables

A consultation table stores business consultation information. When handling businesses, an agent can look up in a consultation table to answer business questions.

2.16.4.1 Managing Consultation Table Templates

A consultation table template, similar to a data table, can be referenced during consultation table data creation.

Prerequisites

- The **AppCube** feature has been enabled for the tenant space, and the AICC has been connected to AppCube. The **Knowledge base** feature has been enabled.

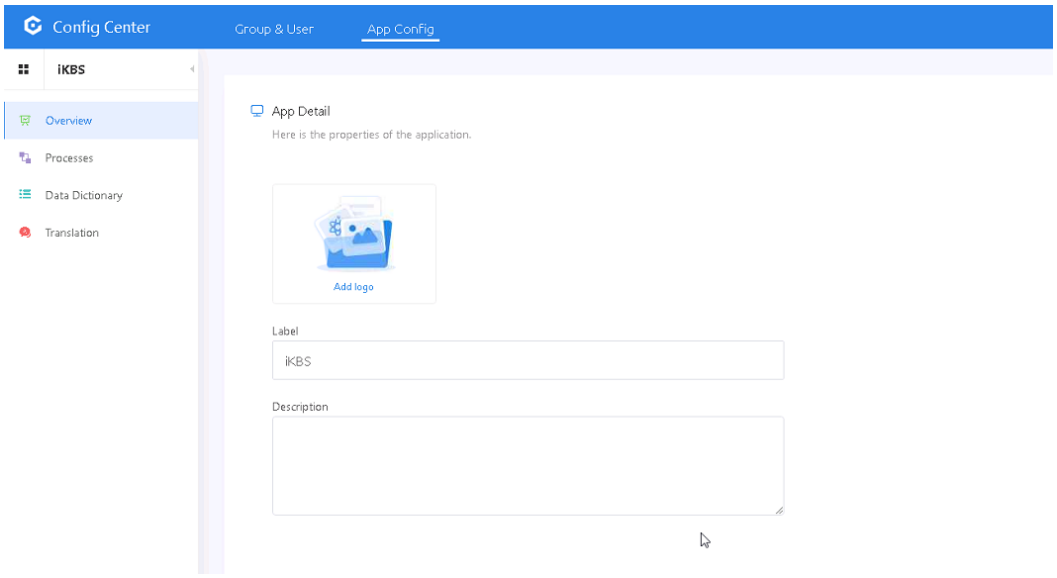
 Copyright © Huawei Technologies Co., Ltd.

- You have the **Knowledge Base** > **Knowledge Management** > **Consult Table Config** and **Channel Configuration** > **Call Center Configuration** > **Service Guidance Configuration** menu permissions.
- You have customized consultation table fields.

a. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Template**.

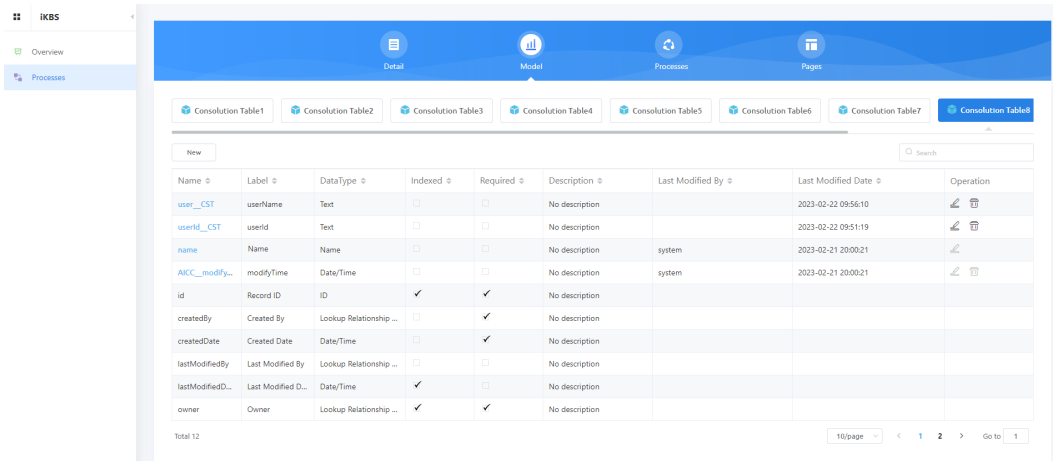
b. Click **Configure** to access AppCube and configure consultation tables.

Figure 2-841 Config Center



c. Choose **Processes** > **Model**. The consultation table list page is displayed.

Figure 2-842 Model



d. Select a consultation table to which a field needs to be added and click **New** to add a field. The consultation tables are preset and contain two fields by default.

e. Select a field type and configure field details as prompted. The field name is automatically filled in based on the label and can be modified.

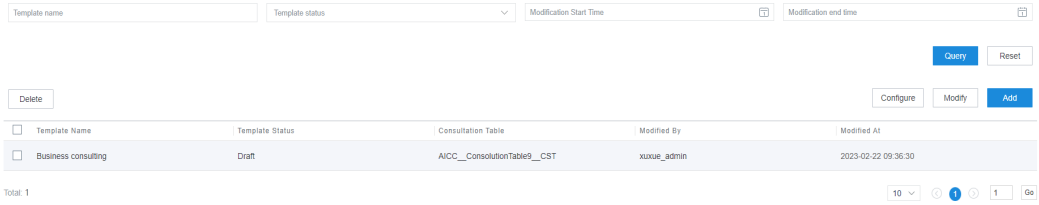
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f. Click **Next** to save the new field.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Template**.

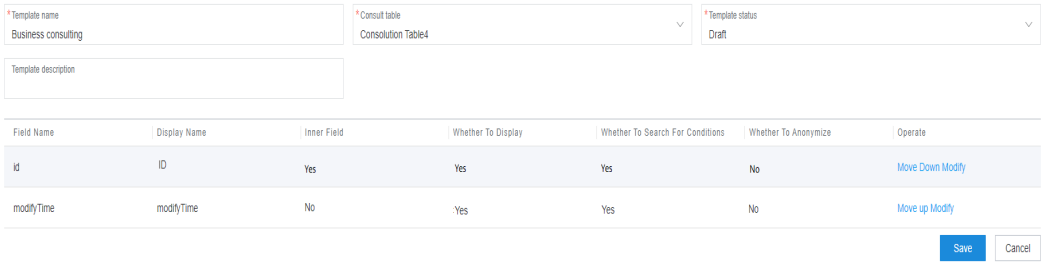
Figure 2-843 Consultation table template list



You can click **Configure** to customize consultation table fields. For details, see **Prerequisites**.

Step 2 Click **Add**. On the page that is displayed, configure a consultation table template.

Figure 2-844 Adding a consultation table template

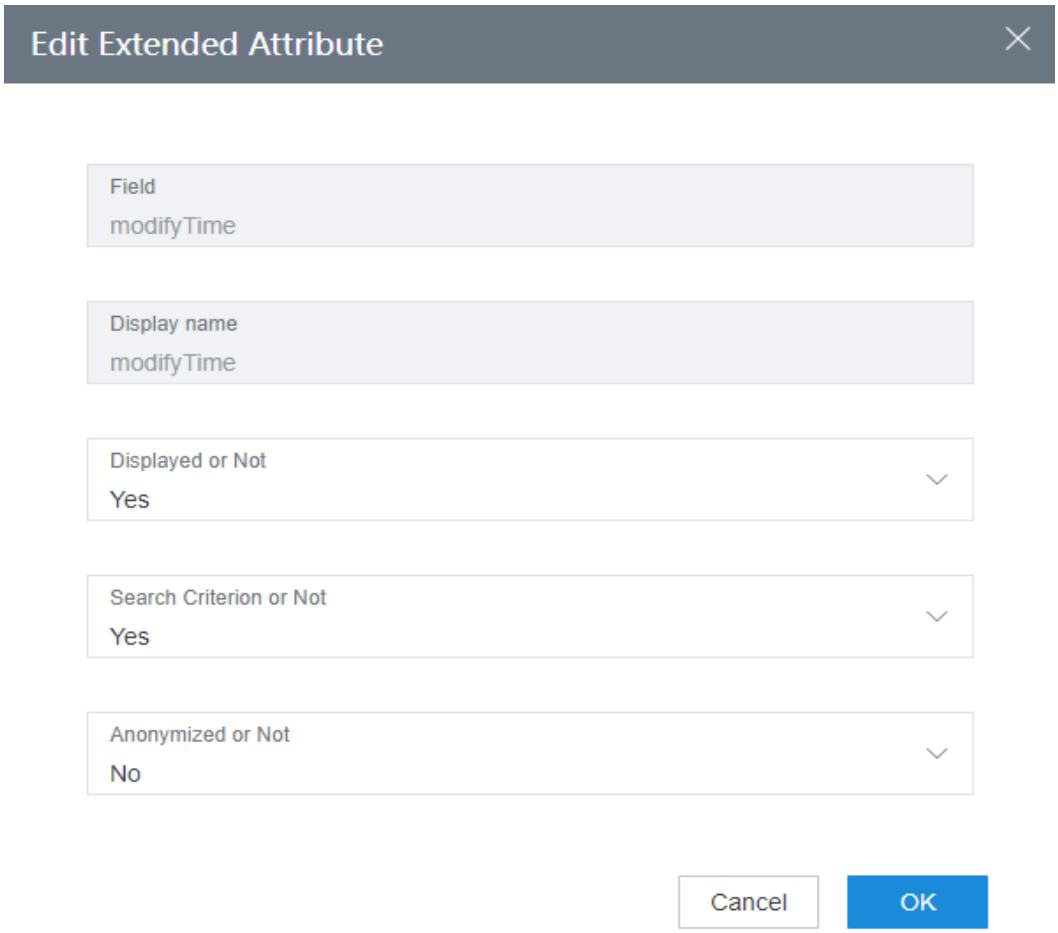


- **Template name**: Name of the consultation table template. This parameter is mandatory.
- **Consult table**: Select the required consultation table. This parameter is mandatory.
- **Template status**: Status of the consultation table template. This parameter is mandatory. The options are as follows:
  - **Draft**: Multiple draft consultation table templates can be created for a consultation table.
  - **Enabled**: Only one enabled consultation table template can be created for a consultation table.
- **Template description**: Description of the consultation table template.
- List of consultation table fields: The values are automatically generated after the required consultation table is selected.

Step 3 Select a field and click **Modify**. On the page for editing extended attributes, configure extended attributes of the consultation table field.

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Figure 2-845 Editing extended attributes



- **Field**: Read-only.
- **Display name**: Read-only.
- **Displayed or Not**: Whether to display the field in the consultation table field list.
- **Search Criterion or Not**: Whether the field is a search criterion in the consultation table field list.
- **Anonymized or Not**: Whether to anonymize the field in the consultation table field list. Set **Anonymized or Not** to **Yes** for fields that contain personal data and sensitive data.

Step 4 Click **OK** to complete the configuration of extended attributes and return to the page for adding a template.

Step 5 (Optional) To change the display position of a consultation table field, select the field and click **Move up** or **Move Down**.

Step 6 Click **Save**.

----End

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Follow-up Procedure

You can perform the following operations after you select consultation table templates:

- Click **Delete** to delete the consultation table templates in batches.
- Click **Modify** to modify template parameters except **Consult table**. The template status can be changed to **Discarded**.

2.16.4.2 Managing Consultation Table Data

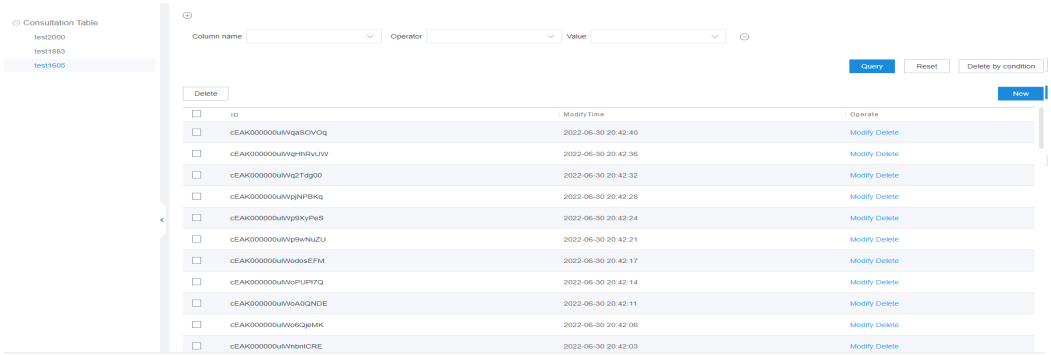
Tenant administrators can configure consultation table data.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Management**.

- Enabled consultation table templates are displayed on the left.
- The data in a consultation table is displayed on the right. By default, 100 records are displayed.

Figure 2-846 Consultation table management



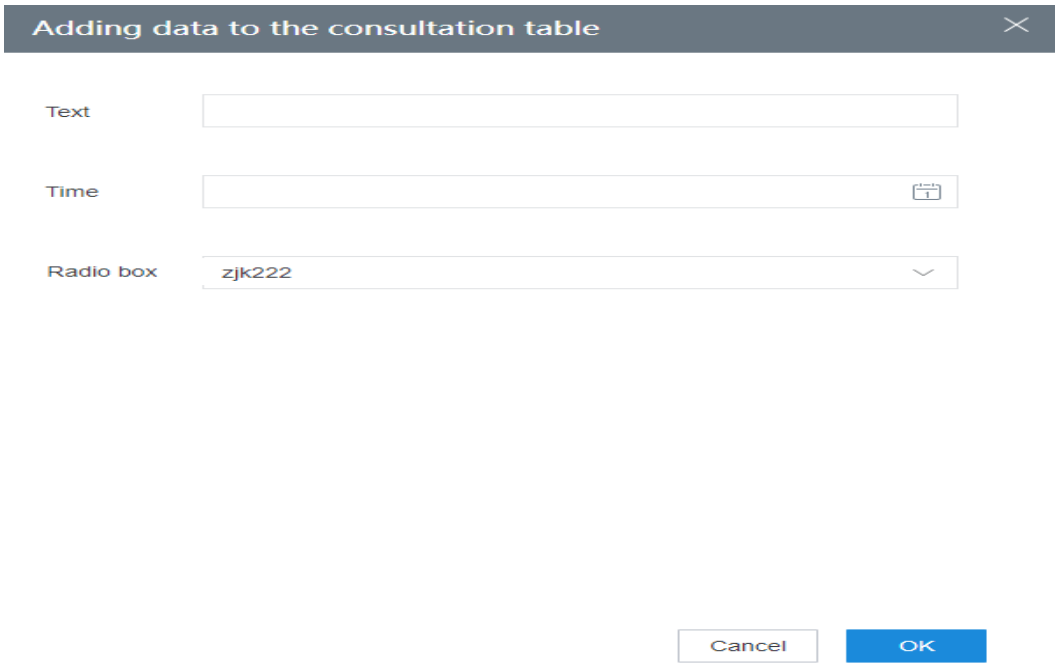
Step 2 Select the consultation table template to be configured and click 

on the right. The dialog box for adding consultation table data is displayed.

Step 3 Enter the values of the fields in the consultation table and click **Save**.

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Figure 2-847 Adding consultation table data



----End

Follow-up Procedure

- Manage consultation table data based on conditions.
  - Click ⊕ to add a search condition. A maximum of 10 search conditions can be added.
  - Click ⊖ to delete a search criteria.
  - Configure search conditions and click **Delete by condition** to delete field values based on specific conditions.
  - Configure search conditions and click **Query** to query field values based on the conditions.
  - Click **Reset** to clear conditions by one click.
- Select data records and click Delete to delete them in batches.
- For configured field data records:
  - Click **Delete** to delete a field data record.
  - Click **Modify** to update a field data record.

2.16.4.3 Consultation Table Lookup

During business handling, an agent can look up in a consultation table to answer business questions.

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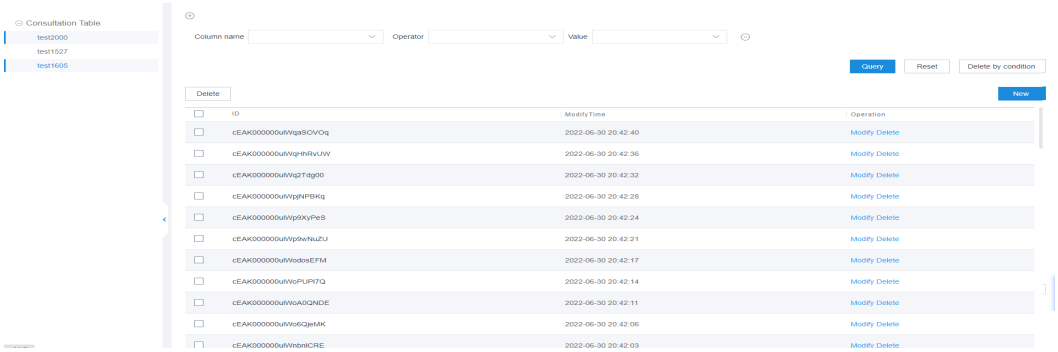
Prerequisites

The knowledge base feature has been enabled for the tenant space, and the operator has the permission on the **Search Consultation Table** menu.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Knowledge Base** > **Search Consultation Table**.

Figure 2-848 Consultation table lookup



- Enabled consultation table templates are displayed on the left.
- All data values in a consultation table template are displayed on the right.

Step 2 Select a consultation table to obtain the table data.

Step 3 Click the **COMMON SEARCH** tab.

Set search criteria and click **Query** to search for consultation table data that meets the search criteria.

Step 4 Click the **INTELLIGENT SEARCH** tab.

Intelligent search supports only keyword-based search. All data values of the string and number types in the consultation table can be queried. Fuzzy search is supported.

----End

2.17 Configuring Public Resources

2.17.1 Modifying Policy Information

A tenant administrator can directly modify the agent call policy of the tenant space without contacting O&M personnel. The policy information includes the call allocation mode, rest queuing policy, whether to release calls not answered for a long period, and whether to set agents who do not answer for a long period to the busy state.

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Prerequisites

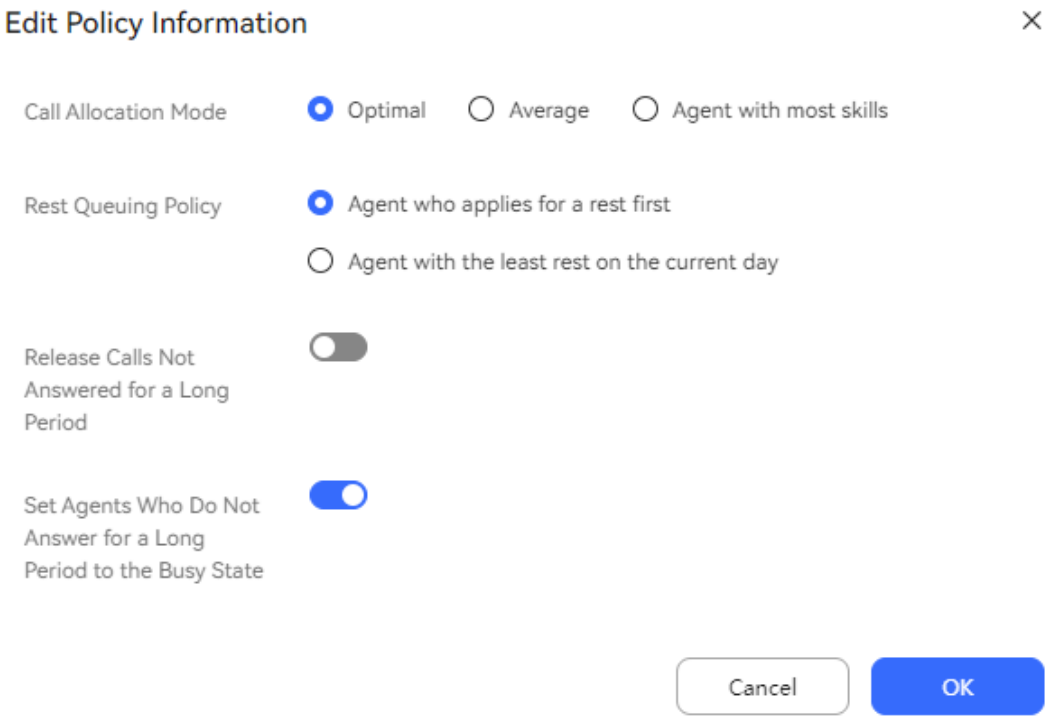
Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 In the **Policy Information** area, click to enter the editing mode.

Figure 2-849 Page for modifying policy information



Step 3 Modify policy information based on **Table 2-232**.

Table 2-232 Policy information parameters

Parameter	Description	Value Range
Call Allocation Mode	Call allocation mode.	• **Optimal** • **Average** • **Agent with most skills** Default value: **Optimal** **Table 2-233** describes the parameters.

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Parameter	Description	Value Range
Rest Queuing Policy	Rest queuing policy.	• **Agent who applies for a rest first**: When there is a rest place, the system sets the agent who applies for a rest first to the rest state. • **Agent with the least rest on the current day**: When there is a rest place, the system sets the agent with the least rest on the current day to the rest state. Rest ratio of a day = (Total rest duration during historical sign-in periods on the day + Rest duration during the current sign-in period)/(Total sign-in duration during historical sign-in periods on the day + Sign-in duration during the current sign-in period) Default value: **Agent who applies for a rest first**
Release Calls Not Answered for a Long Period	Whether to release calls not answered for a long period.	•  : no •  : yes Default value: 
Set Agents Who Do Not Answer for a Long Period to the Busy State	Whether to set agents who do not answer for a long period to the busy state.	•  : no •  : yes Default value: 

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Table 2-233 Call allocation modes

Call Allocation Mode	Description	Scenario	Processing
Optimal	In this mode, a call is preferentially allocated to the agent who meets the call skill requirements and has the fewest skills. When there are multiple agents who meet the requirements, the system allocates the call to one of the agents at random.	A VCC has the following idle agents at a certain time: • Agent A has skill 1 and skill 2. • Agent B has skill 1. • Agent C has skill 1, skill 2, and skill 3.	The call that is first selected from skill queue 1 is allocated to agent B.
Average	In this mode, the system allocates calls to agents with the longest idle time in turn according to the idle time of the agents.		The call that is first selected in skill queue 1 is allocated to the agent with the longest idle time.
Agent with most skills	In this mode, a call is preferentially allocated to the agent who meets the call skill requirements and has the most skills. When there are multiple agents who meet the requirements, the system allocates the call to one of the agents at random.		The call that is first selected from skill queue 1 is allocated to agent C.

Step 4 Click **Save**.

----End

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2.17.2 Viewing Interconnection Parameters

Interconnection parameters are the AK/SK authentication information of the current tenant space. When a tenant invokes the AICC through the API management platform, the AK/SK can be used to obtain a token.

Prerequisites

You have obtained the parameters for interconnection from the operation personnel.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Information**.

Step 2 In the **Incterconnection parameters** area, view the API Fabric ID.



Step 3 (Optional) Click **download SK** to download the SK to the local PC. Click **reset SK** and enter the password of the current user to reset the SK.

NOTE

- The SK information can be downloaded only once. If it is downloaded more than once, the system prompts the user to reset the SK.
- When the SK is rest, if the current user password is incorrectly entered for three times, the user will be locked for 10 minutes. Reset the SK after 10 minutes.
- **Verification Code**: Verification mode used for password settings to guarantee security of the current account. The verification code can be a mobile phone verification code or an email verification code. The verification mode is specified by the system parameter **Two-factor Authentication Method**.

  Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Send Code** to obtain a verification code.

  - A verification code is valid for 1 to 5 minutes, which is specified by the system parameter **Two-factor Authentication System-level Verification Code Validity Period**.
  - The interval for obtaining a verification code is 1 minute. If you enter a verification code correctly but password change fails, you can obtain a new verification code immediately.

----End

Follow-up Procedure

Click **download SK** to download the SK to the local PC.

Click **reset SK** and enter the password of the current user to reset the SK.

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NOTE

- The SK information can be downloaded only once. If it is downloaded more than once, the system prompts the user to reset the SK.
- When the SK is rest, if the current user password is incorrectly entered for three times, the user will be locked for 10 minutes. Reset the SK after 10 minutes.

2.17.3 Setting Tenant Parameters

A tenant administrator can set tenant parameters to control the system running mode and function rules. For details about the parameters, see the **Description** column.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Figure 2-850 Configuring parameters

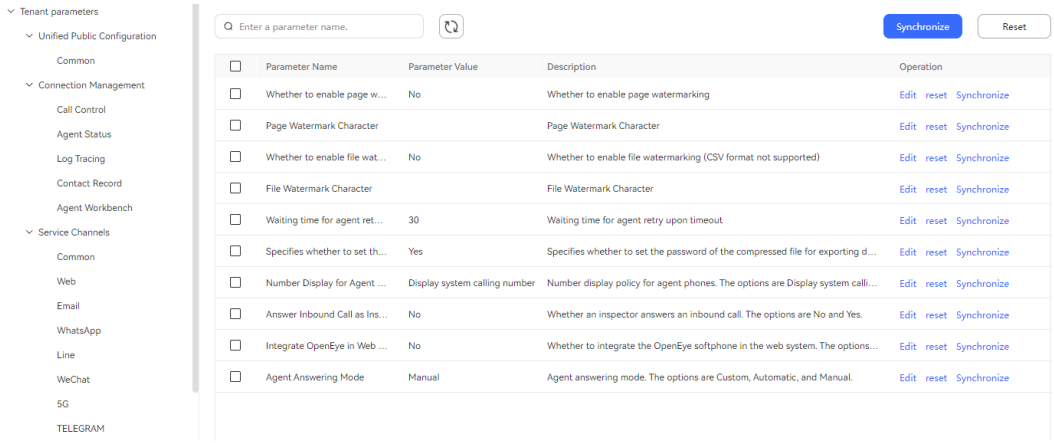


Table 2-234 Tenant parameters

Parameter			Description
Unified Public Configuration	Common	Whether to enable page watermarking	Whether to enable the page watermark function.

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Parameter			Description
		Has the tenant enabled inter-organization data isolation enforcement	Whether to enable the forcible data isolation mechanism among organizations for a tenant. If the value of this parameter is set to **Yes**, when the system identifies data to be isolated, the data to be isolated is filtered based on OUs, and is queried and controlled based on the isolation mechanism. Value options: ● **Yes** ● **No** Default value: **No**
		Page Watermark Character	Page watermark string.
		Whether to enable file watermarking	Whether to enable the file watermark function. If this function is enabled, watermarks are displayed in the following exported files: ● Exported outbound call result file and call record file ● Exported contact record file ● Exported recording inspection file
		File Watermark Character	File watermark string.
		Waiting time for agent retry upon timeout.	Waiting time for an agent to retry upon timeout. Value range: 1–3600 Default value: **30**
		Specifies whether to set the password of the compressed file for exporting data.	Value options: **Yes** and **No**. Default value: **Yes**.
		Maximum number of tenant organizations	Maximum number of OUs a tenant can create. Value range: 1–5000 Default value: **5000**

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Parameter			Description
		Number of agents that can be queried for call transfer	Number of agents that can be queried in each skill queue during call transfer. Value range: 1–500 Default value: **150**
		Languages supported by the satisfaction survey	Language supported when a satisfaction survey is initiated. Multiple languages are supported. Value options: • **Chinese** • **French** • **English** • **Portuguese** • **Spanish** • **Arabic**
		Indicates whether to use organization-level parameters. Tenant parameters are preferred.	If the system parameter ID of an organization parameter is the same as that of a tenant parameter, the organization parameter is preferentially used. If the organization parameter is not set, the tenant parameter is used. Value options: • **Yes** • **No** Default value: **No**
		Indicates whether to record changes in organization information when a tenant skill queue, agent, or access code is changed	Value options: • **Yes** • **No** Default value: **No** If the value of this parameter is set to **Yes**, the values before and after the change are recorded in the record table for future use.
		Maximum number of notification previews	Default value: **10** Maximum number of notification previews

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Parameter			Description
		Maximum number of messages that an agent can add to favorites	Value range: 100–1000 Default value: **500** Maximum number of messages that an agent can add to favorites. The default value is **500**, and the value ranges from 100 to 1000.
		Default Recording Format	Default value: **64K Alaw PCM** Set this parameter to the value of the UAP software parameter P300.
	LDAP	LDAP administrator account and password	Password of the administrator account for logging in to the LDAP server. Default value: none
		Whether to enable domain account authentication	Whether the AD domain account authentication is enabled. After this parameter is enabled, the account in the employee information of the tenant can be a domain account. The LDAP protocol can be used to connect to the AD for identity authentication. Value options: • **consistent with the system level** • **no** • **yes** Default value: **consistent with the system level** Example: **yes**
		URL for LDAP integration and interconnection	URL for LDAP integration and interconnection. Format: **ldap://***xxxx* or **ldaps://***xxxx* Default value: none Example: **ldaps://kwephispre16266.huawei.com:636**
		LDAP Base Distinguished Name	LDAP base distinguished name. The parameter value is similar to **ou=***xxx* **Accounts,Dc=***xxx***,dc=ir**. Default value: none Example: **dc=huawei,dc=com**

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Parameter			Description
		LDAP administrator account	Administrator account for logging in to the LDAP server. When a user signs into the AICC for the first time and needs to bind information, this account is used for identity authentication. (Configure the account in cn or account mode based on site requirements.) Default value: none Example: **cn=administrator,cn=users,dc=huawei,dc=com**
		Certificate code for LDAP authentication	If LDAPS is used for LDAP interconnection, you need to load the corresponding certificate. Set this parameter to the value of **Certificate Name** configured when the certificate is uploaded on the **Certificate** page. Default value: none
Connection Management	Call Control	Number Display for Agent Phone	Number display policy for agent phones. The options are **Display system calling number** and **Display customer number**.
		Answer Inbound Call as Inspector	Whether an inspector answers an inbound call. The options are **No** and **Yes**.
		Integrate OpenEye in Web System	Whether to integrate the OpenEye softphone in the web system. The options are **No** and **Yes**. To implement this function, a tenant needs to install the OpenEye locally.
		Agent Answering Mode	Agent answering mode. The options are **Custom**, **Automatic**, and **Manual**.
		Call Processing After Agent Rejection	Call processing after an agent manually rejects a call. The options are **Return call to original queue and set agent to busy** and **Release call and set agent to idle**.

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Parameter			Description
		Web-integrated OpenEye Video Display	Video display of the OpenEye integrated with the web system. This parameter is valid only when **Integrate OpenEye in Web System** is enabled. For example, in the value **0,0,800,380,PiP,Fit**, **0,0** indicates the X and Y coordinates of the video position (the upper left corner of the screen is the coordinate origin), **800,380** indicates the width and height of the window, **PiP** indicates the layout of the video image (**PiP** indicates picture-in-picture, and **SbS** indicates side-by-side), and **Fit** indicates the display mode of the video image (**Fit** indicates that the video is adapted according to its original proportions, and **Cut** indicates that the video is displayed at full size according to its original proportions and cropped if necessary).
		Video Recording Mode	Video recording mode. The options are **Same-size image for three parties**, **Maximized customer image**, **Maximized agent image**, and **Maximized third-party image**.
		Whether the tenant supports both WebRTC and integrated OpenEye SoftPhones	After the WebRTC feature is enabled for a tenant, the tenant cannot use the integrated OpenEye. To support the integrated OpenEye, enable this parameter. Value options: • **No** • **Yes** Default value: **No**
		Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu	Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu. Value options: • **Yes** • **No** Default value: **No**

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Parameter			Description
		Default Sign-in Mode	Default sign-in mode when both WebRTC and integrated OpenEye softphones are supported. Value options: • **WebRTC** • **OpenEye** Default value: **WebRTC**
	Agent Status	WebRTC registration is not performed when agents only sign in to multimedia skill queues.	The WebRTC registration is not performed for agents who only sign in to the multimedia skill queue. Value options: • **No** • **Yes** Default value: **Yes**
		After-Call Agent State	State that an agent automatically enters after a call ends. The options are **Idle** and **Wrap-up**.
		Signed-in Agent State	State that an agent automatically enters after sign-in. The options are **Idle**, **Wrap-up**, and **Busy**.
		Forcibly End Agent Rest After Timeout	Whether to forcibly end an agent's rest when the rest times out. The options are **No** and **Yes**.
		Internal Message Template for Notifying Supervisor of Agent Rest Timeout	Template for sending an internal message to the supervisor when an agent's rest times out. Set this parameter to the internal message notification template ID. If this parameter is not set, no internal message is sent to the supervisor when an agent's rest times out.
		Mode in Which an Agent Signs In to a Skill Queue	Mode in which an agent signs in to a skill queue. The parameter modification takes effect after the page is refreshed. **NOTE** • If this tenant parameter is set to **Agent-defined**, the value of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** is used. • If this tenant parameter is set to **Automatic** or **Specified**, the value of this parameter is used.

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Parameter			Description
	Log Tracing	Agent ID Requiring Log Generation	Agent ID for generating logs. Use commas to separate multiple IDs, for example, **101,102,103**. Logs are recorded in the **/home/ccmapp/logs/aicclog/desktoplog/***Tenant space ID of the tenant to which the agent belongs***/desktoplog.log** file in the CC-Management container.
		Agent Output Log Level	Level of generated agent connection operation logs. If the parameter value is lower than the log level, no log is generated. The log levels are as follows: **error**>**warn**>**info**>**debug**
	Contact Record	Time Span for Contact Record Query	Time span for searching for contact records, in days. The default value is **7**.
		Number of days in advance for querying contact records	Number of days in advance for searching for contact records, in days. The default value is **7**.
		Indicates whether to store callData in contact records.	Whether to store call-associated data in contact records. If this parameter is set to **Yes**, the connected contact records integrated by the Dynamics can carry the call-associated data of the last call for callback. The options are **No** and **Yes**. The default value is **No**.
		Validity days of call reason configuration	Number of days that the call reason can be supplemented or modified for historical contact records. The value must be an integer. The default value is **0**. The value **0** indicates that the period is not limited. The call reason can be supplemented or modified for historical contact records generated in any period. **NOTE** The value of this parameter depends on the time range of data obtained for call reason analysis statistics.

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Parameter			Description
		Whether encryption or decryption is required to download recordings.	The value **Yes** indicates that the recording file of a contact record or an outbound call result can be downloaded only after a decompression password is entered. The value **No** indicates that a recording file can be downloaded directly.
		Indicates whether to set the call reason for customer contact.	Whether the call reason needs to be set for a customer contact. ● If this parameter is set to **Yes**, the **Call Reason** dialog box is automatically displayed when no call reason is set after a common customer session ends. Contact records for which no call reason is set are displayed on the **Unfinished Contact** page. When the agent sign-out response is successful, the system checks whether the agent has unfinished contact at 00:00:00 on the current day in the time zone where the agent is located. A dialog box is displayed if the agent has unfinished contact on the current day which needs to be handled in a timely manner. Click **Go for processing** to open the **Contact record** page. ● If this parameter is set to **No**, the **Call Reason** dialog box is not automatically displayed after a common customer session ends and the **Unfinished Contact** tab page is not displayed. Value options: ● **Yes** ● **No** Default value: **No**

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Parameter			Description
		Maximum size of a file for downloading multimedia files	Maximum size of a multimedia file to be downloaded, in MB. Exercise caution when setting this parameter. If the value is too large, the server load increases, affecting other services. Value range: 0–200 Default value: **50**
		Call Reason Mapping Skill Queue Switch	Whether to map call reasons to skill queues. Value options: • **Yes** • **No** Default value: **No**
		Indicates whether the skill queue is mandatory for call reason configuration.	Whether the **Skill Queue** parameter is mandatory when a call reason is created on the call reason page when the **Call Reason Mapping Skill Queue** function is enabled. Value options: • **Yes** • **No** Default value: **No**
		Maximum number of call reasons that can be associated with a skill queue.	When the **Call Reason Mapping Skill Queue** function is enabled, a skill queue can be associated with I call reasons. Value range: 0–50 Default value: **10**
		Indicates whether to force the agent to enter the call reason.	After an incoming call is hung up, the agent is forced to fill in the call reason. The call reason dialog box cannot be closed. Value options: • **Yes** • **No** Default value: **No** This parameter takes effect only when **Require Call Reason for Customer Contact** is set to **Yes**.

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Parameter			Description
	Agent Workbench	Whether to send internal messages when the WebRTC network is abnormal	Whether to send an internal message to notify the OU manager if the network quality is poor when an agent uses the WebRTC to make a call. Only one internal message can be sent within 60 minutes. Value options: ● **Yes** ● **No** Default value: **No**
		WebRTC Network Anomaly Detection Threshold	The format is *Number 1*;*Number 2*. Both *Number 1* and *Number 2* range from 1 to 120, in seconds. ● *Number 1* indicates the threshold for the duration in which the WebRTC network status is abnormal, in seconds. If the duration exceeds the threshold, an exception is reported. ● *Number 2* indicates the threshold for the duration in which the WebRTC network status is normal, in seconds. If the duration reaches the threshold, the network is considered to be recovered. Default value: **6;3**
		Tenant statistics for WebRTC network quality packet loss rate and the latency time measured after sign-in	Number of minutes before collecting statistics on the WebRTC network packet loss rate after an agent signs in. This prevents collecting inaccurate packet loss rate when the agent just signs in. For example, if the value of this parameter is set to **5**, the packet loss rate is calculated 5 minutes after an agent signs in, meaning that the packet loss rate is recorded as 0 in the first 5 minutes after the agent signs in. Value range: 1–100 Default value: **10** Unit: minutes
		Display Associated Data	Whether to display call-associated data. The options are **No** and **Yes**.

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Parameter			Description
		Conference Link SMS Template	SMS template used for sending conference links. The template must contain the **Meeting_URL** variable.
		Display Unified Customer Contact Information	Whether to display unified contact customer information. The options are **No** and **Yes**.
		Local listening port of the agent VRC.	Local listening port of the agent VRC. This port is used by inspectors to initiate screen inspection connections. The value ranges from 1 to 65535. The default value is **6600**.
		VRC WebSocket Port	WebSocket connection port of the VRC. When the OpenEye is used, set this parameter to the port configured on the VRC. Value range: 1–65535 Default value: **7684**
		Whether to enable WebRTC auto-answer ringtone	When enabled, in the WebRTC auto-answer scenario, a ringtone reminder can be heard when WebRTC connects. Value options: • **Yes** • **No** Default value: **No**
		The duration of SmartCare abnormal time backtracking (s)	If the abnormal time passed to SmartCare is the current time, the value of the parameter configuration is used to make logical judgments based on the time period before the current time, such as on whether the user is affected by the fault during this period. Value range: 60–86400 Default value: **3600**

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Parameter			Description
		The time (h) pushed forward from the current time as start time when SmartCare delimits creation	If the end time passed to SmartCare is the current time, the value of the parameter configuration means that a time period before the current time is used as the start time, for example, of fault demarcation for the user during this period. Value range: 1–168 Default value: **24**
		Methods of obtaining organization for multimedia satisfaction surveys	If **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the parameter configuration is used to obtain the satisfaction query configuration of the corresponding organization for the multimedia satisfaction survey. Value options: • **Agent Organization** • **Multimedia Channel Organization** Default value: **Multimedia Channel Organization**
		Methods of obtaining organization for audio and video satisfaction surveys	If **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the parameter configuration is used to obtain the satisfaction query configuration of the corresponding organization for the voice or video satisfaction survey. Value options: • **Agent Organization** • **Called organization** Default value: **Agent Organization**
		Indicates whether to associate rest reasons with OUs.	After the rest reason is associated with an OU, the sub-OU can also use the rest reason. Value options: • **Yes** • **No** Default value: **No**

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Parameter			Description
		Indicates whether to enable the rest reason for switching the rest status.	Whether to enable the rest reason for switching the rest status. Value options: • **Yes** • **No** Default value: **No**
Service Channels	Common	Indicates whether to enable the system default greeting (except the email channel).	Whether to enable the default system greeting (except the email channel).
		Channel Support Message Type	By default, all message types are supported. Tenants can configure message types supported by different channels and message types that are not supported based on site requirements.
		SMS Number Prefix Configuration	Prefixes supported by SMS numbers. Use commas (,) to separate prefixes. Default value: **+98,98,0**
		Third-party interface invoking failure rate statistical period	Statistical period of the third-party interface invocation failure rate, in minutes. The value ranges from 1 to 30. The default value is **5**.
		Third-Party Interface Invoking Failure Rate Alarm Threshold	Alarm threshold of the third-party interface invocation failure rate, in %. The value ranges from 1 to 100. The default value is **20**.
		Validity duration of the URL used by a customer to access a resource	Validity duration of the URL used by a customer to access a resource. The value is in minutes and ranges from 5 to 10080 (at most seven days). The default value is **1440** (equals one day).
		Type of outbound call channels restricted on the DY page	By default, all-channel outbound calls are supported. To restrict outbound calls on the DY page, add channel types, such as WEB, WHATSAPP, Email, Facebook, LINE, TWitter, WECHAT, and SMS, and separate them with semicolons (;).

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Parameter			Description
		Indicates whether to enable the new special list for multimedia.	Whether to use the new special list function for multimedia channels. The options are **No** and **Yes**.
		Social Media Approver Account	Default value: none Social media approver account. If this parameter is left blank, post approval is not performed. **NOTE** The value can only be an employee account with the **Enterprise account operation** menu permission under the current tenant.
		Social Media Video Upload Size Limit	Maximum size of an uploaded social media video, in MB. The default value is **200**, and the maximum value is **500**.
		Maximum size of uploaded social media images	Maximum size of uploaded social media images, in MB. The default value is **1**, and the maximum value is **4**.
		Message allocation threshold for operators	Threshold for not assigning messages to an operator. If the number of messages unhandled by an operator exceeds the threshold, messages are not assigned to the operator. The default value is **5**, and the maximum value is **20**.
		Number of SMs allocated by the operator	Number of messages that can be assigned to an operator at a time. The default value is **10**, and the maximum value is **20**.
		Number of offline users allocated each time	Number of offline customers assigned each time. The value ranges from 1 to 10. The default value is **5**.
		Interval for querying the allocated offline user list	Interval for querying assigned offline customers. The value ranges from 0 to 60, in minutes. The default value is **5**. **NOTE** The value **0** indicates that offline customers are not queried.

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Parameter			Description
		DY contact record reply message switch	Whether the messages of contact records in the Dynamics can be replied to. The options are **No** and **Yes**. The default value is **No**.
		Number of offline message for warning alarm	When the number of offline messages exceeds the value of this parameter, a warning alarm is generated. The value ranges from 1 to 100000. The default value is **5000**.
		Number of offline message for minor alarm	When the number of offline messages exceeds the value of this parameter, a minor alarm is generated. The value ranges from 1 to 100000. The default value is **8000**.
		Number of offline message for major alarm	When the number of offline messages exceeds the value of this parameter, a major alarm is generated. The value ranges from 1 to 100000. The default value is **10000**.
		Offline message days for minor alarm	When the number of days for which an offline message is not handled exceeds the value of this parameter, a minor alarm is generated. The value ranges from 1 to 15. The default value is **3**.
		Offline message days for major alarm	When the number of days for which an offline message is not handled exceeds the value of this parameter, a major alarm is generated. The value ranges from 1 to 15. The default value is **5**.
		Alarm duration of email not distributed during working hours	Unit: Hour. The value ranges from 1 to 23. The default value is **4**.

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Parameter			Description
		Processing mode when the agent assistant receives multiple messages from a user in one poll	Processing mode of multiple messages from a customer being polled by an agent assistant. Value options: • **Merge multiple messages** • **Individual processing** Default value: **Merge multiple messages**
		Indicates whether to display robot conversation content in contact records.	Whether to display robot conversation content in contact records. The options are **Yes** and **No**.
		Display mode of the current session list of agents	Mode for displaying the current session list of an agent on the online chat workbench. • The value **by session access time(default value)** indicates that sessions in the list are sorted by access time in descending order. • The value **by the latest message time of the session** indicates that sessions in the list are sorted by the time when the last message is sent in descending order. By default, sessions are displayed by session access time. Value options: • **by the latest message time of the session** • **by session access time(default value)** Default value: **by session access time(default value)**

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Parameter			Description
		Spellcheck supported languages dictionary	Language dictionary supported by the spelling check. Value options: • **Chinese** • **English** • **Portuguese** • **Traditional Chinese** Default value: **Chinese,English,Portuguese** **NOTE** Multiple options can be selected.
		Multimedia playback switch	This parameter is disabled by default. After this parameter is enabled, if the ODFS is faulty, the system attempts to transfer calls to other agents or the last agent. If the CTI is faulty, user messages are saved as offline messages. Value options: • **No** • **Yes** Default value: **No**
		Indicates whether to enable the default privacy clauses	Whether to enable the default privacy clause. The default value is **Yes**, indicating that the default privacy clause is sent after a user establishes a connection.
		Offline Message Query SQL Execution Duration Threshold	Threshold of the execution duration of an offline message query SQL statement. The unit is millisecond. The value ranges from 0 to 600000. The default value is **2000**.
		Minimum interval at which offline users can be reallocated	Minimum interval for reassigning an offline user. The value ranges from 5 to 600. The unit is minute. The default value is **10** minutes.
		Maximum number of unread social media messages per agent	Maximum number of unread social media messages per agent. The value ranges from 5 to 500. The default value is **50**.
	Web	Map Type Used by Location Message Received Through Web Channel	Type of the map used to display location messages received from the web channel on the web client and agent workbench.

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Parameter			Description
		The web channel supports delayed processing	Whether the web channel supports delayed processing. Value options: • **Yes**: The web channel supports delayed processing. • **No**: The web channel does not support delayed processing. Default value: **Yes**
	Email	Max. Bytes in Email Body	Maximum number of bytes in the email body, in MB. The value ranges from 1 to 10. The default value is **2**.
		Max. Email Cc Recipients	Number of Cc recipients when a maximum of 4096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Bcc Recipients	Number of Bcc recipients when a maximum of 4096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Forwarding Recipients	Number of email forwarding recipients when a maximum of 4,096 characters are allowed. The value ranges from 1 to 50. The default value is **20**.
		Max. Email Drafts Added by Agent	Maximum number of email drafts added by an agent. The value ranges from 1 to 50. The default value is **20**.
		Max. Size of Images in Email	Maximum size of images in a reply email edited by an email agent. The value ranges from 0 to 1024, in KB. The default value is **300**.
		Max. Images in Email	Maximum number of images in a reply email edited by an email agent. The value ranges from 0 to 20. The default value is **10**.
		Auto Zoom Email Channel Images	Whether to enable email channel image auto scaling. The options are **Yes** and **No**. The default value is **No**. The value **Yes** indicates that images whose size exceeds the limit are automatically zoomed in or out, and the value **No** indicates that images are not zoomed in or out.

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Parameter			Description
		Check whether the Cc and BCC addresses of email channels are strictly verified.	Whether to strictly verify the Cc and Bcc addresses of the email channel. Value options: • **Yes**: The formats of the Cc and Bcc addresses are strictly verified. • **No**: Only the Cc and Bcc address content is verified. Default value: **Yes**
		Email Title Filtering Policy	Mail title filtering policy. Value options: • **No filtering** • **Filter keywords only** • **Filter empty titles only** • **Filter empty titles and keywords** Default value: **No filtering**
		Email Channel Support Delayed Processing	Whether the email channel supports delayed processing. Value options: • **Yes**: The email channel supports delayed processing. • **No**: The email channel does not support delayed processing. Default value: **Yes**
	WhatsApp	Map Type Used by Location Message Received Through WhatsApp Channel	Type of the map used to display location messages received from the WhatsApp channel on the agent workbench.
		WhatsApp Webhook Password Authentication Validity Period	Validity period of the webhook password used for authenticating received requests when the WhatsApp channel is connected to Infobip. The value ranges from 7 to 365, in days. The default value is **90**.
		Validity Period of Access Token for Accessing WhatsApp	Validity period of an access token for accessing WhatsApp. The value ranges from 1 to 30, in days. The default value is **30**. OAuth authentication is not applicable.

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Parameter			Description
		Whether to Shield System Messages.	After this parameter is enabled, only messages sent by agents are received. The options are **Yes** and **No**.
		Indicates whether to enable offline message alarm	Whether to enable the offline message alarm function. The options are **No** and **Yes**.
		Alarm Mode	Alarm mode.
		Recipient	Recipient.
		Mail Template	Email template.
		Whether to enable the infobip API of the new version	Whether to enable the new Infobip API. The options are **Yes** and **No**. **NOTE** The Infobip API in use is not maintained or updated by Infobip. You are advised to use the new Infobip API.
		WhatsApp channel supports delay processing switch	Whether the WhatsApp channel supports delayed processing. Value options: • **Yes**: The WhatsApp channel supports delayed processing. • **No**: The WhatsApp channel does not support delayed processing. Default value: **Yes**
		Indicates whether to enable tenant-level WhatsApp Twilio Webhook configuration.	By default, this parameter is disabled. If this parameter is enabled, the **WhatsApp Twilio Webhook Configuration** button is displayed on the **Channel Configuration** page. In addition, a dialog box is displayed for tenant-level webhook configuration.
		Marketing unsubscribe message keywords	Unsubscription button keywords in the marketing template. Use commas (,) to separate multiple keywords. The value can contain a maximum of 2,048 characters. No default value is available.

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Parameter			Description
		Agent route validity period specified in the outgoing call promotion template	Validity period of the agent route specified in the outgoing call promotion template. The value ranges from 1 to 7. The default value is **7** days.
	LINE	Map Type Used by Location Message Received Through LINE Channel	Type of the map used to display location messages received from the LINE channel on the LINE client and agent workbench.
		Validity Period of Access Token for Accessing LINE	Validity period of an access token for accessing the LINE, in days. The value ranges from 1 to 30. The default value is **30**.
	WeChat	Map Type Used by Location Message Received Through WeChat Channel	Type of the map used to display location messages received from the WeChat channel on the WeChat client and agent workbench.
	Telegram	Map Type Used by Location Message Received Through Telegram Channel	Type of the map used to display location messages received from the Telegram channel on the agent workbench.
		Telegram channel supports delay processing switch	Whether the Telegram channel supports delayed processing. Value options: ● **Yes**: The Telegram channel supports delayed processing. ● **No**: The Telegram channel does not support delayed processing. Default value: **Yes**
	Instagram	Instagram channel supports delay processing switch	Whether the Instagram channel supports delayed processing. Value options: ● **Yes**: The Instagram channel supports delayed processing. ● **No**: The Instagram channel does not support delayed processing. Default value: **Yes**

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Parameter			Description
	SMS	SMS channel supports delay processing switch	Whether the SMS channel supports delayed processing. Value options: • **Yes**: The SMS channel supports delayed processing. • **No**: The SMS channel does not support delayed processing. Default value: **Yes**
Intelligent Outbound Call	Common	Record outbound interface invoking logs	Whether to record outbound call interface invocation logs. If yes, invocation records of one month are stored by default. Invocation records of a maximum of three months can be stored.
		Indicates whether to send internal messages when outbound calls are abnormal.	The default value is **No**, indicating that no internal message is sent to the manager of an employee when an outbound call is abnormal. If this parameter is set to **Yes**, an internal message is sent to the manager of an employee when an outbound call is abnormal.
		Threshold for abnormal outbound call duration.	The unit is second. If the duration of an outbound call is less than the value of this parameter, the system considers the call as an abnormal call. If the value is **0** or empty, the system does not determine whether a call is an abnormal call.
		Only leaf nodes can be selected for service results.	Only leaf nodes can be selected for business results. The default value is **no**.
		Task due reminder time	Number of days before task expiration a reminder is sent. Unit: day. The default value is **–1**, indicating that no reminder is sent. The value ranges from –1 to 10, that is, a reminder can be sent at most 10 days before task expiration.
		Maximum number of manual allocations	Maximum number of outbound call data records that can be manually assigned or selected for creating a multi-round call. The value ranges from 1 to 500. The default value is **500**.

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Parameter			Description
		Switch for filtering outgoing call data attributes and calling by data attribute sequence	The default value is **No**, indicating that the **Outbound Call Data Attribute Filtering** and **By data attribute** functions are unavailable. If the value of this parameter is set to **Yes**, the corresponding functions can be enabled when an outbound call task is configured.
		Maximum number of outgoing call data obtained at a time	Maximum number of outbound call data records that can be extracted at a time when a manual assignment outbound call task is executed. The value ranges from 1 to 20. The default value is **5**.
		Maximum number of outgoing call data attribute filtering conditions and data extraction conditions	Maximum number of outbound call data attribute filter criteria and data extraction criteria. The value ranges from 1 to 20. The default value is **5**.
		Whether to enable Manual Assignment Outbound Call to record business result without calling	The default value is **No**. If the value of this parameter is set to **Yes**, the business result can be directly recorded on the outbound call workbench without a manual assignment outbound call being made.
		Maximum number of call sequence sorting conditions by data attribute	Maximum number of call sequence sorting criteria by data attribute. The value ranges from 1 to 20. The default value is **5**.
		Name of the default email gateway for sending emails on the agent outbound call workbench.	This parameter is left empty by default. If this parameter is set, the email address corresponding to the configured email gateway is used to send emails. If this parameter is not set, the email address of an available email gateway is used to send emails.
		Encoding format of the file used for importing call data.	The GBK and UTF-8 formats are supported. The GBK format is used by default.

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Parameter			Description
		Maximum number of single recycle task	Maximum quantity of numbers that can be recalled in a single recall task. The value ranges from 1 to 2000000. The default value is **500000**.
		Indicates whether the business result can be entered for an outgoing call task during a call	The default value is **Yes**, indicating that the business result can be entered during an outbound call. If this parameter is set to **No**, the business result cannot be entered during an outbound call.
		Indicates whether to switch to idle state after the outbound call task records the business result	The default value is **No**, indicating that the state of the outbound call task does not switch to the idle state after the business result is recorded. If this parameter is set to **Yes**, the state of the outbound call task switches to the idle state after the business result is recorded.
	Managing Configurations	Destination address of outgoing call result push	Address provided by the third party for receiving outbound call results pushed to the third party.
		Maximum number of scheduled tasks for importing outbound call blocklists	Maximum number of scheduled tasks for importing outbound call blocklists. The value ranges from 1 to 24. The default value is **10**.
		Indicates whether to support survey for outbound call tasks.	The default value is **Yes**, indicating that a survey can be used for an outbound call task. If this parameter is set to **No**, no survey can be used for an outbound call task.
		Maximum number of caller number groups in the same organization.	Maximum number of calling number groups in an OU. The value ranges from 100 to 10000. The default value is **100**.
		Maximum level of the outgoing call service result.	Maximum level of the outgoing call service result. The default value is **6**, and the value ranges from 2 to 6.

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Parameter			Description
		Marketing Unsubscription Duration	If the marketing category does not exist, set the marketing unsubscription duration. The default value is **30** days, and the value ranges from 1 to 1000. The type is **All**.
		Maximum batch quantity in the task	Maximum number of batches that can be created in each outbound call task. The default value is **100**, and the value ranges from 1 to 1000.
	Call Configuration	Manual outgoing call automatic outgoing call switch	Whether to enable the automatic outbound call capability for manual outbound calls.
		Indicates whether to allow callback for manual outgoing calls.	If it is allowed, the callback button is displayed on the manual outbound call workbench. If it is not allowed, the callback button is not displayed on the manual outbound call workbench. The default value is **Yes**.
		Time limit for manual outgoing calls and automatic outgoing calls	Time during which an agent is in idle state before making an automatic outbound call, in seconds. The value ranges from 1 to 120.
		Call Number Prefix Configuration	Prefix of an outbound number. Use commas (,) to separate multiple prefixes.
		Minimum length of outbound customer number	Minimum length of a customer number, excluding the international call prefix and international area code.
		Maximum length of outbound customer number	Maximum length of a customer number, excluding the international call prefix and international area code.
		The begin digits of the customer number	Start number of a customer number. Use commas (,) to separate multiple numbers.

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Parameter			Description
		Maximum timeout interval for previewing the outbound call workbench.	When an agent performs a manual outbound call or a manual assignment call, the preview duration is not recorded after the maximum preview duration is exceeded. The value ranges from 1 to 20. The default value is **10**.
CCNotification	Internal Message	Notify App of Internal Message	Whether to notify the app of an internal message. The options are **Yes** and **No**.
		AK for Invoking App Service for Internal Message Notification	AK provided by the app for invoking the app service to send an internal message notification.
		Protocol for Invoking App Service for Internal Message Notification	Protocol type for invoking the app service to send an internal message notification. The options are **http** and **https**. Use HTTPS because HTTP is an insecure protocol.
		IP Address and Port for Invoking App Service for Internal Message Notification	IP address and port number for invoking the app service to send an internal message notification. The format is *IP address*:*Port number*.
		URL for Invoking App Service for Internal Message Notification	URL for invoking the app service to send an internal message notification. A reference configuration is **/app/agent/gateway/v1/notice/enterpriseMessage**.
		Cyclical Invoking Times of App Interface for Internal Message Notification	Number of times that the app interface is cyclically invoked for internal message notification. A reference configuration is **3**.
	Email	Delete Email Received by Tenant Administrator and Tenant from Email Server	Whether to delete emails received by tenant administrators and tenants from the email server. The default value is **Yes**, indicating that the emails are deleted.
		Max. Size of Images in Email	By default, the maximum size of an image is 100 KB. The value must be greater than 0 and less than or equal to 1024, in KB.

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Parameter			Description
	Telecom number	International Crown Code	International call prefix of the tenant location. The default value is **00**.
		International area code	International area code of the tenant location. The default value is **86**.
	Online Chat	Session Retention Days	Session retention days. The value is an integer ranging from 1 to 14, and the default value is **7**.
		Number of days for storing chat records	Chat record retention day. The value is an integer ranging from 1 to 93, and the default value is **30**. The chat record retention days must be greater than or equal to the session retention days.
Call center monitoring	Index Monitor	Expected service level of the skill queue	Value range: 0–1 Expected service level threshold of a skill queue. The value ranges from 0 to 1.
	Fullscreen Monitor	Alarm sending mode	Value options: • **Send only internal messages** • **Send mail only** • **Send internal messages and emails** Alarm sending mode when the data exceeds the maximum threshold or is lower than the minimum threshold.
		Whether to play alarm sound	Value options: • **Yes** • **No** Whether to play alarm sound when the data exceeds the maximum threshold or is lower than the minimum threshold.
	Real time report	Number of Robot Access Licenses	Value range: positive integers Maximum number of concurrent robots allowed by the license

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Parameter			Description
		IVR real-time report time zone offset	Value range: integers Offset between the IVR real-time data database and the zero time zone
	Indicator statistics	Skill queue request count statistics method	• **Statistics by call** • **Statistics by skill queue** On the skill queue indicator monitoring tab page, the number of requests can be collected by skill queue or call. When the number of requests is collected by skill queue, the number of requests is recorded multiple times if a call accesses the same skill queue for multiple times. When the number of requests is collected by call, the number of requests is recorded only once if a call accesses the same skill queue for multiple times.
Operation Risk Control	Common	Mobile number area code	-
WFM	Configuration	Number of days advance notice	Number of days in advance an agent contract expiration notification is sent. Value range: 7–90 Default value: **30**
		Email Gateway Name	Name of the email gateway. Default value: none (The value is customized by the tenant.)
		SMS Sender Number	Recipient number for receiving SMS notifications about shift schedule. Default value: none (The value is customized by the tenant.)

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Parameter			Description
		The way of the interactions are evaluated	When synchronizing CDR data, the CC-CMS determines whether to count the call traffic into the contact start time or contact end time based on the value of this parameter. Value options: ● When the contact starts: The contact is counted once in the start time interval. ● When the contact ends: The contact is counted once in the end time interval.
		Backlog Age	Number of days in the backlog period. When delayed messages are processed, only messages within the backlog period are processed. Value range: 1–15 days Default value: **15**
	Adherence	Time when the compliance detail view is automatically updated	Automatic refresh interval when **Auto Refresh** on the adherence details page is enabled, which can be configured at the tenant level. The value ranges from 10 to 20, in seconds. The default value is **20**.
	Schedule	Maximum number of rule sets in a scheduling scenario	Maximum number of rule sets associated with all agents in a schedule scenario. When this value is exceeded, an error message is displayed. The maximum value can be configured at the tenant level. The value ranges from 1 to 5. The default value is **5**.
		Full-day time off request must be scheduled	Whether approved full-day time-off must be arranged. Value options: ● **Yes** ● **No** Default value: **Yes**

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Parameter			Description
	Calendar	Timeout for time-off limit waitlist	Specifies the maximum waiting time of an agent requesting time-off in queue, in minutes. If the maximum waiting time is exceeded, the request is deleted from the waiting list. Value range: 30–60 Default value: **30**
	Prophet	Change Point Prior Scale (IV)	Change point prior scale. A larger value indicates more change points, resulting in better model fitting with historical data but higher overfitting risks. Value range: 0.001–0.5 Default value: **0.05**
		Seasonality Prior Scale (IV)	Seasonality prior scale. A larger value leads to model adaptation to stronger seasonal fluctuations. A smaller value leads to greater suppression of seasonal fluctuations. Value range: 0.01–10 Default value: **10**
		Growth (IV)	If data changes linearly, select **linear**. If the trend of data becomes stable over time, select **flat**. Value options: • **linear** • **flat** Default value: **linear**
		Seasonality Mode (IV)	Seasonality mode. Currently, the value can only be **additive**. In additive mode, seasonal changes are considered as the increments of the trend. Value option: **additive** Default value: **additive**

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Parameter			Description
		Forecast Mode	In auto mode, parameters are automatically selected through cross validation and evaluation of the Prophet algorithm. If historical data is insufficient (less than eight weeks of data available), the auto mode is automatically changed to the manual mode, and manually configured parameters are used for forecasting. Value options: • **Manual** • **Auto** Default value: **Auto**
		Change Point Prior Scale (AHT)	Change point prior scale. A larger value indicates more change points, resulting in better model fitting with historical data but higher overfitting risks. Value range: 0.001–0.5 Default value: **0.05**
		Seasonality Prior Scale (AHT)	Seasonality prior scale. A larger value leads to model adaptation to stronger seasonal fluctuations. A smaller value leads to greater suppression of seasonal fluctuations. Value range: 0.01–10 Default value: **10**
		Growth (AHT)	If data changes linearly, select **linear**. If the trend of data becomes stable over time, select **flat**. Value options: • **linear** • **flat** Default value: **linear**
		Seasonality Mode (AHT)	Seasonality mode. Currently, the value can only be **additive**. In additive mode, seasonal changes are considered as the increments of the trend. Value option: **additive** Default value: **additive**

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Step 2 Search for the parameter to be modified based on **Parameter Name** and **Description**, click **Edit** in the **Operation** column, and enter the parameter value in the **Parameter Value** column.

Step 3 Click **Save** to save the parameter configuration.

Step 4 (Optional) Click **Synchronize** or **Reset** to synchronize or reset the value in the **Parameter Value** column.

----End

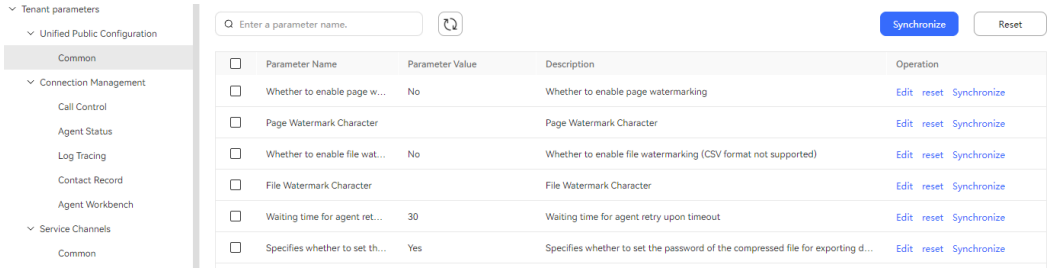
2.17.3.1 Configuring Watermarks

A tenant administrator can configure watermarks for pages and exported files to protect page data security in the tenant space.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant parameters** > **Unified Public Configuration** > **Common**.

Figure 2-851 Watermark parameters



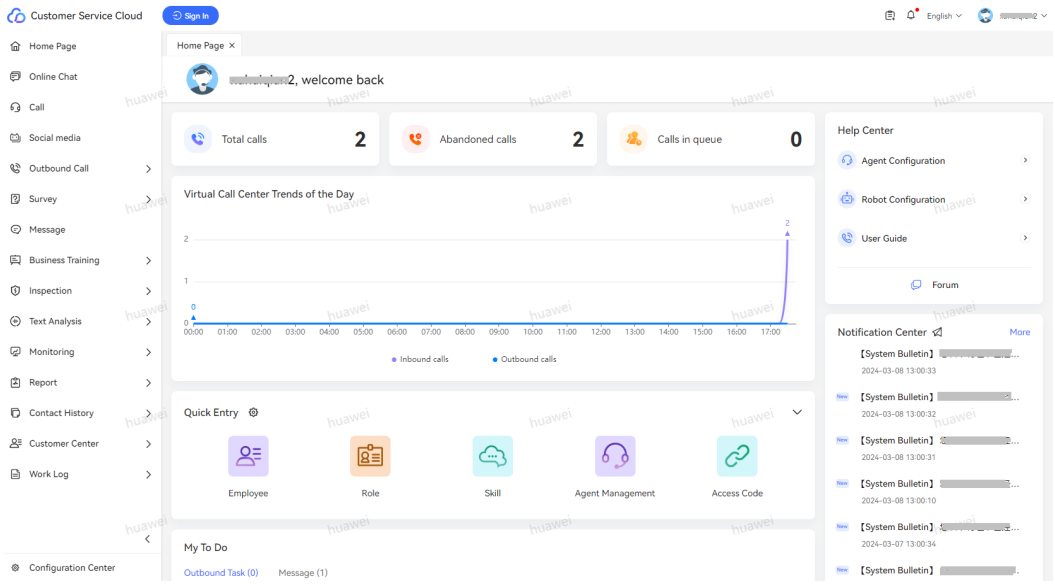
Step 3 Set parameters.

- **Whether to enable page watermarking**: Whether to display watermarks on pages. This function is disabled by default. Enabling this function displays the watermark string on pages after the setting is refreshed. The default watermark string is the business account. You can modify the watermark string using the tenant parameter **Page Watermark Character**.
- **Page Watermark Character**: Watermark string displayed on pages.
- **Whether to enable file watermarking**: Whether to display watermarks in exported files. This function is disabled by default. Enabling this function displays the watermark string in exported files after the setting is refreshed. The default watermark string is the business account. You can modify the watermark string using the tenant parameter **File Watermark Character**. If this function is enabled, watermarks are displayed in the following exported files:
  - Exported outbound call result file and call record file
  - Exported contact record file
  - Exported recording inspection file
- **File Watermark Character**: Watermark string displayed in exported files.

Step 4 View the watermark display effect.

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Figure 2-852 Page watermark display effect



----End

2.17.4 Adding Customer Numbers to the Special List

An agent can add customers who make harassing calls to the blocklist. Calls from blocklisted customers are not transferred to manual service and do not occupy manual resources. The agent can add VIP customers to the redlist to receive notifications of calls from redlisted customers.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

(Optional) In an old tenant, to use the new special list management function, set the tenant parameter **Indicates whether to enable the new special list for multimedia.** to **Yes**. The system has automatically synchronized the special list data configured in **2.17.7 Configuring Email Special List Rules** and **2.17.8 Configuring SMS Special List Rules** to the new function. All special list records except those with wildcard characters are synchronized. In addition, the old special list management function (**2.17.7 Configuring Email Special List Rules** and **2.17.8 Configuring SMS Special List Rules**) becomes invalid and resumes only after you set **Indicates whether to enable the new special list for multimedia.** to **No**. In this case, the data that has been added to the new special list needs to be manually added to the old special list.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Resource Management** > **Special List**, and click the **Special List** tab.

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Step 2 Add a special list level.

1. Click the **Level Management** tab.
2. Click **New**.
3. Set the following special list level parameters:
   - **Special List Type**: The options are **Black List** and **Red List**.
   - **Level Name**: The value can contain a maximum of 100 characters.
   - **Restriction mode**: The options are **Incoming Call**, **Outgoing Call**, and **Incoming and outgoing calls**.
   - **Restricted Duration (Hour)**: The value ranges from 1 to 8760, in hours.
   - **Status**: The options are **Available** and **Unavailable**.
   - **Remark**: The value can contain a maximum of 256 characters.

Step 3 Add a special list reminder.

1. Click the **Special list reminder** tab.
2. Click **New**.
3. Set the following special list reminder parameters:
   - **Special List Type**: The options are **Black List** and **Red List**.
   - **Special list level**: Select a special list level that is enabled on the **Level Management** page.
   - **Reminder Message**: The value can contain a maximum of 256 characters.

Step 4 Add customer numbers to the special list.

You can add customer numbers one by one or import customer numbers in batches as required.

- Add customer numbers one by one.
  a. Click the **Special List** tab.
  b. Click **New**.
  c. Configure customer number information.
     - **Subscriber number**
       The value can contain a maximum of 100 characters.
       - The value can be a phone number.
       - The value can be an email address.
         Example: **123@huawei.com**
     - **Special List Type**: The options are **Black List** and **Red List**.
     - **Special List Level**: Select a special list level that is enabled on the **Level Management** page.
     - **Effective Time**: Time when a customer number takes effect in a special list. The value must be later than the current time and earlier than January 19, 2038.
     - **Expiration Time**: Time when a customer number expires in the special list. By default, this parameter is automatically set to the

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value of **Effective Time** plus the duration specified by **Restricted Duration (Hour)** on the **Level Management** page. You can manually change the value. The value must be later than the current time and earlier than January 19, 2038.

- **Reason for Joining**: Reason for adding a customer number to the blocklist. The value can contain a maximum of 1024 characters.

d. Click **Save** to save the customer number.

- Import customer numbers in batches.

a. Click the **Special List** tab.

b. Click  .

c. Select a special list to be imported.

The options are **Black List** and **Red List**.

d. Click **Special List Import Template**.

i. Open the downloaded template and configure the customer numbers to be imported by referring to **Figure 2-853**.

Figure 2-853 Adding data

Subscriber number	Level	Effective Time	Expiration Time	Reason for Joining
		yyyy/MM/dd HH:mm	yyyy/MM/dd HH:mm	

- **Subscriber number**

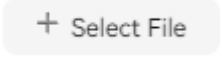
  The value can contain a maximum of 100 characters.

  - The value can be a phone number.
  - The value can be an email address.

    Example: **123@huawei.com**

- **Level**: Select a special list level that is enabled on the **Level Management** page.
- **Effective Time**: Time when a customer number takes effect in the special list. The value must be later than the current time and earlier than January 19, 2038.
- **Expiration Time**: Time when a customer number expires in the special list. The value must be later than the current time and earlier than January 19, 2038.
- **Reason for Joining**: Reason for adding a customer number to the blocklist. The value can contain a maximum of 1024 characters.

ii. Save the configured template as an .xlsx file.

e. Click 

and select the configured .xlsx file.

f. Click **OK** to upload the customer numbers.

If the customer to be imported already exists in the selected special list, the import fails. In this case, you need to manually add the customer to the special list on the page.

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Step 5 View the new customer numbers on the **Special List** tab page.

NOTE

After customer numbers are added, they can be used by the **Information query** diagram element in the IVR flow configuration.

Special list rules are applicable only to common IVR flows, intelligent IVR flows, and email, SMS, and multimedia channels.

After the offline message function is enabled for the SMS and email channels, messages that fail to be sent will be resent 5 minutes later. Therefore, after the blocklist expiration time is reached, SMS messages and emails sent within 5 minutes before the expiration time will be received.

----End

Follow-up Procedure

A tenant administrator can perform the following operations on customer numbers:

NOTE

The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

- **Special List** tab page

  Transfer To History: Select customer numbers, and delete them from **Special List** temporarily and move them to **Special List History**.

  Delete: Select customer numbers and delete the data.

  Modify: Select customer numbers and modify **Effective Time**, **Expiration Time** and **Reason for Joining** for them.

  Export: Select customer numbers and export the data. If no customer number is selected, all records that meet the search criteria are exported. A maximum of 10,000 records can be exported at a time. If the number of records that meet the search criteria exceeds 10,000, the export fails. In this case, you need to set search criteria and export records again.

- **Special List History** tab page

  Restores: Select customer numbers and add them to **Special List** again.

  Delete: Select customer numbers and delete the data.

  Export: Select customer numbers and export the data. If no customer number is selected, all records that meet the search criteria are exported. A maximum of 10,000 records can be exported at a time. If the number of records that meet the search criteria exceeds 10,000, the export fails. In this case, you need to set search criteria and export records again.

2.17.5 Configuring the Channel Special List

A tenant administrator can restrict specified or all channels by special list level.

Prerequisites

- A special list level whose **Special List Type** is **Black List** has been created according to **Step 2**.

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- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Choose **Configuration Center** > **Resource Management** > **Channel Special List** and click **Create**.

Step 2 Set channel special list information.

- **Special List Level**: Select a special list level.

  After **Special List Level** is set, **Special List Type Name**, **Restriction Mode**, **Restricted duration (hour)**, and **Status** are automatically filled in.
- **Restricted Channel Type**: Select **Email** or **SMS**.
- **Application Mode**: Select **All of them** or **Designated Channel**.
- **Restricted Channels** (mandatory when **Application Mode** is set to **Designated Channel**): Select an existing channel.

  NOTE

  - Click **Add**. Multiple channels can be restricted.
  - For the same special list level and channel type, the specified channel must be unique.
  - For the same special list level and channel type, if **Application Mode** is **All of them**, no more channel special list records can be added.

Step 3 Click **Save**.

----End

2.17.6 Managing Certificates

A tenant administrator can import certificates for management purposes.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **2.2.2.2 Permission Description (New Navigation Page)**.

You have obtained the certificate file and certificate information.

The obtaining methods include:

- CLI

Step 1 Run the following command on the Windows 10 or Linux host:

```
echo -n | openssl s_client -connect IP:PORT 2>&1 | sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > yourcert.pem
```

For example, run the following command to generate a Huawei email server certificate:

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```
echo -n | openssl s_client -starttls smtp -connect smtp.huawei.com:587 2>&1| sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > smtp.pem
```

Alternatively, run the following command:

```
echo -n | openssl s_client -connect popscn06.huawei.com:995 2>&1| sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > pop.pem
```

NOTE

Certificate files in other formats (such as .jks, .cer, and .crt) can be converted.

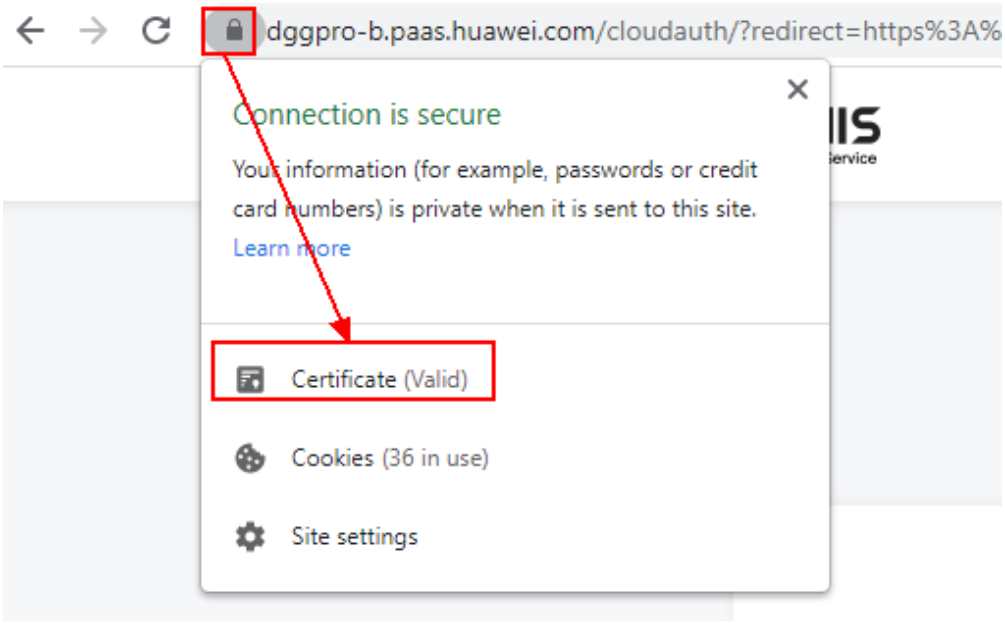
----End

- Browser

Step 1 Enter the address in the browser address bar, click **View site information** in front of the address to obtain the certificate file.

The following takes obtaining the Huawei email server certificate as an example:

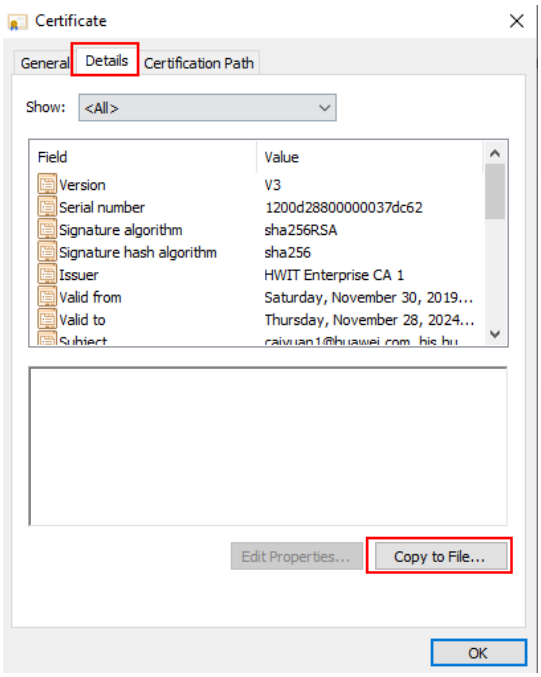
1. Open a browser, enter https://dggpro-b.paas.huawei.com/cloudauth/?redirect=https%3A%2F%2Fcn02%2Eemail%2Ehuawei%2Ecom%3A%2Fowa in the address box, and log in to the mailbox using a domain account.
2. After login, click **View site information** in front of the address, and then click **Certificate (Valid)**.



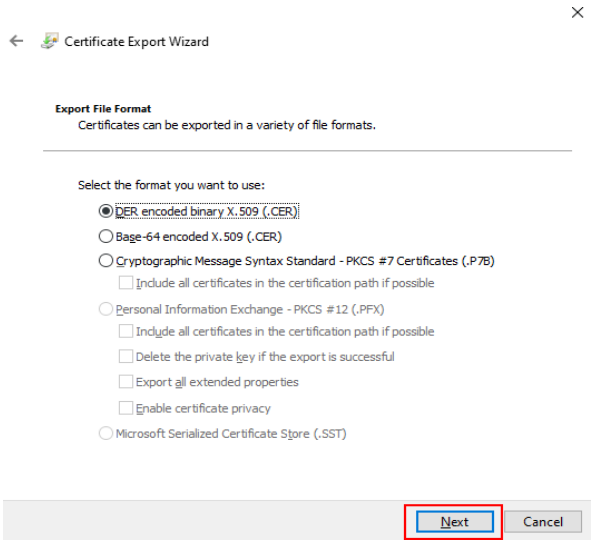
3. Click the **Certification Path** tab, select the root certificate, and click **View Certificate**.

   All branch sites of a website can use the root certificate in the certificate chain for authentication. Therefore, the root certificate is recommended to reduce the certificate maintenance workload.
4. In the dialog box that is displayed, click the **Details** tab, click **Copy to File**, and click **Next**. (You can also click the **Certificate Path** tab to export the root certificate or level-2 certificate. The export method is similar.)

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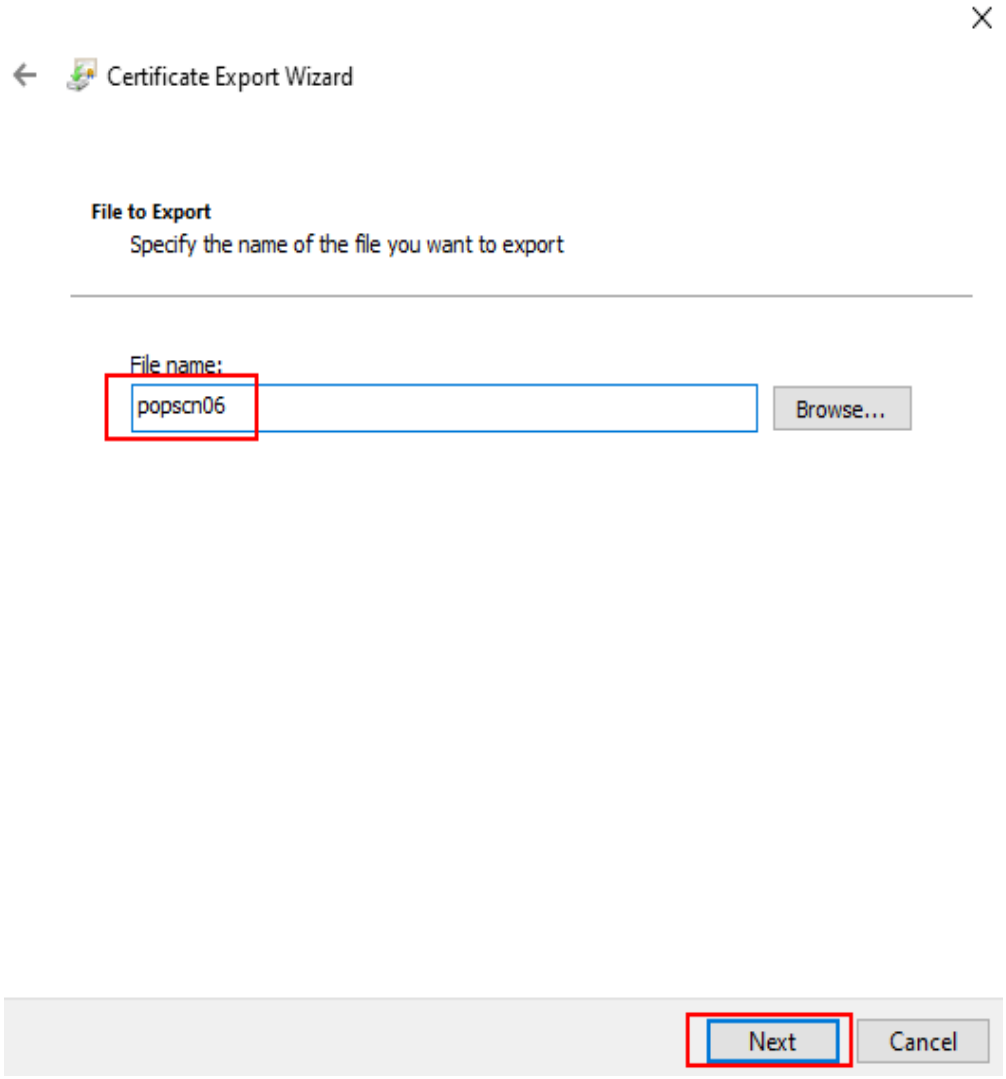


5. Select a certificate format and click **Next**.



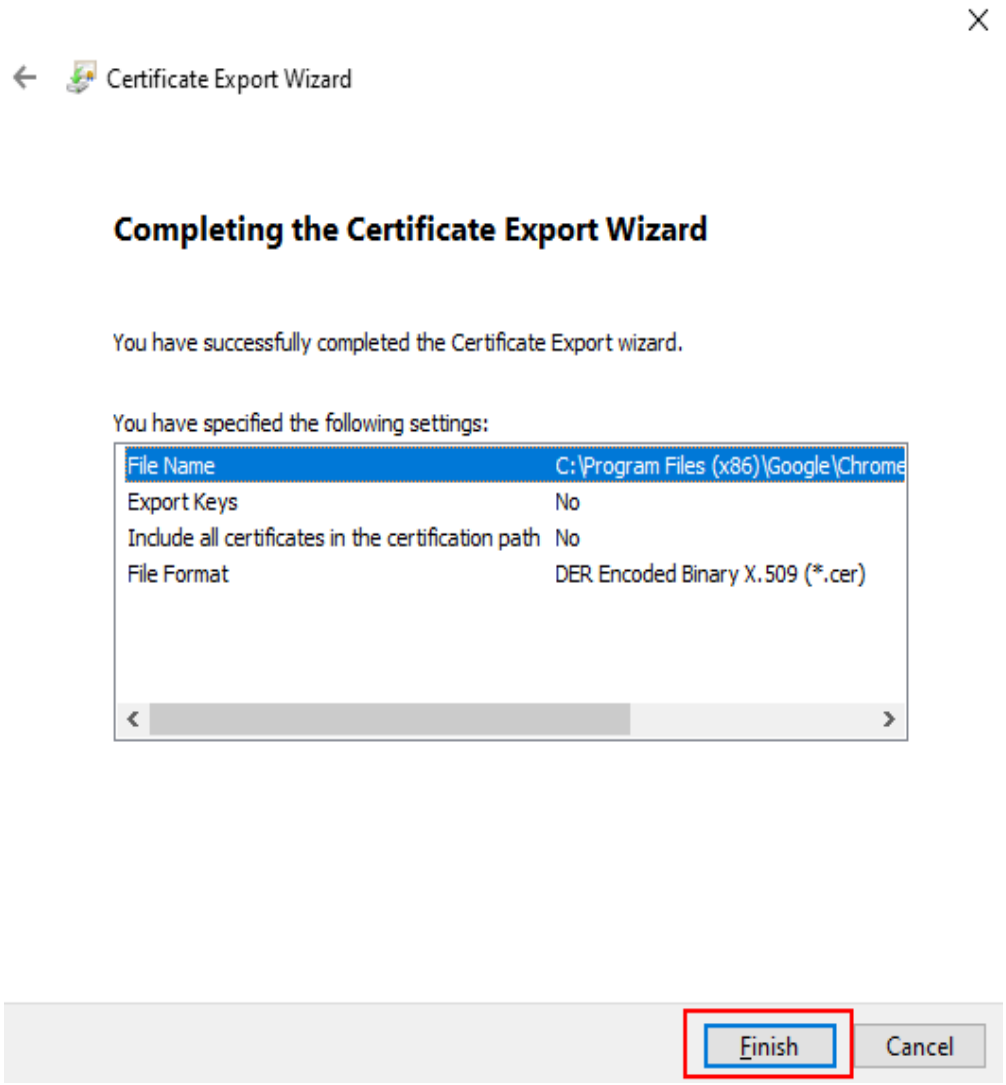
6. Enter the name of the certificate file to be exported and click **Next**.

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7. Click **Finish** to generate a certificate file. The file name is the complete path of the certificate file.

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----End

Procedure

Step 1 Sign in to AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Certificate**.

Step 2 Click **New**. The **Adding a Certificate** dialog box is displayed.

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Figure 2-854 Adding a Certificate

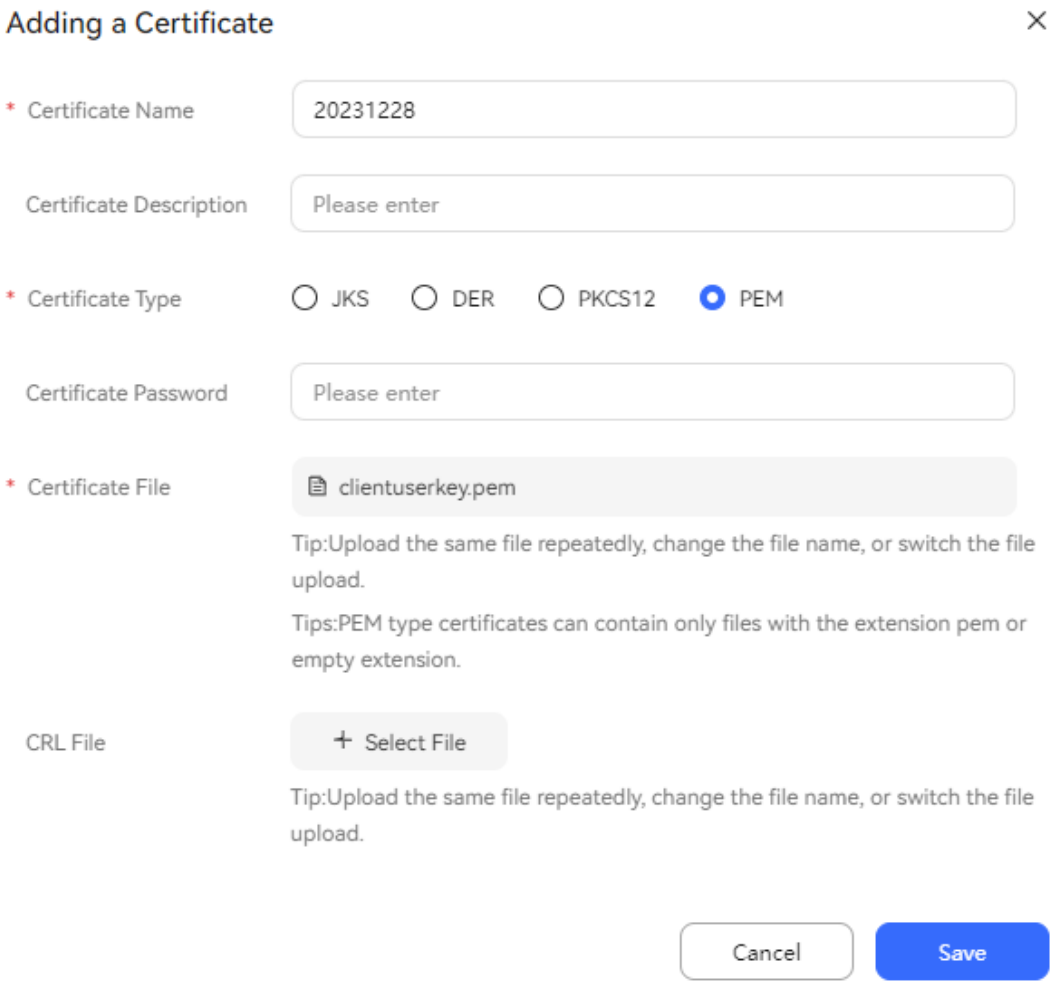


Table 2-235 Parameters for adding a certificate

Parameter	Description
Certificate Name	Enter a customized certificate name. The value can contain a maximum of 64 characters.
Certificate Description	Enter a customized certificate description. The value can contain a maximum of 256 characters.

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Parameter	Description
Certificate Type	Select a certificate type that is supported by the system. • **JKS** • **DER** • **PKCS12** • **PEM** **NOTE** The encryption algorithm used by a certificate in PKCS12 format is insecure and has security risks. You are advised to add a certificate in another format, such as JKS.
Certificate Password	Enter a certificate password. The value can contain a maximum of 256 characters.
Certificate File	Select a local certificate file.
CRL File	Select a local CRL file.

Step 3 Click **Save**. The certificate is uploaded successfully and takes effect 10 minutes later.

----End

Follow-up Procedure

After the certificate is uploaded successfully, you can perform the following operations:

- Click **Edit** in the **Operation** column to update the certificate.
- Click **Discard** in the **Operation** column to discard the certificate.
- Click **Reuse** in the **Operation** column to reuse a discarded certificate.

2.17.7 Configuring Email Special List Rules

A tenant administrator configures the email special list, which is the email address blocklist, to block emails that do not need to be received. Agents cannot send emails to blocklisted email addresses (including email addresses of recipients, Cc recipients, and Bcc recipients).

Prerequisites

- You have configured the email channel. For details, see **2.5.6 Configuring the Email Channel**.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Context

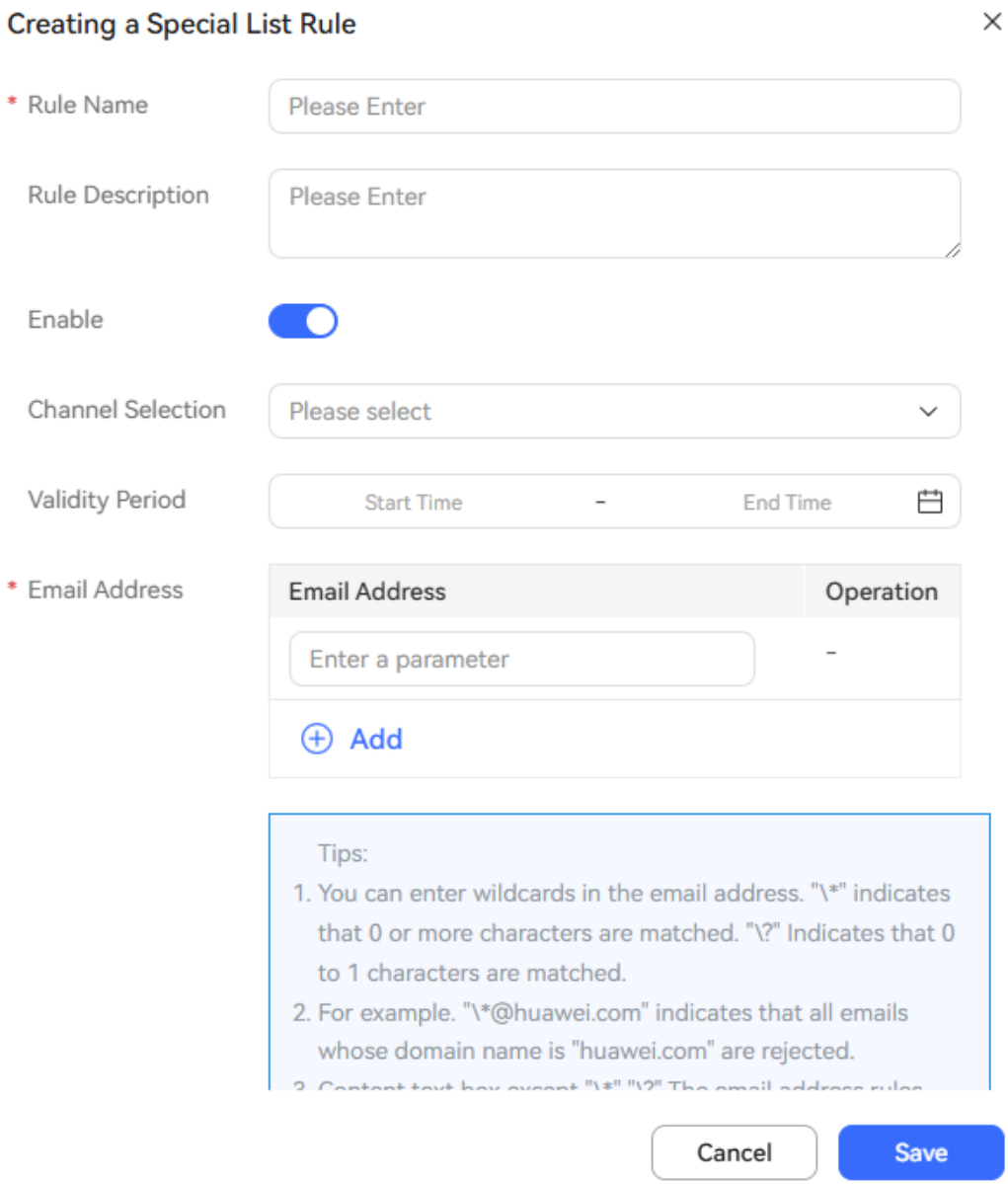
The special list rule takes effect 5 minutes after being configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Mailing Special List**.

Step 2 Click **Create**. In the **Creating a Special List Rule** dialog box, set rule parameters.

Figure 2-855 Creating a Special List Rule page



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Table 2-236 GUI elements on the Creating a Special List Rule page

Element	Description
Rule Name	Enter a customized rule name.
Rule Description	Enter a description, which is optional.
Enable	Determine whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Channel Selection	Select the email channel to which the rule applies. • Email channels configured for the tenant • **All channels** (all email channels)
Validity Period	Set the validity period of the rule. • At least one of the start time and end time must be set. • If the end time is not set, the validity period is from the start time to the maximum expiration time, which is 2038-1-18 23:59:59. • If the start time is not set, the validity period starts from the current time. • By default, the rule takes effect immediately, and the validity period is set to the maximum value, which is from the current time to 2038-01-18 23:59:59.
Add	Add a blocklisted email address.
Email Address	Enter a blocklisted email address.
	Delete a blocklisted email address that has been added.

Step 3 Click **Save** to save the new email special list rule.

----End

2.17.8 Configuring SMS Special List Rules

A tenant administrator configures the SMS special list, that is, the mobile number blocklist, to block SMS messages that do not need to be received. Agents cannot send SMS messages to blocklisted mobile numbers.

Prerequisites

- You have configured the SMS channel. For details, see **2.5.9 Configuring the SMS Channel**.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the

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corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

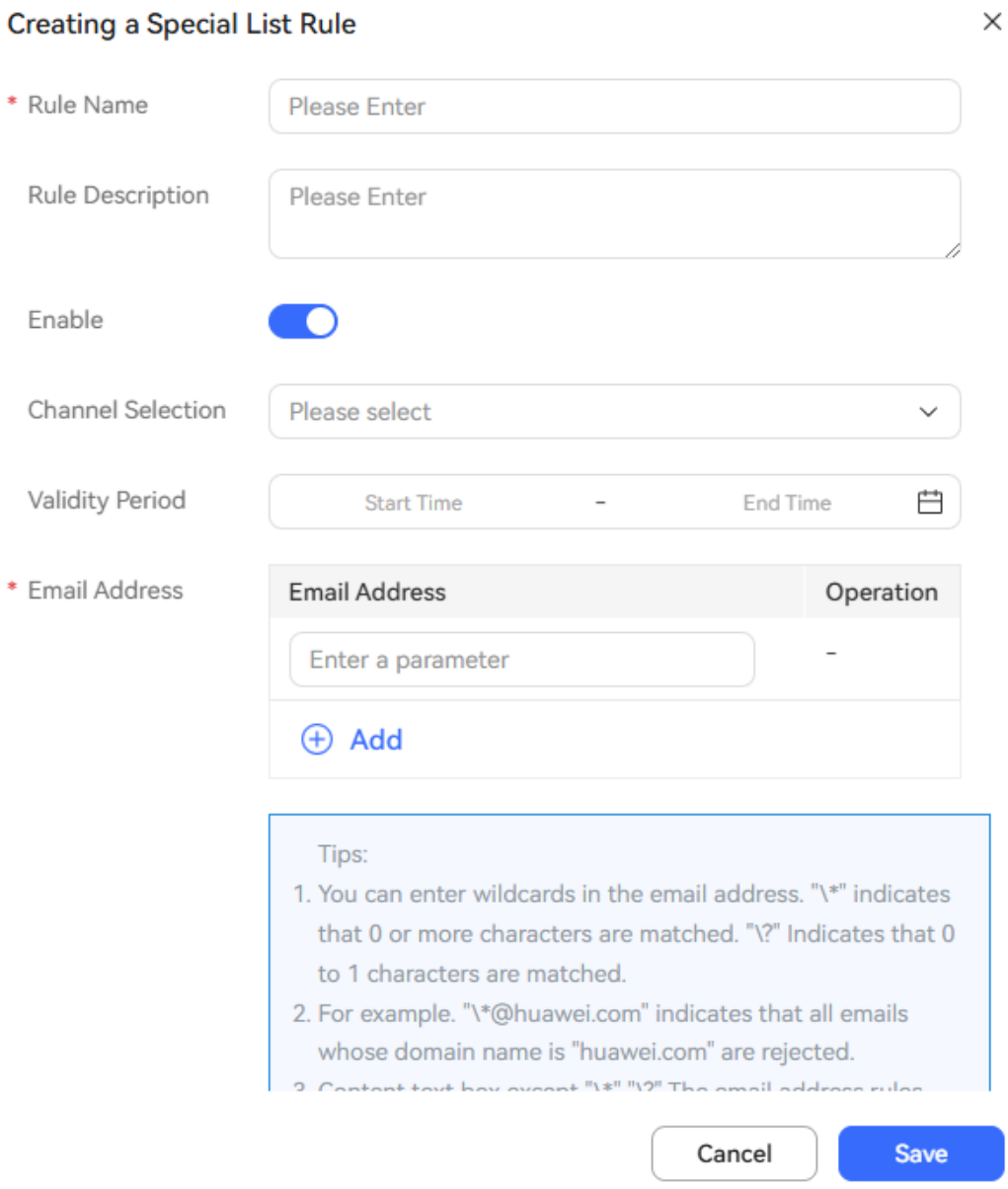
The special list rule takes effect 5 minutes after being configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **SMS Special List**.

Step 2 Click **Create**. In the **Creating a Special List Rule** dialog box, set rule parameters.

Figure 2-856 Creating a Special List Rule page



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Table 2-237 GUI elements on the Creating a Special List Rule page

Element	Description
Rule Name	Enter a customized rule name.
Rule Description	Enter a description, which is optional.
Enable	Determine whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Channel Selection	Select the SMS channel to which the rule applies. • SMS channels configured for the tenant • **All channels** (all SMS channels)
Validity Period	Set the validity period of the rule. • At least one of the start time and end time must be set. • If the end time is not set, the validity period is from the start time to the maximum expiration time, which is 2038-1-18 23:59:59. • If the start time is not set, the validity period starts from the current time. • By default, the rule takes effect immediately, and the validity period is set to the maximum value, which is from the current time to 2038-01-18 23:59:59.
Add	Add a blocklisted mobile number.
Mobile Number	Enter a blocklisted mobile number.
	Delete a blocklisted mobile number that has been added.

Step 3 Click **Save** to save the new SMS special list rule.

----End

2.17.9 Configuring Resource Dump Tasks

A tenant administrator creates resource dump tasks to transfer business resource data to specified locations.

Prerequisites

- You have enabled the **Resource Dump** feature for the tenant.
- You have purchased Object Storage Service (OBS) at **https://www.huaweicloud.com/intl/en-us/product/obs.html**.

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- If you have purchased and enabled OBS server-side encryption, do not set a policy to deny the upload without the x-obs-server-side-encryption header.
- Huawei Cloud documentation:

  https://support.huaweicloud.com/usermanual-obs/obs_03_0088.html
- To use the function of viewing dump resources online, you have enabled the **View dump resources online** feature.

  In addition, you have purchased Cloud Search Service (CSS) on Huawei Cloud at **https://www.huaweicloud.com/intl/en-us/product/css.html**, obtained the cloud search server certificate by referring to **https://support.huaweicloud.com/intl/en-us/css_faq/css_02_0106.html**, and uploaded the certificate to the system by referring to **2.17.6 Managing Certificates**.
- An application has been submitted to the system administrator and approved to add the OBS address, OBS proxy address, CSS address, and CSS proxy address to the address trustlist.
- Resource dump tasks are **not supported** in the OP integration environment.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

- If information, such as the AK, SK, and proxy user password, is changed on OBS, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **System Management** > **Resource Dump** and update OBS information, such as the AK, SK, and proxy server password.
- If the user password of CSS or the CSS proxy server is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **System Management** > **Resource Dump** and update the user password of CSS or the CSS proxy server.
- After a resource dump task or server is deleted, the corresponding dump resources cannot be queried online. You can query the dump resources on the purchased CSS.

Procedure

Step 1 Add a resource dump server.

1. Click the **Resource Dump Server** tab.
2. Click **New** in the upper right corner to add a resource dump server for storing resource data, including voice files, report data, CDR data, contact records, multimedia chat data, and AI inspection data.

   NOTE

   A maximum of 20 resource dump servers can be added for a tenant space.
3. Customize the server name.

   The server name must be unique.
4. Enter information about the purchased OBS, including the OBS address, data bucket, AK, and SK.

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5. (Optional) Configure the proxy. Enter the proxy server address, port, username, and password.

   NOTE

   If the server can directly access the external network, you do not need to configure the proxy.

6. Determine whether to enable certificate verification.

   By default, certificate verification is enabled. Contact O&M personnel to import the OBS trust certificate to the certificate store. Otherwise, resource dump tasks fail to be executed.

   NOTE

   If certificate verification is disabled, peer identity spoofing risks occur. You are advised to enable certificate verification.

7. Click **OK**.

Step 2 (Optional) Add a cloud search server.

1. Click the **Cloud Search Server Configuration** tab.
2. Click **New** in the upper right corner to add a cloud search server.

   NOTE

   Only one cloud search server can be added for a tenant space.

3. Customize the server name.

   The server name must be unique.

4. Enter information about the purchased CSS, including the CSS address, CSS port, cluster login username, and password.
5. (Optional) Configure the proxy. Enter the proxy server address, port, username, and password.

   NOTE

   If the server can directly access the external network, you do not need to configure the proxy.

6. Select the cloud search server certificate that has been uploaded.

   NOTE

   If certificate verification is disabled, peer identity spoofing risks occur. You are advised to enable certificate verification.

7. Click **OK**.

Step 3 Click the **Resource Dump Task** tab to add a task for obtaining resource data.

NOTE

Only one voice file task, one report data task, one CDR data task, and one AI inspection data task can be created for the same dump data type and dump duration.

Step 4 Add a task for obtaining voice files.

1. Customize the task name and set **Dump Data Type** to **Voice file**.

   The task name must be unique.

2. Select a configured dump server and set the dump file path for storing voice files generated by the business side, for example, **/data/voicefile**.

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3. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. (Optional) Click  to enable CSS.

   The keys for storing voice files in OBS are written to CSS.
5. Click **Save**.

Step 5 Add a task for obtaining report data.

1. Customize the task name and set **Dump Data Type** to **Report data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing report data generated by the business side, for example, **/data/reportdata**.
3. Set the dump duration.
   - **Day**: Data of one day is uploaded for each task.
   - **Week**: Data of one week from Monday to Sunday is uploaded for each task.
   - **Month**: Data of one month from the beginning to the end is uploaded for each task.
4. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
5. Select one or more reports to be dumped. The options are as follows:
   - **VCC Traffic Report**
   - **VCC Traffic Report by AccessCode**
   - **IVR Traffic Report**
   - **IVR Traffic Report by AccessCode**
   - **Skill Queue Traffic Report**
   - **Skill Queue Traffic Report by AccessCode**
   - **Traffic Summary Report**
   - **Agent Traffic Report**
   - **Agent Outbound Call Report**
   - **Agent Operation Report**
   - **Abandoned Call in Ringing Report**
   - **Agent Timesheet Report**
6. Click **Save**.
7. Click **Enable** to enable the task.

Step 6 Add a task for obtaining CDR data.

1. Customize the task name and set **Dump Data Type** to **CDR data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing CDR data generated by the business side, for example, **/data/cdrdata**.
3. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. Click **Save**.

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5. Click **Enable** to enable the task.

Step 7 Add a task for obtaining contact records. A maximum of 20 contact record tasks can be added.

1. Customize the task name and set **Dump Data Type** to **Contact record**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing contact records generated by the business side, for example, **/data/contactrecord**.
3. Set the dump duration.
   - **Day**: Data of one day is uploaded for each task.
   - **Week**: Data of one week from Monday to Sunday is uploaded for each task.
   - **Month**: Data of one month from the beginning to the end is uploaded for each task.
4. Set the start day of the dump duration. When **Dump Duration** is set to **Week** or **Month**, you need to set this parameter to delete contact records.
   - When **Dump Duration** is set to **Week**, the value of **Dump Duration Start** ranges from Monday to Sunday.
   - When **Dump Duration** is set to **Week**, the value of **Dump Duration Start** is a positive integer ranging from 1 to 28.
5. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
6. (Optional) Set filter criteria.
7. Set **Export data field**. The options are as follows:
   - **All**: All data fields are exported. The export scope cannot be customized.
   - **Customization**: By default, all data fields are exported. The export scope can be customized.
8. Click **Save**.
9. Click **Enable** to enable the task.

Step 8 Add a task for obtaining multimedia chat data.

NOTE

For a single tenant, one channel can have only one dump task. If an omni-channel dump task exists, other dump tasks for storing multimedia chat data are not allowed. Discarded tasks are not counted.

1. Customize the task name and set **Dump Data Type** to **Multimedia chat data**.

   The task name must be unique.
2. Select a configured dump server and set the dump file path for storing multimedia chat data generated by the business side. The dump file path must start with a slash (/), for example, **/data/multimedia**.

   After the dump file path is set, the system automatically displays the path for storing dump files on OBS in **/ccfs/***Tenant space ID*/*Entered path* format.
3. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.

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4. (Optional) Click  to enable CSS.

   The keys for storing chat record index files in OBS are written to CSS.

5. Set **Chat Data Dump Duration (Day)**.

   The value ranges from 1 to 180. The default value is **30**.

   NOTE

   The current date is used as the date before which data is dumped. For example, if this parameter is set to **3**, data of the third day before is dumped, but data of the fourth day before and earlier is not dumped.

6. Select all channel types.
7. Click **Save**.
8. Click **Enable** to enable the task.

Step 9 Add a task for obtaining AI inspection data.

1. Customize the task name and set **Dump Data Type** to **AI inspection data**.

   The task name must be unique.

2. Select a configured dump server and set the dump file path for storing AI inspection data generated by the business side. The dump file path must start with a slash (/), for example, **/data/multimedia**.
3. (Optional) Set **Dump file retention period**. The value is an integer ranging from 1 to 60. If this parameter is left blank, data is stored permanently.
4. Set **AI Inspection Data Dump Duration**.

   The value ranges from 15 to 90. The default value is **60**.

   NOTE

   The current date is used as the date before which data is dumped. For example, if this parameter is set to **3**, data of the third day before is dumped, but data of the fourth day before and earlier is not dumped.

5. Click **Save**.
6. Click **Enable** to enable the task.

----End

Follow-up Procedure

- 5 minutes after a task is started, choose **Configuration Center** > **System Management** > **Resource Dump Task** to view the task execution record.
  - If the task fails to be executed, click **Re-execute** to execute the task again.
- After a task for which CSS is enabled is started, choose **Contact History** > **Dump Resource** to view dump resources online.

References

Currently, the following dump data types are supported. The following file examples and field descriptions are provided for reference.

Table 2-238 Description of PRM CDRs

Field Name	Type	Description
callId	String	Call ID.
callIdNum	Integer	CDR sequence number. Sequence number of multiple CDRs generated for a call. The value starts from 1 and indicates the first CDR. The value **-1** indicates the last CDR.
callerNo	String	Calling number. The value can be a phone number, an email address, or a web page.
calleeNo	String	Called number. The value can be a phone number, an email address, or a web page.
waitBegin	Date	Start time of call waiting. The value indicates the start time when a call accesses the current device.
waitEnd	Date	End time of call waiting. The value indicates the waiting end time of a call on the current device.
ackBegin	Date	Time when a call starts to be answered. The value indicates the time when a call starts to be answered on the current device. The value of **ackBegin** is the same as that of **waitEnd**.

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Field Name	Type	Description
ackEnd	Date	End time when a call is answered. The value indicates the end time when a call is answered on the current device.
callBegin	Date	Start time of a call. The value indicates the start time of a call on the current device. The value of **callBegin** is the same as that of **ackEnd**.
callEnd	Date	End time of a call. The value indicates the time when a call ends on the current device.
serviceNo	Integer	Business type. The value indicates the type of the business currently provided by a device.
trkNo	Integer	Trunk ID. • For a voice call, this parameter indicates the trunk circuit number of the ACD occupied by the call. For calls of the local office, the value is **–1**. • For non-voice calls, the value is meaningless.
trkGrpNo	Integer	Trunk group number. For a voice call, this parameter indicates the trunk group that the ACD trunk circuit number occupied by the call belongs to. For non-voice calls, the value is meaningless.

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Field Name	Type	Description
modNO	Integer	Module number. • For a voice call, this parameter indicates the ID of the ACD switch module occupied by the call. • For non-voice calls, the value is meaningless.
deviceType	Integer	Type of the device that processes a call.
deviceNo	Integer	ID of the device that processes the current call. • For an agent device, the device ID is the agent ID. • For a queue or virtual device, the device ID is the queue ID configured on the configuration console or the ID of the network shared device corresponding to the virtual device. • For other device types, the value is an internal ID.

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Field Name	Type	Description
deviceIn	String	Device description. • For a skill queue, the value is **DEVICE_QUEUE**. • For an agent, the value is **DEVICE_AGENT**. • When the value of **DeviceType** is **IVR business flow (3)**, the value of this field is the access code of the IVR flow. • The call value is the corresponding phone number. • For a temporary routing device, the value is **DEVICE_ROUTE**. • For a virtual device, the value is **DEVICE_VNR**. • When the value of **DeviceType** is **CDN device (10)**, the value of this field is the number of the CDN. • When the value of **DeviceType** is **PGR (14)**, the value of this field is the PGR access code.
callType	Integer	Call Type
waitCause	Integer	Reason why a call is waiting on the current device. • **0**: no waiting. • **2**: normal waiting (waiting caused by call queuing). • **3**: offline waiting (the business instructs the current call to queue offline).

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Field Name	Type	Description
releaseCause	Integer	Reason why a call is disconnected from a device. This field indicates the call release cause in a CDR when **CallIDNUM** is **-1**. In other cases, this field is meaningless.
subCcNo	Integer	Subsystem number. ID of the call center in the networked call center.
vdn	Integer	ID of the VCC that processes a call.
mediaType	Integer	Media type of a call.
UVID	Integer	User access ID. The value indicates the globally unique ID that the CCS allocates to each user who accesses the call center. During call collaboration, multiple calls of different media types can be associated.
orgCcNo	Integer	Subsystem number of the original call center.
orgCallID	String	Original call ID. The value indicates the call ID that is allocated when a network call accesses the initial call center.
orgCalleeNo	String	Original called number. The value indicates the called number of a network call in the initial call center.
orgServiceNo	Integer	Original business type. The value indicates the business type of the processing device for the call center that initially accesses a network call.

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Field Name	Type	Description
serCcNo	Integer	Subsystem number of the service party. The value indicates the subsystem ID of the call center that processes a network call.
serService	Integer	Destination business type. The value indicates the business type of the device that processes a network call in the destination call center.
userLevel	Integer	Customer level. The value indicates the customer level of the calling number in a call that accesses the call center.
userType	Integer	Customer category.
callInCause	Integer	Call access reason. The value indicates the reason why a call accesses the call center (for voice calls). **0**: unknown cause. **1**: The user is busy. **2**: no answer **3**: no condition. **4**: change during the indicator period. **5**: immediate response upon redirection. **6**: The mobile user is unreachable.
enterReason	Integer	Reason why a call accesses a device.
leaveReason	Integer	Reason why a call is disconnected from a device.

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billInfo	Integer	Language statistics. The value indicates the call language information set by the service.
preServiceNo	Integer	Business type of a call on the previous device.
preDeviceType	Integer	Type of the previous device that a call passes through. • **1**: queue • **2**: agent • **3**: IVR
preDeviceNo	Integer	ID of the previous device that a call passes through.
preDeviceIn	String	Description of the previous device that a call passes through.

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mediaInfoType	Integer	Media capability information about a call. • **0**: message call • **1**: voice call • **2**: video call (excluding voice) • **3**: voice and video call In the CDRs of message calls (such as text chats, emails, SMS messages, faxes, and co-browsing), the value of this parameter is **0**. For an outbound call, this field records the media capability when the call is connected. For CDRs of local internal calls and local help requests, the media capability in the CDRs of two agents is recorded as the sign-in media capability of the agent who initiates the call. That is, if an agent signs in as a video agent, the internal call is recorded as a video call; if an agent signs in as a voice agent, the internal call is recorded as a voice call.
skillID	Integer	ID of the skill queue to which a call belongs. When a call is transferred because the queue to which the call belongs overflows or no agent is on duty, the value is the ID of the first skill queue that the call enters.
locationID	Integer	ID of the distributed node to which a call belongs.

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billInfo1	Integer	Business information 1. The value indicates the call business information set by the business.
billInfo2	Integer	Business information 2. The value indicates the call business information set by the business.
billInfo3	Integer	Business information 3. The value indicates the call business information set by the business.
billInfo4	Integer	Business information 4. The value indicates the call business information set by the business.
OBSServiceID	String	When the value of **CallType** is **41**, **42**, **43**, **44**, **60**, **61**, **62**, or **63**, that is, for automatic outbound calls, the value of this field is the ID of an outbound campaign.
OBSUniqueID	String	When the value of **CallType** is **41**, **42**, **43**, **44**, **60**, **61**, **62**, or **63**, that is, for automatic outbound calls, the value of this field is the ID of an outbound call record.
currentSkillID	Integer	ID of the skill queue that processes the current call.
uapID	Integer	ID of the UAP that connects a call to the call center platform.
netEntID	Integer	NE ID of the media server that generates the current CDRs.

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subMediaType	Integer	Submedia type. This parameter is valid only when **MediaType** is set to **MEDIA_TYPE_WEB_LEAVE_MESSAGE(20)**.
initVdnId	Integer	ID of the first VCC to which a call belongs.

NOTE

For details about the values of **deviceType**, **callType**, **releaseCause**, **mediaType**, **enterReason**, and **leaveReason**, see *(For Engineer) ICD VxxxRxxxCxx Product Documentation 01 (ICD)*.

Table 2-239 Description of oplist CDRs

Field Name	Type	Description
agentId	Integer	Agent ID.
serviceNo	Integer	Business type ID.
skillId	Integer	Skill queue ID.
callId	String	Call ID.
beginTime	Date	Start time of an operation.
endTime	Date	End time of an operation.
opType	Integer	Operation type.
opObject	Integer	Operation object.
opCause	Integer	Operation reason.
mediaType	Integer	Media type.
vdnId	Integer	VCC ID.
ccId	Integer	ID of a call center.
agentType	Integer	Agent type.
phoneNo	String	Agent number.
callInOut	Integer	Flag indicating whether it is an inbound or outbound call.
locationId	Integer	Distributed node ID.

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Field Name	Type	Description
logonSn	String	Sign-in sequence number.
skillInfoSn	String	Index of the skill list that an agent has when the agent performs the current operations.

NOTE

For details about the values of **opType**, **opObject**, **opCause**, and **mediaType**, see *(For Engineer) ICD VxxxRxxxCxx Product Documentation 01 (ICD)*.

Table 2-240 Description of callid.json

Field	Type	Description
callSerialno	Varchar	Call SN.
workNo	Decimal	Platform agent ID.
countId	Varchar	Account.
countName	Varchar	Account name.
logIP	Varchar	Sign-in IP address.
contactId	Varchar	Contact ID.
callId	Varchar	Call ID between an agent and a user.
calltype	Decimal	Call type. • **0**: inbound call • **1**: outbound call • **2**: predicted outbound call • **3**: previewed outbound call • **4**: preempted outbound call • **10**: bidirectional call • **11**: collaborative call • **12**: click-to-dial call

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Field	Type	Description
mediaTypeId	Decimal	Media type. • **0**: normal call • **2**: voice click-to-dial • **5**: voice and video • **6**: internal call • **7**: common outbound call • **18**: video click-to-dial • **19**: common video call • **41**: preempted outbound call • **43**: predicted outbound call • **44**: previewed outbound call • **51**: internal two-party help call • **52**: internal three-party help call • **53**: multimedia
channelType	Decimal	Multimedia channel. • **0**: other channels • **1**: Web • **2**: WeChat • **3**: Facebook • **4**: X (Twitter) • **6**: email • **8**: LINE • **9**: WhatsApp • **11**: Instagram • **12**: Telegram
caller	Varchar	Caller number.
called	Varchar	Called number.
acceptNo	Varchar	Handled number, which can be configured by an agent.
callSkill	Varchar	Skill queue.
skillId	Decimal	Skill queue ID.

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Field	Type	Description
oriCallednum	Varchar	Original called number.
talkReason	Varchar	Session reason ID, which is the same as the call reason ID.
talkRemark	Varchar	Session remarks.
beginTime	Timestamp	Start time.
endTime	Timestamp	End time.
calllDuration	Decimal	Call duration.
staffHangup	Decimal	Party that hangs up a call.
chatChannelConfigId	Varchar	Multimedia channel ID.
chatUserName	Varchar	Multimedia channel username.
chatWebUserAccessType	Varchar	User access mode of the web channel. The value **0** indicates API access.
detail	Varchar	Call details file name.

Table 2-241 Description of detail_{Random UUID}.json

Field	Type	Description
channel	Varchar	Channel name, for example, **WEB**, **WECHAT**, or **FACEBOOK**.
channelConfigId	Varchar	Channel ID.
userId	Varchar	Unique ID of a customer in a channel.

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Field	Type	Description
senderNickname	Varchar	Nickname of the message sender. • If no nickname is configured for the agent, the default value is Agent. • For end users, this is the social media nickname, which depends on the openness of the social media channel interface. By default, the value is the same as the value of userId.
sendTime	Varchar	Time when a message is sent.
controlType	Varchar	Message control type, such as the message connection type or chat message type. • **CONNECT** • **DISCONNECT** • **TRANS2AGENT** • **CHAT**
sourceType	Varchar	Message source type, for example, customer, agent, or robot. • **USER**: customer • **AGENT**: agent • **ROBOT**: robot • **ISALES**: ISALES • **QUALITYINSPECTOR**: quality inspector • **SYSTEM**: system messages, such as session timeout and disconnection • **SATISFACTION**: satisfaction survey

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Field	Type	Description
mediaType	Varchar	Media type of the message content, for example, text, image, audio, or video. • **TEXT**: text • **IMAGE**: image • **LOCATE**: location message • **VIDEO**: video • **AUDIO**: audio • **FILE_IMAGE**: file image • **FILE**: file • **FILE_VIDEO**: file video • **EMOTICONS**: personalized emoticons • **CARD**: card • **EMAIL**: email • **RICHTEXT**: rich text • **WHATSAPPTEMPLATE**: WhatsApp template • **INTERACTIVE_BUTTONS**: interactive button (WhatsApp) • **INTERACTIVE_LIST**: interactive list (WhatsApp) • **WEBCARD**: web card • **DOCUMENT**: document • **COBROWSESITE**: co-browsing • **MENTION**: messages of types mentioned on the Instagram channel

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Field	Type	Description
content	Long text	Message content. Data with different meanings is carried based on the media type. • In this case, the value entered by the customer is in plain text, for example, Hola, bienvenido a Movistar! Te saluda ivan". • In some cases, for example, when a customer sends a WhatsApp template, the value is in JSON format, for example, {\"content\":\"Hola\"}.
callId	Varchar	Call ID.
messageCode	Varchar	Unique message code, which is used to identify the message for canceling or deleting an action.
sendStatus	Tinyint	**0:** The message is sent successfully. **1**: The message is being sent. **2**: The message fails to be sent, the message sending times out, or the message is rejected. **3**: The message is read. **4**: The message is unread.
recallTime	Timestamp	Time when a message is withdrawn.
errorMsg	Varchar	Message sending failure cause.
receiveTime	Timestamp	Time when a message sent by a customer arrives.

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Field	Type	Description
contentDealType	Varchar	Whether a message is a local file message. The value **1** indicates yes.
isForwarded	Tinyint	This parameter is available only during email dump. • **0**: not forwarded • **1**: forwarded
forwardTime	Timestamp	Forwarding time. This parameter is available only during email dump.
emailContentFile	Long text	OBS key of the email content file.
isRead	Varchar	• **0**: read • **1**: unread • **2**: processed
title	Varchar	Email title.
sender	Varchar	Sender address.
receiver	Long text	Recipient address.
emailType	Varchar	• **0**: inbox • **1**: outbox
ccList	Long text	List of Cc recipient addresses. Multiple addresses are separated by semicolons (;)
bccList	Long text	List of Bcc recipient addresses. Multiple addresses are separated by semicolons (;)
recordTime	Timestamp	Time when an email is saved to the database.
attachmentList	Long text	Attachment list.
innerPictureList	Long text	List of the OBS keys of email image files.
isDispatch	Varchar	• **0**: The message has been allocated or sent successfully. • **1**: not allocated

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Field	Type	Description
catalogId	Varchar	Email catalog ID.

Table 2-242 Description of AI inspection data

Table	Field	Type	Description
qiCallTaskList (inspection task)	callid	Varchar	Call ID.
	tenantid	Varchar	Tenant ID.
	callname	Varchar	Recording file name.
	calldesc	Varchar	Call description.
	filetype	Decimal	File type. The options are **0** (voice) and **2** (multimedia).
	calltime	Datetime	Call time.
	uploadtime	Datetime	Recording upload time.
	filepath	Varchar	Talk source file path.
	createtime	Datetime	Creation time.
	seatid	Varchar	Agent ID.
	seatname	Varchar	Agent name.
	isdeal	Decimal	Unused field.
	status	Decimal	Task status.
	inspectstatus	Decimal	Sample inspection status.
	inspectstatushis	Decimal	Historical sample inspection status.
	reviewStatus	Decimal	Review status.
	complainStatus	Decimal	Appeal status.
	manualscore	Decimal	Manual rating score.
	asrid	Varchar	ASR task ID.

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Table	Field	Type	Description
	asrtime	Datetime	Time when recording ASR is triggered.
	interactionType	Tinyint	Interaction type. The options are **0** (voice) and **2** (multimedia).
	WORKNO	Decimal	Agent ID.
	CALLER	Varchar	Calling number.
	CALLED	Varchar	Called number.
	CTICALLID	Varchar	CTI call ID.
	NEEDSPEECHANALYSIS	Varchar	Whether to enable the semantic analysis feature for the tenant. The options are **1** (enabled) and **0** (disabled).
	CALLTYPE	Decimal	Call type. For details, see the definition of **billLog**.
	CALLREASONS	Varchar	Call reason.
	EVALUATION	Varchar	Satisfaction evaluation.
	asrsource	Varchar	Offline ASR source. The options are **sinovoice** (SinoVoice) and **iflytek** (iFLYTEK).
	orgFileName	Varchar	Original file name of a call recording.
	locationId	Varchar	Node ID of a call recording. This parameter has a value only in CTI pool mode.

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Table	Field	Type	Description
	trackStatus	Decimal	Tracing status of data processing.
	isHis	Integer	Whether the data is historical data. The options are **0** (no) and **1** (yes).
	qiAsrServerId	Varchar	ID of the associated inspection ASR server.
qiCallResultList (inspection result)	callid	Varchar	Call ID.
	tenantid	Varchar	Tenant ID.
	asrfilepath	Varchar	ASR result file path.
	duration	Decimal	Contact duration, in milliseconds.
	seatcallratio	Decimal	Agent talk ratio.
	custcallratio	Decimal	Customer talk ratio.
	seatspeed	Decimal	Agent speaking speed.
	custspeed	Decimal	Customer speaking speed.
	seatsilencetime	Decimal	Agent silence duration.
	custsilencetime	Decimal	Customer silence duration.
	seatemotion	Varchar	Agent emotion.
	custemotion	Varchar	Customer emotion.
	score	Decimal	Score.
	interactionType	Tinyint	Interaction type. The options are **0** (voice) and **2** (multimedia).
	createtime	Datetime	Time when an inspection task is created.

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Table	Field	Type	Description
	segments	Array	Dialog content (list).
	asrText	Varchar	Dialog text.
	startTime	Decimal	Chat start time (for the voice type).
	startTimeFormat	Varchar	Formatted chat start time (hour, minute, and second).
	endTime	Decimal	Chat end time (for the voice type).
	endTimeFormat	Varchar	Formatted chat end time (hour, minute, and second).
	segmentId	Decimal	Sequence number.
	speaker	Varchar	Speaker. The options are **staff** and **segment**.
	callTime	Decimal	Chat time (for the text type; timestamp).
	callTimeFormat	Varchar	Formatted chat time (year, month, day, hour, minute, and second).
qiScoreList (inspection score)	groupinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	callid	Varchar	Call ID.
	groupid	Varchar	Scenario ID.
	score	Decimal	Score.
	manualscore	Decimal	Manual rating score.
	groupname	Varchar	Scenario name.
	groupdesc	Varchar	Scenario description.

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Table	Field	Type	Description
	createtime	Datetime	Time when an inspection task is created.
	ignoresensitive	Decimal	Whether to ignore sensitive words. The options are **0** and **1**.
qiSilenceScoreList (silence rule score)	ruleinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	callid	Varchar	Call ID.
	ruleid	Varchar	Rule ID.
	rulename	Varchar	Rule name.
	valid	Varchar	Whether a rule is valid.
	score	Decimal	Score.
	createtime	Datetime	Time when an inspection task is created.
	sensitiveRuleMatch	Varchar	Rule matching.
qiSpeedScoreList (speed rule score)	ruleinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	groupinstid	Varchar	Inspection score ID.
	ruleid	Varchar	Rule ID.
	rulename	Varchar	Rule name.
	valid	Varchar	Whether a rule is valid.
	score	Decimal	Score.
	createtime	Datetime	Time when an inspection task is created.
	speedRuleMatch	Varchar	Rule matching.

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Table	Field	Type	Description
qiInterposalScoreList (interruption rule score)	ruleinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	groupinstid	Varchar	Inspection score ID.
	ruleid	Varchar	Rule ID.
	rulename	Varchar	Rule name.
	valid	Varchar	Whether a rule is valid.
	score	Decimal	Score.
	createtime	Datetime	Time when an inspection task is created.
	interposalRuleMatch	Varchar	Rule matching.
qiDialogueScoreList (dialog rule score)	ruleinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	groupinstid	Varchar	Inspection score ID.
	ruleid	Varchar	Rule ID.
	rulename	Varchar	Rule name.
	valid	Varchar	Whether a rule is valid.
	score	Decimal	Score.
	createtime	Datetime	Time when an inspection task is created.
	dialogueRuleMatch	Varchar	Rule matching.
qiSensitiveScoreList (sensitive word score)	ruleinstid	Varchar	Primary key.
	tenantid	Varchar	Tenant ID.
	callid	Varchar	Call ID.
	ruleid	Varchar	Rule ID.
	rulename	Varchar	Rule name.

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Table	Field	Type	Description
	valid	Varchar	Whether a rule is valid.
	score	Decimal	Score.
	createtime	Datetime	Time when an inspection task is created.
	sensitiveRuleMatch	Varchar	Rule matching.

Table 2-243 Description of the JSON AI inspection file

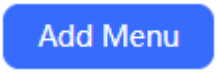
Field	Type	Description
start_time	Datetime	Start time (*n*th second).
asr_text	Varchar	Communication content.
speaker	Varchar	Speaker role. The options are **customer** (customer) and **staff** (agent).
end_time	Datetime	End time (*n*th second).
segment_id	Varchar	*n*th chat record. *n* starts from 1.

2.17.10 Managing Menus

The preset menus in the system can be searched. In addition, a tenant administrator can create or delete customized menus.

Procedure

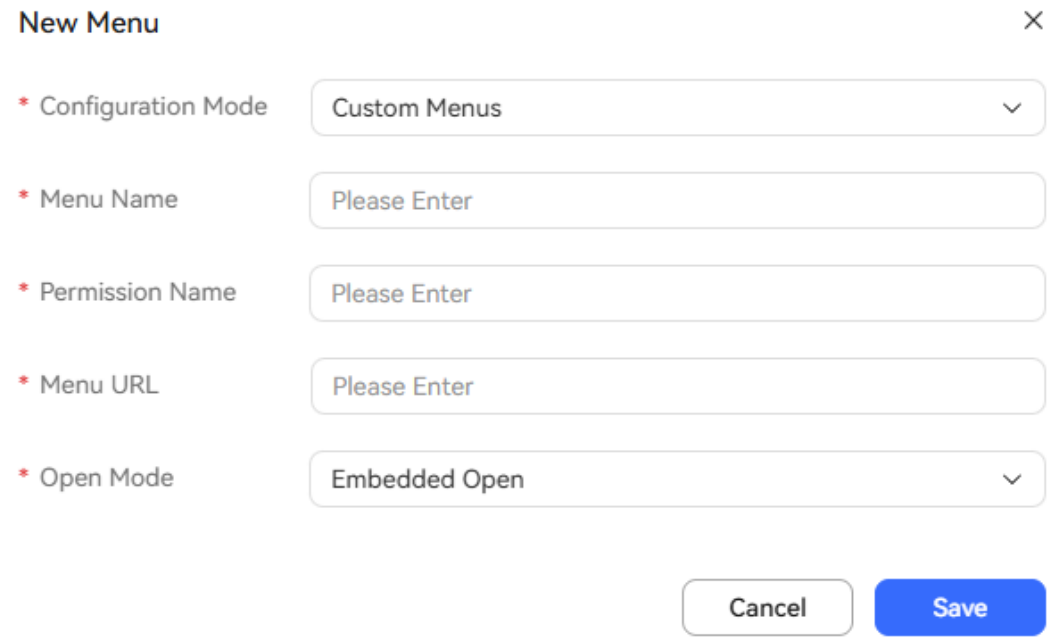
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Menu Management**.

Step 2 Click 

. The **New Menu** dialog box is displayed.

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Figure 2-857 New Menu



- **Configuration Mode**: Select **Custom Menu** or **Application Integration**. The default value is **Custom Menu**. This parameter is available only after the application integration feature is enabled for the tenant space.
- **Application**: This parameter is displayed when **Configuration Mode** is set to **Application Integration**. The value is the name of a published application whose **Application Location** is **Applications** on the **Configuration Center** > **Expansion and Integration** > **Application Integration** page.
- **Menu Name** (mandatory): Enter a customized menu name. The value can contain a maximum of 50 characters and cannot contain the following special characters: !#$%&()¥+:"{},\/'[]=-^<>
- **Permission Name** (mandatory): Enter the name of the permission associated with the current menu, which must be unique in the tenant space. The permission name must be unique in the current tenant space. The value can contain a maximum of 50 characters and cannot contain the following special characters: !#$%&()¥+:"{},\/'[]=-^<>
- **AppCube-Integrated Page** (mandatory): This parameter can be set when the AppCube feature is enabled for the tenant space and a non-AICC application is installed on AppCube.
- **Select Application** (mandatory if **AppCube-Integrated Page** is enabled): Select the software installed on the **Package Installation** page under the **Admin** menu on AppCube.
- **Select Menu** (mandatory if **AppCube-Integrated Page** is enabled): Select the menu of the software installed on AppCube.
- **Menu URL** (mandatory): Enter the detailed URL of the custom menu or application integration. For an external page, you need to contact the system administrator to add the URL to the address trustlist.
- Open Mode (mandatory): mode of opening the menu address. The options are **Embedded Open** and **Open in New Browser Tab**.

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Step 3 Click 

. The custom menu is created successfully.

Step 4 (Optional) Click **Delete** corresponding to the new custom menu to delete the menu or application.

----End

2.17.11 Configuring Message Flow Control Rules

A tenant administrator can configure message flow control rules to control WhatsApp and SMS messages.

Prerequisites

- The tenant has available WhatsApp and SMS channels.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

The system performs flow control on WhatsApp and SMS messages sent by users. When the usage reaches a threshold, an alarm is triggered, and a system bulletin is automatically sent to users.

Procedure

Step 1 Sign in to AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Message Flow Control**.

Step 2 Click **New** to add a flow control rule.

A maximum of 20 flow control rules can be added by default. To add more rules, contact O&M personnel.

Step 3 Set parameters based on **Table 2-244**.

Table 2-244 Parameter description

Parameter	Description
Name	Customized name. The value can contain a maximum of 128 characters.
Description	Customized description. The value can contain a maximum of 256 characters.
Channel Type	Channel type. • **WhatsApp** • **SMS**

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Parameter	Description
FC Object	Flow control object. The options are all the following channels of the current tenant: • WhatsApp channels • SMS channels
Period Range	Flow control period type. • **Daily** • **Weekly** • **Monthly** • **Customization**: Customize a time range.
Start time	Start time. This parameter is mandatory when **Period Range** is set to **Weekly** or **Monthly**. • **Weekly**: 1–7 • **Monthly**: 1–31
Start Time	Start time and end time. This parameter is mandatory when **Period Range** is set to **Customization**. The maximum time span is 90 days.
End Time	
Alarm Threshold (%)	Customized alarm threshold. The value ranges from 0 to 100. The default value is **80**.
Alarm Interval (min)	Customized alarm interval. The value can contain a maximum of 10 digits.
Prompt Message	Customized prompt message. The value can contain a maximum of 1024 characters.
Prompt Interval (min)	Customized prompt interval. • 1–30 • Digits
Max. Messages	Customized maximum of messages. • 1–1000000000 • Digits

Step 4 Click **Save**.

Step 5 Click to enable the rule.

----End

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2.17.12 Configuring UC Integration

A tenant administrator can configure authentication information for the AICC to connect to Microsoft Teams and synchronize online experts of Microsoft Teams. AICC agents can initiate call transfer, help seeking, and three-party calls to experts of Microsoft Teams as required.

Prerequisites

- The AICC frontend has been connected to Microsoft Teams.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- The application is successfully registered with the Microsoft identity platform according to **https://docs.microsoft.com/en-us/graph/auth-register-app-v2**.

  The following information has been obtained:

  – Directory (tenant) ID

  – Application (client) ID

  – Application (client) password

Context

- Only Microsoft Teams can be connected.
- If the application (client) password is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Expansion and Integration** > **UC Integration** and update the value of **Application (Client) Password**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **UC Integration**.

Step 2 Click  to enable **Microsoft Teams Integration**.

Step 3 Set **Directory (Tenant) ID**, **Application (Client) ID**, and **Application (Client) Password**.

Step 4 Click **Save**.

----End

2.17.13 Managing Emails

A tenant administrator can view and manage customer emails and forward emails to specified employees on the **Email** page.

Prerequisites

- You have configured an available email channel and received customer emails.

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- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- Manageable emails are subject to OUs.
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be accessed by the current operation account are available.
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, OUs that can be accessed by the current operation account and the OU to which the current operation account belongs and its sub-OUs are available.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Email**. All emails on the current day are displayed in the inbox by default.

NOTE

Click **Download** corresponding to an email and click **Yes** in the confirmation dialog box that is displayed to download the attachment.

The downloaded data contains personal data. Exercise caution when processing the downloaded data to prevent personal data leakage and abuse.

Step 2 Create an inbox catalog for employee A.

1. Hover the pointer over **Inbox**, click  , and create a catalog named **Employee A**.
2. Click **Save**.

Step 3 Move emails to the **Employee A** catalog.

1. Select the emails to be moved.
2. Click **Batch Operation**, choose **Move**, and select the **Employee A** catalog.
3. Click **Confirm**.

Step 4 Assign an email to employee A.

1. Click the **Employee A** catalog in the inbox.
2. Select the check boxes of the emails to be assigned.
3. Click **Assign**. The configuration page is displayed.
4. Click the **Agent** tab and select employee A in a skill queue.

   NOTE

   If you select a skill queue on the **Skill Queue** tab page, the system randomly allocates a call to an agent in the skill queue.
5. Click **OK**.

   After the assignment is successful, employee A is the handler.

Step 5 View all email forwarding records of the tenant.

1. Click the **Forwarding Record** tab.

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2. Click the email title to view the email details.
   The value cannot be modified.

----End

2.17.14 Configuring External Numbers

A tenant administrator can configure external numbers so that agents can select external numbers from the external number list during call transfer, consultation, and three-party calls.

Prerequisites

- (Optional) To display the calling number (number of the customer talking with the agent) on the external number side, the **Calling Number Anonymization** feature has been enabled for the tenant.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

- External numbers apply to the following scenarios:
  - Call transfer (Calls can be transferred to external numbers only in **Success Transfer**, **Conversation Transfer**, or **Three-Party Transfer** mode.)
  - Consultation or help-seeking
  - Three-party calls
- A maximum of 10,000 external numbers can be added for a tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **External number**.

Step 2 Click **New**. The configuration dialog box is displayed.

- **Number**: Enter an external number. The requirements are as follows:
  - The value is 0 or a positive integer.
  - The value is a string of a maximum of 24 characters.
- **Name**: The value is a string of a maximum of 200 characters and must be unique.
- **User Number Forwarding**
  -  : The number of the customer talking with the agent is displayed on the external number side.
  -  : The default access code of the tenant is displayed on the external number side.
- (Optional) **Organization Unit**: Select an OU created in **2.2.1 Configuring OUs**.

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The options are as follows:

- Tenant administrator: All OUs under the current tenant are available.
- Common agent:
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available.
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the owning OU and accessible OUs are available.

If the value of **Organization Unit** is left empty, select **Unorganized**.

Step 3 Click **Save**. To add more external numbers, repeat the preceding steps.

----End

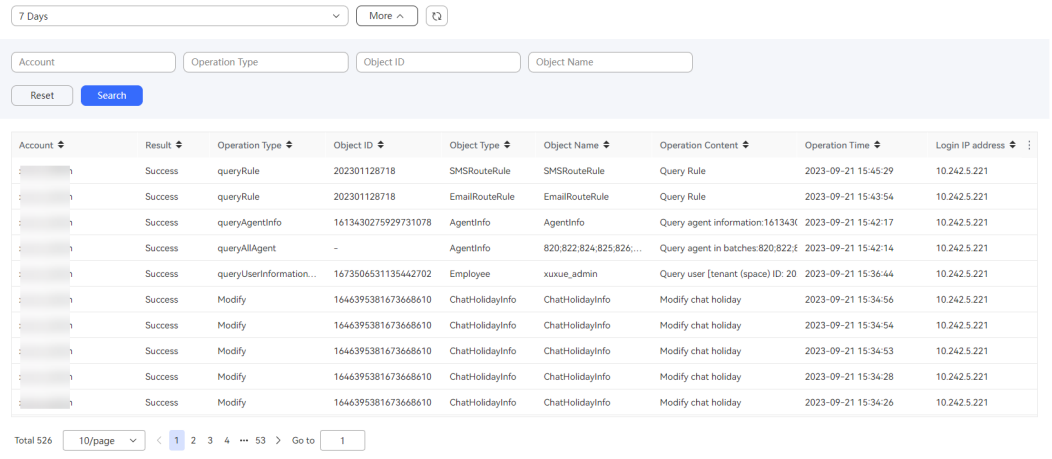
2.17.15 Querying Operation Logs

Operation logs are used for security audit of user operations. An administrator can query operation logs to view operation records.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Operation Log**.

Figure 2-858 Operation Log



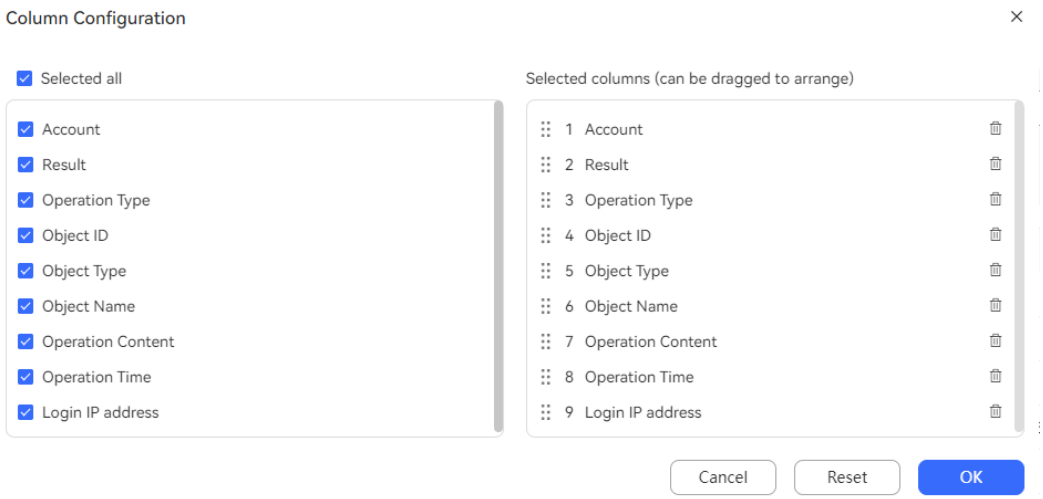
Step 2 Set data filter criteria.

- Select a time range to query operation logs. The time range can be **1 Day**, **3 Days**, **7 Days**, or **Customization**.
- Click **More**, set **Account**, **Operation Type**, **Object ID**, and **Object Name**, and click **Search** to filter detailed data. **Table 2-245** describes the options of **Operation Type**.
- Click  to refresh real-time data.

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Step 3 Click to set the table header.

Figure 2-859 Column Configuration



- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

----End

Reference

Table 2-245 Operation types

Operation Type	Definition
Activate	Activate a user.
Active	Activate.
actRolePerms	Modify the function permissions of a role.
actRoleUsers	Grant a role to users.
addContactInformation	Add contact and manager information.
applyTokenBySysAdmin	Provide token information as the system administrator.
autoClearExpiredLoginLog	Automatically clear expired sign-ins.
autoClearExpiredOperLog	Automatically clear expired operations.
autoClearExpiredRoleAuthLog	Automatically clear expired roles.

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Operation Type	Definition
autoClearExpiredUserLog	Automatically clear expired users.
Batchdelete	Batch delete.
batchModifyEmployeeStatus	Update tenant space users in batches.
Batch_delete	Batch delete.
changeSelfPwd	Chang your own password.
checkUserLock	Check whether a user is locked.
Create	Add a contact, send an internal message, or create a deduplication rule.
createEmployee	Create employee information.
createEmployeeContact	Create an employee contact.
createOrg	Create an OU.
createOrgContact	Create an OU contact.
createPwdRuleGroup	Create a password rule group.
createRentPerm	Create a function permission.
createRole	Create a role.
createTenantSpaceV3	Create a tenant space.
Create_Record	Create a record.
Deactivate	Deactivate.
Deactive	Disable.
Delete	Delete.
deleteContactInformation	Delete contact information.
deleteEmployeeContact	Delete an employee contact.
deleteEmployeeInformation	Delete employee information.
deleteOrgByTenantSpaceIdAndOrgId	Delete an OU based on the tenant space ID and OU ID.
deletePermByAuthIds	Delete a function permission.
deletePwdRuleGroup	Delete a password rule group.
deleteRoleByRoleId	Delete a role.
deleteUserSessionBySysAdmin	Delete the user communication period as the system administrator.
Delete_Record	Delete a record.

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Operation Type	Definition
deregisterMenusByMenus	Register a menu.
kickOutUserByAccount	Kick out a user based on the account.
lockUser	Lock a user.
lockUsersList	Lock users.
modifyEmployeeV2	Modify employee information.
Move	Move.
orgRelationRole	Associate a role or cancel a role association.
patchPwdRuleGroup	Create or modify a password rule group.
patchPwdRuleGroupRule	Create or modify a rule in a password rule group.
patchRoleByRoleId	Create or modify role information by role ID.
Publish	Publish.
queryEmployeeContact	Search for employee contacts.
queryOrgContact	Associate a role or cancel a role association.
refreshToken	Refresh a token.
registerMenu	Register a menu.
resetUsersPwdV2	Reset user passwords in batches.
unlockUser	Release a user.
unlockUsersList	Release users.
Update	Update a contact.
updateContactInformation	Update contact information.
updateEmployeeContact	Update an employee contact.
updateOrg	Update an OU.
updateUserSessionBySysAdmin	Update the user communication period as the system administrator.
updateUsersOfOrgByTenantSpaceIdAndOrgId	Add or delete an employee.
Update_Record	Update a record.

2.17.16 Querying Sign-in Logs

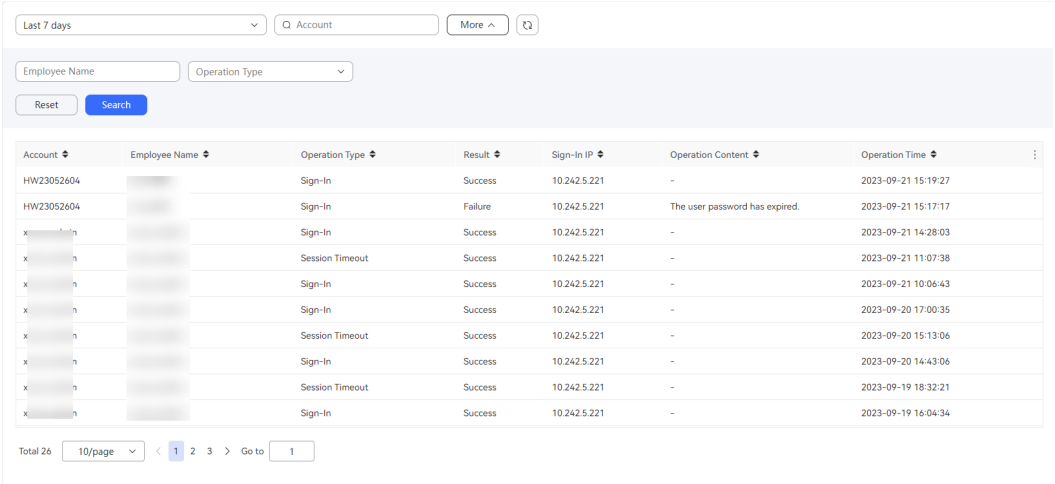
Sign-in logs are used to trace agent operations, facilitating fault locating. Agent sign-in records on a specified date can be queried.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Sign-In Log**.

Figure 2-860 Sign-In Log



Step 2 Set data filter criteria.

- Select a time range and enter a sign-in account to query sign-in logs. The time range can be **1 Day**, **3 Days**, **7 Days**, or **Customization**.
- Click **More**, enter an employee name, select an operation type, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

----End

2.17.17 Setting Organization Parameters

A tenant administrator can set organization parameters to control the system running mode and function rules. For details about the parameters, see the **Description** column.

Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Organization Parameter**.

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Figure 2-861 Organization Parameter page

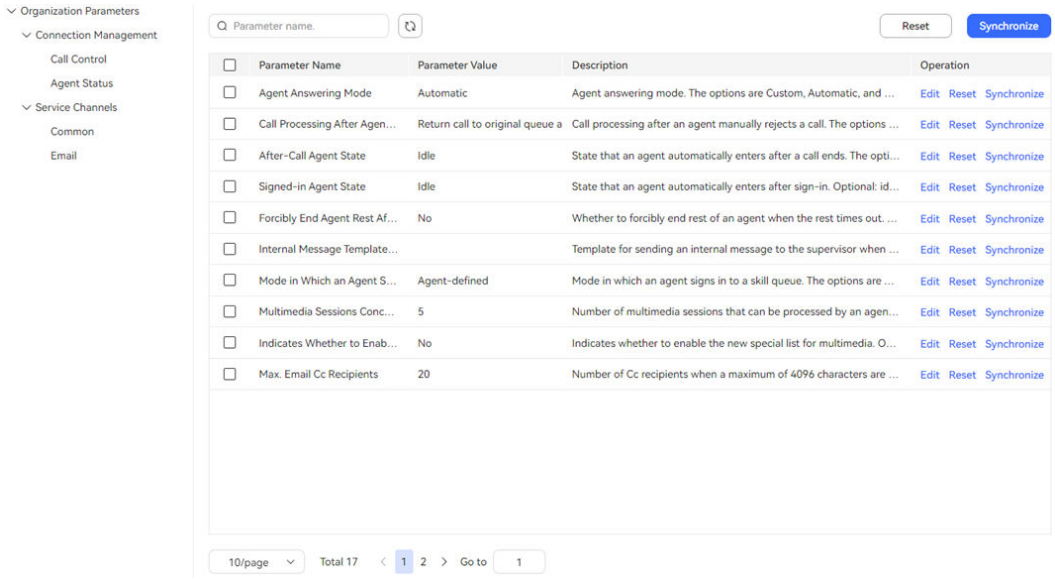


Table 2-246 Organization parameters

Parameter			Description
Connection Management	Call Control	Agent Answering Mode	Agent answering mode. The options are **Custom**, **Automatic**, and **Manual**.
		Call Processing After Agent Rejection	Call processing after an agent manually rejects a call. The options are **Return call to original queue and set agent to busy** and **Release call and set agent to idle**.
	Agent Status	After-Call Agent State	State that an agent automatically enters after a call ends. The options are **Idle** and **Wrap-up**.
		Signed-in Agent State	State that an agent automatically enters after sign-in. The options are **Idle**, **Wrap-up**, and **Busy**.
		Forcibly End Agent Rest After Timeout	Whether to forcibly end an agent's rest when the rest times out. The options are **No** and **Yes**.
		Internal Message Template for Notifying Supervisor of Agent Rest Timeout	Template for sending an internal message to the supervisor when an agent's rest times out. Set this parameter to the internal message notification template ID. If this parameter is not set, no internal message is sent to the supervisor when an agent's rest times out.

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Parameter			Description
		Mode in Which an Agent Signs In to a Skill Queue	Mode in which an agent signs in to a skill queue. The parameter modification takes effect after the page is refreshed. **NOTE** • If this organization parameter is set to **Agent-defined**, the value of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** is used. • If this organization parameter is set to **Automatic** or **Specified**, the value of this parameter is used.
Service Channels	Common	Multimedia Sessions Concurrently Processed by Agent	Number of multimedia sessions that can be handled by an agent concurrently. Value range: 1–60 Default value: **5** **NOTE** In the text chat scenario, if the CTI specifications are eight vCPUs and 32 GB memory, and 60 text chats are initiated to an agent within 6 seconds (**Multimedia Sessions Concurrently Processed by Agent** is set to **60**), a maximum of 10 sessions can be connected.
		Indicates Whether to Enable the New Special List for Multimedia.	Whether to use the new special list function for multimedia channels. The options are **No** and **Yes**.
	Email	Max. Email Cc Recipients	Number of email Cc recipients when a maximum of 4,096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Bcc Recipients	Number of email Bcc recipients when a maximum of 4,096 characters are allowed. The value ranges from 0 to 50. The default value is **20**.
		Max. Email Forwarding Recipients	Number of email forwarding recipients when a maximum of 4,096 characters are allowed. The value ranges from 1 to 50. The default value is **20**.

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Parameter			Description
		Max. Email Drafts Added by Agent	Maximum number of email drafts added by an agent. The value ranges from 1 to 50. The default value is **20**.
		Max. Size of Images in Email	Maximum size of images in a reply email edited by an email agent. The value ranges from 0 to 1024, in KB. The default value is **300**.

Step 2 Search for the parameter to be modified based on **Parameter Name** and **Description**, click **Edit** in the **Operation** column, and enter the parameter value in the **Parameter Value** column.

Step 3 Click **Save**.

Step 4 (Optional) Click **Synchronize** or **Reset** to synchronize or reset the value in the **Parameter Value** column.

----End

2.17.18 Configuring Email Title Keywords

A tenant administrator can configure email title keywords to filter out illegitimate mails sent by customers based on the configured email title keywords.

Prerequisites

- The tenant parameter **Email Title Filtering Policy** has been set to **Filter keywords only**, **Filter empty titles only**, or **Filter empty titles and keywords**. For details about the parameter, see **2.17.3 Setting Tenant Parameters**.
- Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Context

A tenant can create a maximum of 500 email title keywords.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Email Title Keyword**.

Step 2 Click **Create**. The **Create Email Title Keyword** dialog box is displayed. Set the following parameters:

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Figure 2-862 Create Email Title Keyword page

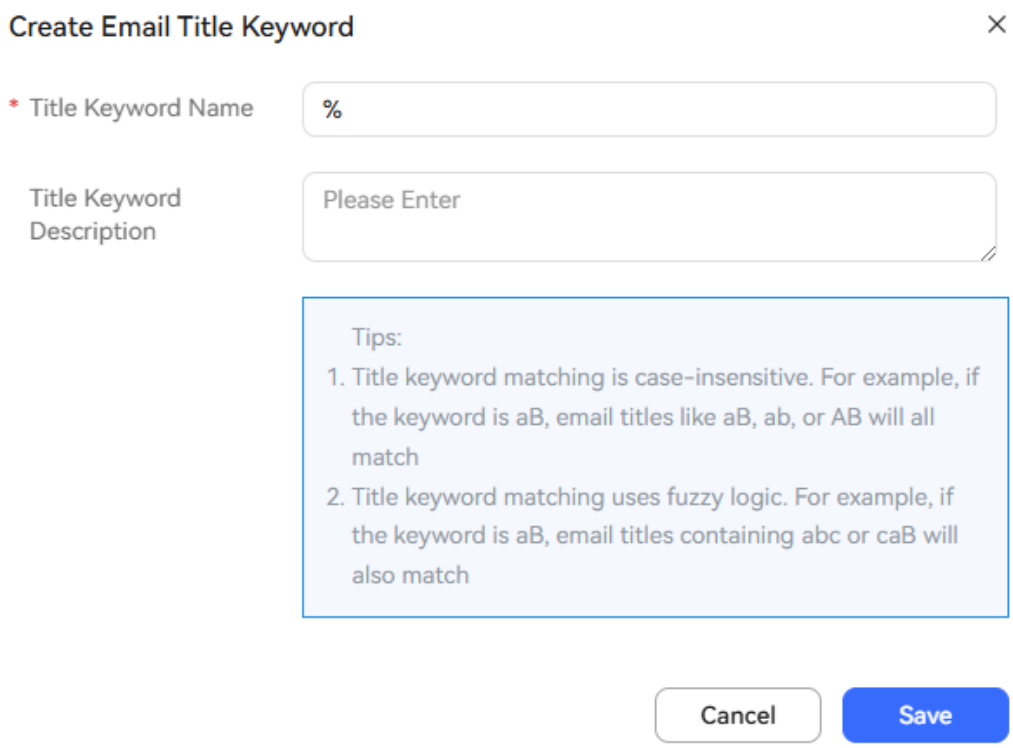


Table 2-247 GUI elements on the Create Email Title Keyword page

Element	Description
Title Keyword Name	The value can contain a maximum of 128 characters.
Title Keyword Description	The value can contain a maximum of 128 characters.

Step 3 Click **Save**.

----End

2.18 Managing Business Fault Bypass

This section describes how to manage business fault bypass and how to handle emergency faults to ensure normal businesses for operators.

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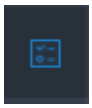
2.18.1 Agent Bypass

In fault mode, the AICC page cannot be signed in. You need to use the CCGatewayBar to access the AICC page. For details, see **2.18.3 CC-Gateway Emergency Connection Bar**.

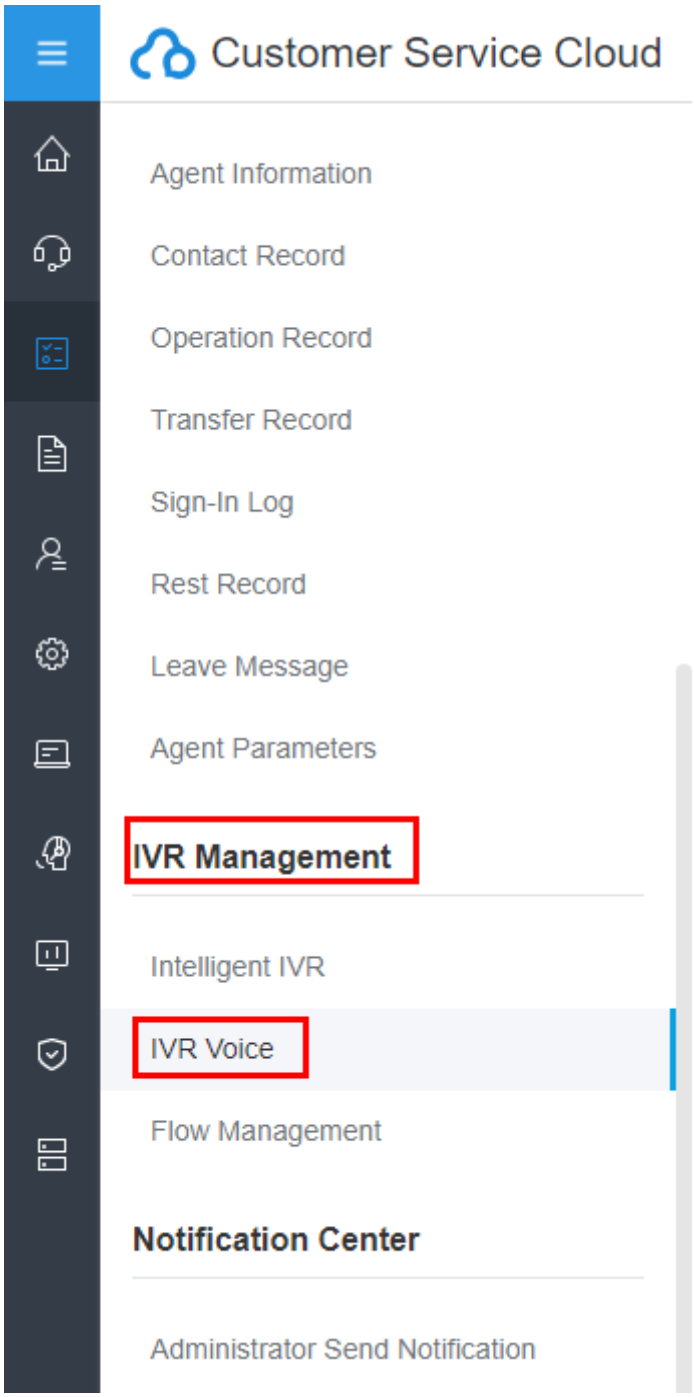
2.18.2 Performing the IVR Bypass

This section describes IVR business bypass.

Step 1 Sign in to the system as a tenant administrator and add a fault prompt tone.

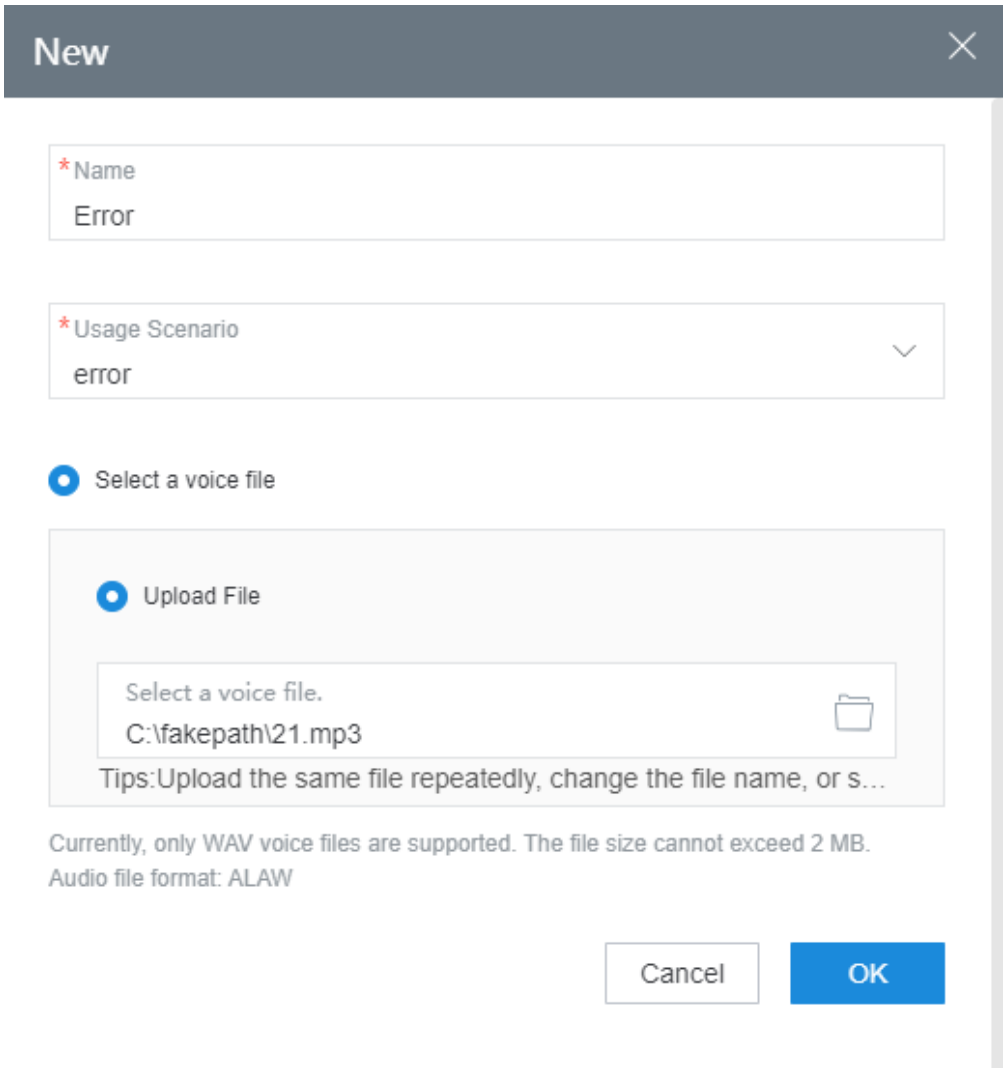
1. Choose  > **IVR Management** > **IVR Voice**.

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2. Upload a voice file and submit it for approval.

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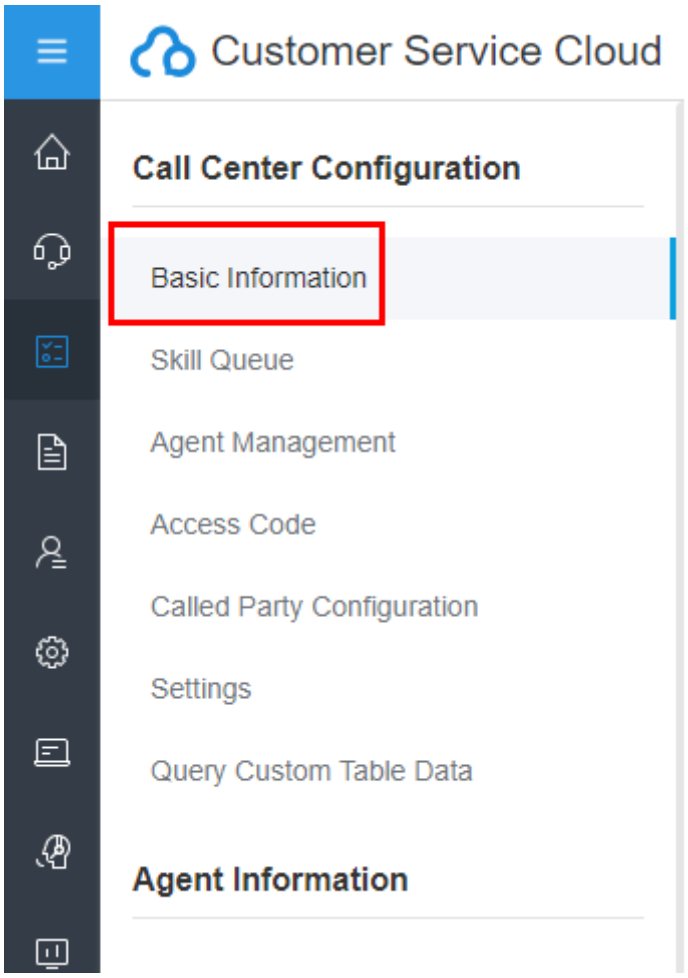


Step 2 After a voice file is uploaded, contact the system administrator for approval. After the file is approved, perform the following operations.

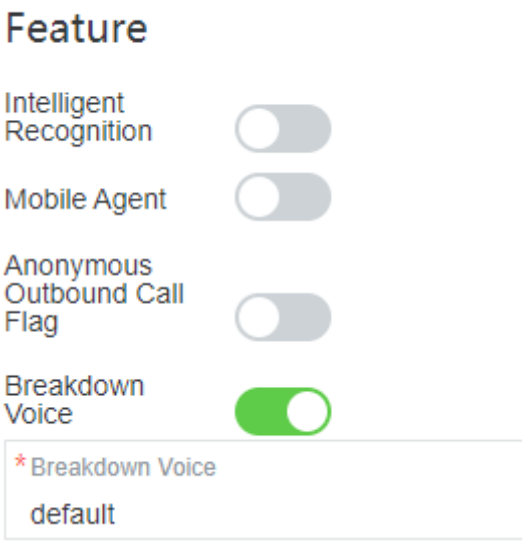
Step 3 Sign in to the system as a tenant administrator and set the fault prompt tone.

1. Choose  > **Call Center Configuration** > **Basic Information**.

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2. Enable **Breakdown Voice** and select the uploaded voice file.



----End

If a call is transferred to an agent in a flow, the system plays the fault prompt tone and bypasses the call.

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2.18.3 CC-Gateway Emergency Connection Bar

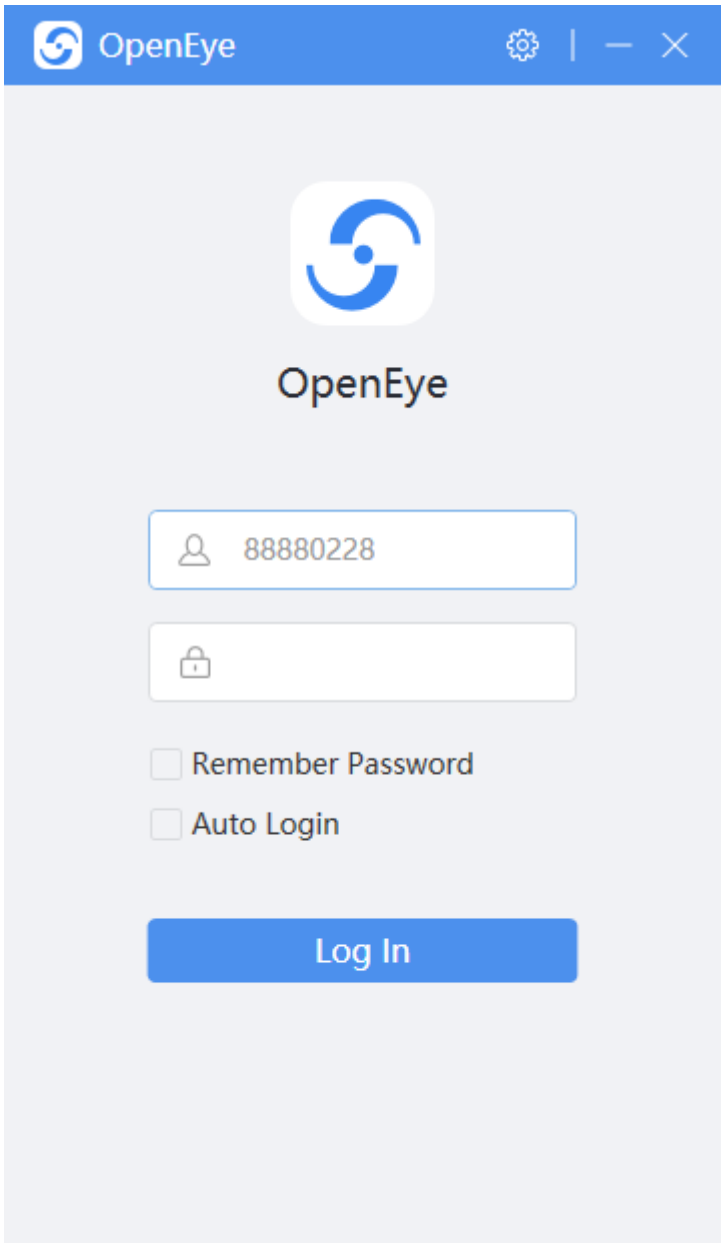
If a fault occurs in the AICC connection bar, tenant administrators can refer to this section to handle the fault bypass.

Procedure

Step 1 Log in to the CC-Gateway server and modify the configuration file.

The configuration file is stored in **/home/elpis/tomcat/webapps/agentgateway/WEB-INF/config/basic.properties**. Change the value of **SUPPORT_AGENT_FAULT_MODE** to **ON** in the configuration file and wait for 1 minute for the hot loading of the configuration item to take effect.

Step 2 Use the softphone number and password to log in to the OpenEye.



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Step 3 Log in to the CC-Gateway emergency connection bar.

- Open a browser, enter **https://***IP address*:*Port number*/**agentgateway/resource/ccbar/index** in the address box, and press **Enter**.
- The IP address is the IP address of the CC-Gateway service. The port number is the HTTPS port number of the CC-Gateway service.

Step 4 Enter the agent ID, password, and softphone number, and click **Log In**.

Step 5 In the upper left corner of the emergency connection page, click to update the agent status.

An agent can choose one of the following states:

- If the agent needs to handle other businesses (for example, internal discussion), the agent can choose **Work** to enter the working state.
- If the agent needs to handle other businesses (for example, providing services), the agent can choose **Busy** to enter the busy state.

  Table 2-248 describes the results of choosing **Busy** in different agent states.

Table 2-248 Results of choosing Busy

Agent State	Result
Idle	The **Busy** state is entered successfully. The agent enters the **Busy** state.
Work	The **Busy** state is applied for successfully. The agent enters the **Busy** state after exiting the **Work** state.
Calling	The **Busy** state is applied for successfully. The agent enters the **Busy** state after ending the call.

- If the agent finishes handling other businesses (for example, internal discussion), the agent can choose **Exit Work** or **Idle** to continue to answer calls from customers.
- If the agent needs to take a break (for example, to drink water), the agent can choose **Exit Work** and does not answer calls from customers temporarily.

  Table 2-249 describes the results of choosing **Rest** in different agent states.

Table 2-249 Results of choosing Rest

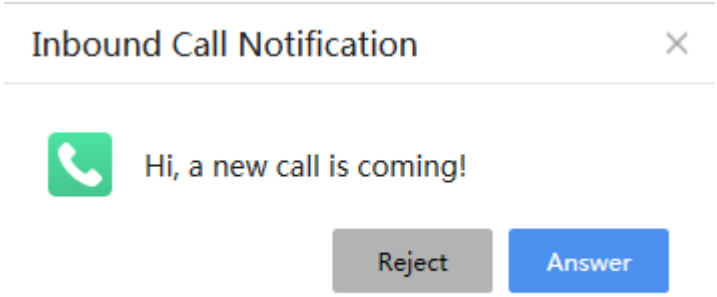
Agent State	Result
Idle	The **Rest** state is entered successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after clicking **OK**.
Work	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after exiting the work state.

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Agent State	Result
Calling	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after ending the call.

Step 6 In the upper left corner of the emergency connection page, click to view information about the current agent.

Step 7 When a call comes in, the softphone of the agent rings, and the call is automatically connected. The agent can also click **Answer** before the call is automatically connected.



Step 8 After a call is connected, the agent can perform the following operations:

- Hold or unhold a call.

  To make another call (for consultation or discussion), click to hold the current call and stop voice transmission. The agent and customer cannot hear each other, and the customer hears the call hold tone.

  After the consultation or discussion ends, click to unhold the call and resume voice transmission.

- Mute or unmute a call.

  Click to mute the call so that the customer cannot hear the agent, but the agent can hear the customer.

  Click to unmute the call so that the agent and customer can hear and talk with each other.

- Transfer a call.

  a. Click to open the page for transferring a call.

  b. Select a third party to which the current call needs to be transferred. The third party can be a skill queue, an agent, or an IVR.

  c. Click **OK**.

- Transfer out a call.

  a. Click to open the page for transferring a call.

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b. Select a third party to which the current call needs to be transferred, that is, an external number, and select a transfer type.

c. Click **OK**. The agent can transfer the current call to a third-party expert.

- Initiate an internal help request.

  a. Click  to open the page for making an internal help call.

  b. Configure an internal help call.

     - Help-seeking object: The agent can seek help from a skill queue or an agent.
     - Help-seeking type
       - Two-party help-seeking: The call with the customer is held, and the current agent and requested agent are in a call. If the requested agent releases the call, the current agent continues to talk with the customer.
       - Three-party help-seeking: The customer, current agent, and requested agent are in a call. If any party releases the call, the call continues between the other two parties.

         An agent can make an internal help call to a specified agent or a skill queue. If a skill queue is requested, the system specifies an agent.

  c. Click **OK**. An agent can make an internal help call to another agent during a call with a customer.

- Connect a held call.

  During a voice call with a customer, click  to hold the call, call a third party, and connect the held call to the third party.

- Make an internal call.

  a. Click  to open the page for making an internal call.

  b. Select an agent in idle state based on the agent ID.

  c. Click **OK**. When agents (including inspectors) need to communicate with each other, they can make internal calls to each other.

- Make a three-party call.

  During a voice call with a customer, click  to call a third party (agent or external expert) to join the call. In this way, a three-party call is set up and the three parties can communicate with each other.

  During a call with a customer, an agent holds the call, calls an external phone, and clicks **Third Party**. In this way, the agent starts a three-party call with the customer and external phone.

- Make an outbound call.

  Click  , enter an outbound number, and click  . If an agent needs to call back a customer or perform proactive marketing, the agent can specify a customer number and manually make an outbound call.

- Set call-associated data.

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a. Click  to open the page for configuring call-associated data.

b. After call-associated data is configured, click **OK**. An agent can configure call-associated data during a voice call.

- Query call information.

  Click  to open the call information page. An agent can view the calling number, called number, media type, and call-associated data of the current call.

Step 9 After the current call ends, click  to release the call and enter the idle state.

Step 10 After finishing work, click  to sign out of the current agent account.

----End

2.19 Co-browsing

2.19.1 Creating Co-browsing Rules

A tenant administrator can configure rules. When a customer shares a page with an agent during co-browsing, some sensitive information on the customer page is shielded based on the configured co-browsing rules to protect customer information.

Context

When creating co-browsing rules, you need to use the CSS selector syntax. You are advised to familiarize yourself with the syntax in advance.

Prerequisites

The **Co-browsing** feature has been enabled for the tenant.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **Co-browsing**.

Step 2 Click **New**.

Step 3 Set **Rule name**.

The value must:

- Contain only letters, digits, and underscores (_).
- Contain a maximum of 128 characters.

Step 4 Set **Page Match Type** as required.

- **Generic Matching**: The rule takes effect for all pages that are browsed collaboratively under the tenant.

  For example, all password text boxes and the **Submit** button are shielded.

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- **Match by URL path**: The pattern of the URL accessed by the browser can be configured. The rule is the same as that of **AntPathMatcher** of Spring.

  ?: matches a single character.

  *: matches zero or more characters.

  **: matches zero or more paths (multi-level paths separated by slashes).

  Example: **https://localhost:63343/****
- **Match by page ID**: **Generic Matching** and **Match by URL path** cannot exactly match a page. In this case, **Match by page ID** can be used.

  The page ID matching mode requires customized development of the page URL. The **cobrowse_page_id** parameter is passed in the page URL for exact matching.

Step 5 (Optional) Set **Page Match Config**. This step is required when **Page Match Type** is set to **Match by URL path** or **Match by page ID**.

The value can contain a maximum of 1024 characters.

Step 6 Set **Page Element Selector**. The selected page elements are shielded during co-browsing.

The value must:

- Be in a format that meets the syntax requirements of the CSS selector.
- Contain a maximum of 1024 characters.

Example: **#input**

Step 7 (Optional) Set **Organization Unit**. Select the OU created in **2.2.1 Configuring OUs**.

If no OU is configured or **Unorganized** is selected, the data can be used by all OUs.

Step 8 Click **Save**.

----End

Follow-up Procedure

You can perform the following operations on the new rule:

- **Edit**
- **Delete**

2.19.2 Viewing Co-browsing Session Records

An agent can view operation records related to co-browsing, including the room number, agent number, calling party information, start time, and end time.

Prerequisites

1. The co-browsing feature has been enabled for the tenant.
2. The agent has the **Co-browsing** permission.

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Context

After the first subscriber joins a room, a record is generated, in which the start time is updated. After the room is released, the end time is updated.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Contact History** > **Co-browsing**.

Step 2 Access the menu page to view the co-browsing session records.

The search criterion **Organization Unit** is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, the co-browsing session records can be searched by OU. In addition, a non-administrator account that is not configured with the OU permission can search for only the co-browsing session records under the current OU.

Organization Unit

- You can select **Include Sub-Organizations** to search for the co-browsing records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected.

----End

2.20 Social Media Operations

Connect to social media (publishing Facebook posts, X (Twitter) tweets, and YouTube videos) for social media operations.

2.20.1 Operating Enterprise Accounts

Prerequisites

- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- The social media feature has been enabled for the tenant.

  The social media feature is changed to feature control. In the upgrade scenario, this feature is disabled for historical tenants by default. However, the social media menu is available, and the social media feature can be used.

2.20.1.1 Creating a YouTube Channel

Prerequisites

The connection to YouTube has been completed. If the connection has not been completed, perform the following steps to complete the connection:

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1. Apply for a developer account.
   a. Access **Google Cloud**, register a Google account, and sign in.
   b. Click **Select a project**, click **NEW PROJECT**, and create a project.

Figure 2-863 Select a project

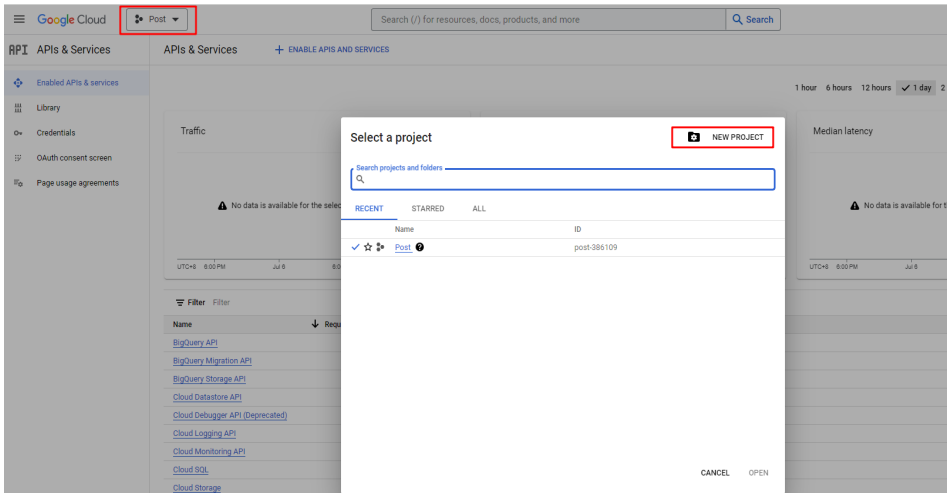
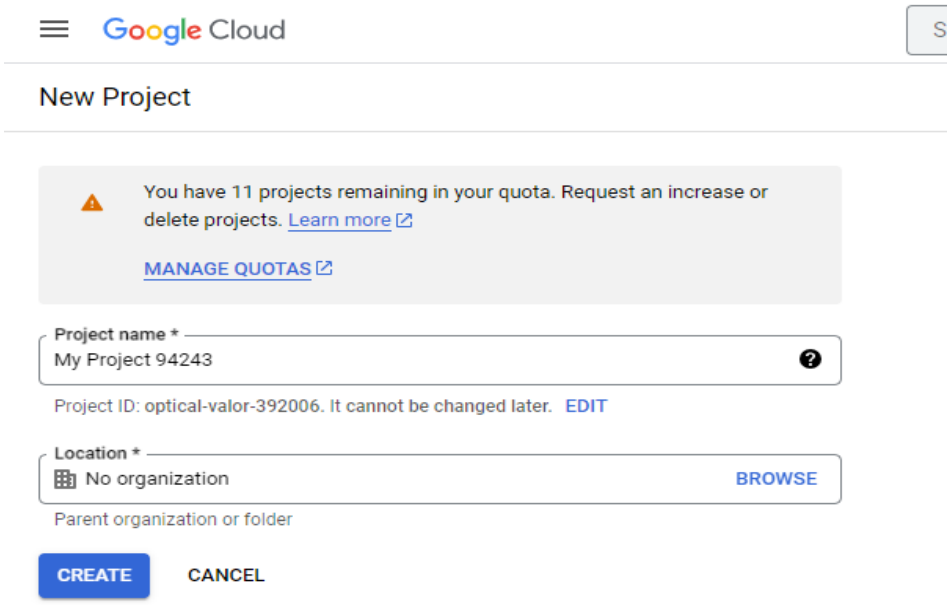


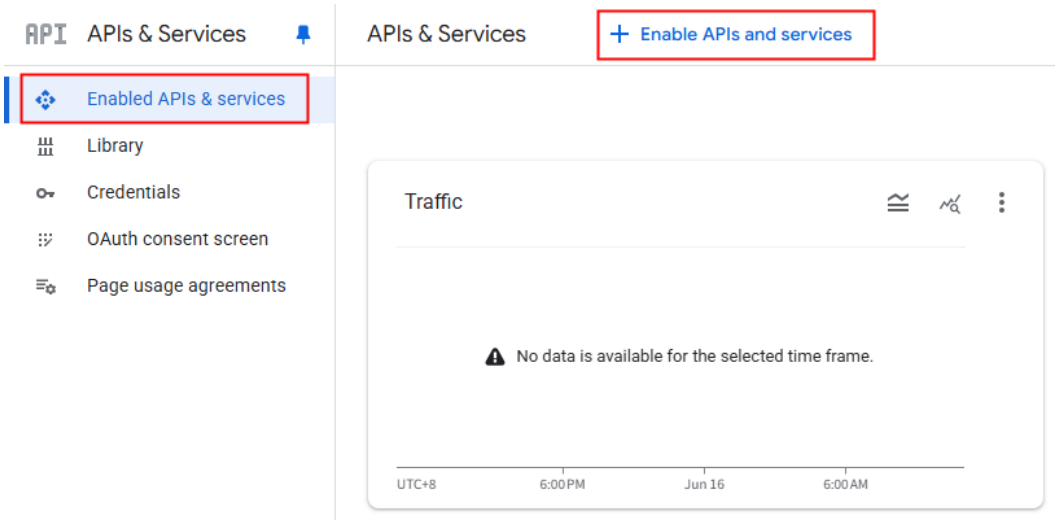
Figure 2-864 New Project



2. Enable YouTube.
   a. Return to the Google console, choose **Enabled APIs and services**, and click **Enable APIs and services**.

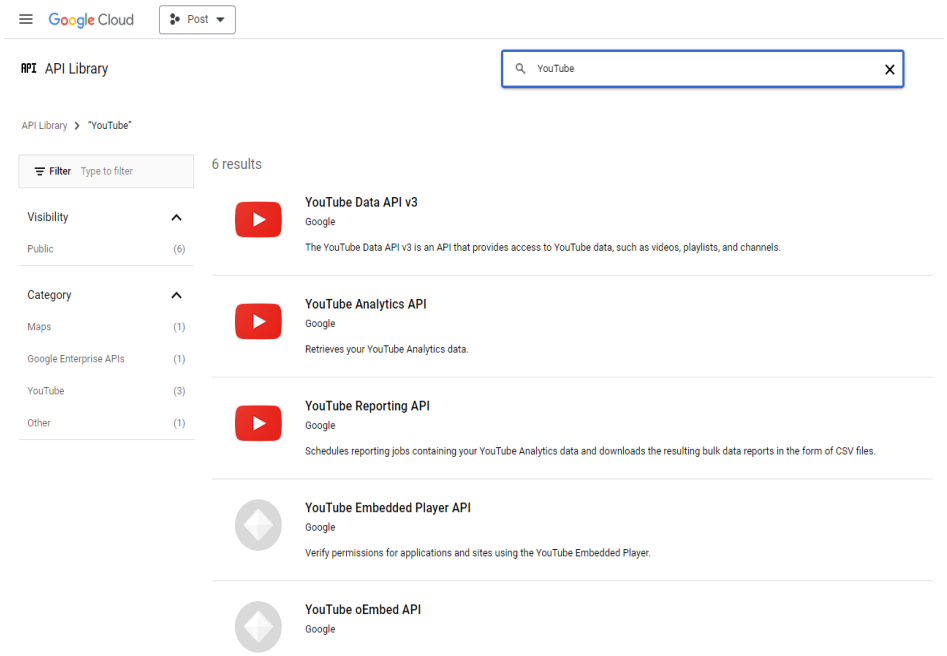
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Figure 2-865 Enable APIs and services



b. Search for YouTube.

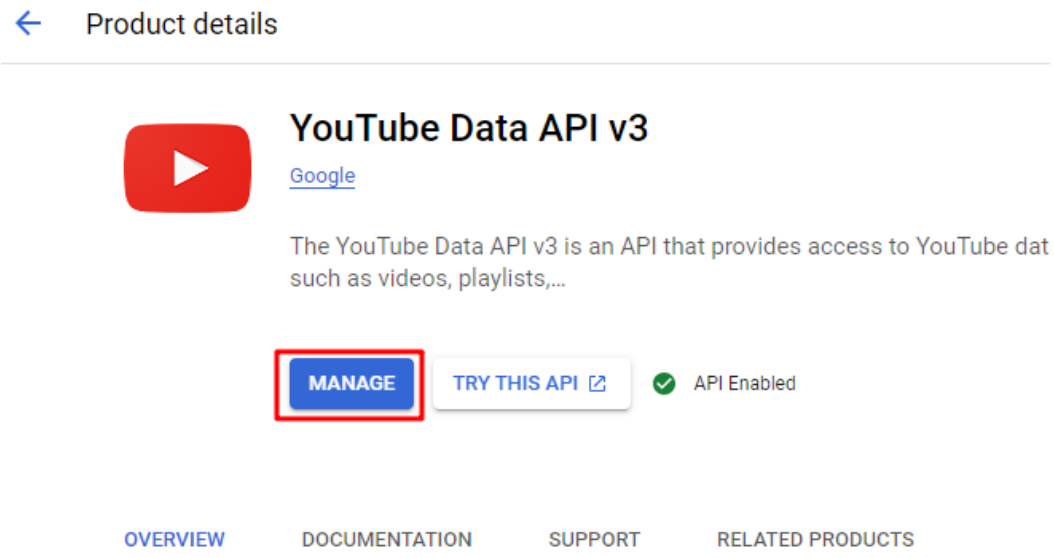
Figure 2-866 Searching for YouTube



c. Find and enable **YouTube Data API v3**.

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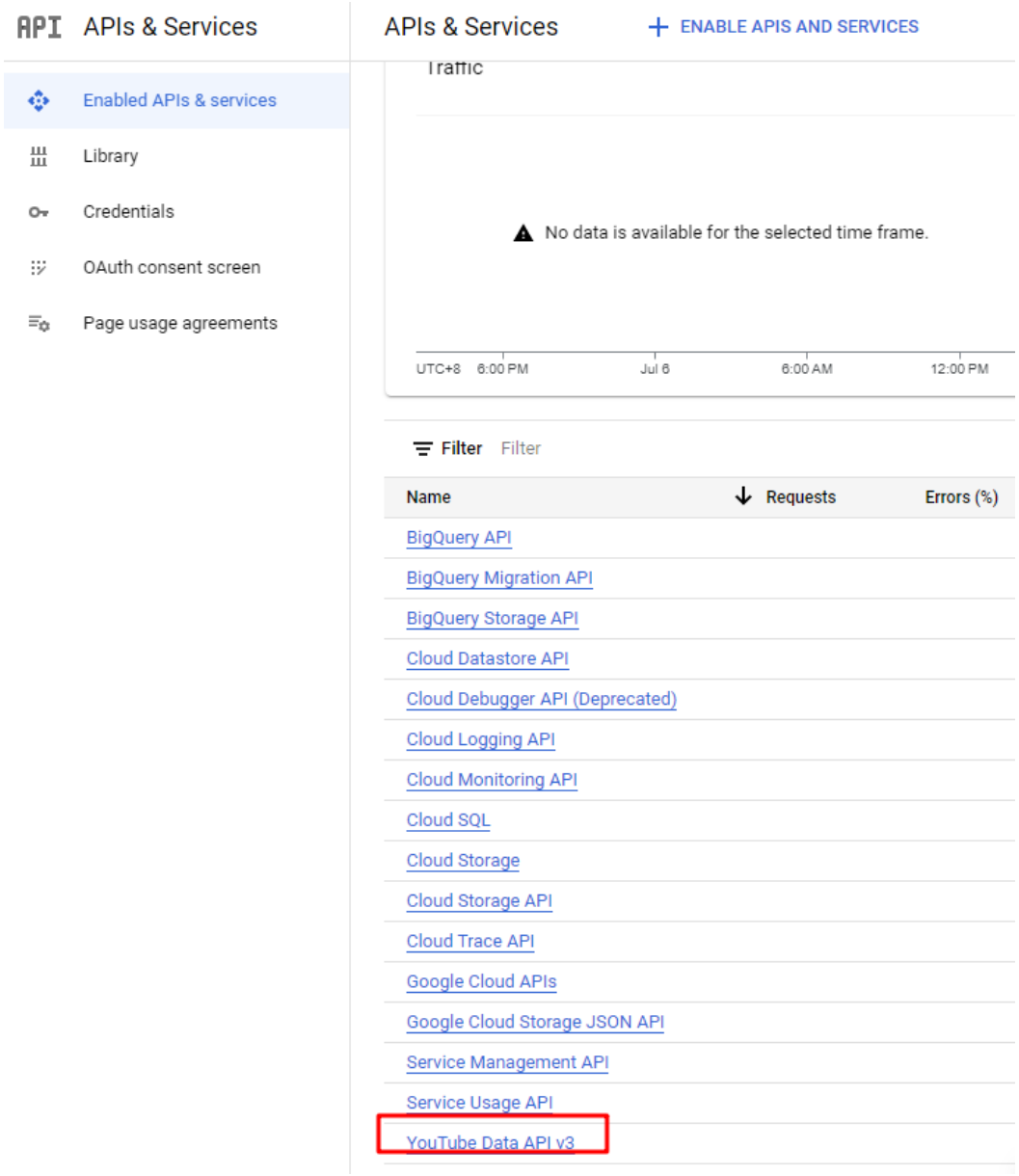
Figure 2-867 Enabling the API



If the following page is displayed, the API is enabled successfully.

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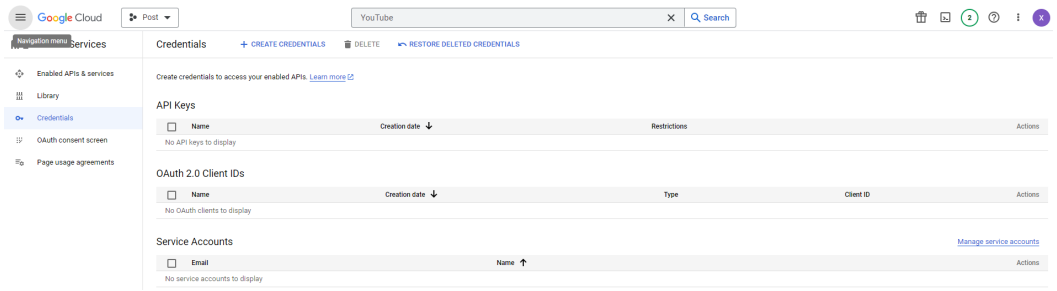
Figure 2-868 API enabled successfully



3. Create a credential.

   a. In the navigation pane of Google Cloud, choose **Credentials**, and click **CREATE CREDENTIALS**.

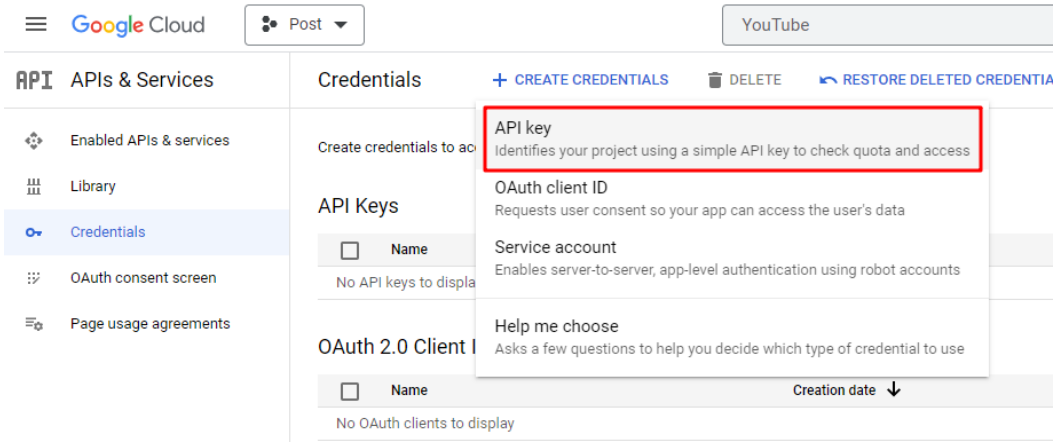
Figure 2-869 Creating a credential



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b. Create a key.

Figure 2-870 Creating a key

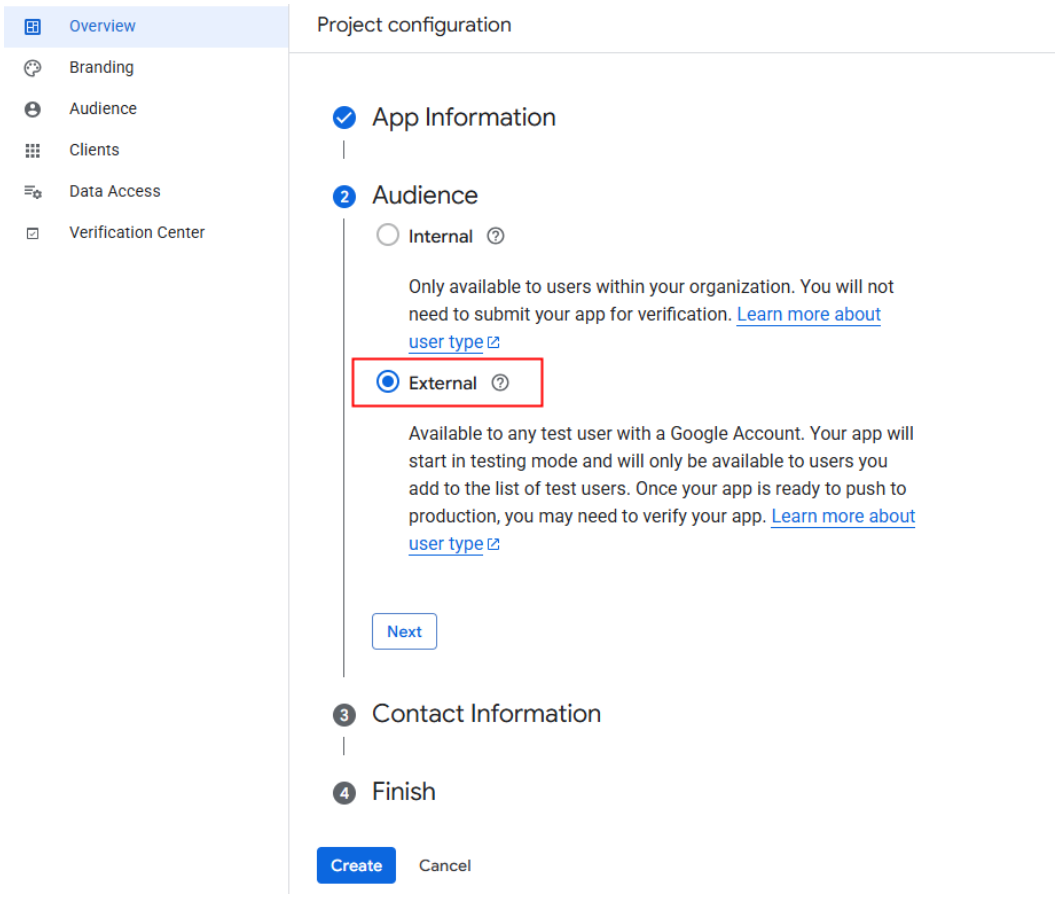


The value corresponds to the API key in the AICC.

4. Create an OAuth consent screen.
   a. Return to the Google console and click **OAuth consent screen**. The OAuth overview page is displayed.
   b. Click **Start**, enter mandatory information, set **Audience** to **External**, and retain the default values for other parameters.

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Figure 2-871 Creating an OAuth consent screen

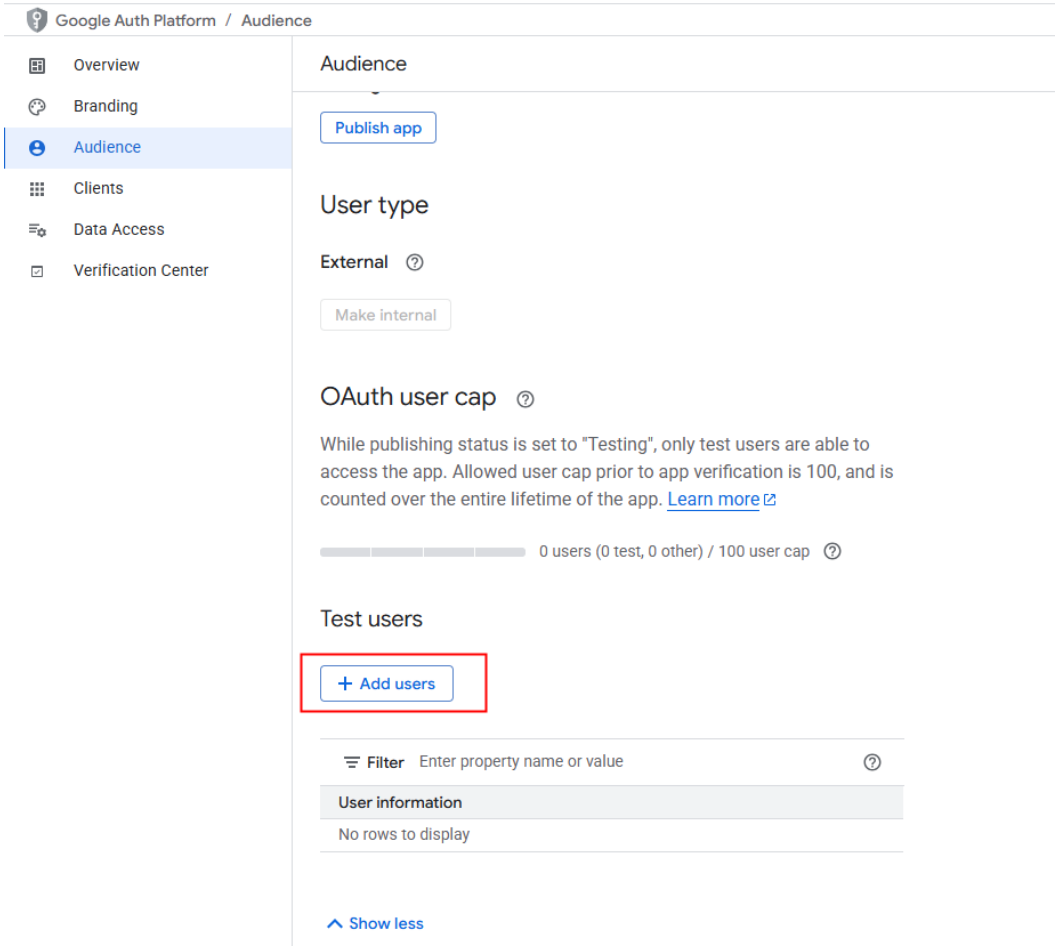


c. Click **Create**.

d. Set **Audience**, click **Add users**, and add a test user.

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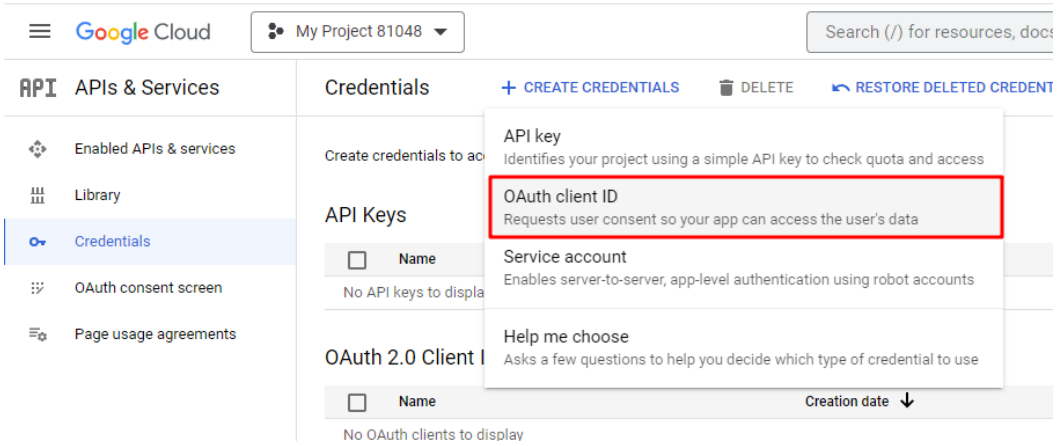
Figure 2-872 Adding a test user



e. Click **SAVE AND CONTINUE** to complete the configuration.

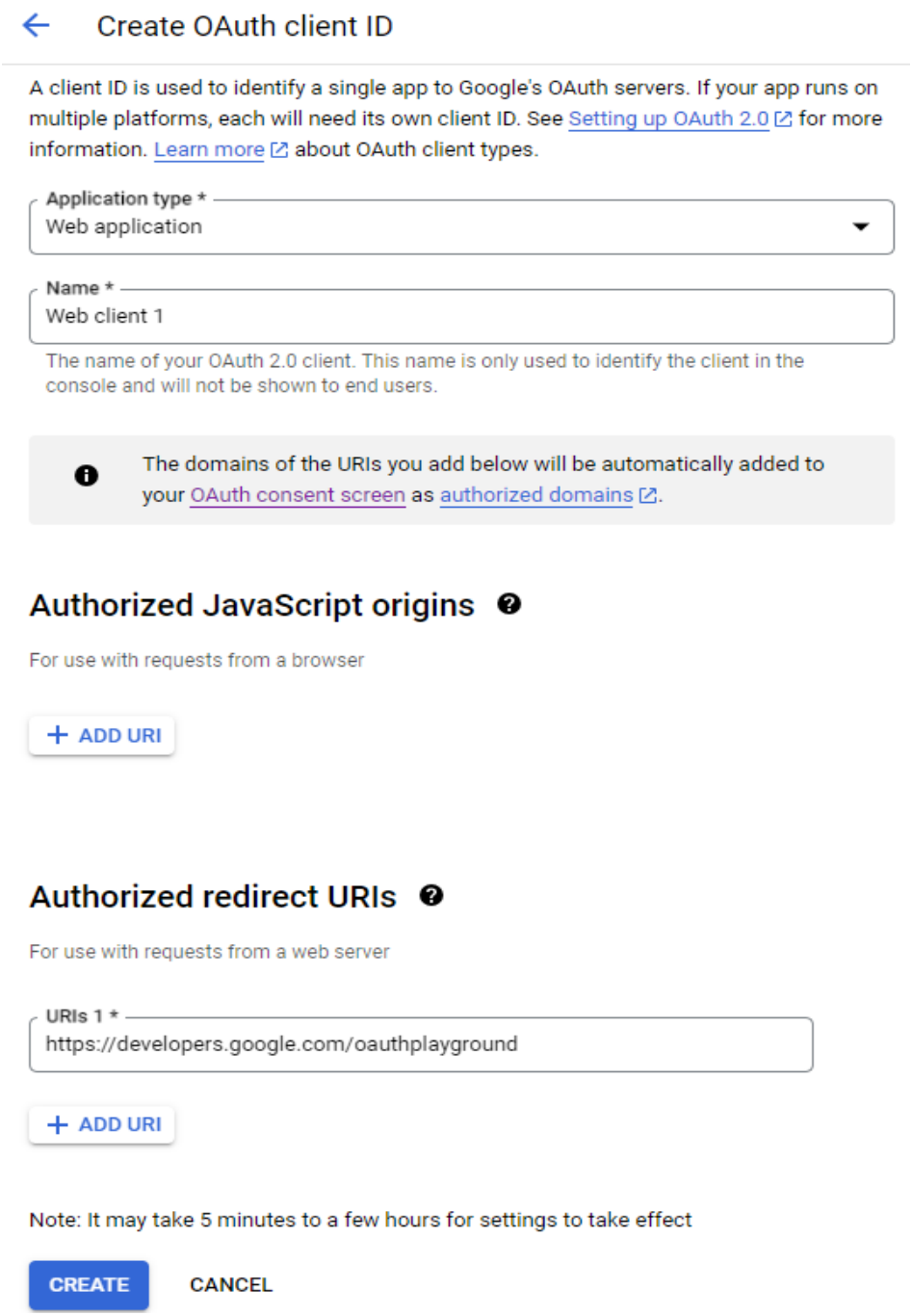
f. In the navigation pane of Google Cloud, choose **Credentials**, click **CREATE CREDENTIALS**, and choose **OAuth client ID**.

Figure 2-873 Choosing OAuth client ID



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Figure 2-874 Creating an OAuth client ID



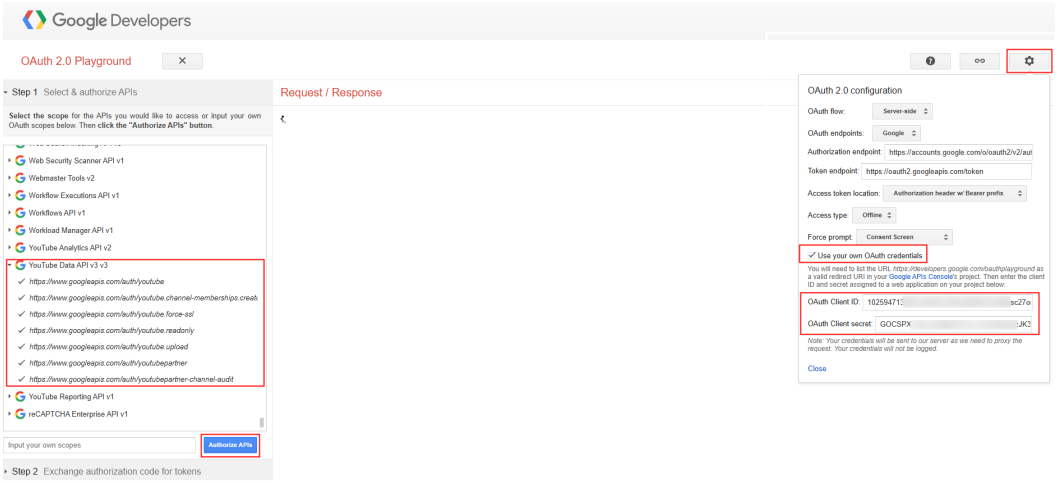
Add the redirection URI **https://developers.google.com/oauthplayground**. Note that the URI cannot end with a slash (/).

After you click **CREATE**, obtain the values of **OAuth Client ID** and **OAuth Client secret** that are generated automatically. The values correspond to the values of **Client ID** and **appKey** in the AICC, respectively.

5. Open **Google Developers**, select all YouTube Data V3 APIs, click  in the upper right corner, select **Use your own OAuth credentials**, enter the OAuth client ID and secret created in **4.f**, and click **Authorize APIs**.

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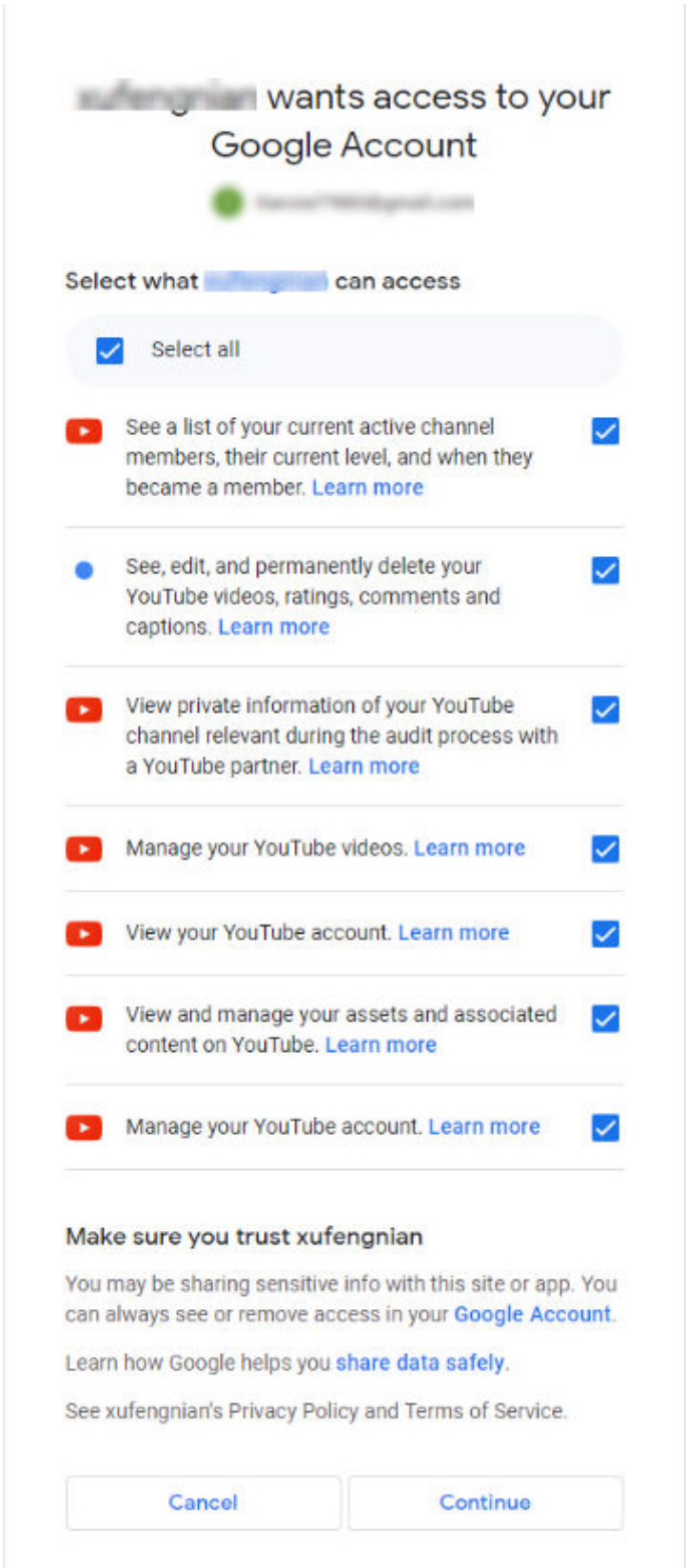
Figure 2-875 Entering the OAuth client ID and key



6. Use the developer account to sign in to Google. Select **Select all** to assign all permissions to the developer account.

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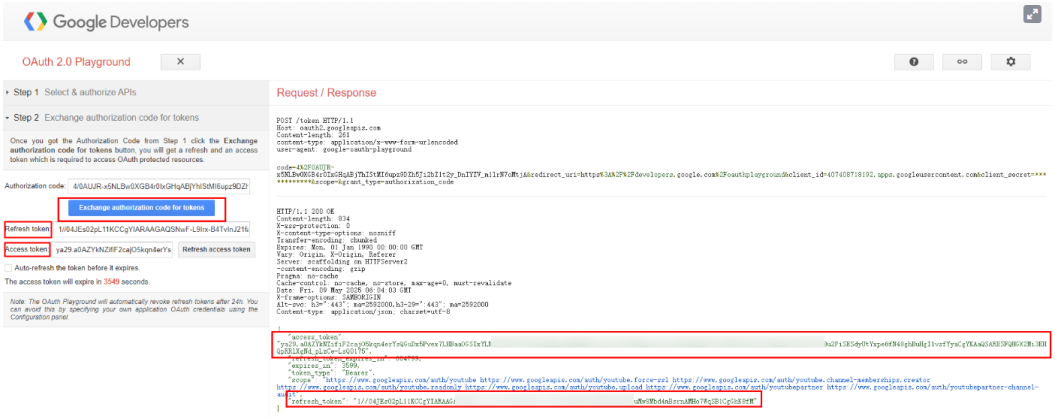
Figure 2-876 Page for agreeing to authorization



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7. Click **Exchange authorization code for tokens** to generate the access token and refresh token, which correspond to **Access token** and **Refresh token** in the AICC respectively.

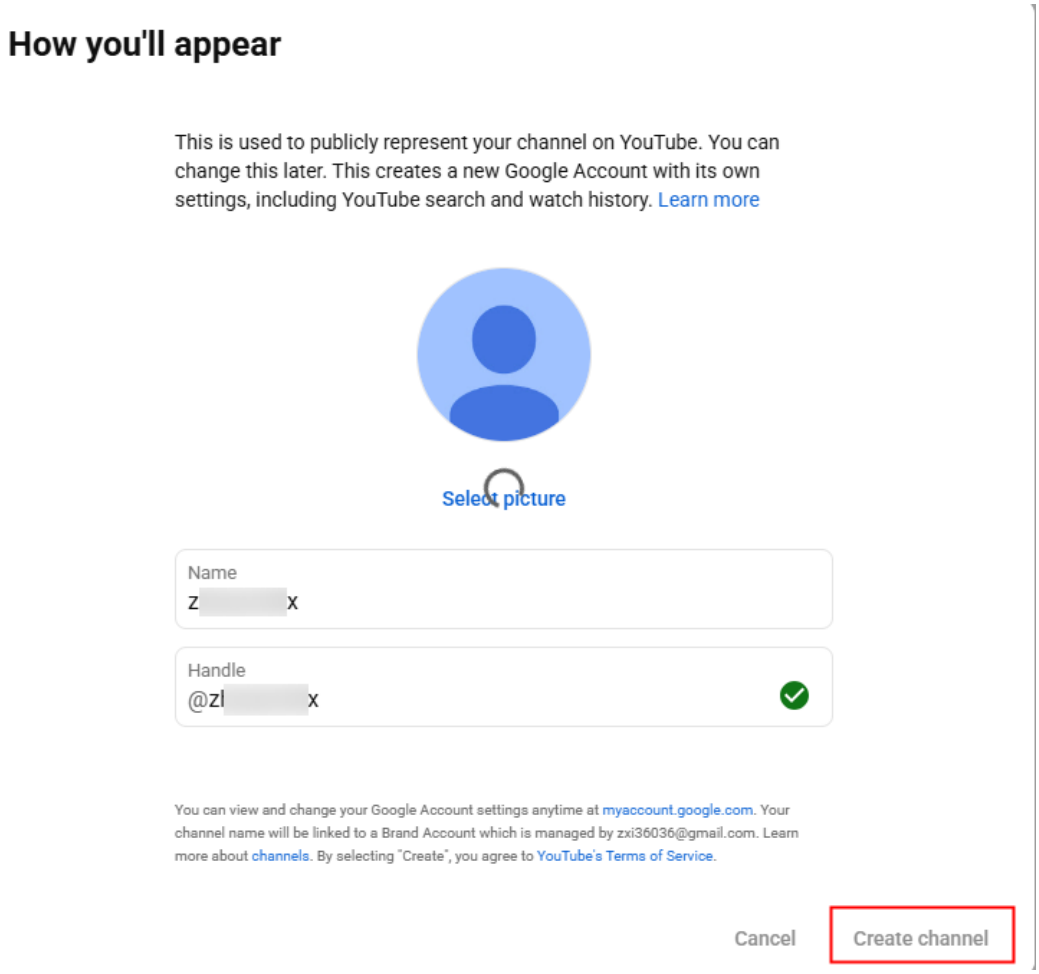
   Figure 2-877 Generating the access token and refresh token



8. Create a channel on YouTube.

   a. Go to the YouTube home page (https://youtube.com), click **+Create**, and click **Create channel** on the **How you'll appear** page.

   Figure 2-878 Page for creating a channel



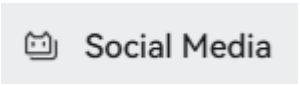
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b. Click **Your channel**. The last segment of the URL is the channel ID, which corresponds to the channel ID in the AICC.

Context

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose 

> **Account Post**.

Step 2 Click **Configure Channel** and then click **New**.

Step 3 In the **Create Channel** dialog box, set parameters based on **Table 2-250**.

Table 2-250 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized name.
OU Configuration	OU to which the channel configuration belongs. **NOTE** If no OU is configured or **Unorganized** is selected, the data can be used by all OUs.
Channel Configuration	Select **YouTube**.
Channel ID	ID of the channel created in **8**.
apiKey	Key created in **Figure 2-870**.
Client ID	Client ID generated in **Figure 2-874**.
appKey	Client key generated in **Figure 2-874**.
accessToken	Access token and refresh token generated in **Figure 2-877**.
refreshToken	
ApiFabricAK	Contact the system administrator to obtain the app key of the app that has subscribed to the refreshNorth API and bound to the tenant space for which the YouTube channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.

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Parameter	Description
ApiFabricSK	Contact the system administrator to obtain the app secret of the app that has subscribed to the refreshNorth API and bound to the tenant space for which the YouTube channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.
Operation personnel	Assign employees of the tenant to maintain the publish channel. A maximum of 10 operators can be assigned to a channel. **NOTE** • When publishing a post, you can view only the channel for which you are an operator. • It is recommended that at least one operator be configured.

Step 4 Click **Save**.

----End

2.20.1.2 Creating a Facebook Channel

Prerequisites

The Facebook has been configured. If the Facebook has not been configured, perform the following steps:

1. Access https://developers.facebook.com/apps and use a Meta for Developers account to log in.

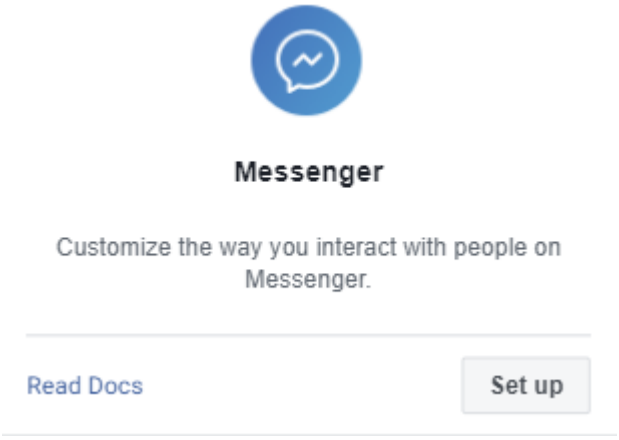
   If no Meta for Developers account is available, create one.

2. Create an app.

   a. Click **Other**, select the **Business** type, customize the app name, and retain other default settings.

   b. Click **Set up** corresponding to the Messenger product to add it to the app.

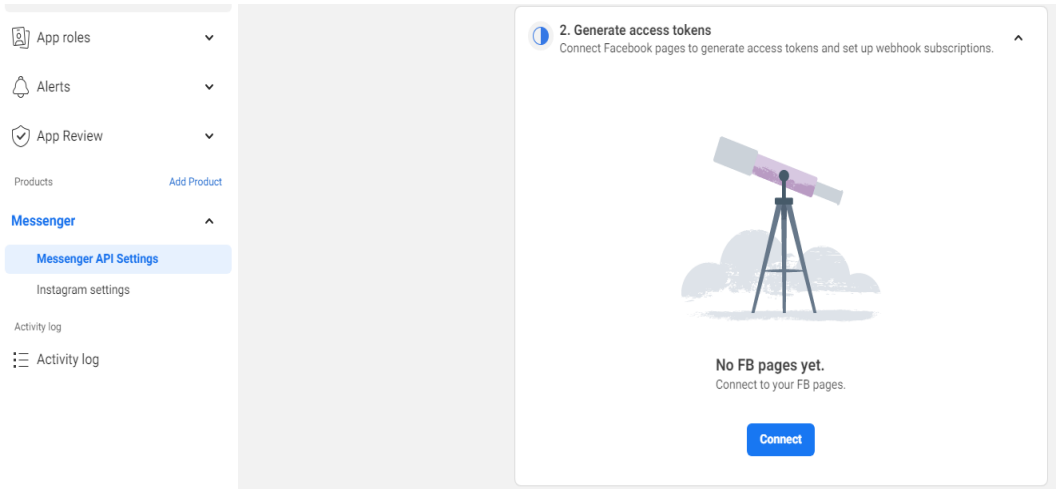
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3. Create a public home page.

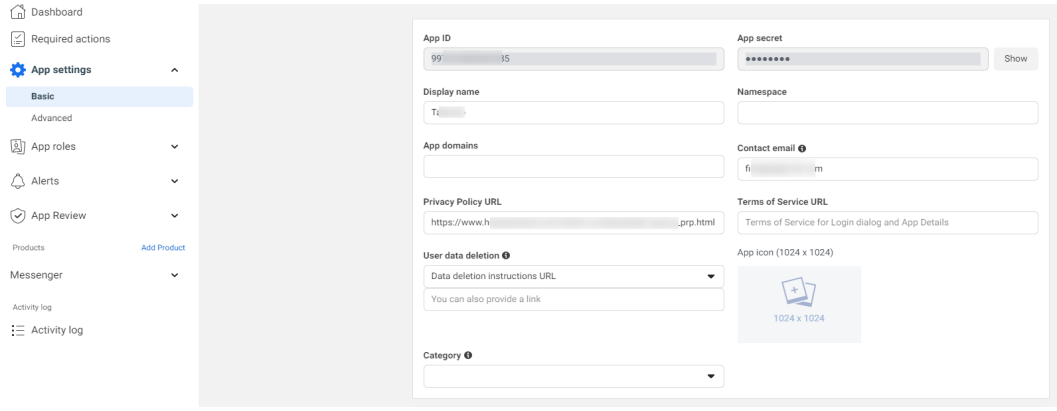


4. Bind the new public home page.



5. Bring the app online.
   a. Choose **App settings** > **Basic** and set the privacy statement.
      - SaaS scenario: The privacy statement link is provided by Huawei Cloud, for example, **https://www.huaweicloud.com/intl/en-US/declaration-sg/sa_prp.html**.
      - OP integration scenario: The privacy statement link is provided by the enterprise customer.

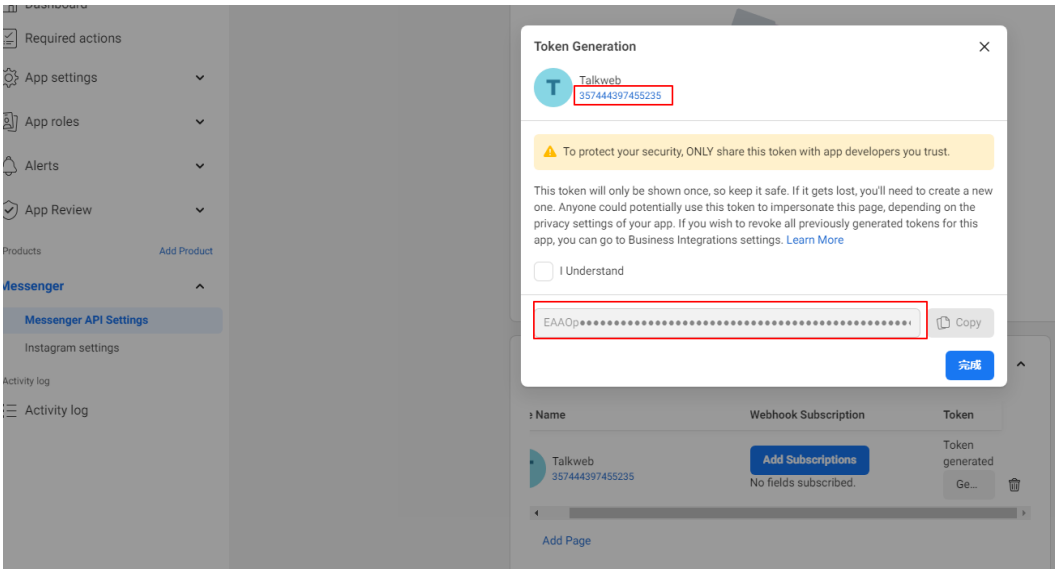
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b. Click  to bring the app online.

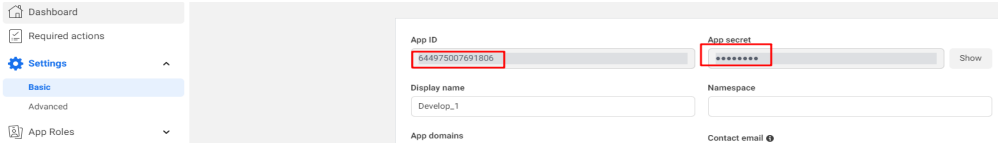


6. Return **Messenger** > **Messenger API Settings**, refresh the app page, and obtain the bound home page ID and token.



- The number in the red box is the ID of the public home page, which corresponds to the value of **Channel ID** in the AICC.
- The tokens correspond to the values of **accessToken** and **refreshToken** in the AICC.

7. Obtain the ID and secret of the created app.



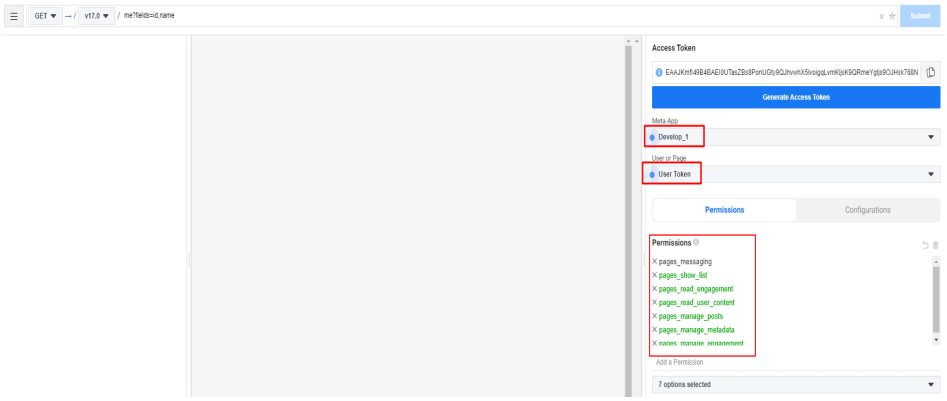
- The value of **App ID** corresponds to the value of **Client ID** in the AICC.
- The value of **App secret** corresponds to the value of **appKey** in the AICC.

8. Set access permissions.

a. Access https://developers.facebook.com/tools/explorer/.

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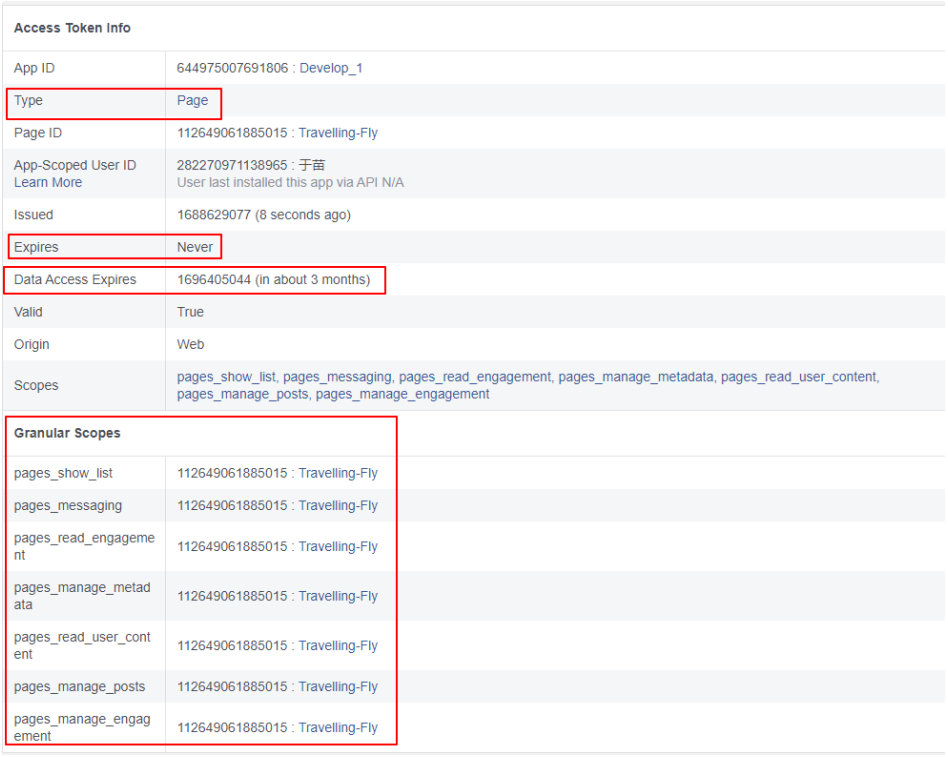
b. Set the parameter on the top of the page to **me?fields=id,name**.
c. Set **Meta App** to the app created in **2**.
d. Add the following permissions under **Permission**:
   - **pages_show_list**
   - **pages_messaging**
   - **pages_read_engagement**
   - **pages_manage_metadata**
   - **pages_read_user_content**
   - **pages_manage_posts**
   - **pages_manage_engagement**
e. Set **User or Page**.
   i. Click and choose **Get Page Access Token**. The public home page is displayed.
   ii. Click **Continue as** *XXX*, and select the public home page created in **3**.
   iii. Click **Continue**.
   iv. Click **Save**.
   v. Click again and select the new public home page.
f. Click **Generate Access Token** and record the token.
g. Check whether the public home page under **User or Page** is the new public home page, and click **Submit**. The permissions are added successfully.



9. Set the validity period of the access token to three months.
   a. Access https://developers.facebook.com/tools/debug/accesstoken.
   b. Enter the access token obtained in **8.f** and click **Debug**.
      If the debugging is successful, the following information is displayed:
      - The value of **Type** is **Page**, not **User**.
      - The value of **Expires** is **Never**.

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- The value of **Data Access Expires** is about three months later.
- The permissions under **Granular Scopes** contain at least the permissions added in **6**.



Access Token Info	
App ID	644975007691806 : Develop_1
Type	Page
Page ID	112649061885015 : Travelling-Fly
App-Scoped User ID Learn More	282270971138965 : 于苗 User last installed this app via API N/A
Issued	1688629077 (8 seconds ago)
Expires	Never
Data Access Expires	1696405044 (in about 3 months)
Valid	True
Origin	Web
Scopes	pages_show_list, pages_messaging, pages_read_engagement, pages_manage_metadata, pages_read_user_content, pages_manage_posts, pages_manage_engagement
Granular Scopes	
pages_show_list	112649061885015 : Travelling-Fly
pages_messaging	112649061885015 : Travelling-Fly
pages_read_engagement	112649061885015 : Travelling-Fly
pages_manage_metadata	112649061885015 : Travelling-Fly
pages_read_user_content	112649061885015 : Travelling-Fly
pages_manage_posts	112649061885015 : Travelling-Fly
pages_manage_engagement	112649061885015 : Travelling-Fly

Context

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Social Media > **Account Post**.

Step 2 Click **Configure Channel** and then click **New**.

Step 3 In the **Create Channel** dialog box, set parameters based on **Table 2-250**.

Table 2-251 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized name.
OU Configuration	OU to which the channel configuration belongs. **NOTE** If no OU is configured or **Unorganized** is selected, the data can be used by all OUs.

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Parameter	Description
Channel Configuration	Select **Facebook**.
Channel ID	Public home page ID obtained in **6**.
Client ID	App ID generated in **7**.
AppKey	App key generated in **7**.
AccessToken	Tokens generated in **6**.
RefreshToken	
ApiFabricAK	Contact the system administrator to obtain the app secret of the app that has subscribed to the **facebookNorth**, **facebookRefresh-Noth**, and **facebookReplyNorth** APIs and bound to the tenant space for which the Facebook channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app ID here.
ApiFabricSK	Contact the system administrator to obtain the app secret of the app that has subscribed to the **facebookNorth**, **facebookRefresh-Noth**, and **facebookReplyNorth** APIs and bound to the tenant space for which the Facebook channel needs to be configured on the **Configuration Center** > **Expansion and Integration** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.
Associated Channel Configuration	Select the Facebook chat channel configured for the current tenant for association. For details about the Facebook channel, see **2.5.4 Configuring the Facebook Channel**.
Operation personnel	Assign employees of the tenant to maintain the publish channel. A maximum of 10 operators can be assigned to a channel. **NOTE** • When publishing a post, you can view only the channel for which you are an operator. • It is recommended that at least one operator be configured.

Step 4 Click **Save**.

----End

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2.20.1.3 Publishing a YouTube Post

Prerequisites

A YouTube channel has been created. For details, see **2.20.1.1 Creating a YouTube Channel**.

Context

- By default, approval is not required for publishing a YouTube post or deleting a published YouTube post. If the tenant parameter **Social Media Approver Account** is set, posts can be published or deleted only after being approved by the approver.
- When you publish a YouTube post, the maximum size of a video that can be uploaded is specified by the tenant parameter **Social Media Video Upload Size Limit**. The parameter unit is MB. The default value is **200**, and the maximum value is **500**.
- Only videos can be uploaded through the YouTube channel.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or channel operator and choose 

> **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-252**.

Table 2-252 Parameters for configuring basic information

Parameter	Description
Theme	Enter a customized value. The value can contain a maximum of 100 characters.
Contents	Enter a customized value. The value can contain a maximum of 5,000 characters.
Image	Currently, this function is not supported.
(Mandatory) Video	Upload a local video. The video size cannot exceed the value of the tenant parameter **Social Media Video Upload Size Limit**. The video must be in MP4 format.
Release Channel	Select **YouTube**.
Channel Information - YouTube	
(Mandatory) Audience	Set these parameters as required.
(Optional) Label	

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Parameter	Description
(Mandatory) License	
(Mandatory) Category	
(Mandatory) Public Scope	

Step 4 Click **Next**.

Step 5 Configure publishment information based on **Table 2-253**.

Table 2-253 Parameters for configuring publishment information

Parameter	Description
Release a channel/Page	Select the YouTube channel created in **2.20.1.1 Creating a YouTube Channel**.
Publication Type	Value options: • **Real-Time Release** • **Scheduled Release** (not supported currently)
Estimated Release Time	This parameter is mandatory when **Publication Type** is set to **Scheduled Release**. Set a future time.
Approver	An approver is automatically displayed. This parameter is displayed only when the tenant parameter **Social Media Approver Account** is set.
Remarks	Enter remarks. The value can contain a maximum of 500 characters.

To publish the post through multiple channels, click **Create** to add multiple channels.

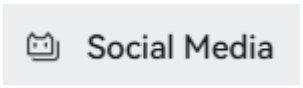
Step 6 Click **Submit**.

After you click **Submit**, the post is automatically published by default. If the tenant parameter **Social Media Approver Account** is set, the post can be published only after the approver approves the post.

----End

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Follow-up Procedure

After a YouTube post is published, you can choose 

> **Social Media Workbench** to view the comment details of the post. For details, see **2.20.2 Processing Social Media Workbench Messages**.

2.20.1.4 Publishing a Facebook Post

Prerequisites

A Facebook channel has been created. For details, see **Creating a Facebook Channel**.

Context

- By default, approval is not required for publishing a Facebook post or deleting a published Facebook post. If the tenant parameter **Social Media Approver Account** is set, posts can be published or deleted only after being approved by the approver.
- When you publish a Facebook post, the maximum size of a video that can be uploaded is specified by the tenant parameter **Social Media Video Upload Size Limit**. The parameter unit is MB. The default value is **200**, and the maximum value is **500**.
- When you publish a Facebook post, the maximum size of an image that can be uploaded is specified by the tenant parameter **Maximum size of uploaded social media images**. The parameter unit is MB. The default value is **1**, and the maximum value is **4**.
- The validity duration of the URL used by a customer to access a resource is controlled by the tenant parameter **Validity duration of the URL used by a customer to access a resource**. The value is in minutes and ranges from 5 to 10080 (at most seven days). The default value is **1440** (equals one day).
- Blank posts cannot be published through the Facebook channel. You need to set at least one of **Contents**, **Image**, and **Video**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or channel operator and choose 

> **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-252**.

Table 2-254 Parameters for configuring basic information

Parameter	Description
Theme	Enter a customized value. The value can contain a maximum of 100 characters.

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Parameter	Description
Contents	Enter a customized value. The value can contain a maximum of 5,000 characters.
Image	Upload a local image. A maximum of nine images can be uploaded. The size of an image cannot exceed the value of the tenant parameter **Maximum size of uploaded social media images**. The image must be in either of the following formats: • PNG • JPG • GIF • BMP • TIFF
Video	Upload a local video. Only one video can be uploaded. The video size cannot exceed the value of the tenant parameter **Social Media Video Upload Size Limit**. The video must be in MP4 format.
Release Channel	Select **Facebook**.
Channel Information - Facebook	
Allow embedding	The check box is selected by default. Select or deselect the check box based on site requirements.

Step 4 Click **Next**.

Step 5 Configure publishment information based on **Table 2-253**.

Table 2-255 Parameters for configuring publishment information

Parameter	Description
Release a channel/Page	Select the Facebook channel created in **2.20.1.2 Creating a Facebook Channel**.
Publication Type	Value options: • **Real-Time Release** • **Scheduled Release**
Estimated Release Time	This parameter is mandatory when **Publication Type** is set to **Scheduled Release**. Set a future time.

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Parameter	Description
Approver	An approver is automatically displayed. This parameter is displayed only when the tenant parameter **Social Media Approver Account** is set.
Remarks	Enter remarks. The value can contain a maximum of 500 characters.

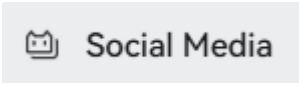
To publish the post through multiple channels, click **Create** to add multiple channels.

Step 6 Click **Submit**.

After you click **Submit**, the post is automatically published by default. If the tenant parameter **Social Media Approver Account** is set, the post can be published only after the approver approves the post.

----End

Follow-up Procedure

After a Facebook post is published, you can choose 

> **Social Media Workbench** to view details about whether the post is mentioned or commented on. For details, see **2.20.2 Processing Social Media Workbench Messages**.

2.20.1.5 Approving a Post

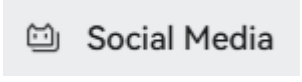
Prerequisites

- The tenant parameter **Social Media Approver Account** has been set.
- The approver account has the **Enterprise account operation** menu permission.

Context

After a version earlier than AICC 25.100.0 is upgraded to AICC 25.100.0, the original approval data is not displayed on the **Approval History** tab page.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose 

> **Account Post**.

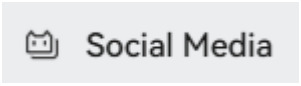
Step 2 Click the **to be approved** tab and click **Approval** in the **Operation** column corresponding to a post in the **to be approved** state.

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Step 3 After reading the post, click **Passed** or **Reject**.

----End

Follow-up Procedure

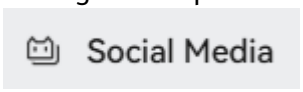
Choose  > **Account Post** and click the **Approval History** tab to view the approval history.

2.20.2 Processing Social Media Workbench Messages

When a publish channel managed by an operator is mentioned (@) or commented by others, operations personnel can receive notifications and make responses.

Prerequisites

1. The social media feature has been enabled for the tenant.

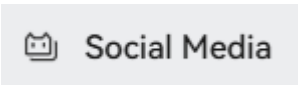
   The social media feature is changed to feature control. In the upgrade scenario, this feature is disabled for historical tenants by default. However, the social media menu is available, and the social media feature can be used.
2. The agent has published YouTube videos and Facebook posts under  > **Account Post**.
3. Operations personnel have been assigned to the Facebook and YouTube release channels.
4. The agent is an employee of the current tenant and has the permission on the social media, multimedia message processing, enterprise account message processing, and offline message processing menus.

Context

- When the operations personnel access the social media message menu, the system automatically queries and displays the unprocessed posts of the operations personnel in a list. The details are as follows:
  - Facebook mentions are automatically synchronized by a scheduled task every 10 minutes.
  - Facebook comments are synchronized through the Webhook and scheduled task. The Webhook synchronizes comments in real time, and the scheduled task synchronizes comments every 10 minutes.
  - YouTube comments are automatically synchronized by a scheduled task every 30 minutes.
- Facebook messages include mentions and comments, while YouTube messages include only comments.
- Operations personnel who have the permission to process multimedia messages can view Facebook mentions. Operations personnel who have the permission to process enterprise account messages can view Facebook and YouTube comments.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose 

> **Social Media Workbench**.

Posts that mention operations personnel are displayed in a list.

Step 2 View Facebook mentions.

1. Click the **Current** tab and click a mention to view its details, number of followers, user ID, user name, age, and gender.

   You can perform the following operations.

   Table 2-256 Operations

Button	Description
	Mark as processed in batches.
Private Reply	Private messages cannot be sent to the public home page.
Mark as Processed	Mark a mention as processed.
Source	Jump to original post.
	View mention details.

2. Click the **History** tab and click a mention to view its details, number of followers, user ID, user name, age, and gender.

   You can perform the following operations.

   Table 2-257 Operations

Button	Description
Private Reply	Private messages cannot be sent to the public home page.

Step 3 Process Facebook and YouTube comments.

1. Click the **Current** tab and click a comment to view its details, number of followers, user ID, user name, age, and gender.

   You can perform the following operations.

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Table 2-258 Operations

Button	Description
Reply	Reply to the commenter for a comment. Facebook: For details, see **Table 2-259**. YouTube: For details, see **Table 2-260**. Click **Delete** to delete a reply.
Private Reply	Send a private message to the commenter for a comment. Currently, private messages can be sent only to Facebook users, but cannot be sent to the public home page. For details, see **Table 2-259**. **NOTE** The commenter can send a private message to the commenter only when the commenter has sent a private message to the public home page within 24 hours.
Mark as Processed	Mark a mention as processed.
Source	Jump to original post.
164	View mention details.

Table 2-259 Replying to a Facebook comment or sending a private message

Button	Description
	Select an emoji to send.
	Select a multimedia file in the multimedia library and send it quickly. Currently, only images can be sent. For details, see **2.3.2.10 Managing the Multimedia Library**.

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Button	Description
	– Select a local multimedia file to send. The file size is specified by the tenant parameter **Maximum size of uploaded social media images**. For details, see **2.17.3 Setting Tenant Parameters**. The following file types are supported: ■ JPEG ■ JPG ■ BMP ■ PNG ■ GIF ■ TIFF
	Perform a spelling check to avoid spelling errors, improving agent experience. Only the text in the email body is extracted for correction. Misspelled words are displayed in red. – The language can be switched for the spelling check again. Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **2.17.3 Setting Tenant Parameters**. – Agents can manually correct spelling errors.

Table 2-260 Replying to a YouTube comment

Button	Description
	Select an emoji to send.

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Button	Description
	Perform a spelling check to avoid spelling errors, improving agent experience. Only the text in the email body is extracted for correction. Misspelled words are displayed in red. – The language can be switched for the spelling check again. Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **2.17.3 Setting Tenant Parameters**. – Agents can manually correct spelling errors.

2. Click the **History** tab and click a comment to view its details, number of followers, user ID, user name, age, and gender.

   You can perform the following operations.

Table 2-261 Operations

Button	Description
Reply	Reply to the commenter for a comment. Facebook: For details, see **Table 2-262**. YouTube: For details, see **Table 2-263**. Click **Delete** to delete a reply.
Private Reply	Send a private message to the commenter for a comment. Currently, private messages can be sent only to Facebook users, but cannot be sent to the public home page. For details, see **Table 2-262**.
Source	Jump to original post.
	View mention details.

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Table 2-262 Replying to a Facebook comment or sending a private message

Button	Description
	Select an emoji to send.
	Select a multimedia file in the multimedia library and send it quickly. Currently, only images can be sent. For details, see **2.3.2.10 Managing the Multimedia Library**.
	– Select a local multimedia file to send. The file size is specified by the tenant parameter **Maximum size of uploaded social media images**. For details, see **2.17.3 Setting Tenant Parameters**. The following file types are supported: ▪ JPEG ▪ JPG ▪ BMP ▪ PNG ▪ GIF ▪ TIFF
	Perform a spelling check to avoid spelling errors, improving agent experience. Only the text in the email body is extracted for correction. Misspelled words are displayed in red. – The language can be switched for the spelling check again. Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **2.17.3 Setting Tenant Parameters**. – Agents can manually correct spelling errors.

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Table 2-263 Replying to a YouTube comment

Button	Description
	Select an emoji to send.
	Perform a spelling check to avoid spelling errors, improving agent experience. Only the text in the email body is extracted for correction. Misspelled words are displayed in red. – The language can be switched for the spelling check again. Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **2.17.3 Setting Tenant Parameters**. – Agents can manually correct spelling errors.

----End

2.21 Configuring Performance Management

2.21.1 Performance Configuration

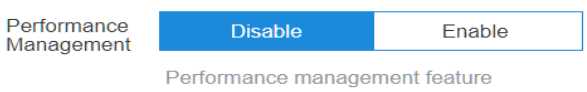
2.21.1.1 Performance Algorithm

Before creating a performance plan, the tenant administrator need to configure the corresponding performance algorithm.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Tenant Management**.
  c. Click **Edit** in the row containing the current tenant.
  d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

  Figure 2-879 Enabling the performance management feature

  Performance management feature

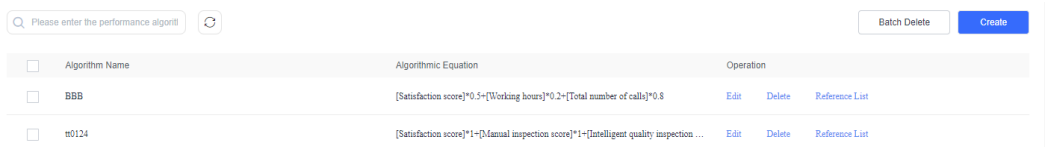
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The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.

Procedure

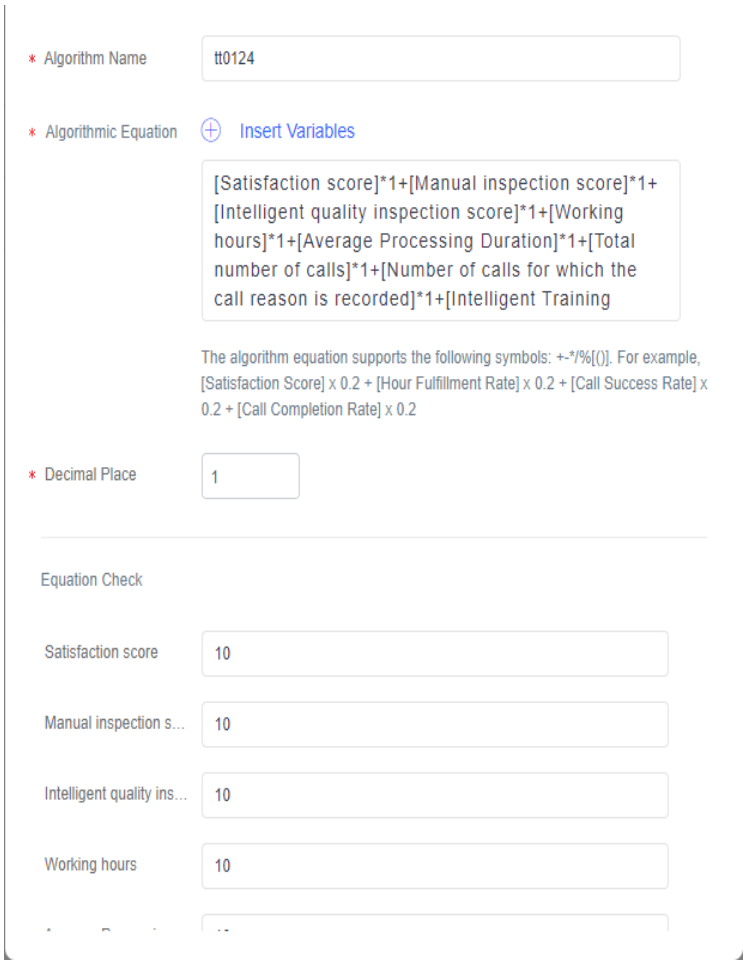
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Performance management** > **Performance configuration**, and choose **Performance Algorithm**.

Figure 2-880 Performance algorithm page



Step 2 Click **Create** and create a performance algorithm.

Figure 2-881 Creating a performance algorithm



1. **Algorithm Name**: Customize a value with a maximum of 100 characters.
2. **Algorithmic Equation**: Insert variables to create an algorithm equation. The algorithm equation supports the following symbols: +–%*/[]( ). Example:

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[Satisfaction score]*0.2+[Working hour fulfillment rate]*0.2+[Call success rate]*0.2+[Call completion rate]*0.2 Variables that can be inserted into the algorithm equation are as follows:

- Satisfaction score
- Manual inspection score
- Intelligent quality inspection score
- Working hours
- Average Processing Duration
- Total number of calls
- Number of calls for which the call reason is recorded
- Intelligent Training Score

3. **Decimal Place**: Enter the number of decimal places to be retained in the final performance score. The default value is **1**.
4. **Equation Check**: Set a simulated test based on the algorithm equation. Click **Start verification**. The calculation is performed based on the selected indicators.

Step 3 After all the preceding information is configured, click **Save**.

Step 4 In the **Operation** column, click **Edit**, **Delete**, or **Reference List** for the current performance algorithm as required. If a performance algorithm is referenced by a performance plan, the performance algorithm cannot be deleted but can be modified.

----End

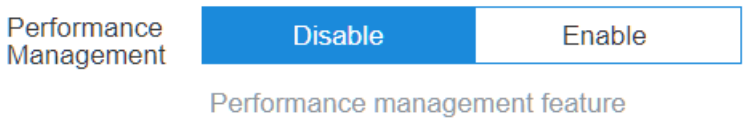
2.21.1.2 Performance Plan

The tenant administrator can configure a performance plan for performance management and employee training guide.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Tenant Management**.
  c. Click **Edit** in the row containing the current tenant.
  d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

  Figure 2-882 Enabling the performance management feature



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The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.

- The performance algorithm has been configured.

Procedure

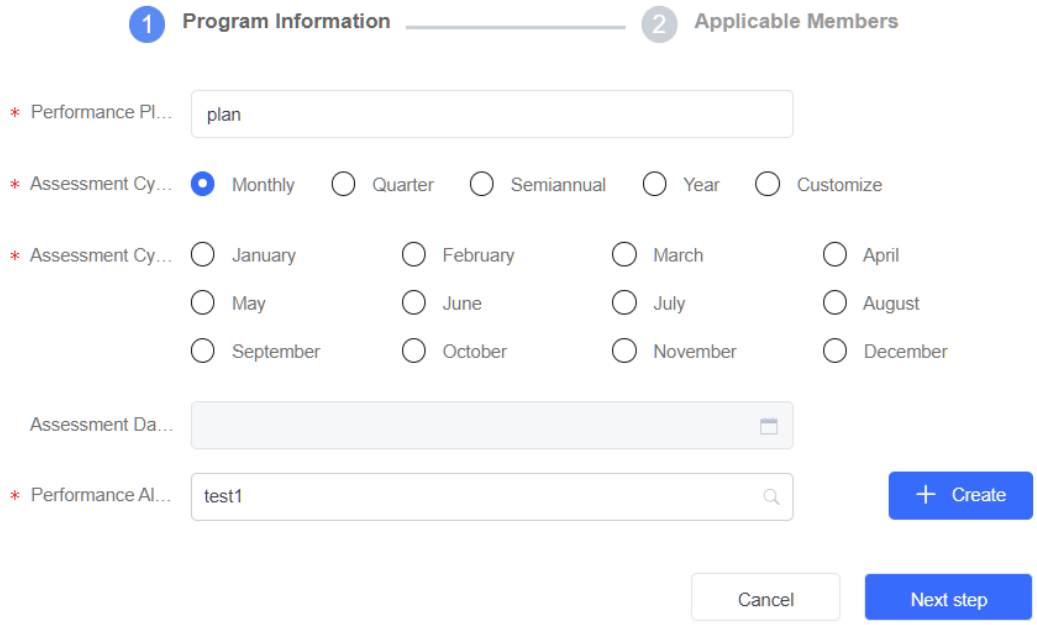
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Performance management** > **Performance configuration**, and choose **Performance Plan**.

Figure 2-883 Performance plan page



Step 2 Click **Create** and create a performance plan. Configure **Program Information** first.

Figure 2-884 Creating a performance plan - Program Information page



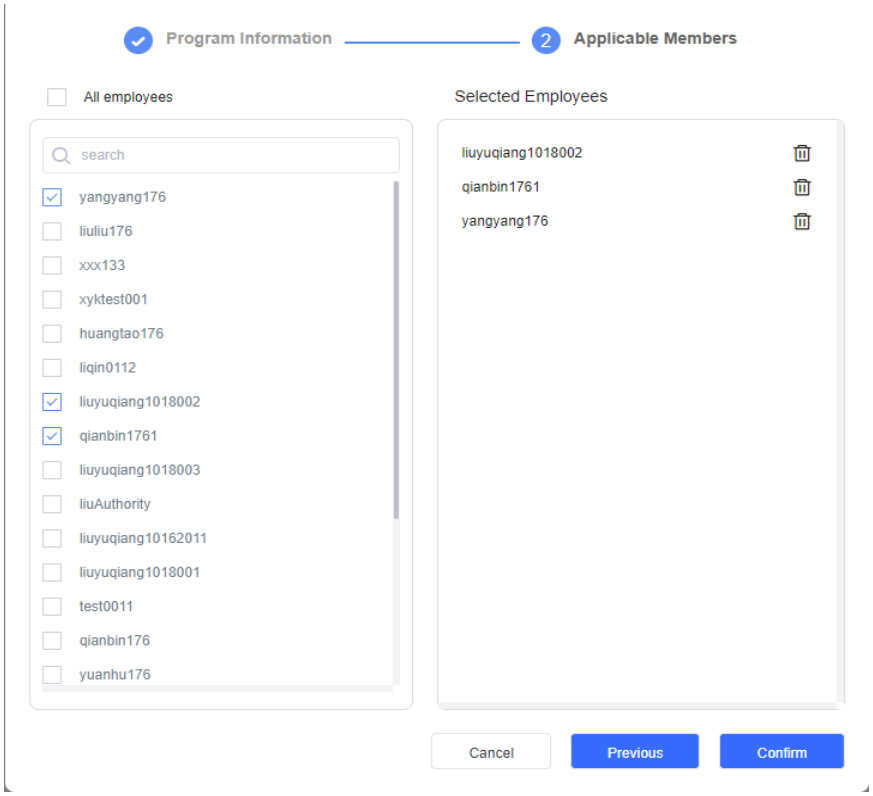
1. **Performance PlanName**: Customize a value with a maximum of 100 characters.
2. **Assessment Cycle Type**: Select an appraisal period type.
   - **Monthly**
   - **Quarter**
   - **Semiannual**
   - **Year**
   - **Customize**: If you select **Customize**, the time span cannot exceed 366 days but can cross years.

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3. **Assessment Cycle**: Select an appraisal period based on the appraisal period type.
4. **Assessment Data Period**: Set a specific appraisal time period.
5. **Performance Algorithm**: Select an existing performance algorithm. If no algorithm is available, click + Create to create an algorithm for the current performance plan.

Step 3 Click **Next step**, select applicable members for the performance plan.

Figure 2-885 Creating a performance plan - Applicable Members page



Step 4 After all the preceding information is configured, click **Confirm**.

Step 5 In the **Operation** column, click **Edit** or **Delete** for the current performance plan as required. A performance period that has been carried forward (that is, the appraisal is completed) cannot be edited.

----End

2.21.2 Performance Scoring

Performance score details of the current agent can be viewed or deleted based on the specified performance plan.

Prerequisites

- The performance management feature has been enabled for the tenant space.
  a. Sign in to the AICC as the system administrator.

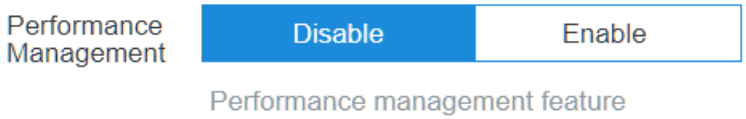
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b. Choose **Call Center** > **Tenant Management**.

c. Click **Edit** in the row containing the current tenant.

d. Click the **Virtual Call Center** tab. In the **Feature Selection** area, enable the **Performance Management** feature.

Figure 2-886 Enabling the performance management feature



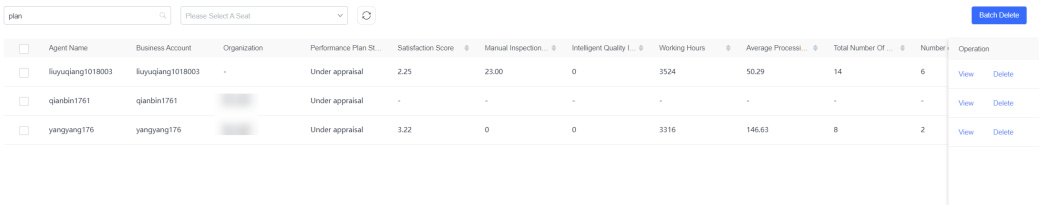
The performance management feature depends on the AppCube feature. Before enabling the performance management feature, enable the AppCube feature.

- The **performance algorithm** and **performance plan** have been configured.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Performance** > **Performance Scoring**.

Figure 2-887 Performance Scoring page



Step 2 Click Please Enter Performance Plan and enter a performance plan name to view the corresponding performance score.

This field is mandatory. If no performance plan is selected, no content is displayed in the list by default. After a performance plan is selected, the system dynamically determines the involved performance indicators based on the performance algorithm corresponding to the plan and displays the indicators in the list.

Step 3 Check the queried performance indicators based on the following table.

Table 2-264 Performance indicators

Indicator	Description
Performance Plan Status	Performance plan status. The value can be **Under appraisal** or **Completed**.
Satisfaction Score	Average satisfaction score calculated based on the appraisal period.

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Indicator	Description
Manual Inspection Score	Average score of manual inspection calculated based on the appraisal period.
Intelligent Quality Inspection Score	Average score of intelligent inspection calculated based on the appraisal period.
Working Hours	Sum of working duration based on the appraisal period, in seconds.
Average Processing Duration	Average processing duration calculated based on the appraisal period, in seconds.
Total Number Of Calls	Total number of calls calculated based on the appraisal period.
Number of calls for which the call reason is recorded	Number of calls for which the call reason is recorded based on the appraisal period.
Intelligent Training Score	Average intelligent training score calculated based on the appraisal period.
Performance Score	Performance score calculated based on the performance algorithm.
Performance Score Update Time	Time when a performance score is updated.

Step 4 In the **Operation** column, click **View** or **Delete** for the current performance score as required.

----End

2.22 Migrating IPCC Data

A tenant administrator can migrate VCC information from the IPCC to the current tenant space, including skill queues, organization structures, roles, and basic employee information.

Prerequisites

- The tenant administrator has the IPCC data migration menu permission.
- The system administrator has signed in to the AICC and migrated IPCC data.
- Configure the common IVR flow and intelligent IVR flow used to transfer calls to IVRs as specified in the skill queue policy by referring to **2.6.3 Configuring a Common IVR Flow** and **2.6.2 Configuring an Intelligent Robot**.
- Configure the customized waiting tone, customized voice before the agent ID, and customized voice after the agent ID in **New Skill Queue** by referring to **2.6.3.2 Managing Voice and Video Resources**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion and Integration** > **IPCC Data Migration**.

Step 2 Import skill queues.

Table 2-265 Key elements on the Import Skill Queue page

Parameter	Type	Description
CCID	Text box	CCID of the IPCC from which data needs to be imported to the current tenant space.
VCCID	Text box	ID of the IPCC VCC from which data needs to be imported to the current tenant space.
CCID	Label	CCID of the IPCC from which data is imported to the current tenant space.
VCCID	Label	ID of the IPCC VCC from which data is imported to the current tenant space.
Type	Label	• **IVR**: IVR flow used in the skill queue policy. • **VP**: VP voice used in the skill queue policy.
WAS Value	Label	IVR flow or VP voice used in the skill queue policy on the IPCC.
AICC Mapping Value	Drop-down list	IVR flow or VP voice used in the skill queue policy in the AICC. • Common and intelligent IVR flows configured in the current tenant space when **Type** is set to **IVR**. • Customized waiting tone, customized announcement before agent ID reporting, and customized announcement after agent ID reporting configured for the current tenant space when **Type** is set to **VP**.
Skill Name	Label	Name of the skill queue that fails to be imported.
Failure Reason	Label	Reason for the skill queue import failure.

Step 3 Click **Import**.

Check the result overview and click **Next**.

Step 4 On the **Import Department** page, click **Import**.

Check the result overview and click **Next**.

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Step 5 On the **Import Role** page, click **Import**.

Check the result overview and click **Next**.

Step 6 On the **Import Employee Information** page, enter and confirm the password, and click **Import**.

Check the result overview and click **Next**.

Step 7 On the **Import Staff Role** page, click **Import**.

Check the result overview and click **Next**.

Step 8 Import the relationship.

Table 2-266 Key elements on the Import Relationship page

Parameter	Type	Description
CCID	Label	CCID of the IPCC from which data is imported to the current tenant space.
VCCID	Label	ID of the IPCC VCC from which data is imported to the current tenant space.
Operator	Drop-down list	Select the role of the agent.
Quality Inspector	Drop-down list	Select a role for the inspector.
Outbound Call Agent	Drop-down list	Select the role of the outbound call agent.
Employee Name	Label	Name of the employee that fails to be imported.
Failure Reason	Label	Reason for the employee import failure.

Step 9 Click **Import**.

View the result overview.

----End

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3 Agent Guide

This document provides guidance for agents to perform operations so that agents can use the AICC business platform.

3.1 Introducing Agent Workbenches
The AICC provides a workbench page where basic agent operations are integrated so that agents can perform operations without switching the menus. Workbenches are classified into the audio and video workbench and online chat workbench.

3.2 Configuring the Personal Center
Agents can query their own agent and employee information in the personal center, configure personalized nicknames and greetings for themselves, and set personalized agent parameters.

3.3 Switching the Agent Status
An agent can switch the agent status using the connection bar on the top of the page for the system to better assign businesses.

3.4 Allowing Browser Pop-up Notifications

3.5 Handling Voice Businesses
This section describes how to handle voice businesses as an agent.

3.6 Handling Video Businesses
This section describes how to handle video businesses as an agent.

3.7 Handling Multimedia Chat Businesses
This section describes how to handle multimedia businesses as an agent.

3.8 Performing Other Agent Operations
This section describes other operations performed by an agent.

3.9 Managing Inspection Results
This section describes inspection management. An agent can manage inspection results.

3.10 Typical Scenarios
This section describes some typical scenarios of operations performed by an agent.

3.11 Viewing Training Tasks
Intelligent training tasks can be used to periodically train and test agents through IVR flows to check the business skills of the agents.

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3.12 Intelligent Outbound Call Tasks
Based on the assigned outbound call tasks, agents make outbound calls and configure outbound call results.

3.13 OpenEye Help Document

3.14 Implementing Intelligent Case Filling

3.1 Introducing Agent Workbenches

The AICC provides a workbench page where basic agent operations are integrated so that agents can perform operations without switching the menus. Workbenches are classified into the audio and video workbench and online chat workbench.

3.1.1 Voice and Video Workbench

An agent uses the voice and video workbench to handle customer businesses through inbound and outbound voice calls.

An agent can open the voice and video workbench in either of the following ways:

- Choose **Call**.
- After an agent signs in, the voice and video workbench is automatically opened. Alternatively, you can make an inbound or outbound call through the connection bar. After the call is connected, the voice and video workbench is automatically opened.

When an agent opens the voice and video workbench page for the first time, the system displays the setting guides, for example, the description of adjusting the card width, moving a card, deleting a card, and the button for editing the voice and video workbench.

3.1.1 Voice and Video Workbench shows the voice and video workbench GUI.

Figure 3-1 Voice and video workbench

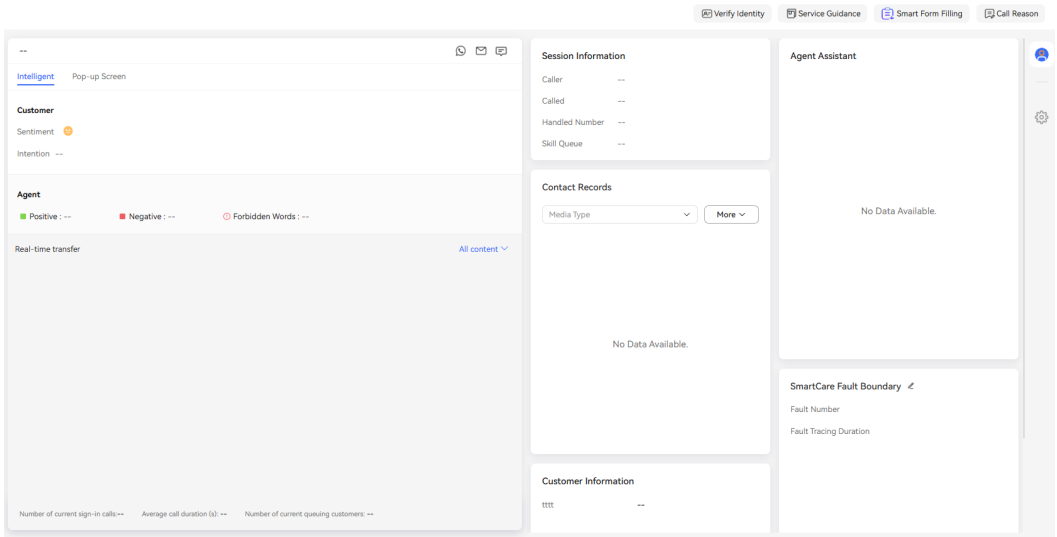
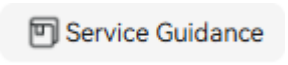
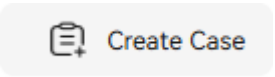
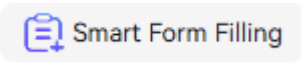
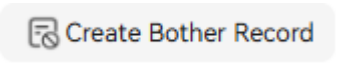
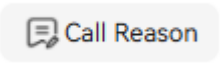
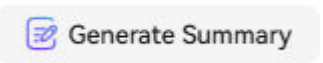


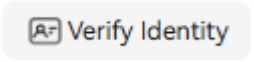
Table 3-1 describes the GUI.

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Table 3-1 Voice and video workbench

Content	Description
	Help an agent handle businesses during a call. This button is displayed only when the **Agent Business Process Visualization** feature is enabled and the **Service Guidance** menu permission is assigned to an agent. For details about how to configure a visualized service guidance flow, see **2.3.3.15 Configuring Service Guidance**.
	Create a case in one-click mode. For details, see **3.8.19 Creating a Case by One Click**.
	Perform smart form filling and create a SmartCare in-depth demarcation task. For details, see **3.8.18 Intelligent Case Filling** and **3.8.17 SmartCare Fault Demarcation**.
	Create a harassment record for a customer during a two-party call with the customer. For details about how to create a harassment record, see **3.8.13 Creating Harassment Records**.
	Identify and display the call reason of a customer. You can add call remarks as required. The remarks can contain a maximum of 2,000 characters. For details, see **3.8.4 Setting Call Reasons**. For details about how to configure a call reason, see **2.3.2.1 Configuring Call Reasons**. If the **Automatic Conversation Summary** feature is enabled for the tenant and **Automatic Session Summary** is enabled for an agent,  is displayed when the agent configures a call reason on the workbench.

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Content	Description
Pop-up Screen	Display the voice and video inbound call screen pop-up that has been enabled in the system. Configure the tab page name based on site requirements. For details about how to configure a screen pop-up, see **2.3.2.6 Configuring Screen Pop-ups**.
	Send an email notification to a customer during a call with the customer. For details about how to send a notification, see **3.8.7 Sending Notifications**.
	Send a WhatsApp notification to a customer during a call with the customer. For details about how to send a notification, see **3.8.7 Sending Notifications**.
	Send an SMS notification to a customer during a call with the customer. For details about how to send a notification, see **3.8.7 Sending Notifications**.
	Authenticate the customer identity during a call with a customer. For details about how to perform identity authentication, see **3.8.10 Performing Identity Authentication**.
	Only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Session Information** card is added to the workbench, this button is displayed after a call ends. When the call between an agent and a customer is abnormally disconnected, the agent can proactively initiate a callback by clicking  to improve customer experience. For details, see **3.5.11 Initiating Callbacks**.

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Content	Description
Session Information	This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Session Information** card is added to the workbench. Display session information, including the calling and called numbers of an inbound call, handled number, skill queue, customer language, business request, and smart voice recording information. For details, see **3.8.2 Viewing Session Information**. Click  to set a handled number of up to 24 characters to identify the service object. For details, see **3.8.3 Setting the Handled Number**. If no handled number is set, the handled number is the same as the customer number. Click the link next to **Business Request** to view the visualized flow. The customer language is displayed only after the parameter **Languages supported by the satisfaction survey** is set on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. You can click  to set the customer language. The value of the customer language is the value of **Languages supported by the satisfaction survey**. If the customer language is not set, the satisfaction survey is sent in the language used by the tenant.

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Content	Description
Customer Information	This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Customer Information** card is added to the workbench. Display information about the customer who makes the inbound call according to the configuration on the **Contact Customer Information Area** tab page. For details, see **3.8.11 Viewing Customer Information**. Configure the style of each field in this area to display different field values in different styles.
Agent Assistant	This card is displayed only when the **Intelligent Agent** feature is enabled, the **Intelligent Recognition** and **Intelligent Agent Assistant** features are enabled on the **Tenant Information** page, the **Intelligent Recognition** feature is enabled on the **Agent Management** page, and the **Agent Assistant** card is added to the workbench. Display script recommendations, FAQ recommendations, and forbidden word prompts for agents. For details, see **3.5.10 Configuring the Agent Assistant**.
Intelligent	Display the converted conversations between customers and agents in real time in text format. When **Only Customer** is selected, only converted content of the customer is displayed. For details, see **3.5.10 Configuring the Agent Assistant**. After the **LLM Engine** feature is enabled, customers' sentiments and intentions can be displayed to agents based on the LLM.

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Content	Description
Contact Records	This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Contact Records** card is added to the workbench. Display the latest 10 contact records by time. Contact records can only be displayed by time. For details, see **3.8.1 Searching for Contact Records on the Workbench**. • Click  to go to the **Contact Details** page. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number. • Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**. Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number.

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Content	Description
Customer Center	This card is displayed only when the **Customer Center** feature is enabled, the tenant parameter **Display Unified Customer Contact Information** is set to **Yes**, and the **Customer Center** card is added to the workbench. • **Basic Information** – If information about the customer exists on the **Customer Center** > **Customer Center Management** page, the basic customer information is displayed. – If information about the customer does not exist on the **Customer Center** > **Customer Center Management** page, an agent can click to edit basic customer information. For details, see **3.8.14 Viewing Customer Center Information**. • **Call Information** The information includes the calling and called numbers of an inbound call, and skill queue. • **Contact Records** Display the latest five contact records by time. Contact records can only be displayed by time. Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**. Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer. **NOTE** The agent is in a conversation with the handled number.

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Content	Description
SmartCare Fault Boundary	This card is displayed on the voice and video workbench only when the **SmartCare** feature is enabled, the language used by the tenant is within the value range of the system parameter **Languages supported by the SmartCare**, and the **SmartCare Fault Boundary** card is added to the workbench. For details, see **3.8.17 SmartCare Fault Demarcation**.
Customer Case List	This card is displayed on the voice and video workbench only when the **Case 2.0** feature is enabled and the **Customer Case List** card is added to the workbench. This card is used to display the list of unclosed customer cases. For details, see **3.8.21 Viewing the Customer Case List**.
Workbench Application Integration	Integrate third-party applications.
	Edit the voice and video workbench. For details, see **3.1.2 Editing the Voice and Video Workbench**.

3.1.2 Editing the Voice and Video Workbench

Agents can set their own voice and video workbench layouts.

Prerequisites

The agent has permissions on the voice and video workbench.

Procedure

Step 1 Sign in to the AICC as a common agent.

Step 2 Open the voice and video workbench.

The voice and video workbench can be opened in either of the following ways:

- Choose **Call**.
- After the agent signs in, the voice and video workbench is automatically opened.

Step 3 Click  . The page for editing the voice and video workbench layout is displayed.

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Table 3-2 GUI elements on the page for editing the voice and video workbench layout

Parameter	Description
⊕ Add Widget	Select a card on the voice and video workbench. The options are as follows: • System application – **Agent Assistant**: This card is displayed only when the **Intelligent Agent** feature is enabled, the **Intelligent Recognition** and **Intelligent Agent Assistant** features are enabled on the **Tenant Information** page, the **Intelligent Recognition** feature is enabled on the **Agent Management** page, and the **Agent Assistant** card is added to the **Call Workbench Management** page. – **SmartCare Fault Boundary**: This card is displayed only when the **SmartCare** feature is enabled, the language used by the tenant is within the value range of the system parameter **Languages supported by the SmartCare**, and the **SmartCare Fault Boundary** card is added to the **Call Workbench Management** page. – **Customer Center**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **Yes** and the **Customer Center** card is added to the **Call Workbench Management** page. – **Case**: This card is displayed only when the **Case 2.0** feature is enabled and the **Case** card is added to the **Call Workbench Management** page. – **Customer Case List**: This card is displayed only when the **Case 2.0** feature is enabled and the **Customer Case List** card is added to the **Call Workbench Management** page. – **Contact Records**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Contact Records** card is added to the **Call Workbench Management** page. – **Session Information**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Session Information** card is added to the **Call Workbench Management** page.

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Parameter	Description
	– **Customer Information**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Customer Information** card is added to the **Call Workbench Management** page. • Integrated application Applications whose **Status** is **Published** and **Application Location** is **Audio and video workbench** on the **Configuration Center** > **Expansion and Integration** > **Application Integration** page.
Fold All	Collapse all cards on the workbench.
Unfold All	Expand all cards on the workbench.
Restore	Restore the layout to that set by the tenant administrator on the **Configuration Center** > **Workbench Configuration** > **Call Workbench Management** page.
Organize	Provide the automatic card layout function based on the widget framework capability.
Cancel	Cancel the editing of the workbench layout.
Publish	Publish the edited workbench layout.

Step 4 Click  and select a card.

Step 5 Click **Save**.

Step 6 Click **Publish**.

----End

3.1.3 Online Chat Workbench

An agent can use the online chat workbench to handle customer businesses through multimedia channels.

An agent can open the online chat workbench in either of the following ways:

- Choose **Online Chat Workbench**.
- After the agent signs in to a multimedia skill queue, the online chat workbench is automatically opened.

When an agent opens the online chat workbench page for the first time, the system displays the setting guides, for example, the description of adjusting the card width, moving a card, deleting a card, and the button for editing the online chat workbench.

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Figure 3-2 shows the online chat workbench GUI.

Figure 3-2 Online chat workbench page - Web

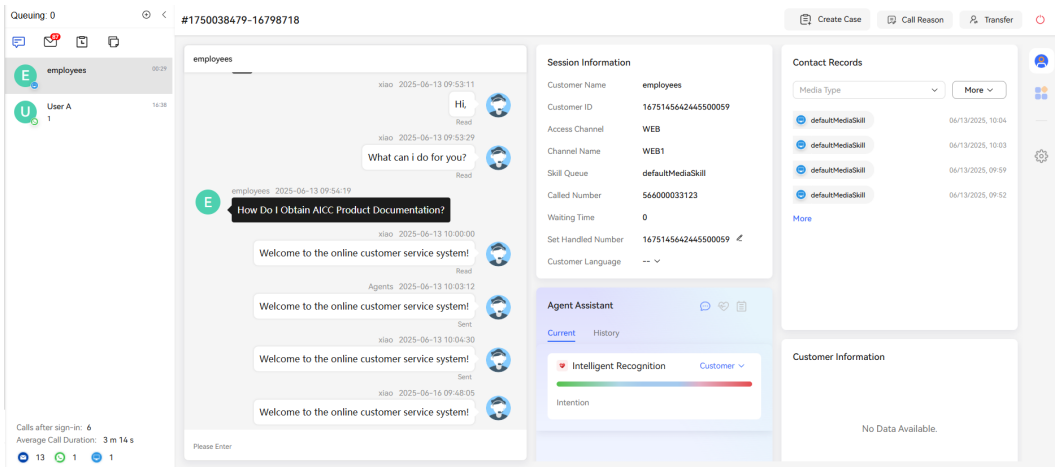


Figure 3-3 Historical sessions on the online chat workbench

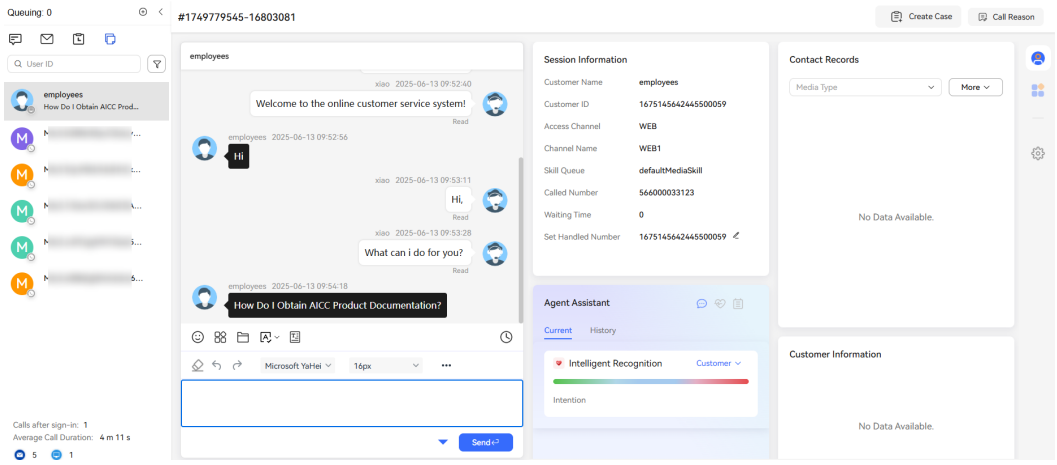
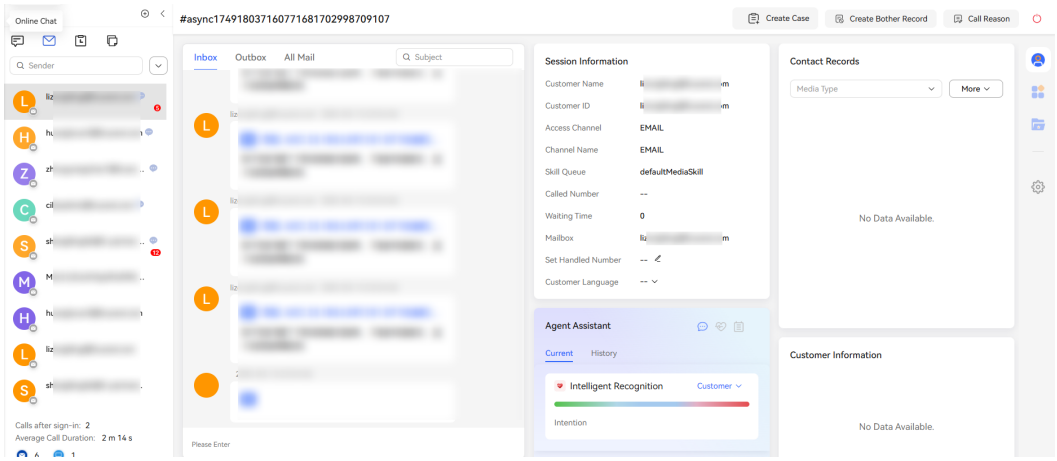


Figure 3-4 Email sessions on the online chat workbench



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Table 3-3 Online chat workbench

Content	Description
	Create a case in one-click mode. For details, see **3.8.19 Creating a Case by One Click**.
	Create a harassment record for a customer during a two-party call with the customer. For details, see **3.8.13 Creating Harassment Records**.
	Set the call reason of a customer.
	Transfer an ongoing session to another agent. A session can be transferred by skill queue (multimedia skill queue) or agent (multimedia agent). During session transfer, agent states and accounts can be viewed. For details, see **3.7.5 Transferring Sessions**.
	Manually end the current session. After the session ends, a satisfaction evaluation box is automatically displayed for the customer to evaluate the service of the agent.
	Display emojis based on the access channel of the current session for use, for example, emojis in the web or WeChat channel.
	Display the multimedia area. In this area, you can select multimedia data configured by the tenant administrator and agent.
	Preview the input on the customer side. When an agent clicks this button, the system displays the "The other party is typing." message if the customer is typing. (The agent input status is invisible to customers.) The visible input status on the agent side is cleared five seconds after the peer side completes the input.
	View messages in the current session. After an agent clicks this button, the current session record dialog box is displayed on the right. The agent can filter file (image, document, voice, and video) messages by type for display and view details to locate the chat context of the current file. By default, all types of messages are displayed.

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Content	Description
	View the total number of unread emails assigned to the current agent. Emails on this page can be set to be processed later and added to favorites.
	**Follow Up** tab page. • **Follow Up**: Select an email on the  tab page of the workbench, right-click the email on the **Inbox** or **All Mail** tab page in the chat area, and choose **Follow Up**. • The online chat workbench allows agents to mark emails that are not processed in time as to be processed later. A maximum of 100 emails in to-be-processed state are supported for a customer. • The agent clicks  to mark the emails to be processed as completed. Then the system automatically saves the processed emails to the **Done** folder. A maximum of 500 emails in completed state can be processed by a customer. If the number of completed emails exceeds 500, the system prompts the customer to manually delete some processed emails or automatically deletes the earliest 10 emails. • The agent clicks  to re-mark the specified completed emails as to be processed or clicks  to delete them.
	View historical messages. After an agent clicks this button, the **Message History** dialog box is displayed on the right. The agent can filter file (image, document, voice, and video) messages by type for display and view details to locate the chat context of the current file. By default, all types of messages are displayed.
	View historical messages. After an agent clicks this button, the **Message History** dialog box is displayed on the right. The agent can filter file (image, document, voice, and video) messages by type for display and view details to locate the chat context of the current file. By default, all types of messages are displayed.

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Content	Description
	This drop-down list is displayed when the chatbot is enabled and a silent agent skill queue is bound in the channel configuration. Select a silent agent state. Multimedia silent agents support only text chats.
	Select a local file to send. The types of local files that can be sent vary depending on channels. • To use this function, the **Local Multimedia File Sending by Agents** feature must be enabled for the tenant, and the agent must have the **Local Multimedia File Sending by Agents** permission. • The email channel does not support this function. • After the multimedia silent agent function is enabled,  is hidden.
	Polish the text reply in different styles using AI. • The **Refine response** feature needs to be enabled for the tenant. • **Intelligent Recognition** and **Reply polishing** need to be enabled for agents by a tenant administrator.
	Clear the content in the input area. If there is no content in the input area, this button is dimmed.
	Undo an operation.
	Redo an operation.
Font effect	Set the font effect of the input content, including the font, font size, font style, and font layout.

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Content	Description
	Perform a spelling check to avoid spelling errors, improving agent experience. All channels support this function. For the email channel, this function is supported on the forwarding, reply, and email draft viewing pages. Only the text in the email body is extracted for correction. Misspelled words are displayed in red. • The language can be switched for the spelling check again. Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **2.17.3 Setting Tenant Parameters**. • The agent can manually correct a spelling mistake or use the recommended corrective word in the floating menu to correct the spelling mistake. After the pointer is hovered over the error area, the recommended modification menu corresponding to the error word is displayed. • The spelling check result is provided only as a reference for the agent and is not for forcible error correction. • The input content containing error information can be sent by the agent.
Send/New Email	Send a message or create an email. Only the email channel supports creating an email.
	Record voice messages online. Only the WhatsApp channel supports this function.
	Send an electronic document link. For details, see **3.7.3 (WhatsApp) Sending an Electronic Document Link**.
	View card pages such as **Session Information**.
	Display the multimedia area. In this area, you can select multimedia data configured by the tenant administrator and agent.

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Content	Description
	Favorites. • **Add Favorites**: Select an email on the  tab page of the **online chat workbench**, right-click the email on the **Inbox**, **Outbox**, or **All Mail** tab page, and choose **Add Favorites**. The total number of messages that can be added to favorites by an agent is specified by the tenant parameter **Maximum number of messages that an agent can add to favorites**. The value ranges from 100 to 1000. The default value is **500**. • Click  on the right of the workbench. The favorites page is displayed. The folder category is displayed on the left, and the favorite message list is displayed on the right. Select a folder. The favorite messages in the folder are displayed in the message list on the right in descending order of the message update time. – **Folders**: file categories. – Click  to create a folder category. A maximum of 10 folders can be created by an agent. The folder name cannot be the same as the name of a folder that has been created by the current agent, and can contain a maximum of 128 characters, excluding the following special characters: ~#$%&*/=+<> – Click  to edit the folder name. – If you click  to delete a folder, the favorite messages in the folder are also deleted. Exercise caution when performing this operation. – Favorite message management: favorite email message list. You can search for favorite messages, view favorite message details, move favorite messages to other folders, and delete favorite messages. • The scheduled task is executed once a day to delete expired data. The expiration time of favorite messages and emails is the same

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Content	Description
	as that of tenant data. The favorite folders can only be manually deleted.
	Edit the online chat workbench. For details, see **3.1.4 Editing the Online Chat Workbench**.

NOTE

Current is displayed on the left. The chat area, third-party page provided by the customer, and input area of the current conversation are displayed in the middle. The incoming call message, call reason, historical contact information, and multimedia are displayed on the right.

- The session pinning function is supported under **Current**. Sessions are sorted based on the pinning attribute first. Sessions that are pinned on top and sessions that are not pinned on top are sorted based on the sorting logic specified by the tenant parameter **Display mode of the current session list of agents**.
- Images in WebP format can be displayed under both **Current** and **History**.
- If the current session channel type is WhatsApp and the agent has the **Local Multimedia File Sending by Agents** permission, the agent can upload files in WebP format from the local host under **Current**. Files in WebP format that can be uploaded through different channels must meet the following requirements:
  - Twilio: Static images of transparent background with a maximum size of 100 KB and a maximum resolution of 512 pixels × 512 pixels are supported.
  - Infobip: The URL must start with https:// or http://. The maximum resolution is 512 pixels × 512 pixels. Static images with a maximum size of 100 KB and dynamic images with a maximum size of 500 KB are supported.
  - CloudAPI: Static images with a maximum size of 100 KB and dynamic images with a maximum size of 500 KB are supported.
- The browser compatibility of WebP images is as follows:
  - WebP lossy images: Google Chrome (desktop version) 17 and later, Microsoft Edge 18 and later.
  - WebP lossy images, WebP lossless images, and WebP images with alpha: Google Chrome (desktop version) 23 and later, Microsoft Edge 18 and later.
  - Animated WebP images: Google Chrome (desktop and Android versions) 32 and later, Microsoft Edge 18 and later.

During a web chat on the online chat workbench, if the customer sends an attachment, the agent can click **Download** to download the attachment.

During an email chat on the online chat workbench, select an email, click **Download**, and then click **YES** in the confirmation dialog box to download the email attachment.

The downloaded data contains personal data. Exercise caution when handling the downloaded data to prevent personal data leakage and abuse.

You can drag to adjust the width of the content on the left and in the middle of the workbench.

3.1.4 Editing the Online Chat Workbench

Agents can set their own online chat workbench layouts.

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Prerequisites

The agent has permissions on the online chat workbench.

Procedure

Step 1 Sign in to the AICC as a common agent.

Step 2 Open the online chat workbench.

The online chat workbench can be opened in either of the following ways:

- Choose **Online Chat Workbench**.
- After an agent signs in, the online chat workbench is automatically opened.
- Click  . The page for editing the online chat workbench layout is displayed.

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Table 3-4 GUI elements on the page for editing the online chat workbench layout

Parameter	Description
⊕ Add Widget	Select a card on the online chat workbench. The options are as follows: – System application ▪ **Intelligent Recognition**: This card is displayed only when the **Intelligent Agent** feature is enabled, the **Intelligent Recognition** and **Intelligent Agent Assistant** features are enabled on the **Tenant Information** page, the **Intelligent Recognition** feature is enabled on the **Agent Management** page, and the **Intelligent Recognition** card is added to the **Chat Workbench Management** page. ▪ **Agent Assistant**: This card is displayed only when the **Intelligent Agent** feature is enabled, the **Intelligent Recognition** and **Intelligent Agent Assistant** features are enabled on the **Tenant Information** page, the **Intelligent Recognition** feature is enabled on the **Agent Management** page, and the **Agent Assistant** card is added to the **Chat Workbench Management** page. ▪ **SmartCare Fault Boundary**: This card is displayed only when the **SmartCare** feature is enabled, the language used by the tenant is within the value range of the system parameter **Languages supported by the SmartCare**, and the **SmartCare Fault Boundary** card is added to the **Chat Workbench Management** page. ▪ **Customer Center**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **Yes** and the **Customer Center** card is added to the **Chat Workbench Management** page. ▪ **Case**: This card is displayed only when the **Case 2.0** feature is enabled and the **Case** card is added to the **Chat Workbench Management** page. ▪ **Customer Case List**: This card is displayed only when the **Case 2.0** feature is enabled and the **Customer Case List** card is added

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Parameter	Description
	to the **Chat Workbench Management** page. ▪ **Contact Records**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Contact Records** card is added to the **Chat Workbench Management** page. ▪ **Session Information**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Session Information** card is added to the **Chat Workbench Management** page. ▪ **Customer Information**: This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **No** and the **Customer Information** card is added to the **Chat Workbench Management** page. – Integrated application Applications whose **Status** is **Published** and **Application Location** is **Online chat workbench** on the **Configuration Center** > **Expansion and Integration** > **Application Integration** page.
Fold All	Collapse all cards on the workbench.
Unfold All	Expand all cards on the workbench.
Restore	Restore the layout to that set by the tenant administrator on the **Configuration Center** > **Workbench Configuration** > **Chat Workbench Management** page.
Organize	Provide the automatic card layout function based on the widget framework capability.
Cancel	Cancel the editing of the workbench layout.
Publish	Publish the edited workbench layout.

Step 3 Click  and select a card.

Step 4 Click **Save**.

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Step 5 Click **Publish**.

----End

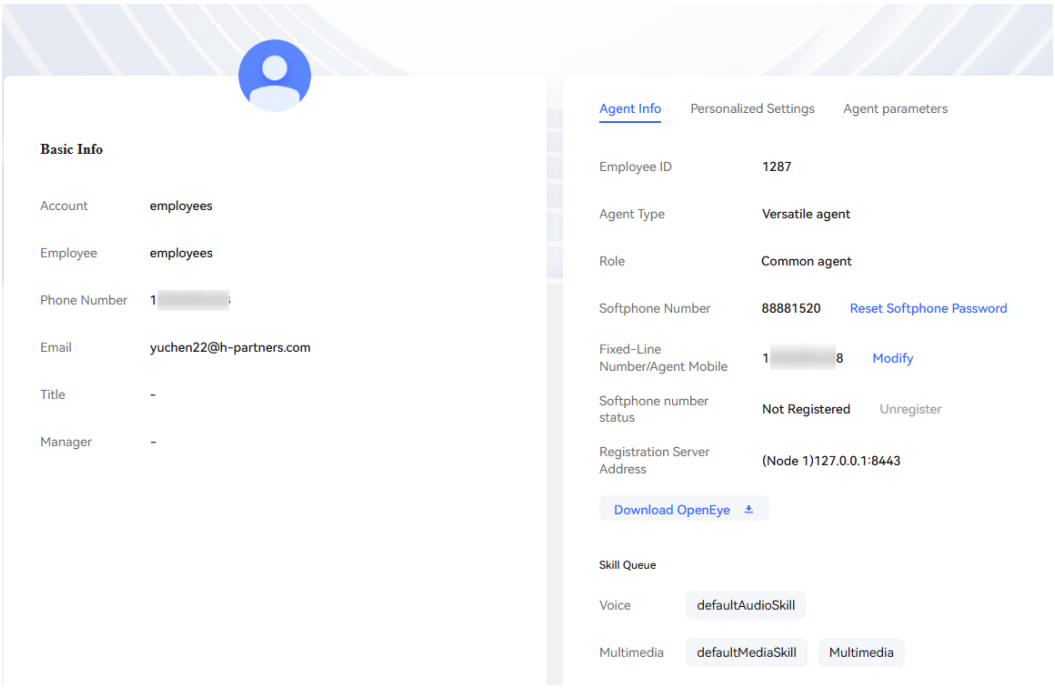
3.2 Configuring the Personal Center

Agents can query their own agent and employee information in the personal center, configure personalized nicknames and greetings for themselves, and set personalized agent parameters.

Procedure

Step 1 Sign in to the AICC as an agent, click the business account in the upper right corner, and select **Personal Center** from the drop-down list.

Figure 3-5 Personal center



Step 2 View employee information.

On the left, basic information about the agent is displayed, including the business account, username, phone number, email address, position, and manager.

Step 3 View agent information.

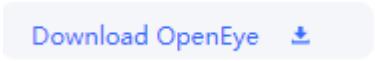
1. Click the **Agent Info** tab to view the agent information.
2. View the agent ID, agent type, role, softphone number, registration server address, and skill queue on the **Agent Info** tab page.
3. Click 

to download the VRC client to the local PC.

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NOTE

If the screen recording and screen inspection features are not enabled and the system parameter **VRC download address** is not set, the **Download VRC** button is not displayed.

4. Click 

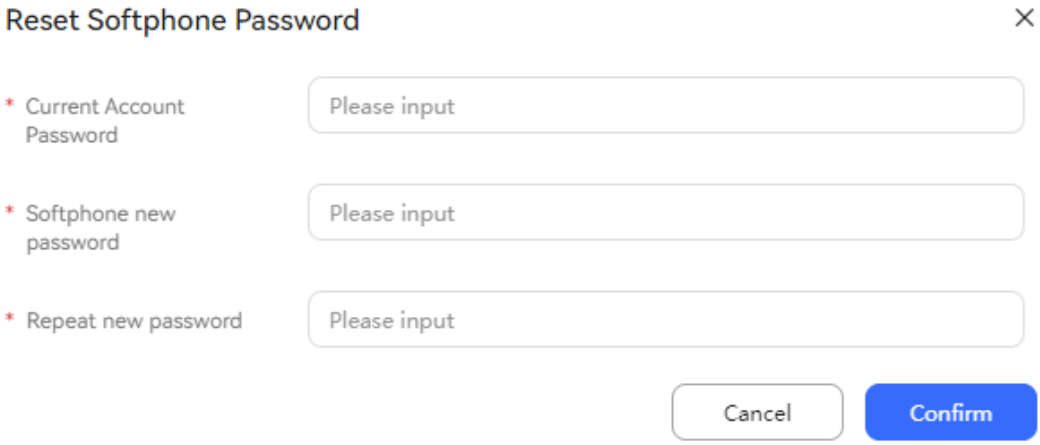
to download the softphone client to the local PC.

NOTE

If the WebRTC feature is enabled for an agent, the **Download OpenEye** button is not displayed.

5. Click **Reset Softphone Password** to reset the current softphone login password.

Figure 3-6 Resetting the softphone password



Verification Code is available only when **Two-factor Authentication Method** is set to **SMS verification code** or **Email verification code**. You can click **Send Code** to obtain a verification code.

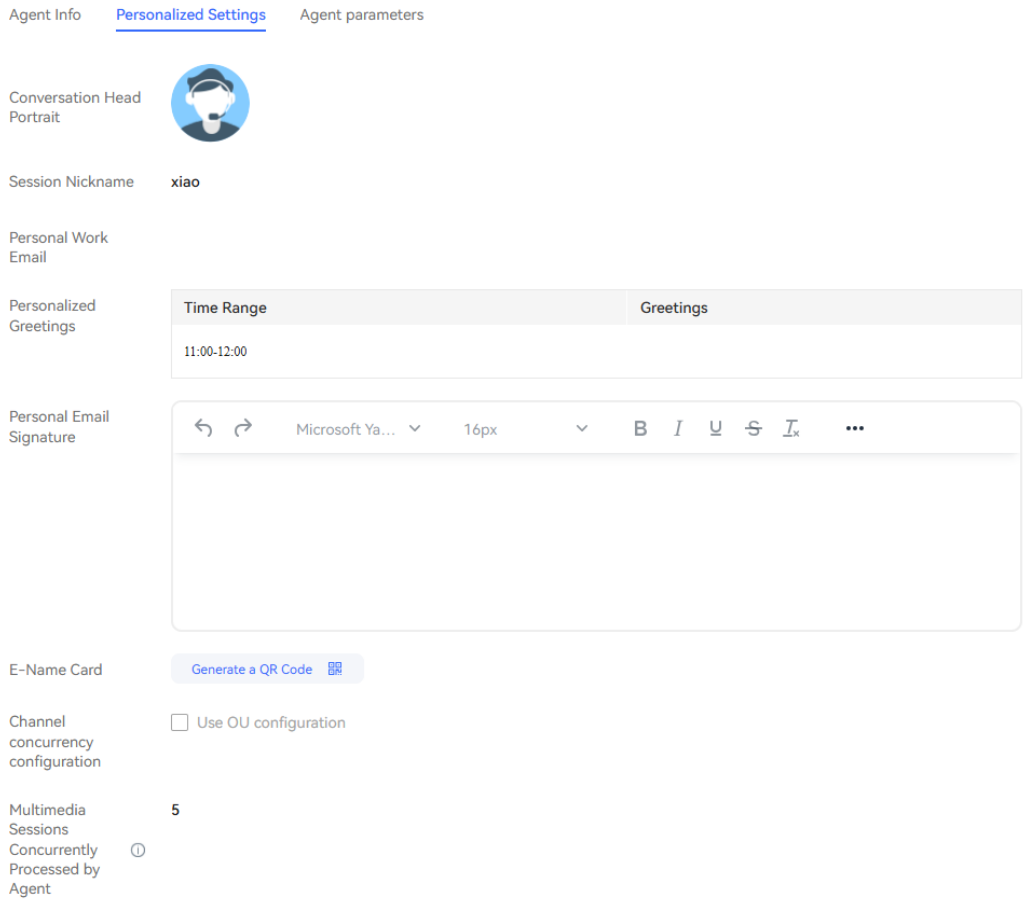
6. In **softphone number status**, check the sign-in status of the softphone. You can also click **Unregister** to sign out of the softphone.
7. Click **Modify** to update **Fixed-Line Number/Agent Mobile**.

Step 4 Configure personalized settings.

1. Click the **Personalized Settings** tab.
2. Click **Edit** and configure personalized settings.

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Figure 3-7 Personal Center - Personalized Settings page



- **Conversation Head Portrait**: Click **Change Avatar** to customize an avatar for an agent during a session. Currently, eight avatars are provided.
- **Session Nickname**: Agent nickname for a customized session. The value contains a maximum of 20 characters and cannot contain the following special characters: +~!@#$%&*()/=+{};:'",<.>?
- **Personal Work Email**: Personal work email address. An email address can be bound to only one agent. If an agent is configured with a personal work email, the priority of the personal work email route is higher than that of the skill queue route in the email channel.
- **Personalized Greetings**:
  - Click . You can add a maximum of four greetings in different time segments.
  - **Time Range**: Select the time range for using the greeting. The start time ranges from 00:00 to 23:00, and the end time ranges from 01:00 to 00:00.
  - **Greetings**: Content of a customized greeting. The value contains a maximum of 200 characters and cannot contain the following special characters: <>'"/\

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- Click  to delete unnecessary greetings.

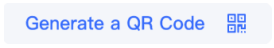
– **Personal Email Signature**:

A personalized signature can be set for an agent. The signature priority is as follows: agent signature > tenant signature. The tenant signature is the email signature selected in the email channel.

– **E-Name Card**:

NOTE

You must have the **Generate an agent electronic business card** permission to generate and download an electronic business card.

- Click **Edit** to set a personalized QR code.
- **Organization Unit**: Select an OU that can be accessed by an agent.
- **Channel Selection**: Select an application channel of the agent QR code.
- Click 

to generate a personalized agent QR code. An agent can share a link or QR code. A customer can scan the QR code to access the link and directly request the agent to provide services through the WhatsApp channel.

– **Channel concurrency configuration**: Specify whether to use the OU configuration for the number of concurrent channels.

– **Multimedia Sessions Concurrently Processed by Agent**: Maximum number of multimedia customers concurrently served by the agent. The parameter priority is as follows: agent parameter > OU parameter > tenant parameter (if the value of the tenant parameter is the smallest, the tenant parameter is used). If this agent parameter is empty, it does not take effect.

If the agent is not bound to a business account, this parameter is not displayed. The value ranges from 1 to 60.

3. Click **Save**.

Step 5 Set agent parameters.

1. Click the **Agent parameters** tab.

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Figure 3-8 Agent parameters

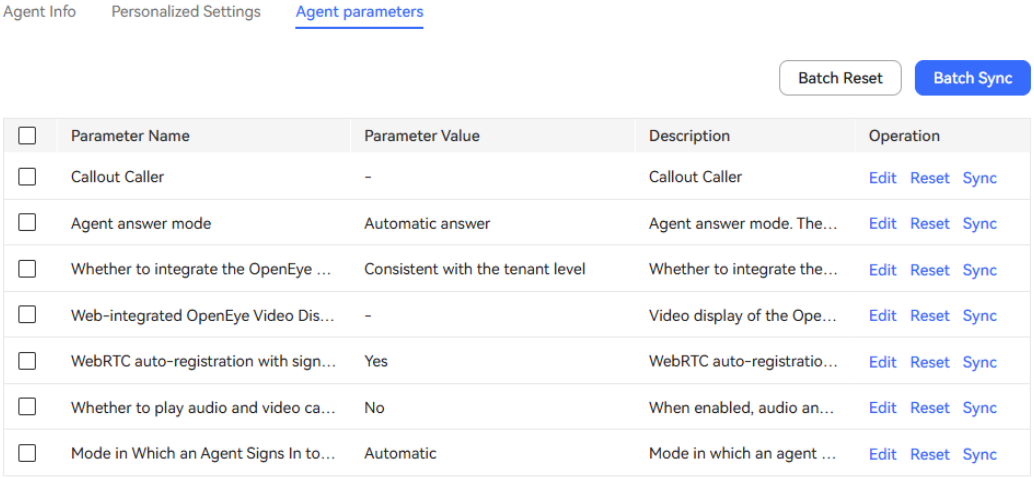


Table 3-5 Agent parameters

Parameter Name	Parameter Value	Description
Callout Caller	Default value: - (customized by the agent)	Calling number used by an agent to make an outbound call.
Agent answer mode	– **Automatic answer** – **Manual response** Default value: **Automatic answer**	Agent answering mode. The options are **Automatic answer** and **Manual response**. The default value is empty, which is consistent with the tenant configuration. If the tenant-level configuration is configured by the agent, the default value is **Automatic answer**.
Whether to integrate the OpenEye on the web page	– **No** – **Yes** – **Consistent with the tenant level** Default value: **Consistent with the tenant level**	Whether to integrate the OpenEye softphone in the web system. The options are **No**, **Yes**, and **Consistent with the tenant level**. To implement this function, the OpenEye must be installed on the local PC of the agent.

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Parameter Name	Parameter Value	Description
Web-integrated OpenEye Video Display	Default value: - (customized by the agent)	Video display of the OpenEye integrated with the web system. This parameter is valid only when **Whether to integrate the OpenEye on the web page** is enabled. For example, in the value **0,0,800,380,PiP,Fit**, **0,0** indicates the X and Y coordinates of the video position (the upper left corner of the screen is the coordinate origin), **800,380** indicates the width and height of the window, **PiP** indicates the layout of the video image (**PiP** indicates picture-in-picture, and **SbS** indicates side-by-side), and **Fit** indicates the display mode of the video image (**Fit** indicates that the video is adapted according to its original proportions with black borders on both sides, and **Cut** indicates that the video is displayed at full size according to its original proportions and cropped if necessary).
Whether to play audio and video call alert tones when the browser is maximized	– **Yes** – **No** Default value: **No**	Whether to play the ringtone of a voice or video incoming call from a customer when the browser is maximized.
WebRTC auto-registration with sign-in	– **Yes** – **No** Default value: **Yes**	Whether the WebRTC is automatically registered when an agent signs in.
Mode in Which an Agent Signs In to a Skill Queue	The options are as follows: – **Automatic** – **Specified** Default value: **Specified**	Mode in which an agent signs in to a skill queue. The options are **Automatic** (automatically sign in to the skill queue configured for the agent) and **Specified** (sign in to a specified skill queue). The parameter modification takes effect after the page is refreshed.

2. Select an agent parameter, click **Edit**, and change the value of **Parameter Value**.
3. Click **Save**.

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4. (Optional) Click **Reset** to restore agent parameter values to the default values.
5. Click **Sync** to synchronize the modified agent parameters to the cache.
6. After configurations are modified successfully, sign in again for the modification to take effect.
7. (Optional) Select agent parameters in batches and click **Batch Reset** to restore agent parameter values to default values in batches. Click **Batch Sync** to synchronize the modified agent parameter values to the cache in batches.

----End

3.3 Switching the Agent Status

An agent can switch the agent status using the connection bar on the top of the page for the system to better assign businesses.

Context

An agent can control the connection status by using the connection bar provided by the connection framework.



The connection status refers to the status of a signed-in agent, which can be **Idle**, **Talking**, **Wrap-up**, **Busy**, or **Rest**, as described in **Table 3-6**. The system determines whether to assign an inbound call to an agent based on the agent status.

Table 3-6 Connection status description

Agent Status	Description
Idle	An agent waits for the system to assign an inbound call.
Talking	An agent is processing a voice or video call.
Occupied	An agent is processing a multimedia inbound call, an agent does not answer a voice or video call, or a customer does not answer a voice or video call.
Wrap-up	An agent handles a call-related business (for example, filling in the customer inbound call information) after the customer hangs up.
Busy	An agent is busy. If the system parameter **Allow switching between rest and busy states.** is set to **Yes**, the agent can switch directly from the rest state to the busy state or from the busy state to the rest state.

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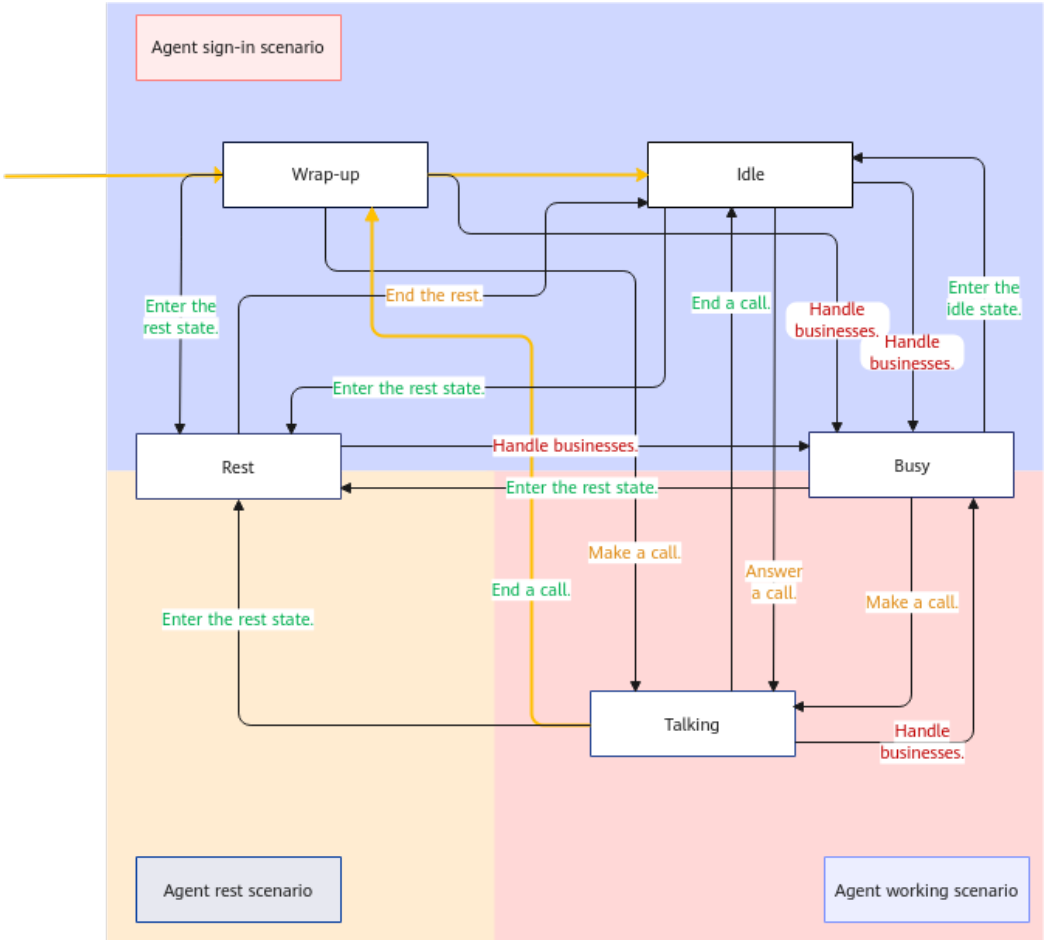
Agent Status	Description
Rest	An agent takes a rest. • The countdown time is displayed when an agent is in the **Rest** state. • If the remaining rest time is 5 minutes and the tenant parameter **Forcibly End Agent Rest After Timeout** is set to **Yes**, the "You will be working in *XX* minutes. Please reserve time in advance!" message is displayed in the lower right corner of the page every minute. • If the rest ends and the tenant parameter **Forcibly End Agent Rest After Timeout** is set to **No**, the time elapsed after the rest is displayed in red on the connection bar. The message "The rest has expired for *XX* minutes. Please work as soon as possible." is displayed in the lower right corner of the page every minute. • If the tenant parameter **Indicates whether to enable the rest reason for switching the rest status.** is set to **Yes**, rest reasons can be switched.

An agent performs connection operations, such as answering calls, taking a rest, and showing busy, to switch between the connection states. **Figure 3-9** shows the connection state switchover relationship.

A dialog box is displayed in the lower right corner of the browser, indicating the corresponding call connection event.

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Figure 3-9 Switchover relationships between connection states



Procedure

Step 1 Sign in to the AICC as an agent.

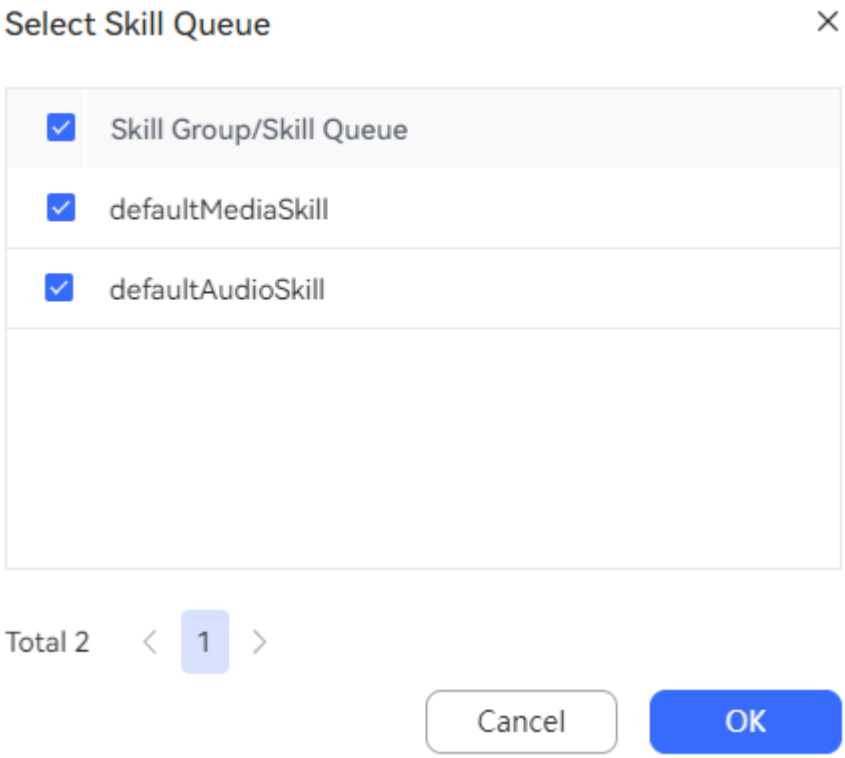
Step 2 Click  on the top to sign in to the platform.

- The tenant parameter **Signed-in Agent State** specifies the agent status after sign-in. The options are as follows:
  - **Rest**
  - **Idle**
  - **Wrap-up**
  - **Busy**
- The tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** and agent parameter with the same name specify the mode in which an agent signs in to a skill queue.
  - The options of the tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** are as follows:
    - **Agent-defined**

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- **Automatic**: When an agent signs in, the agent automatically signs in to all skill queues bound to the agent.
- **Specified**: When an agent signs in, the agent can specify skill queues bound to the agent to sign in. The capabilities of an agent depend on the skill queues that the agent has signed in to. Select a skill queue to sign in as required.

Figure 3-10 Specifying skill queues



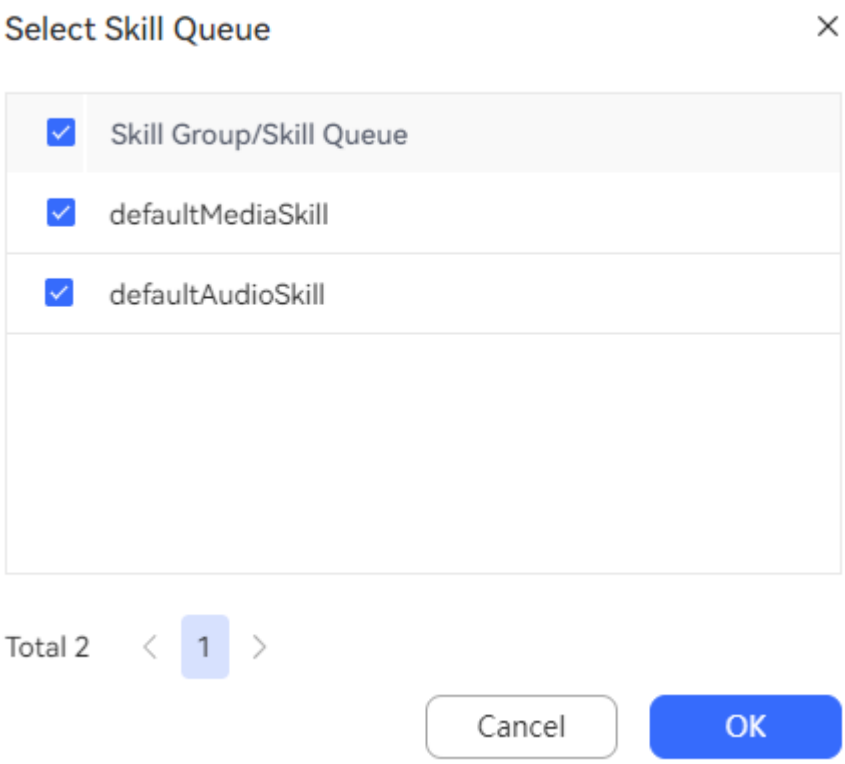
The default value is **Agent-defined**. The parameter modification takes effect after the page is refreshed.

– The options of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** are as follows:

  - **Automatic**: When an agent signs in, the agent automatically signs in to all skill queues bound to the agent.
  - **Specified**: When an agent signs in, the agent can specify skill queues bound to the agent to sign in. The capabilities of an agent depend on the skill queues that the agent has signed in to. Select a skill queue to sign in as required.

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Figure 3-11 Specifying skill queues



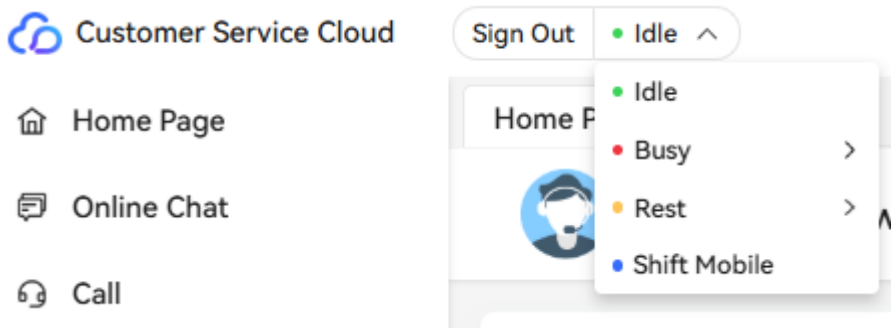
The default value is **Automatic**. The parameter modification takes effect after the page is refreshed.

If the tenant parameter is set to **Agent-defined**, the value of the agent parameter **Mode in Which an Agent Signs In to a Skill Queue** is used.

If the tenant parameter is set to **Automatic** or **Specified**, its value is used.

Step 3 Click ∨ on the top and select a state as required.

Figure 3-12 Switching the agent status



----End

Follow-up Procedure

After signing in, an agent can click ∨ in the upper right corner and choose **Reset Skills** to reselect the skill queue to which the agent needs to sign in. The

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capabilities of the agent change with the skill queue to which the agent signs in. For example, if a versatile agent has signed in to a voice or video skill queue and a multimedia skill queue, after the agent clicks **Reset Skills**, selects only the voice or video skill queue, and saves the configuration, the agent can handle only voice or video calls but cannot handle multimedia chats.

Figure 3-13 Expanding the shortcut menu

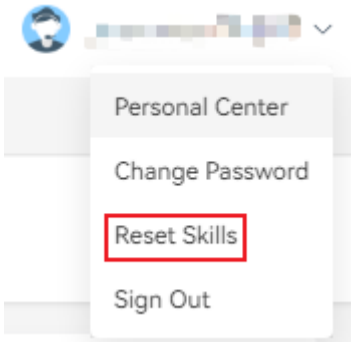
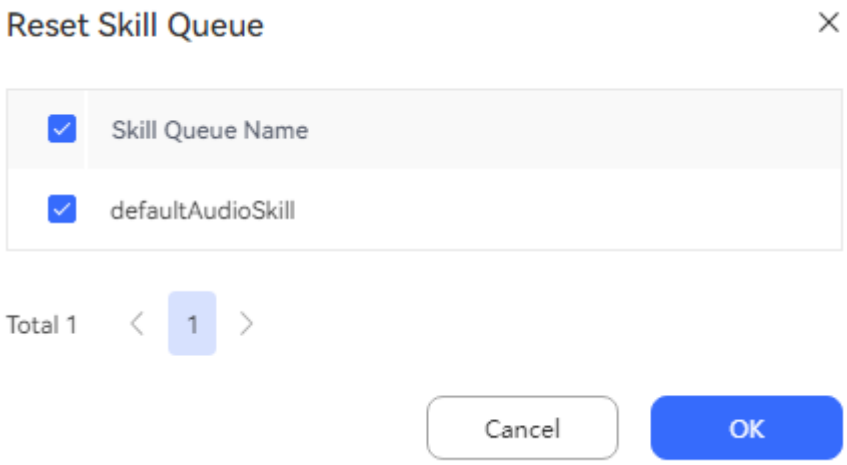


Figure 3-14 Reset Skill Queue



NOTE

The agent must have the **Reset Skills** operation permission.

Common agents in a new tenant space have the permission by default.

Common agents in an old tenant do not have the permission by default. To add the permission, contact the tenant administrator.

3.4 Allowing Browser Pop-up Notifications

Prerequisites

The tenant administrator has enabled **Pop-up dialog box reminder** on the **Page Message Notification Configuration** tab page of the **Prompt Tone** page.

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Context

Voice, video, and multimedia inbound call notifications support only manual call answering.

Procedure

Step 1 Sign in an agent. The browser displays a dialog box asking whether to allow notifications.

Step 2 Click **Allow**.

----End

3.5 Handling Voice Businesses

This section describes how to handle voice businesses as an agent.

3.5.1 Answering Inbound Calls Automatically

An agent can automatically answer an inbound call from a customer.

Context

An agent can answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

- The agent has signed in and is in idle state.
- Automatic call answering has been configured in any of the following methods:
  - A tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Automatic**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**.
  - A tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Automatic**.
  - When a tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call**

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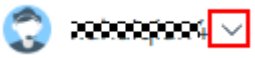
Control to **Custom**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**:

- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Auto Answer**.
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.

– When a tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Custom**:

- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Auto Answer**.

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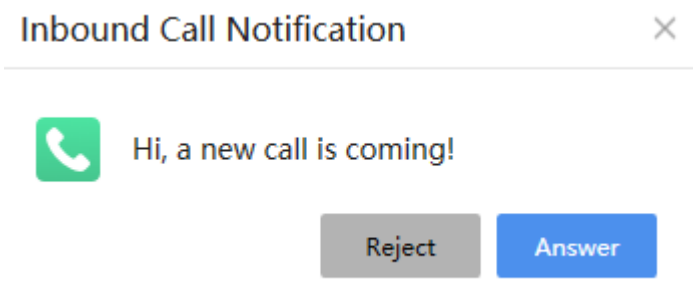
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.

Procedure

- OpenEye:

  When a new inbound call arrives, the softphone of the agent rings and the call will be automatically connected. The agent can also click **Answer** before the call is automatically connected. The process is described as follows:

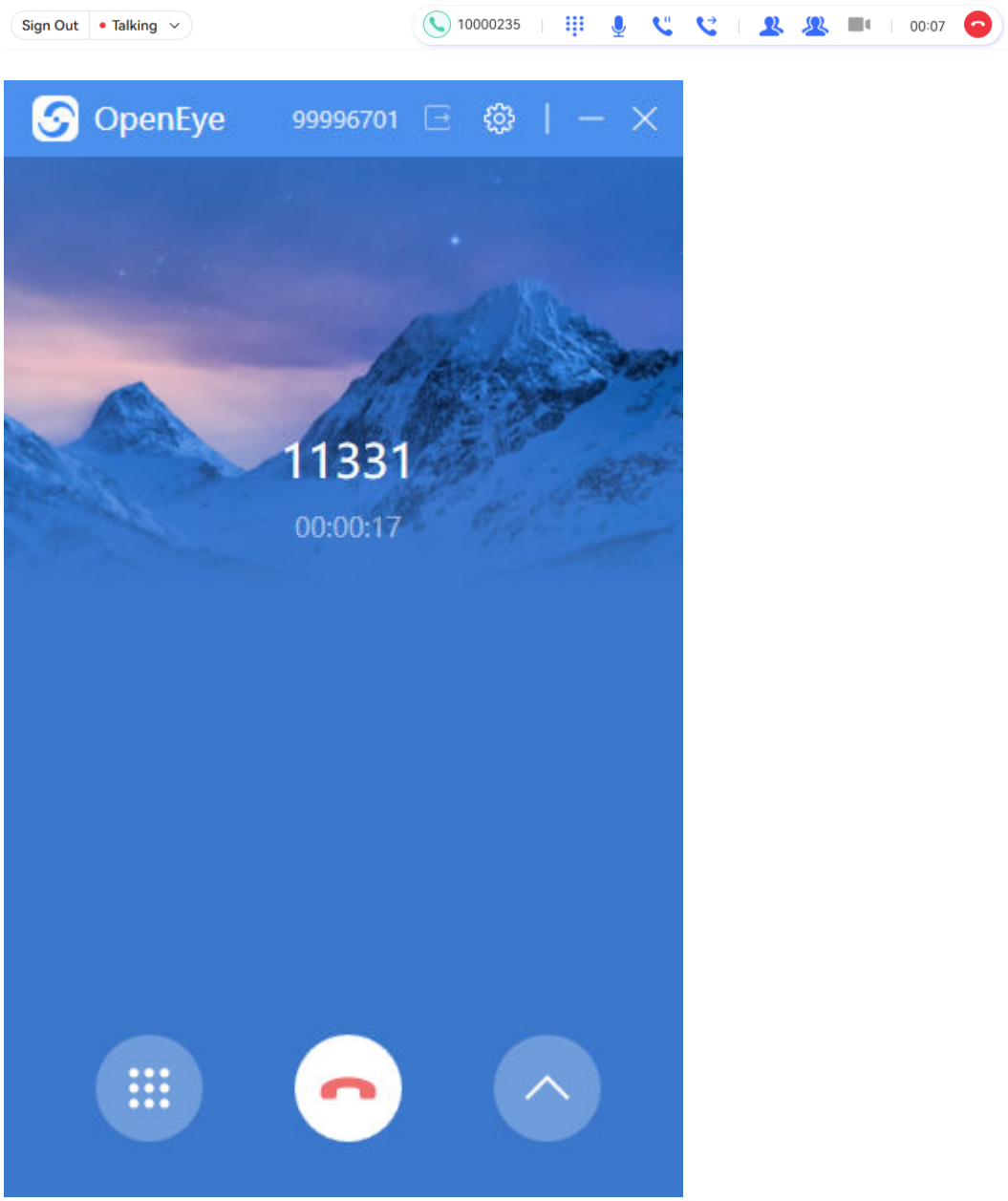
  a. After a new inbound call arrives, the softphone of the agent rings.

  b. The agent clicks **Answer** or waits for the call to be automatically connected. The agent enters the **Talking** state, and the softphone shows that the agent is answering a call.

- WebRTC:
  - If the tenant parameter **Whether to enable WebRTC auto-answer ringtone** is set to **Yes**, when an agent receives an assigned inbound call, the call is automatically answered by the agent within 1 second after the phone rings. If the ringing duration is too short, the agent may hear the customer's voice and ringing tone at the same time.
  - If the tenant parameter **Whether to enable WebRTC auto-answer ringtone** is set to **No**, when an agent receives an assigned inbound call, the call is automatically answered by the agent.

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3.5.2 Answering Inbound Calls Manually

An agent can manually answer an inbound call from a customer.

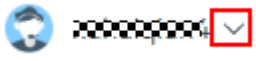
Context

An agent can manually answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

- The agent has signed in.
- The agent is in idle state.
- Manual call answering has been configured in any of the following methods:

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- A tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Manual**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**.
- A tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Manual**.
- When a tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Custom**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**:
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Manual Answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent

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sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.

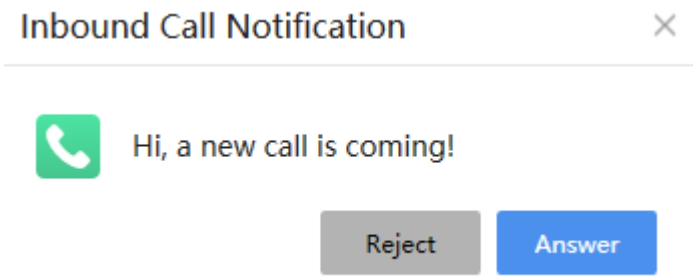
- When a tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Custom**:
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Manual Answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.

Procedure

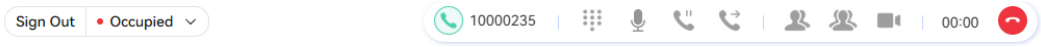
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

Step 1 After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.

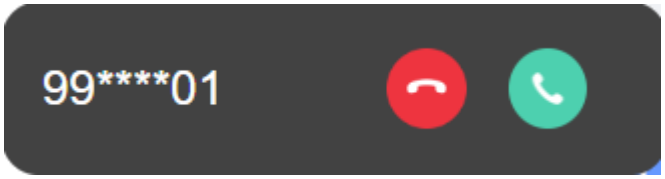
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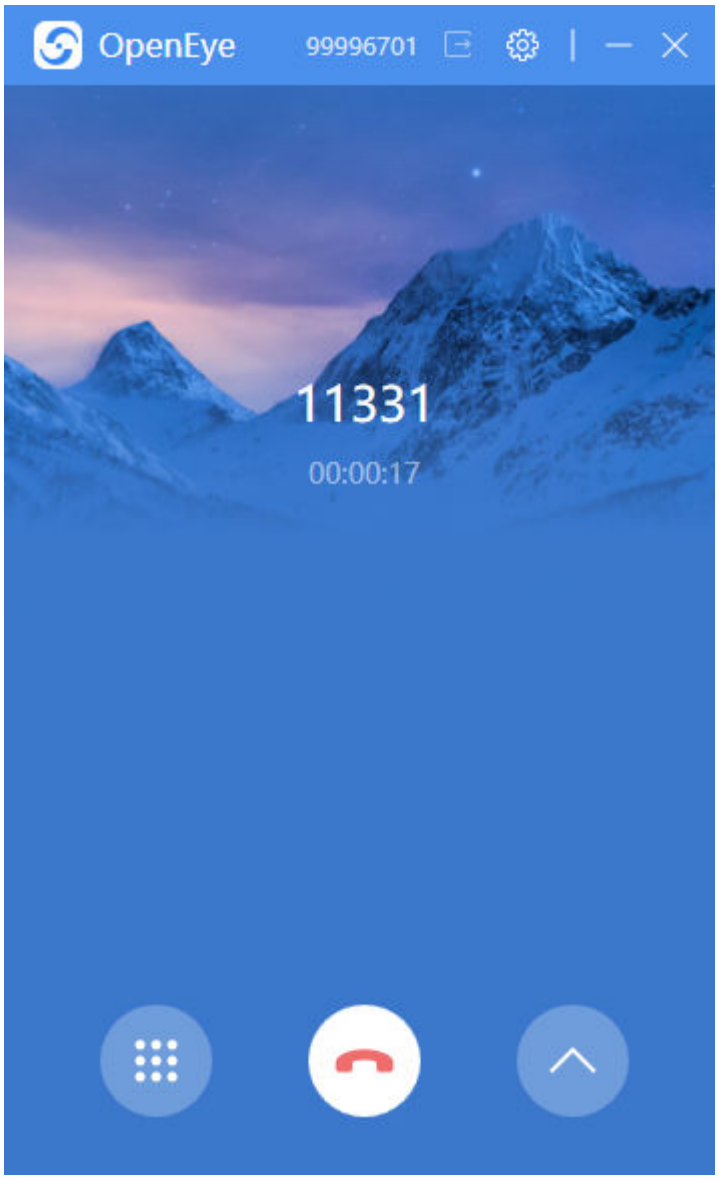
At this time, the call is still not connected and the agent is in the **Occupied** state.



Step 2 After clicking  , the agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



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----End

3.5.3 Transferring Calls

An agent can transfer a call to another skill queue, a third-party system, another agent, or an IVR to handle customer businesses.

Context

A call can be transferred to an external number, another agent, a skill queue, or an IVR. After an inbound call is transferred, the call-related information is also transferred.

The following table describes the transfer types for transferring a call to a skill queue or another agent.

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Table 3-7 Call transfer types

Transfer Type	Description
Success Transfer	After an agent transfers a call, the agent releases the call only after the transferred-to agent answers the call. Otherwise, the system displays a message indicating that the transfer fails and the agent continues to talk with the customer.
Release Transfer	After an agent transfers a call, the agent releases the call immediately, regardless of whether the transferred-to agent answers the call. However, if an agent transfers the call to a skill queue, the agent releases the call only after the transfer is successful.
Conversation Transfer	This mode can be selected only when a call is transferred to an external number. After an agent transfers a call, the system monitors the call transfer process. After the called party answers the call and talks with the customer, the agent can release the call.
Hang-up Transfer	After an agent transfers a call to an automatic flow, the agent is in waiting state. After handling the call, the flow transfers the call back to the agent. A transfer diagram element cannot be configured in the IVR flow to further transfer the call to another device.

If a call transfer policy is configured for a skill queue that receives calls on the **Configuration Center** > **Workbench Configuration** > **Call Forwarding Policy Configuration** page, the target displayed during call transfer is the one configured in the call transfer policy. If the agent, skill queue, IVR, and external number are configured to not transfer calls in the call transfer policy, this tab page is not displayed during call transfer.

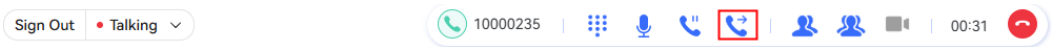
Prerequisites

The agent is in talking state.

Procedure

After answering an inbound call, the agent finds that the call needs to be transferred.

Step 1 Click  on the connection bar.

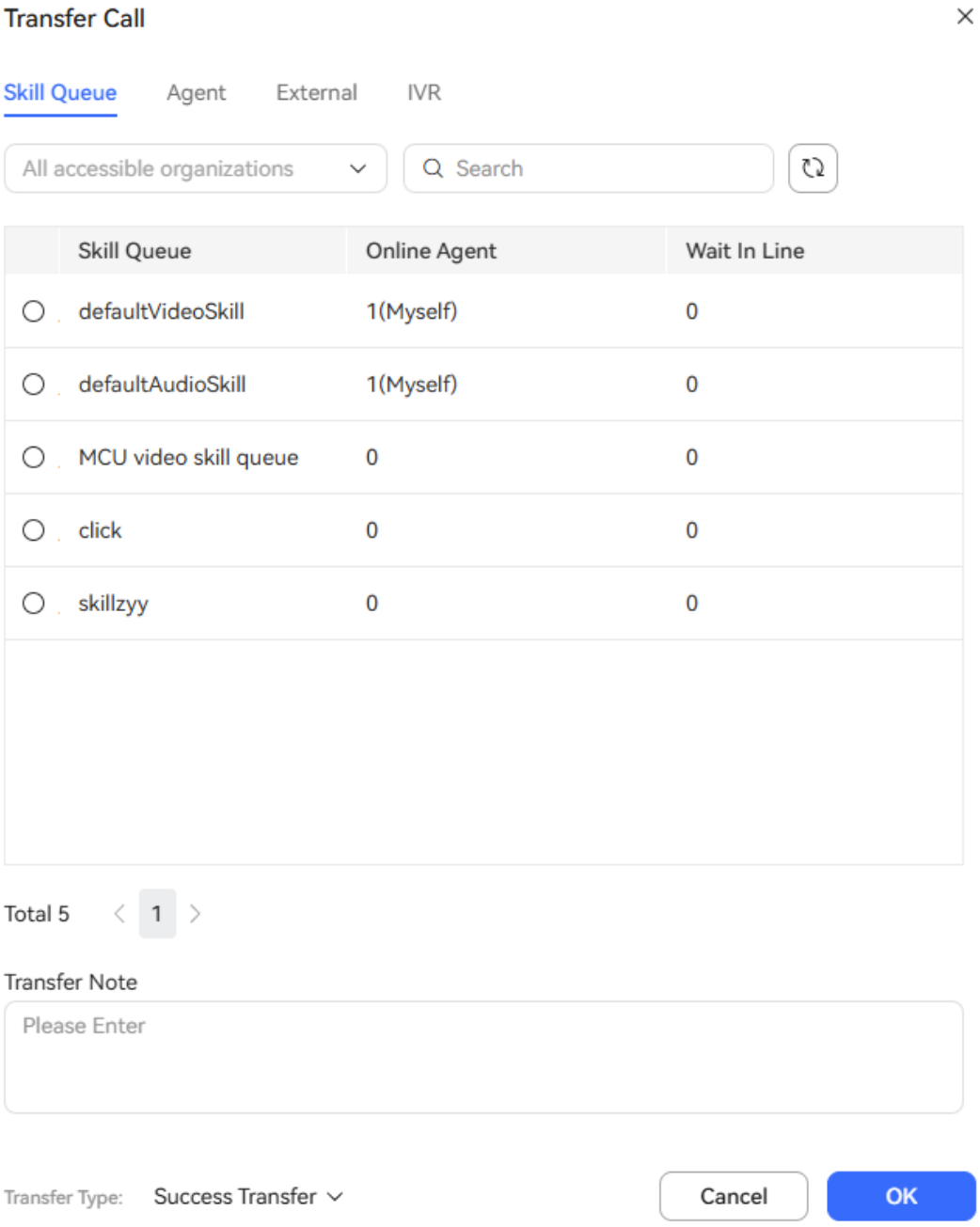


Step 2 Click the tab corresponding to the transferred-to object.

- Transfer to a skill queue

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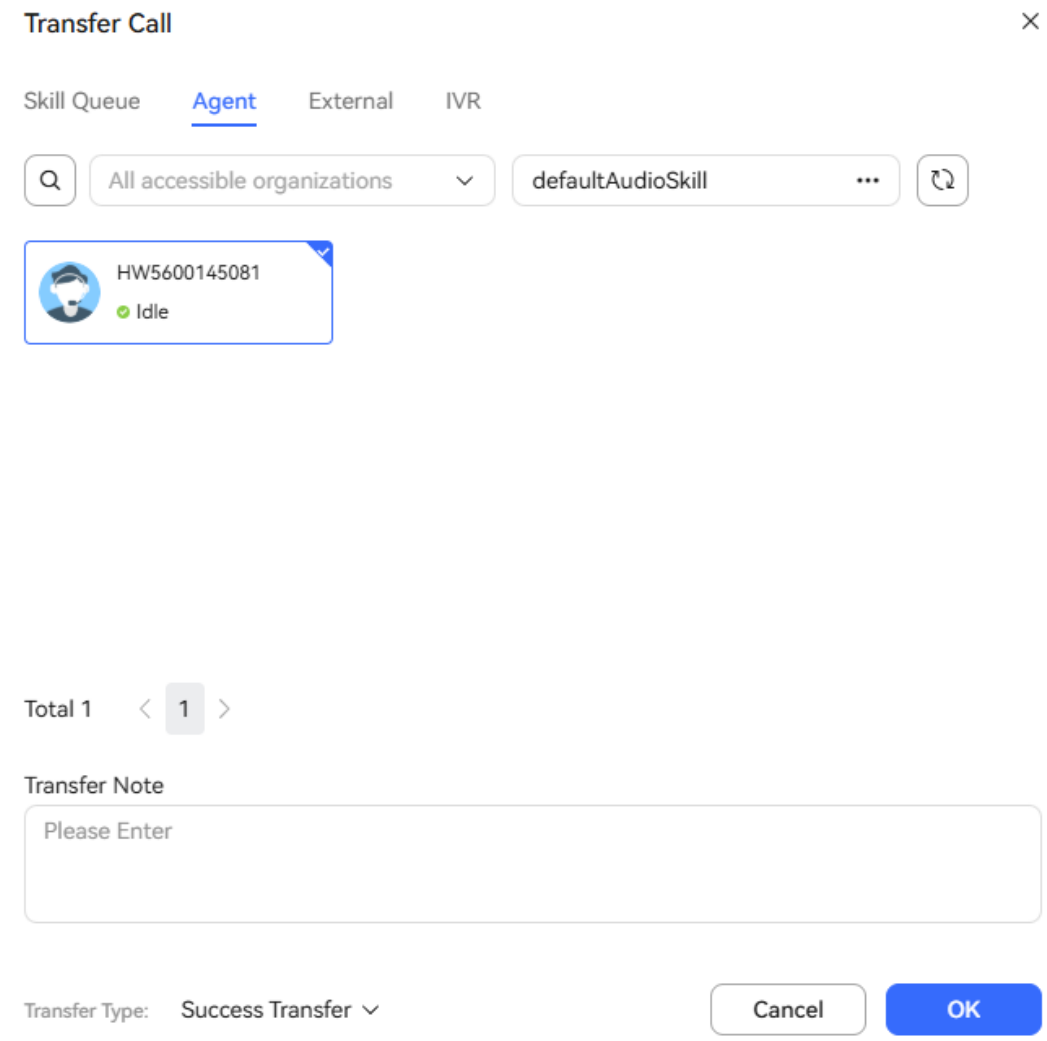
Figure 3-15 Transfer Call - Skill Queue page



- Transfer to an agent

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Figure 3-16 Transfer Call - Agent page



Idle : The agent is idle.

Talk: The agent is in an online chat.

After agent A successfully transfers a call to agent B, the information about agent A and the organization is displayed in the lower right corner of agent B's voice and video workbench, including:

- **Call type**
- **Media type**
- **Caller Number**
- **Called Number**
- **Agent ID**
- **Agent Name**
- **Agent Skill Queue ID**
- **Agent Skill Queue Name**
- **Agent Phone Number**

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    - If the value of **Fixed-Line Number/Agent Mobile** is not configured for the agent, the value of the **Agent Phone Number** is the softphone number of the agent.
    - If the value of **Fixed-Line Number/Agent Mobile** is configured for the agent, the value of the **Agent Phone Number** is the mobile number or fixed-line phone number configured for the agent.
  - ID of the OU to which the agent belongs
  - Name of the OU to which the agent belongs
  - Remarks of the transfer
- Transfer to an external number

  NOTE

  - An agent can directly select an external number configured on the **Configuration Center** > **Resource Management** > **External Number** page.
  - When **User Number Forwarding** is set to **Turn on** for the selected external number, only **Success Transfer** and **Conversation Transfer** are supported.
  - When **User Number Forwarding** is set to **Shutdown** for the selected external number, **Conversation Transfer** is supported for the agent during the customer's inbound call and is not supported during the agent's outbound call.
  - When an external number is entered, **Release Transfer** is supported for the agent during the customer's inbound call and is not supported during the agent's outbound call.
  - During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 1 hangs up, the agent cannot further transfer the call to an external number.
  - During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 2 hangs up, the agent can further transfer the call to an external number.

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Figure 3-17 Transfer Call - External page

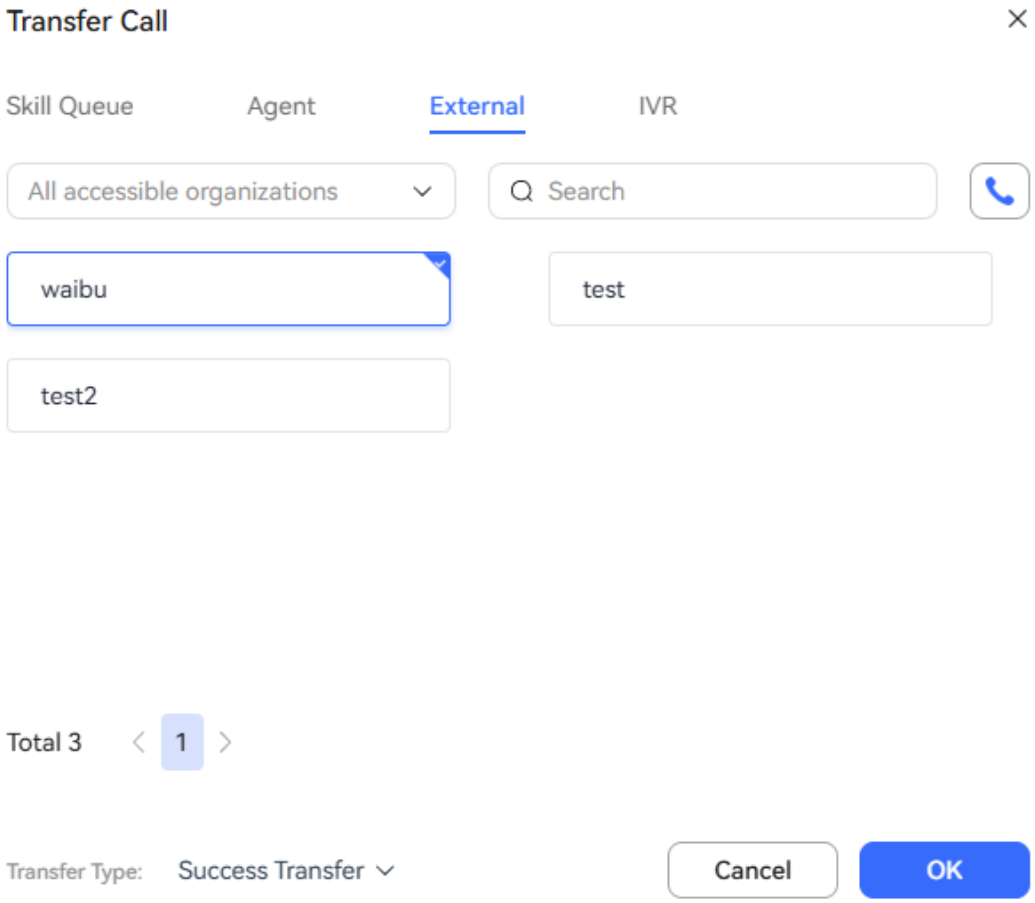
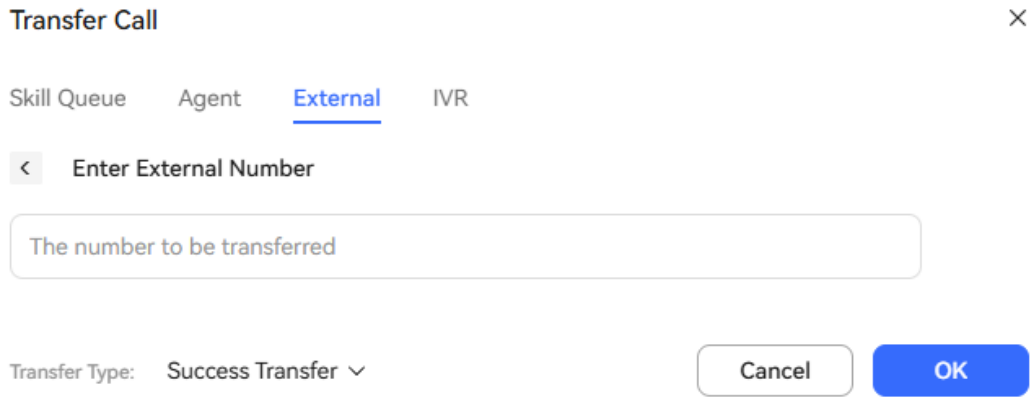


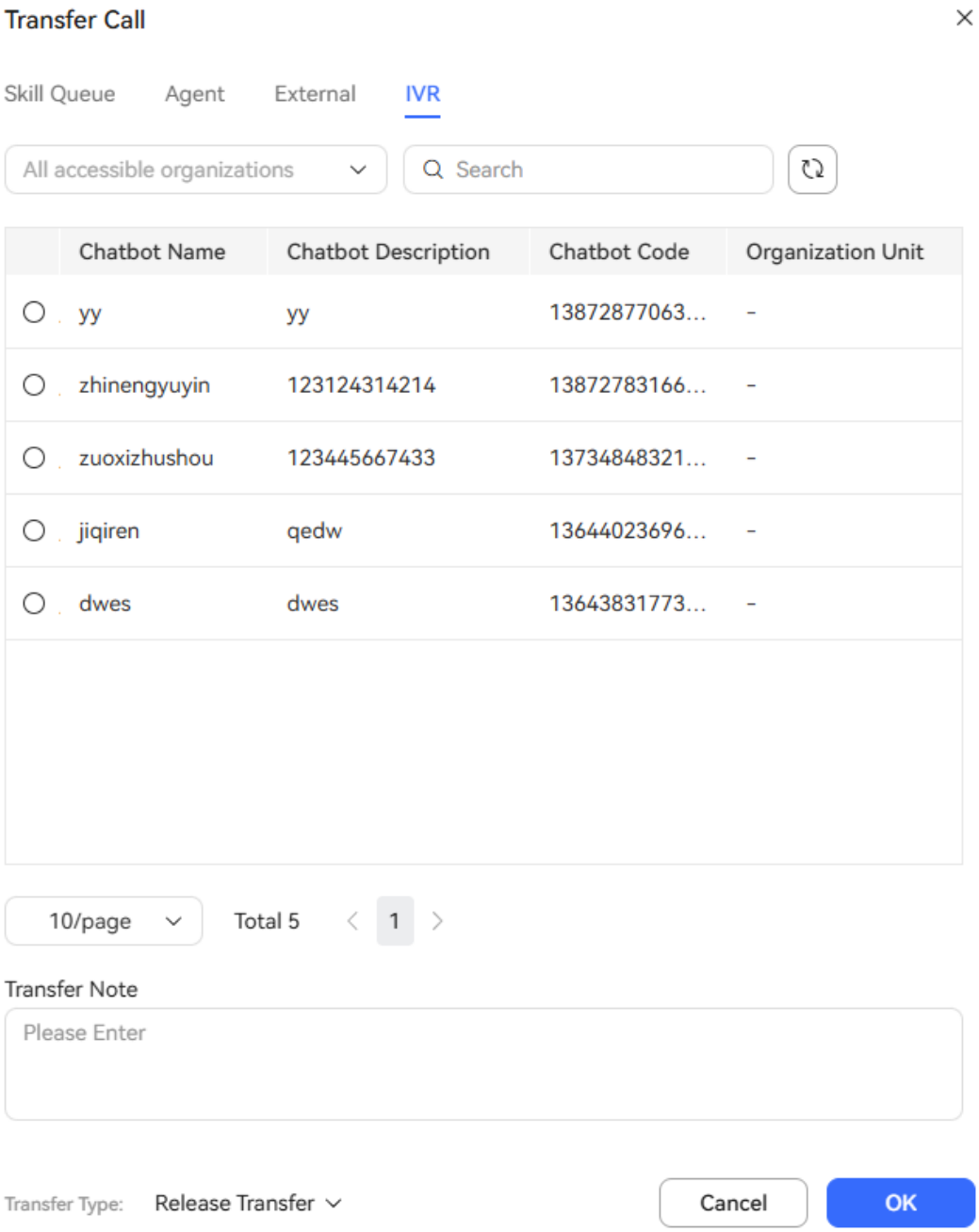
Figure 3-18 Transfer Call - External page (entering)



- Transfer to an IVR

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Figure 3-19 Transfer Call - IVR page



If Redis fault bypass is enabled, the function of transferring calls to IVRs is unavailable.

The parameter **All accessible organizations** is displayed only when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**.

Step 3 Select an idle agent, a skill queue, or an IVR or enter an external number, and then click **OK**.

----End

After the transfer, the current agent enters the **Idle** state.

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3.5.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

Context

An outbound call refers to a call initiated by an agent after the agent enters the phone number of a customer.

An agent needs to make an outbound call to talk with a colleague outside the customer service center or a customer.

Prerequisites

- The agent has set the answering mode to manual answering in the agent parameters.
- The agent has signed in.
- The agent is not in talking state.

Procedure

An agent can make outbound calls in all connection states except the wrap-up, rest, and talking states.

An agent clicks  , enters the called number in the keyboard area, and clicks  .

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3.5.5 Making Three-Party Calls

An agent can connect to a third party to jointly handle the business during a call with a customer.

Context

An agent can initiate a three-party call during a call with a customer for help-seeking. In this scenario, a three-party call is set up among the customer, agent who initiates the help-seeking request, and agent who accepts the help-seeking request. If one party hangs up, the other two parties can still talk with each other.

A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can directly enter the agent ID of the requested agent to seek help.

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Prerequisites

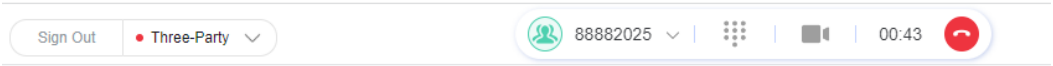
- The agent has signed in.
- The agent is in a two-party conversation.

Procedure

A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

When an agent clicks **Three-Party** during a call:

- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent needs to seek help from another agent, the agent can select the agent for the system to specify the agent as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can click  to select or enter an external number.



3.5.6 Holding Calls

An agent can hold a call with a customer and continue to talk with the customer after handling other businesses.

Context

The call holding service enables an agent to hold an ongoing call. When the call is held, the customer can hear a prompt tone indicating that the call is held. After an agent completes other tasks, the agent can cancel the call holding to continue to talk with the customer. When the call is held, the agent can perform other operations but cannot answer a new inbound call.

Procedure

After answering a call, an agent needs to suspend the current call to complete other operations.

Click  on the connection bar to hold a call or click  to unhold a call.



A held call cannot be released by the agent. The agent cannot sign out if the call is held. In this case, the agent can unhold the call.

NOTE

Differences between call holding and muting are as follows:

When a call is held, the customer can hear the call holding background music played by the system. When a call is muted, the customer hears no tone from the receiver.

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3.5.7 Consulting

An agent can initiate a consultation request during a call with a customer. During consultation, the call channel of the customer is held, and the agent who initiates the consultation request talks with the agent who accepts the consultation request.

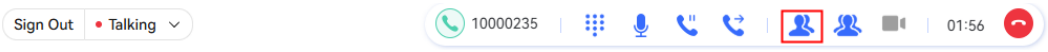
Context

During consultation, the call between the agent and customer is held, and the agent talks with another agent or an external party who accepts the consultation request. After the consultation call ends, the current agent can continue to talk with the customer.

During consultation, if the consulted agent does not answer the call for a long time, the agent who initiates the consultation request can cancel the consultation.

Procedure

An agent in **Talking** state clicks  on the connection bar to open the **Consult** page.

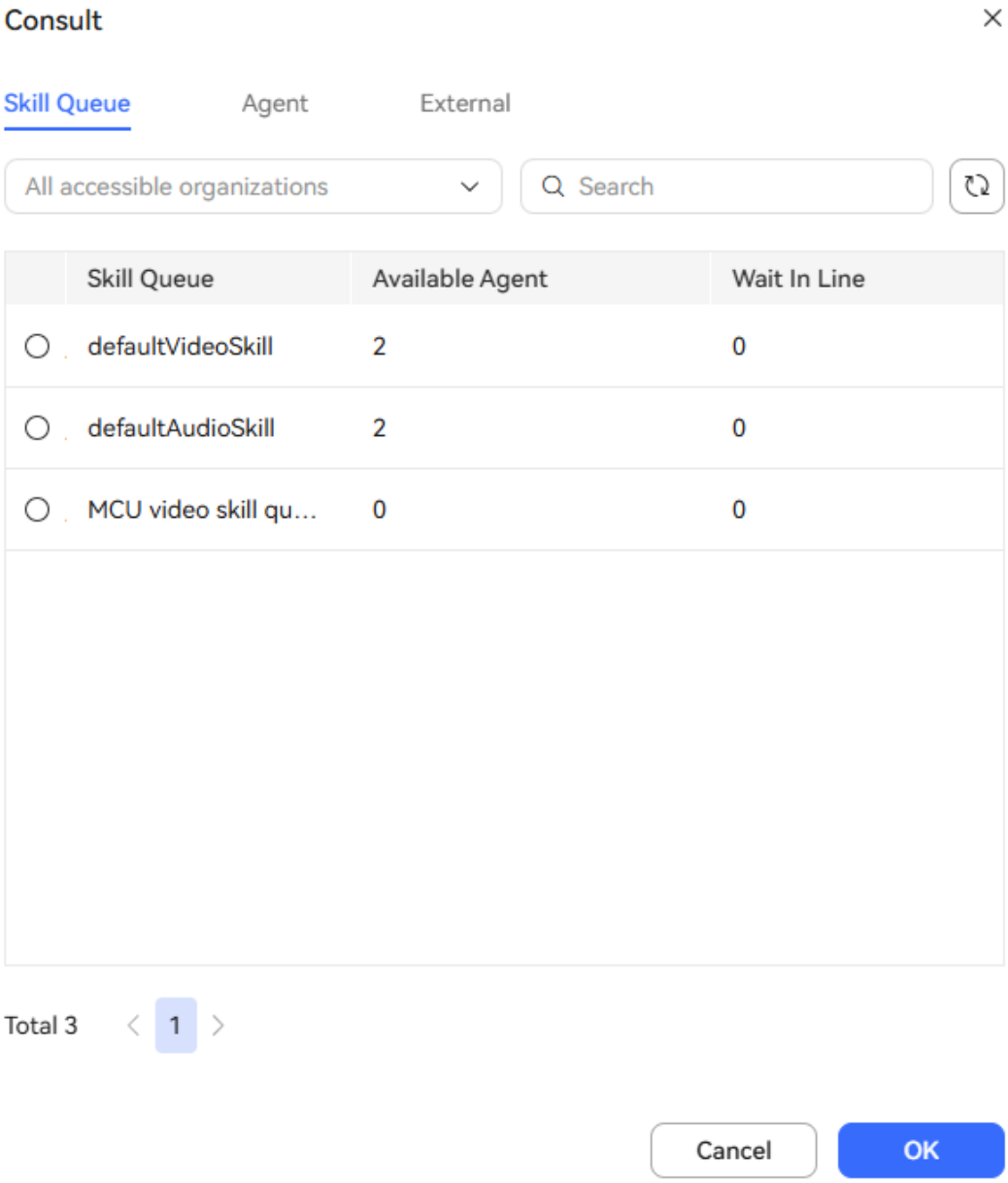


Consultation supports three modes: skill queue, agent, and external number.

- Consultation with a skill queue

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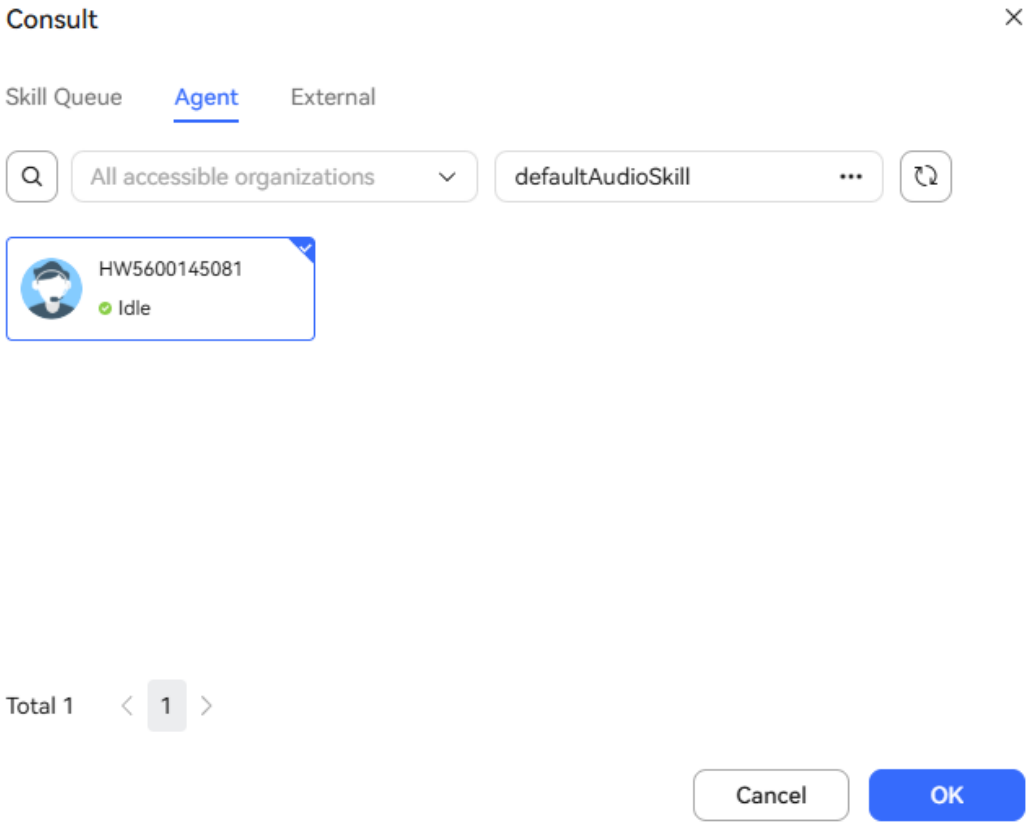
Figure 3-20 Consult - Skill Queue page



- Consultation with an agent

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Figure 3-21 Consult - Agent page



Idle : The agent is idle.

Talk: The agent is in an online chat.

- Consultation with an external number

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Figure 3-22 Consult - External page

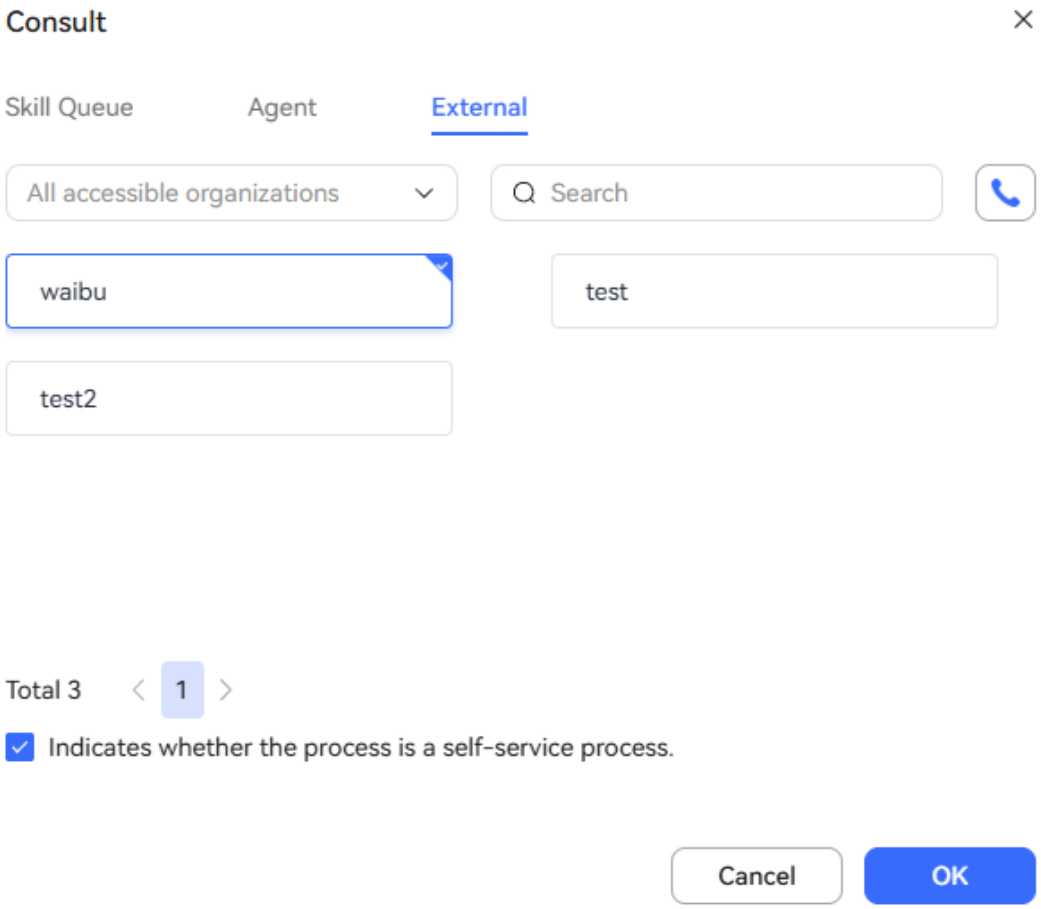
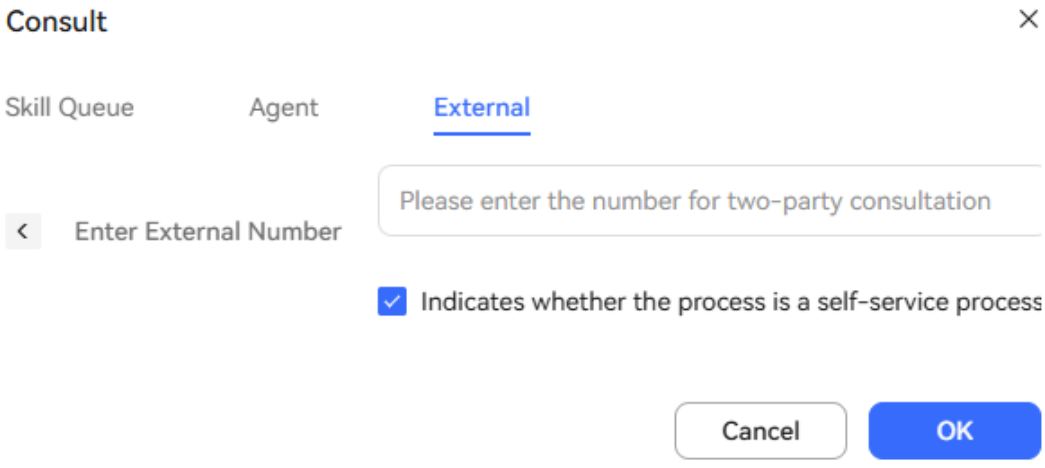


Figure 3-23 Consult - External page (entering)



If the outbound call object is a third-party IVR flow and the keys pressed by the customer or agent need to be transferred to the IVR flow in a three-party call later, select **Indicates whether the process is a self-service process**.

This check box is controlled by the tenant parameter **Three-party Conference Number Transfer**. The default value is **not supported**, indicating that this

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check box is not displayed. This check box is displayed only when the tenant administrator sets the parameter to **supported**.

3.5.8 Making Internal Calls

An agent can also call other agents.

Context

Internal calls refer to the calls between agents in the AICC. For example, when no inbound call is available, frontend agents can make internal calls to relevant personnel for consultation.

Procedure

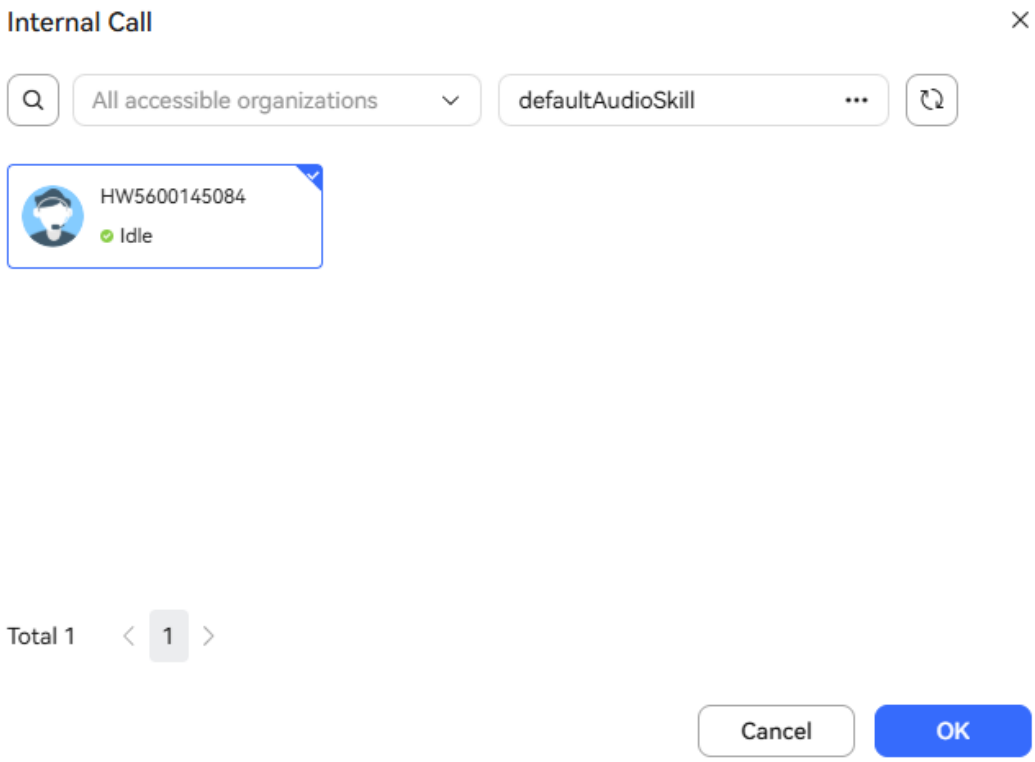
Step 1 An agent in **Idle**, **Busy**, or **Wrap-up** state clicks on the connection bar and then clicks Internal Call > to open the **Internal Call** page.



Step 2 Select another agent in **Idle** state.

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Figure 3-24 Internal Call page



Idle : The agent is idle.

Talk: The agent is in an online chat.

----End

3.5.9 Releasing Calls

An agent can release a call after the call ends.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the **Idle** state on the connection bar.

Procedure

An agent clicks to end a call.



3.5.10 Configuring the Agent Assistant

An agent can use the agent assistant to better communicate with customers.

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Context

On the voice and video workbench, the system converts the interaction records between agents and customers into text in quasi real time. The text content is matched with sensitive words and keywords through the OIAP intelligent services, and the system can send scripts to agents, improving the service quality of agents.

Procedure

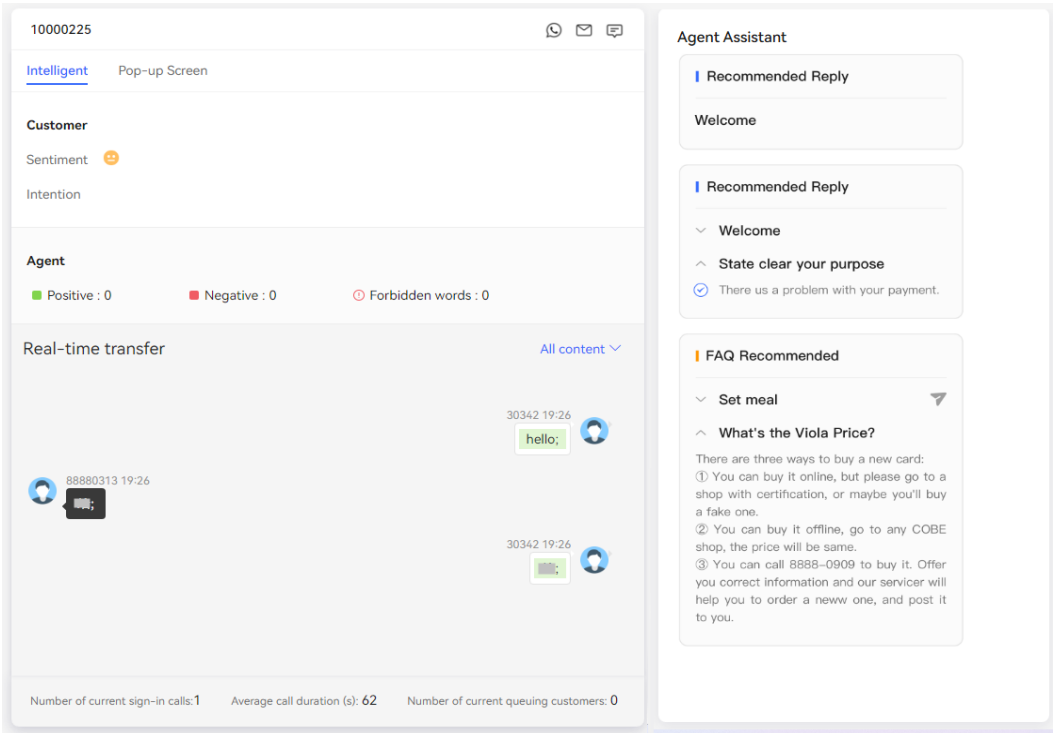
When **Only Customer** is selected, the system can display only converted speeches of the customer.

FAQ details are displayed based on keywords in the conversation, providing knowledge support for agents. You can click the URL in the script guidance page to go to the corresponding page.

Associated intentions and scripts are displayed based on keywords in the conversation, providing script guidance for agents.

The number of matched sensitive words is displayed and such words are highlighted in the real-time transcription window to remind agents to correct it in a timely manner.

A visualized service guidance flow can be displayed based on keywords in the conversation.



3.5.11 Initiating Callbacks

An agent can proactively initiate a callback to a customer for completing a business which is interrupted abnormally.

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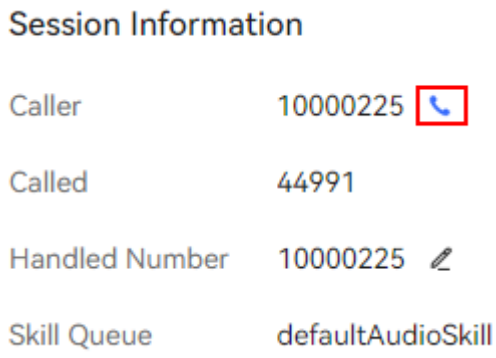
Context

When a call between an agent and a customer is interrupted unexpectedly, the agent can proactively initiate a callback to improve customer experience.

- An agent can initiate a callback only when the agent is in idle or busy state.
- A callback can be initiated only when the call type is calling party or called party.
- Anonymous calls do not support callback.
- Multimedia agents cannot initiate a callback.

Procedure

If the call between an agent and a customer is interrupted unexpectedly, the agent can call back the customer by one click and continue to talk with the customer.



3.6 Handling Video Businesses

This section describes how to handle video businesses as an agent.

3.6.1 Answering Inbound Calls Automatically

An agent can automatically answer an inbound call from a customer.

Context

An agent can answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

- The agent has signed in and is in idle state.
- Automatic call answering has been configured in any of the following methods:
  - A tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Automatic**, and the parameter **Indicates whether to use**

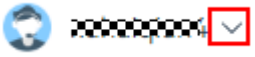
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organization-level parameters. Tenant-level parameters are preferred. under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**.

- A tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Automatic**.
- When a tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Custom**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**:
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Auto Answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.
- When a tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are**

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preferred. under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Custom**:

- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Auto Answer**.
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.
- The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Automatic answer**.

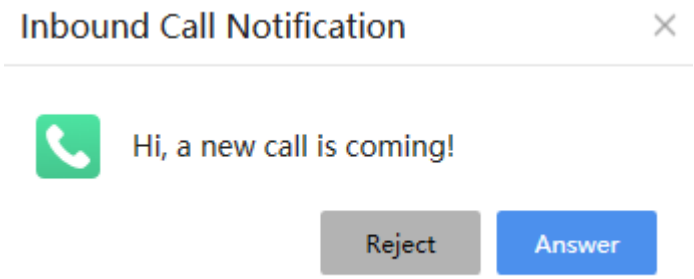
Procedure

- OpenEye:

  When a new inbound call arrives, the softphone of the agent rings and the call will be automatically connected. The agent can also click **Answer** before the call is automatically connected. The process is described as follows:

  a. After a new inbound call arrives, the softphone of the agent rings.

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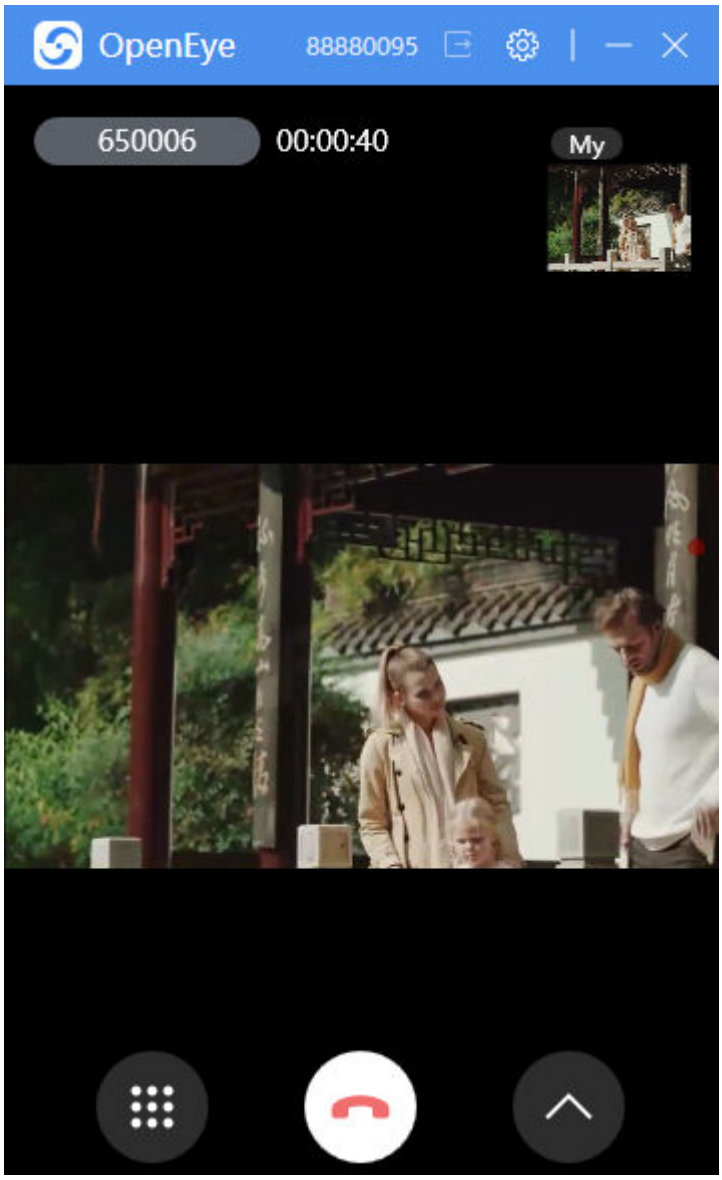


b. The agent clicks **Answer** or waits for the call to be automatically connected. The agent enters the **Talking** state, and the softphone shows that the agent is answering a call.

- WebRTC:
  - If the tenant parameter **Whether to enable WebRTC auto-answer ringtone** is set to **Yes**, when an agent receives an assigned inbound call, the call is automatically answered by the agent within 1 second after the phone rings. If the ringing duration is too short, the agent may hear the customer's voice and ringing tone at the same time.
  - If the tenant parameter **Whether to enable WebRTC auto-answer ringtone** is set to **No**, when an agent receives an assigned inbound call, the call is automatically answered by the agent.



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3.6.2 Answering Inbound Calls Manually

An agent can manually answer an inbound call from a customer.

Context

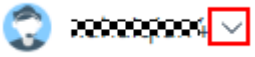
An agent can manually answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Prerequisites

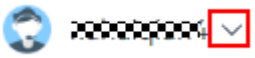
- The agent has signed in.
- The agent is in idle state.
- Manual call answering has been configured in any of the following methods:
  - A tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call**

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Control to **Manual**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**.

- A tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Manual**.
- When a tenant administrator sets the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** to **Custom**, and the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **No**:
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Manual Answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.

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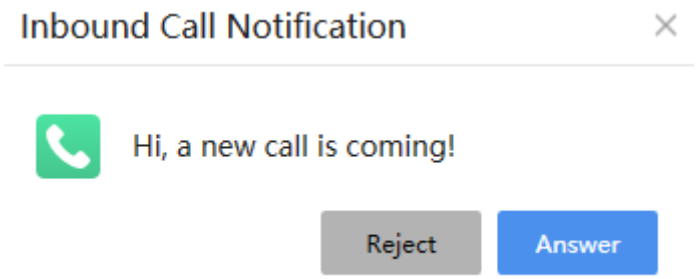
- When a tenant administrator sets the parameter **Indicates whether to use organization-level parameters. Tenant-level parameters are preferred.** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** to **Yes**, and the parameter **Agent Answering Mode** under **Configuration Center** > **System Management** > **Organization Parameter** > **Organization Parameters** > **Connection Management** > **Call Control** to **Custom**:
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, and the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is set to **Manual Answer**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **Yes**, the parameter **Agent Answering Mode** of the agent under **Configuration Center** > **Employee Center** > **Agent Management** is not set, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.
  - The parameter **Indicates whether to enable the administrator to maintain the agent-level answer mode through the agent configuration menu** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Connection Management** > **Call Control** is set to **No**, and the agent sets the parameter **Agent answer mode** under  > **Personal Center** > **Agent parameters** to **Manual response**.

Procedure

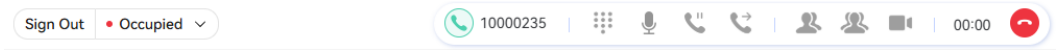
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

1. After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.

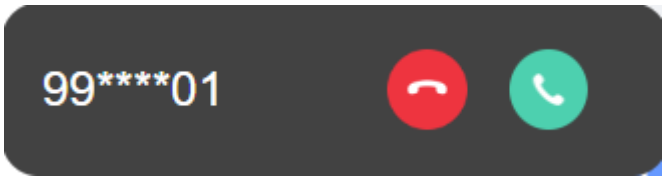
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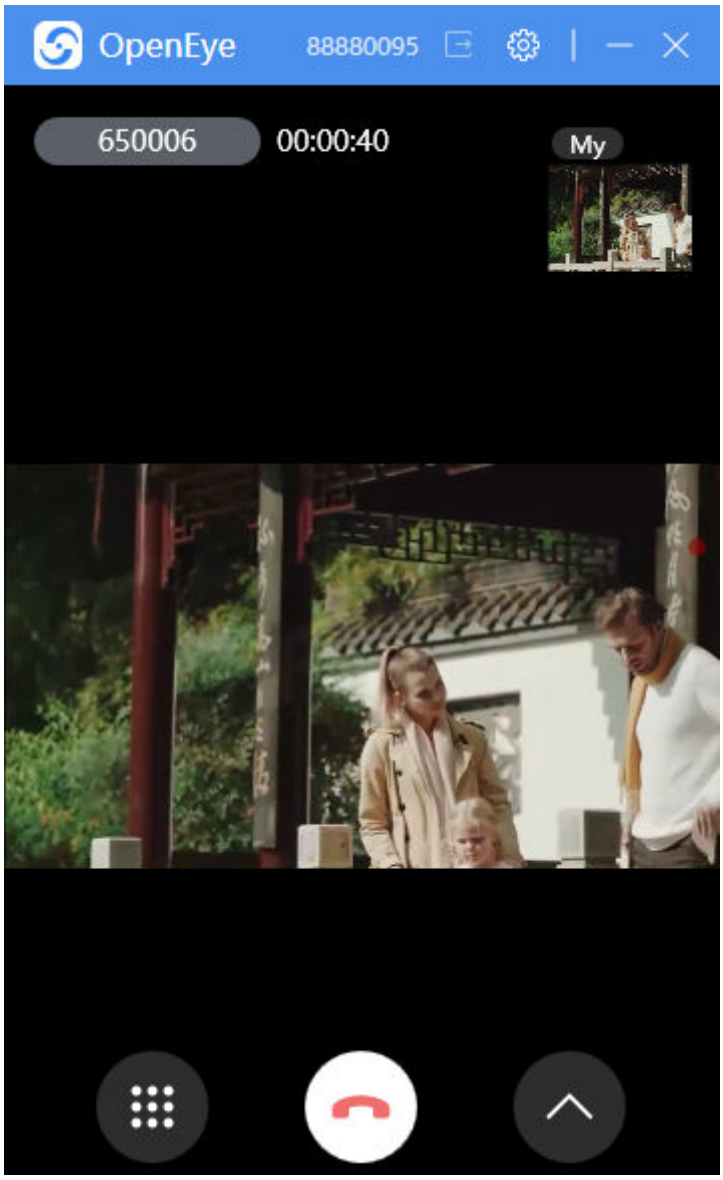
2. At this time, the call is still not connected and the agent is in the **Occupied** state.



3. After clicking  , the agent enters the **Talking** state, and the softphone shows that the agent is answering a call.



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3.6.3 Transferring Calls

An agent can transfer a call to another skill queue, a third-party system, another agent, or an IVR to handle customer businesses.

Context

A call can be transferred to an external number, another agent, a skill queue, or an IVR. After an inbound call is transferred, the call-related information is also transferred.

The following table describes the transfer types for transferring a call to a skill queue or another agent.

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Table 3-8 Call transfer types

Transfer Type	Description
Success Transfer	After an agent transfers a call, the agent releases the call only after the transferred-to agent answers the call. Otherwise, the system displays a message indicating that the transfer fails and the agent continues to talk with the customer.
Release Transfer	After an agent transfers a call, the agent releases the call immediately, regardless of whether the transferred-to agent answers the call. However, if an agent transfers the call to a skill queue, the agent releases the call only after the transfer is successful.
Conversation Transfer	After an agent transfers a call and the transferred-to agent answers the call, the agent proactively releases the call.
Hang-up Transfer	After an agent transfers a call to an automatic flow, the agent is in waiting state. After handling the call, the flow transfers the call back to the agent. A transfer diagram element cannot be configured in the IVR flow to further transfer the call to another device.

If a call transfer policy is configured for a skill queue that receives calls on the **Configuration Center** > **Workbench Configuration** > **Call Forwarding Policy Configuration** page, the target displayed during call transfer is the one configured in the call transfer policy. If the agent, skill queue, IVR, and external number are configured to not transfer calls in the call transfer policy, this tab page is not displayed during call transfer.

Procedure

After answering an inbound call, the agent finds that the call needs to be transferred.

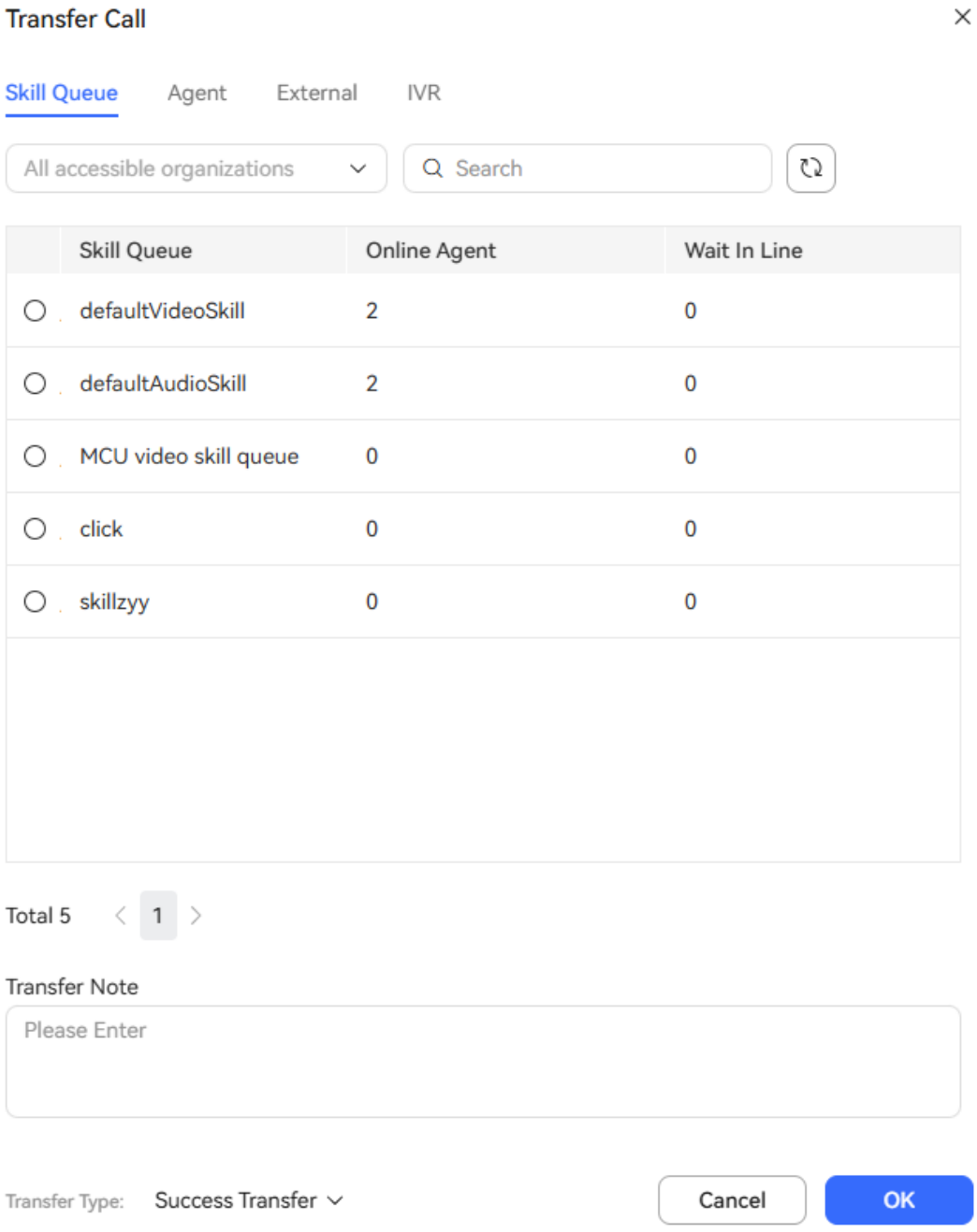
1. Click  on the connection bar.



2. Click the tab corresponding to the transferred-to object.
   - Transfer to a skill queue

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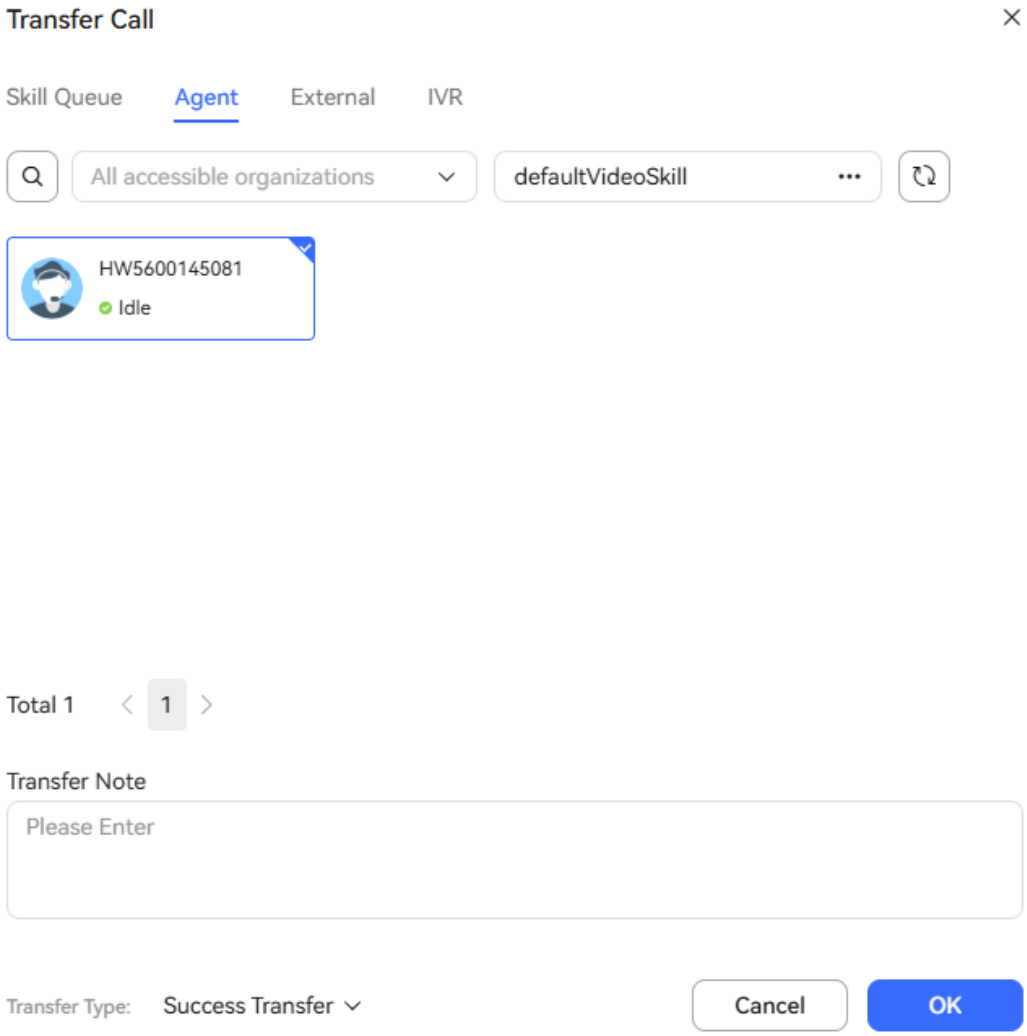
Figure 3-25 Transfer Call - Skill Queue page



– Transfer to an agent

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Figure 3-26 Transfer Call - Agent page



After agent A successfully transfers a call to agent B, the information about agent A and the organization is displayed in the lower right corner of agent B's voice and video workbench, including:

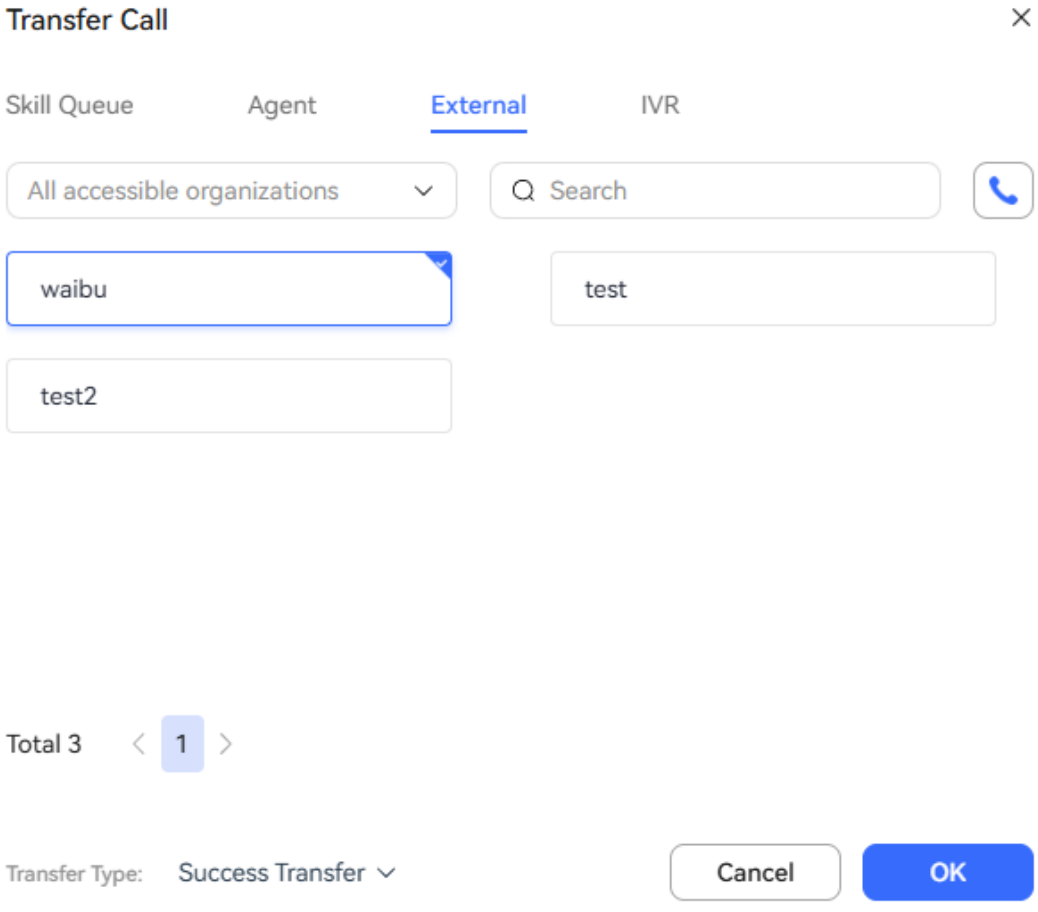
- **Call type**
- **Media type**
- **Caller Number**
- **Called Number**
- **Agent ID**
- **Agent Name**
- **Agent Skill Queue ID**
- **Agent Skill Queue Name**

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- **Agent Phone Number**
  - If the value of **Fixed-Line Number/Agent Mobile** is not configured for the agent, the value of the **Agent Phone Number** is the softphone number of the agent.
  - If the value of **Fixed-Line Number/Agent Mobile** is configured for the agent, the value of the **Agent Phone Number** is the mobile number or fixed-line phone number configured for the agent.
- ID of the OU to which the agent belongs
- Name of the OU to which the agent belongs
- Remarks of the transfer

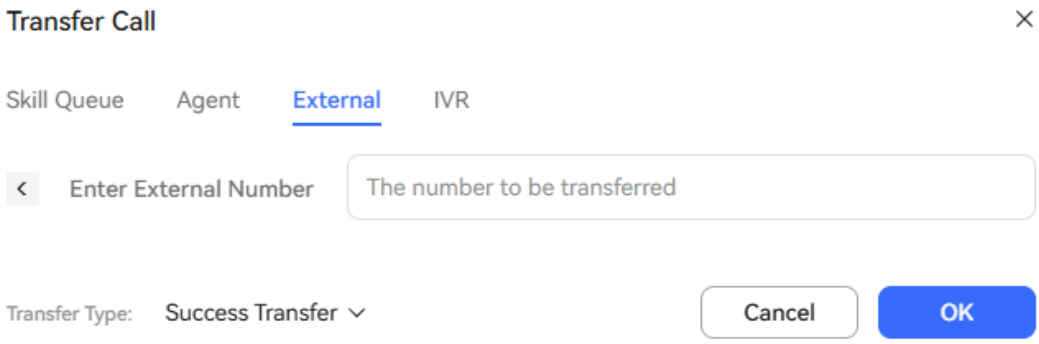
– Transfer to an external number

Figure 3-27 Transfer Call - External page



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Figure 3-28 Transfer Call - External page (entering)



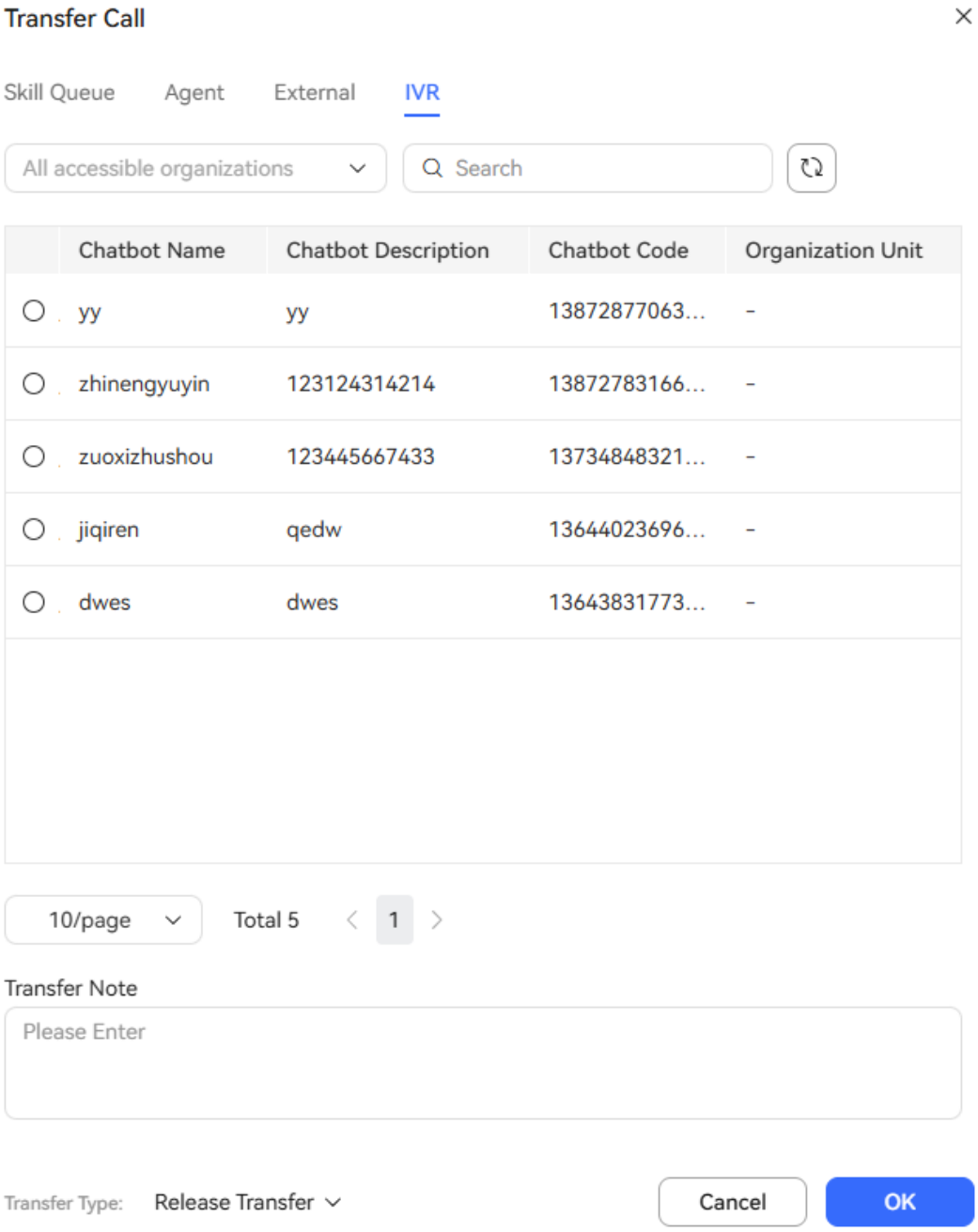
NOTE

- An agent can directly select an external number configured on the **Configuration Center** > **Resource Management** > **External Number** page.
- When **User Number Forwarding** is set to **Turn on** for the selected external number, only **Success Transfer** and **Conversation Transfer** are supported.
- When **User Number Forwarding** is set to **Shutdown** for the selected external number, **Conversation Transfer** is supported for the agent during the customer's inbound call and is not supported during the agent's outbound call.
- When an external number is entered, **Release Transfer** is supported for the agent during the customer's inbound call and is not supported during the agent's outbound call.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 1 hangs up, the agent cannot further transfer the call to an external number.
- During a call between an agent and customer 1, if the agent transfers the call to customer 2 in **Conversation Transfer** mode and then customer 2 hangs up, the agent can further transfer the call to an external number.

– Transfer to an IVR

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Figure 3-29 Transfer Call - IVR page



The parameter **All accessible organizations** is displayed only when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**.

3. Select an idle agent, a skill queue, or an IVR or enter an external number, and then click **OK**.

After the transfer, the current agent enters the **Idle** state.

3.6.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

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Context

An outbound call refers to a call initiated by an agent after the agent enters the phone number of a customer.

An agent needs to make an outbound call to talk with a colleague outside the customer service center or a customer.

Procedure

An agent can make outbound calls in all connection states except the wrap-up, rest, and talking states.

An agent clicks , enters the called number in the keyboard area, and clicks to initiate a call.



3.6.5 Making Three-Party Calls

An agent can connect to a third party to jointly handle the business during a call with a customer.

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Context

An agent can initiate a three-party call during a call with a customer for help-seeking. In this scenario, a three-party call is set up among the customer, agent who initiates the help-seeking request, and agent who accepts the help-seeking request. If one party hangs up, the other two parties can still talk with each other.

NOTICE

If the video application mode is SFU video, three-party calls are not supported.

If the video application mode is MCU video, three-party calls are supported.

Procedure

A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

When an agent clicks **Three-Party** during a call:

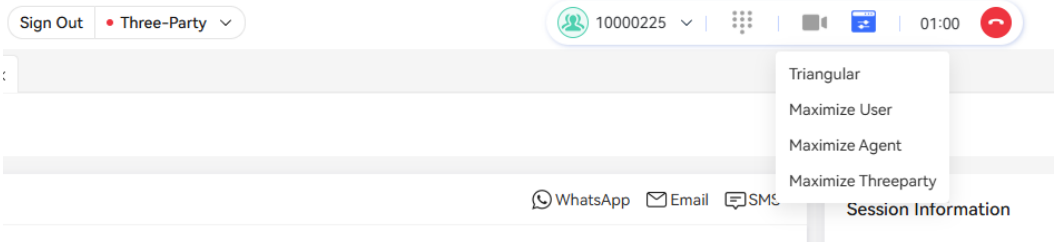
- If an agent does not know where to seek help, the agent can select a skill queue for the system to specify an agent in the skill queue as the requested agent.
- If an agent needs to seek help from another agent, the agent can select the agent for the system to specify the agent as the requested agent.
- If an agent knows to whom a help-seeking request can be sent, the agent can click  to select or enter an external number.

During a three-party call, you can manually maximize the displayed image.

During a three-party call, you cannot share the desktop or adjust the video window size if not all of the three parties enable the video function.

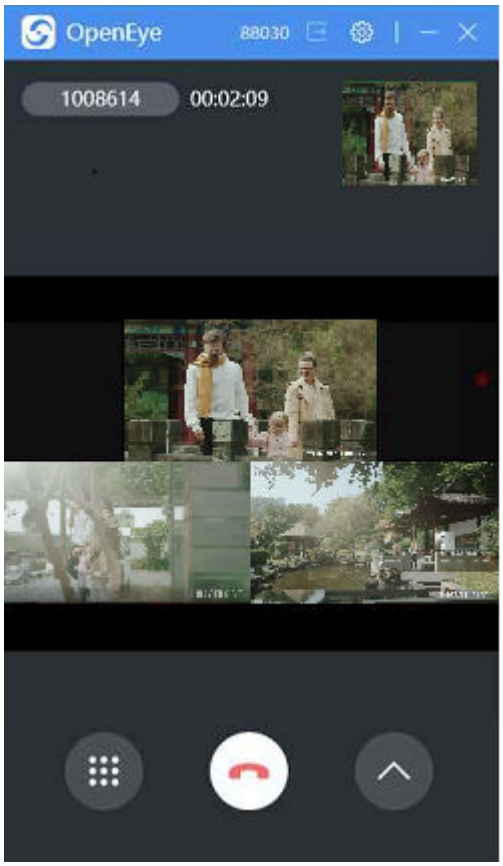


The following four modes are supported.

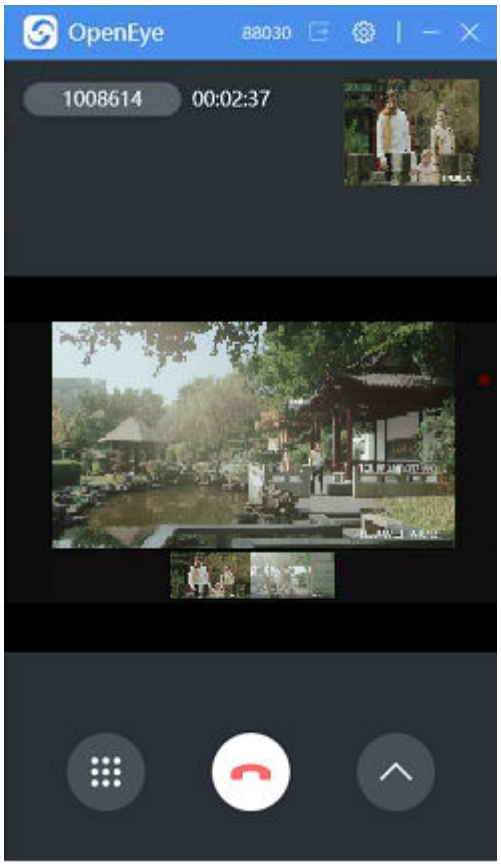


- The following figure shows the images of three parties of an equal size.

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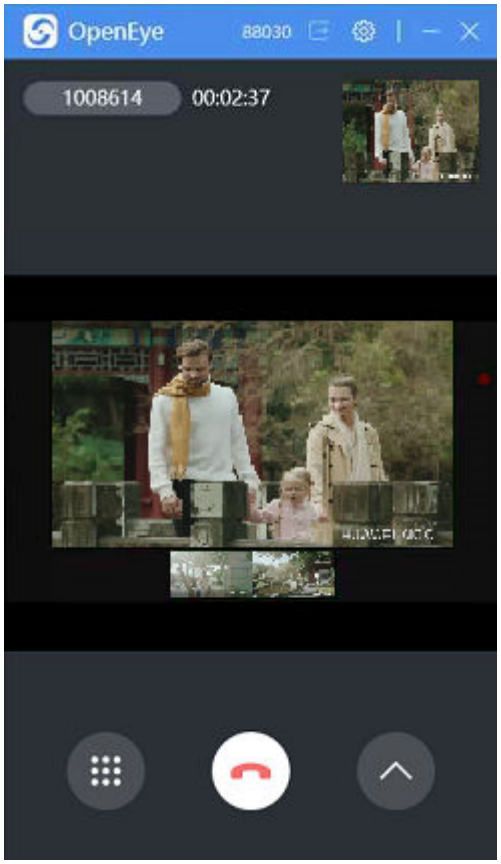


- The following figure shows a maximized user image.



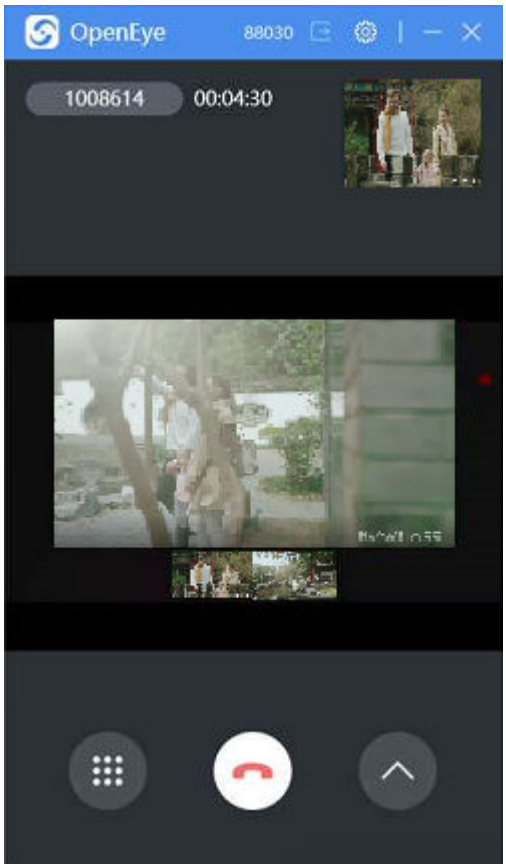
Copyright © Huawei Technologies Co., Ltd.

- The following figure shows a maximized agent image.



- The following figure shows a maximized third party image.

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3.6.6 Holding Calls

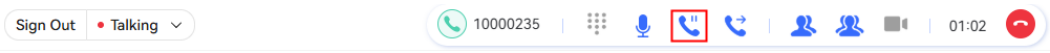
An agent can hold a call with a customer and continue to talk with the customer after handling other operations.

Context

The call holding service enables an agent to hold an ongoing call. When the call is held, the customer can hear a prompt tone indicating that the call is held. After an agent finishes tasks such as help-seeking, the agent can cancel the call holding to continue to talk with the customer. When the call is held, the agent can perform other operations but cannot answer a new inbound call. During consultation, if the consulted agent does not answer the call for a long time, the agent who initiates the consultation request can cancel the consultation.

Procedure

After answering a call, an agent needs to suspend the current call to complete other operations. Click  on the connection bar to hold a call or click  to unhold a call.



A held call cannot be released by the agent. The agent cannot sign out if the call is held. The agent can perform operations such as making an outbound call or canceling the call holding.

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NOTE

Differences between call holding and muting are as follows:

When a call is held, the customer can hear the call holding background music played by the system. When a call is muted, the customer hears no tone from the receiver.

3.6.7 Consulting

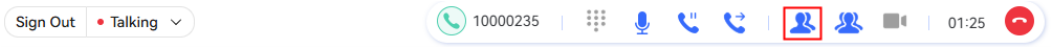
An agent can initiate a consultation request during a call with a customer. During consultation, the call channel of the customer is held, and the agent who initiates the consultation request talks with the agent who accepts the consultation request.

Context

During consultation, the call between the agent and customer is held, and the agent talks with another agent or an external party who accepts the consultation request. After the consultation call ends, the current agent can continue to talk with the customer.

Procedure

An agent in **Talking** state clicks  on the connection bar to open the **Consult** page.

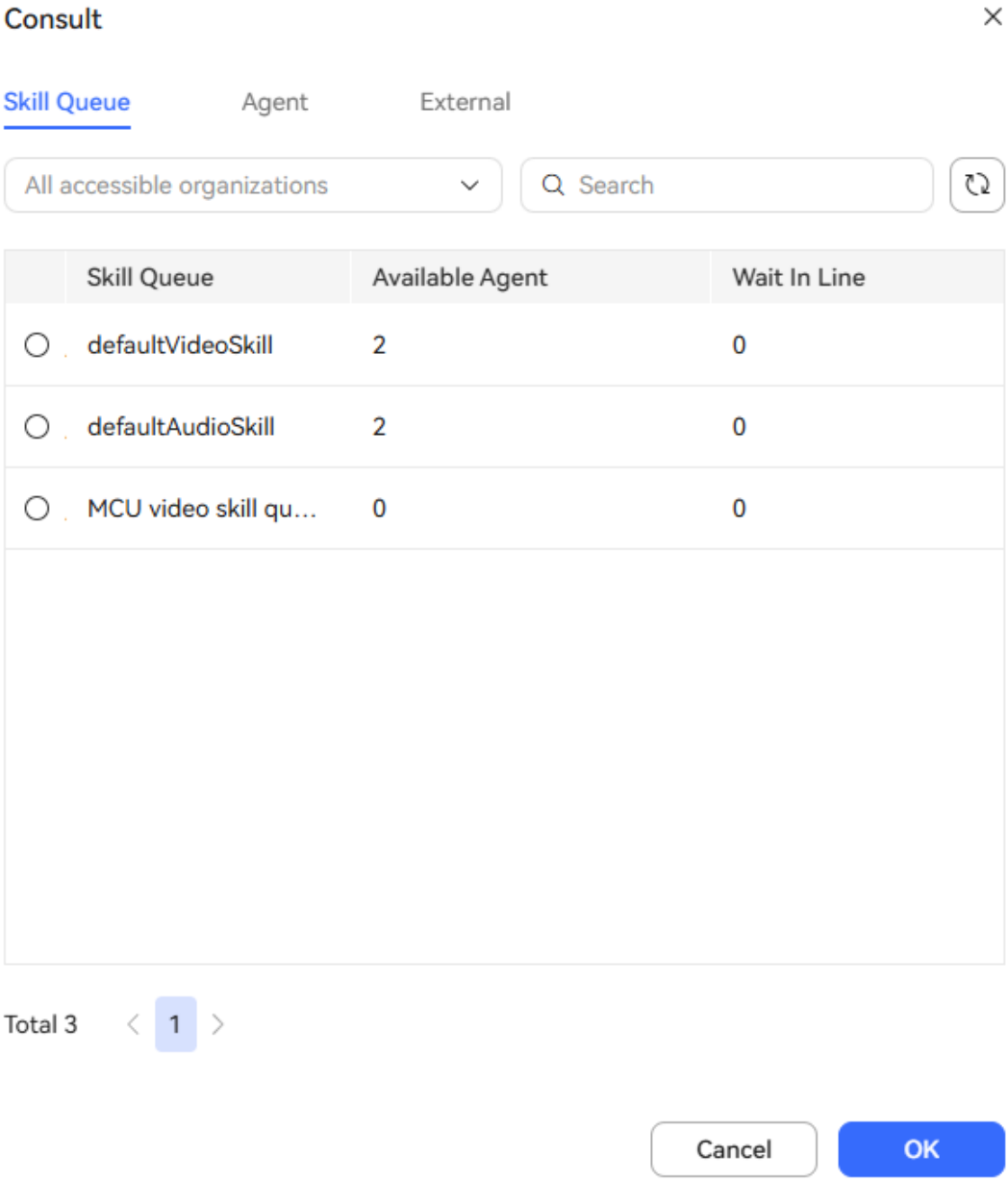


Consultation supports three modes: skill queue, agent, and external number.

- Consultation with a skill queue

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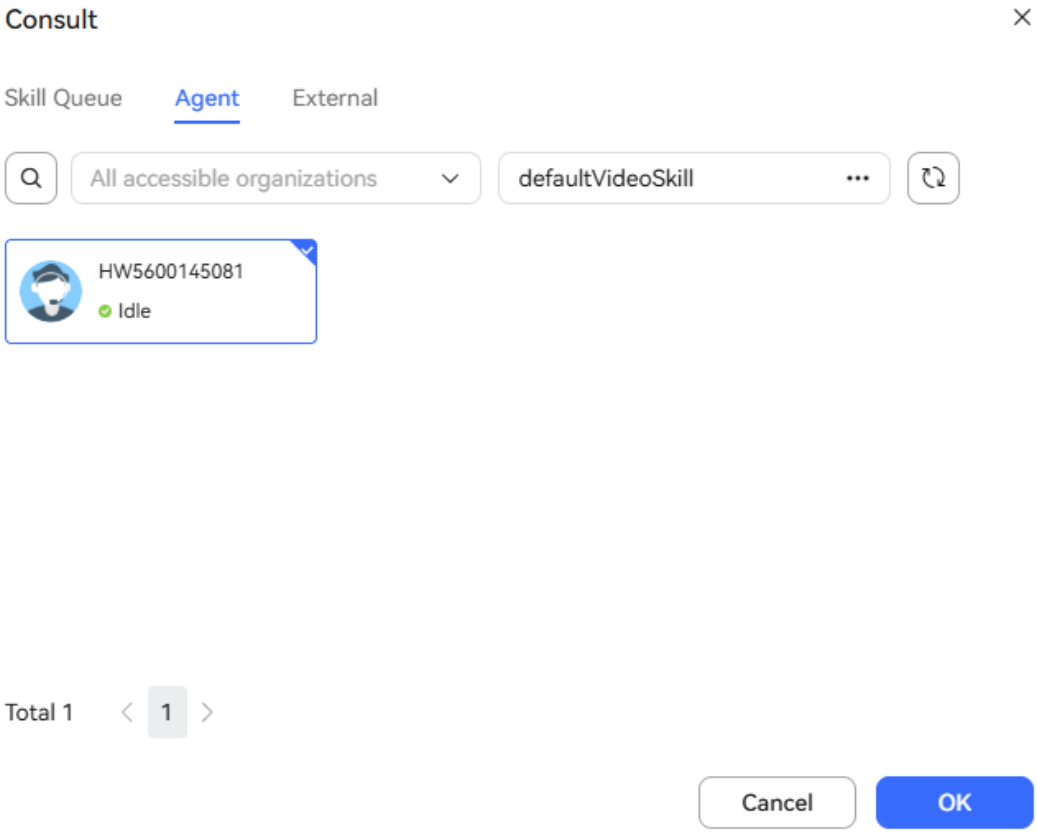
Figure 3-30 Skill Queue page



- Consultation with an agent

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Figure 3-31 Agent page



- Consultation with an external number

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Figure 3-32 External page

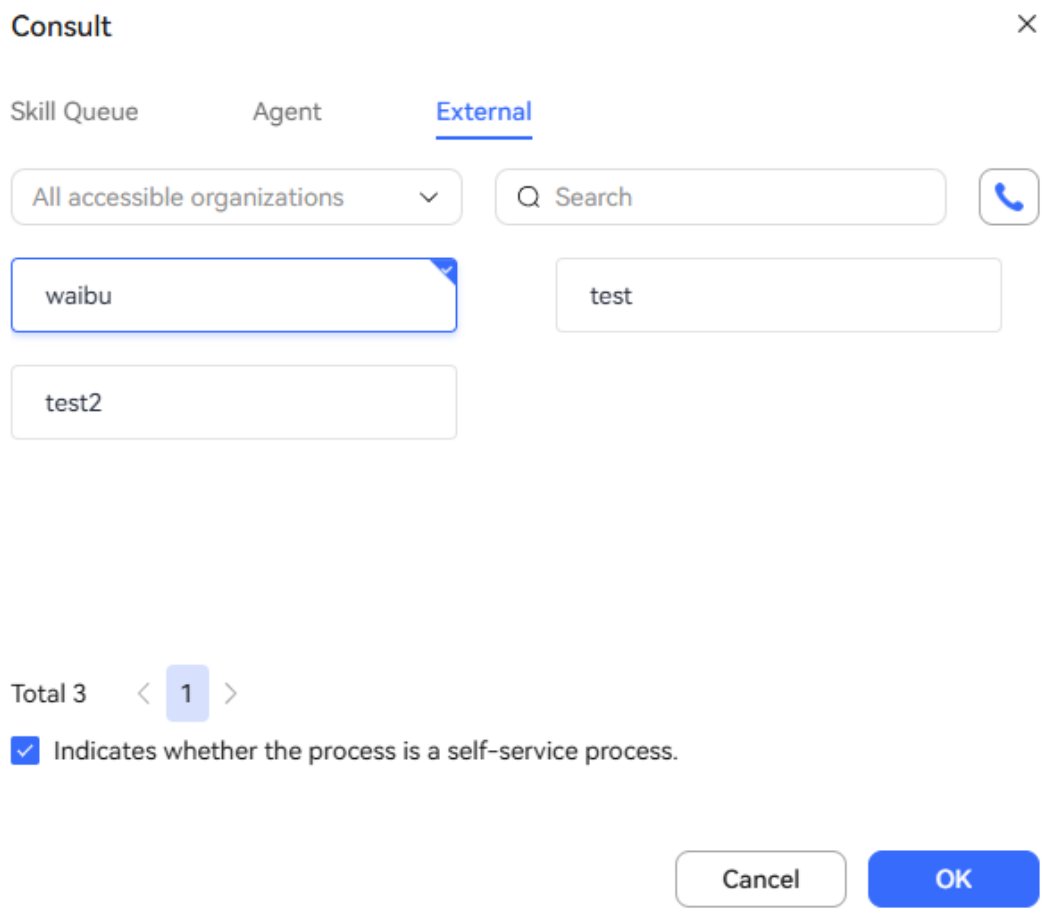
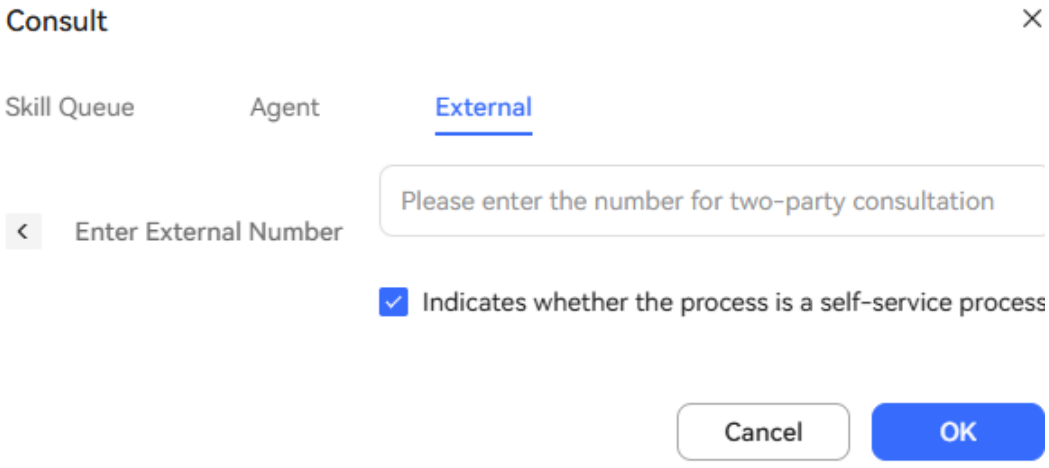


Figure 3-33 External page (entering)



3.6.8 Releasing Calls

An agent can release a call after the call ends.

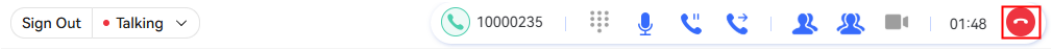
 Copyright © Huawei Technologies Co., Ltd.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the **Idle** state on the connection bar.

Procedure

An agent clicks  to end a call.



3.6.9 Switching Between Voice and Video Calls

An agent can switch the call type during a video call with a customer.

Context

NOTICE

Switching between voice and video calls is available only for video agents.

Currently, switching between voice and video calls is supported in the following scenarios:

- An agent initiates a voice call or a customer dials a called route to connect to an agent. After the voice call is connected, the agent can click the switching button to switch the voice call to a video call.
- A call is held, unheld, muted, or unmuted.
- A call is transferred to an agent or a skill queue.

Procedure

An agent clicks  to switch between voice and video calls.



When the WebRTC feature is enabled for a video agent and the video application mode is SFU video, the following scenarios are supported:

- When a voice call is initiated, an agent switches it to a video call. After the user accepts to switch the call mode, the two parties have a video call.
- When a video call is initiated, an agent switches it to a voice call. The two parties have a voice call.
- When a voice call is initiated, an agent switches it to a video call, but the user denies switching the call mode. The user is still in the voice call. The agent can invite the user to have a video call again.

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- When a video call is initiated, a user switches it to a voice call and answers the call. The user is in the voice call. The agent can invite the user to have a video call.
- An agent can switch between voice and video calls for multiple times.

NOTE

Contact records can be recorded. Both SFU and MCU videos can be downloaded, but SFU videos rather than MCU videos can be played online.

3.6.10 Sharing the Desktop

An agent can share the desktop during a video call with a customer.

Prerequisites

- The **WebRTC** feature has been enabled for agents.
- The agent is not bound to a mobile number or fixed-line phone number.
- To use the OpenEye softphone, the OpenEye has been configured as follows:
  a. Click  before logging in to the OpenEye.
  b. Configure general settings.
     i. Choose **General**.
     ii. Enable or disable **Conference Sharing**.
        - Disable **Conference Sharing** when the UAP of the V1R5 version is used.
        - Enable **Conference Sharing** when the UAP of the V3R1 version is used.
  c. Configure media settings.
     i. Choose **Media**.
     ii. Enable **Virtual Camera**.
     iii. Set **Share Screen**.
        - If **Video application mode** is set to **MCU video** when the tenant is created, set **Share Screen** to **MCU mode**.
        - If **Video application mode** is set to **MCU+SFU video** when the tenant is created, set **Share Screen** to **SFU mode**.

Context

An agent can use the WebRTC or OpenEye softphone to sign in as an agent and share the desktop during a video call with a customer.

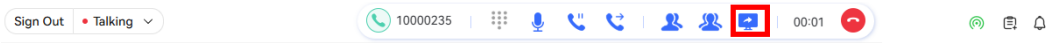
CAUTION

Pay attention to personal privacy protection during desktop sharing.

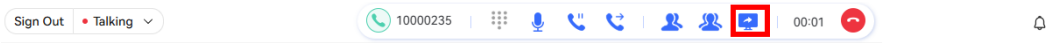
 Copyright © Huawei Technologies Co., Ltd.

Procedure

If the WebRTC softphone is used, click  to share the desktop.



If an integrated OpenEye softphone is used, click  to share the desktop.



If an independent OpenEye softphone is used, share the desktop on the OpenEye.

The following contents can be shared:

- Entire screen
- Application window
- Browser tab page

3.7 Handling Multimedia Chat Businesses

This section describes how to handle multimedia businesses as an agent.

3.7.1 Answering Calls

An agent can use the online chat workbench to handle customer businesses through multimedia channels.

Context

The workbench can be opened using the menu or automatically opened when the agents associated with multimedia skill queues sign in.

After the workbench is opened, the number of calls made on the current day, average call duration (s), and the number of sessions in the channel are displayed. The number of sessions in the channel is displayed in the form of channel icons and numbers.

When an agent processes a multimedia message, the agent's status is displayed as the **Occupied** state on the connection bar. In this state, the agent can make outbound calls at the same time. When a voice call is released, the multimedia call cannot be released at the same time.

Current is displayed on the left. The chat area, third-party page provided by the customer, and input area of the current conversation are displayed in the middle. **Incoming Call Message**, **Call Reason**, **History contacts**, and multimedia are displayed on the right.

The third-party page provided by the customer is configured based on the call launch page. In addition, the call launch page path carries the employee ID and information about the calling and called parties.

If multiple tab pages are opened and the current online chat workbench is not activated, when a new message is received, the tab page blinks and an announcement is played, indicating that a new message is received.

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If an agent is in a session, the session is not closed when the browser is reloaded, the AICC page is closed, or the browser is closed. The session still exists after the **Online Chat** page is opened again.

Prerequisites

When the **Refine response** feature is enabled for a tenant, the agent bound to the tenant administrator is a versatile agent, and the **Intelligent Recognition** and **Reply polishing** switches are turned on, the AI polishing function can be used.

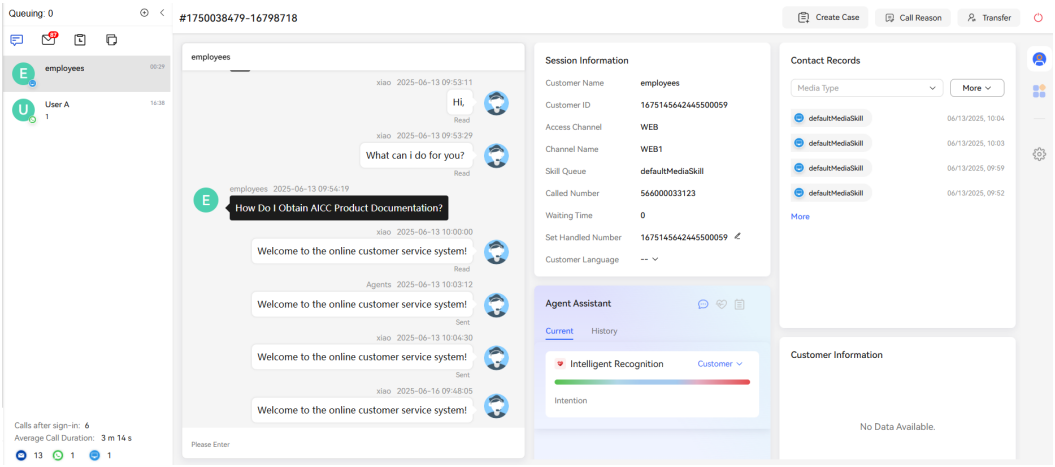
Procedure

A customer communicates with agent A through the web channel to query the call fee balance, and then rates the service after the conversation ends.

Step 1 Sign in to system on the connection bar and set the agent to the idle state.

Step 2 Initiate a call as a customer. The agent workbench automatically connects to the multimedia session. After the agent double-clicks the session, the information is displayed on the right.

Figure 3-34 Online chat workbench page - Web



NOTE

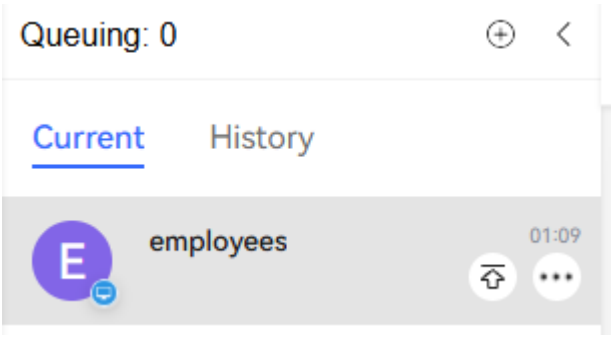
- Before sending a message, click  to check spelling to avoid spelling mistakes.

  All channels support this function. For the email channel, this function is supported on the forwarding, reply, and email draft viewing pages.

  Only the text in the email body is extracted for correction. Misspelled words are displayed in red.

  Currently, the spelling check supports the following languages: Chinese, English, Portuguese, and Traditional Chinese. For details, see the tenant parameter **Spellcheck supported languages dictionary** in **Table 2-234**.
- In the **Current** area, the chat content between the customer and agent is displayed. If the customer has historical conversations with an agent, the historical conversation records of the customer can be displayed in **Current**.
- When the content entered by an agent is used in a historical conversation, the system automatically associates and displays related historical content for the agent to select, improving the business handling efficiency.
- After a customer reads a message sent by an agent, the message status is displayed as **Read** on the online chat workbench. The customer is unaware of the message status.

Step 3 Select the current session and click  to pin the session. Click  to unpin the session.



- The session list display mode is controlled by the tenant parameter **Display mode of the current session list of agents**. Tenants can configure different display modes as required.

  Value options:

  – **by session access time(default value)**

  – **by the latest message time of the session**: When an agent sends a message or receives a message from a customer, the session is moved up to the top of the session list.

  In addition, sessions can be pinned to the top. The pinned sessions are always above non-pinned sessions in the session list. If there are multiple pinned sessions, sessions are also sorted based on the value of the tenant parameter **Display mode of the current session list of agents**.

Step 4 Click to transfer or close the session.

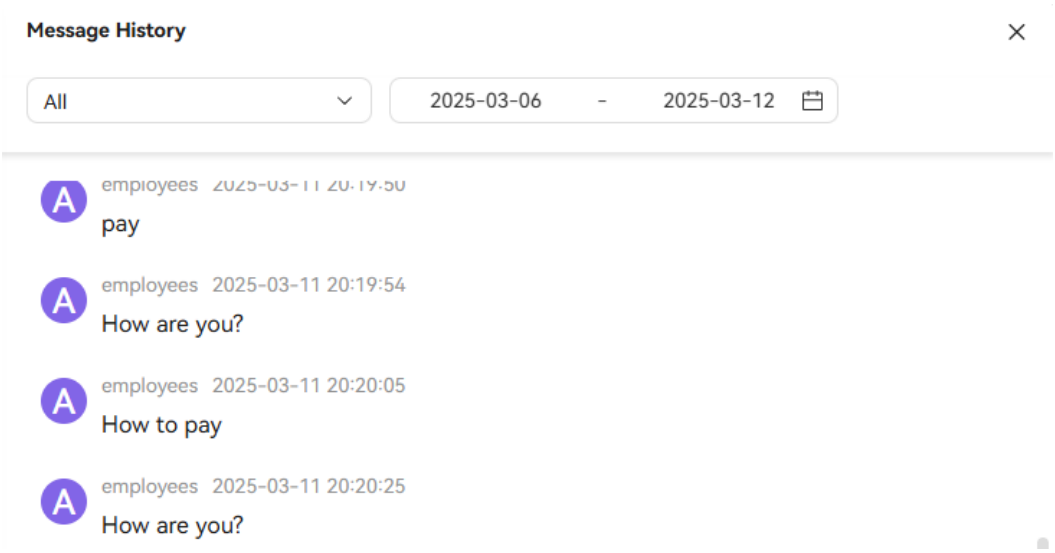
For details about the transfer operation, see **3.7.5 Transferring Sessions**.

Step 5 Click  to query all messages in the current session.

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You can filter messages by message type (image, document, voice, and video) and date (the time span cannot exceed seven days) for display. By default, all types of messages are displayed.

Figure 3-35 Message History page



----End

Exception Handling

- If the email content cannot be displayed and is empty when you view an email, click **Refresh** to check the OBS status. If the system displays a message indicating that the refresh fails, contact O&M personnel.
- If the system displays a message indicating that the *XX* attachment has been filtered out when you view an email, contact the customer to resend the attachment that meets the system requirements.

3.7.2 Sending Multimedia Data

An agent can quickly send multimedia data collected by tenant administrators to customers, improving business efficiency.

Context

The multimedia data that can be sent varies according to the multimedia channel.

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Table 3-9 Multimedia data and channels

Multimedia Data Type	Supported Sending Channel
Common phrase (including common phrases in the multimedia library and personalized common phrases)	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • SMS • Instagram • Telegram
Voice	• Web: MP3 or AAC • WeChat: MP3 • Facebook: MP3 • LINE: M4A • WhatsApp: ACC • Instagram: M4A • Telegram: MP3 or M4A
Video	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • Instagram • Telegram
Image	• Web • WeChat • X (Twitter) • Facebook • LINE • WhatsApp • Telegram
Address	• Web • LINE • WhatsApp • Instagram • Telegram

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<table>
<tr><th colspan="2">Multimedia Data Type</th><th>Supported Sending Channel</th></tr>
<tr><td colspan="2">Personalized emoji</td><td>• Web
• WeChat
• WhatsApp
NOTE
When a multimedia agent sends a personalized emoji in GIF format in the multimedia library to a customer, due to the restrictions on WeChat, the image displayed on the customer side is a static image. In such case, the customer can save the image and open it in the phone album, in which the image is a normal GIF image.</td></tr>
<tr><td rowspan="4">Card template</td><td></td><td rowspan="2"></td></tr>
<tr><td></td></tr>
<tr><td>WhatsApp template message</td><td rowspan="2">WhatsApp</td></tr>
<tr><td>WhatsApp interactive message</td></tr>
<tr><td>Web card</td><td>Web</td></tr>
<tr><td colspan="2">Rich text</td><td>Web</td></tr>
<tr><td colspan="2">Email draft (not maintained on the Multimedia Library menu)</td><td>Email</td></tr>
<tr><td colspan="2">SMS template (not maintained on the Multimedia Library menu)</td><td>SMS</td></tr>
<tr><td colspan="2">Document</td><td>• Web: DOC, DOCX, PDF, or ZIP
• WhatsApp: DOC, DOCX, PDF, PPT, PPTX, XLSX, or XLS
• Telegram: PDF or ZIP</td></tr>
<tr><td colspan="2">Plain text</td><td>• Web
• WeChat
• X (Twitter)
• Facebook
• LINE
• WhatsApp
• SMS
• Instagram
• Telegram</td></tr>
</table>

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The multimedia data allowed by an agent is affected by OUs. The specific requirements are as follows:

- When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the agent can view and send the multimedia data of accessible OUs.
- When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the agent can view and send the multimedia data of the owning OU, accessible OUs, and **Unorganized**.

Prerequisites

- A tenant administrator has collected data in advance. For details, see **2.3.2.10 Managing the Multimedia Library** and **2.11.7 Configuring Notification Templates as an Administrator**.
- An agent is chatting with a customer.

Procedure

Step 1 Click  on the right of the online chat workbench.

Step 2 Select the multimedia data to be sent, and then click to send the data.

Select a common phrase or plain text which is then automatically filled in the text box in the chat area, and click **Send**.

----End

3.7.3 (WhatsApp) Sending an Electronic Document Link

During the conversation with a customer, an agent can send an electronic document link to the customer for signing.

Context

In the OP integration deployment environment, electronic document links cannot be sent.

Prerequisites

- The **Contract Digital Signature** feature has been enabled for the tenant. If the feature is not enabled, contact operations personnel to enable it.
- The tenant has an available WhatsApp channel.
- In the electronic document, the customer signature location has been marked with an arrow, and the electronic document must be in PDF format.

  For details, see **3.7.3.1 FAQ: How Do I Insert an Arrow to an Electronic Document?**
- The agent is chatting with the customer.

Procedure

Step 1 Contact operations personnel to determine the size and location of the arrow and the timeout period for a single signature.

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- The arrow size is specified by the system parameter **Signature location picture size**. The default value is **18*22**, indicating the width x height of the signature location image.
- The arrow location is specified by the system parameter **Signature image size and offset**. The default value is **100*50*2*0**, indicating the width x height x x-axis offset x y-axis offset of the image.
- The timeout period for a single signature is specified by the system parameter **Single signature timeout (seconds)**. The default value is **600**.

Step 2 Establish a session with the customer.

Step 3 Select the prepared electronic document.

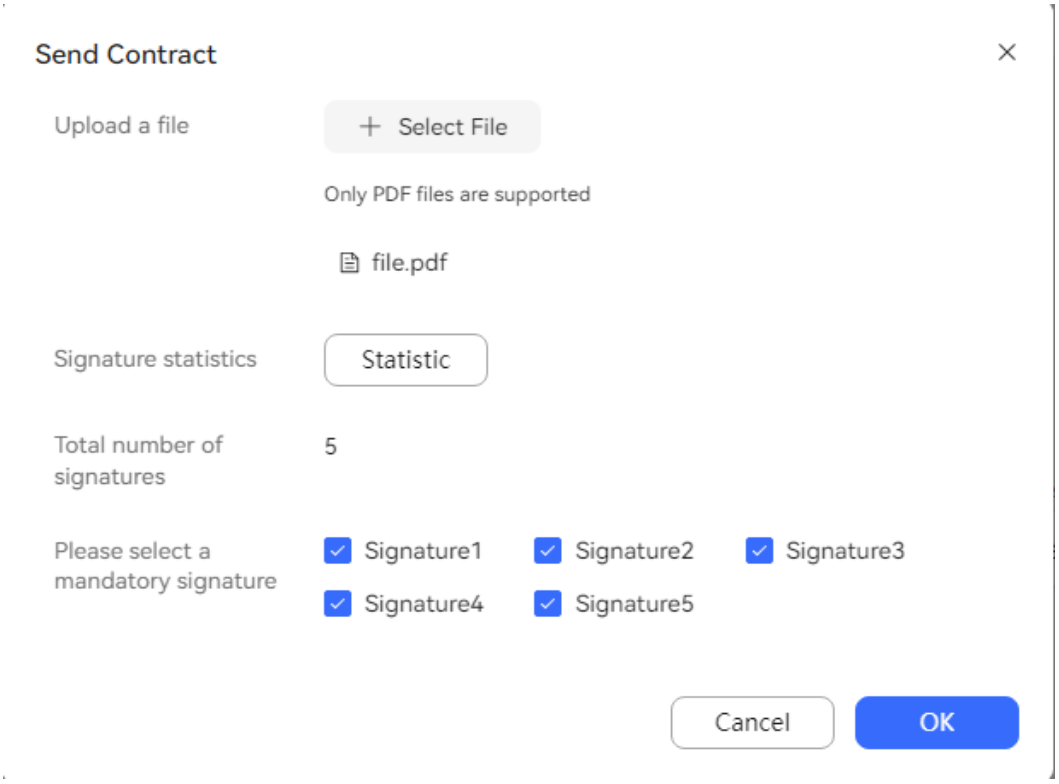
1. Click  above the input area. The **Send Document** page is displayed.

   Figure 3-36 Send Document page

2. Click **+ Select File** and select the prepared electronic document.
   Only PDF files are supported.
3. Click **Statistic** to display the number of signatures to be signed.
   If there are multiple signatures, you can select mandatory signatures.

   Figure 3-37 Selecting mandatory signatures

4. Click **OK**. The document link is automatically saved in the text box.

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A record is automatically added on the **Contact History** > **Document Management** page, and the document status is **Unsigned**. For details about other operations, see **3.8.12 Managing Documents**.

If the name of the document to be uploaded is the same as that of an existing document and the existing document is valid, the document cannot be uploaded.

Step 4 Click **Send** and wait for the customer to sign.

If the document does not expire or become invalid within the session period, the customer can sign the document. The timeout period for a document is the number of signatures in the document multiplied by the timeout period for a single signature.

During the signing process, the agent can prompt the customer to confirm the document content, sign the document, and submit the document. A document link can be submitted for signing only once.

After the customer submits the document, the document status changes to **Signed** on the **Contact History** > **Document Management** page. Within 1 minute, the document preview page is automatically displayed on the agent side.

----End

Follow-up Procedure

In the **History contacts** area, click the generated data to view the document status, preview, and download the document in the contact records.

3.7.3.1 FAQ: How Do I Insert an Arrow to an Electronic Document?

Prerequisites

You have prepared an electronic document in PDF format.

Context

Use a PDF editor to insert an arrow to the location for a signature in an electronic document.

PDF editor: prepared by yourself

Arrow icon: 

Procedure

Step 1 Download the package from **Context** and extract the arrow icon **icon_Arrow18x22.png**.

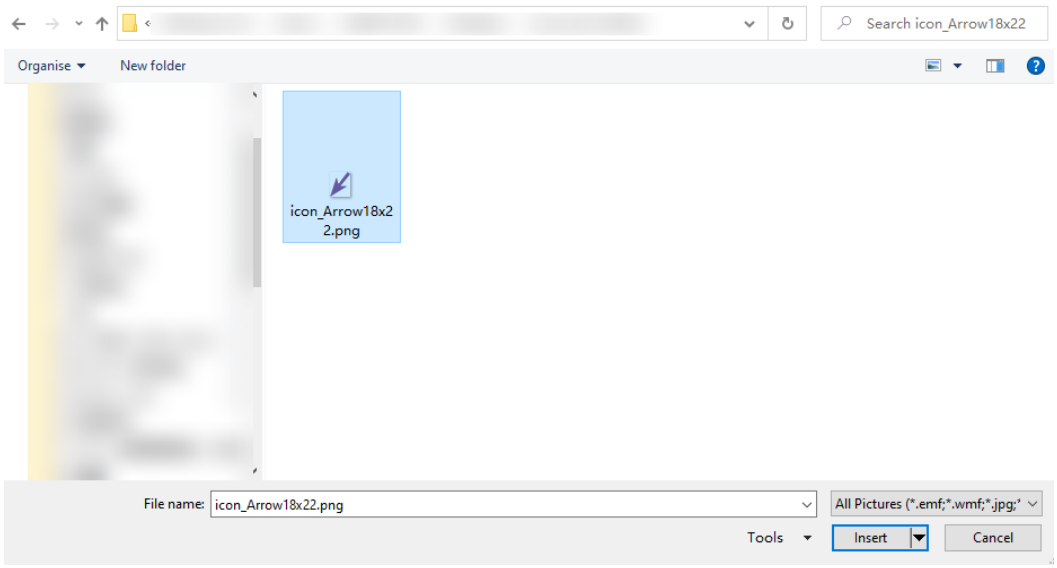
Step 2 Run the PDF editor and open the electronic document in PDF format.

Step 3 Insert the arrow icon.

The method of inserting a local image varies according to the PDF editor that you use.

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Figure 3-38 Selecting the icon



NOTE

Do not change the size of the arrow.

Step 4 Check that the arrow is in the body of the electronic document.

Step 5 Drag the arrow to the location for a signature.

When you drag the arrow, retain its original size. Copy and paste operations are supported.

Step 6 Save the electronic document with the arrow inserted.

----End

3.7.4 Initiating a Voice or Video Call

During a text chat with a customer through the WhatsApp channel, an agent can initiate a voice or video call.

Prerequisites

- The browser used by the customer supports WebRTC.
- The customer has audio input and output devices or video input and output devices (for video calls).
- The WebRTC feature has been enabled and the anonymous call server has been configured for the tenant space.
- A web channel for which the click-to-dial called route is configured is available.

Context

A voice or video call cannot be initiated during a chat between a customer and a chatbot.

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Procedure

Step 1 Click  as an agent. The system automatically generates a voice or video call link in the text box.

Step 2 Click **Send**. The customer receives the voice or video call link. After the customer clicks the link, the two parties can talk with each other.

----End

3.7.5 Transferring Sessions

An agent transfers the session to another agent.

Context

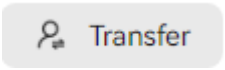
- The skill queues and agents to which sessions can be transferred by an agent are affected by OUs. The specific requirements are as follows:
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the agent can view and transfer sessions to skill queues and agents under accessible OUs.
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the agent can view and transfer sessions to skill queues and agents under the owning OU, accessible OUs, and **Unorganized**.
- The channel configuration parameter **Call Transfer Interaction Times** specifies whether an agent can transfer a call. The call transfer function can be used only when the number of messages sent by an agent to a customer reaches the set value.

  When the value is **0** or empty, the agent can use the call transfer function at any time.

  NOTE

  Only the email channel does not support this function.

Procedure

Click 

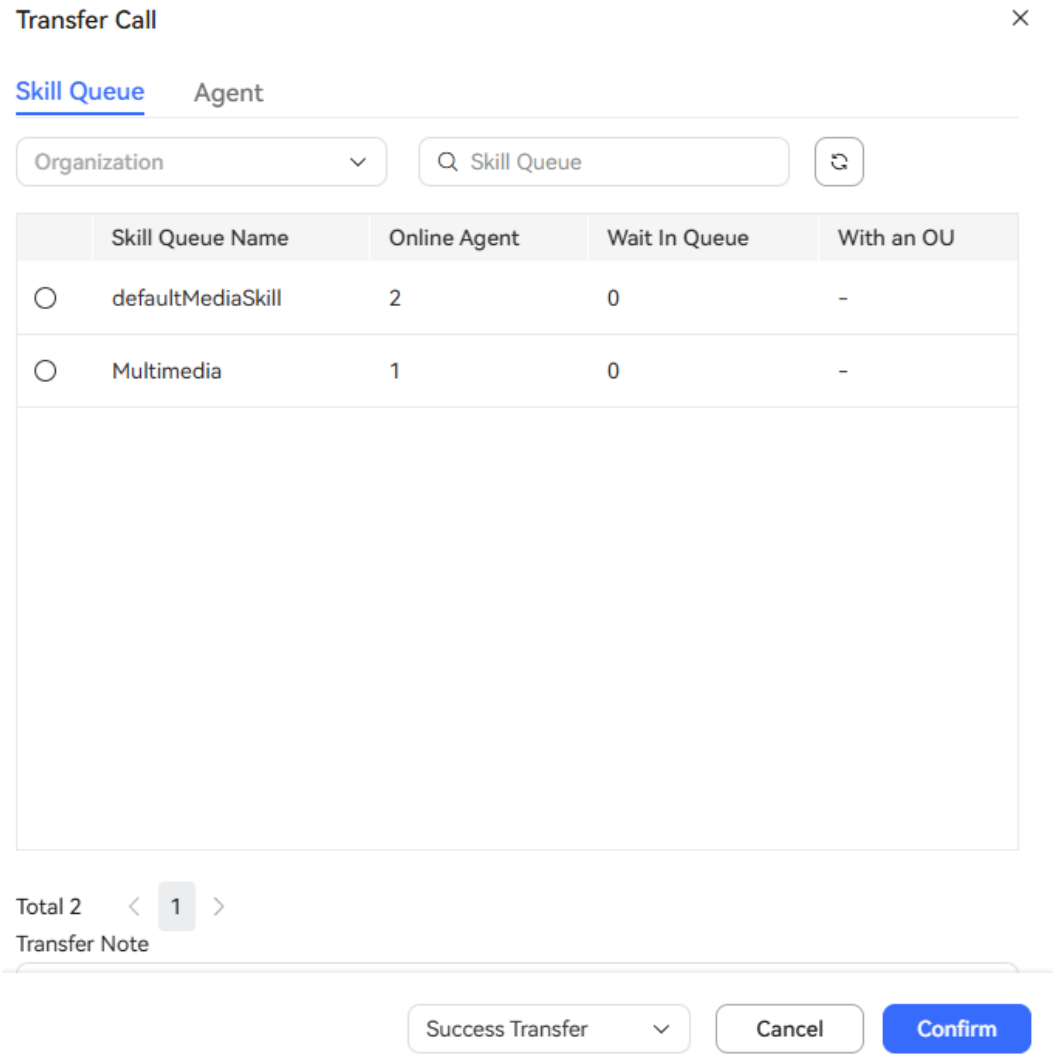
to transfer an ongoing session to another agent. A session can be transferred by skill queue (multimedia skill queue) or agent (multimedia agent). The transfer modes are **Success Transfer** and **Release Transfer**. During session transfer, agent states and accounts can be viewed.

Success Transfer: After an agent transfers a session, the agent releases the session only after the transferred-to agent answers the session. Otherwise, the system displays a message indicating that the transfer fails.

Release Transfer: After an agent transfers a session, the agent releases the session immediately, regardless of whether the transfer is successful.

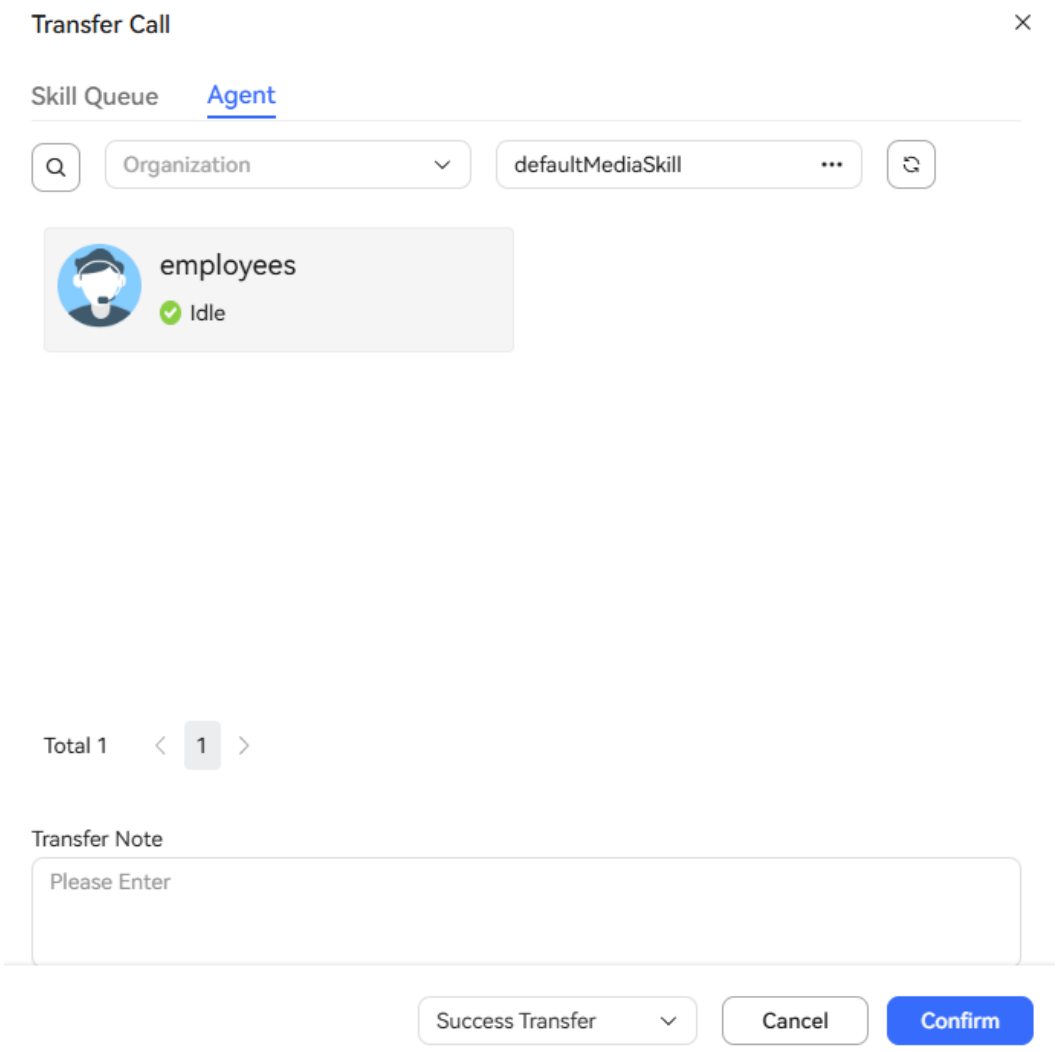
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Figure 3-39 Transferring a session to a skill queue



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Figure 3-40 Transferring a session to an agent



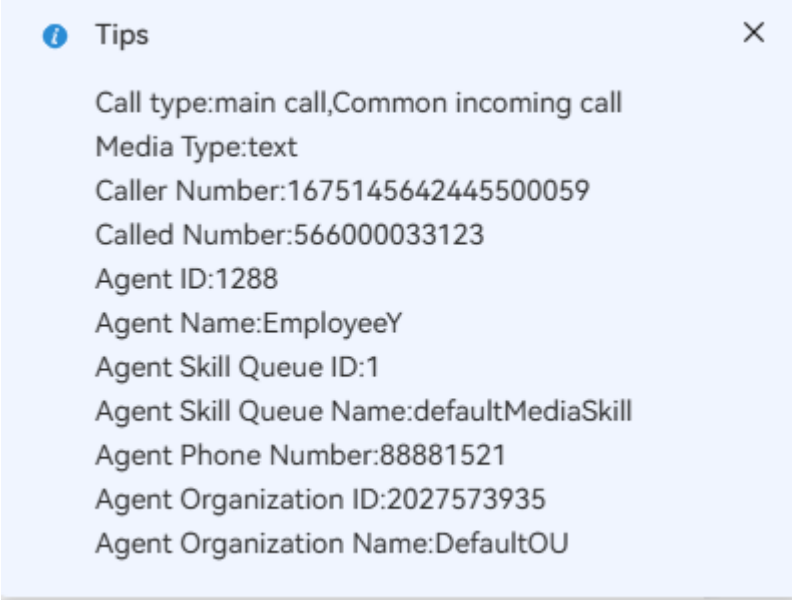
: The agent is in a voice or video call.

: The agent is in an online chat.

After the transfer is successful, a 10-second message showing the information about the agent transferring the call is displayed in the lower right corner of the page of the transferred-to agent.

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Figure 3-41 Information about the agent transferring the call



- If the value of **Fixed-Line Number/Agent Mobile** is not configured for the agent, the value of the **Agent Phone Number** is the softphone number of the agent.
- If the value of **Fixed-Line Number/Agent Mobile** is configured for the agent, the value of the **Agent Phone Number** is the mobile number or fixed-line phone number configured for the agent.

3.7.6 Initiating Sessions

An agent can search for a customer not contacted in historical sessions, and set up a connection through the email, WhatsApp, or SMS channel.

Prerequisites

Channels such as email, WhatsApp, and SMS are available, and the offline message function has been enabled for the channels.

Context

- Customers not contacted refer to customers who have never been contacted and customers who have not been contacted for more than seven days.
- The multimedia channels available to an agent are affected by OUs. The specific requirements are as follows:
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the agent can select the multimedia channels of accessible OUs.
  - When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the agent can select the multimedia channels of the owning OU, accessible OUs, and **Unorganized**.

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Procedure

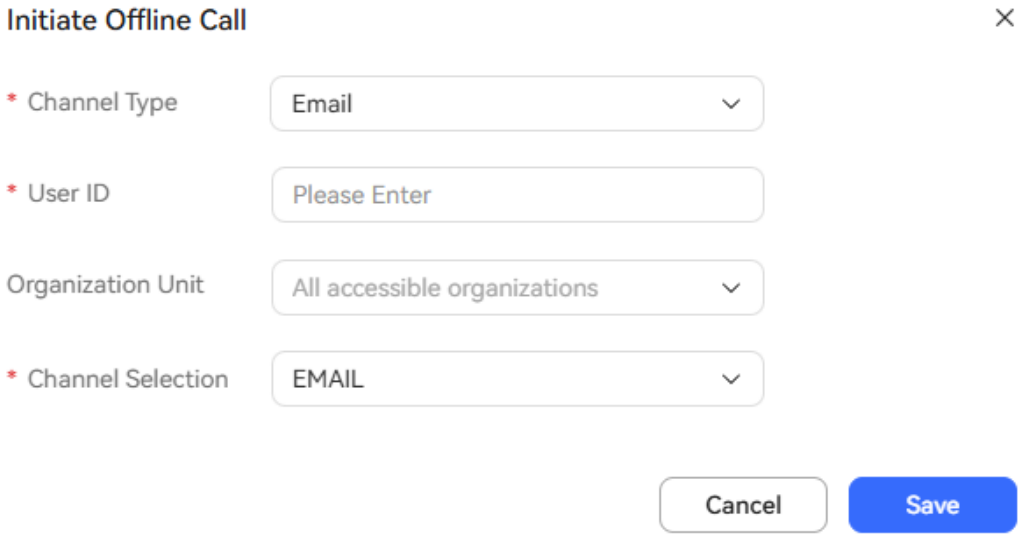
Assume that an email agent initiates a session.

Step 1 Click **Sign In** on the connection bar and set the agent status to busy.

Step 2 Choose **Online Chat** and click  .

Step 3 Enter a user ID, select a channel type, select an OU, and select a channel configured for the selected OU.

Figure 3-42 Offline call (when Channel Type is set to Email)



Step 4 Click **Save**. A session is initiated, and the agent status changes from idle to occupied and then to idle.

----End

3.7.7 Releasing Calls

An agent can release a call after the call ends.

Context

After an agent finishes a service, the agent can proactively end the call if the customer does not proactively hang up first. After the call ends, the agent switches to the idle state on the connection bar.

Procedure

An agent clicks  to end a call.

3.7.8 Withdrawing Agent Messages

An agent can withdraw messages.

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Context

When an agent has an online chat with a customer, the agent can recall the message that has been sent.

NOTE

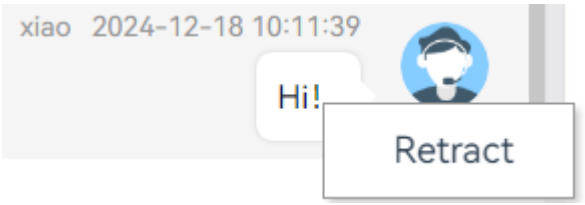
Only the web channel supports message recall.

Only messages within 2 minutes can be recalled.

Procedure

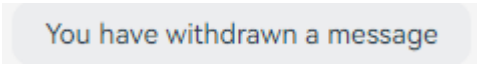
On the agent side, right-click a message and choose **Retract** from the shortcut menu.

Figure 3-43 Withdrawing a message



After a message is recalled, the following information is displayed.

Figure 3-44 Agent page



3.7.9 Applying for a Multimedia Silent Agent

A chatbot can apply for a multimedia agent for assistance during the conversation with a user.

Context

A silent agent can be in one of the following states: common, monitoring, insertion, and transfer.

Common: When a silent agent switches to this state, the agent proactively releases the call with the chatbot. The user directly communicates with the chatbot.

Monitoring: When a silent agent switches to this state, the agent can view the conversation between the user and chatbot. When the chatbot fails to reply to a user's question for three consecutive times, the chatbot sends a help signal to the silent agent. The silent agent can send a reply or switch the state for assistance.

Insertion: When a silent agent switches to this state, the silent agent directly communicates with the user in the name of the chatbot. When the user sends a message, the chatbot sends a help request to the silent agent. The silent agent can reply to the user only when the chatbot asks for help.

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Transfer: When a silent agent switches to this state, the agent can transfer the call to the agent service.

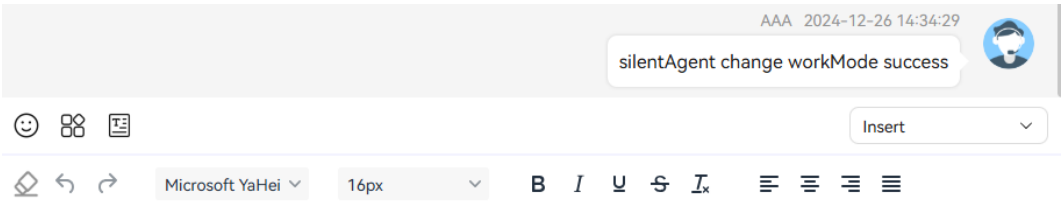
NOTE

- Silent agents are available only in channels that support chatbot and silent agent skill queue configurations.
- Silent agents are available only for flows whose **Work Mode** is set to **Monitor** or **Insert** during publishment on the **Flow Orchestration** page in the intelligent IVR.
- Silent agents do not support the manual answering mode.

Procedure

When a user has a chat with the chatbot and the chatbot cannot identify the user's intent, the chatbot asks for help from a silent agent.

Figure 3-45 Multimedia silent agent page



3.7.10 Callback

During or after a text chat with a WhatsApp customer, an agent can initiate a voice session to contact the customer.

Prerequisites

- The agent is chatting with the customer through the WhatsApp channel.
- The **History** tab page contains WhatsApp customers with whom the agent has chatted.
- The agent is in one of the following states:
  - **Idle**
  - **Busy**
  - **Wrap-up**
- You have contacted the tenant administrator to configure the international crown code of the mobile number of the WhatsApp customer to be contacted to the AICC system.

  Path: **Configuration Center** > **System Management** > **Tenant Parameter** > **CCNotification** > **Telecom number**.

Procedure

Step 1 During a text chat with a customer:

1. Return to the online chat workbench.

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2. Click  in the upper part of the call message.

Step 2 After a text chat with a customer:

1. Open the online chat workbench.
2. Click **History** in the upper left corner.
3. Find the session record of the customer to be contacted.
4. Click  in the upper part of the call message.

----End

3.7.11 (Email) Sending an Email Using a Template

An agent can use configured email templates to reply to customers accessing through the email channel.

Context

The email templates that can be used by an agent is affected by the OU. The specific requirements are as follows:

- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the agent can view and send email templates of accessible OUs.
- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the agent can view and send email templates of the home OU, accessible OUs, and **Unorganized**.

Prerequisites

The tenant administrator has configured an email template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**.

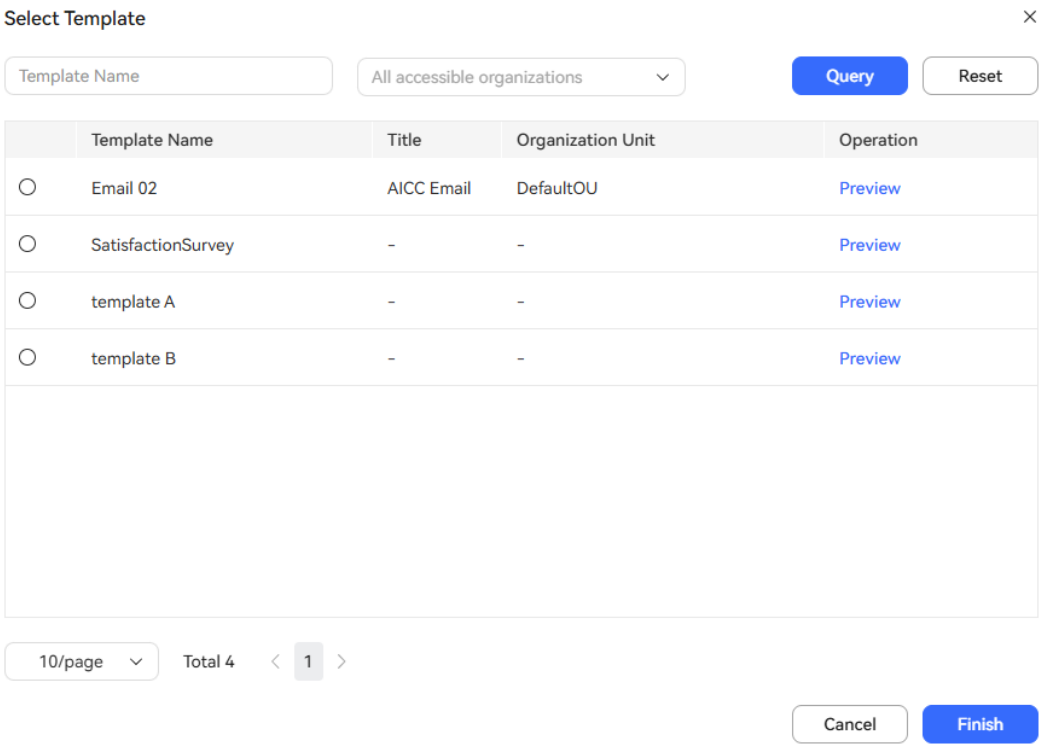
Procedure

Step 1 Select an email, and click **Reply**, **Reply All**, or **Forward** in the email details area on the right.

Step 2 Click **Reference Template** and select an email template from the list.

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Figure 3-46 Select Template page

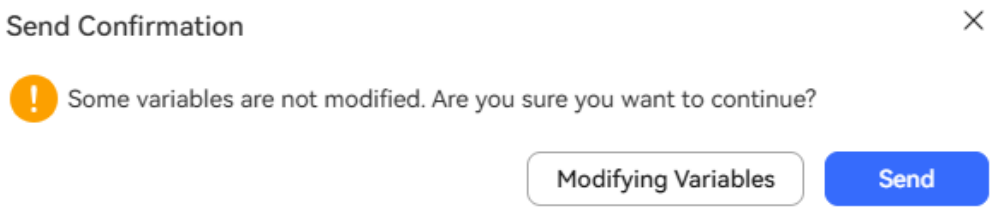


Click **Preview** to preview the template content.

Step 3 Click **Finish**.

Step 4 Change the default values of the variables based on site requirements and click **Apply** to replace the variable values in the email body.

If you do not change the default values of the variables, click **Send** after the following message is displayed.



Step 5 Set other parameters and click **Send** to send the email.

----End

3.7.12 (WhatsApp) Inviting Another Agent to Join a Group Chat

During a text chat with a customer, an agent can invite another agent to join the chat and chat with the customer together.

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Prerequisites

- The tenant has an available WhatsApp channel.
- The agent is chatting with the customer.
- The invited multimedia agent or versatile agent has signed in and is not in a group chat.

Context

- Call transfer is not allowed.
- Group chats can be initiated only for online sessions.
- Currently, group chats can be initiated only through the WhatsApp channel.
- If multiple agents are invited to a group chat, only the last invited agent is recorded in the session. Each invited agent has a contact record. Messages are displayed based on the joining and leaving time.
- The call transfer, call reason, and case creation functions are not supported on the workbench page of an invited agent.
- The **Agent Assistant** card is not displayed on the workbench page of an invited agent.

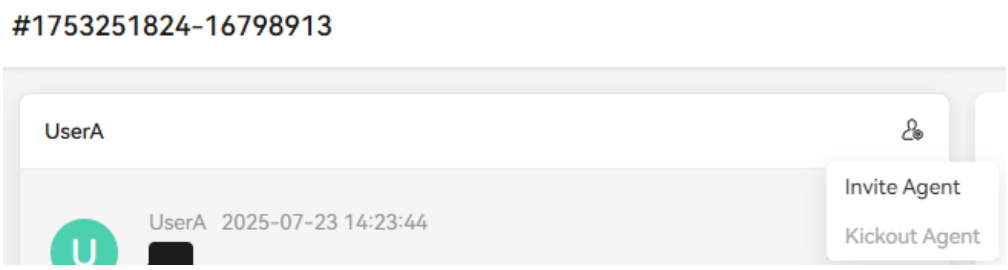
Procedure

Step 1 Establish a session with the customer.

Step 2 Invite an agent to join the group chat.

1. Click  and then **Invite Agent**. The **Invite Agent** page is displayed.

   Figure 3-47 Page for inviting an agent

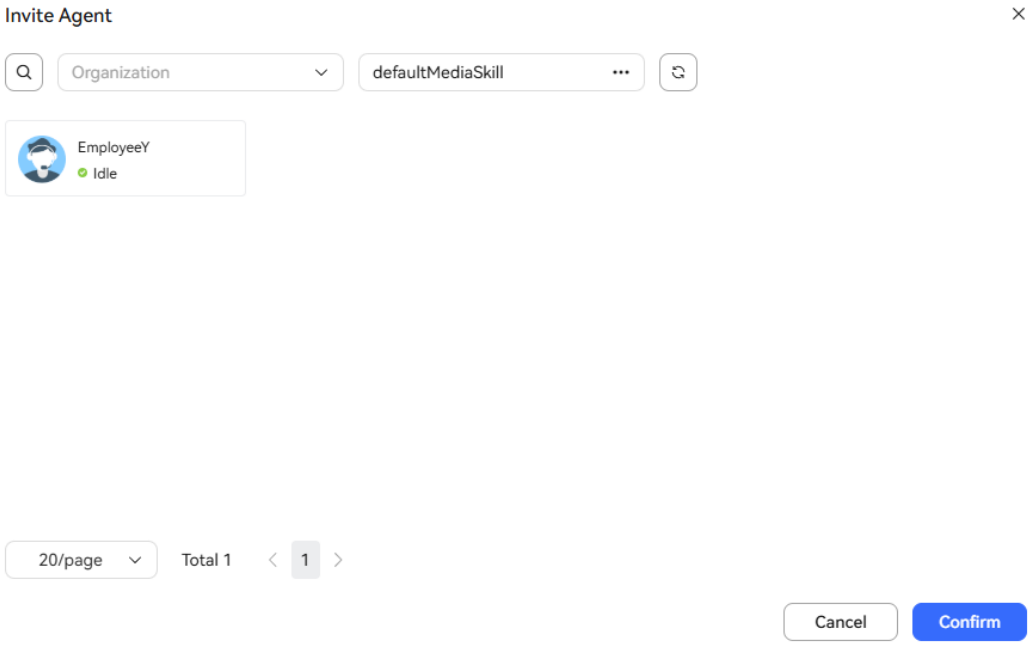
   

2. Select an agent to be invited by clicking the agent information.

   The agent can be queried by agent account, OU, or skill queue.

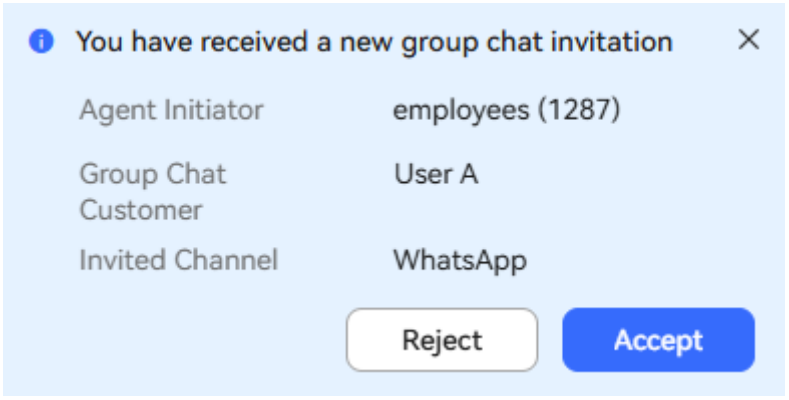
Copyright © Huawei Technologies Co., Ltd.

Figure 3-48 Invite Agent page



3. Click **Confirm** to send the group chat invitation and wait for the invited agent to respond.

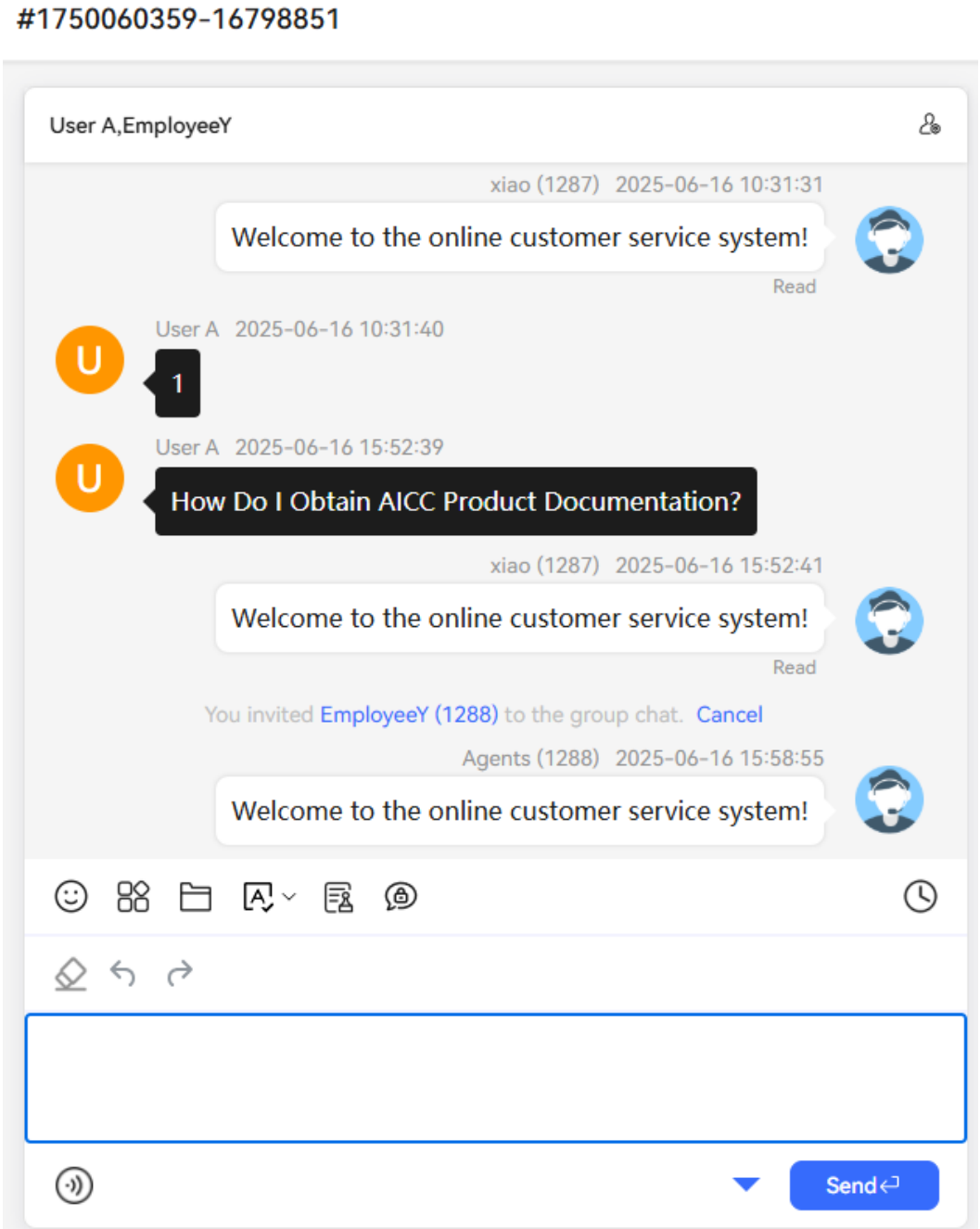
Figure 3-49 Page of an invited agent



If the invited agent accepts the group chat invitation, the pages of the two agents are displayed as follows.

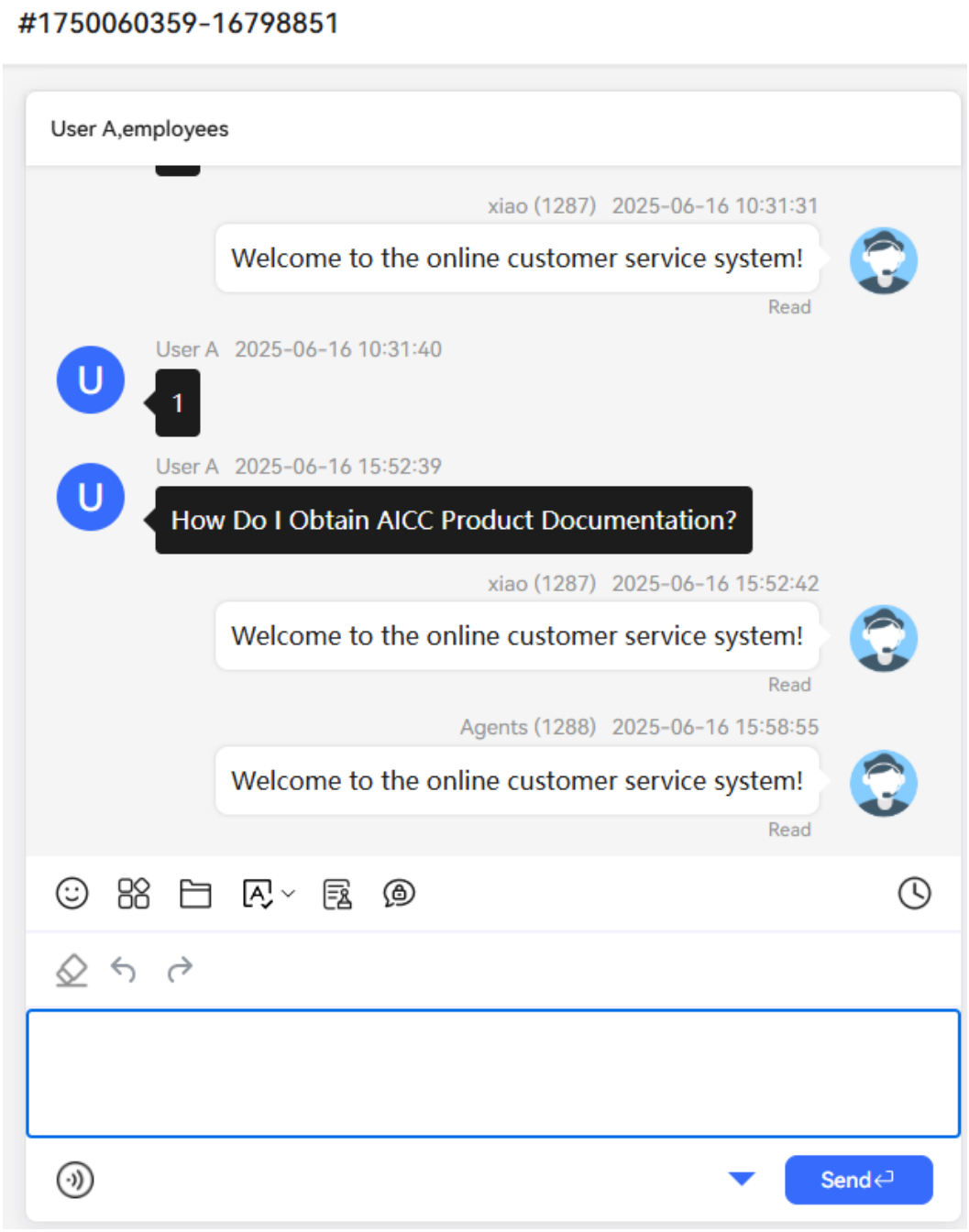
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Figure 3-50 Page of an invited agent joining a group chat



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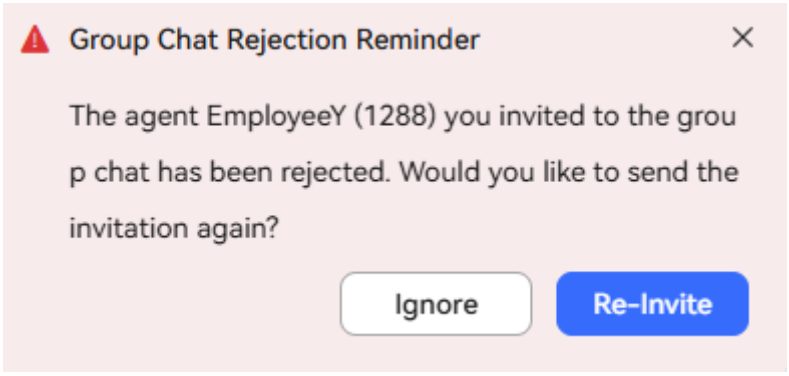
Figure 3-51 Page of an invited agent



If the invited agent rejects the group chat invitation, the page of the agent who sends the invitation is displayed as follows.

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Figure 3-52 Page indicating that an invited agent rejects the group chat invitation

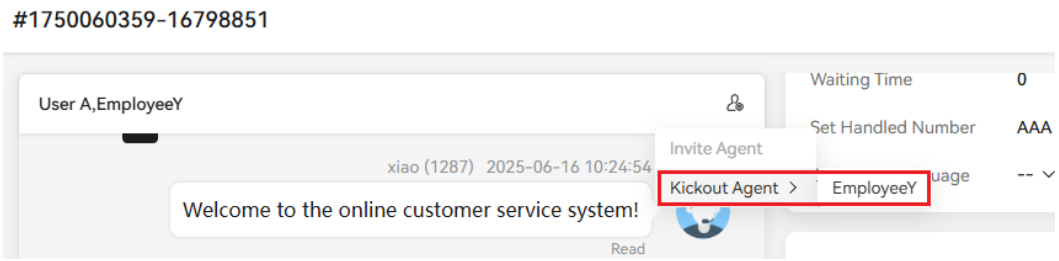


Click **Ignore** or **Re-Invite**.

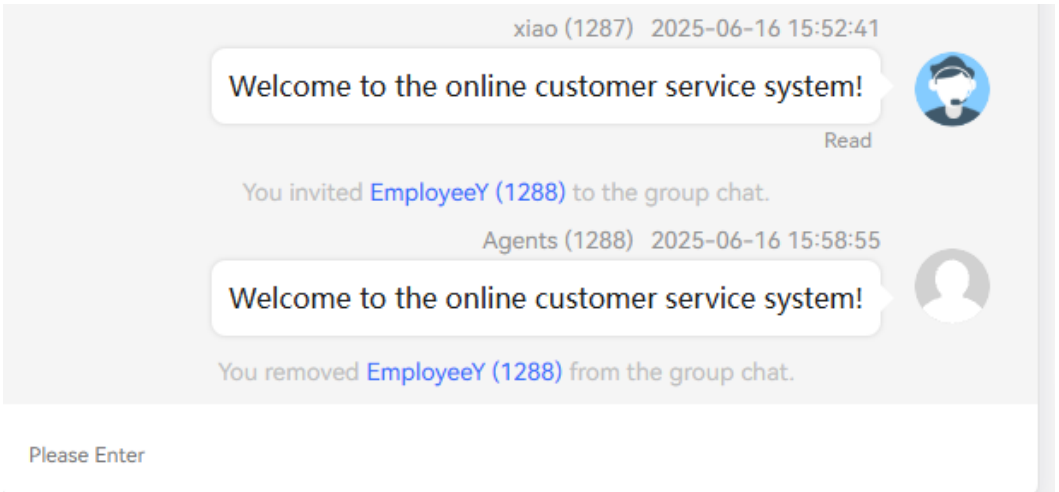
4. Click  to enable the private message function if the invited agent joins the group chat. The two agents can chat in text mode, which is not perceived by the customer.

Step 3 Remove the invited agent.

1. Click  .



2. Click **Kickout Agent** and then the account of the invited agent to remove the agent.



The avatar of the removed agent is dimmed in the session list.

----End

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3.8 Performing Other Agent Operations

This section describes other operations performed by an agent.

3.8.1 Searching for Contact Records on the Workbench

An agent can search for historical contact records.

Context

The latest 10 contact records are displayed on the voice and video workbench, and the latest nine contact records are displayed on the online chat workbench. Contact records can only be displayed by time.

Procedure

- Click  or  to go to the **Contact Details** page.

  On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer.

  NOTE

  The agent is in a conversation with the customer.

- Click **More** to go to the **History contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**.

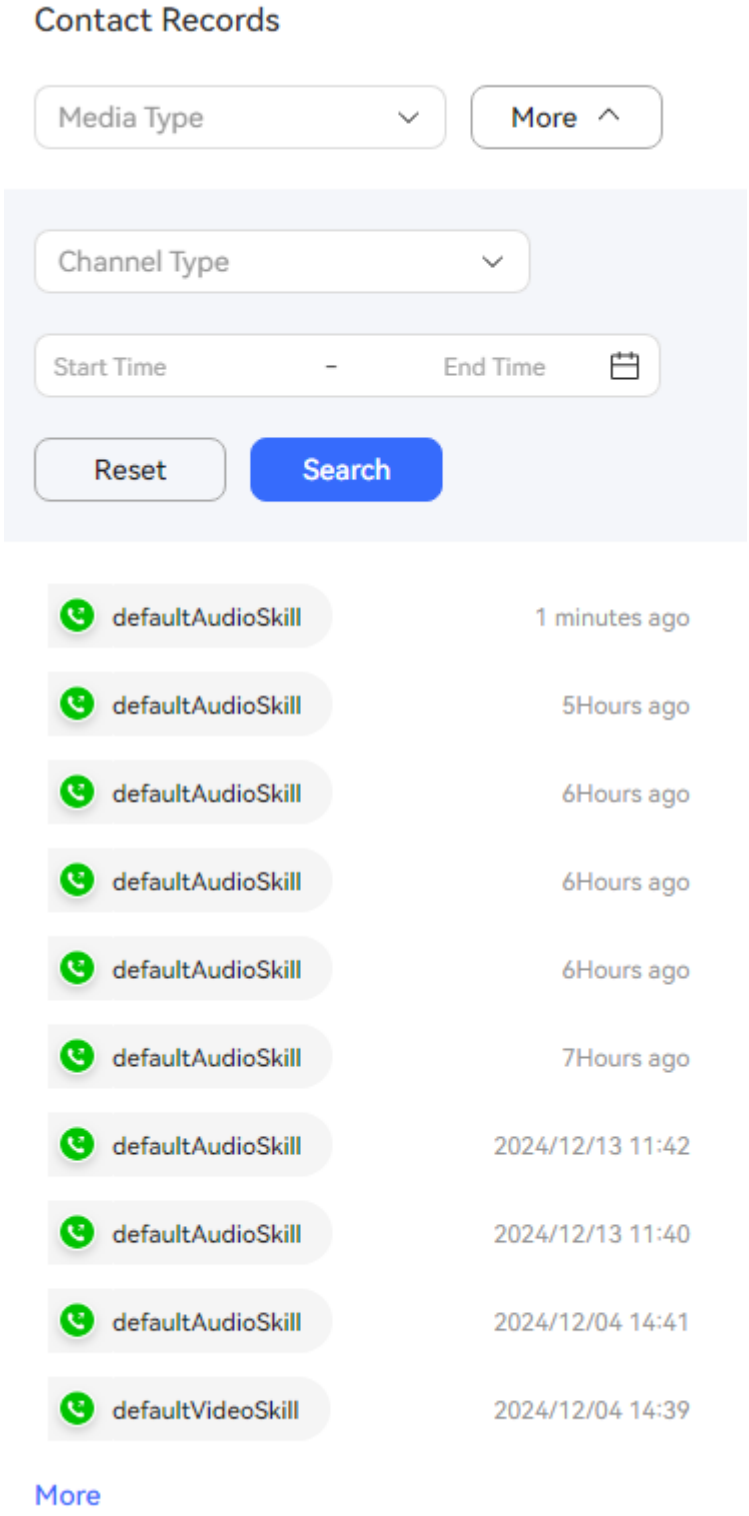
  Click a call SN and play the voice or video of a contact record. On the **Message Sending Record** tab page, click **Send** to send a multimedia message (SMS message, email, or WhatsApp message) to a customer.

  NOTE

  The agent is in a conversation with the customer.

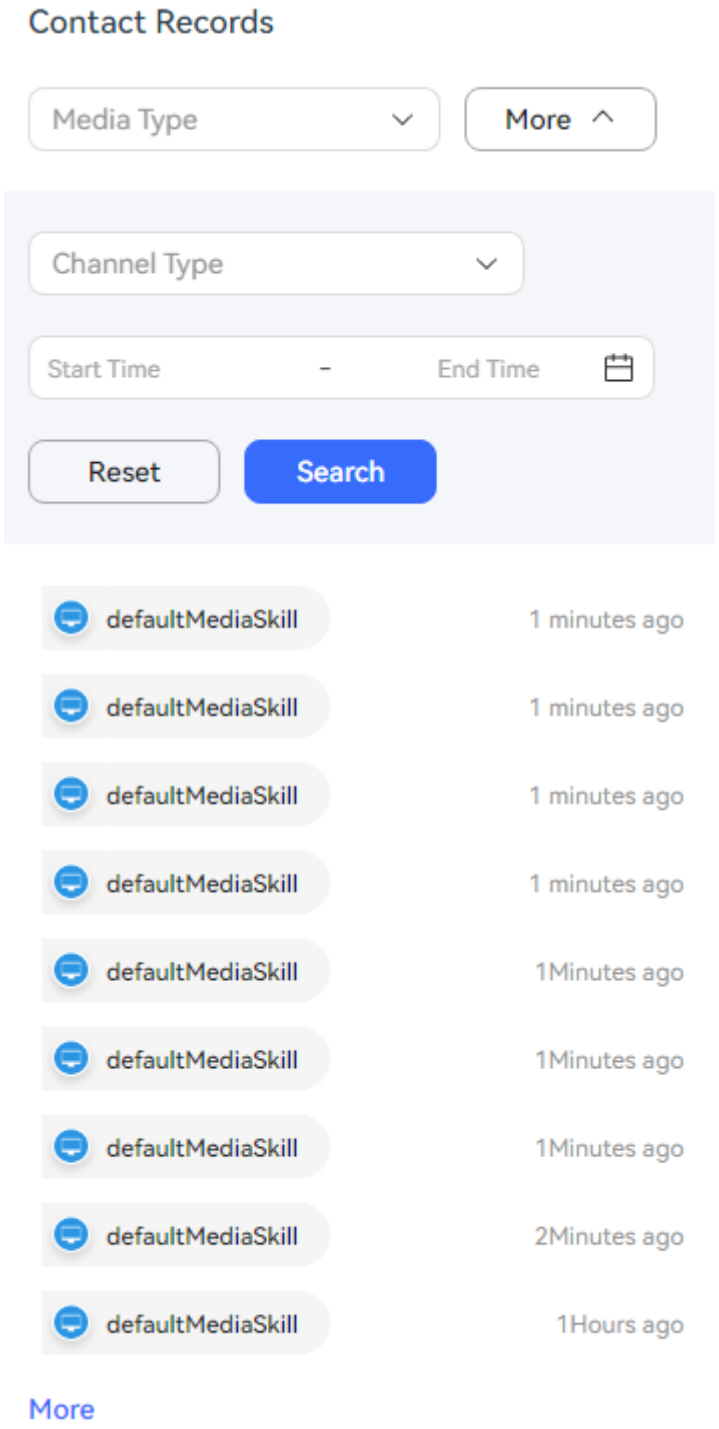
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Figure 3-53 Contact Records page (voice and video workbench)



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Figure 3-54 Contact Records page (online chat workbench)



3.8.2 Viewing Session Information

An agent can view session information.

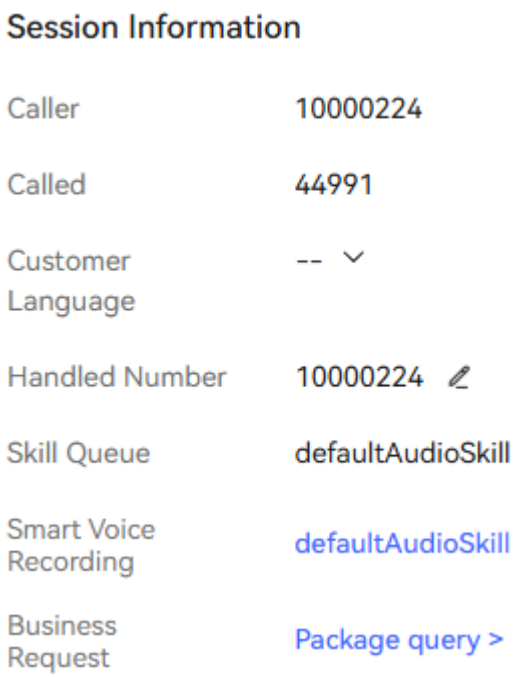
Copyright © Huawei Technologies Co., Ltd.

Context

- Session information, including the calling and called numbers of an inbound call, handled number, skill queue, customer language, business request, and smart voice recording, is displayed on the voice and video workbench.
- Session information, including the customer name and customer number in the access channel, customer access channel, skill queue, waiting time, handled number, and customer language, is displayed on the online chat workbench.

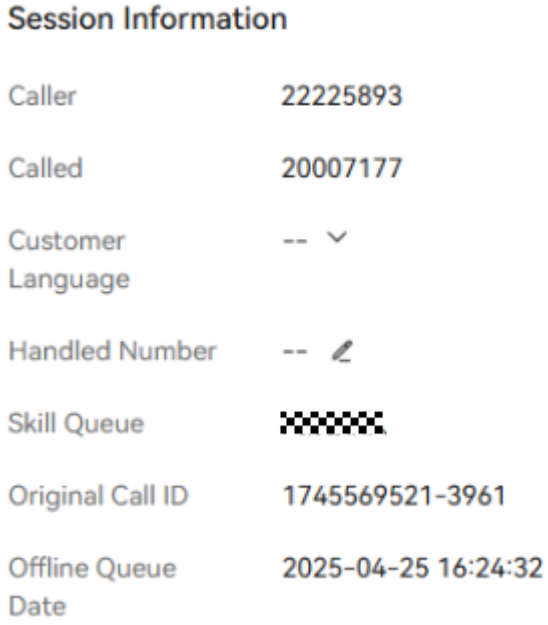
Procedure

Figure 3-55 Session Information page of the voice and video workbench



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Figure 3-56 Session Information page of the voice and video workbench (offline callback)



The customer language is displayed only after the parameter **Languages supported by the satisfaction survey** is set on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. You can click ∨ to set the customer language. The value of the customer language is the value of **Languages supported by the satisfaction survey**.

You can set a handled number of up to 24 characters to identify the service object.

If no handled number is set, the handled number is the same as the customer number.

The **Smart Voice Recording** button is displayed when a call is transferred from the intelligent robot to an agent. The agent can click the button to view details about the chat between the intelligent robot and customer.

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Figure 3-57 Smart Voice Recording details

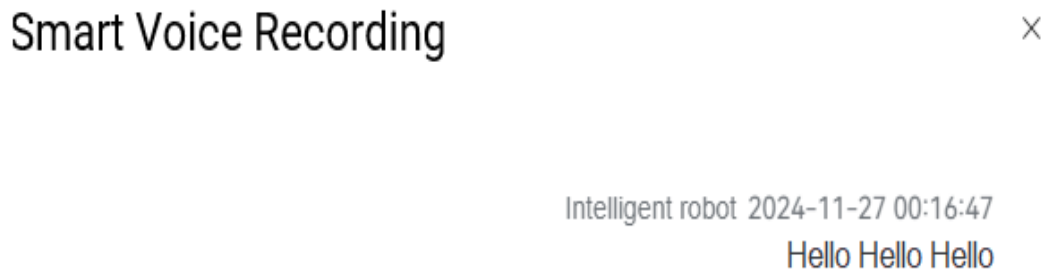
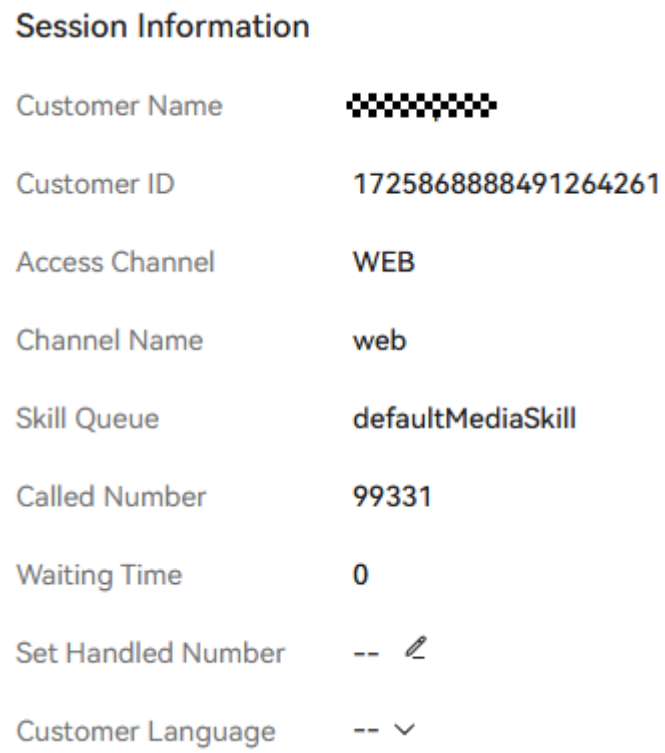


Figure 3-58 Session Information page of the online chat workbench



You can set a handled number of up to 50 characters to identify the service object.

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The customer language is displayed only after the parameter **Languages supported by the satisfaction survey** is set on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page. You can click ⌄ to set the customer language. Only the email channel does not support this function. The value of the customer language is the value of **Languages supported by the satisfaction survey**.

3.8.3 Setting the Handled Number

During a call, an agent can set the handled number to identify the service object.

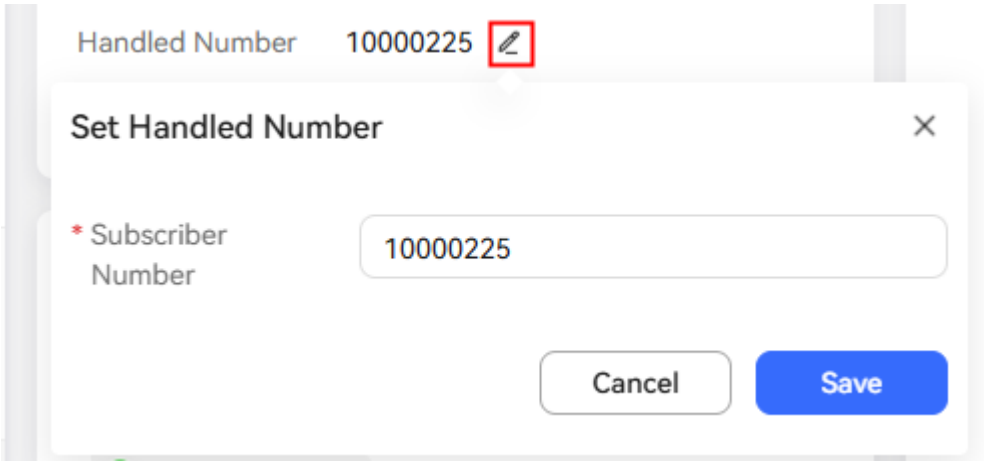
Context

If no handled number is set, the handled number is the same as the customer number.

Procedure

Click ✎ to set the handled number in the dialog box that is displayed. The handled number can contain a maximum of 50 characters.

Figure 3-59 Setting the handled number



3.8.4 Setting Call Reasons

An agent can set call reasons to identify the customer.

Context

The call reason of the customer is identified and displayed.

Procedure

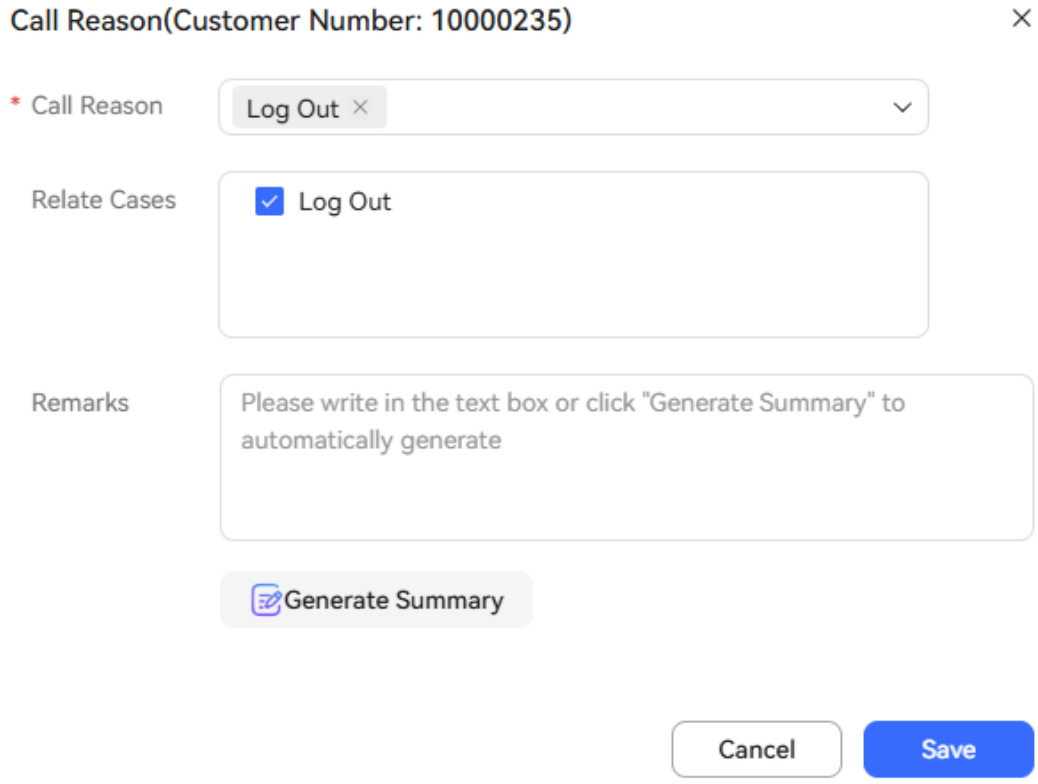
You can click Call Reason and select a call reason in the dialog box that is displayed. You can add call remarks as required. The remarks can contain a maximum of 2,000 characters.

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If any item under **Relate Cases** is selected, the **Create Case** page is displayed after you click **Save**. The **Relate Cases** area is displayed only when the **Case 2.0** feature is enabled.

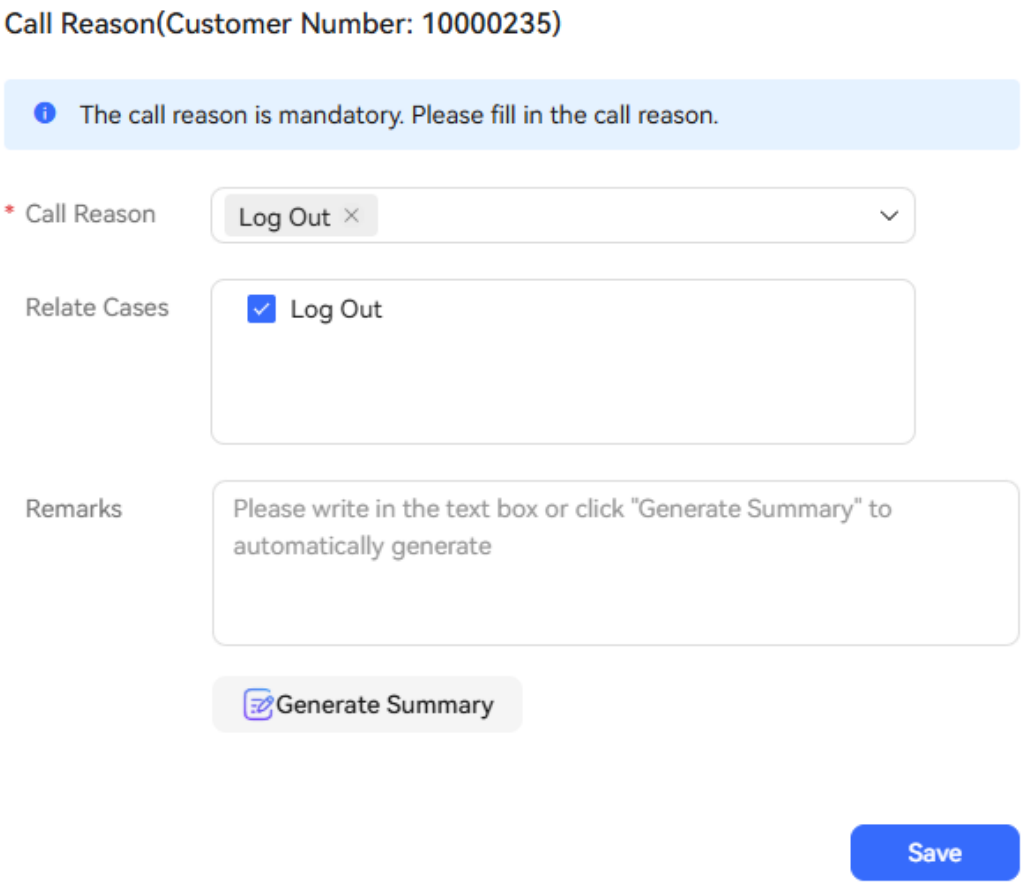
If the **Automatic Conversation Summary** feature is enabled for the tenant and **Automatic Session Summary** is enabled for an agent, Generate Summary is displayed when the agent configures a call reason on the workbench. Automatic session summarization analyzes conversations between agents and customers based on LLMs and generates session summaries, including whether problems are resolved and customer satisfaction levels, for the agents to view.

Figure 3-60 Call Reason page (with the tenant parameters **Indicates whether to set the call reason for customer contact.** and **Indicates whether to force the agent to enter the call reason.** both set to **Yes** and the session disconnected)



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Figure 3-61 Call Reason page (with the tenant parameters **Indicates whether to set the call reason for customer contact.** and **Indicates whether to force the agent to enter the call reason.** both set to **Yes** and the session disconnected)



If the tenant parameters **Indicates whether to set the call reason for customer contact.** and **Indicates whether to force the agent to enter the call reason.** are both set to **Yes**, the agent must enter the call reason and the **Cancel** button and the button in the upper right corner for closing the page are not displayed.

3.8.5 Setting the Online Chat Service Time

An agent can set working hours to maximize agent utilization.

Context

This section describes how to configure non-working days for agents to manage working hours on working days and non-working days.

The online chat service time allowed by an agent is affected by OUs. The specific requirements are as follows:

- When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the agent can view and set the online chat service times of accessible OUs.
- When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, the agent can view and set the

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online chat service times of the owning OU, accessible OUs, and **Unorganized**.

Procedure

Choose **Configuration Center** > **Workbench Configuration** > **Service Time**.

- Set **Select non-working days**.

  Select non-working days of each week from the selection box, which is valid every week.
- Set specified dates to non-working days.

  Add a rule to specified dates and set extra non-working days. For example, set October 1 to October 7 as non-working days.
- Set exceptional working days.

  Add a rule to set a day in a cycle or consecutive non-working days as a working day.

3.8.6 Configuring Personalized Common Phrases

Agents can configure personalized common phrases in advance to improve work efficiency.

Prerequisites

The editing operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the following operations are not supported for categories or common phrases: creation, editing, and deletion.

Procedure

Step 1 Choose **Configuration Center** > **Workbench Configuration** > **Common Phrase**.

Step 2 Click ⊕. In the dialog box that is displayed, enter a category name and click **Save**.

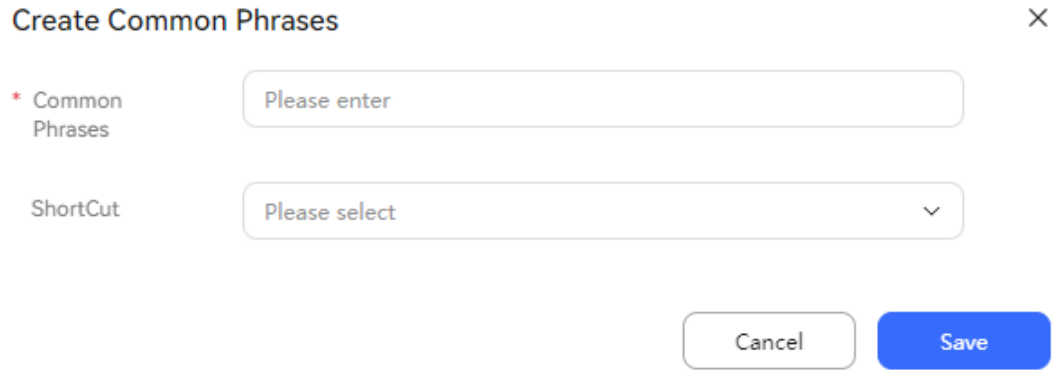
After the category name is created, you can perform the following operations:

- Click ✎ to update the category name.
- Click 🗑 to delete the category name.

Step 3 Select a common phrase category, click **Create** in the upper right corner, enter a common phrase, select a shortcut (optional), and click **Save**.

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Figure 3-62 Create Common Phrases

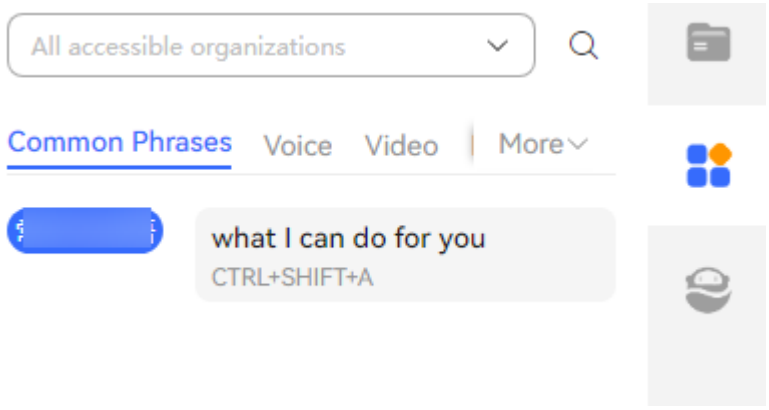


Step 4 Click **Save**.

----End

Follow-up Procedure

View the configured personalized common phrase and its shortcut in **Multimedia** on the right of the online chat workbench.



3.8.7 Sending Notifications

Agents can send internal messages and send multimedia messages (SMS messages, WhatsApp messages, or emails) during calls with customers.

Prerequisites

- To send Huawei Cloud SMS messages, contact the tenant administrator to purchase the Huawei Cloud SMS service and complete SMS configuration on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **HUAWEI CLOUD SMS** page by referring to **2.11.2 Configuring SMS Messages**. Huawei Cloud SMS requires that the server has the permission to access the external network.
- To send SMS gateway messages, contact the tenant administrator to configure sender SMS message numbers on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS sender ID configuration** page.
- To send conference link SMS messages:

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  - Contact the tenant administrator to configure sender SMS message numbers on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS sender ID configuration** page.
  - Contact the tenant administrator to configure the **Meeting_URL** variable on the **Configuration Center** > **Workbench Configuration** > **Notification Variables** page.
  - Contact the tenant administrator to create an SMS gateway message template whose **Notification Type** is **External Notification** on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. The SMS gateway message template must contain the **Meeting_URL** variable.
  - Contact the tenant administrator to configure the tenant parameter **Conference Link SMS Template**.
- To send SMS gateway messages and emails, contact the tenant administrator to configure the SMS and email gateways on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page.
- To send WhatsApp messages, contact the tenant administrator to configure the WhatsApp channel on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page.
- You have been granted the **Channel Configuration** > **Notification Center** > **Agent Send Notification** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Send an SMS message.

1. Click  on the **Call** page when answering a call or making an outbound call.
2. Send a Huawei Cloud SMS message.
   a. Click **Reference Template**. On the **Select Template** page that is displayed, select a configured Huawei Cloud SMS template whose **Notification Type** is **External Notification** and click **OK**.
   b. Enter a recipient number.
   c. Confirm the information and click **OK**.
3. Send an SMS gateway message.
   a. **Organization Unit**: Select an OU to which the gateway SMS message to be sent belongs.
   b. Click **Sender ID**, select a sender ID, and click **OK**.

      The sender ID is added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS sender ID configuration** page.
   c. (Optional) Click  next to **Reference Template**. On the **Select Template** page that is displayed, select a configured SMS gateway template whose **Notification Type** is **External Notification** and click **OK**.

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NOTE

After a template is referenced, you can modify the sender ID, recipient, and variable value, but cannot modify the content.

d. Enter a recipient number.

e. Enter the SMS gateway message content.

f. Confirm the information and click **OK**.

4. Send a conference link SMS message.

a. **Organization Unit**: Select an OU to which the conference link SMS message to be sent belongs.

b. Click **Sender ID**, select a sender ID, and click **OK**.

The sender ID is added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS sender ID configuration** page.

c. Enter a recipient number.

d. Click **OK**.

After the SMS message is sent successfully, the recipient can view the conference link in the SMS inbox and click the conference link to join the conference.

The conference link can be used only once. If the recipient exits the conference, a new conference link SMS message needs to be sent.

Step 3 Send an email.

1. Click on the **Call** page when answering a call or making an outbound call.

2. (Optional) Click next to **Reference Template**. Click **Select Template**. On the **Select Email Template** page that is displayed, select a configured email template and click **OK**.

NOTE

After a template is referenced, you can modify the outbox, recipient, and variable value, but cannot modify the content.

3. Set **Outbox** to the default email address configured on the **Gateway Configuration** page.

4. In the **Recipient** text box, enter the recipient email address.

5. In the **Title** text box, enter a title.

6. (Optional) Click , select a local file as the email attachment, and click **Upload**.

The supported file formats are DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, PPTX, and PDF.

The file size cannot exceed 10 MB. A maximum of 10 files can be uploaded.

7. Enter the email content.

8. Confirm the information and click **Send**.

Step 4 Send a WhatsApp message.

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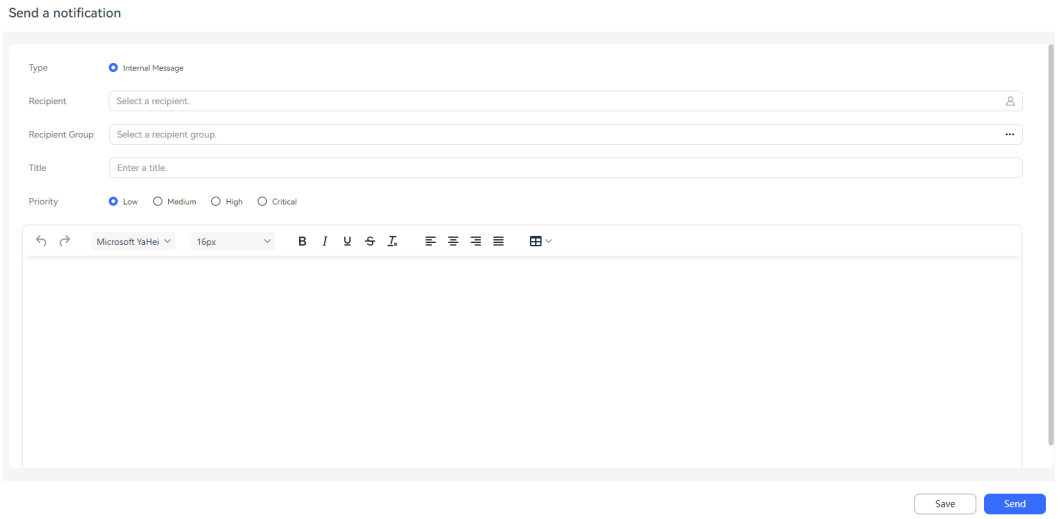
1. Click on the **Call** page when answering a call or making an outbound call.
2. **Recipient**: Select a country and enter a mobile number.
3. **Organization Unit**: Select an OU to which the WhatsApp message to be sent belongs.
4. Set **WhatsApp Channel** to a WhatsApp channel.
5. Click **WhatsApp Message Template**, select a WhatsApp template message created on the **Configuration Center** > **Resource Management** > **Multimedia Library** > **Card Template** > **WhatsApp Template Message** page, and click **Complete**.

   Before creating a WhatsApp template message, create a WhatsApp template on the **Configuration Center** > **Resource Management** > **WhatsApp Template** page.
6. Confirm the information and click **Send**.

Step 5 Send an internal message.

1. Click . On the **Notification Center** page, click Send notification.

   Figure 3-63 Send a notification

2. Configure the notification content.
   - **Type**: Select **Internal Message**.
   - **Recipient's Organization**: Select an OU to which the recipient belongs.

     This parameter can be configured only when the following requirements are met:

     - The **Administrator Send Notification** permission in **Notification Center is not configured** for the current account.
     - Configure the OU permission for the current account by referring to either of the following methods:
       - Configure the read permission for the corresponding accessible OU on the **Employee Info** page for the current account.

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- Configure the current account as the manager of the selected OU or the manager of the OU at the same level as the selected OU.

– **Recipient**: Click **Recipient**. In the **Recipient** dialog box, select a recipient and click **Complete**.

NOTE

Assign the **Query User** and **Save Employee** permissions under **Menu permissions** > **User Management** > **User Management** > **Employee** to the agent who needs to send internal messages. Otherwise, the agent cannot select recipients.

OU role:

- This parameter can be selected when **Recipient's Organization** can be selected.
  - **Common agent**: Select a common business account that **has been bound to an agent ID** under the selected **Recipient's Organization**.
  - **Organization administrator**: Select an administrator business account under the selected **Recipient's Organization** and the OU at the same level.
- This parameter is not displayed when **Recipient's Organization** cannot be selected.

– **Recipient Group**: Click **Recipient Group**. In the **Recipient Group** dialog box, select a recipient group and click **Complete**.

– **Title**: Enter a notification title. The value can contain a maximum of 200 characters.

– **Priority**: Select a notification urgency level. The options are **Low**, **Medium**, **High**, and **Critical**.

– Notification content: Enter the notification content.

3. Click **Send** to send an internal message.
4. (Optional) Click **Save** to save the internal message as a draft.

----End

3.8.8 Viewing Skill Queue Adjustment Records

An agent or a tenant administrator can query skill queue adjustment details.

Prerequisites

- The agent has the **Reset Skill Record** menu permission.
- The agent's skill queue has been adjusted by referring to **Follow-up Procedure**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Work Log** > **Adjustment Log**.

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Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 3-64 Adjustment Log page

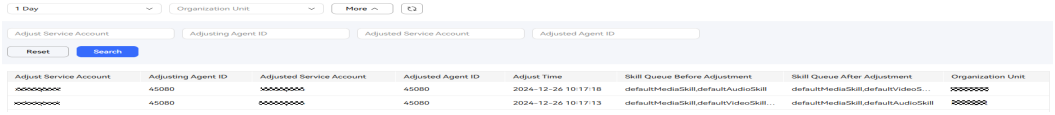


Table 3-10 GUI elements on the Adjustment Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for skill queue adjustment records of sub-OUs. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, **Unorganized** and all OUs are available.
More	Button	Expand advanced search criteria.
Adjust Service Account	Text box	Advanced search criterion. • Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjusting Agent ID	Text box	Advanced search criterion. • ID of the agent who adjusts a skill queue. • Agent ID of an inspector.

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Element	Type	Description
Adjusted Service Account	Text box	Advanced search criterion. • Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent ID	Text box	Advanced search criterion. • ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Reset	Button	Reset search criteria.
Search	Button	Search for skill queue adjustment records.
	Button	Search for data based on search criteria again and refresh data on the page.
Adjust Service Account	Label	• Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjusting Agent ID	Label	• ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Label	• Business account of the agent whose skill queue is adjusted. • Business account of the agent whose skill queue is adjusted by an inspector.
Adjusted Agent ID	Label	• ID of the agent whose skill queue is adjusted. • ID of the agent whose skill queue is adjusted by an inspector.
Adjust Time	Label	Time when a skill queue is adjusted.
Skill Queue Before Adjustment	Label	Skill queue to which an agent has signed in before skill queue adjustment.
Skill Queue After Adjustment	Label	Skill queue to which an agent signs in after skill queue adjustment.

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Element	Type	Description
Organization Unit	Label	OU to which an agent belongs.

----End

3.8.9 Viewing Identity Authentication Records

An agent or a tenant administrator can query identity authentication details.

Prerequisites

The agent has the **Identity Authentication Record** menu permission.

Procedure

Step 1 Sign in to the AICC as an agent or a tenant administrator and choose **Work Log** > **Auth Log**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

Figure 3-65 Auth Log page

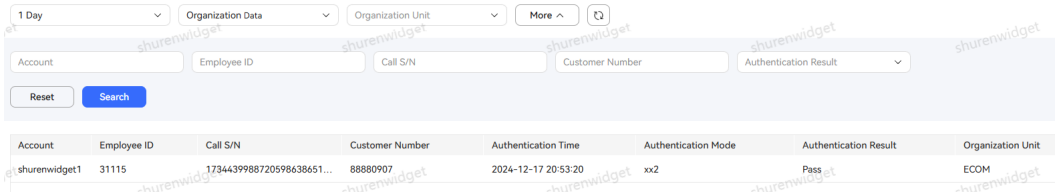


Table 3-11 GUI elements on the Auth Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**

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Element	Type	Description
Data scope	Drop-down list	Date scope of identity authentication records. Search criterion. The options are as follows: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to search for all identity authentication records, to view all OU data, and to edit all OU data are not granted.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for the identity authentication records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permission to search for all identity authentication records is granted, **Unorganized** and all OUs are available.
More	Button	Expand advanced search criteria.

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Element	Type	Description
Account	Text box	Business account of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	ID of the agent who performs identity authentication. Advanced search criterion. Whether this parameter is displayed is determined by the **Querying All Authentication Records** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Call S/N	Text box	Call SN. Advanced search criterion.
Customer Number	Text box	Customer number. Advanced search criterion.
Authentication Result	Drop-down list	Advanced search criterion. • **Not returned** • **Pass** • **Fail** • **Error**
Reset	Button	Reset search criteria.
Search	Button	Search for identity authentication records.
	Button	Search for data based on search criteria again and refresh data on the page.
Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	ID of the agent who performs identity authentication.
Call S/N	Label	Call SN.
Customer Number	Label	Customer number.

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Element	Type	Description
Authentication Time	Label	Time when identity authentication is performed.
Authentication Mode	Label	Identity authentication mode.
Authentication Result	Label	Identity authentication result. • **Not returned** • **Pass** • **Fail** • **Error**
Organization Unit	Label	OU to which an agent belongs.

----End

3.8.10 Performing Identity Authentication

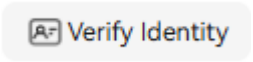
During a call with the customer, an agent can initiate an authentication process to authenticate the customer identity.

Prerequisites

To send identity authentication requests, the tenant administrator has configured and enabled identity authentication modes on the **Configuration Center** > **Expansion and Integration** > **Authenticate** page.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Click 

on the **Call** page when answering a call or making an outbound call.

The identity authentication record can be queried on the **Work Log** > **Auth Log** page.

----End

3.8.11 Viewing Customer Information

An agent can view customer information on the audio and video workbench.

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Context

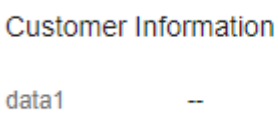
The agent workbench displays information about the customer who makes the inbound call according to the configuration on the **Contact Customer Information Area** tab page. The data sources of this area are as follows:

- Call-associated data
- Information dataset (data of the connected outbound call API)
- Local data (customized data table)

Procedure

After a customer makes an inbound call, the audio and video workbench displays the customer information.

Figure 3-66 Customer Information



3.8.12 Managing Documents

An agent can search for documents of the current tenant space by page based on criteria, or invalidate, preview, or download documents.

Prerequisites

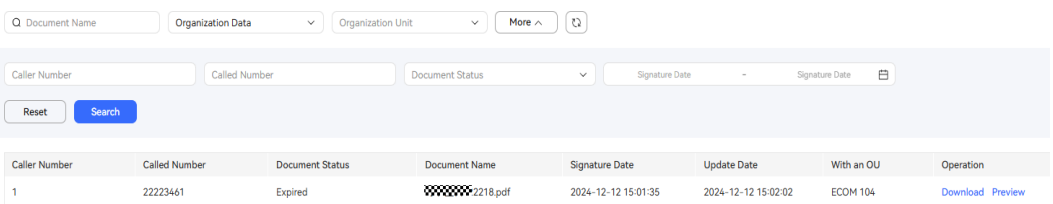
- The agent must have the **Document Management** menu permission and the **Download Document**, **Preview Document**, and **Operation All Documents** operation permissions.
- Operations in **3.7.3 (WhatsApp) Sending an Electronic Document Link** have been completed.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 3-67 Document Management page



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Table 3-12 GUI elements on the Document Management page

Element	Type	Description
Document Name	Text box	Document name.
Data scope	Drop-down list	Date scope of document information. Search criterion. The options are as follows: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to operate all documents, to view all OU data, and to edit all OU data are not granted.

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Element	Type	Description
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for document information of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. The options are as follows: ● Tenant administrator: **Unorganized** and all OUs under the current tenant are available. ● Common agent: – If the permission to operate all documents is granted or the permissions to view all OU data and to edit all OU data are granted, **Unorganized** and all OUs are available. – If the permissions to operate all documents, to view all OU data, and to edit all OU data are not granted: ▪ When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs are available. ▪ This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**.
Caller Number	Text box	Advanced search criterion. ● When an agent initiates a call, the calling number is an access code. ● When a customer initiates a call, the calling number is a customer number.
Called Number	Text box	Advanced search criterion. ● When an agent initiates a call, the called number is a customer number. ● When a customer initiates a call, the called number is an access code.

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Element	Type	Description
Document Status	Drop-down list	Document status. Advanced search criterion. • **Unsigned** • **Signed** • **Expired**
Signature Date	Drop-down list	Signature date. Advanced search criterion.
Reset	Button	Reset search criteria.
Search	Button	Search for document management records.
	Button	Search for data based on search criteria again and refresh data on the page.
Caller Number	Label	• When an agent initiates a call, the calling number is an access code. • When a customer initiates a call, the calling number is a customer number. The calling number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.
Called Number	Label	• When an agent initiates a call, the called number is a customer number. • When a customer initiates a call, the called number is an access code. The called number can be displayed anonymously. If the **User numbers are displayed in plaintext** permission is available, the number is displayed in plaintext. Otherwise, the number is displayed anonymously. By default, a tenant administrator has the **User numbers are displayed in plaintext** permission. If anonymous display is required, you are advised to create a tenant administrator role, deselect the **User numbers are displayed in plaintext** permission for the role, and assign it to the tenant administrator.

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Element	Type	Description
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Document Name	Label	Document name.
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.
With an OU	Label	OU to which an agent belongs. Value options: **Unorganized** and all OUs under the current tenant.
Operation	Label	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. **NOTE** The downloaded documents contain personal data. Exercise caution when handling the downloaded documents to prevent personal data leakage and abuse. • **Preview** Select the document to be previewed and click **Preview**.

----End

3.8.13 Creating Harassment Records

Context

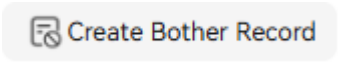
In the following scenarios, an agent can create a harassment record for a customer and submit the record to the tenant administrator or other personnel with the permission for review. After the record is approved, the customer is added to the special list.

- An agent is in a two-party voice or video call with a customer.
- An agent is in an SMS or email chat with a customer.
- An agent views the SMS or email session history on the online chat workbench.

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Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Click 

on the workbench page during a conversation with a customer.

- **Special List Type**: The options are **Black List** and **Red List**.
- **Reason for Joining**: The value can contain a maximum of 1024 characters.

  NOTE

  - Customers who behave uncivilly can be added to the blacklist.
  - VIP customers can be added to the redlist.

Step 3 Click **Save**.

To query harassment records, choose **Configuration Center** > **Resource Management** > **Harassment Record**.

----End

3.8.14 Viewing Customer Center Information

The **Customer Center** card on the workbench displays the basic information, call information, and contact records. An agent can edit the basic information of the customer center on the voice and video workbench and online chat workbench during or after a session with a customer.

Prerequisites

- The **Customer Center** feature has been enabled for the tenant.
- This card is displayed only when the tenant parameter **Display Unified Customer Contact Information** is set to **Yes** and the **Customer Center** card is added to the workbench.

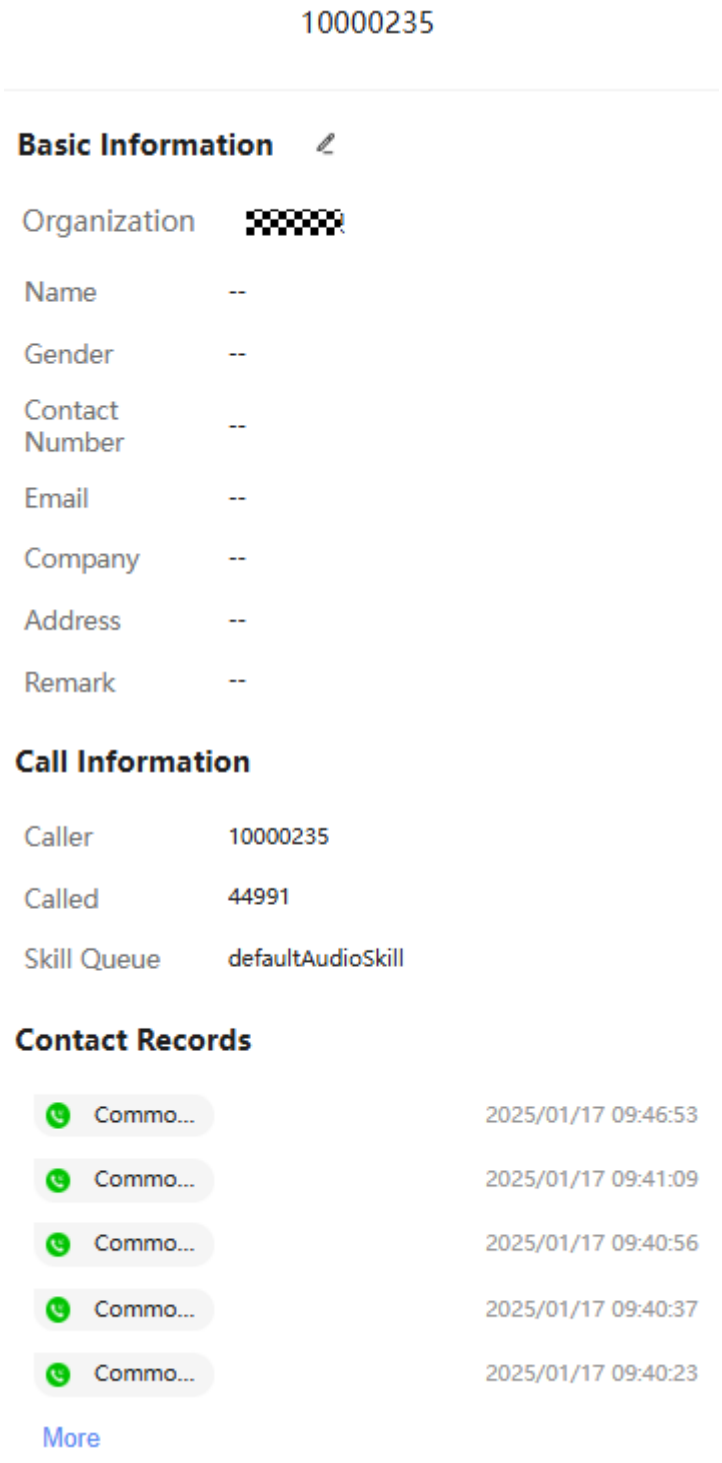
Procedure

Step 1 Check the **Customer Center** card on the workbench during a session between an agent and a customer.

Step 2 View the customer center information.

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Figure 3-68 Customer center card (voice and video workbench)



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Figure 3-69 Customer center card (online chat workbench)

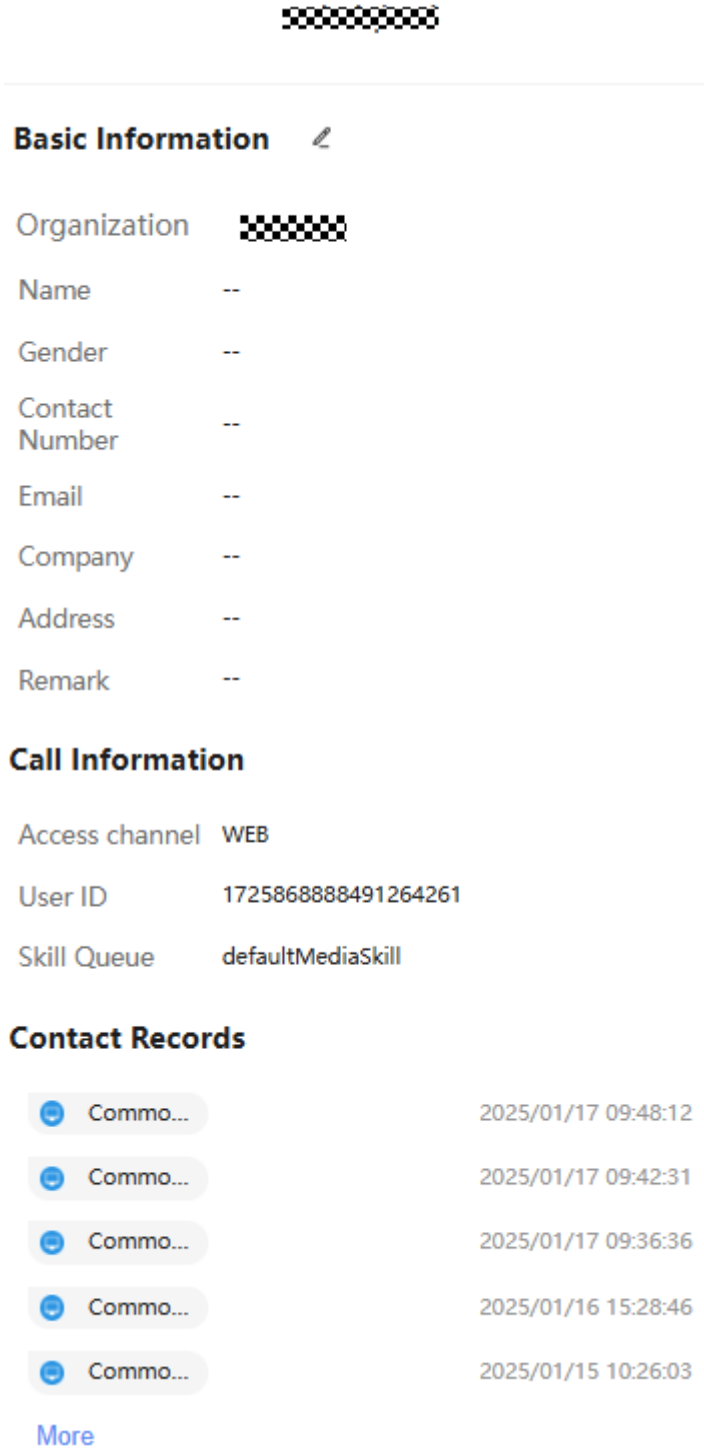


Table 3-13 GUI elements on the Customer Center card page

Element	Type	Description
10000235	Label	Customer number.

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Element	Type	Description
Basic Information		
	Button	Edit basic information. The **Delete** button is not displayed when the write permission on the OU to which the current customer belongs is not available. This button is not displayed when the **Edit Contacts** operation permission under the **Customer Center Management** menu permission is not granted.
Organization	Label	OU to which a customer belongs. If the system parameter **SCDomain** on AppCube is empty, AppCube is not integrated with the AICC. In this case, this parameter is not displayed.
Name	Label	Customer name.
Gender	Label	Customer gender.
Contact Number	Label	Customer mobile number.
Email	Label	Customer email address.
Company	Label	Company to which a customer belongs.
Address	Label	Contact address of a customer.
Address Detail	Label	Detailed contact address of a customer.
Remark	Label	Customer information description.
Call Information		
Caller	Label	Calling number.
Called	Label	Called number.
Access channel	Label	Access channel.
User ID	Label	User ID.
Skill Queue	Label	Skill queue.
Contact Records		
 	Label	Display the latest five contact records by time.

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Element	Type	Description
More	Button	Click **More** to go to the **History Contacts** page, showing the contact records generated for the current handled number within the number of days specified by the tenant parameter **Time Span for Contact Record Query**.

Step 3 Click to configure the basic information of the customer center.

Table 3-14 GUI elements on the page for configuring basic information

Element	Type	Description
Organization	Label	OU to which a customer belongs. If the system parameter **SCDomain** on AppCube is empty, AppCube is not integrated with the AICC. In this case, this parameter is not displayed.
Name	Text box	Customer name. The value is a string of 0 to 80 characters.
gender	Option button	Customer gender. • **Male** • **female** • **Information not available**
Phone	Text box	Customer mobile number. Click on the right to add a mobile number. A maximum of five mobile numbers can be configured. The value is a string of 0 to 20 characters.
Email	Text box	Customer email address. Click on the right to add an email address. A maximum of two email addresses can be configured. The value is a string of 0 to 128 characters.
Company	Text box	Company to which a customer belongs. The value is a string of 0 to 80 characters.
Address	Drop-down list	Contact address of a customer.

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Element	Type	Description
AddressDetail	Text box	Detailed contact address of a customer. The value is a string of 0 to 80 characters.
Remark	Text box	Customer information description. The value is a string of 0 to 80 characters.

Step 4 Click **Create**.

After the customer information is created, you can query it on the **Customer Center** > **Customer Center Management** page.

----End

3.8.15 Searching for Sign-in Logs

An agent or tenant administrator can search for and export agent sign-in and sign-out logs.

Prerequisites

The agent has the permission to export sign-in logs.

Procedure

Step 1 Sign in to the AICC as an agent or a tenant administrator and choose **Work Log** > **Sign-In Log**.

Step 2 Set search criteria to search for sign-in logs based on the criteria.

Figure 3-70 Sign-In Log page

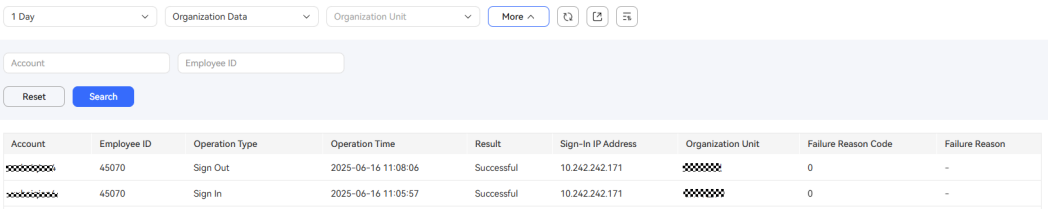


Table 3-15 GUI elements on the Sign-In Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**

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Element	Type	Description
Data scope	Drop-down list	Date scope of sign-in logs. Search criterion. The options are as follows: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to search for all sign-in logs, to view all OU data, and to edit all OU data are not granted.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for sign-in logs of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permission to search for all sign-in logs is granted, **Unorganized** and all OUs are available.
More	Button	Expand advanced search criteria. Whether this button is displayed is determined by the **Query ALL Sign-In Log** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.

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Element	Type	Description
Account	Text box	Business account. Advanced search criterion. Whether this parameter is displayed is determined by the **Query ALL Sign-In Log** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	Agent ID. Advanced search criterion. Whether this parameter is displayed is determined by the **Query ALL Sign-In Log** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Reset	Button	Reset search criteria. Whether this button is displayed is determined by the **Query ALL Sign-In Log** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.
Search	Button	Search for sign-in logs based on search criteria. Whether this button is displayed is determined by the **Query ALL Sign-In Log** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Add a sign-in log export task.
	Button	View sign-in log export tasks.
Account	Label	Business account.
Employee ID	Label	Agent ID.
Operation Type	Label	Operation type. • **Sign Out** • **Forcible Sign In** • **Forcible Sign Out** • **Sign In**
Operation Time	Label	Operation time.

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Element	Type	Description
Result	Label	Operation result. • **Successful** • **Failed**
Sign-In IP Address	Label	IP address of the PC for signing in to the AICC.
Organization Unit	Label	OU to which an agent belongs.
Failure Reason Code	Label	Failure cause code.
Failure Reason	Label	Reason for sign-in or sign-out failure.

Step 3 Export sign-in logs.

1. Click  . The **New Export Task** dialog box is displayed.
2. Enter a customized compression password.

   The compression password must contain letters, digits, and the following special characters: @#$%^&*+|=~!?,.:;-_'"(){}[]/><

   The compression password is a string of 8 to 12 characters.

   If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.

   You can click  to view the plaintext password.
3. Click **OK**.

Step 4 View export tasks.

1. Click  . The **Export Task View** dialog box is displayed.
2. Download the sign-in logs of a task whose **Task Status** is **Success**.
3. After the download is successful, open the exported file and enter the compression password to view the exported sign-in logs.

   If the tenant parameter Whether to set a password for compressing exported data is set to **No**, you can directly open the file without entering the compression password.

----End

3.8.16 Performing Screen Recording for Agents

After an agent installs the VRC client on the local PC, the AICC automatically starts the screen recording task when the agent status changes from the idle state

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to the state processing voice and video calls. After the call is released, the system automatically stops the screen recording.

Prerequisites

The screen resolution must meet the following requirements:

The resolution is within the range from 1024 pixels x 768 pixels to 1920 pixels x 1080 pixels based on the actual aspect ratio of the screen. The width resolution must be a multiple of 4, and the height resolution must be a multiple of 2. Otherwise, screens cannot be recorded.

It is recommended that the resolution be 1920 pixels x 1080 pixels to ensure screen recording clarity.

Procedure

Step 1 Install the VRC client.

1. Sign in to the AICC as an agent.
2. Click the business account in the upper right corner of the page and choose **Personal Center**.
3. On the **Agent Info** tab page, click **Download VRC** to obtain the VRC installation package.
4. Decompress the VRC installation package **VRC.zip** on the local PC.

   It is recommended that the **Client_update_pack** directory be a level-2 directory. The path cannot be too long and cannot contain Chinese characters.
5. Right-click **VRCService\Client_update_pack\client_update_script.bat** and choose **Run as administrator**.
6. Create a shortcut for the VRC application.
   a. Go to the **VRCService** folder, for example, **D:\VRCService**.
   b. Right-click the **vrc_service_tray.exe** file and choose **Create shortcut**. The **vrc_service_tray.exe - Shortcut** file is generated.
7. Configure the VRC to automatically start upon system startup.
   a. Open the system startup directory. Windows is used as an example:
      i. Press **Win+R** to open the **Run** window.
      ii. Enter **shell:startup** and click **OK**.
   b. Copy the **vrc_service_tray.exe -Shortcut** file generated in **Step 1.6** to the startup directory.
8. Change the local port number of the VRC.
   a. Edit the **D:\VRCService\vrc.ini** file.
   b. Add or modify the information as follows under **[common]**:

      ```
      ListenPort = 8024
      LocalIP = 10.10.10.1
      ```

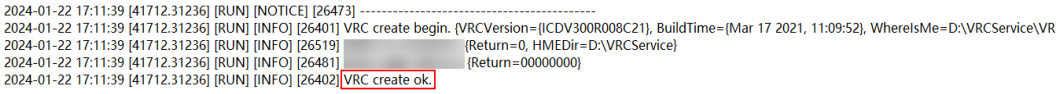
      - The port number must be available. Run the **netstat -ano | findstr :8024** command in the CLI on Windows to check whether the port number is occupied. The port number must be the same as the value of the tenant parameter **VRC WebSocket Port**.

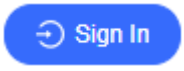
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- **LocalIP**: Enter the local IP address of the VRC client.

9. Right-click on the taskbar of the desktop and choose **Task Manager** to open the task manager and click the **Startup** menu. If **vrc_service_tray** is displayed, the VRC is successfully configured to automatically start upon system startup.
10. During the first startup, run **vrc_service_tray** as an administrator and view the **vrc.log** file. The information shown in **Figure 3-71** is displayed.

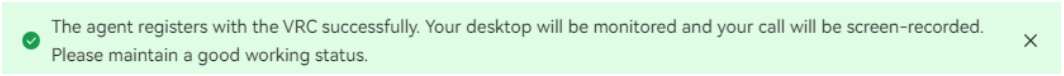
Figure 3-71 Successful startup



Step 2 Log in to the AICC as an agent and click 

.

After the sign-in is successful, the following dialog box is displayed.



----End

Follow-up Procedure

Step 1 Initiate a voice call and a video call.

Step 2 Choose **Contact History** > **Contact** in the AICC.

Step 3 Find the contact records of the voice and video calls.

Step 4 After you click **Play** in the **Recording File** column corresponding to the contact record of the voice call, the agent's screen operation video is displayed.

Step 5 After you click **Play** in the **Recording File** column corresponding to the contact record of the video call, the **Recording File Details** dialog box is displayed. Then, after you click **Play** corresponding to the record whose **Media Type** is **VRC**, the agent's screen operation video is displayed.

----End

3.8.17 SmartCare Fault Demarcation

Context

- If the inbound customer on the audio and video workbench is a customer with common issues, a SmartCare quick fault demarcation task is automatically created. The agent can also manually create a SmartCare quick fault demarcation task on the audio and video workbench and online chat workbench.
- If the problem of the customer is not solved through quick demarcation, the agent can create an in-depth demarcation task on the audio and video workbench and online chat workbench.

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Prerequisites

- The SmartCare feature has been enabled for the tenant.
- The language used by the tenant is within the value range of the system parameter **Languages supported by the SmartCare**.
- The system has been interconnected with SmartCare. For details, see **2.3.3.16 Configuring SmartCare Integration Information**.
- The **Case 2.0** feature has been enabled for the tenant before an in-depth demarcation task is created.
- The **SmartCare Fault Boundary** card is added to the workbench.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Create a SmartCare quick fault demarcation task.

1. During a conversation with a customer, the agent clicks on the **SmartCare Fault Boundary** card on the workbench to create a quick fault demarcation task.

Figure 3-72 Quick fault demarcation task creation page

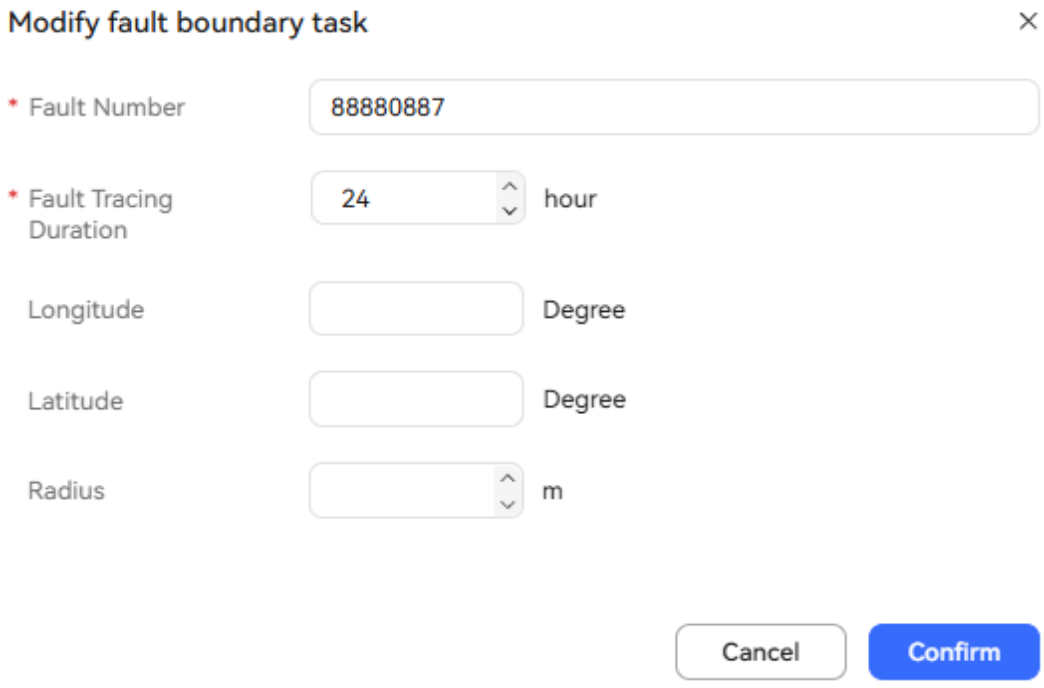


Table 3-16 GUI elements on the quick fault demarcation task creation page

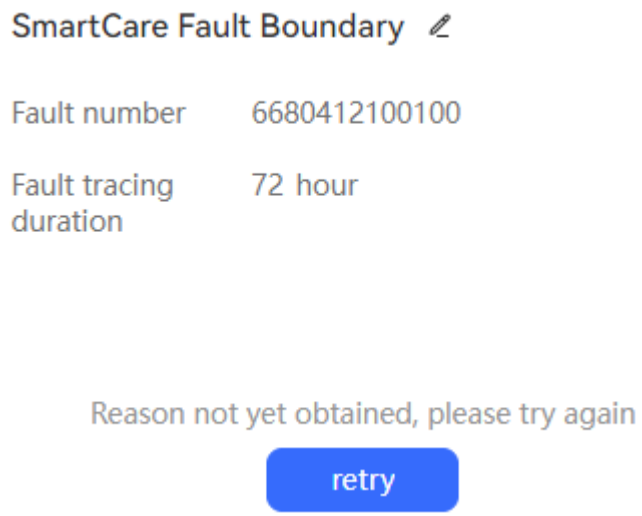
Element	Type	Description
Fault number	Text box	Customer mobile number. The value consists of 1 to 64 characters.

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Element	Type	Description
Fault tracing duration	Text box	The demarcation start time equals this period earlier than the current system time. Value range: 1 to 168 hours
Longitude	Text box	Longitude where a fault occurs. Value range: [-180, 180]. A maximum of six decimal places are allowed.
Latitude	Text box	Latitude where a fault occurs. Value range: [–90, 90]. A maximum of six decimal places are allowed.
Radius	Text box	Radius of the longitude and latitude where the fault occurs. The unit of this parameter is meter and the value of this parameter is a non-negative integer. The maximum value of this parameter is controlled and verified by SmartCare.

2. Click **Confirm**.
   After the task is successfully created, **Figure 3-73** is displayed.

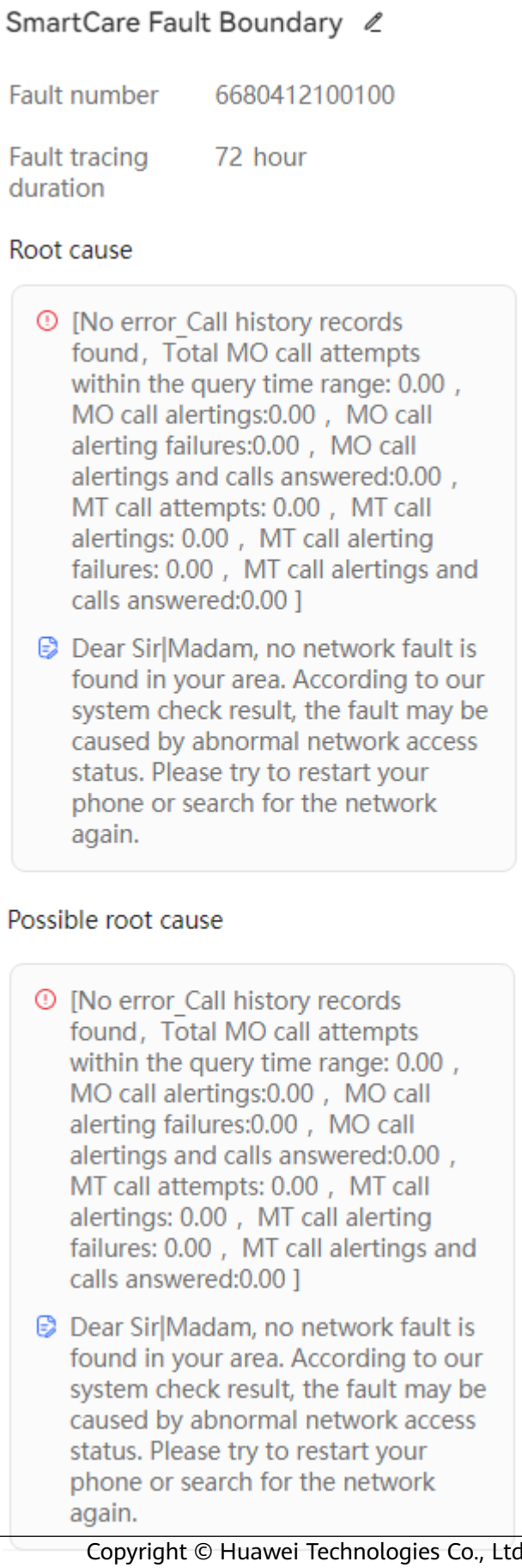
Figure 3-73 Quick fault demarcation



The quick fault demarcation result is queried through invocation every 5 seconds using a timer. When the result is queried, the timer stops. A maximum of 20 automatic queries can be performed. The agent can also click **retry** to query the quick fault demarcation result immediately. **Figure 3-74** shows a quick fault demarcation result.

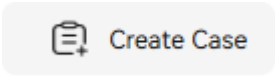
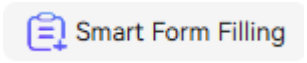
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Figure 3-74 SmartCare quick fault demarcation result



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Step 3 Create a SmartCare in-depth fault demarcation task.

1. Click  or  on the workbench.

    is available only when the **Intelligent order filling** feature is enabled.
2. Select a case type from the **Select Work Order Type** drop-down list based on business requirements.
3. The message "Are you creating a ticket that needs to initiate a fault deep boundary task to aid in ticket processing?" is displayed. Click **Yes**.
4. Set the in-depth fault demarcation task parameters by referring to **Table 3-16**.
5. Click **Confirm**, and the **Case Information** page containing the **SmartCareTaskID** parameter and its value is displayed on the right.

----End

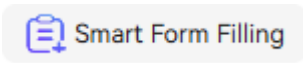
3.8.18 Intelligent Case Filling

When an agent creates a case on the workbench, the system automatically extracts the information contained in the text of the conversation between the customer and agent and fills the information in the corresponding case form to complete the case filling task, reducing manual case filling workload of the agent.

Prerequisites

- The **Intelligent order filling**, **Case 2.0**, **AppCube**, **Customer Center**, and **Intelligent Agent** (the number of intelligent agents is greater than 0) features have been enabled for the tenant space.
- The tenant administrator has enabled the **Intelligent order filling** feature for agents on the **Agent Management** page.
- The tenant space administrator has set **Enabling the Intelligent TT Filling Feature** to **Yes** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
- To use the LLM-based intelligent case filling function, you have enabled the LLM Engine feature with **Case type identification** and **Case field identification** selected.
- The tenant administrator has completed Building the LLM-based Intelligent Case Filling Service.
- The tenant administrator has completed Building the Intelligent Case Filling Service Based on a Small Language Model.
- **2.11.4.1 Configuring SMS Gateways** and **2.11.4.2 Configuring Email Gateways** have been completed.

Procedure

Step 1 Click  on the workbench as an agent.

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Step 2 Select a case type on the **Select Work Order Type** page based on business requirements.

The system automatically extracts information contained in the text of the conversation between the customer and agent and provides three case types of the OU to which the agent belongs and a case type list of the OU on which the agent has the read and write permissions for the agent to select.

Step 3 Select a case type. The **Case Information** card is displayed on the workbench.

Step 4 Configure the case content.

Table 3-17 GUI elements on the Case Information page

Element	Type	Description
Automatic extraction	Button	After this switch is turned on, the **Case Type**, **Case Title**, and **Case Description** fields can be automatically configured.
Case Type	Drop-down list	Case type associated with the current case. The options are all case types configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page of the tenant space.
Case Title	Text box	Short description of a case. This parameter can contain a maximum of 128 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Case Description	Text box	Case details. This parameter can contain a maximum of 20,000 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Deadline	Time selection control	End time of a case.

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Element	Type	Description
Priority	Drop-down list	Priority of a case. The options are as follows: • **Low** • **Medium** • **High** • **Critical**
Channel	Drop-down list	Source of a case. The options are as follows: • **Voice** • **Whatsapp** • **Web** • **Email** • **WeChat** • **Facebook** • **X (Twitter)** • **LINE** • **SMS** • **Others**
Customer Number	Label	Customer number.
Associated Customer	Drop-down list	Customer associated with a case. The options are customers configured on the **Customer Center** > **Customer Center Management** page.
Contact Record ID	Label	Contact record ID.
Is Direct Reply	Button	Whether the current agent processes the case. The options are as follows: •  : yes • : no

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Element	Type	Description
Assignment Mode	Option button	Assignment mode. The options are as follows: • **Manually** • **Auto** Automatic assignment is performed based on the case assignment rule on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule** page. This parameter is not displayed if **Is Direct Reply** is enabled.
Owner Type	Option button	Owner type. The options are as follows: • **Case Queue**: Assign the case to a group. • **Agent**: Assign the case to an agent. This parameter can be configured only when **Assignment Mode** is set to **Manually**. This parameter is not displayed if **Is Direct Reply** is enabled.
Owner	Drop-down list	Case owner. • When **Owner Type** is set to **Case Queue**, select the case queue configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue** page. • When **Owner Type** is set to **Agent**, select an employee in the tenant space. If **Claim** is selected, the owner is the creator of the current case by default. This parameter can be configured only when **Assignment Mode** is set to **Manually**. This parameter is not displayed if **Is Direct Reply** is enabled.
Attachment	Button	Uploading an attachment. The attachment supports the following formats: JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX. A maximum of five attachments can be uploaded, and the size of an attachment cannot exceed 5 MB.
Refill	Button	Invoking an LLM to extract the information contained in the text of the conversation between the customer and the agent.

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Element	Type	Description
Customer Notification	Checkbox	Whether to notify the associated customer and the notification mode. The options are as follows: • **Customer Notification--Email** • **Customer Notification--SMS** The corresponding email address or mobile number of the customer to be notified needs to be configured on the **Customer Center** > **Customer Center Management** page.

Step 5 Click **Save**.

----End

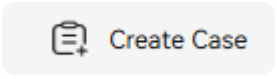
3.8.19 Creating a Case by One Click

An agent can click **Create Case** on the workbench to create a case.

Prerequisites

The **Case 2.0** feature has been enabled for the tenant space.

Procedure

Step 1 Click 

on the workbench as an agent.

Step 2 Select a case type on the **Select Work Order Type** page based on business requirements.

The system provides a case type list of the OU on which the agent has the read and write permissions for the agent to select.

Step 3 Select a case type. The **Case Information** card is displayed on the workbench.

Step 4 Configure the case content.

Table 3-18 GUI elements on the Case Information page

Element	Type	Description
Case Type	Drop-down list	Case type associated with the current case. The options are all case types configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page of the tenant space.

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Element	Type	Description
Case Title	Text box	Short description of a case. This parameter can contain a maximum of 128 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Case Description	Text box	Case details. This parameter can contain a maximum of 20,000 characters. The system automatically extracts information contained in the text of the conversation between the customer and the agent and sets this parameter.
Deadline	Time selection control	End time of a case.
Priority	Drop-down list	Priority of a case. The options are as follows: • **Low** • **Medium** • **High** • **Critical**
Channel	Drop-down list	Source of a case. The options are as follows: • **Voice** • **Whatsapp** • **Web** • **Email** • **WeChat** • **Facebook** • **X (Twitter)** • **LINE** • **SMS** • **Others**
Customer Number	Label	Customer number.

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Element	Type	Description
Associated Customer	Drop-down list	Customer associated with a case. The options are customers configured on the **Customer Center** > **Customer Center Management** page.
Contact Record ID	Label	Contact record ID.
Is Direct Reply	Button	Whether the current agent processes the case. The options are as follows: •  : yes • : no
Assignment Mode	Option button	Assignment mode. The options are as follows: • **Manually** • **Auto** Automatic assignment is performed based on the case assignment rule on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Assignment Rule** page. This parameter is not displayed if **Is Direct Reply** is enabled.
Owner Type	Option button	Owner type. The options are as follows: • **Case Queue**: Assign the case to a group. • **Agent**: Assign the case to an agent. This parameter can be configured only when **Assignment Mode** is set to **Manually**. This parameter is not displayed if **Is Direct Reply** is enabled.
Owner	Drop-down list	Case owner. • When **Owner Type** is set to **Case Queue**, select the case queue configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Queue** page. • When **Owner Type** is set to **Agent**, the options are all employees in the tenant space. If **Claim** is selected, the owner is the creator of the current case by default. This parameter can be configured only when **Assignment Mode** is set to **Manually**. This parameter is not displayed if **Is Direct Reply** is enabled.

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Element	Type	Description
Attachment	Button	Uploading an attachment. The attachment supports the following formats: JPG, PNG, PDF, JPEG, GIF, DOC, and DOCX. A maximum of five attachments can be uploaded, and the size of an attachment cannot exceed 5 MB.
Customer Notification	Check box	Whether to notify the associated customer and the notification mode. The options are as follows: • **Customer Notification--Email** • **Customer Notification--SMS** The corresponding email address or mobile number of the customer to be notified needs to be configured on the **Customer Center** > **Customer Center Management** page.

Step 5 Click **Save**.

----End

3.8.20 Searching for Satisfaction Statistics

An agent can search for agent satisfaction statistics.

Prerequisites

The agent has the **Satisfaction Statistics** operation permission.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Contact History** > **Satisfaction Statistics**.

Step 2 Set search criteria to search for agent satisfaction statistics based on the criteria.

Figure 3-75 Satisfaction Statistics page (Daily report)

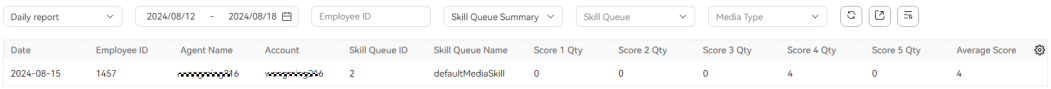


Figure 3-76 Satisfaction Statistics page (Weekly report)

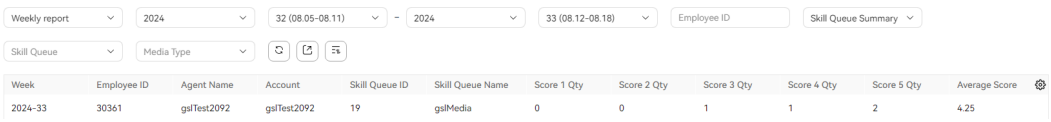
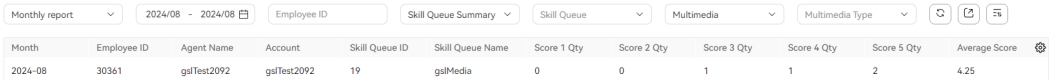
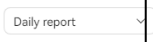
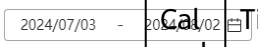


Figure 3-77 Satisfaction Statistics page (Monthly report)



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Table 3-19 GUI elements on the Satisfaction Statistics page

Element	Type	Description
	Drop-down list	Satisfaction statistics report type. The options are as follows: • **Daily report** • **Weekly report** • **Monthly report**
	Calendar component	Time range. Search criterion. • When **Daily report** is selected, the maximum time range for the search is 31 days. • When **Weekly report** is selected, the maximum time range for the search is 12 weeks. • When **Monthly report** is selected, the maximum time range for the search is 12 months.
Employee ID	Text box	Agent ID. Search criterion.
Skill Queue	Drop-down list	Skill queue. Search criterion. This parameter is displayed only when **Skill Queue Summary** is selected.
Media Type	Drop-down list	Media type. Search criterion. The options are as follows: • **Voice** • **Video** • **Multimedia** This parameter is displayed only when **Skill Queue Summary** is selected.

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Element	Type	Description
Multimedia Type	Drop-down list	Multimedia type. Search criterion. The options are as follows: • **Web** • **WeChat** • **Facebook** • **X(Twitter)** • **Email** • **LINE** • **WhatsApp** • **TELEGRAM** • **INSTAGRAM** • **SMS** This parameter is displayed only when **Media Type** is set to **Multimedia**.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Create an export task.
	Button	View export tasks.
Date	Label	Date of a record in the daily satisfaction statistics report. This parameter is displayed only when **Daily report** is selected.
Week	Label	Week of a record in the weekly satisfaction statistics report. This parameter is displayed only when **Weekly report** is selected.
Month	Label	Month of a record in the monthly satisfaction statistics report. This parameter is displayed only when **Monthly report** is selected.
Employee ID	Label	Agent ID.
Agent Name	Label	Agent name.
Account	Label	Business account bound to a skill queue.

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Element	Type	Description
Skill Queue ID	Label	Skill queue ID. This parameter is displayed only when **Skill Queue Summary** is selected.
Skill Queue Name	Label	Skill queue name. This parameter is displayed only when **Skill Queue Summary** is selected.
Score 1 Qty	Label	Number of times that the satisfaction evaluation result scored 1 in a skill queue.
Score 2 Qty	Label	Number of times that the satisfaction evaluation result scored 2 in a skill queue.
Score 3 Qty	Label	Number of times that the satisfaction evaluation result scored 3 in a skill queue.
Score 4 Qty	Label	Number of times that the satisfaction evaluation result scored 4 in a skill queue.
Score 5 Qty	Label	Number of times that the satisfaction evaluation result scored 5 in a skill queue.
Average Score	Label	Average score of satisfaction evaluation results in a skill queue.

Step 3 Export satisfaction evaluation statistics to the local server in batches.

1. Click  and enter a compression password.

   NOTE

   - For details about the complexity requirements of the compression password, see the prompt on the page. The compression password is used to open the downloaded package.
   - The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2. Click  to view the export tasks in the last seven days. To open a file, you need to enter the compression password set during export task creation.

----End

3.8.21 Viewing the Customer Case List

The **Customer Case List** card on the workbench displays information about cases that are not closed by a customer.

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Prerequisites

- The **Case 2.0** feature has been enabled for the tenant space.
- The **Customer Case List** card has been added to the workbench.

Procedure

Step 1 Check the **Customer Case List** card on the workbench during a session between an agent and a customer.

Step 2 View the customer case list.

Figure 3-78 Customer Case List page

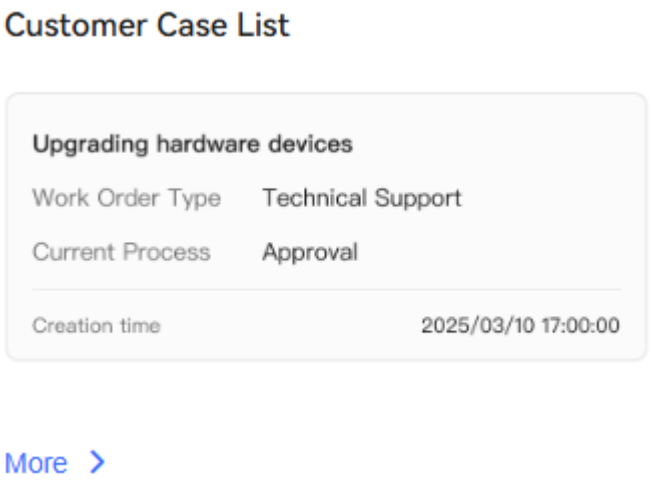


Table 3-20 GUI elements on the Customer Case List page

Element	Type	Description
Case Title	Label	This area displays the case title. You can click this button to go to the case details page.
Work Order Type	Label	Case type. Value of **Case Type Name** configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Type** page. You can click this button to go to the case details page.
Current Process	Label	Current process status of an unclosed case. Value of **Status Name** configured on the **Configuration Center** > **Case Configuration 2.0** > **Case Configuration** > **Case Status** page. You can click this button to go to the case details page.

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Element	Type	Description
Creation time	Label	Case creation time. You can click this button to go to the case details page.
More	Button	You can click this button to go to the **Case Workbench** page.

----End

3.8.22 Querying Rest Records

An agent or tenant administrator can search for and export rest records of agents.

Prerequisites

The agent has the **Rest Record** menu permission and the **Query All Rest Record** and **Rest Record Export** operation permissions.

Procedure

Step 1 Sign in to the AICC as an agent or a tenant administrator and choose **Work Log** > **Rest Record**.

Step 2 Set search criteria to search for rest records based on the criteria.

Figure 3-79 Rest Record page

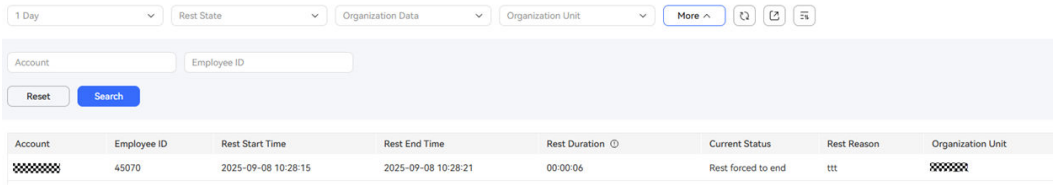


Table 3-21 GUI elements on the Rest Record page

Element	Type	Description
1 Day	Drop-down list	Time range of rest records. Search criterion. The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**

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Element	Type	Description
Rest State	Drop-down list	Rest status. Search criterion. The options are as follows: • **Resting** • **Rest ended normally** • **Rest timed out** • **Rest forced to end** • **Rest ended abnormally**
Data Scope	Drop-down list	Data scope of rest records. Search criterion. The options are as follows: • **Personal Data** • **Organization Data** This parameter is not displayed when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permissions to search for all rest records, to view all OU data, and to edit all OU data are not granted.
Organization Unit	Drop-down list	OU. Search criterion. OUs are classified into **Unorganized** and organized OUs. You can filter organized OUs by keyword. You can click ⊗ to delete the selected OU. You can select **Include Sub-Organizations** to search for rest records of sub-OUs. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected. This parameter is not displayed when the data scope is set to **Personal Data**. The options are as follows: • Tenant administrator: **Unorganized** and all OUs under the current tenant are available. • Common agent: – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, accessible OUs that have the read permission and **Unorganized** are available. – When the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** and the permission to search for all rest records is granted, all OUs and **Unorganized** are available.

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Element	Type	Description
More	Button	Expand advanced search criteria. Whether this button is displayed is determined by the **Query All Rest Record** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.
Account	Text box	Business account. Advanced search criterion. Whether this button is displayed is determined by the **Query All Rest Record** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Employee ID	Text box	Agent ID. Advanced search criterion. Whether this button is displayed is determined by the **Query All Rest Record** permission. Agents without this permission cannot view this parameter. By default, a tenant administrator has this permission.
Reset	Button	Reset search criteria. Whether this button is displayed is determined by the **Query All Rest Record** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.
Search	Button	Search for rest records. Whether this button is displayed is determined by the **Query All Rest Record** permission. Agents without this permission cannot view this button. By default, a tenant administrator has this permission.
	Button	Search for data based on search criteria again and refresh data on the page.
	Button	Add an export task. For details, see **Step 3**. **NOTE** Whether this button is displayed is determined by the **Rest Record Export** permission. Agents without this permission cannot export rest records. By default, a tenant administrator has this permission.
	Button	View export tasks. For details, see **Step 4**. **NOTE** Whether this button is displayed is determined by the **Rest Record Export** permission. Agents without this permission cannot view export tasks. By default, a tenant administrator has this permission.
Account	Label	Business account.
Employee ID	Label	Agent ID.

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Element	Type	Description
Rest Start Time	Label	Rest start time.
Rest End Time	Label	Rest end time.
Rest Duration	Label	Rest duration.
Current Status	Label	Current status. The options are as follows: • **Resting** • **Rest ended normally** • **Rest timed out** • **Rest forced to end** • **Rest ended abnormally** Whether the **Rest forced to end** state is available is determined by the tenant parameter **Forcibly End Agent Rest After Timeout**. An agent enters this state after the agent's rest times out only when the parameter is set to **Yes**.
Rest Reason	Label	Rest reason.
Organization Unit	Label	OU to which an agent belongs.

Step 3 Export rest records.

1. Click  . The **New Export Task** dialog box is displayed.
2. Enter a customized compression password.

   The compression password must contain letters, digits, and the following special characters: @#$%^&*+|=~!?,.:;-_'"(){}[]/><

   The compression password is a string of 8 to 12 characters.

   If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.

   You can click  to view the plaintext password.
3. Click **OK**.

Step 4 View the export task.

1. Click  . The **Export Task View** dialog box is displayed.
2. Download the rest records of a task whose **Task Status** is **Success**.

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3. After the download is successful, open the exported file and enter the compression password to view the exported rest records.

   If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, you can directly open the file without entering a compression password.

----End

3.9 Managing Inspection Results

This section describes inspection management. An agent can manage inspection results.

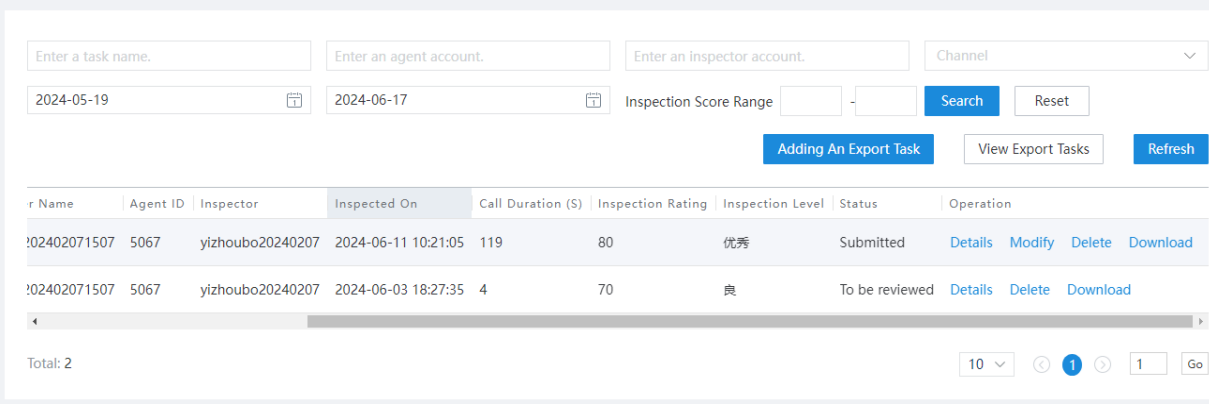
3.9.1 Viewing Manual Inspection Results and Applying for Inspection Reviews

An agent can view the inspection result and apply to an inspector for a review if the agent has any doubts about the rating items.

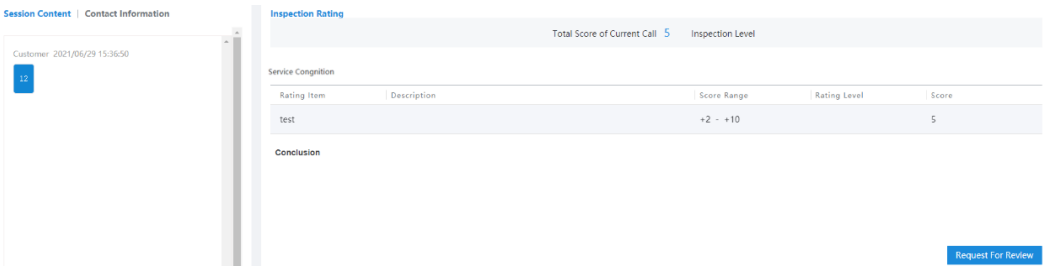
Applying for Manual Inspection Reviews

Step 1 Choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.



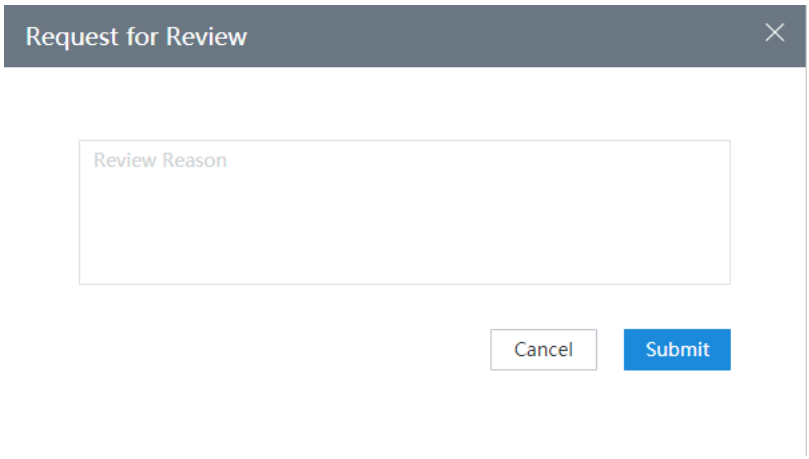
Step 3 Click **Details** corresponding to a record. On the **Manual Inspection** tab page, obtain the rating details.



Step 4 Click **Request For Review**, set the application reason, and submit the application.

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Figure 3-80 Review application page



Step 5 You can also click the **Review task** tab on the **My To Do** page, and click a task name to quickly access the review task page.

Figure 3-81 Quick entry

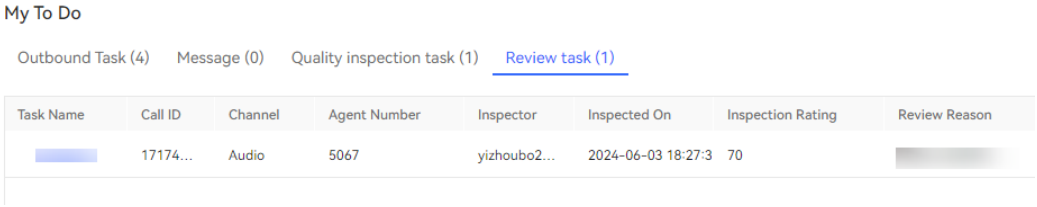
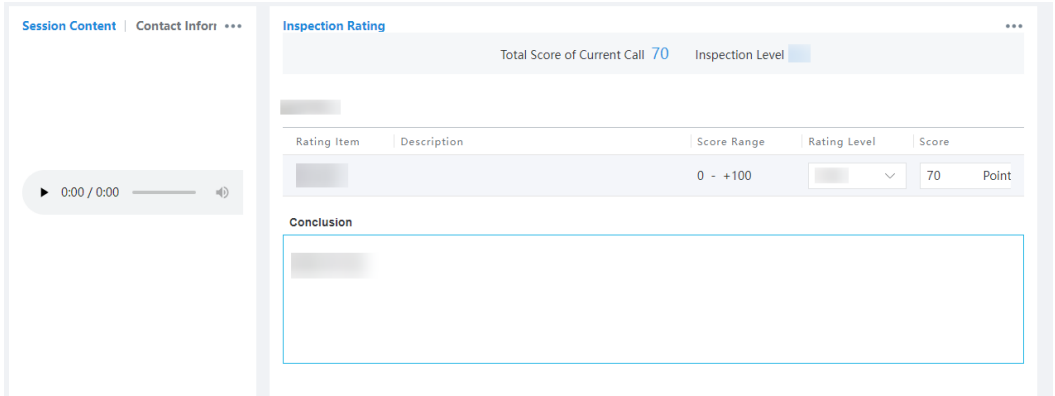


Figure 3-82 Review task page



----End

Follow-up Procedure

After an agent submits a review application, an inspector reviews the rating items again based on the agent's requirements. After the inspector reports the review result, the agent can view the review result on the same page.

No matter whether the review application is approved, the agent cannot submit it again.

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3.9.2 Appealing Against AI Inspection Results

An agent can view AI inspection results and provide materials to initiate appeals if the agent has any doubts.

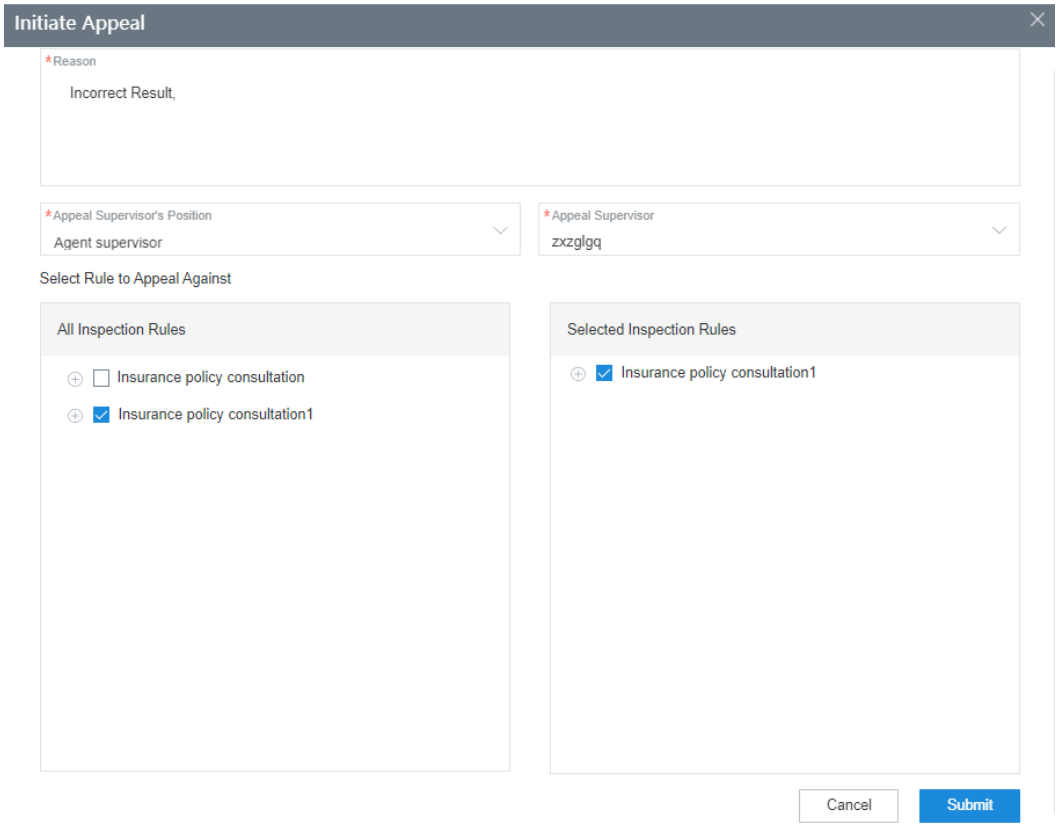
Procedure

Step 1 Sign in to the AICC as an agent and choose **Inspection** > **Inspected Call List**. The brief search criteria and completed call inspection list are displayed.

Step 2 Click **View** in the **Operation** column to view the inspection details.

Step 3 Click **Initiate Appeal**. The dialog box for initiating an appeal is displayed.

Figure 3-83 Initiate Appeal page



Select the rules to appeal against and the appeal supervisor, and click **Submit**. A message is displayed, indicating that the appeal is successfully submitted and that you need to wait for the manual review result.

----End

Follow-up Procedure

- After an agent submits a review application, an inspector reviews the rating items again based on the agent's requirements. After the inspector submits the review result, the agent can view the review result on the same page.
- After a review application process ends, a common agent can submit an application again no matter whether the application is approved or not.

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3.9.3 Handling AI Inspection Appeals

After inspectors perform AI inspections, they can review the AI inspection appeals submitted by agents and update inspection results.

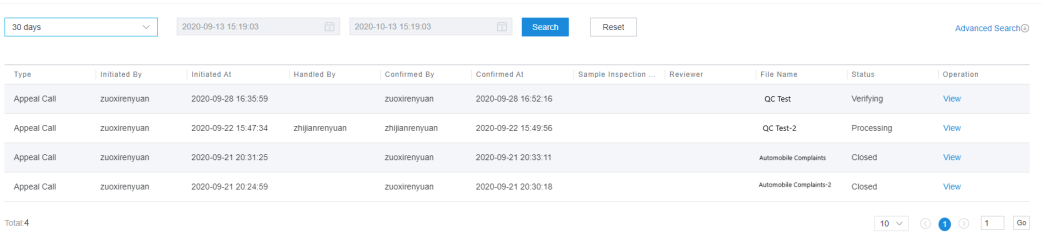
Scenario

Inspectors can view the inspected call list, click **View** to view the inspected call details, or modify the inspection result and view the inspection process by title on the **Appeal Details** page.

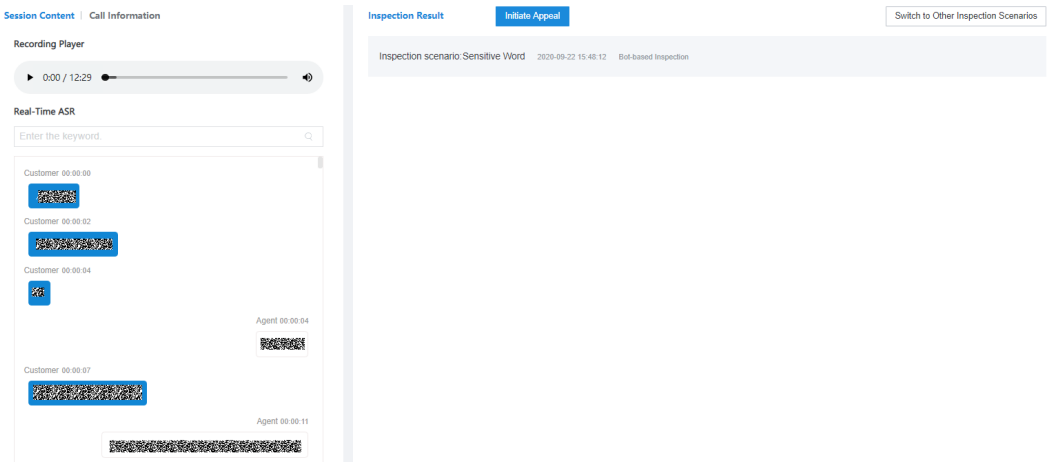
Procedure

Step 1 Use the allocated business account to sign in to the CEC and access the **Process Inspected Calls** page.

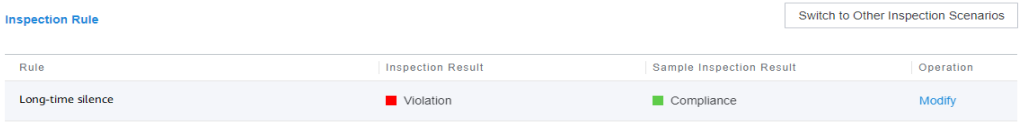
Choose **Quality Inspection** > **Process Inspected Calls**. The inspected call list is displayed.



Step 2 In the inspected call list opened in **Step 1**, click **View**. The appeal details page is displayed. (Closed appeals can only be viewed but cannot be handled.)

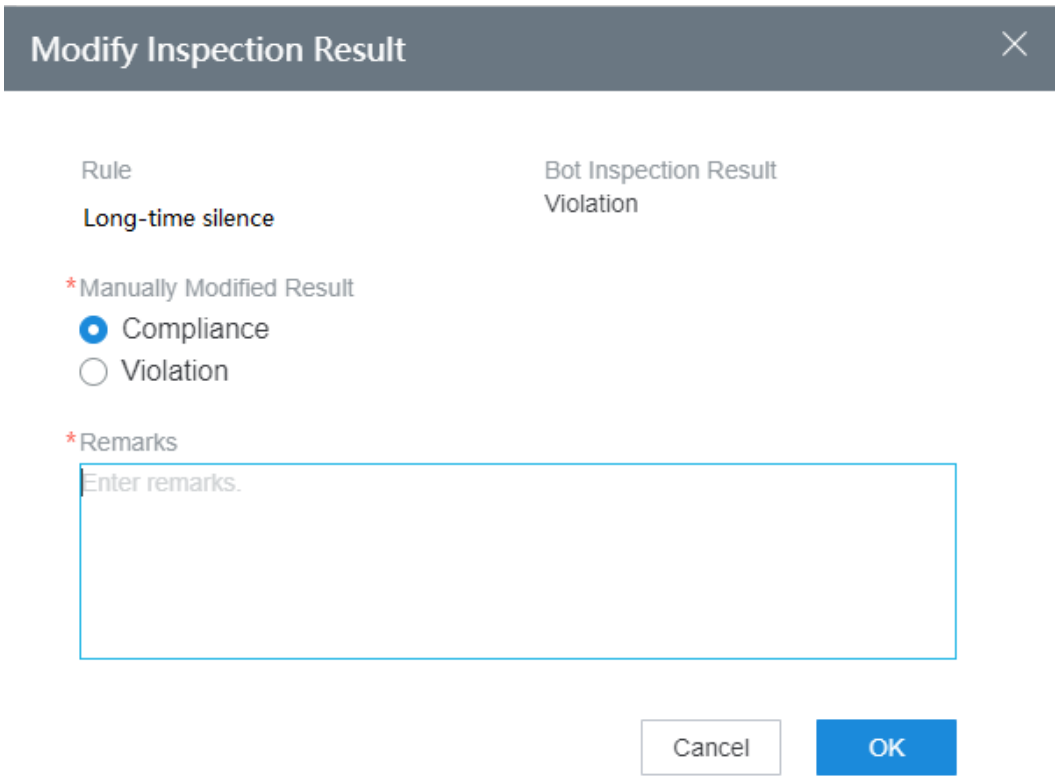


Step 3 In the **Inspection Rule** area, modify the inspection result of a pending appeal.

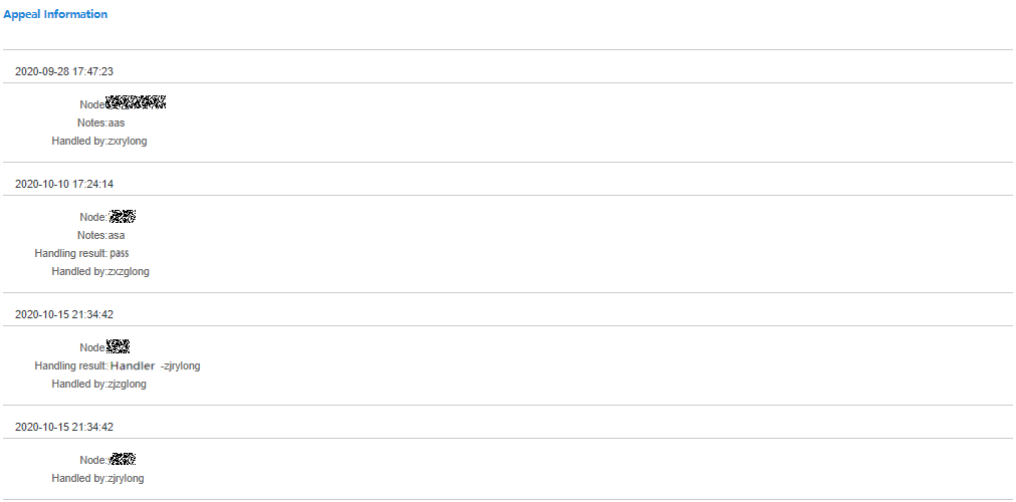


Step 4 Click **Modify**. The dialog box for modifying the inspection result is displayed. You can select **Compliance** or **Violation** to modify the result. The **Remarks** field is mandatory. Click **OK** to submit the operation, or click **Cancel** to cancel the operation.

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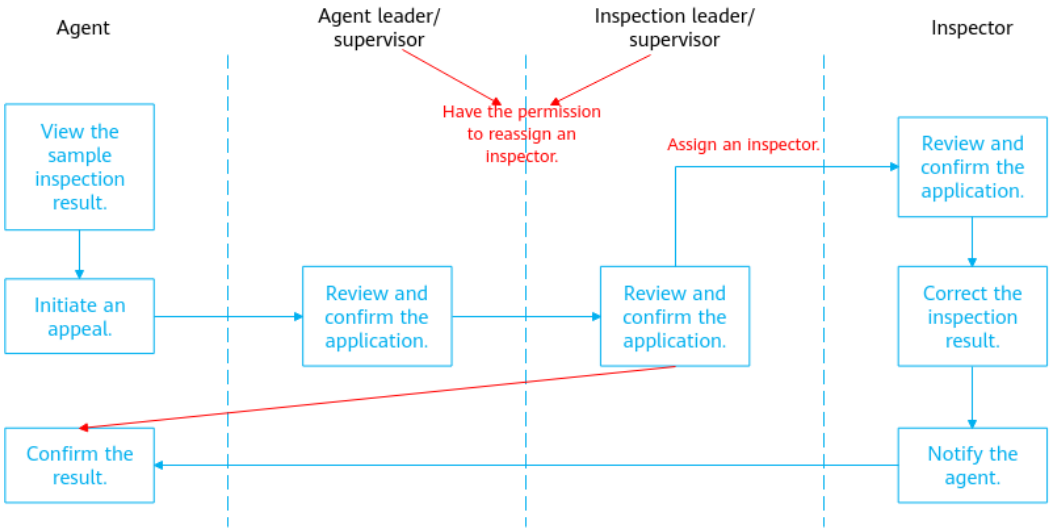
Step 5 View the appeal handling process which varies according to the operator's title.



The following figure shows the appeal handling process.

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Figure 3-84 Appeal handling process



----End

3.10 Typical Scenarios

This section describes some typical scenarios of operations performed by an agent.

3.10.1 Customer and Agent Chatting Through the Web Channel

Scenario

A customer communicates with agent A through the web channel to query the call fee balance, and then rates the service after the conversation ends.

Procedure

A customer communicates with agent A through the web channel.

Step 1 Sign in to system on the connection bar and set the agent to the idle state.

Step 2 Open the customer conversation window.

1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Edit** corresponding to the new web channel, save the modification, and click **Try** on the **Channel Integration** tab page.
2. On the page that is displayed, click  in the lower right corner.
3. In the **Customer Service** dialog box, enter the chat content, click **Send**, and check the reply of the agent.

   If the chat content entered by the customer contains keywords configured for agents, the agent identifies the keyword and replies to it. If the key word

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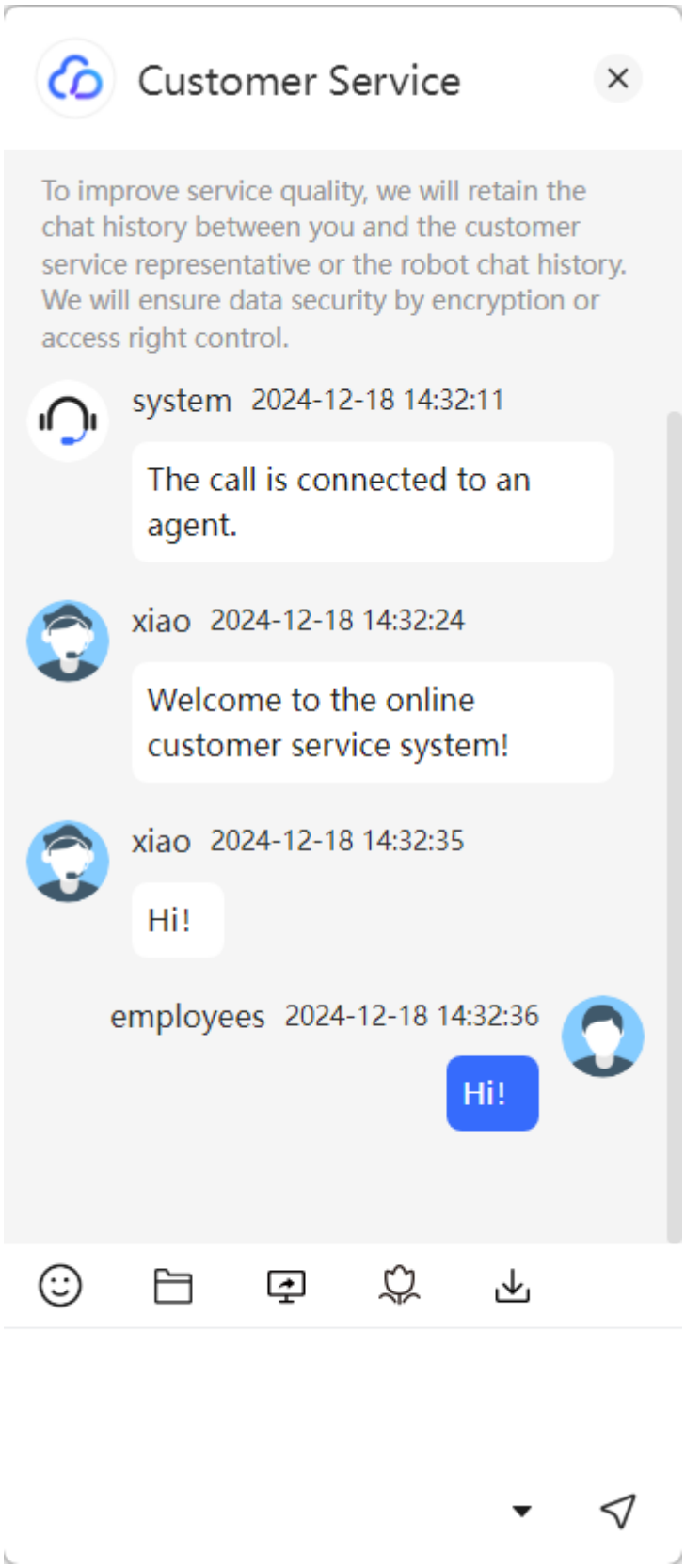
cannot be identified, the agent replies, for example, "Sorry, I cannot understand."

NOTE

- If the message of a customer fails to be sent, the  icon is displayed before the message. You can click the icon to re-send the message.
- When having a conversation with an agent, the customer can use the emoji emoticons provided by the system.

The conversation window of the customer is as follows.

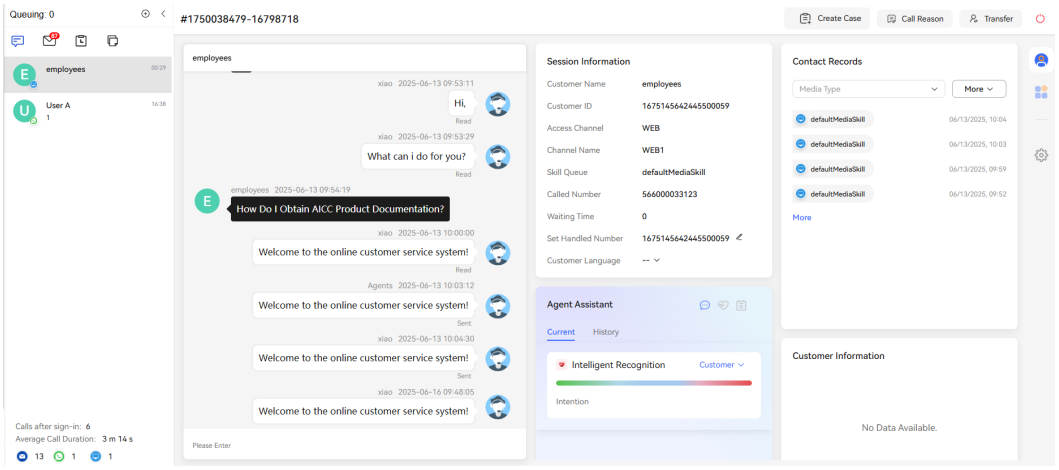
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The online chat workbench of agent A is as follows.

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Figure 3-85 Online chat workbench page - Web



NOTE

- In the **Current** area, the chat content between the customer and agent is displayed. If the customer has historical conversations with an agent, the historical conversation records of the customer can be displayed in **Current**.
- When the content entered by an agent is used in a historical conversation, the system automatically associates and displays related historical content for the agent to select, improving the business handling efficiency.

4. Click  in the online chat dialog box that is displayed, click **Evaluate** to rate the service of the current agent, including satisfaction score and content evaluation, and then click **Submit**.

   The customer can only evaluate the services of agents who have at least one dialog with the customer in the web channel. During and after a dialog, the customer can evaluate the services at any time. The last evaluation is used.

----End

3.10.2 Making Calls Using the WebRTC Phone

Context

The web real-time communication (WebRTC) uses a web browser to transmit texts, files, videos, and voices in real time.

Currently, the WebRTC feature supports voice and video calls.

Prerequisites

- The tenant status is normal, and the WebRTC feature is not enabled.
- You have allowed the browser to obtain the microphone permission by performing the following steps:
  a. Choose **Start** > **Settings** > **Privacy** > **Microphone**.
  b. In **Allow access to the microphone on this device**, click **Change** and enable **Microphone access for this device**.

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c. Enable **Allow apps to access your microphone**.

- (Optional) You have allowed the browser to obtain the camera permission. If video calls are required, perform the following operations:
  a. Choose **Start** > **Settings** > **Privacy** > **Camera**.
  b. In **Allow access to the camera on this device**, click **Change** and enable **Camera access for this device**.
  c. Enable **Allow apps to access your camera**.

Procedure

Step 1 Sign in to the AICC as the system administrator.

Step 2 Enable the intelligent agent function for a tenant administrator.

1. Choose **Call Center** > **Tenant Management**.
2. Select a tenant for whom the WebRTC function is to be enabled and click **Edit**.
3. Click the **Virtual Call Center** tab and enable **WebRTC** in the **Feature Selection** area.
4. In the **Allocate Resource** area, set **Agent registration server type** to **webRTC** and set **Agent registration server**.
5. After the configuration, click **Save**.

----End

NOTE

The WebRTC is supported for the CTI pool mode. If the selected call center is in pool mode, you need to add more than one WebRTC gateway for provisioning agents. In addition, more than one WebRTC gateway needs to be configured for agents.

Verification

Step 1 Sign in to the AICC as an agent for whom the WebRTC feature is enabled.

NOTE

The agent must meet the following requirements:

- The agent has not been bound to a fixed-line phone or mobile phone.
- The agent has been bound to voice-related skill queues (including voice, video, voice click-to-dial, and video click-to-dial skill queues).

Step 2 On the connection bar, click 

and click **Register**. 

is displayed after the softphone is manually registered.

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NOTE

- When the agent signs out, the two phones sign out at the same time.
- After the agent signs out, the softphone status changes to unregistered.
- When the **softphone number unified authentication** feature is enabled for the tenant, if **Authentication Mode** is set to **Unified authentication** for the agent, the agent cannot click to perform registration. If **Authentication Mode** is set to **UAP Authentication** for the agent, the agent can click to perform registration.
- After the agent clicks **Sign In**, the softphone is automatically registered.
- In pool mode, there are two phones that share the same password. If the registration is successful, the status of the two phones is registered. If either of them fails, you can click the phone to register again.
- is displayed if the WebRTC phone fails to be registered, or the WebRTC phone is registered successfully and then deregistered.

Step 3 Initiate a voice call.

1. Click , enter a softphone number, and make a call. The call can be a voice call.

   NOTE

   - A WebRTC phone can make outbound calls only when it is registered and the agent has signed in.
   - When you dial the number for the first time, the message "*xxx.xxx.xxx.xxx* wants to use your microphone" is displayed. Click **Allow**.

2. Click **Answer** to answer a ringing call as an agent. The customer's phone then rings and waits for the customer to answer the call.

   The WebRTC phone is in talking state and displayed in green, and the agent is in occupied state.

Step 4 Initiate a video call.

1. Click , enter a softphone number, and make a call. The call can be a video call.

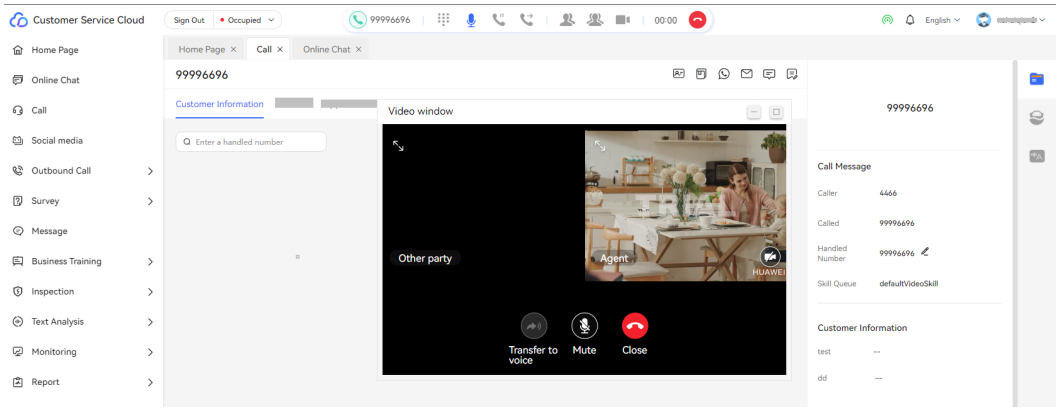
   NOTE

   - A WebRTC phone can make outbound calls only when it is registered and the agent has signed in.
   - When you dial the number for the first time, the message "*xxx.xxx.xxx.xxx* wants to use your camera" is displayed. Click **Allow**.

2. Click **Answer** to answer a ringing call as an agent. The customer's phone then rings and waits for the customer to answer the call.

   The WebRTC phone is in talking state and displayed in green, and the agent is in occupied state. The following figure shows a video call.

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Only the local video window is displayed.

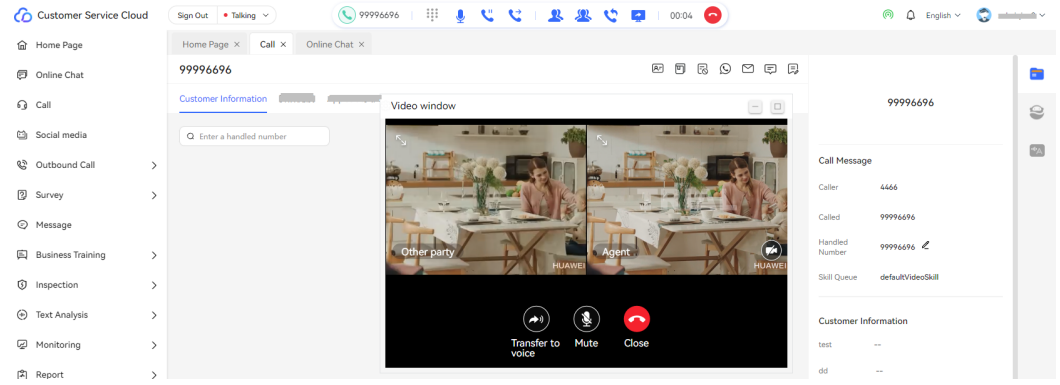
Click  on the connection bar to share a specified area, which can be:

- Entire screen
- Application window
- Browser tab page

NOTE

- In pool mode, either of the two phones is used randomly.
- Pay attention to personal privacy protection during desktop sharing.

3. (Optional) After the video call is connected, check whether the following page is displayed.



 : Disable the camera.

 : Zoom in the window.

: Hide the video window and display the call duration (

).

 : Display the fullscreen video window.

 : Switch to a voice call or resume a video call. Click the button for switching between voice and video calls on the connection bar and select a video call.

 : Mute yourself and click again to unmute yourself.

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 : Hang up the current call.

Step 5 Answer a call from a user.

1. When a user dials the access code of a skill queue, the agent waits for about two seconds and automatically answers the call.
2. When a user dials the access code of an IVR device and the call is transferred to an agent, the agent automatically answers the call 2 seconds after the user hears the announcement.

NOTE

In pool mode, an agent talks with a phone randomly. The agent enters the busy state and does not answer other calls.

If a user directly makes a call to an idle phone, the call is directly disconnected.

----End

Follow-up Procedure

Click  to monitor the call quality.

For details about the call quality, see **Table 3-22** and **Table 3-23**.

Table 3-22 Network level description

Network Level	Icon	Packet Loss Rate	Jitter	One-way Delay
Good		< 0.1%	< 10	< 40 ms
Medium		< 1%	< 20	< 100 ms
Poor		< 5%	< 60	< 400 ms

NOTE

The lowest network level determined based on the packet loss rate, jitter, and one-way delay is used as the network level.

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Table 3-23 Data source description

Data Type	Calculation Method	Description
Packet loss rate	Number of packets received by the local end in 1s = Total number of packets received by the local end – Total number of packets received by the local end 1s ago Number of packets sent by the remote end in 1s = Total number of packets sent by the remote end – Total number of packets sent by the remote end 1s ago Packet loss rate = (Number of packets sent by the remote end in 1s – Number of packets received by the local end in 1s)/ Number of packets sent by the remote end in 1s	The agent acts as the recipient.
Jitter	Jitter = Receive jitter of the local end	
One-way delay	One-way delay = Round-trip time/2	

If the tenant parameter **Whether to send internal messages when the WebRTC network is abnormal** is set to **Yes**, an internal message is sent to notify the OU manager when the network quality is poor. Only one internal message can be sent within 60 minutes.

3.10.3 Integrating the OpenEye Softphone in the Agent Web System for Calls with Customers

Context

An agent integrates the OpenEye to register and control calls without manually logging in to the OpenEye.

Currently, only the voice and video workbench supports this function.

Prerequisites

- The tenant status is normal, and the WebRTC feature is not enabled.
- The OpenEye has been installed on the agent's local PC but has not been started.
- The agent has not set **Fixed-Line Number/Agent Mobile**.

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Procedure

Step 1 Sign in to the AICC as an agent, click the business account in the upper right corner, and select **Personal Center** from the drop-down list.

Step 2 Click the **Agent parameters** tab.

Step 3 Set **Whether to integrate the OpenEye on the web page** to **Yes**.

The options are as follows:

- **No**
- **Yes**
- **Consistent with the tenant level**

If this parameter is set to **Consistent with the tenant level**, the value of the tenant parameter **Integrate OpenEye in Web System** is used, which must be set to **Yes**.

Step 4 Click **Save**.

Step 5 Click **Sync**.

Step 6 Sign out as the agent and refresh the page.

The message "The OpenEye is initialized successfully." is displayed.

----End

Verification

Step 1 Click 

on the page as an agent.

If the automatic registration fails, click  on the connection bar and click **Register**. After the softphone is manually registered,  is displayed.

NOTE

- When the agent signs out, the OpenEye logs out at the same time.
- After the agent signs out, the softphone status changes to unregistered.
-  is displayed if the softphone fails to be registered, or the softphone is registered successfully and then deregistered.

Step 2 Commission the voice or video call successfully.

----End

3.10.4 Using Both the WebRTC and Integrated OpenEye by the Agent

Context

After the **WebRTC** feature is enabled for the tenant space, an agent can use the WebRTC to register softphones and integrate the OpenEye.

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Currently, only the voice and video workbench supports this function.

Prerequisites

- The tenant status is normal, and the WebRTC feature is not enabled.
- You have allowed the browser to obtain the microphone permission by performing the following steps:
  a. Choose **Start** > **Settings** > **Privacy** > **Microphone**.
  b. In **Allow access to the microphone on this device**, click **Change** and enable **Microphone access for this device**.
  c. Enable **Allow apps to access your microphone**.
- (Optional) You have allowed the browser to obtain the camera permission. If video calls are required, perform the following operations:
  a. Choose **Start** > **Settings** > **Privacy** > **Camera**.
  b. In **Allow access to the camera on this device**, click **Change** and enable **Camera access for this device**.
  c. Enable **Allow apps to access your camera**.
- The OpenEye has been installed on the agent's local PC but has not been started.
- The agent has not set **Fixed-Line Number/Agent Mobile**.

Procedure

Step 1 Sign in to the AICC as the system administrator.

Step 2 Configure the IP address and port number of an SBC server for the call center.

1. Choose **Call Center** > **Call Center Config**.
2. Click **Edit** next to a call center to be configured.
3. Select an SBC Server.
4. Click **Edit** of the SBC server selected in **Step 2.3**.
   SBC Server IP Address: Set it to the IP address configured for the OpenEye.
   SBC Port Number: Set it to the port number configured for the OpenEye.
5. Click **Complete**.

Step 3 Enable the intelligent agent function for a tenant administrator.

1. Choose **Call Center** > **Tenant Management**.
2. Select a tenant for whom the WebRTC function is to be enabled and click **Edit**.
3. Click the **Virtual Call Center** tab and enable **WebRTC** in the **Feature Selection** area.
4. In the **Allocate Resource** area, set **Agent registration server type** to **webRTC** and set **Agent registration server**.
5. After the configuration, click **Save**.

Step 4 Sign in to the AICC as a tenant administrator.

Step 5 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

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Step 6 Choose **Tenant parameters** > **Connection Management** > **Call Control**.

Step 7 Set **Whether the tenant supports both WebRTC and integrated OpenEye SoftPhones** to **Yes**.

Step 8 Set **Default Sign-in Mode** to **WebRTC** or **OpenEye**.

Step 9 Set **Integrate OpenEye in Web System** to **Yes**.

Step 10 Click **Save**, and then click **Synchronize** to make the configuration take effect immediately.

Step 11 Sign in to the AICC as an agent, click the business account in the upper right corner, and select **Personal Center** from the drop-down list.

Step 12 Click the **Agent parameters** tab.

Step 13 Set **Whether to integrate the OpenEye on the web page** to **Yes**.

The options are as follows:

- **No**
- **Yes**
- **Consistent with the tenant level**

If this parameter is set to **Consistent with the tenant level**, the value of the tenant parameter **Integrate OpenEye in Web System** is used, which must be set to **Yes**.

Step 14 Click **Save**.

Step 15 Click **Sync**.

----End

Verification

Step 1 Click  on the right of  to select a sign-in mode.

Step 2 Click  or  .

If the automatic registration fails, click  or  on the connection bar and click **Register**. After the softphone is manually registered,  or  is displayed.

Step 3 Commission the voice or video call successfully.

----End

3.11 Viewing Training Tasks

Intelligent training tasks can be used to periodically train and test agents through IVR flows to check the business skills of the agents.

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3.11.1 My Training Tasks

Agents can view training tasks that have been started and participate in tasks as required.

Prerequisites

Some operations under the current menu are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an agent and click **Sign In**. The agent enters the sign-in state.

Step 2 Choose **Business Training** > **My Tasks**.

Step 3 Select a training task and click the task name to view the task details.

Step 4 Click **Start Training** to participate in the training task and wait for the system to make a training outbound call.

----End

Follow-up Procedure

Click **Answer Records** to view the answer details of the training task.

3.12 Intelligent Outbound Call Tasks

Based on the assigned outbound call tasks, agents make outbound calls and configure outbound call results.

3.12.1 Agent Outbound Call Task

A tenant administrator executes the outbound call task through the agent outbound call task and views the outbound call result.

3.12.1.1 Introduction to the Outbound Call Task of an Agent

An outbound call agent performs outbound call–related operations in the outbound call task of the agent.

The agent outbound call task supports the following outbound call-related operations:

- **3.12.1.2 Manually Making an Outbound Call**
  - Retrieving/Releasing a number
  - Viewing the number list

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  - Calling the current number
- **3.12.1.3 Viewing and Executing a Previewed Outbound Call**
- **3.12.1.4 Viewing a Predicted Outbound Call**
- **3.12.1.5 Viewing a Preempted Outbound Call**
- **3.12.1.6 Creating a Reserved Outbound Call Task**
- **3.12.1.7 Adding a Customer Number to the Blocklist**
- **3.12.1.8 Changing an Outbound Number**
- **3.12.1.9 Viewing Outbound Call Results**: This function is supported for manual, previewed, predicted, and preempted outbound calls.
- Viewing a reserved outbound call

Prerequisites

If your tenant space is in trial commercial use, outbound calls can only be made to five numbers. Therefore, you need to ask the system operation personnel to add the numbers to be called to the trustlist. Only in this way can you make outbound calls.

3.12.1.2 Manually Making an Outbound Call

After an administrator creates a manual outbound call task, an agent can refer to this section to perform operations related to manual outbound calls in the outbound call task.

Prerequisites

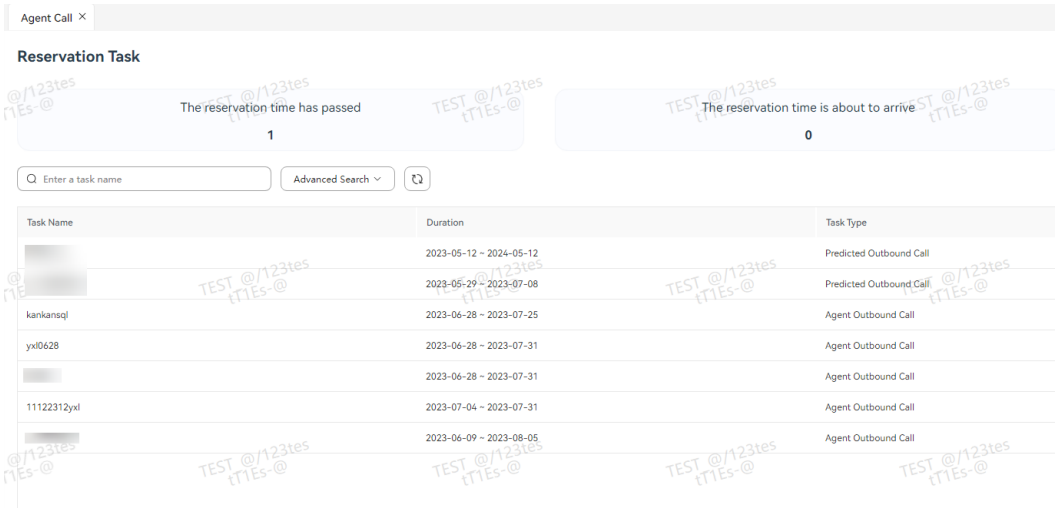
The administrator has created a manual outbound call task for a specified agent and started the task.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-86 Agent outbound call task



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Step 3 Click a task to view its details.

Step 4 Click **Extract**. The outbound call data can be extracted only when the outbound call data is not extracted by other agents and the outbound call task is being executed.

Step 5 Click **Number List** to view the outbound number list as described in the following table.

Table 3-24 Elements in the outbound number list

Element/Component	Description
Called Number	Outbound number, which is anonymized.
Operation	Currently, the **Call** button is available.

Step 6 Click **Call** to send a dial-up request to the customer number.

NOTE

An outbound call can be made only when the following conditions are met: The outbound call data is not complete and has been locked, the agent has signed in and is in idle state, and the outbound call task is being executed. If a call fails, it is initiated again until it succeeds or the maximum number of call attempts is reached.

Step 7 After the call ends, view the outbound call result. For details, see **3.12.1.9 Viewing Outbound Call Results**.

----End

3.12.1.3 Viewing and Executing a Previewed Outbound Call

After an administrator creates a previewed outbound call task, an agent can refer to this section to perform operations related to previewed outbound calls in the outbound call task.

Prerequisites

- The administrator has created a previewed outbound call task for a specified agent and started the task.
- The agent is in the idle state. The previewed outbound call task is configured with outbound call data and has been started.

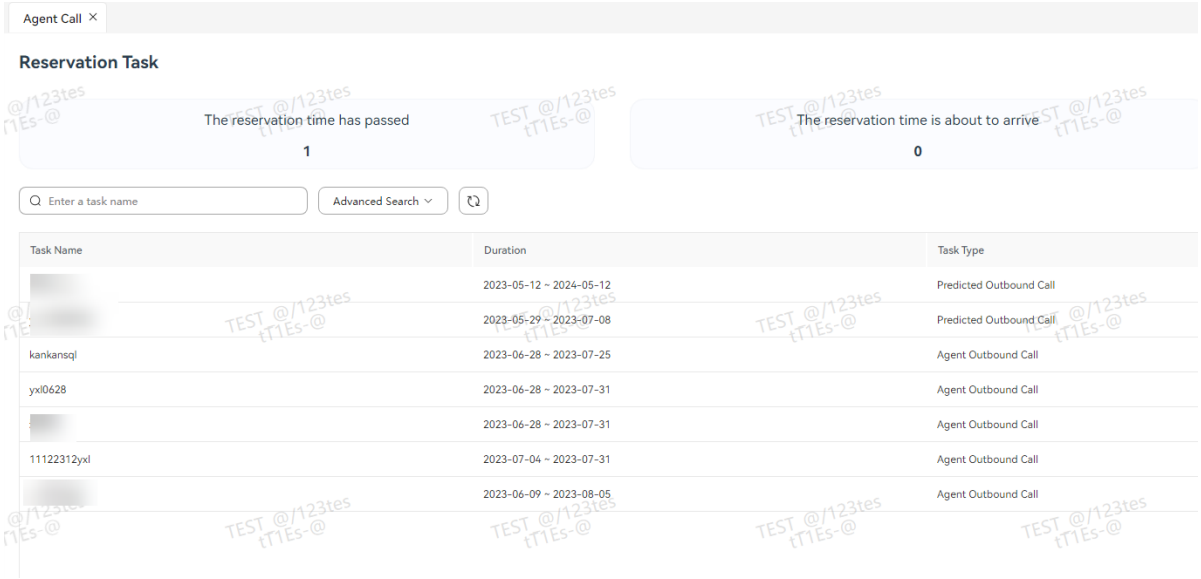
Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

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Figure 3-87 Agent Call



Step 3 In the **Executing a Preview Outbound Call** dialog box, click **Call** to make an outbound call.

Figure 3-88 Executing a Preview Outbound Call

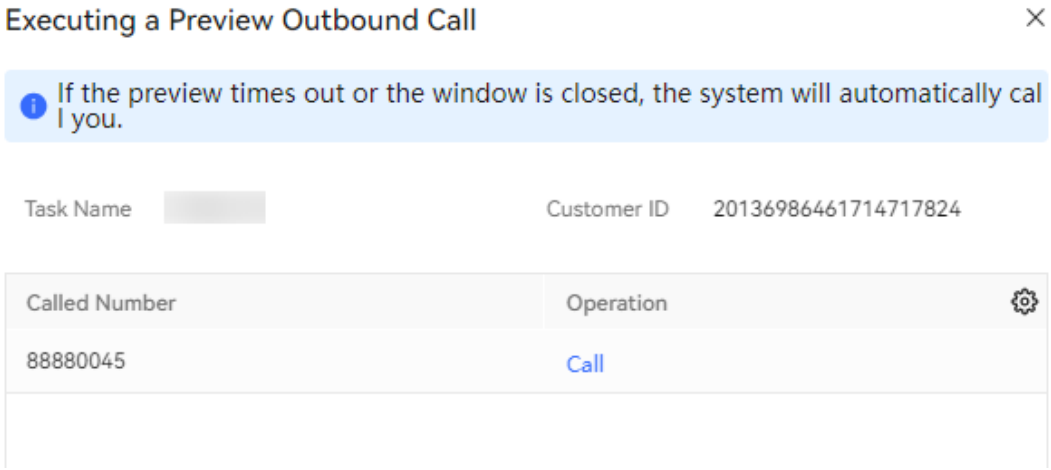


Table 3-25 GUI elements on the Executing a Preview Outbound Call page

Element/Component	Description
Task Name	Outbound call task name.
Customer ID	Customer ID of the current previewed outbound call.
Called Number	Outbound number.
Operation	Operations that can be performed.

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Step 4 After the call ends, view the outbound call result. For details, see **3.12.1.9 Viewing Outbound Call Results**.

----End

3.12.1.4 Viewing a Predicted Outbound Call

After an administrator creates a predicted outbound call task, an agent can refer to this section to perform operations related to predicted outbound calls in the outbound call task.

Prerequisites

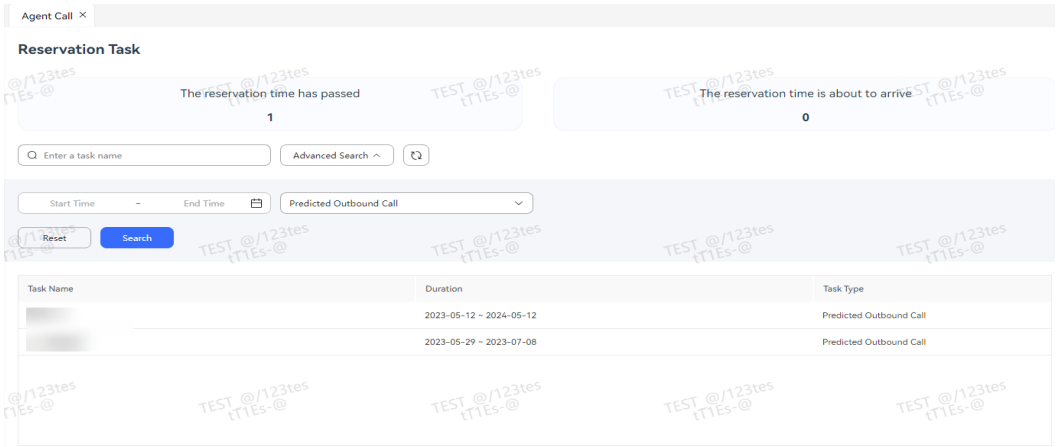
- The administrator has created a predicted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The predicted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-89 Outbound call task page



Step 3 View the outbound call result. For details, see **3.12.1.9 Viewing Outbound Call Results**.

Table 3-26 GUI elements on the predicted outbound call result page

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Customer ID	Label	Unique ID of a customer.	-	Read-only	-

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Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Outbound Call Status	Label	Outbound call status.	• **To Be Executed** • **Executing** • **Completed**	Read-only	-
Start Time	Label	Call start time.	-	Read-only	-
End Time	Label	Call end time.	-	Read-only	-
Call Result	Label	Call result.	• **Failed** • **Successful** • **Reject**	Read-only	-
Cause	Label	Call failure cause.	-	Read-only	-
Business Result	Label	Result of the outbound call business selected by an agent.	• **Successful** • **Uncertain** • **Failed**	Read-only	If this parameter is empty, no agent is set.
Sub-status	Label	Sub-status of the outbound call business result.	-	Read-only	-
Business Description	Label	Description of the outbound call business entered by an agent.	-	Read-only	Business description is provided only for manual, predicted, previewed, and preempted outbound calls.
Operation	Button	Details of an outbound call result.	**Details**	Click	-

----End

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3.12.1.5 Viewing a Preempted Outbound Call

After an administrator creates a preempted outbound call task, an agent can refer to this section to perform operations related to preempted outbound calls in the outbound call task.

Prerequisites

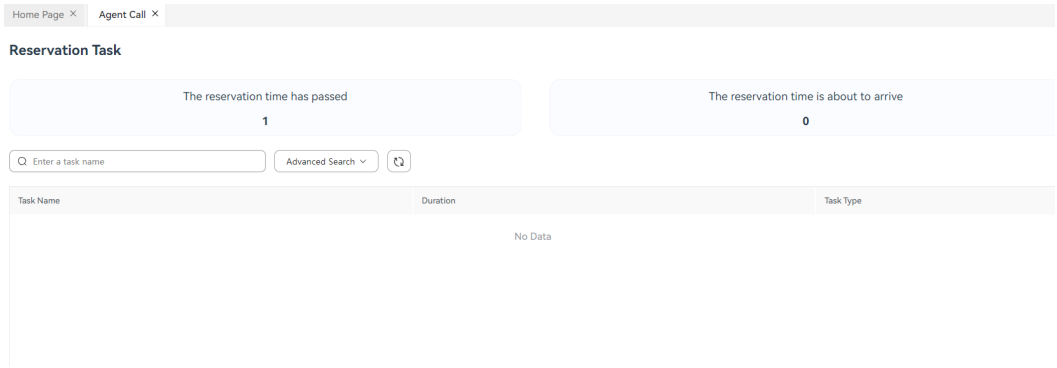
- The administrator has created a preempted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The preempted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-90 Agent outbound call task



Step 3 Click the outbound call result in the row where the task is located. For details, see **3.12.1.9 Viewing Outbound Call Results**.

----End

3.12.1.6 Creating a Reserved Outbound Call Task

This section describes how to create a reserved outbound call task.

Prerequisites

- The agent is speaking.
- The customer number is not in the blocklist.

Scenario Description

When an agent is executing an outbound call task, if the customer is busy and wants to communicate with the agent at another time, the agent can create an outbound call task and call the customer again at the time specified by the customer.

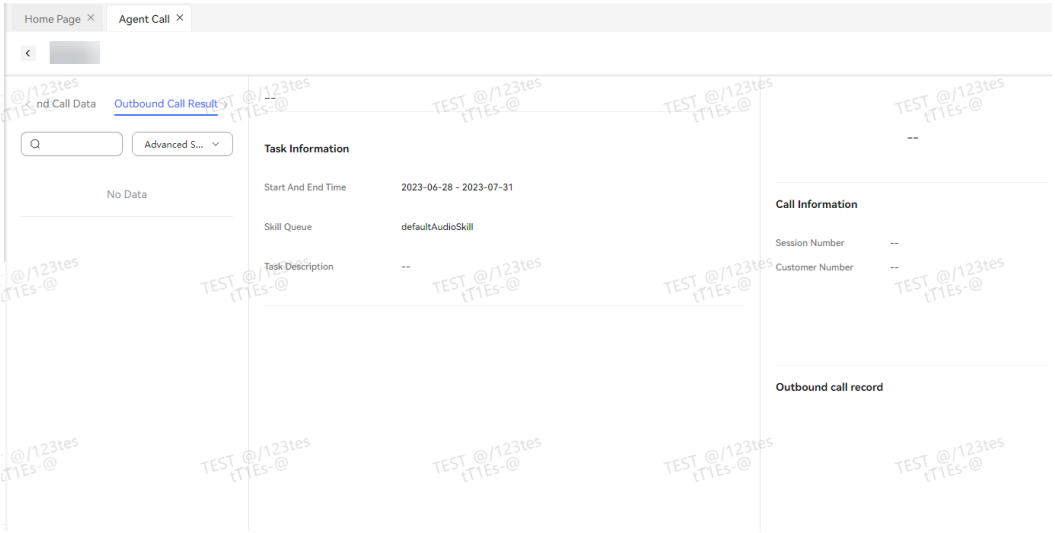
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Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-91 Outbound call execution



Step 3 Click **Reserved Outbound Call**. The **Create Reserved Outbound Call** page is displayed, as described in the following table.

Table 3-27 GUI elements on the Create Reserved Outbound Call page

Element/Component	Description
Customer Number	Number for which a call needs to be reserved.
Reserved Call Time	Reserved call time.
Remarks	Remarks of a reserved call.

Step 4 Enter the mandatory information and click **Save**. The reserved outbound call task is added successfully.

----End

3.12.1.7 Adding a Customer Number to the Blocklist

Agents can add a customer or the current number of a customer to the blocklist in an agent outbound call task.

Scenario Description

When an agent executes an outbound call task, if a customer does not want to be called anymore, the agent can add the customer to the blocklist.

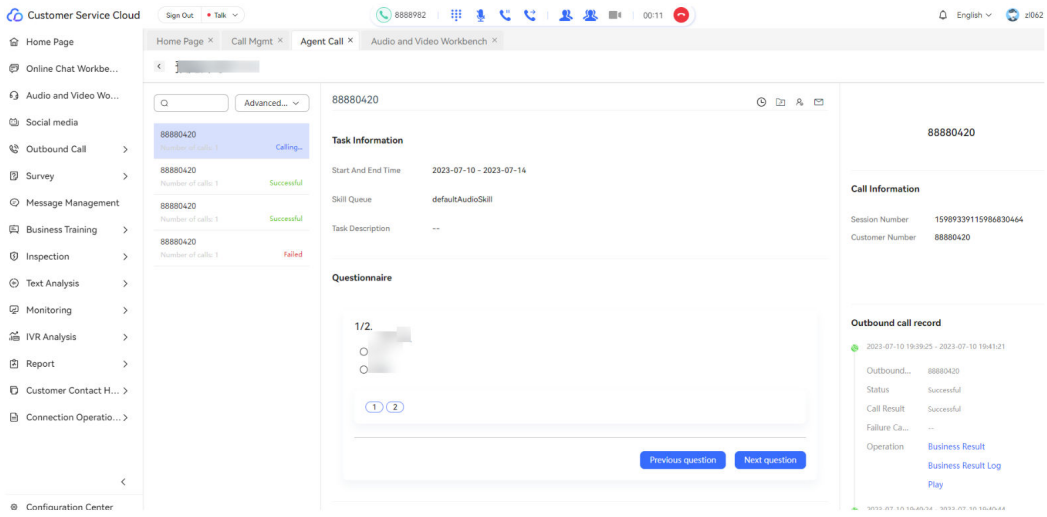
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Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-92 Outbound call execution



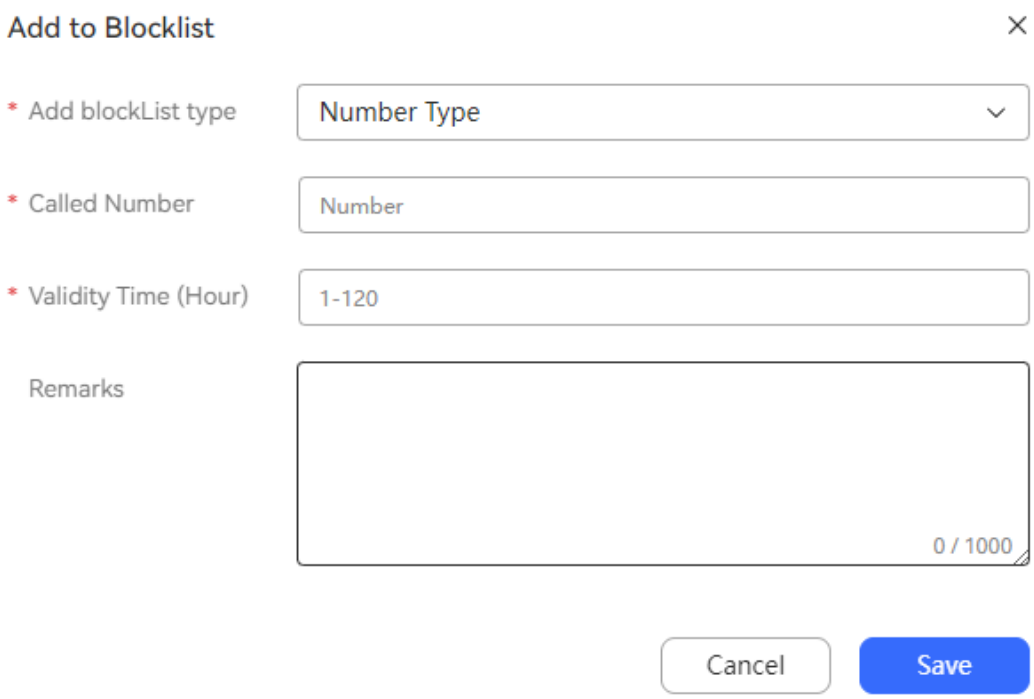
Step 3 Click . The dialog box for adding a number to the blocklist is displayed. The following table describes the GUI elements in the dialog box.

Table 3-28 GUI elements on the page for adding a number to the blocklist

Element/Component	Description
Add blockList type	The options are as follows: • **Number Type**: A customer has multiple numbers. Only the number is in the blocklist. Other numbers can still be called. • **Customer Type**: All customer numbers are blocklisted.
Called Number	Blocklisted number. This element is available only when **Add blockList type** is **Number Type**.
Validity Time (Hour)	Validity period of the blocklist, in hours. The value ranges from 1 to 120. For example, if you enter **1**, the blocklist becomes invalid one hour after it is created.
Remarks	Blocklist remarks.

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Figure 3-93 Adding a number to the blocklist



Step 4 Set mandatory parameters and click **Save**. The number is added to the blocklist successfully.

----End

3.12.1.8 Changing an Outbound Number

Agents can change the outbound call number of a customer in the outbound call task.

Scenario Description

When an agent executes an outbound call task, if a customer wants the agent to call another number, the agent can change the outbound number.

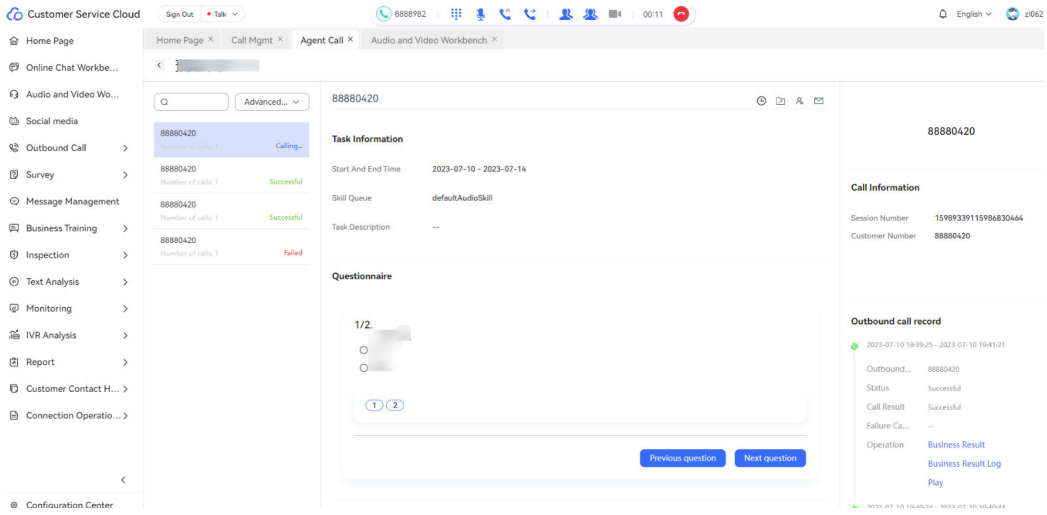
Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

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Figure 3-94 Outbound call execution

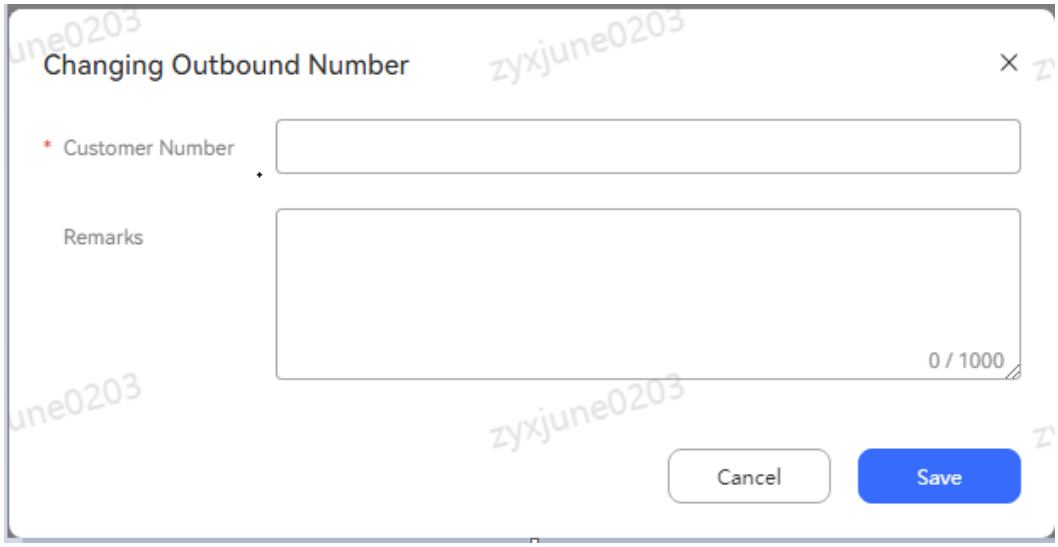


Step 3 Click . The window for changing the reserved outbound call number is displayed. The GUI elements are as follows.

Table 3-29 GUI elements on the Changing Outbound Number page

Element/Component	Description
Customer Number	Customer number to be changed.
Remarks	Remarks of a reserved call.

Figure 3-95 Changing Outbound Numbers



Step 4 Enter the mandatory information and click **Save**. The outbound number is changed successfully.

----End

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3.12.1.9 Viewing Outbound Call Results

Agents can view the results of outbound call tasks that have been executed and supplement or modify the business results.

Prerequisites

An outbound call task is executed, such as an agent outbound call task, a preview outbound call task, or a predicted outbound call task.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Step 3 Click the row where the task is located to view the outbound call result details.

Step 4 On the **Outbound Call Result** page, click **Details**.

Step 5 On the outbound call result details page, click **Business Result** to supplement or modify the business result.

Table 3-30 GUI elements on the business result filling page

Element/ Component	Description
Task Name	Name of the manual or predicted outbound call for which the business result is entered.
Result	This parameter is controlled by the tenant parameter **Only leaf nodes can be selected for service results**. If the parameter is set to **Yes**, only leaf nodes can be selected.
Description	Business result description.

----End

3.12.2 Reserved Manual or Automatic Outbound Call

When a customer wants to be called at another time during an outbound call, an agent can reserve a manual or automatic outbound call at the expected time so that the agent can continue the talk with the customer at the expected time.

3.12.2.1 Viewing a Reserved Outbound Call

On the **Reserved Call** page, an agent can view the reserved manual and automatic outbound calls associated with the agent.

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Prerequisites

The agent has the reserved outbound call task permission.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 View the reserved outbound calls of the current agent by reserved time in ascending order.

Table 3-31 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Customer number to which a reserved call needs to be made.
Reserved Call Time	Reserved call time.
Associate Outbound Call Task	Associated outbound call task.
Result	Call result. • **Failed** • **Successful** • **Reject**
Failure Cause	Failure cause.
Reservation Status	• **Reserved** • **Prepare for callback** (within 5 minutes before the reserved time) • **Callback** • **Completed** • **Expired**
Start Time	Call start time.
End Time	Call end time.
Remarks	Remarks.
Business Result Path	Business result of a call.
Business Description	Description of a business result.
Reserved call type	• **Reservation for manual outbound calls** • **Reserve automatic outbound calls**
Creator	Creator.
Created On	Time when a reserved outbound call is created.

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Parameter	Description
Operation	Operations that can be performed on the current call. The options are as follows: • **Call** • **Modify** • **Delete** • **Adjustment Record** • **Business Result** • **Survey Result** (This button is available when the outbound call task is associated with a survey.)

Step 3 Set search criteria based on **Table 3-32**, and click **Search** to search for reserved outbound calls that meet the search criteria.

Table 3-32 Search criteria for searching for reserved outbound calls

Parameter	Description
Customer Number	Customer number. Fuzzy search by suffix is supported.
Task Name	Task name.
Start time of a reserved call – End time of a reserved call	Start time and end time of a reserved call.
Reset	Reset the search criteria and refresh the list.
Search	Search for reserved outbound calls.

Step 4 Click **Modify**, set **Remarks**, and click **Save**.

Step 5 Click **Delete** to delete a reserved outbound call record. Only numbers that have not been used to make calls can be deleted.

----End

3.12.2.2 Adding a Reserved Outbound Call

An agent can reserve an outbound call so that the agent can perform the outbound call task again at another time.

Prerequisites

- The reserved time must not be earlier than the current time.

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Procedure

Step 1 Sign in to the AICC as an agent and choose **Outbound Call** > **Reserved Call**.

Step 2 Click **New**.

Figure 3-96 Creating a reserved manual outbound call

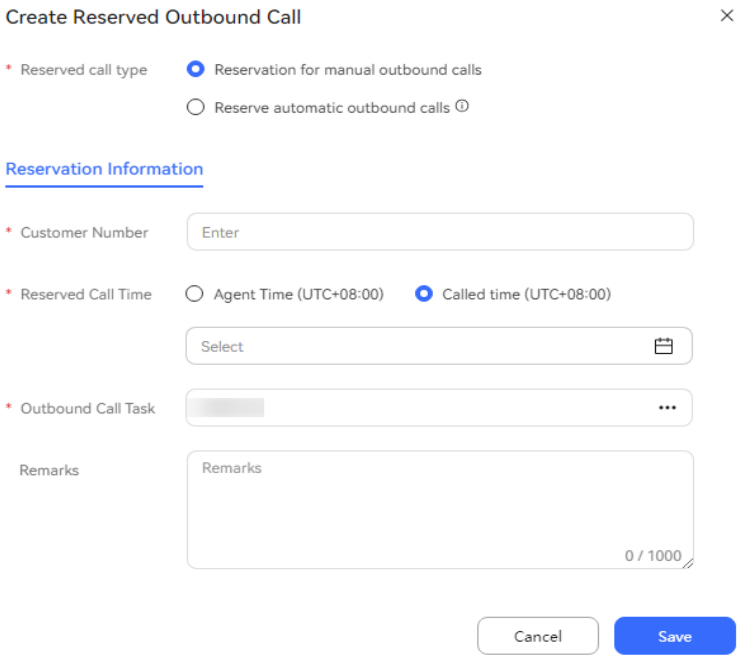
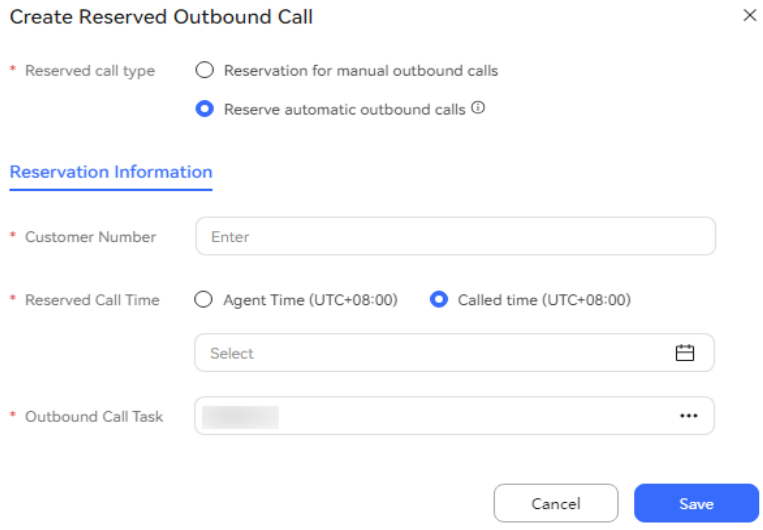


Figure 3-97 Creating a reserved automatic outbound call



Step 3 Set mandatory parameters and click **Save**.

----End

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3.12.2.3 Executing a Reserved Outbound Call

An agent can go to the **Reserved Call** page and execute a reserved outbound call task during the reserved outbound call time. If the reserved outbound call task has expired, the system reminds the agent to handle the task when the agent enters the **Agent Call** page.

Context

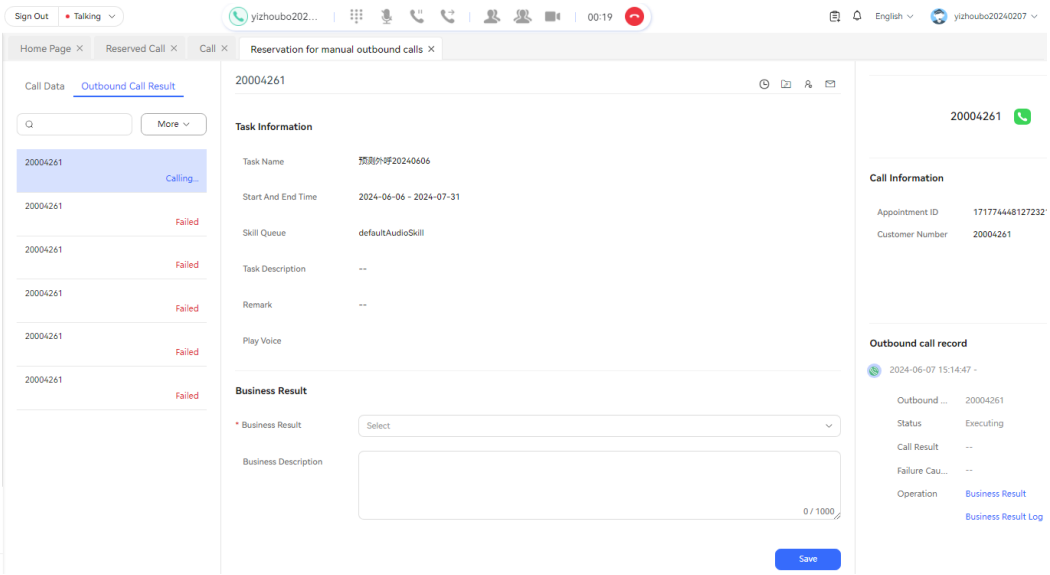
The total number of reserved outbound call tasks that have expired and that of reserved outbound call tasks that are about to expire within 5 minutes are displayed and refreshed every minute on the **Agent Call** page to remind an agent to handle the reserved outbound call tasks on the **Reserved Call** page promptly.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 Click **Call** corresponding to the reserved manual outbound call to be executed.

Figure 3-98 Reserved manual outbound call workbench



NOTE

The **Call** button is available only when a reserved outbound call has not been executed, and the agent has signed in and is in idle state.

----End

3.13 OpenEye Help Document

3.13.1 OpenEye Help Guide

The OpenEye Desktop help guide provides description about login, system settings, software functions, and personal data in the OpenEye Desktop.

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- **Obtaining Help Information**
- **Installation Description**
- **Login and Logout**
- **Introduction to System Settings**
- **Introduction to Software Functions**
- **Description of Personal Data**
- **Uninstallation Description**

3.13.2 Change History

Release Date	Issue	Description
2019-12-30	V1.0	This issue is the first official release.
2021-03-08	V1.1	This issue is the second official release.
2022-03-03	V2.0	This issue is the third official release.
2022-10-30	V2.0	This issue is the fourth official release.
2023-07-31	V2.0	This issue is the fifth official release.
2024-09-30	V2.0	This issue is the sixth official release.
2025-03-30	V3.0	Added the log upload function.

3.13.3 Installation Description

- The requirements of installation scenarios are as follows:
  a. Install the OpenEye directly. In this scenario, the OpenEye is not installed before.
  b. Upgrade the OpenEye. You need to uninstall the OpenEye of the original version and install the new version.
- The requirements of installation environments are as follows:
  a. Windows 10 or Windows 11 environment: 2-core, 2.6 GHz or higher CPU and 4 GB memory or higher; .NET Framework 4.5.2 or later; and Visual C ++ runtime environment.

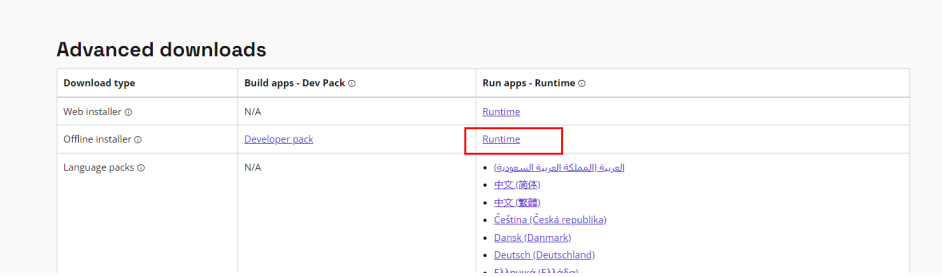
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NOTE

If the .NET Framework 4.5.2 and Visual C++ plug-ins are not installed in the installation environment, download the installation packages from the following websites, double-click the installation packages, and install the plug-ins following the installation steps.

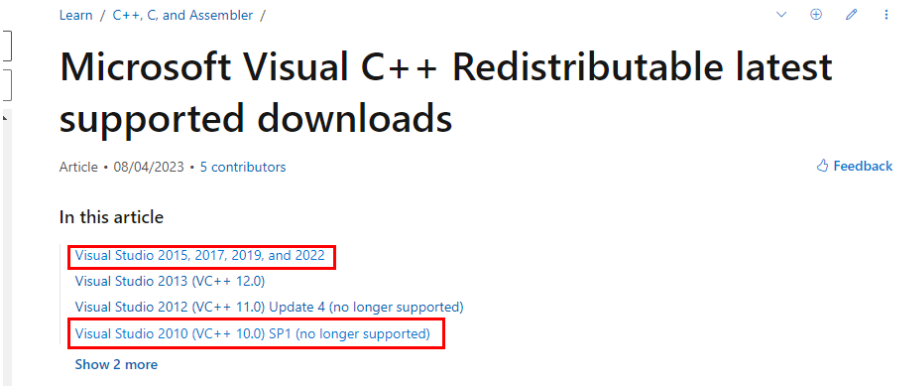
- .NET Framework 4.5.2: https://dotnet.microsoft.com/en-us/download/dotnet-framework/net452

  Click the **Runtime** installation package in **Offline installer** for installation.



- Visual C++: https://learn.microsoft.com/en-us/cpp/windows/latest-supported-vc-redist?view=msvc-170#visual-studio-2015-2017-2019-and-2022

  Select the **Visual Studio 2015** and **Visual Studio 2010** installation packages for installation.



b. China-made environment: Phytium Arm chip (D2000) + UOS V20 1050, Zhaoxin x86 chip (4-core) + UOS V20 1050, Phytium Arm chip (D2000) + Kylin V10 SP1, or Kirin 990 + UOS v20 1050.

c. Device requirements:

   - CPU frequency: 2.3 GHz or above.
   - Remaining memory: 4 GB or more memory and 1 GB or more free memory.
   - Available disk space: 1 GB or more free space in the **/opt/apps** directory. If logs are continuously captured, it is recommended that the space be 5 GB or above.
   - Other devices: camera of 720p at 30 Hz, PC with built-in audio card, and NIC of 100 Mbit/s or higher (1000 Mbit/s recommended).

- To obtain the OpenEye installation package, go to the **AICC software download page** on the support website, click a desired AICC version, obtain the OpenEye installation package based on the operating system version in

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the software list, decompress the OpenEye installation package, and obtain the installation program.

- The installation package for the Windows operating system is **OpenEye_*xx*.c.zip**, for example, **OpenEye_V2.0.zip**.
- The installation package for the UnionTech operating system is **openeye_*x.x*_amd64_uos.zip** or **openeye_*x.x*_arm64_uos.zip**, for example, **openeye_2.0_amd64_uos.zip**.
- The installation package for the Kylin operating system is **openeye_linux.zip** or **openeye_linux_x86.zip**.

After obtaining the software package, you must verify the integrity of the package. For details, see **3.13.3.3 Verifying Software Package Integrity**. Only verified software packages can be deployed.

NOTE

In the current version, the **Authenticate Administrator** function is supported in the general settings of the OpenEye. If authentication is enabled, install the OpenEye as an administrator.

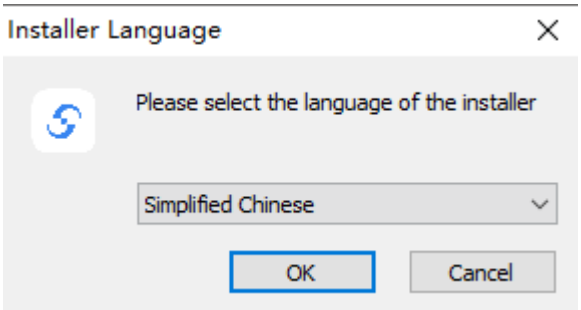
3.13.3.1 Installation

3.13.3.1.1 Common Installation

Procedure

Step 1 Double-click **OpenEyeSetup.exe** to install the program. Select a language. You can change the language later under **Settings** > **General**. Click **OK**.

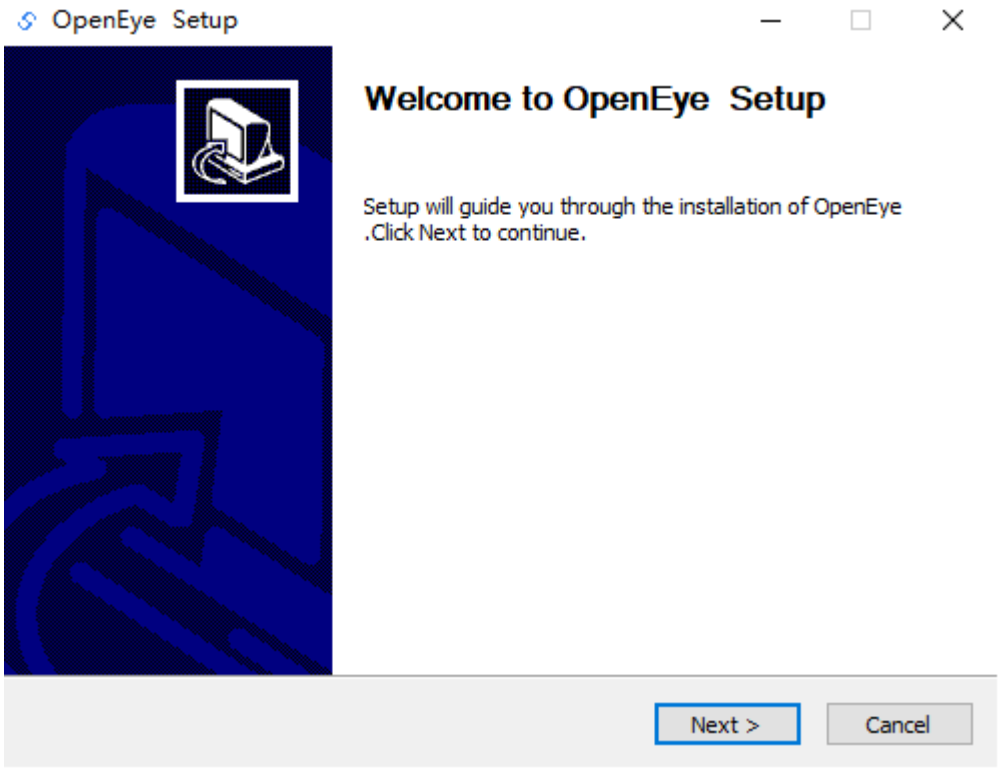
Figure 3-99 Installation language



Step 2 Perform the installation according to the installation wizard. Click **Next**.

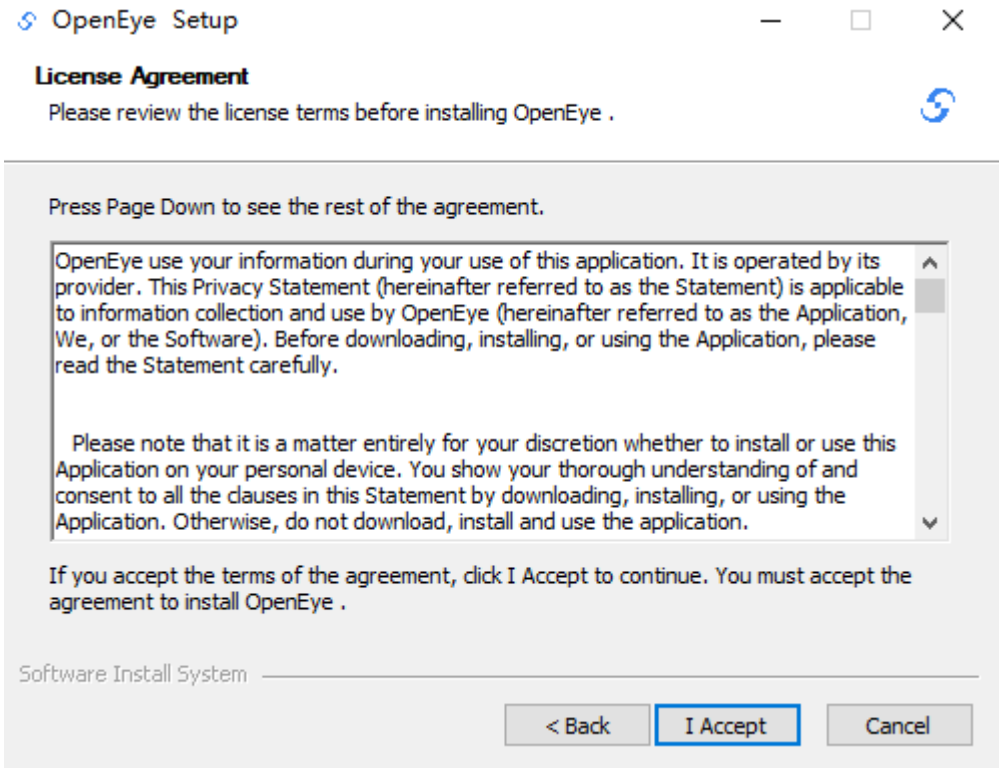
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Figure 3-100 Installation wizard



Step 3 Read the license agreements and click **I Accept**. If you do not accept the agreements, click **Cancel** to end the installation.

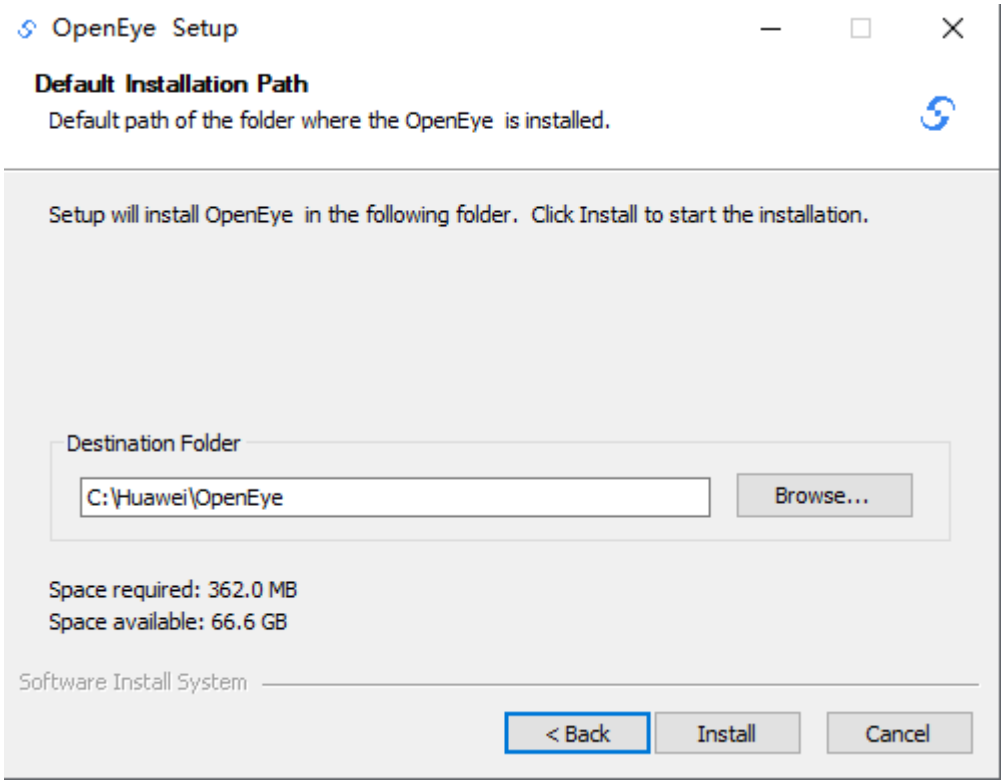
Figure 3-101 License Agreement window



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Step 4 The OpenEye provides a default installation path. Click **Browse** to change the installation path.

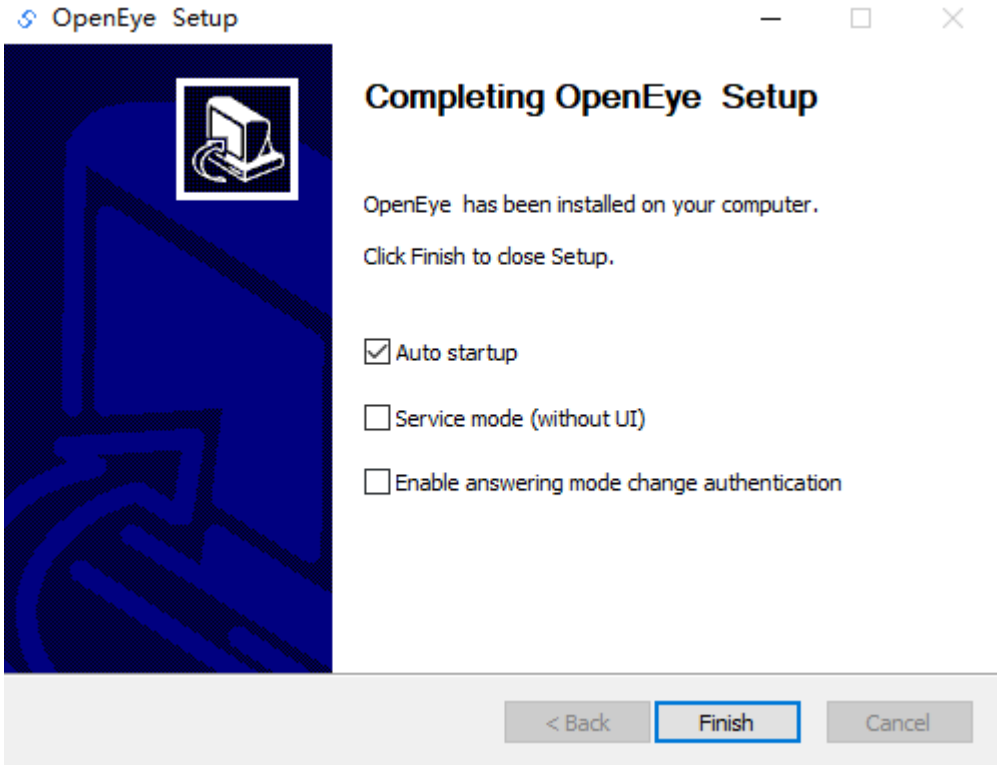
Figure 3-102 Installation path



Step 5 Click **Install**. The program will be installed automatically. After the installation is complete, you can modify some program settings.

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Figure 3-103 Installing the OpenEye



NOTE

Auto startup: Whether the OpenEye is automatically started upon system startup.

Service mode (without UI): If this option is selected, after the OpenEye is started, the OpenEye window is hidden and the OpenEye icon appears in the task bar.

Enable answering mode change authentication: This option is selected by default. When this option is selected, only the administrator can change **Answering Mode** in general settings and select **Ring for 0 Seconds Before Auto-answer**. If this option is not selected, common operators can also change **Answering Mode**.

Preset files: The version for Windows supports the preset files replacing configurations and inbound call prompt tones during installation. The configured **config.xml** file is placed in the directory where the installation program is located, and is automatically imported for configuration when the installation is complete. The audio files are renamed (as **In.wav** for the inbound call prompt tone, **ring.wav** for the RBT, and **callEndHint.wav** for the call end prompt tone), placed in the **\ring** folder in the directory where the installation program is located, and automatically replace the default prompt tones when the installation is complete. Currently, WAV files are supported, in PCMA, PCMU, or G.729 format or containing PCM data with the sampling precision of 8 or 16 bits and sampling rate of 8 kHz to 48 kHz. Dual channels are supported.

----End

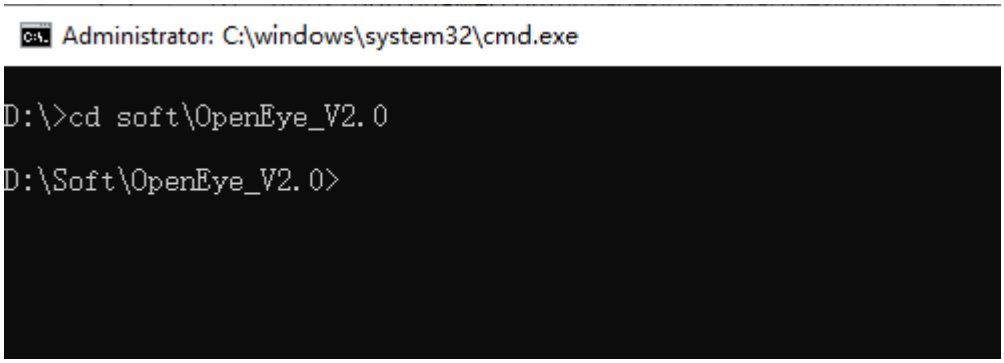
3.13.3.1.2 Silent Installation

Procedure

Step 1 **Optional:** Open the CLI as an administrator and run the following commands to go to the folder where the **OpenEyeSetup.exe** installation program is located.

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Figure 3-104 Commands for opening the installation program directory



NOTICE

The name of the path for storing the OpenEye installation package cannot contain Chinese characters or special characters. Otherwise, the installation fails.

Step 2 Perform the installation.

- **OpenEyeSetup.exe /S**: silent installation in the default path

  Figure 3-105 Command for installation in the default path

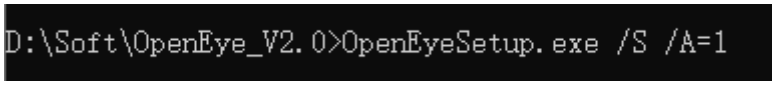
- **OpenEyeSetup.exe /S /D=D:*xxxx**xxxx***: silent installation in a specified installation path

  Figure 3-106 Command for installation in a specified path

- **OpenEyeSetup.exe /S /A=1**: silent installation in the default path, with the answering mode change authentication enabled

  Figure 3-107 Command for setting parameters for installation

- **OpenEyeSetup.exe /S /A=1 /D=D:*xxxx**xxxx***: silent installation in a specified installation path, with the answering mode change authentication enabled

  Figure 3-108 Command for setting parameters and specifying the installation path

- **OpenEyeSetup.exe /S /L=2052 /D=D:*xxxx**xxxx***: silent installation in a specified installation path, with the language set to English

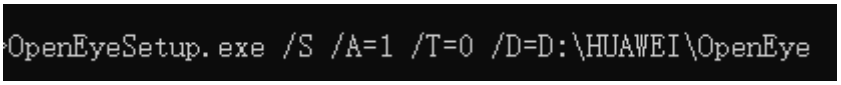
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Figure 3-109 Command for setting the language and specifying the installation path



- **OpenEyeSetup.exe /S /A=1 /T=0 /D=D:***xxxx**xxxx*: silent installation in a specified installation path, with the answering mode change authentication enabled and answering mode interval set

  Figure 3-110 Command for enabling the answering mode change authentication, setting the answering interval, and specifying the installation path

- **OpenEyeSetup.exe /S /WebMode=1 /AutoBoot=0**: web integration mode set to the service mode, with the auto startup upon system startup disabled

  Figure 3-111 Command for setting the web integration mode to the service mode and disabling the auto startup upon system startup

  NOTE

  - **/S** indicates silent installation.
  - **/A=1** indicates that answering mode change authentication is enabled.
  - **/D=***Installation path* indicates the specified installation path.
  - **/L=2052** indicates the language setting. **2052** indicates Chinese, **1033** indicates English, **1034** indicates Spanish, and **1054** indicates Thai. If this parameter is not set, the default language of the operating system is used.
  - **/T=0** indicates that the answering interval is **0**. If this parameter is not set, the default interval (0) is used.
  - **/T** takes effect on the OpenEye only when **/A** is set to **1**.
  - **/WebMode=1** indicates that the web integration mode is set to the service mode. The value **0** indicates the common mode where the program window is displayed after the program is started. The value **1** indicates the service mode where the program window is hidden and the program icon appears in the task bar after the program is started.
  - **/AutoBoot=0** indicates that the OpenEye is not started upon system startup. By default, the OpenEye is started upon system startup. You can use **/AutoBoot=0** to disable the function.

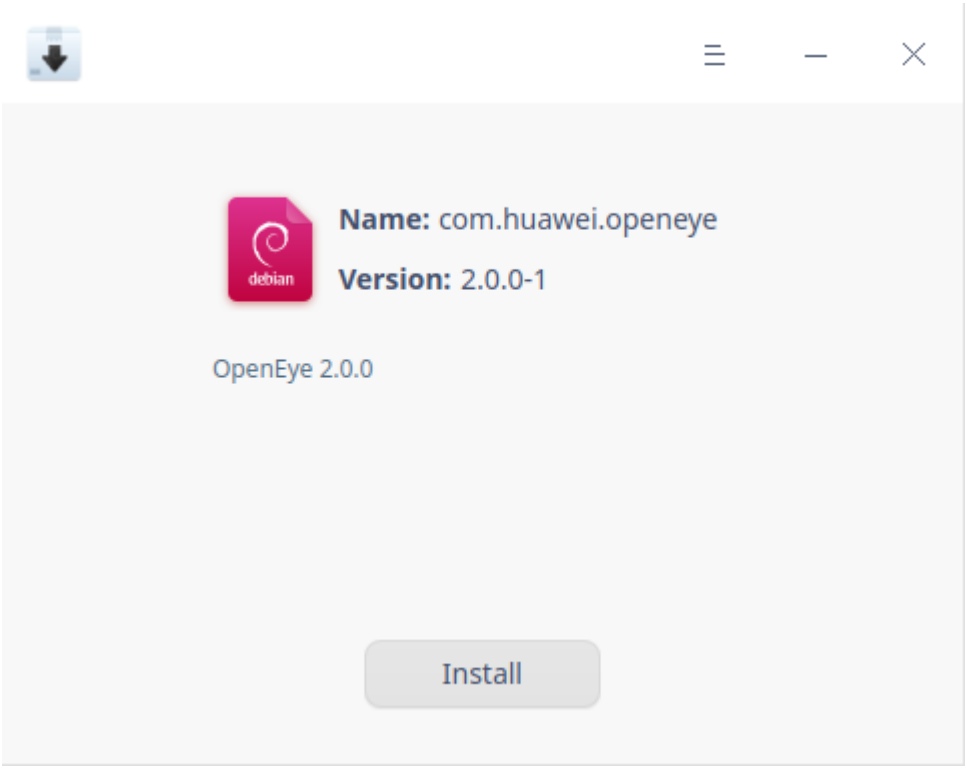
  Use spaces to separate parameters. **/S** is mandatory for silent installation. If you want to specify an installation path, place **/D** as the last parameter in the installation command. Otherwise, the parameters following **/D** are regarded as a part of the path.

----End

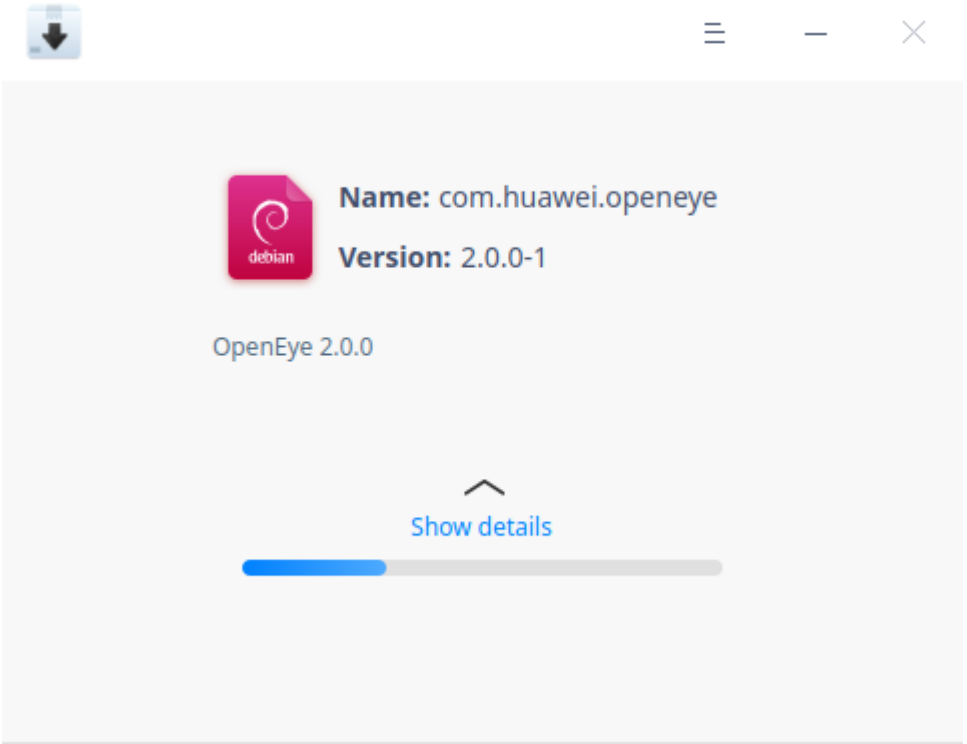
3.13.3.1.3 Chinese Version Installation

Step 1 Double-click the installation package to run the installation program

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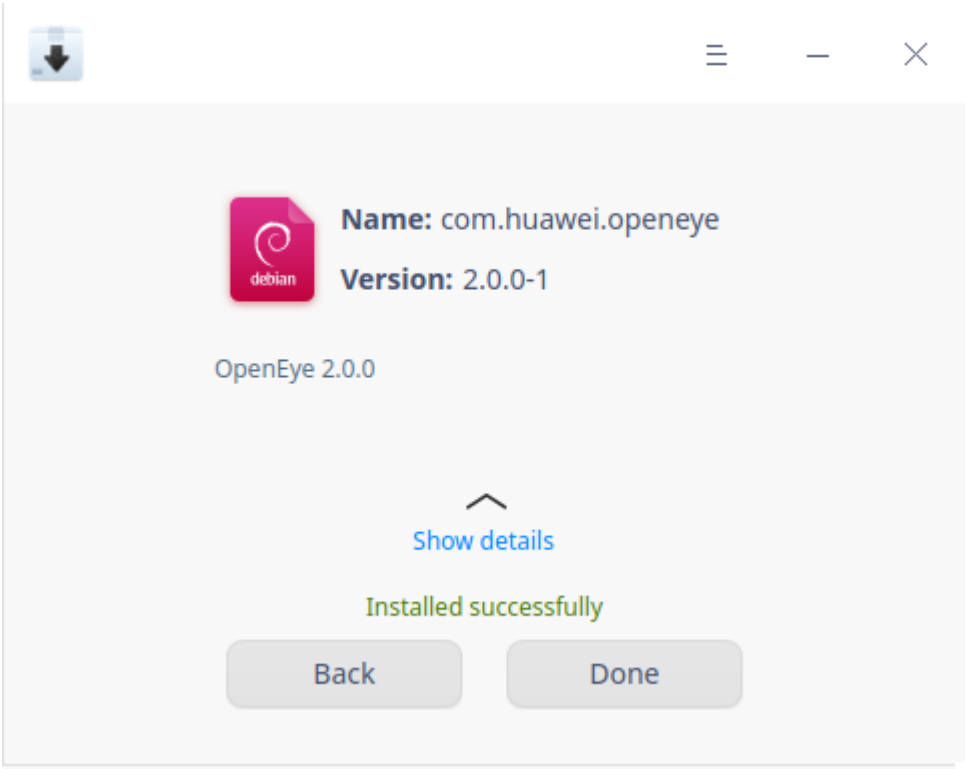


Step 2 Click **Install**. (You may need to enter the computer user password for authorization.)



Step 3 Complete the installation.

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----End

NOTE

- After the installation is complete, you can run **DefaultWebMode.sh** in the installation directory to switch the program to the service mode (where the program window is hidden and the program icon appears in the task bar after the program is started).
- If you run the **sudo dpkg -i com.huawei.openeye*.deb** command to install the software, when the message "launch mode without UI: yes/no ?" is displayed, you can enter **yes** to select the service mode.

3.13.3.2 Version Upgrade

3.13.3.2.1 Windows Version Upgrade

Overview

Version upgrade requires uninstalling the original version and installing the new version.

You can perform the upgrade in either of the following ways:

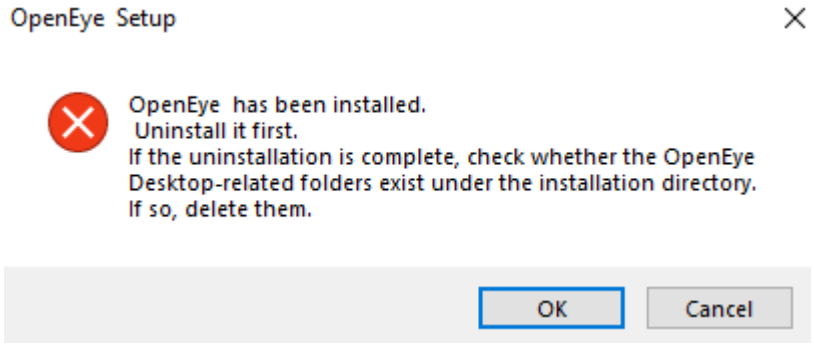
- Overwrite upgrade: Overwrite the original OpenEye client, which retains the original configuration.
- Upgrade after uninstallation: Manually uninstall the original client and install the new version. You can choose whether to retain the original client configuration.

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Overwrite Upgrade

Step 1 Double-click **OpenEyeSetup.exe** to install the program. An uninstallation prompt is displayed. Click **OK** to uninstall the OpenEye of the original version.

Figure 3-112 Uninstallation prompt



Step 2 Wait until the uninstallation is complete. After the uninstallation is complete, install the new version. For details, see **Procedure**.

----End

Upgrade After Uninstallation

Step 1 Manually uninstall the OpenEye program of the original version.

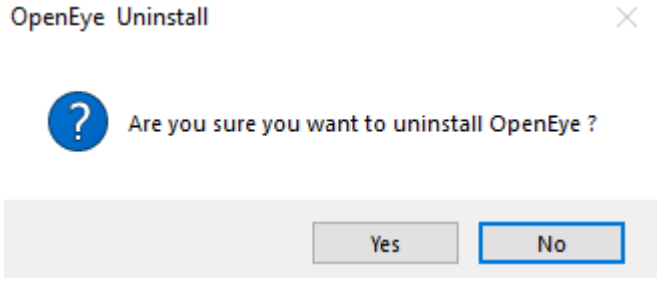
You can choose either of the following ways as required:

- Click the **Start** button, go to **Settings** > **Apps**, find the OpenEye application in the installed application list, and click **Uninstall** to manually uninstall it.
- Go to the OpenEye installation directory, for example, **C:\Huawei\OpenEye**.

  Double-click the uninstallation program uninst.exe to manually uninstall it.

Step 2 Confirm the uninstallation and click **OK**.

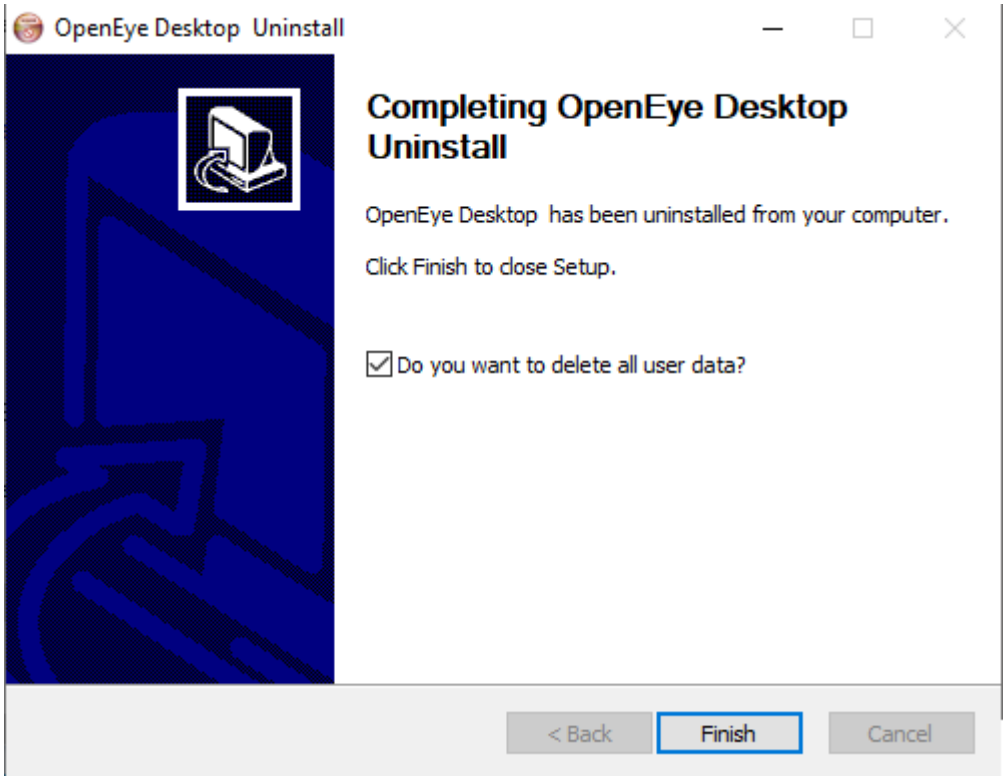
Figure 3-113 Information confirmation



Step 3 When the uninstallation is complete, select **Do you want to delete all user data?** and click **Finish**.

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Figure 3-114 Uninstalling the program



Step 4 Double-click **OpenEyeSetup.exe** to run the installation program. For details, see **Common Installation**.

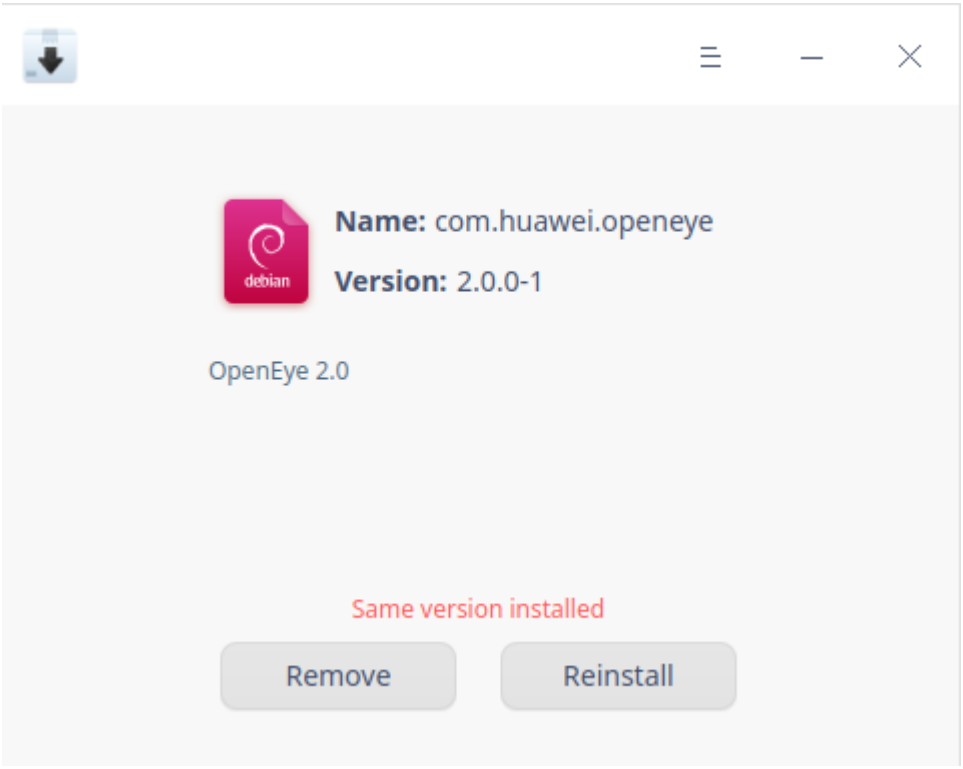
----End

3.13.3.2.2 Upgrade for Chinese Version

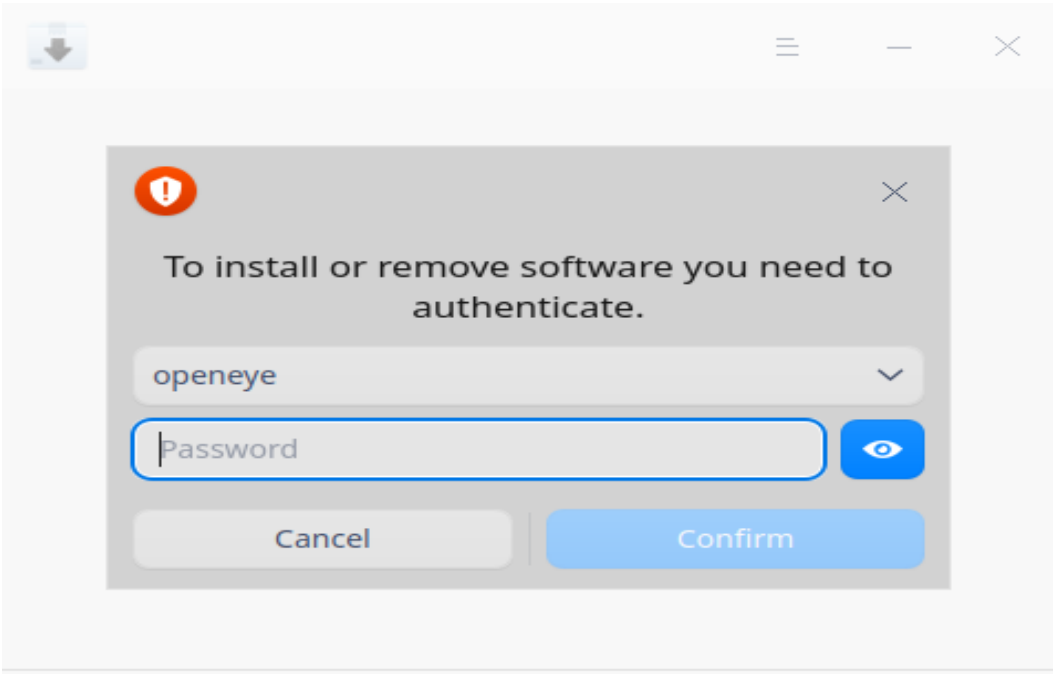
Overwrite Upgrade

Step 1 Double-click the **com.huawei.openeye**_*XXX*_*XXX*.**deb** installation program. A message is displayed, indicating that the same version has been installed. Click **Reinstall**.

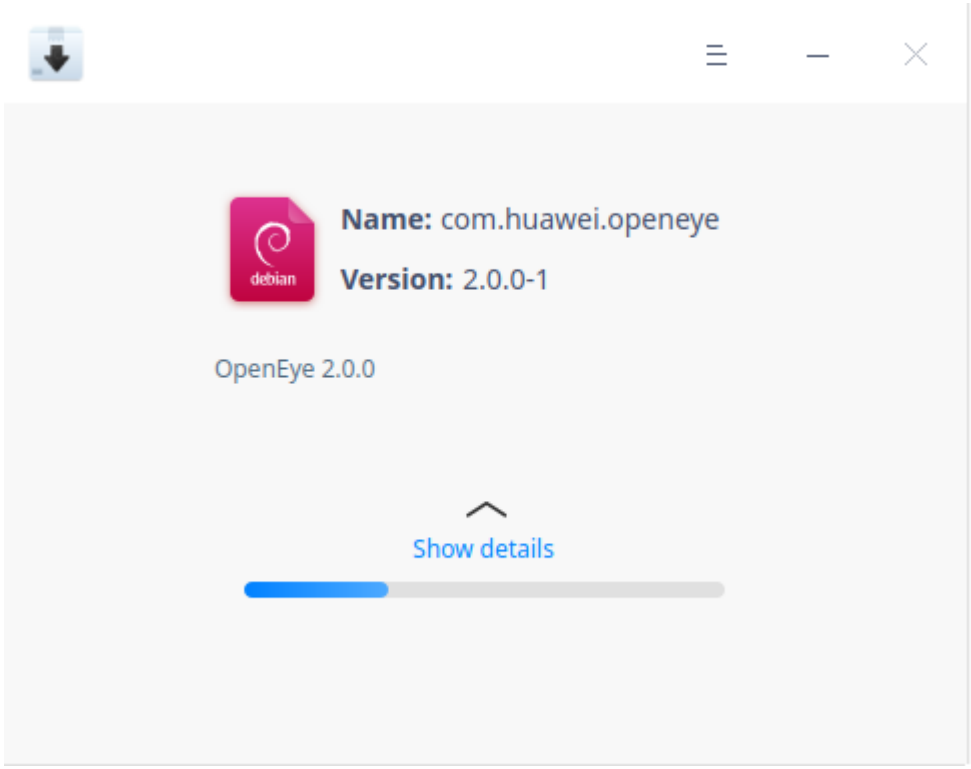
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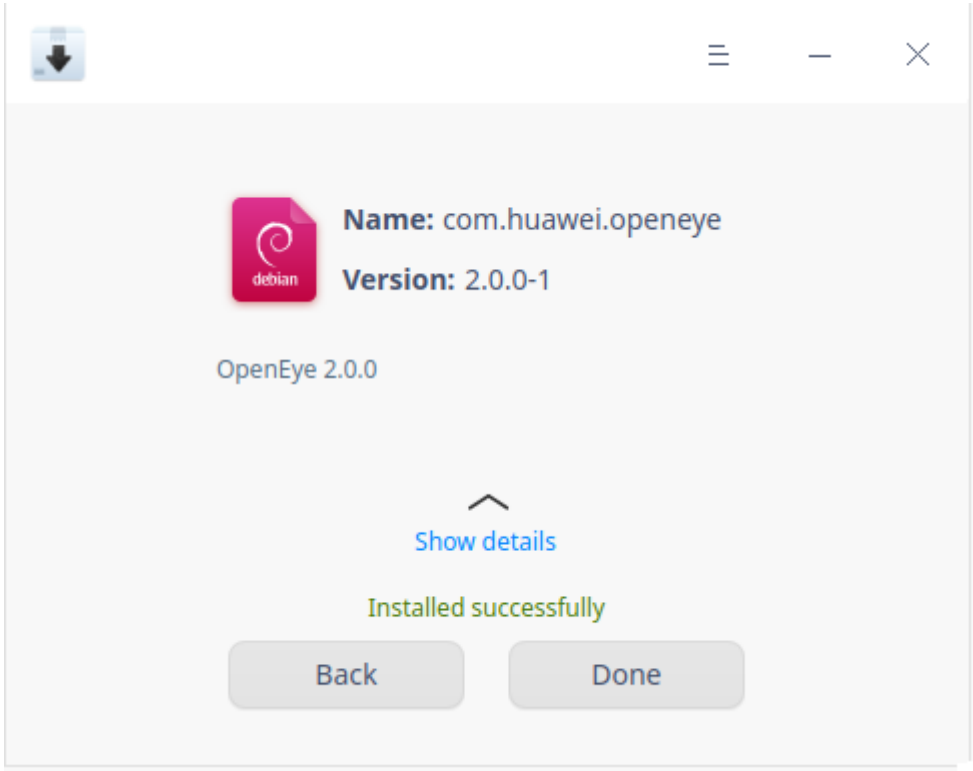
Step 2 In the displayed dialog box, enter the password and click **Confirm**.



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Step 3 Complete the installation.



----End

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3.13.3.3 Verifying Software Package Integrity

To prevent software packages from being tampered with or damaged during transmission, which may threaten the carrier network security, you need to verify the integrity of the software packages after obtaining them. Software packages can be deployed only after they pass the verification.

Context

Each software package and its signature file are stored in the same directory. Each software package corresponds to a verification file, which is used to verify the integrity of the software package. To download the digital signature file of a software package, click **pgp** or **cms** corresponding to the software package on the support website.

- You can click **pgp** to download a signature file in .asc format for manually verifying the integrity of a software package. To use a software package independently, you need to manually verify the integrity of the software package. For details, see **Procedure**.

  NOTE

  This method can be used to verify the integrity of all software packages.

- You can click **cms** to download a signature file in .p7s format for automatically verifying the integrity of a software package. You need to import a software package together with its CMS signature for the NMS or deployment tool to verify the digital signature.

Procedure

Step 1 Visit **https://support.huawei.com/carrierindex/en/hwe/index.html**.

Step 2 Download *OpenPGP Signature Verification Guide*.

The download URL is **https://support.huawei.com/carrier/docview!docview?nid=PK100000008**.

Step 3 Verify software package integrity by referring to *OpenPGP Signature Verification Guide*.

----End

Troubleshooting

If a software package fails the verification, do not use the software package, and contact Huawei technical support.

3.13.4 Help Information Obtaining

3.13.4.1 Obtaining Help Information

To obtain the help document, select the OpenEye client software and press **F1**.

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3.13.5 Login and Logout

The login module of the OpenEye client software provides the functions of login, logout, password remembering, and automatic login.

NOTE

The login module does not provide the password change function. The UAP server does not provide the API function interface for changing user passwords. Therefore, the client based on the API function interface of the UAP server cannot implement this function. From the perspective of customer requirements, no agent can proactively change phone account passwords of a carrier's businesses. Phone accounts are created by an administrator in a unified manner, and passwords are set and changed by the administrator.

3.13.5.1 Login

Prerequisites

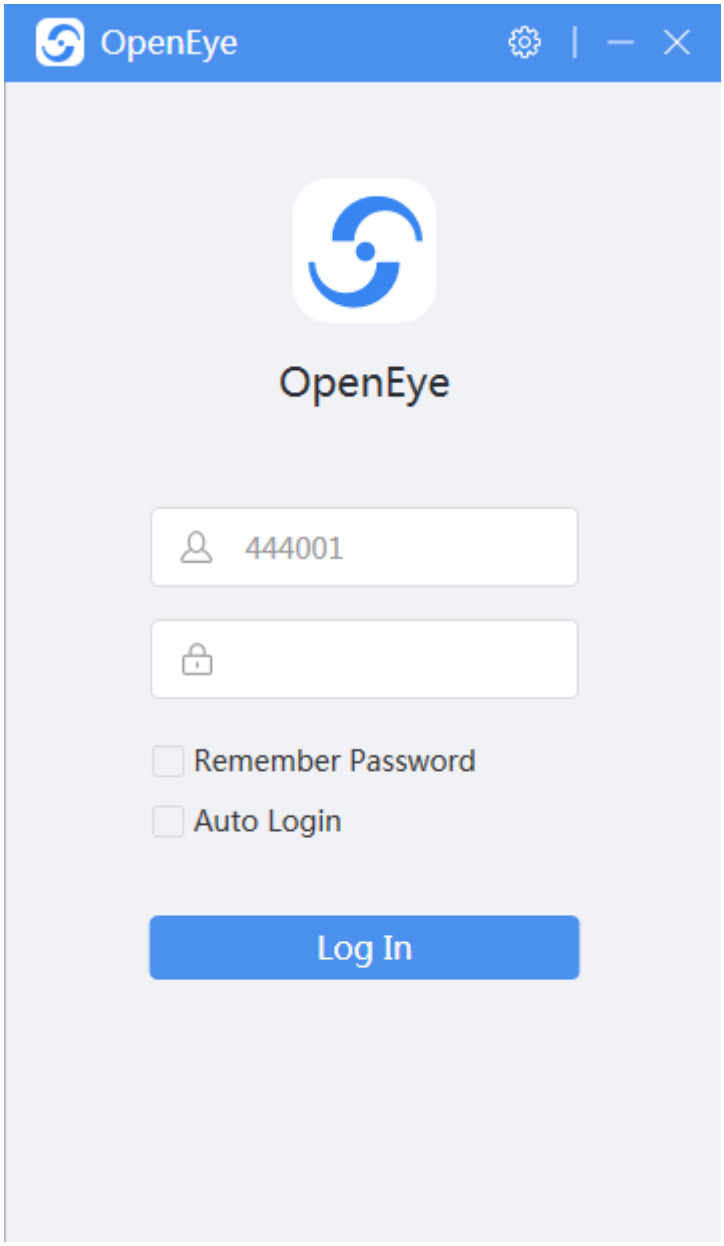
You have completed the configurations in **Settings** > **Server Settings**.

Procedure

Step 1 Double-click the OpenEye and enter the softphone number and password on the login page. You can select **Remember Password** or **Auto Login** as required. Click **Log In**.

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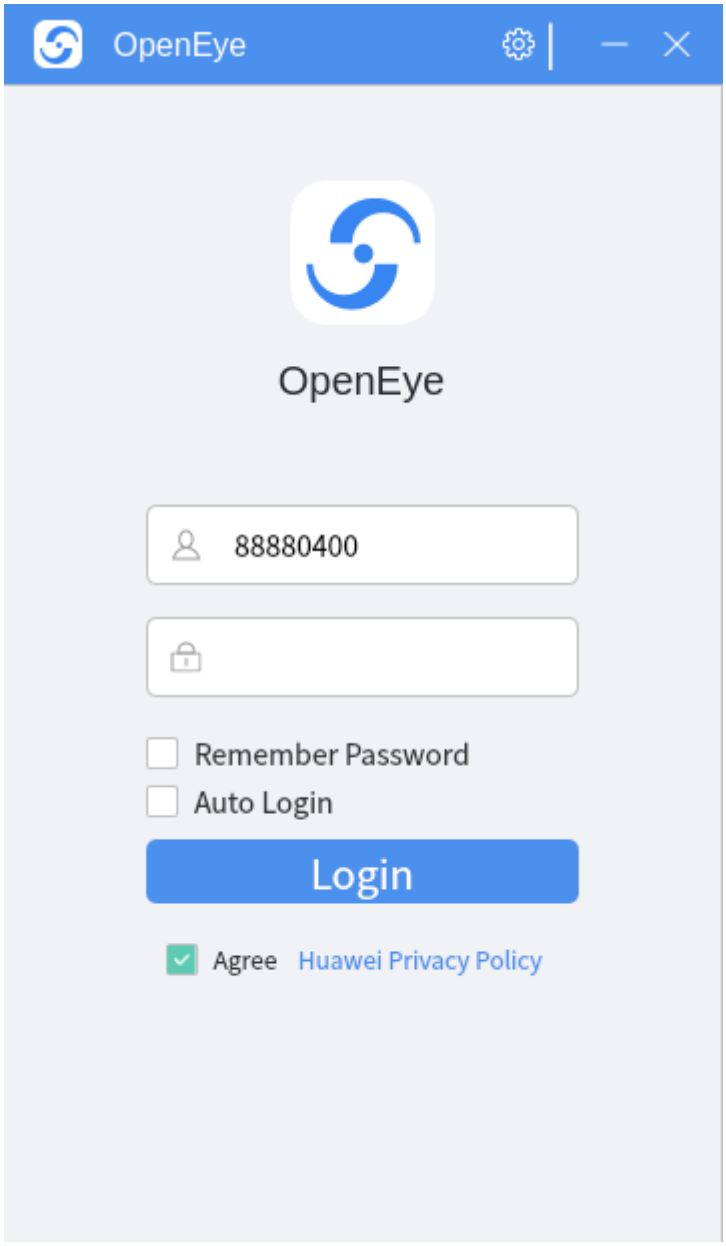
Figure 3-115 Login page



Before logging in to the Chinese version and making anonymous calls, select **Agree Huawei Privacy Policy**.

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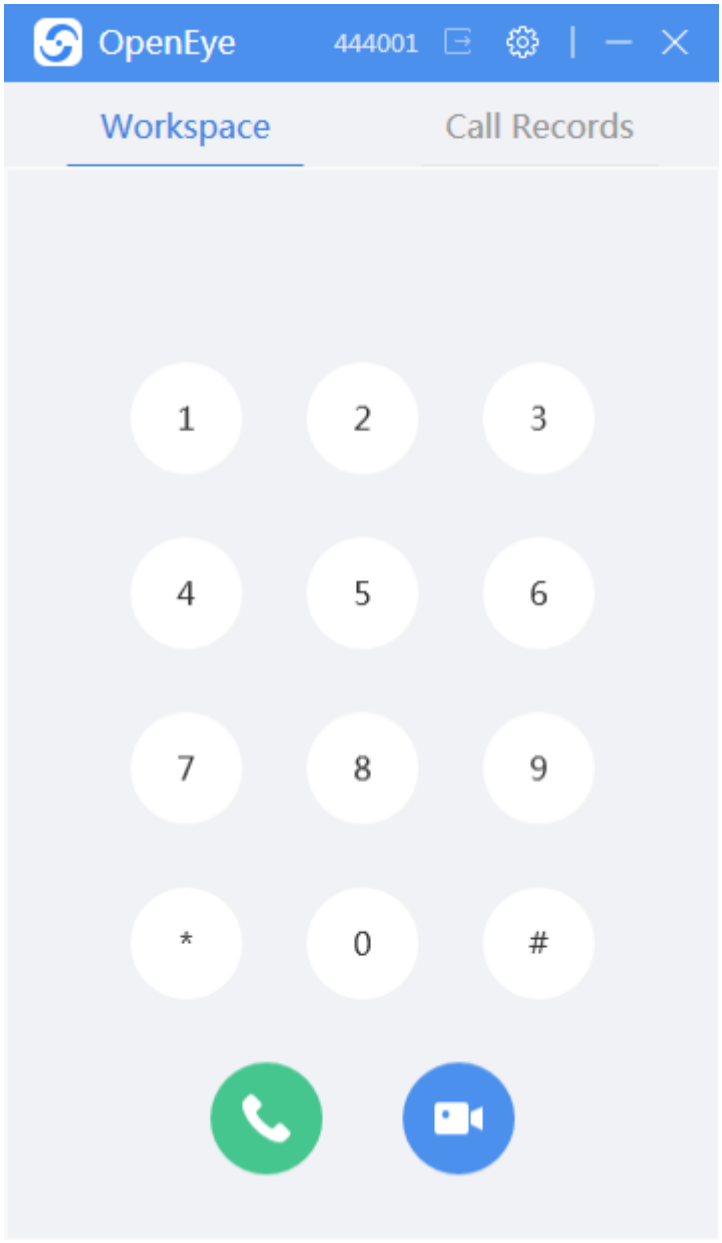
Figure 3-116 Login Page - Chinese Version



Step 2 Log in to the OpenEye workspace page. If the login fails, a dialog box is displayed, prompting you to change the account or password.

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Figure 3-117 OpenEye workspace



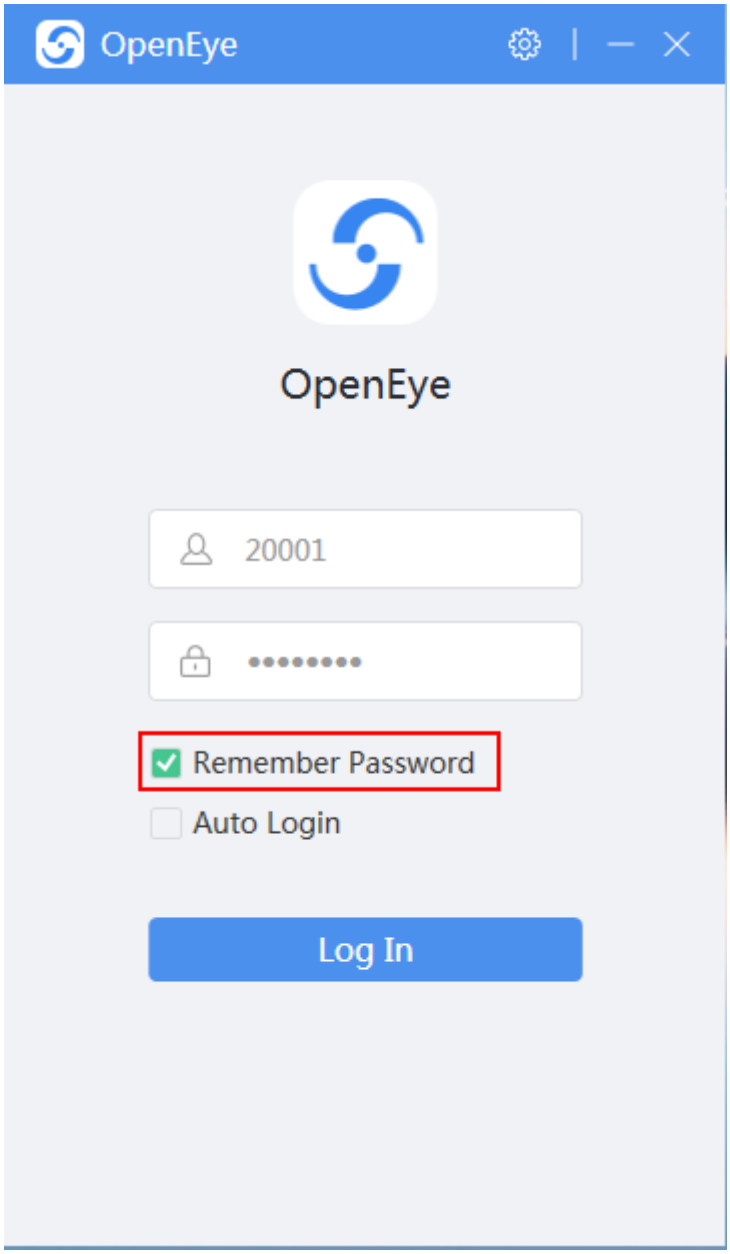
----End

3.13.5.2 Remember Password

The **Remember Password** function is supported on the login page. You can select **Remember Password** to save the password so that you do not need to enter the password in the next login.

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Figure 3-118 Remember Password

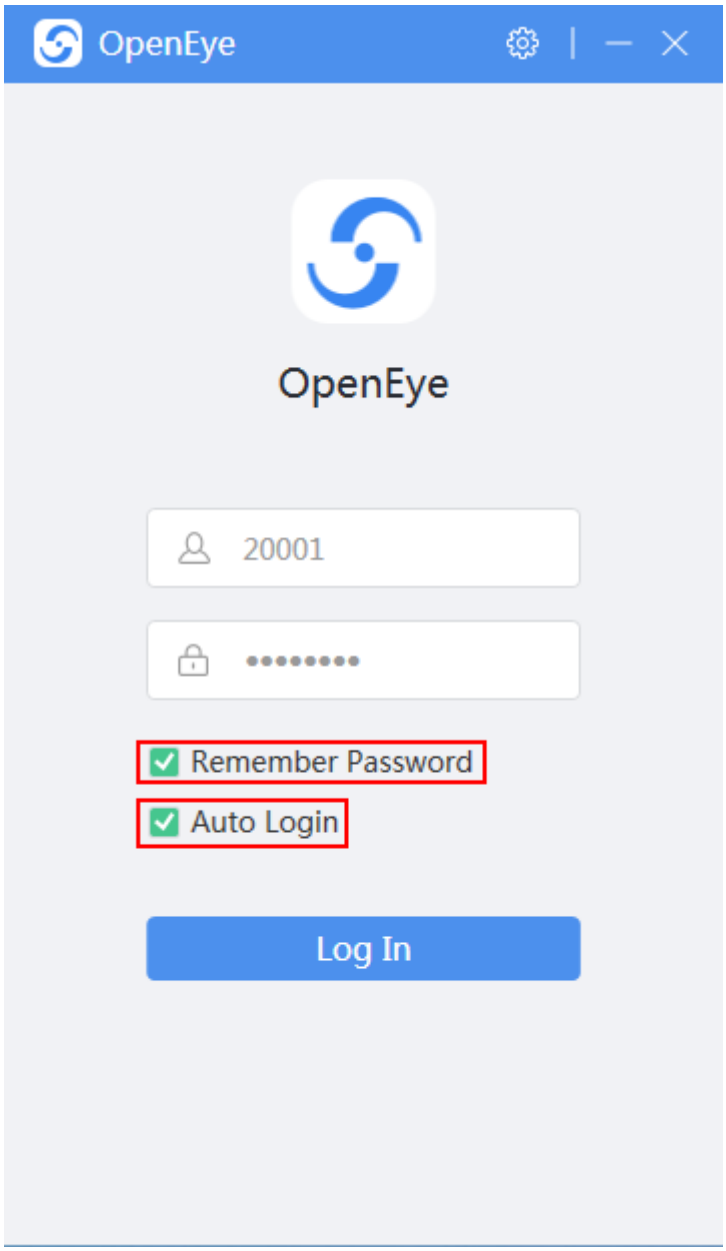


3.13.5.3 Auto Login

The **Auto Login** function is supported on the login page, which takes effect after the login is successful. The login information used for the successful login are automatically used for the next login to the OpenEye.

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Figure 3-119 Auto Login



NOTE

You can select both **Remember Password** and **Auto Login** or only one of them.

3.13.5.4 Login Status

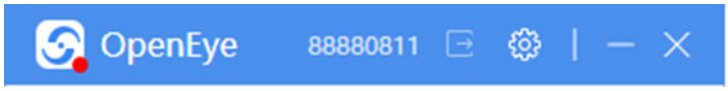
NOTE

After login, a dot is added to the logo on the home page. The login status is displayed in green, red, or gray respectively. Move the pointer to the logo on the home page. A dialog box is displayed, indicating *IP address*:*Port number* of a server. The registration status (dot in different colors) is displayed. The server registration status is displayed in green or gray. In pool networking, the registration status of all servers is displayed. In non-pool networking, only the status of the server registered successfully is displayed.

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Logo displayed (green, red, and gray) after successful login is as follows.

Figure 3-120 Logo on the home page



Login status is as follows.

Figure 3-121 All servers are registered and logged in

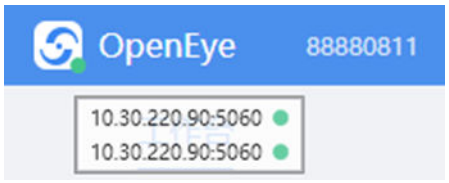


Figure 3-122 Red: some servers failed to be registered or logged in

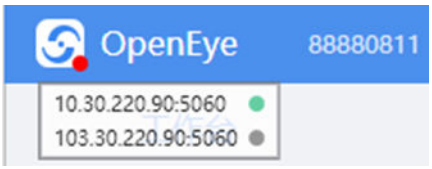
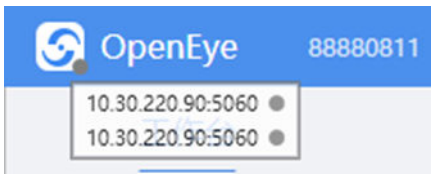


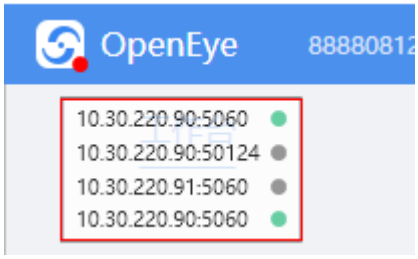
Figure 3-123 All servers are offline



Elements in the server status dialog box:

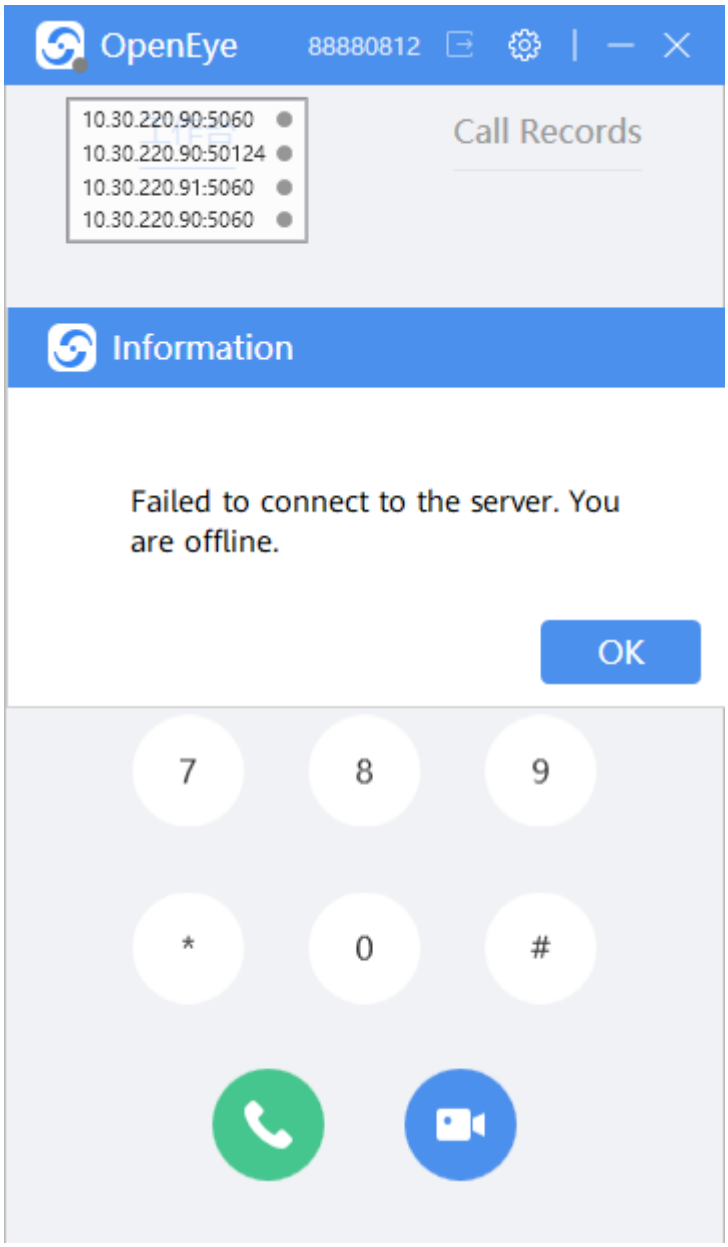
IP address:*Port number*

Figure 3-124 Green: registration successful; gray: registration failed

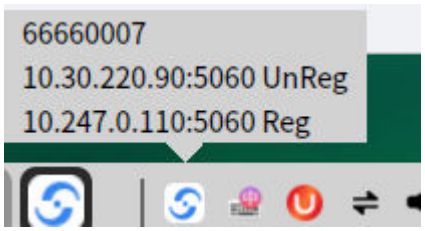


All servers are offline, the login status turns gray, and a dialog box is displayed, indicating that the servers are offline.

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After the login, when you move the cursor over the OpenEye icon in the task bar, an infotip is displayed, showing the server registration status. **Reg** indicates that the registration is successful while **UnReg** indicates that the registration fails.

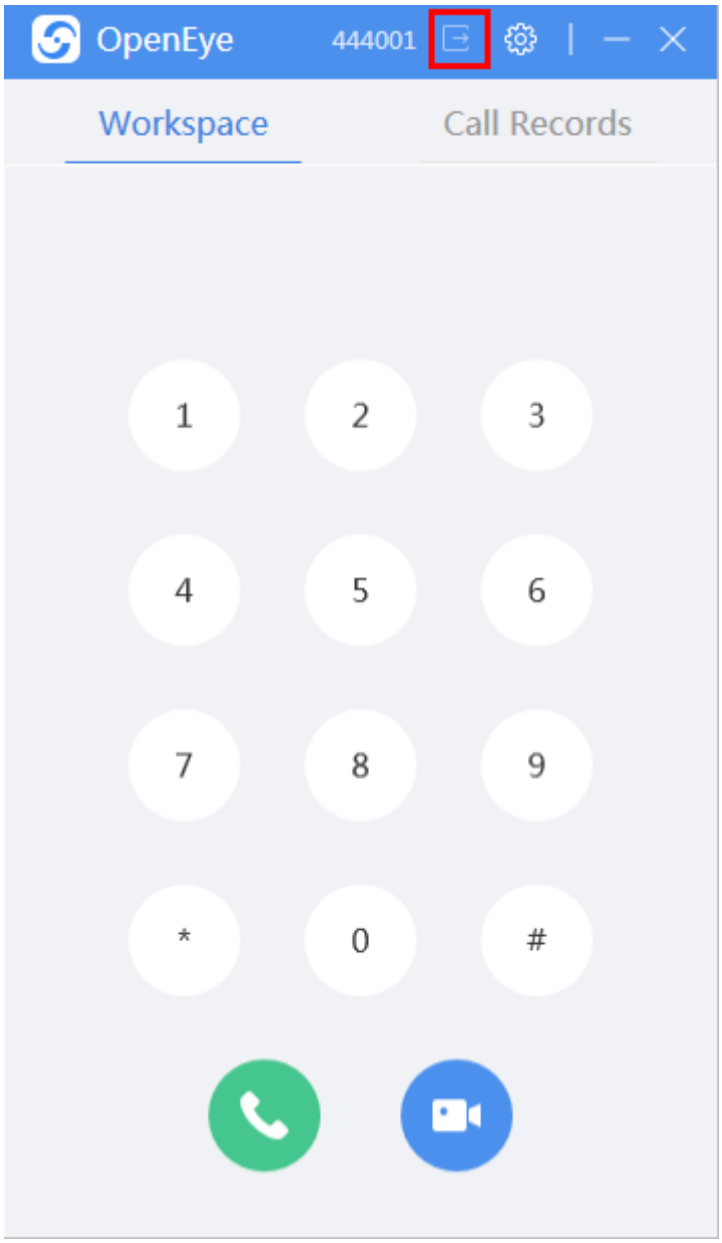


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3.13.5.5 Logout

After login, you can click  on the workspace to log out of the system and return to the login page.

Figure 3-125 Logout



3.13.6 Introduction to System Settings

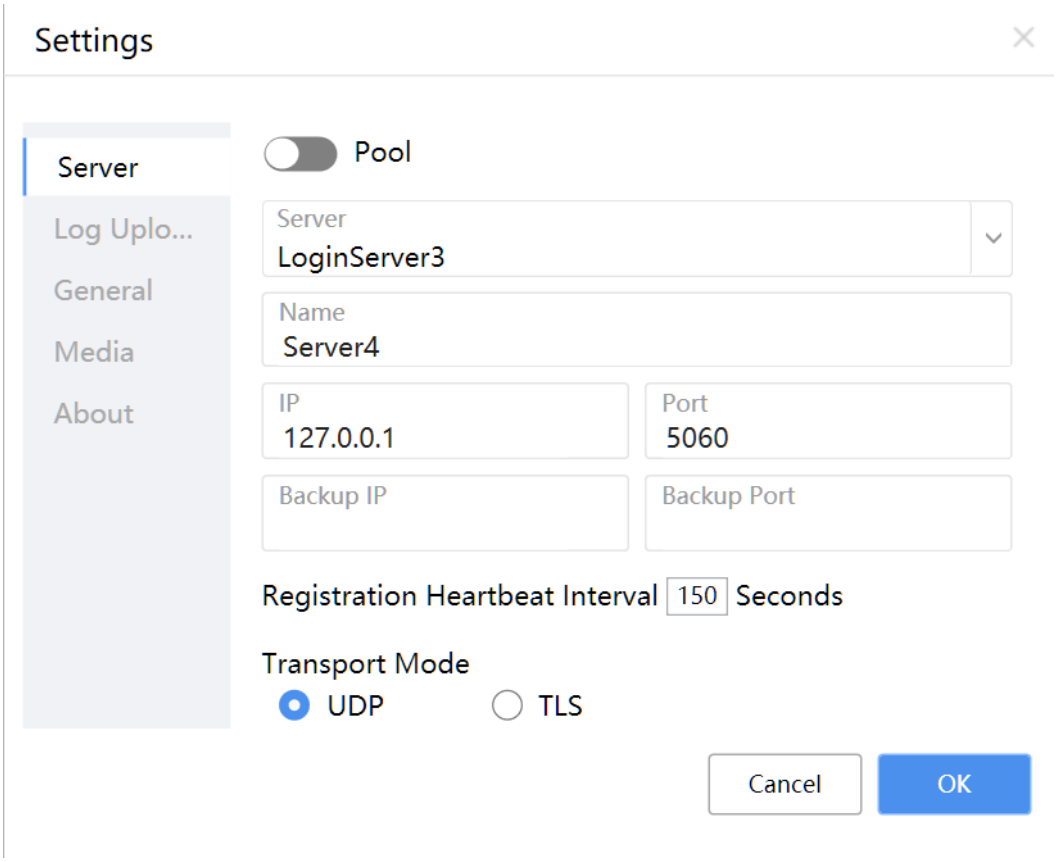
The OpenEye client allows customers to customize some system parameters to meet personalized requirements. You can click  to go to the setting page and set parameters.

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3.13.6.1 Server Settings

Server settings support the pool networking mode and common server setting mode.

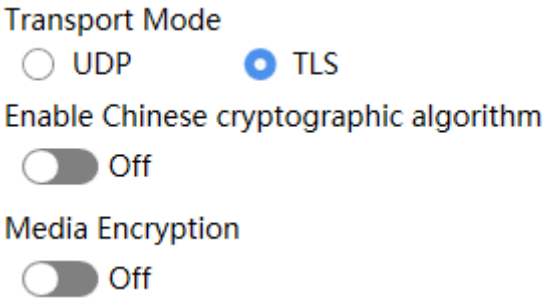
Figure 3-126 Settings page



- Common networking: single-server configuration. The configuration information is as follows:
  - **Server**: Select a server from the drop-down list. A maximum of five servers can be configured.
  - **Name**: server name
  - **IP**: IP address of the server
  - **Port**: port number of the server
  - **Backup IP**: IP address of the backup server
  - **Backup Port**: port number of the backup server
  - **Registration Heartbeat Interval**: The default value is **150**. The minimum value is **30**, which is half of the login expiration time.
  - **Transport Mode**: UDP and TLS modes are supported.

  In TLS transmission mode, you can choose whether to enable **Enable Chinese cryptographic algorithm** and **Media Encryption**.

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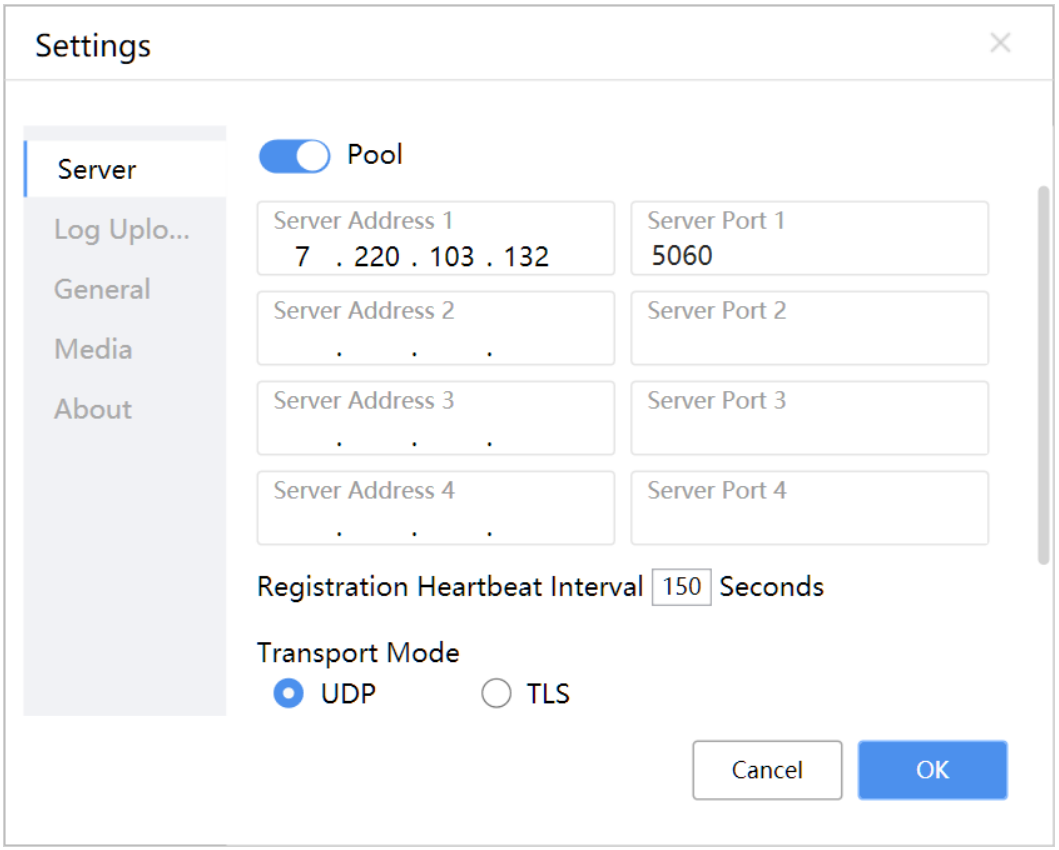


To use the TLS transmission mode, you need to configure the certificates and keys in the **config.xml** file in the program installation directory.

```
<!--Non-Chinese cryptographic algorithm-->
<setting key="tlsParam" caCertPath="" clientCertPath="" clientKeyPath="" clientPrivkeyPwd="" />
<!--Chinese cryptographic algorithm-->
<setting key="smTlsParam" smSignCertPath="" smSignKeyCertPath="" smSignKeyFilePwd="" smEncCertPath="" smEncKeyCertPath="" smEncKeyFilePwd="" smGmCaDirPath="" />
```

- Pool networking: One account can be used to log in to multiple servers at the same time. Currently, a maximum of four servers are supported. In this mode, the login account can answer inbound calls from any server in the pool. When an outbound call is made, the first server set in the pool is used as the primary server. That is, only the account on the first server set in the pool can be used to make outbound calls.

Figure 3-127 Configuring the pool networking



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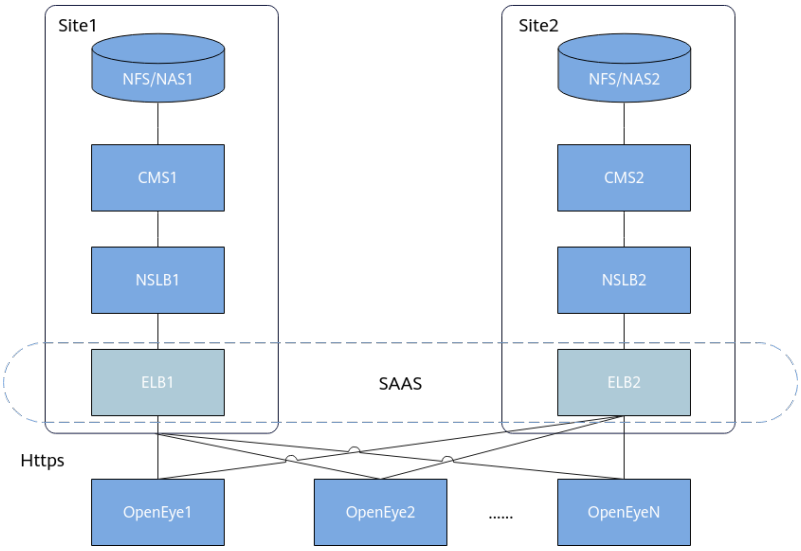
NOTE

- The minimum heartbeat interval that can take effect is determined by the minimum login expiration time configured on the connected server.
- Server setting operations are not allowed during a call. To set server information, log out of the OpenEye.
- After the registration is successful, the OpenEye sends Option messages every 30 seconds to keep the UDP port alive. Maintenance personnel can modify Option message sending configuration in the **config.xml** file as follows: Add **<optionInterval value="***30***" />** under the **configuration/settings** node. **optionInterval value** indicates the interval. If it is set to **0** or a value greater than or equal to the registration heartbeat interval, Option messages are not sent. The minimum interval is 10 seconds. If **optionInterval value** is set to a value less than 10, Option messages are sent every 10 seconds.

3.13.6.2 Log Upload Settings

Configure the IP address and port number of the NSLB and manage certificates in the OpenEye. You can invoke the HTTPS interface of the CMS to upload logs and collect fault information. In CTI pool mode, the OpenEye synchronizes logs to one NFS or NAS that is unspecified. Therefore, logs need to be obtained from two NFSs or NASs.

Figure 3-128 OpenEye uploading log files to the file server through the HTTPS interface



3.13.6.2.1 Obtaining the NSLB Certificate

Obtain the NSLB certificate by referring to this section.

Prerequisites

None

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Procedure

Step 1 Enter **https://***IP address*:*Port number* in the address box of the browser. In the URL, *IP address* and *Port number* indicate the IP address and port number of the NSLB or ELB deployed in the AICC, respectively.

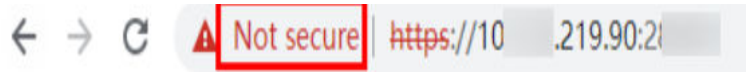
NOTE

The values of *IP address* and *Port number* vary with the networking environment.

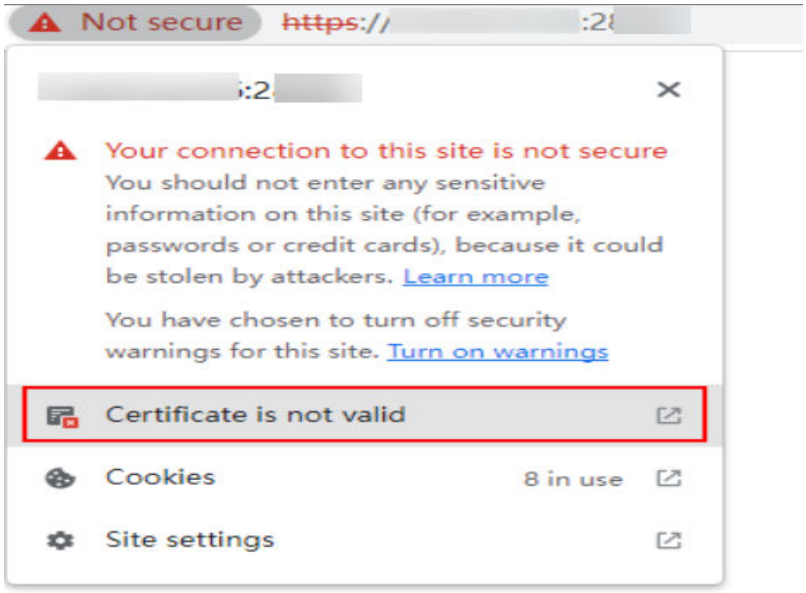
- In the OP independent deployment environment, enter the IP address and port number **28090** of the virtualized NSLB.
- In the OP integration environment, enter the IP address and port number **28090** of the containerized NSLB.
- In the SaaS environment, enter the IP address and port number **28090** of the ELB.

Click 

in front of the address box to obtain the certificate file.

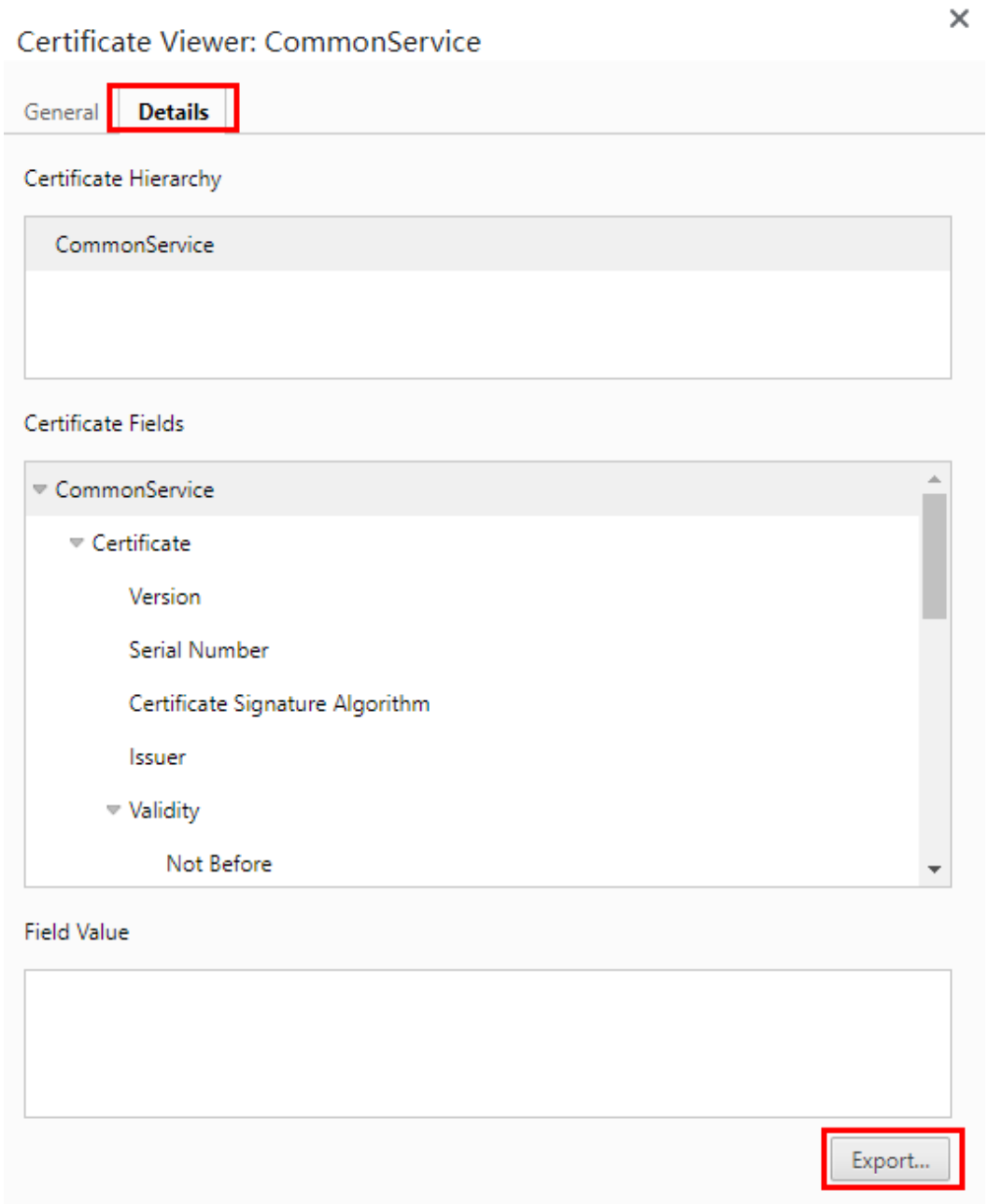


Step 2 Click the icon on the right of **Certificate is not invalid** to view the certificate information.



Step 3 Click the **Details** tab and click **Export**.

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Step 4 Set **File name** to **cert1.crt**.

If there are two NSLBs in CTI pool mode, set **File name** to **cert2.crt** for the other NSLB and retain the default value of **Save as type**.

Step 5 Click **Save**. The NSLB certificate is obtained.

----End

3.13.6.2.2 Configuring OpenEye Log Upload Settings

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

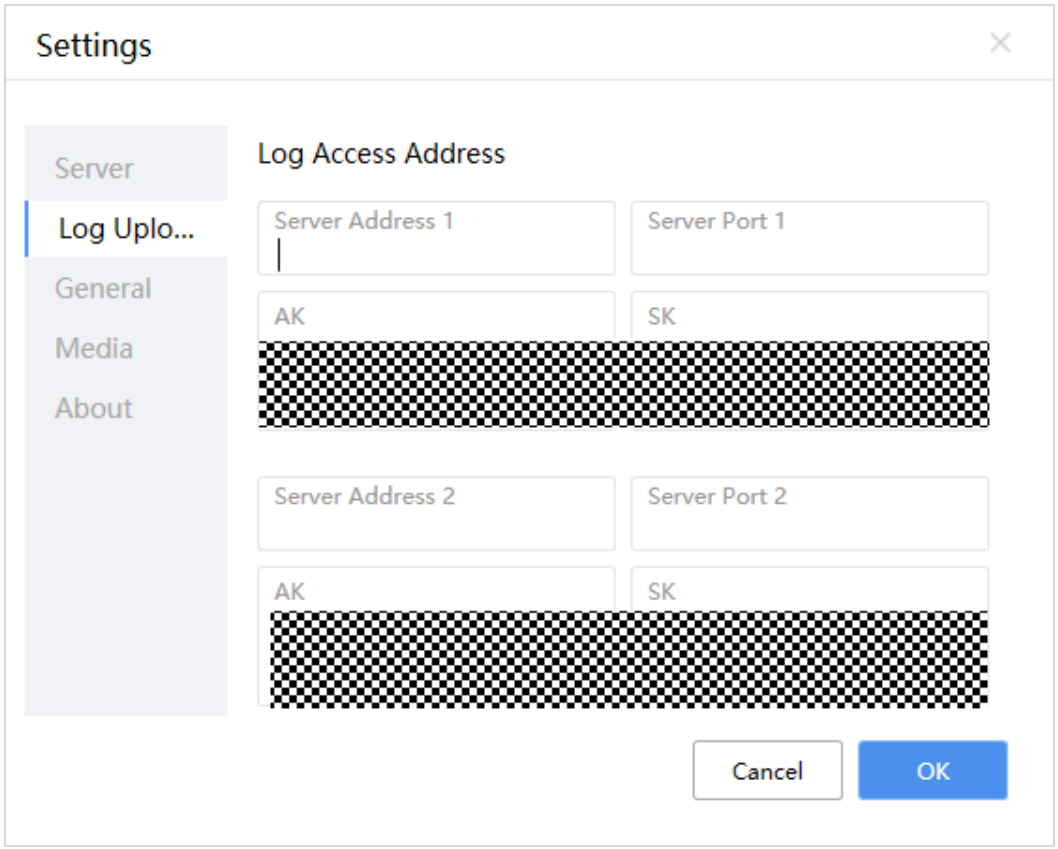
Step 2 Click  on the home page of the OpenEye client to enter the **Settings** page.

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Step 3 On the **Log Upload** tab page, you can configure the NSLB IP address, port number, and authentication AK and SK of the CC-CMS upload interface.

Address *and port *:

- In the OP independent deployment environment, enter the IP address and port number **28090** of the virtualized NSLB.
- In the OP integration environment, enter the IP address and port number **28090** of the containerized NSLB.
- For the SaaS network, enter the IP address or domain name of the ELB and port number **28090**.



Click **OK** to save the configured IP address, port number, AK, and SK (encrypted) to the **config.xml** configuration file (in the program installation directory), as shown in the figure below.

Figure 3-129 Configuration file of upload settings

```
<upload>
<!
<setting addr="127.0.0.1" port="1234" certPath="upload/cert/cert1.crt" ak="" sk="" />
<setting addr="127.0.0.1" port="2234" certPath="upload/cert/cert2.crt" ak="" sk="" />
<!
>
<setting cacheExpired="10" />
</upload>
```

- Set **addr** and **port** to the IP address, domain name, and port number of the NSLB or ELB.

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- Set **certPath** to the path of the NSLB certificate, which is relative to the OpenEye installation path.
- **ak** and **sk** are required for authentication of the CMS log upload interface.

  When the OpenEye is connected to the CMS, an independent AK and SK need to be configured on the GUI. Add a switch in the system configuration parameters to configure the AK of the OpenEye. Perform the following steps to complete the configuration:

  a. Sign in to the AICC as the system administrator.
  b. Choose **Call Center** > **Authentication Configuration** to add an AK and SK. For details, see Configuring Authentication Information. The added AK and SK will be input to the **config.xml** configuration file.
  c. Copy the app ID created in step 2 for OpenEye authentication.
  d. Choose **Configuration Center** > **System Management** > **System Parameter**. Search for the **App ID used for authenticating the OpenEye log upload interface** parameter, and enter the app ID copied in step 3.

NOTE

The NSLB certificate can be configured in Windows or Chinese version.

1. After the OpenEye is installed, manually copy the certificate to the related path (**upload/cert** is recommended for easy management) in the OpenEye directory, and enter the **certPath** field of the corresponding NSLB in the **config.xml** file.

2. Before installing the OpenEye, set **certPath** in the **config.xml** configuration file to **upload/cert/cert1.crt** and **upload/cert/cert2.crt** (if there are two NSLBs), modify the certificate names respectively to **cert1.crt** and **cert2.crt**, and then copy the certificates and the **config.xml** file to the path where the OpenEye installation package is located. After the preparation is complete, install the Windows version and Chinese version of OpenEye as follows:

- Windows version: Click the installation package to install the OpenEye. The certificate and the **config.xml** file will be copied to the corresponding path.
- Chinese version: Run the **sudo EXTRA_PATH=/path dpkg -i com.huawei.openeye**_*XXXX_XXXX*.**deb** command to install the OpenEye. The certificate and the **config.xml** file will be copied to the corresponding path (**/path** is the absolute path of the directory where the certificate and the **config.xml** file are located).

----End

3.13.6.2.3 Collecting Logs

Prerequisites

- You have installed the OpenEye.
- You have configured OpenEye log upload settings.

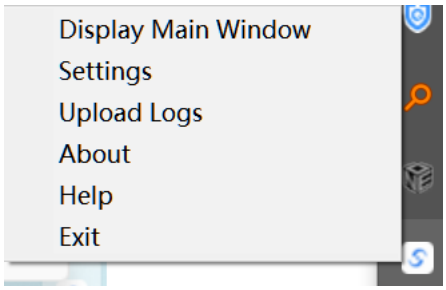
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Right-click the OpenEye icon in the system tray and choose **Upload Logs** from the shortcut menu. The task is executed in the background.

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Figure 3-130 Log upload



Step 3 After the logs are uploaded, go to the **/upload/cache** directory in the OpenEye installation directory to obtain the logs. The log file is named in the format of **OELOG**+*account*+*IP address of the OpenEye computer*+*packaging time* (*YYYYMMDDhhmmss*).

NOTE

- Log deletion time: 10 days by default.
- If the log size exceeds 50 MB, contact O&M personnel to manually obtain the logs.

Log collection scope:

./Log/yyyy-MM-dd.log
./Log/TsdkLog/hmea/HMEA_MediaEngine.log
./Log/TsdkLog/hmea/HMEA_StatInfo.log
./Log/TsdkLog/hmea/HMEA_Audev.log
./Log/TsdkLog/hmea/HMEA_VE.log
./Log/TsdkLog/hmev/hme_v_log_api.log
./Log/TsdkLog/hmev/hme_v_log_trace.log
./Log/TsdkLog/hmev/hme_v_log_io.log
./Log/TsdkLog/hmev/hme_v_log_error.log
./Log/TsdkLog/opensdk/tsdk_log.log
./Log/TsdkLog/tsdk/tup_mediaservice.log
./Log/TsdkLog/tsdk/tup_videotrace.log
./Log/TsdkLog/tsdk/tup_login.log
./Log/TsdkLog/tsdk/tup_video.log
./Log/TsdkLog/tsdk/tup_ssl.log
./Log/TsdkLog/tsdk/tup_socket.log
./Log/TsdkLog/tsdk/tup_callapi.log
./Log/TsdkLog/tsdk/tup_cmpt.log
./Log/TsdkLog/tsdk/tup_call.log
./Log/TsdkLog/tsdk/tup_bfcpservice.log
./Log/TsdkLog/tsdk/tup_audio.log

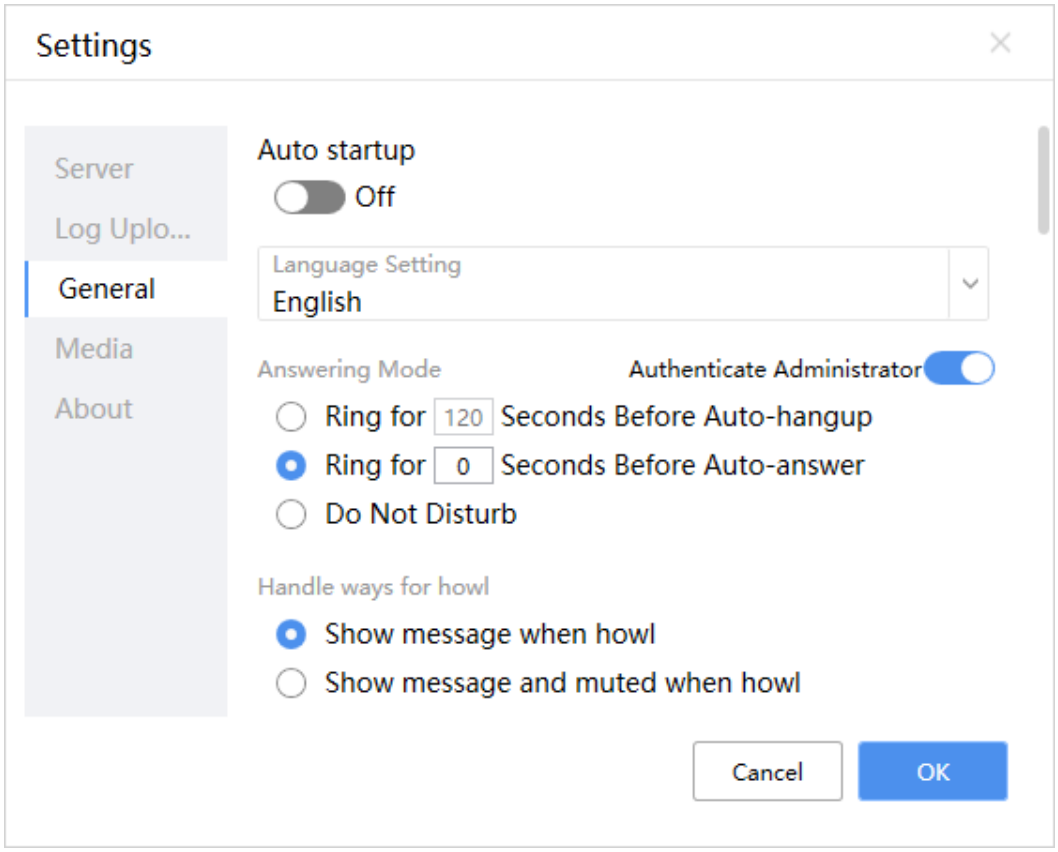
----End

3.13.6.3 General Settings

General OpenEye settings include the language, answering mode, handling ways for howling sound, shortcut key for screenshots, path for saving screenshots, and screenshot format.

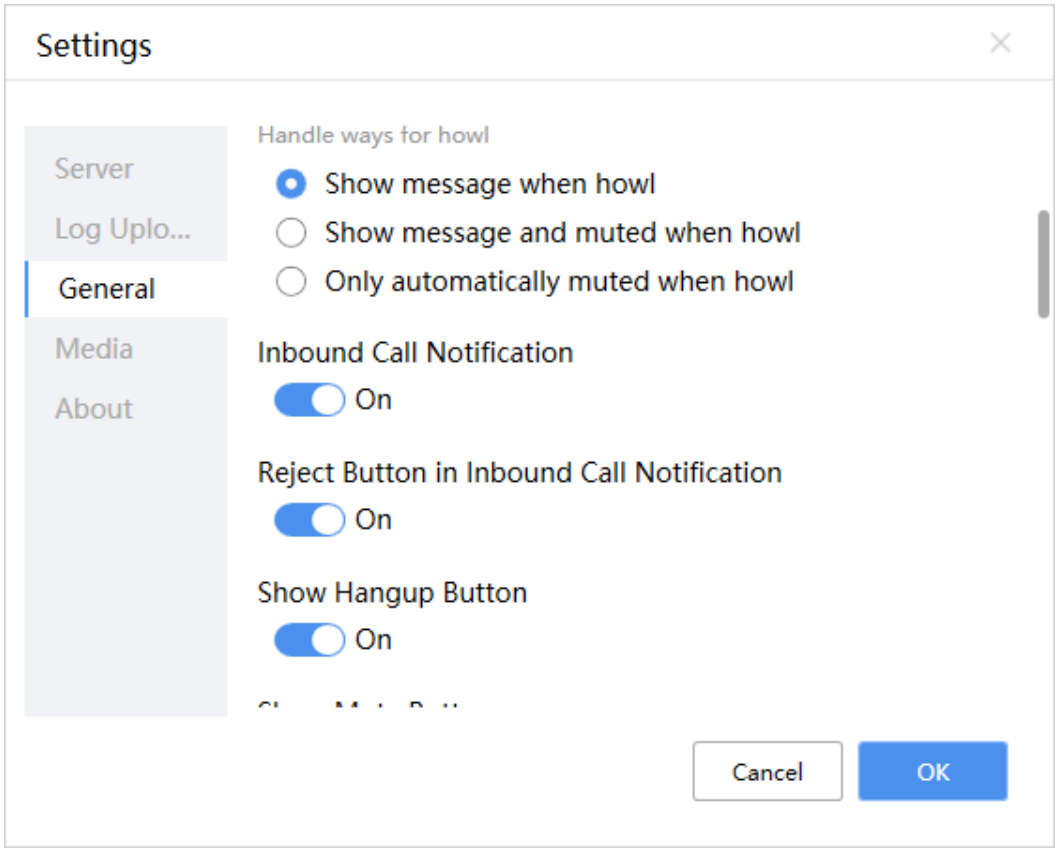
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Figure 3-131 General settings 1 (administrator)



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Figure 3-132 General settings 2



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Figure 3-133 General settings 3

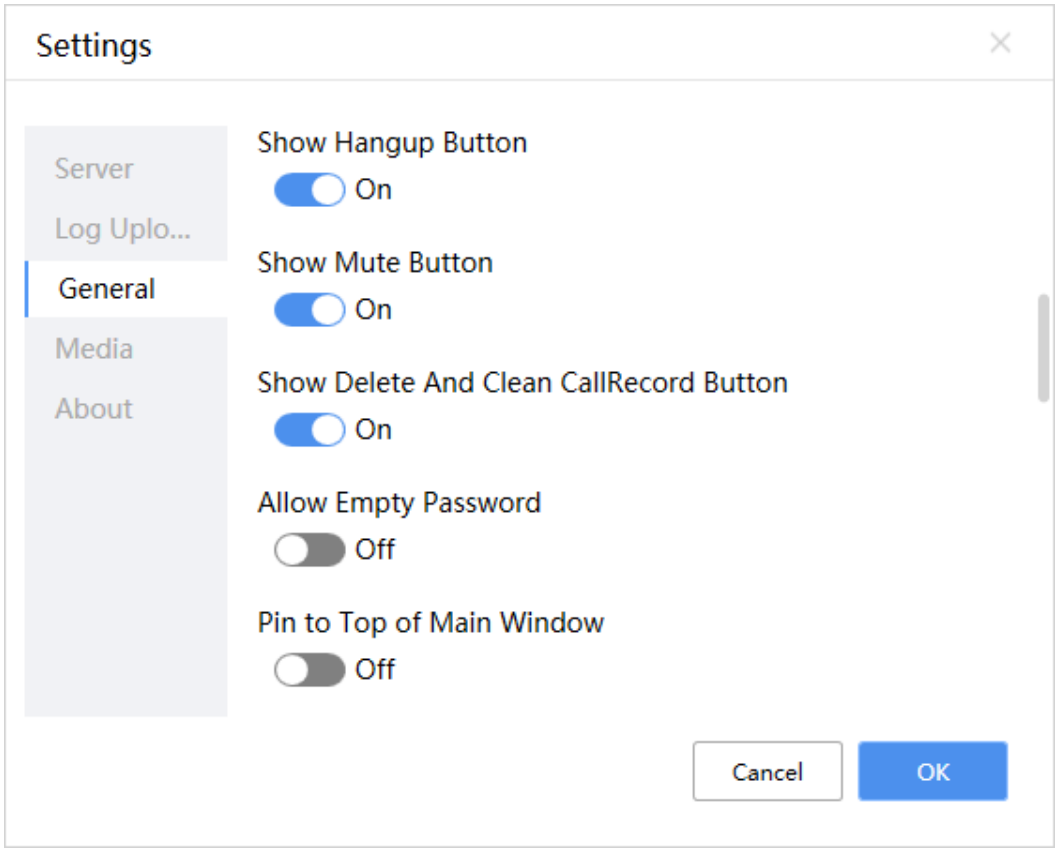
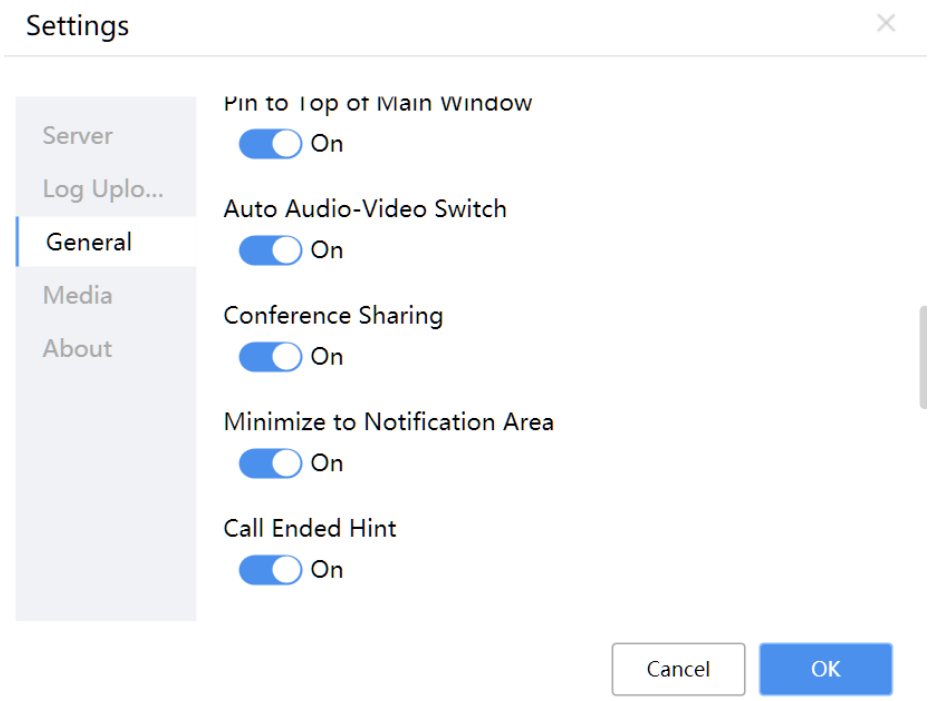
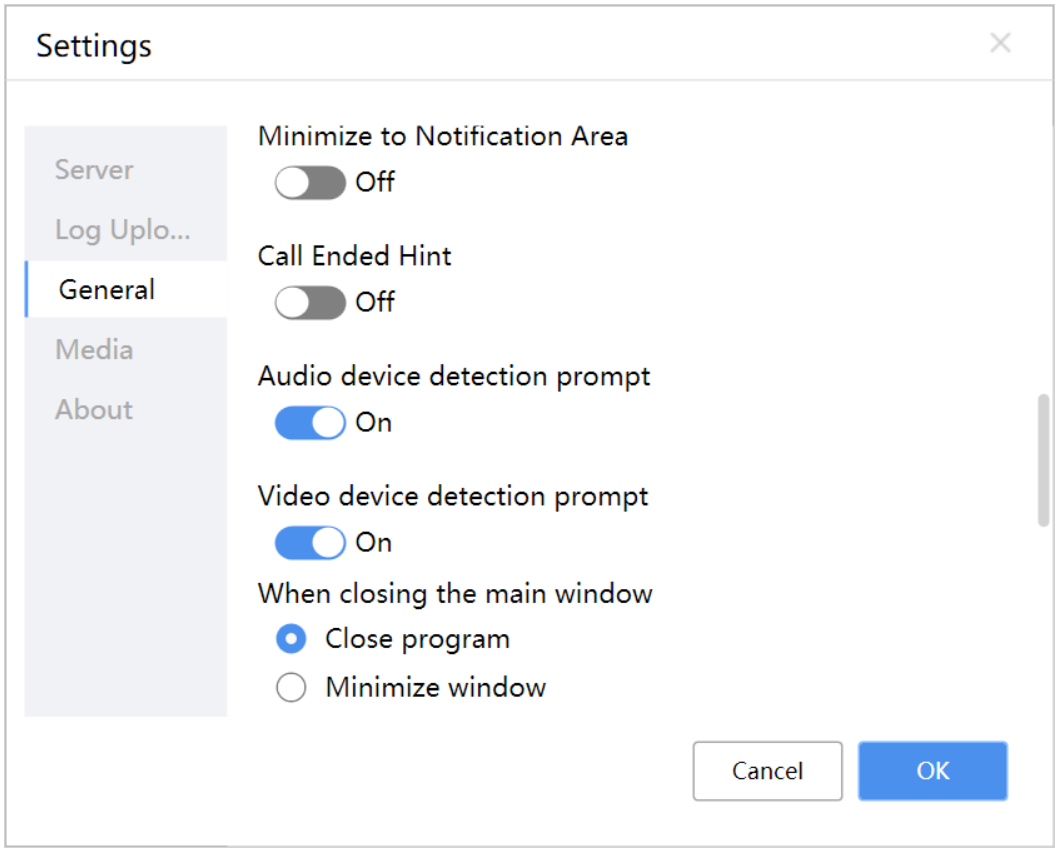


Figure 3-134 General settings 4



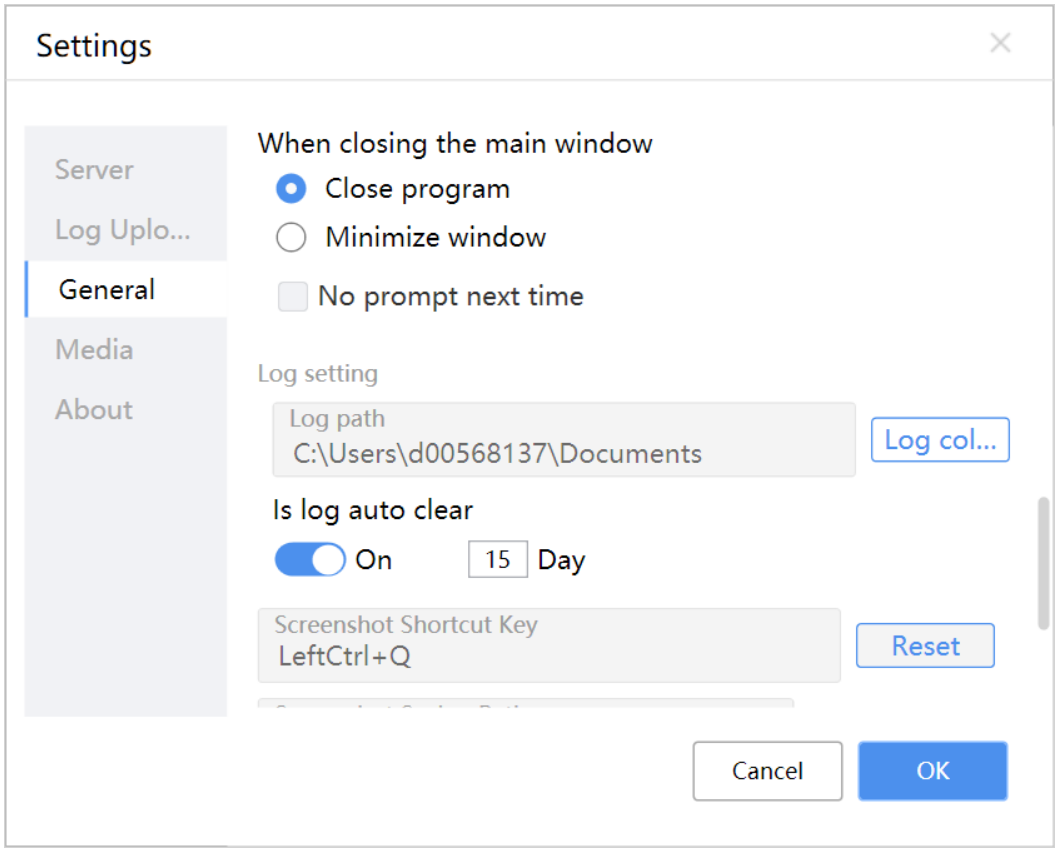
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Figure 3-135 General settings 5



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Figure 3-136 General settings 6



- **Auto startup**

  Set whether the OpenEye starts with the Windows OS. This function is disabled by default.

  NOTE

  You can enable the OpenEye auto startup function for the China-made environment on the **Settings** page.

- **Language Setting**

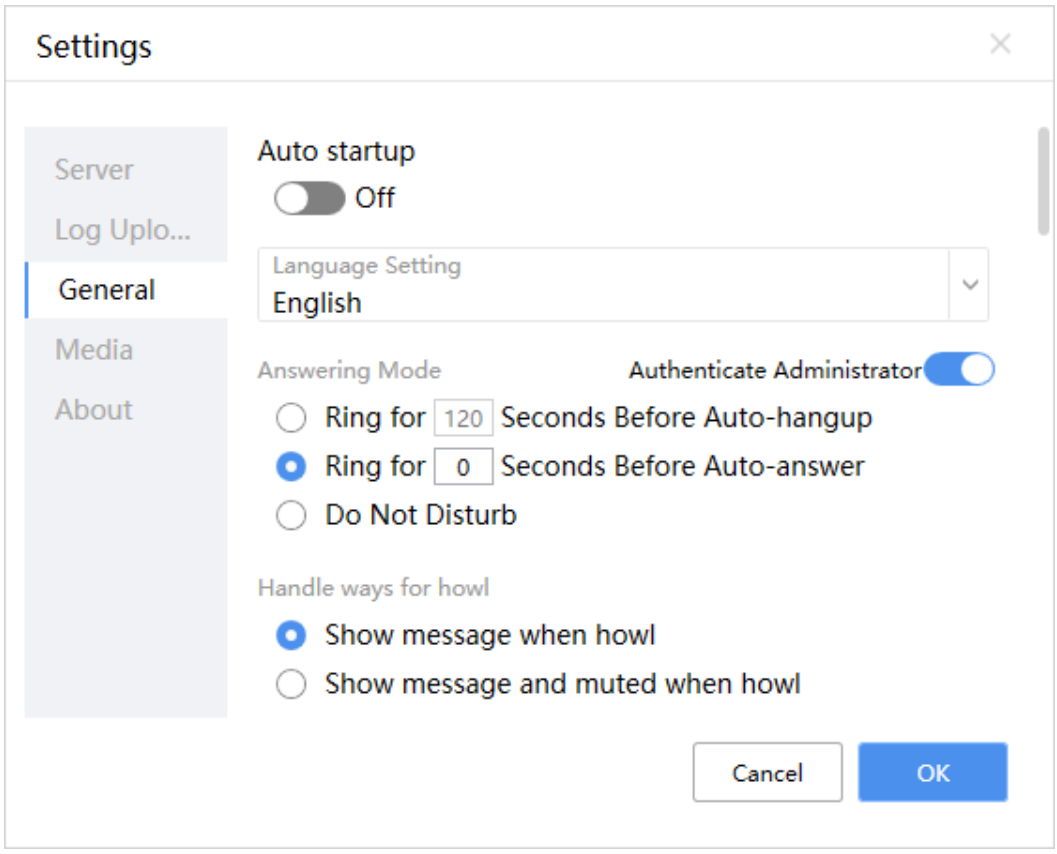
  Simplified Chinese and English are supported. The setting takes effect after restart. The default language is simplified Chinese.

- **Answering Mode**
  - If the answering mode change authentication is enabled:

    When an administrator logs in to the OpenEye, the **Authenticate Administrator** switch is displayed and **Answering Mode** can be changed. Figure 3-131 shows the details.

    When a common operator logs in to the OpenEye, **Answering Mode** cannot be changed.

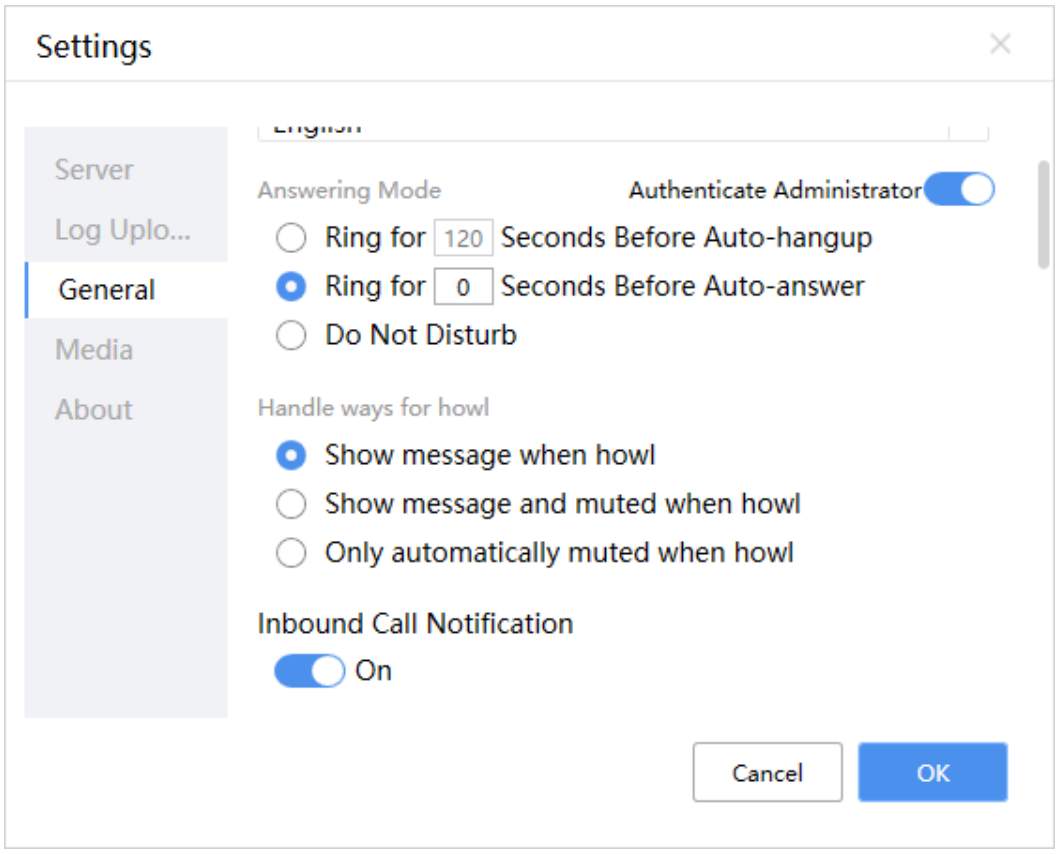
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– If the answering mode change authentication is disabled:

  Both the administrator and common operators can change **Answering Mode** and **Authenticate Administrator** is not displayed.

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a. **Ring for *N* Seconds Before Auto-hangup**

The system automatically releases an inbound call after the preset waiting time. *N* is the waiting time configured by users, in seconds. The default value is **120**. The recommended value ranges from 1 to 120.

b. **Ring for *N* Seconds Before Auto-answer**

The system automatically answers an inbound call after the preset waiting time. *N* is the waiting time configured by users, in seconds. The default value is **3**. The recommended value ranges from 1 to 120.

NOTE

If this parameter is set to **0**, the call is automatically answered and no message is displayed.

c. **Do Not Disturb**

The system will not notify you of calls from any contact or unknown person and will automatically reject the calls.

- **Handle ways for howl**

a. **Show message when howl**

When howling sound is detected from the microphone, a dialog box is displayed, showing "Detected howling, please keep the microphone away from the speaker and lower the volume appropriately."

b. **Show message and muted when howl**

When howling sound is detected from the microphone, the microphone is muted, and a dialog box is displayed, showing "Detected howling, the microphone has been muted. To unmute the microphone, touch the mute button on the call screen."

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c. **Only automatically muted when howl**

When howling sound is detected from the microphone, the microphone is muted without a dialog box displayed.

- **Inbound Call Notification**

  This function is enabled by default. If this function is disabled, the inbound call notification window is not displayed in the lower right corner.

- **Reject Button in Inbound Call Notification**

  This function is enabled by default. If this function is disabled, the **Reject** button in the lower right corner of the **Inbound Call Notification** window is hidden.

Figure 3-137 Inbound Call Notification - the Reject button displayed

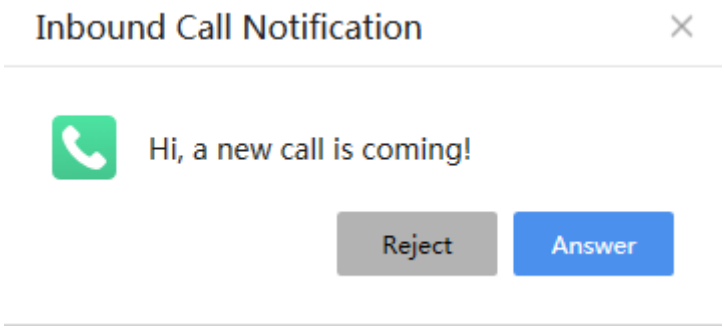
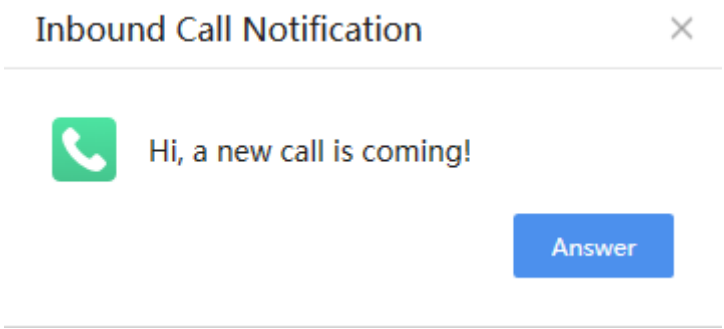


Figure 3-138 Inbound Call Notification - the Reject button hidden



- **Show Hangup Button**

  This function is enabled by default. If this function is disabled, the hangup button is not displayed on the inbound call screen and talking screen.

  NOTE

  The hangup button is displayed on the outbound call screen before the call is connected.

- **Show Mute Button**

  This function is enabled by default. If this function is disabled, the mute button is not displayed on the talking screen.

- **Show Delete And Clean CallRecord Button**

  This function is enabled by default. If this function is disabled, the **Clean CallRecord** and **Delete CallRecord** buttons are not displayed on the **Call Record** tab page.

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- **Pin to Top of Main Window**

  After this function is enabled, the main window can be displayed on the top and is not covered by other windows. This function is disabled by default.

- **Allow Empty Password**

  When this function is disabled, if the password text box is empty, the login request is rejected and no login request is sent to the server. After this function is enabled, the system does not check whether the password text box is empty. Instead, the system sends a login request to the server for password verification. This function is disabled by default.

  NOTE

  - By default, the **Allow Empty Password** function is disabled. If this function is enabled, security risks exist. Exercise caution when enabling this function.

- **Auto Audio-Video Switch**

  When the voice call mode is changed by the agent, the OpenEye does not display a confirmation dialog box and automatically switches the call mode. This function is disabled by default.

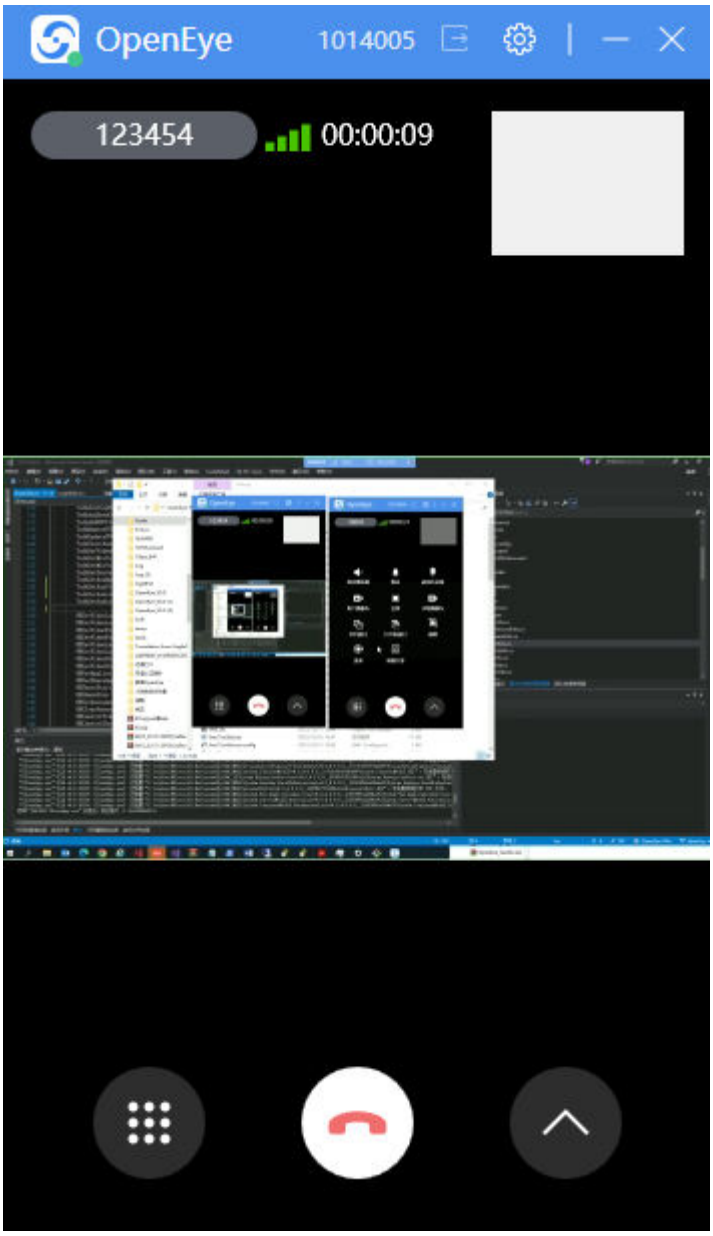
- **Conference Sharing**

  The UAP's screen sharing function for self-developed video conferences is supported. By default, this option is not selected and cannot be modified after login.

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NOTE

After this option is selected, if the UAP provides the self-developed conference function, a user dials the access number to connect to an agent. The agent shares the screen and the image is displayed on the customer video call page.



If the UAP does not provide the self-developed conference function, the customer cannot view the screen being shared, and the call is not affected.

- **Call Ended Hint**

  This function is disabled by default. After this function is enabled, a prompt tone is played when the called party ends the call.

- **Audio device detection prompt**

  This function is enabled by default. If this function is disabled, no dialog box is displayed when no audio device is detected.

- **Video device detection prompt**

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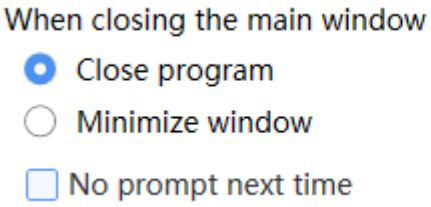
This function is enabled by default. If this function is disabled, no dialog box is displayed when no video device is detected.

- **Minimize to System Tray**

  NOTE

  This function is disabled by default. If you have enabled this function, click  in the main window, the main window is minimized and the taskbar icon is not displayed.

  Selecting **Minimize window** in the **When closing the main window** area has the same effect.

- **When closing the main window**

  When the main window is closed, the program supports the following status:

  - **Close program**
  - **Minimize window**
  - **No prompt next time**

- **Log setting**
  - **Log path**: The value is the **Documents** directory of the user.
  - **Log collect**: After you click this button, the OpenEye logs are automatically collected and saved to the path specified by **Log path**.
- **Is log auto clear**

  Expired logs are deleted every 24 hours or when the OpenEye is started. By default, this function is enabled and logs generated 15 days ago are deleted.

- **Screenshot Shortcut Key**

  The shortcut keys can be customized. The default shortcut key is **LeftCtrl+Q**.

  - **Reset**: Restore shortcut key settings to default.

- **Screenshot Saving Path**

  The saving path can be customized. Click **Modify** to configure the saving path or click **Open** to open the folder for storing screenshots.

- **Screenshot Saving Format**

  The OpenEye screenshots can be in JPG or PNG format. The default format is JPG.

- **Disable camera in video call**

  During a video call, images can be used to replace the actual scenario. By default, the local camera is enabled.

- **Pic path when disable camera**

  When the **Disable camera in video call** function is disabled, this function is disabled by default. When the **Disable camera in video call** function is

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enabled, the image configured in this function is used by default. Click **Set** to update the image path.

NOTE

1. After the display language is changed, you must restart the system for the setting to take effect. You are advised not to change the language during business handling.
2. Shortcut key settings may conflict with that of the operating system or other software. In this case, shortcut keys will fail to be set. You need to set shortcut keys again until they are set successfully.

3.13.6.4 Media Settings

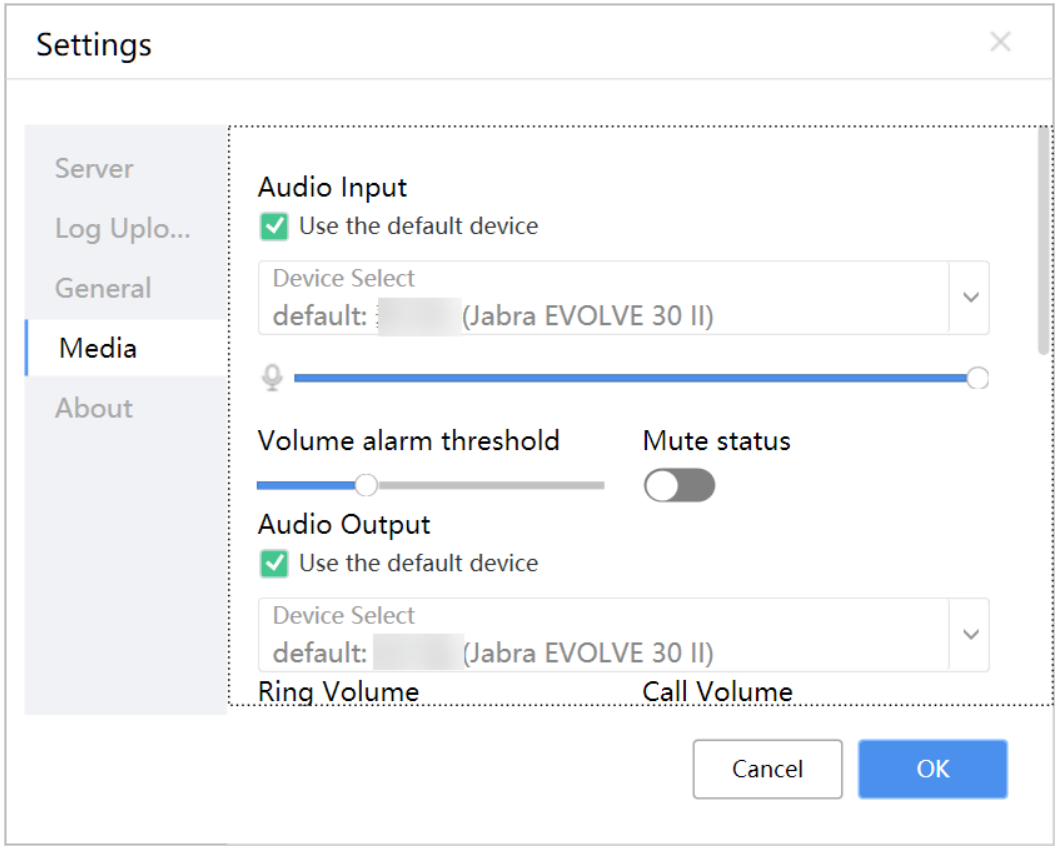
Media settings allow you to set the audio devices, video devices, video quality, video resolution, and virtual camera.

NOTE

The client of the Chinese version does not support the following functions:

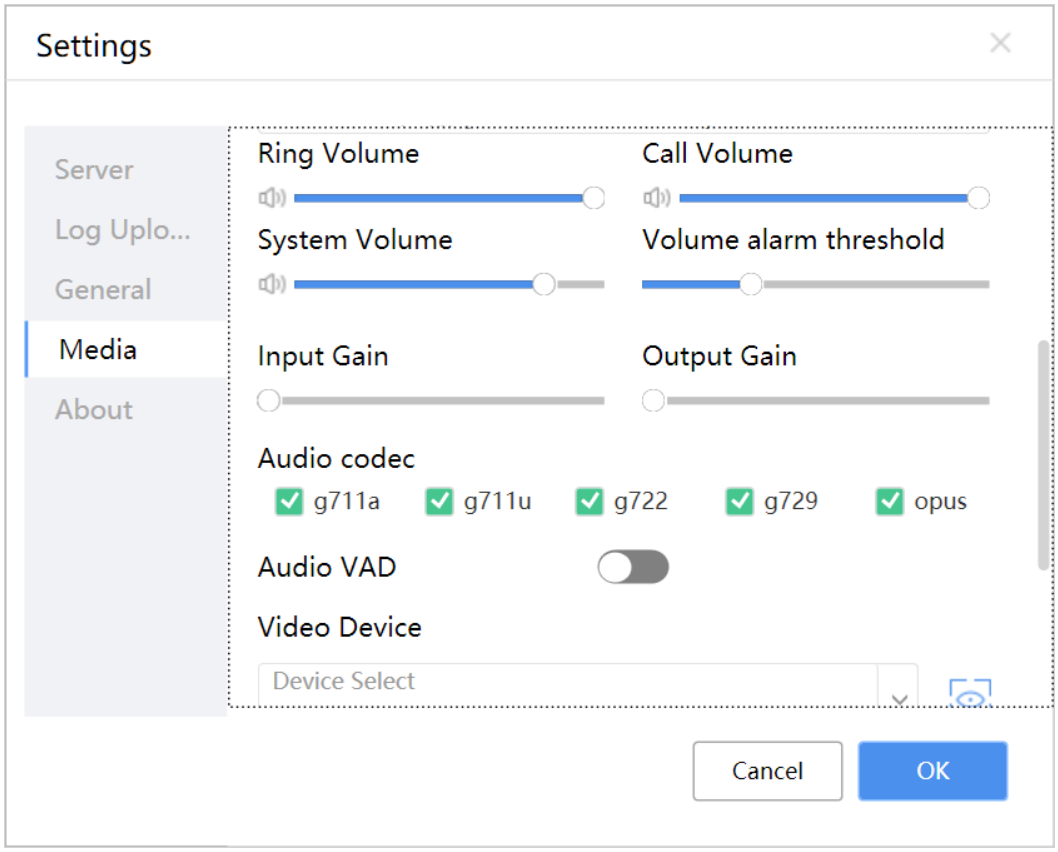
- **Virtual Camera**
- **Replace Background**
- **Beautification**

Figure 3-139 Media settings 1



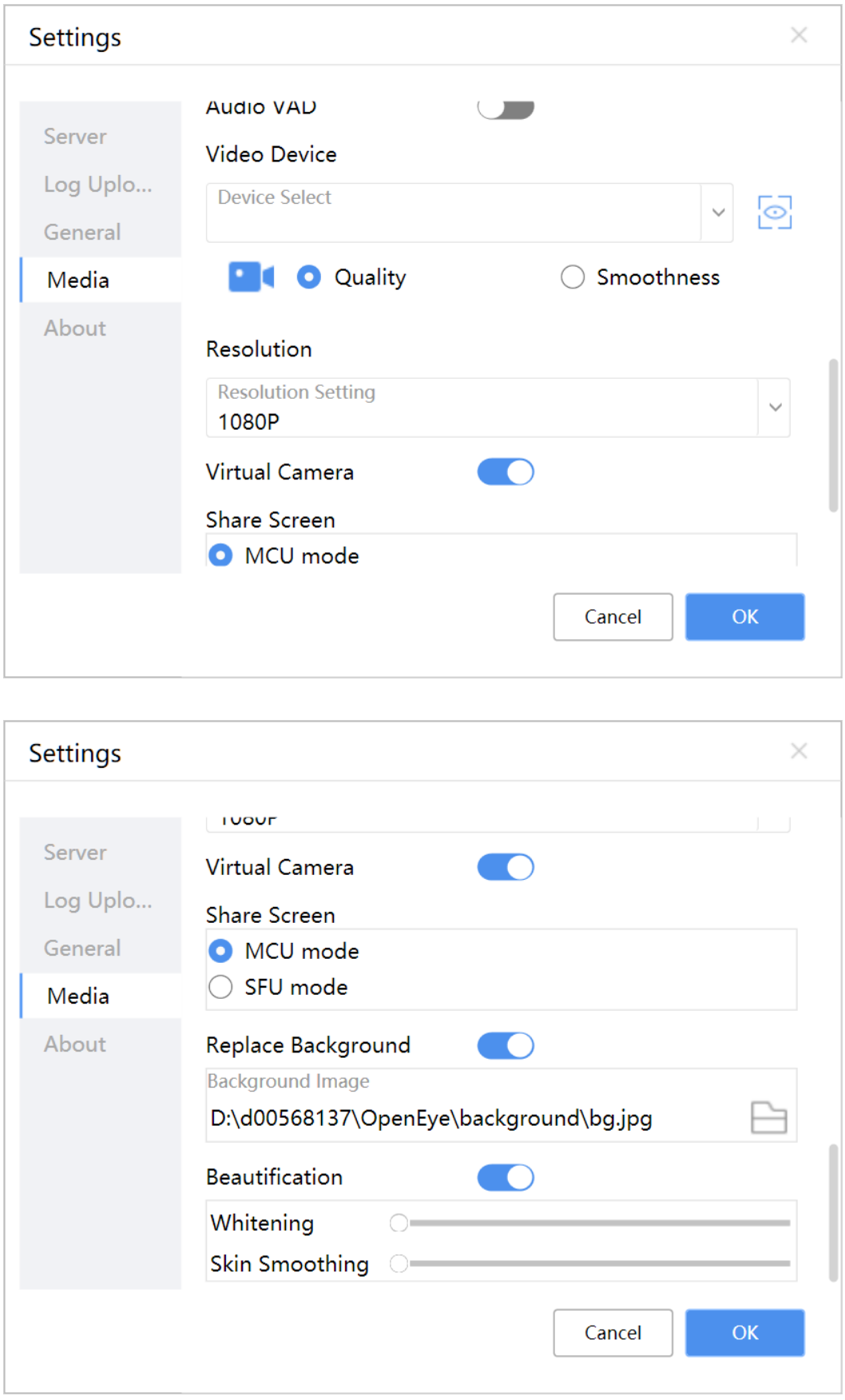
 Copyright © Huawei Technologies Co., Ltd.

Figure 3-140 Media settings 2



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Figure 3-141 Media settings 3



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- **Audio Input**

  After deselecting **Use the default device**, you can manually select an audio input device.

  When the volume of the system microphone is lower than the threshold or the device is muted, the OpenEye displays a corresponding message. The mute switch can be used to mute the system microphone.

  NOTE

  1. If the audio input volume is configured, the system automatically decreases the volume to an appropriate level when the volume of the collected audio input of the microphone is too high.

  2. Click the microphone icon before the volume slider to mute or unmute the microphone during a call (only for calls, not for devices).

  3. The mute setting function is not implemented in the Chinese version.

- **Audio Output**

  After deselecting **Use the default device**, you can manually select an audio output device.

- **Ringing volume** and **Call volume**

  NOTE

  1. Set the ringing volume and call volume separately.

  2. When there is an inbound or outbound call, the speaker volume is the preset ringing volume. If the call is not connected, the speaker volume is restored to the call volume after the ringing.

  3. Click the speaker icon before the slider which adjusts the ringing volume to mute or unmute the ringtone for inbound calls.

  4. Click the speaker icon before the slider which adjusts the call volume to mute or unmute the speaker during a call (only for calls, not for devices).

  5. The mute setting function is not implemented in the Chinese version.

  You can adjust the volume of the system device. Click the speaker icon on the left of the volume bar to mute the system speaker.

  When the volume of the system speaker is lower than the volume alarm threshold or the device is muted, the OpenEye displays a corresponding message.

- **Input Gain**, **Output Gain**

  The decibel values of the input and output audio are increased.

- **Codec param**

  Audio data codec format supported by the local end during a call. If this option is deselected, the local media capability does not support the corresponding codec during signaling negotiation.

- **Audio VAD**

  After this function is enabled, data packets are sent only when human voices are detected during audio calls using the G.711 encoding format. This reduces bandwidth usage.

- **Video Device**

  Multiple types of video devices are supported. Click  to preview the image quality of the video device.

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- Video policy

  The **Quality** and **Smoothness** policies are supported.

  If you select **Quality**, the system ensures image quality first during video communication. If you select **Smoothness**, the system ensures image smoothness first during video communication.

- **Resolution**

  Customers can select a proper resolution based on the network condition. 1080p, 720p, and 360p are supported. 1080p is used by default.

- **Virtual Camera**

  After this function is enabled, screen sharing (mainstream transmission), video background replacement, and beautification are supported in SFU mode.

  NOTE

  When the CPU has fewer than four cores or multiple instances are started, the function is not displayed.

  The graphics card driver must support OpenGL 4.5.

  This function is not supported in the Chinese version.

- **Share Screen**
  - **MCU mode**: Data is shared through substream transmission.
  - **SFU mode**: Data is shared through mainstream transmission.
- **Replace Background**

  After this function is enabled, the background image of the local video will be replaced with the preset image during a video call.

- **Beautification**

  Whitening and **Skin Smoothing** are supported. The beautification degree can be adjusted as required.

3.13.6.5 Introduction to Permission Settings

The OpenEye supports the creation of management accounts to control some operation permissions. (If a management account is created for multiple times, only the latest one takes effect.)

The password contains 8 to 16 characters and must contain at least two types of the following characters: lowercase letters, uppercase letters, digits, and special characters. The password cannot be the same as the account.

3.13.6.5.1 Permission Settings - Windows Version

Create a management account:

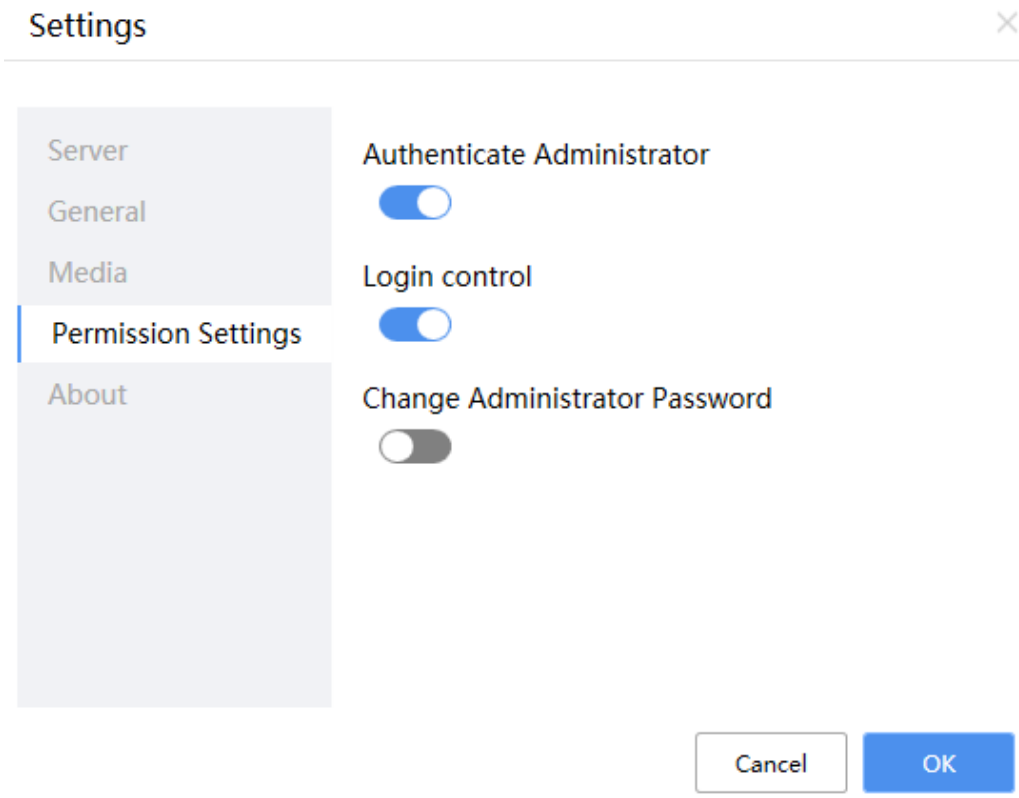
Open the cmd window as an administrator, switch to the OpenEye installation directory, and run the **KmcToolkit.exe addAdmin** command.

Enter the username, password, and confirm password as prompted.

Permission settings:

After a management account is added, the **Permission Settings** page is displayed when the system administrator starts the OpenEye.

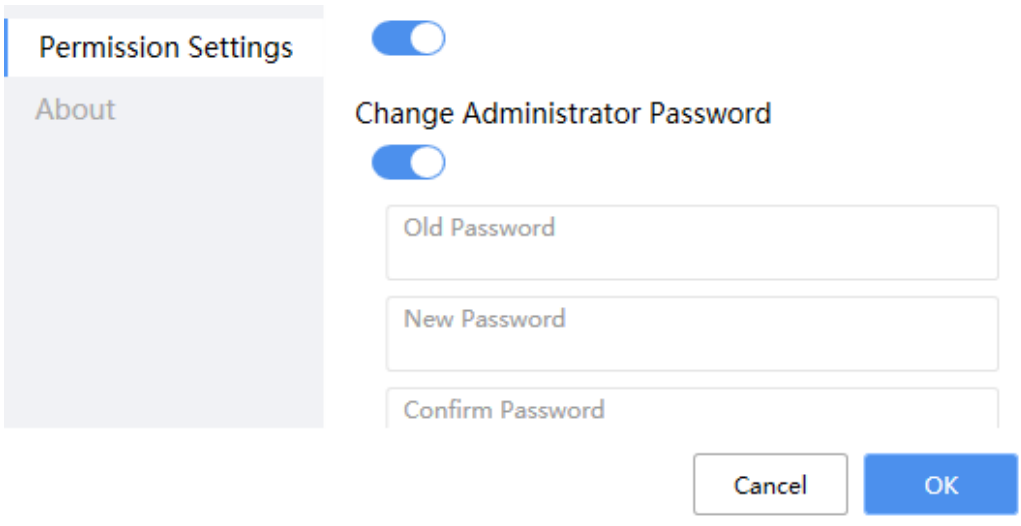
 Copyright © Huawei Technologies Co., Ltd.



The **Authenticate Administrator** option is selected by default. If this option is selected, authentication is required for opening the **Settings** window and exiting the program.

The **Login control** option is deselected by default. If this option is selected, authorization is required for modifying the login account and setting automatic login.

The password can be changed if the **Change Administrator Password** option is selected.



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3.13.6.5.2 Permission Settings - Chinese Version

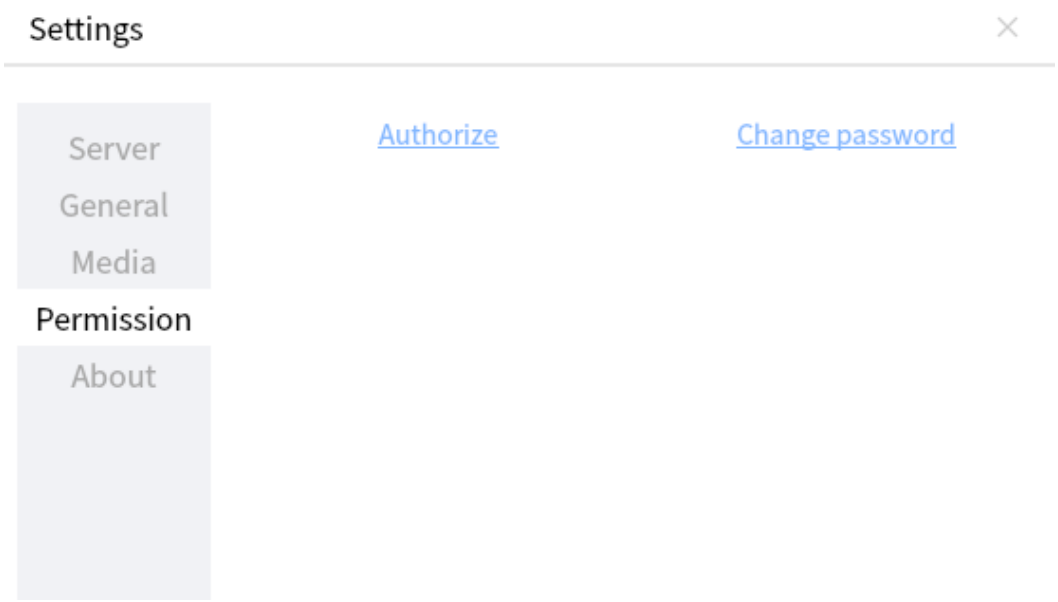
Create a management account:

Run the **./AddAdmin.sh** command in the OpenEye installation directory.

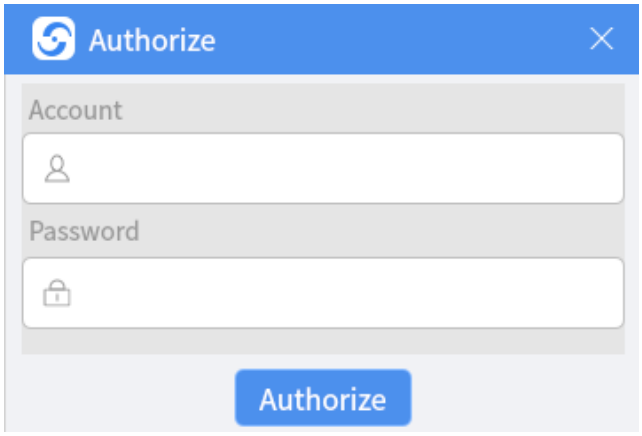
Enter the username and password and confirm the password as prompted. Set parameters in the configuration information as follows:

Permission settings:

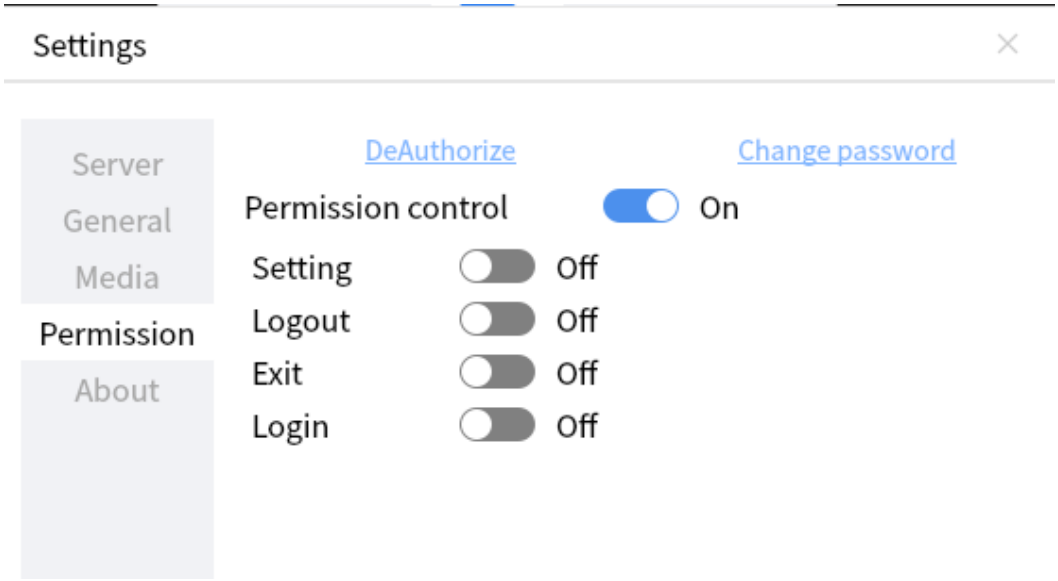
After a management account is added, the **Permission** page is displayed when the system administrator starts the OpenEye.



Permissions can be set after the management account is authorized.



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The **Permission control** option is selected by default. If this option is deselected, all operations do not need to be authorized.

The **Setting** option is deselected by default. Enter **settingctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for opening the **Settings** window.

The **Logout** option is deselected by default. Enter **logoutctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for logout.

The **Exit** option is deselected by default. Enter **exitctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for exiting the program.

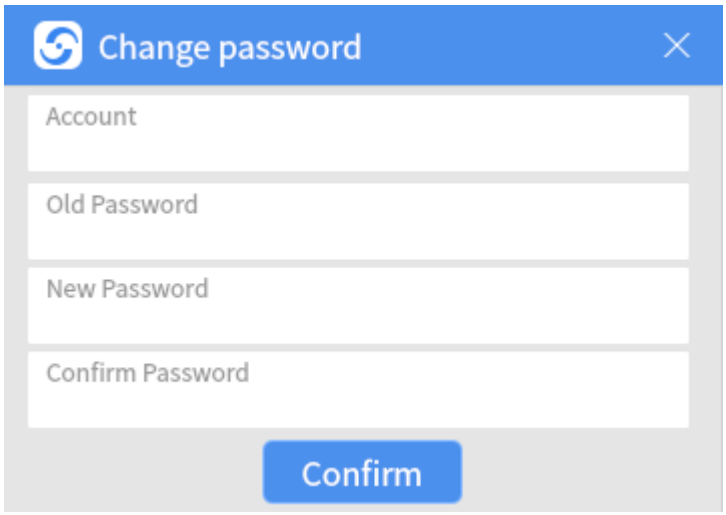
The **Login** option is deselected by default. Enter **loginctrl=y** to enable this function when adding a management account. If this option is selected, authentication is required for modifying the login account and setting automatic login.

Separate multiple configuration parameters with spaces.

The authorization is valid until the program is restarted and the authorization can be canceled.

The password of the management account can be changed.

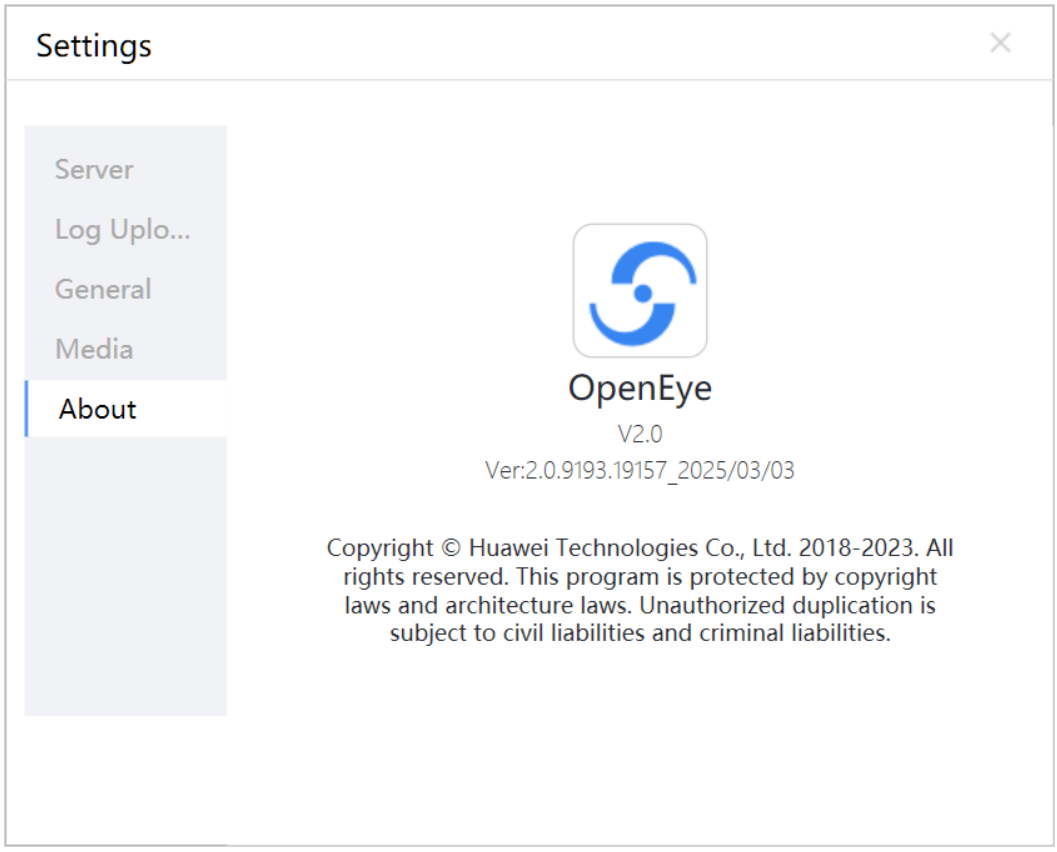
 Copyright © Huawei Technologies Co., Ltd.



3.13.6.6 About

You can query the OpenEye version information, including the version ownership and legal liability.

Figure 3-142 About



3.13.7 Introduction to Software Functions

The OpenEye supports voice communication, video communication, and call record functions.

- Voice communication provides functions of initiating calls, answering calls, hanging up calls, adjusting call volume, and holding calls.
- Video communication makes communication between customers and agents more entertaining.
- Call records store detailed call information. Other operations can also be performed in call records, such as initiating a call.

3.13.7.1 Voice Communication

The OpenEye supports functions of initiating calls, answering calls, rejecting calls, hanging up calls, and adjusting call volume.

3.13.7.1.1 Initiating a Call

A voice call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.13.7.3.3 Initiating a Call**.

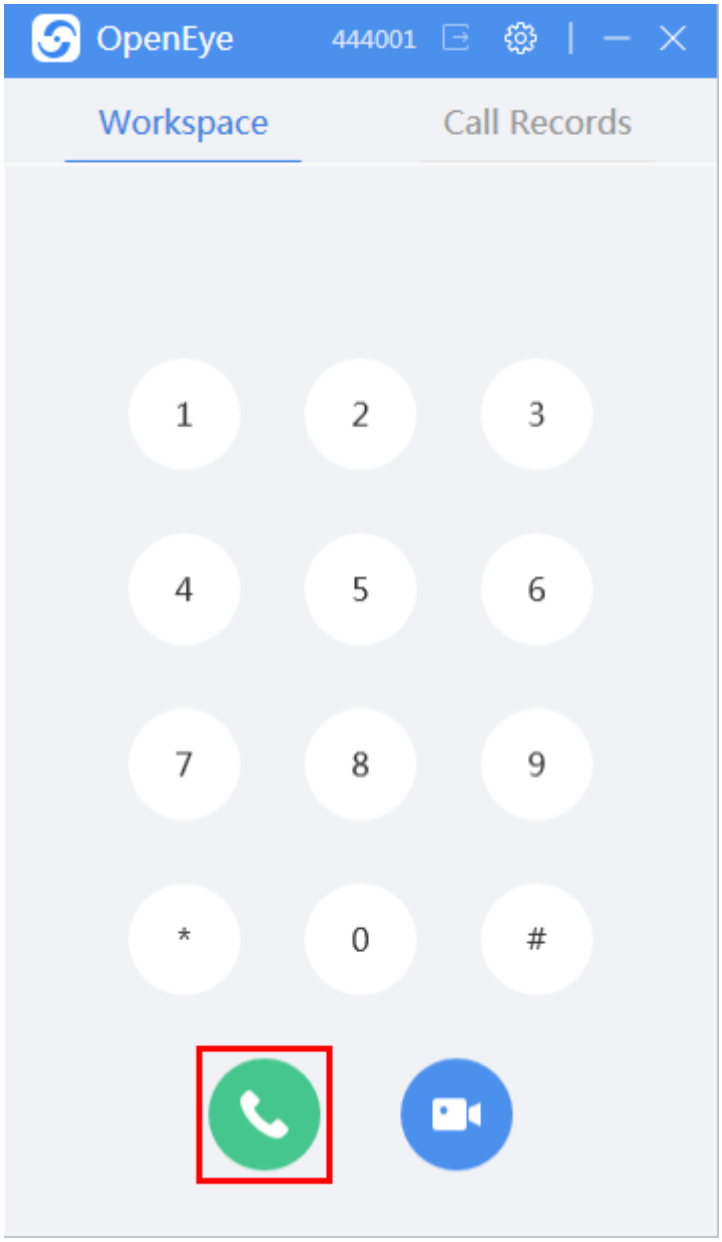
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 On the **Workspace** tab and enter the called number as required.

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Figure 3-143 OpenEye workspace



Step 3 Click  to make a voice call.

Step 4 After the customer answers the call, the agent can talk with the customer.

----End

NOTE

When entering a called number, you can click  to delete a character each time or press the **Delete** or **Backspace** key to delete one or more characters.

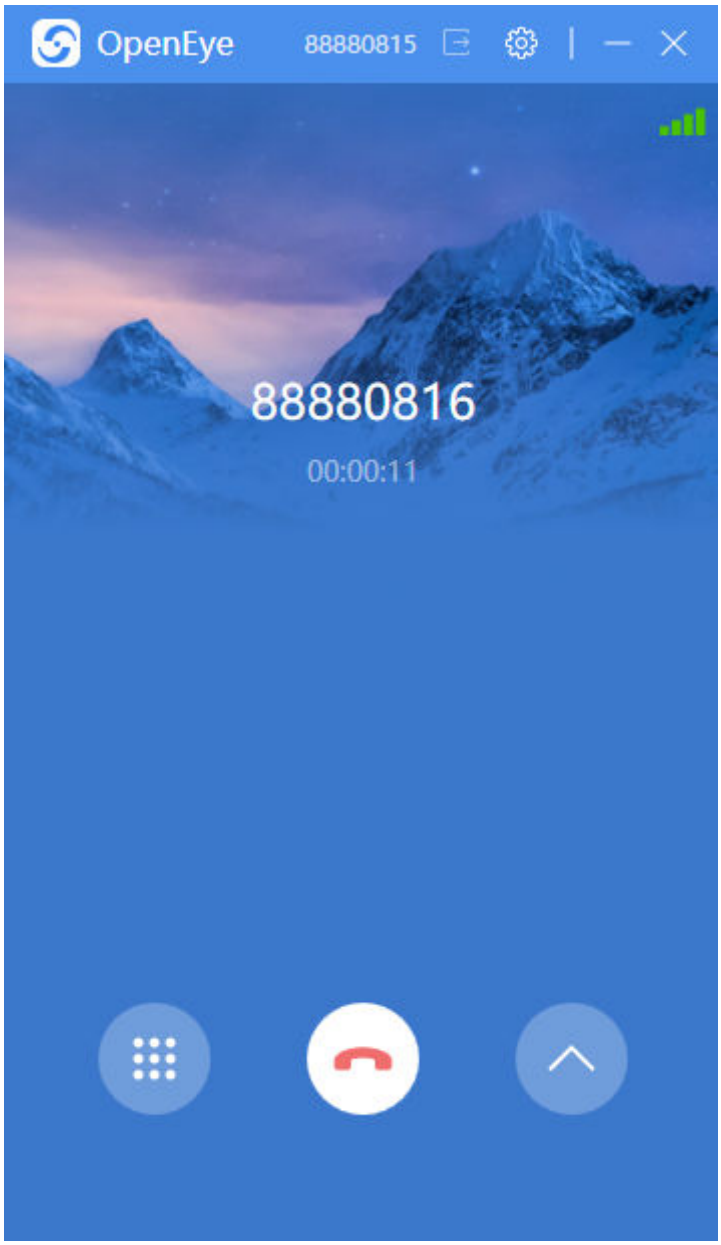
 Copyright © Huawei Technologies Co., Ltd.

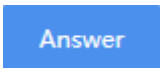
3.13.7.1.2 Answering a Call

An inbound call can be answered. The inbound call can be displayed on the home screen or as an inbound call notification. A voice call can be answered in either of the two methods.

- Home page: Click  to answer the call.

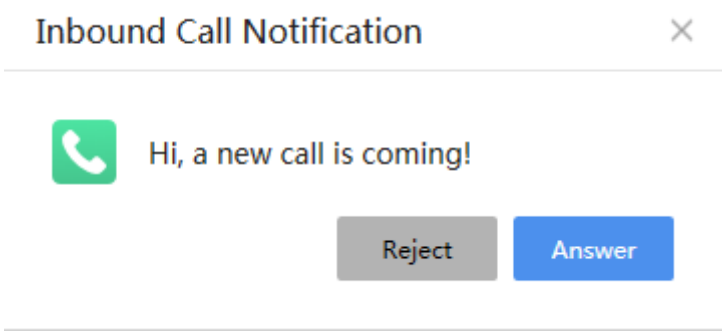
  Figure 3-144 Call page

- **Inbound Call Notification**: Click  to answer the call.

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Figure 3-145 Inbound Call Notification



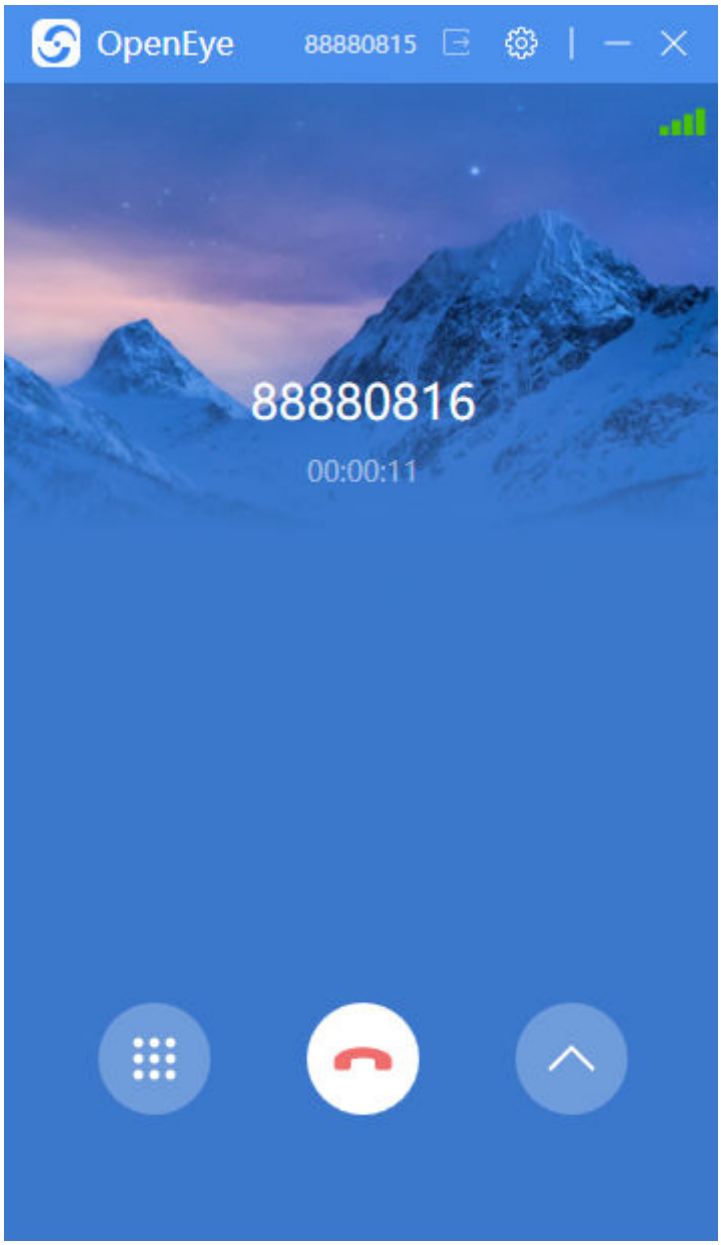
3.13.7.1.3 Rejecting a Call

An inbound call can be rejected. The inbound call can be displayed on the home screen or as an inbound call notification. A voice call can be rejected in either of the two methods.

- Home page: Click  to reject the call.

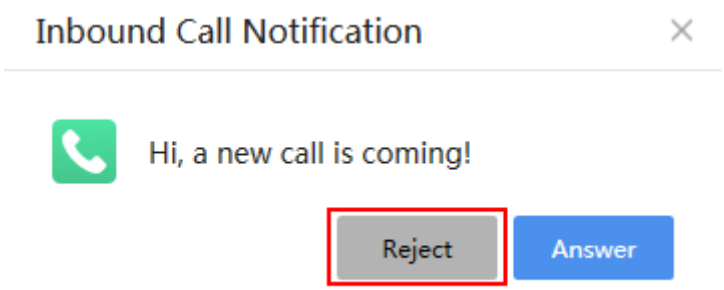
 Copyright © Huawei Technologies Co., Ltd.

Figure 3-146 Call page



- **Inbound Call Notification**: Click Reject to reject the call.

Figure 3-147 Inbound Call Notification

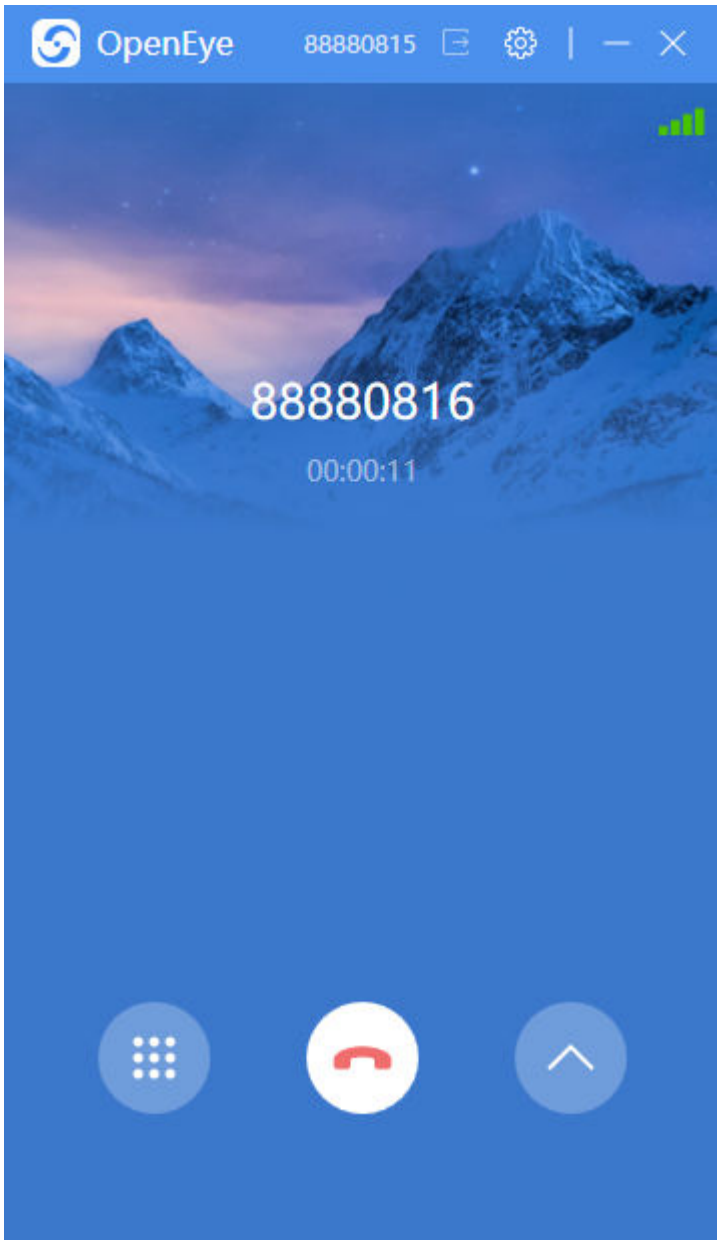


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3.13.7.1.4 Hanging Up a Call

During a voice call, you can click  to end the call.

Figure 3-148 Voice call window



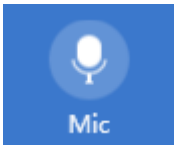
3.13.7.1.5 Adjusting Volume

After an inbound call is answered, the volume of the microphone and speaker can be adjusted to ensure that the call is smooth.

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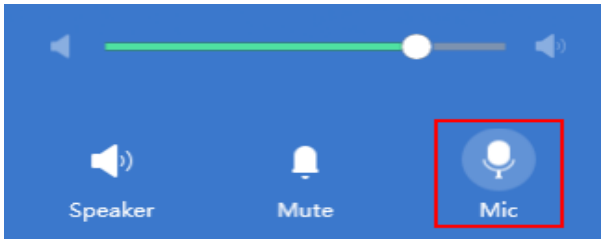
Procedure

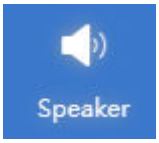
Step 1 During a voice call, click  to access the function area and adjust the volume.

Step 2 Click 

and drag the dot in the volume slider to adjust the microphone volume.

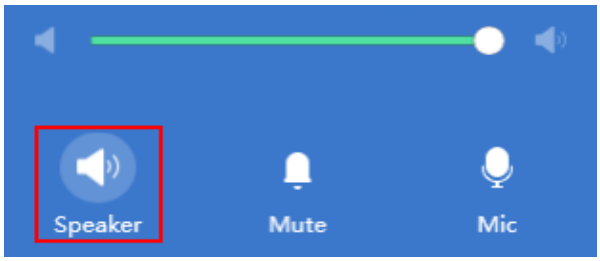
Figure 3-149 Adjusting the microphone volume

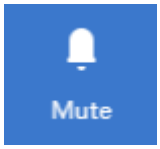


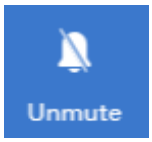
Step 3 Click 

and drag the dot in the volume slider to adjust the speaker volume.

Figure 3-150 Adjusting the speaker volume



Step 4 (Optional) Click 

to mute the microphone. In this case, the other party cannot hear your voice. Click 

to unmute the local microphone for talking with each other.

----End

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3.13.7.1.6 Initiating an Anonymous Call

The local number can be hidden using the anonymous call function.

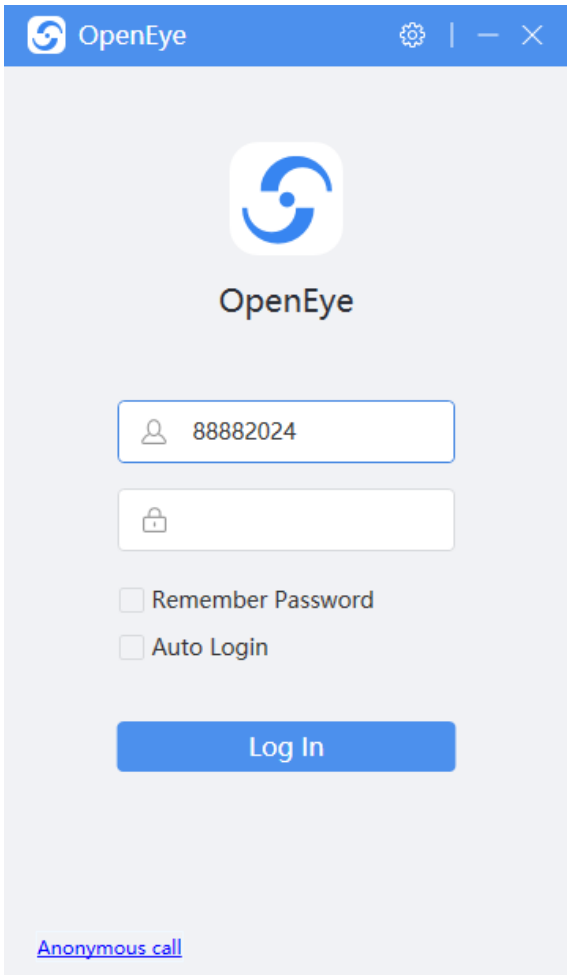
NOTE

- To enable the anonymous call function, set **isvalid** to **true** in the **/configuration/settings/anonymousSetting/setting section in the userconfig.xml** file in the program installation directory.

Procedure

Step 1 On the login page of the OpenEye client, click **Anonymous Call** in the lower left corner.

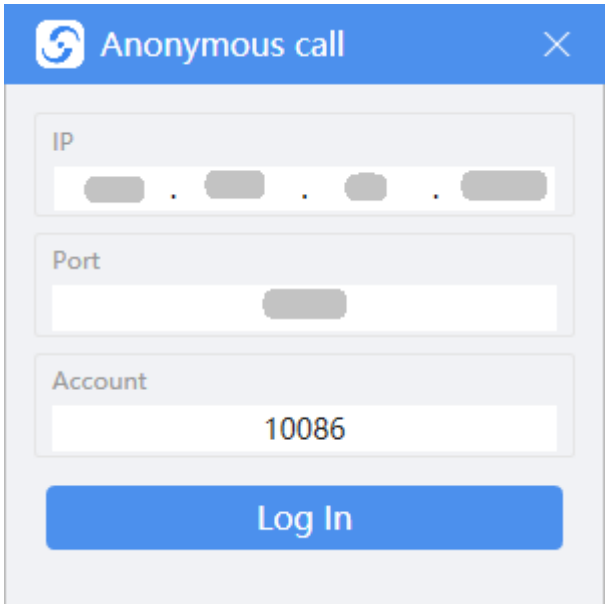
Figure 3-151 Initiating an anonymous call



Step 2 On the **Anonymous call** configuration panel, set the IP address and port number of the SBC, and set the account to the anonymous card character string configured on the UAP.

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Figure 3-152 Anonymous call configuration



Step 3 Click **Log In** and initiate a call on the workbench.

----End

3.13.7.2 Video Communication

The OpenEye supports video communication functions, including voice calls, video calls, video window setting, screenshot, screen sharing, label, and virtual camera.

3.13.7.2.1 Initiating a Call

A video call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.13.7.3.3 Initiating a Call**.

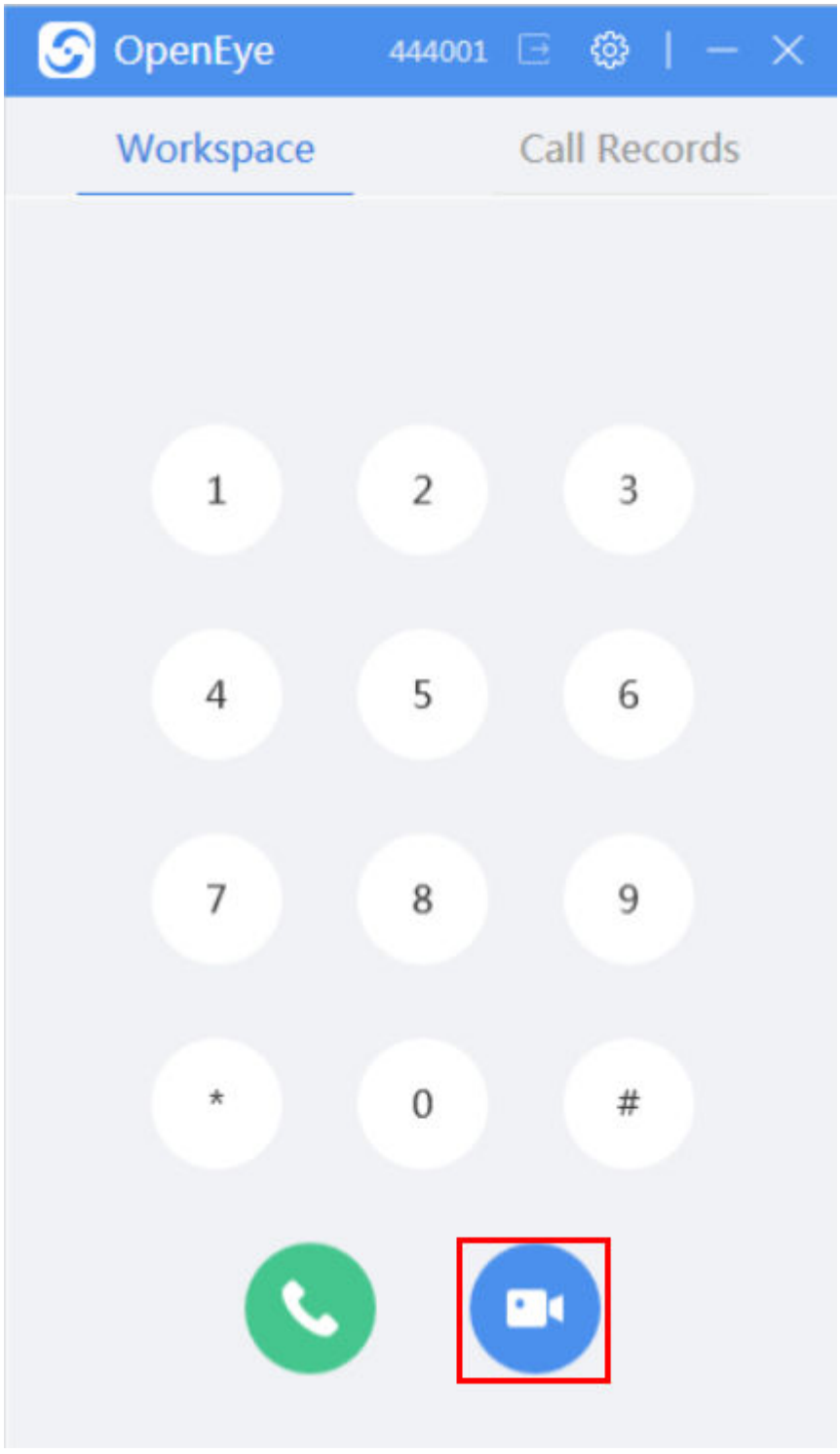
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Workspace** tab and enter the called number as required.

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Figure 3-153 OpenEye workspace



Step 3 Click  to make a video call.

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Step 4 After the customer answers the call, the agent can talk with the customer through the video call.

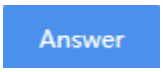
----End

NOTE

When entering a called number, you can click  to delete a character each time or press the **Delete** or **Backspace** key to delete one or more characters.

3.13.7.2.2 Answering a Call

An inbound call can be answered. The inbound call can be displayed on the home screen or as an inbound call notification. A video call can be answered in either of the two methods.

- **Home page**: Click  to answer the call.
- **Inbound Call Notification**: Click 

to answer the call.

3.13.7.2.3 Rejecting a Call

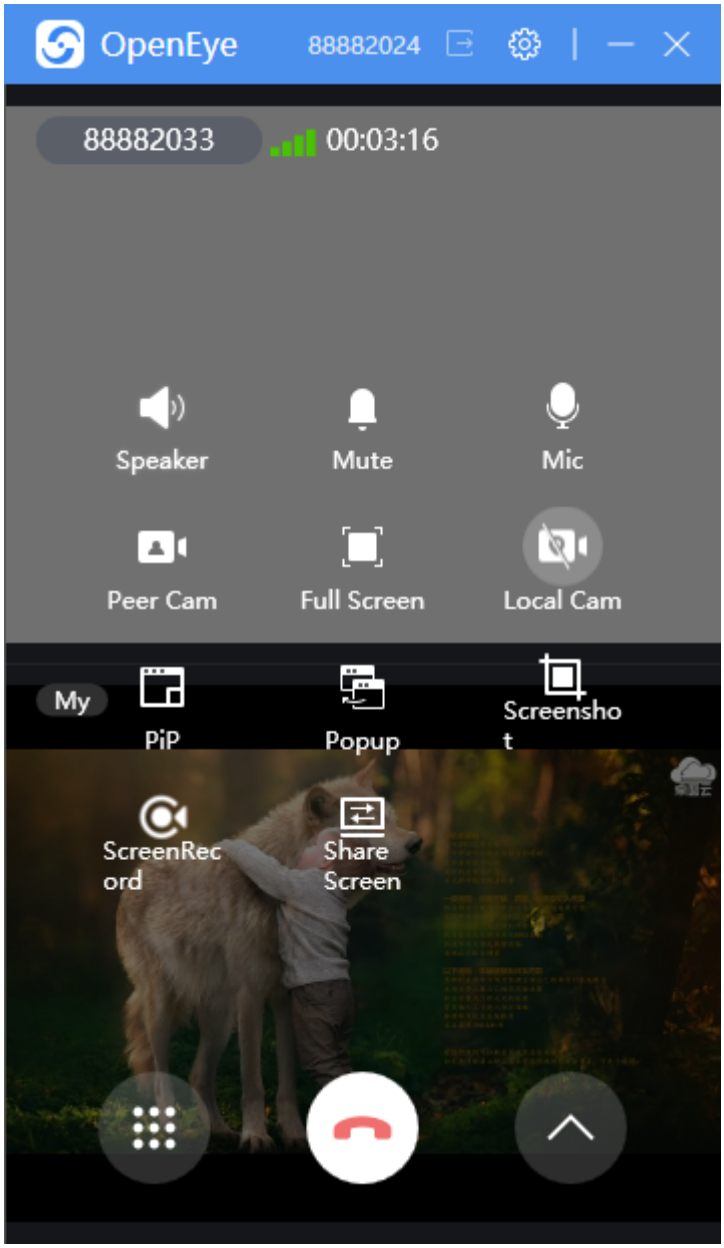
Video calls can be rejected. For details, see **3.13.7.1.3 Rejecting a Call**.

3.13.7.2.4 Hanging Up a Call

During a video call, you can click  to end the video call.

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Figure 3-154 Video call window



3.13.7.2.5 Adjusting Volume

The procedure for adjusting the video volume is the same as that for adjusting the voice volume. For details, see **Adjusting Volume**.

3.13.7.2.6 Enabling/Disabling a Camera

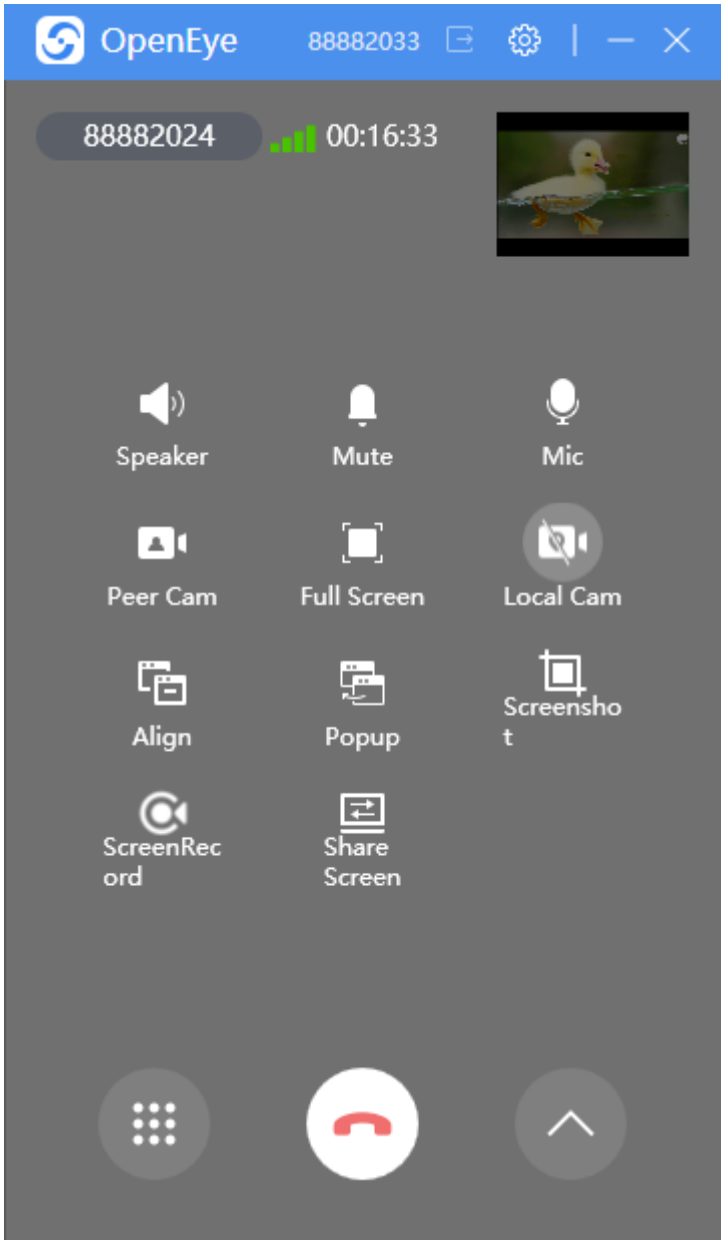
Local and peer cameras can be configured during a video call.

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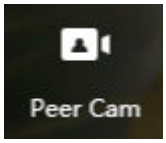
Procedure

Step 1 During a video call, click  to access the function area and configure the camera function.

Figure 3-155 Video call function area

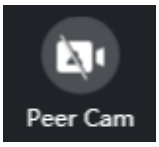


Step 2 Set the peer camera.

- You can click 

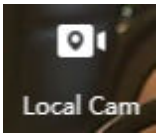
to disable the peer camera.

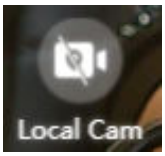
 Copyright © Huawei Technologies Co., Ltd.

- You can click 

to enable the peer camera.

Step 3 Set the local camera.

- Click 

to disable the local camera. The preset image for the camera image is displayed on the peer client.
- Click 

to enable the local camera.

----End

3.13.7.2.7 Window Mode Switching

The video call window supports the **PiP** and **Align** mode. The **PiP** mode is used by default.

Procedure

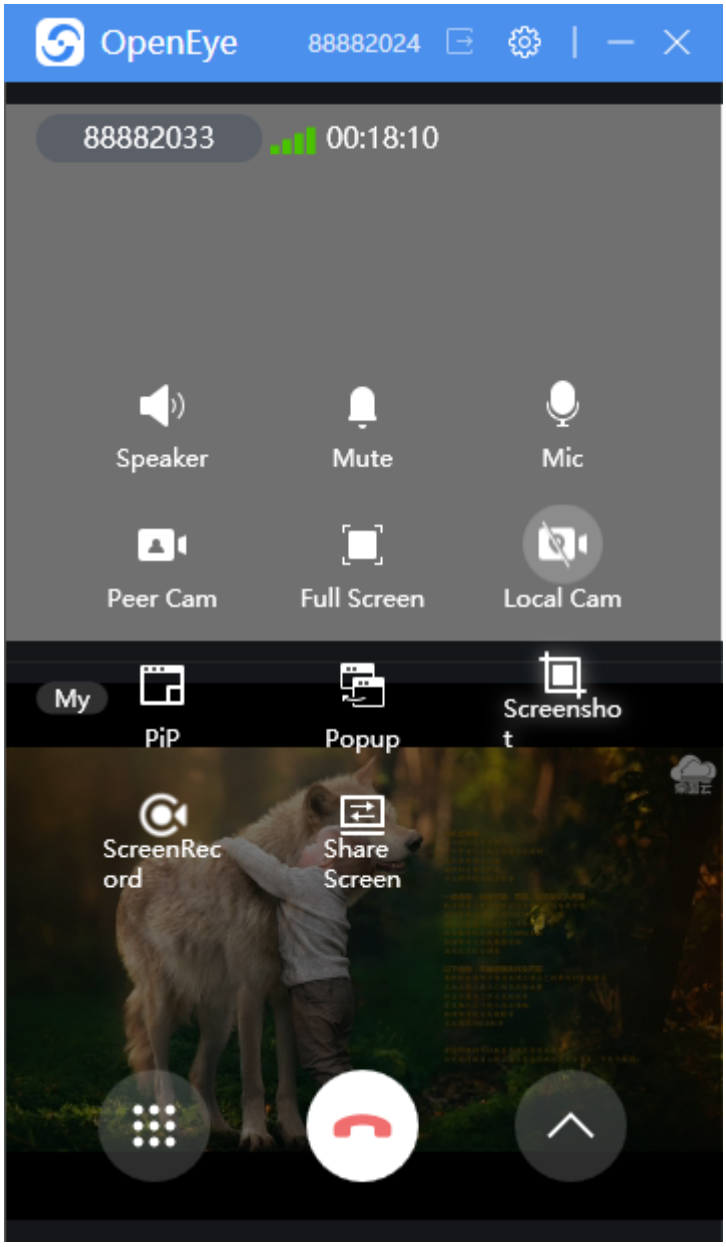
Step 1 After the video call starts, click  to access the function area to switch the window mode.

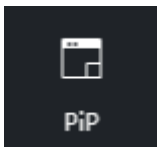
Step 2 In **PiP** mode, click 

to switch to the **Align** mode.

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Figure 3-156 Align window

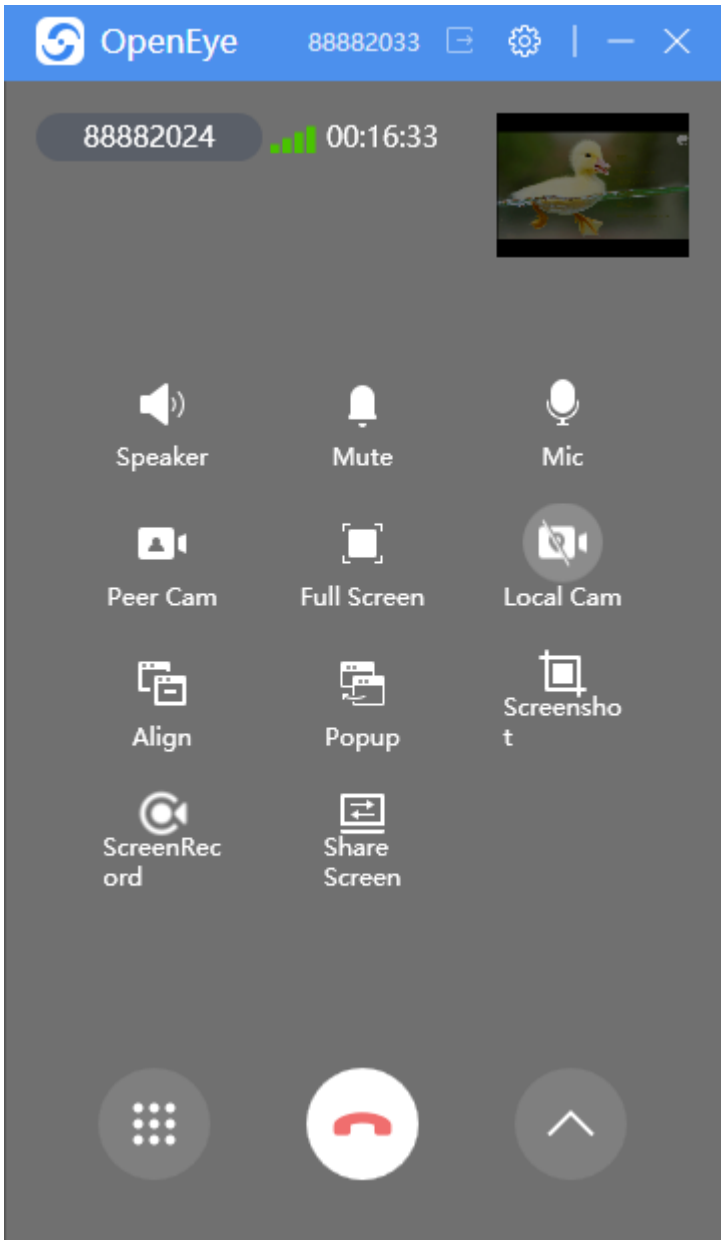


Step 3 In **Align** mode, click 

to switch to the **PiP** mode.

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Figure 3-157 Pip window



----End

3.13.7.2.8 Window Size Switching

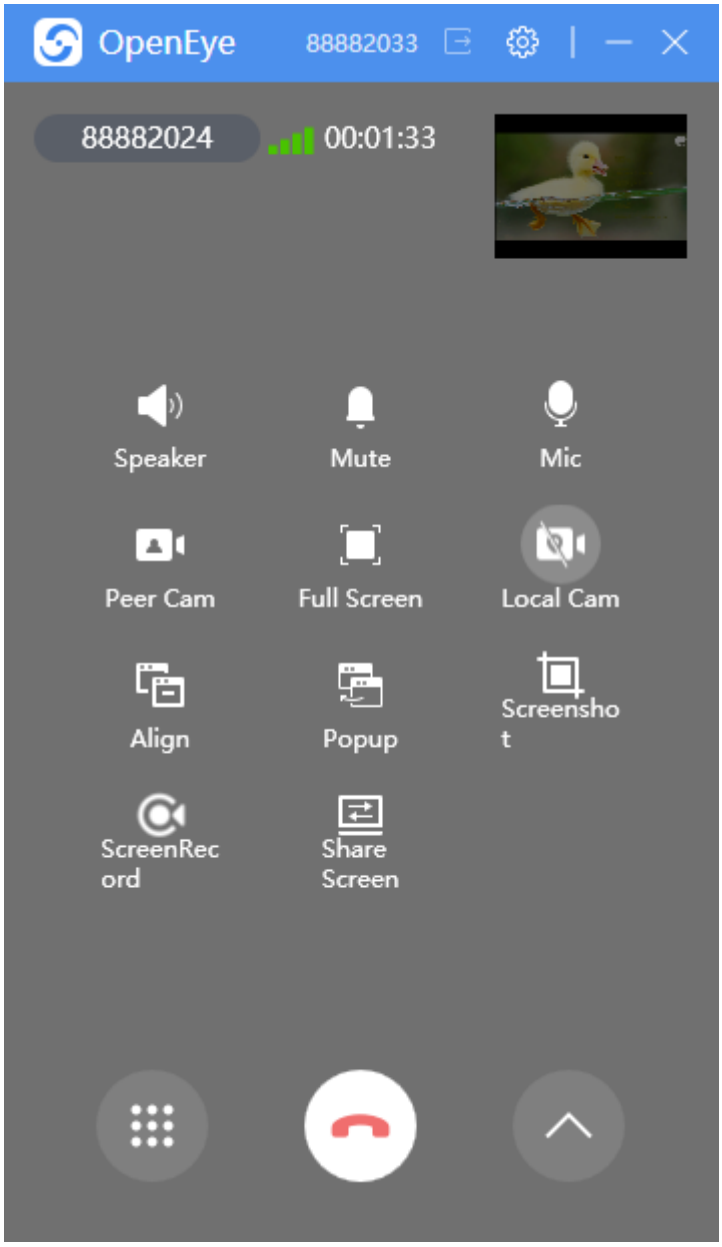
The video call window can be switched between the large and small windows to optimize the video display.

Procedure

Step 1 During a video call, click  to access the function area and switch the video window.

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Figure 3-158 Function area

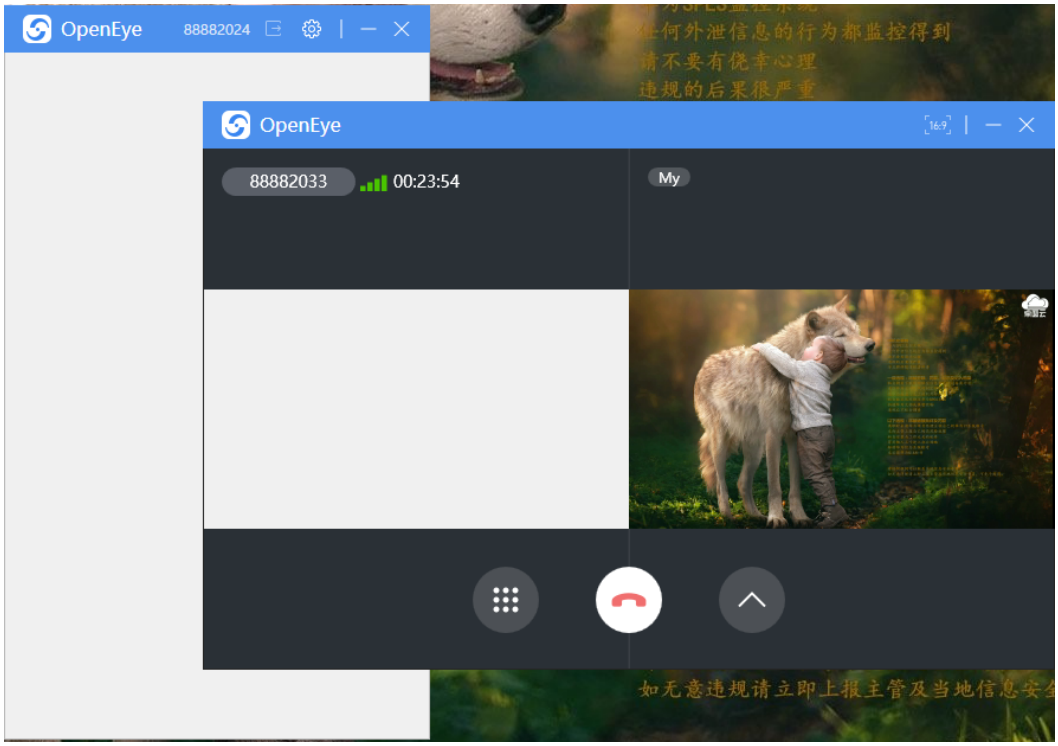


Step 2 Click 

. The video page is displayed in a new window.

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Figure 3-159 Opening a new window



NOTE

After the window is switched, the video page is displayed on the OpenEye main page, and the function area is moved to the new window.

Step 3 The video display supports the **16:9** and **4:3** ratios. You can click 

to change the mode.

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Figure 3-160 16:9 mode

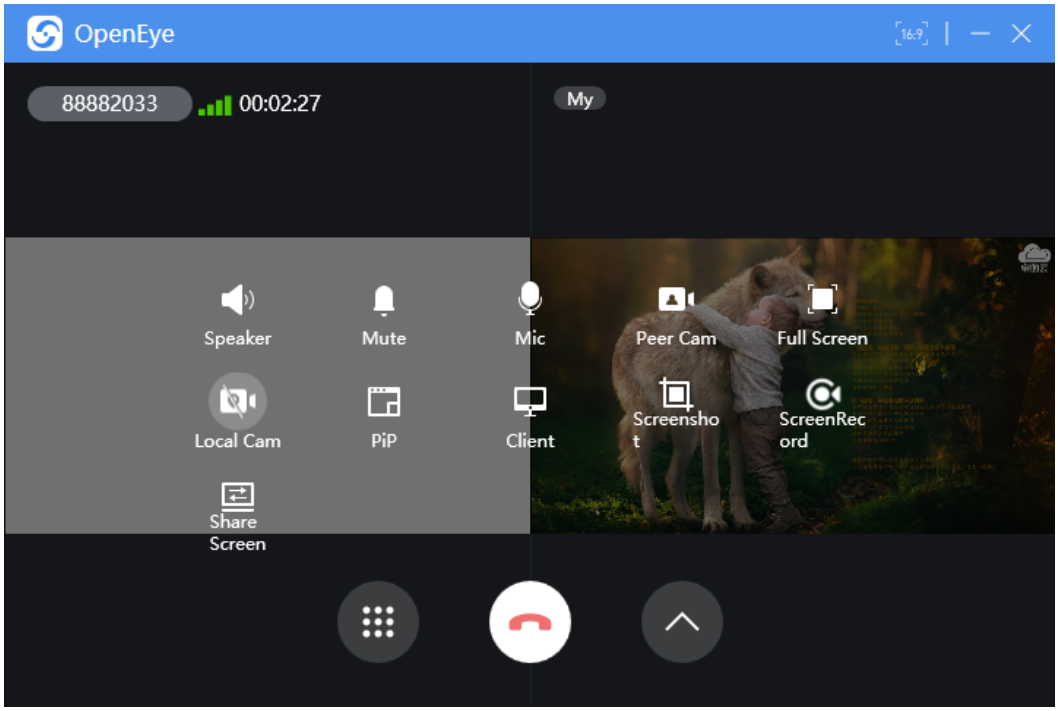
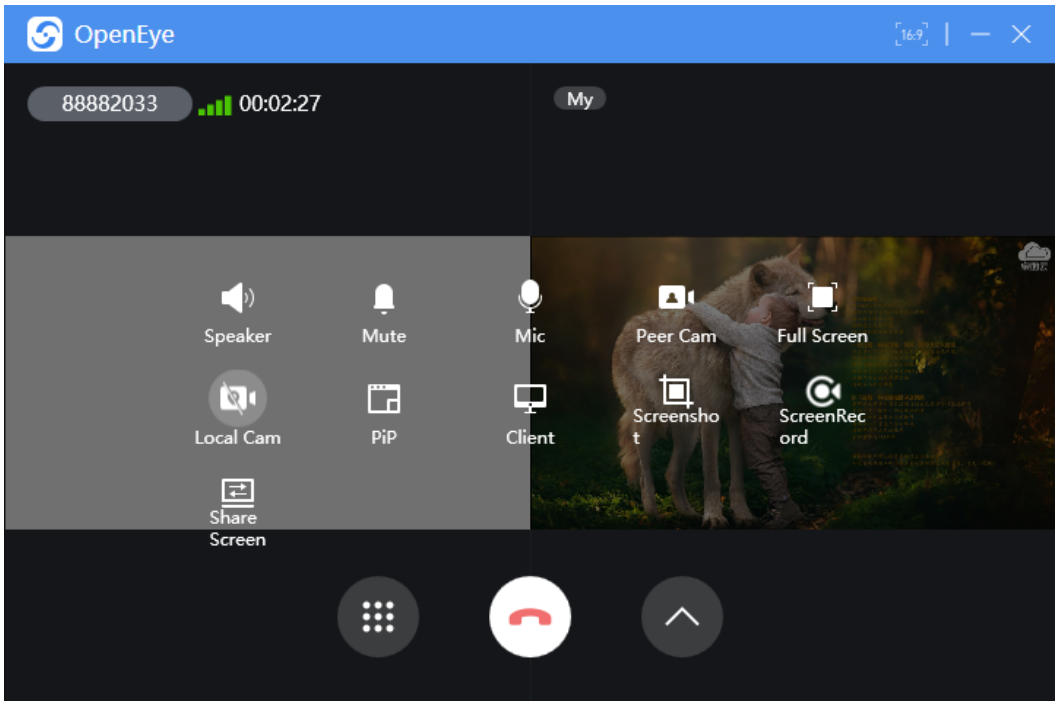
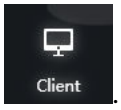


Figure 3-161 4:3 mode



Step 4 Access the function area and click 

. The initial video page is displayed.

----End

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NOTE

Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

3.13.7.2.9 Full Screen

A video call can be displayed in full screen mode, and the OpenEye menu bar is retained. The GUI can be displayed as required.

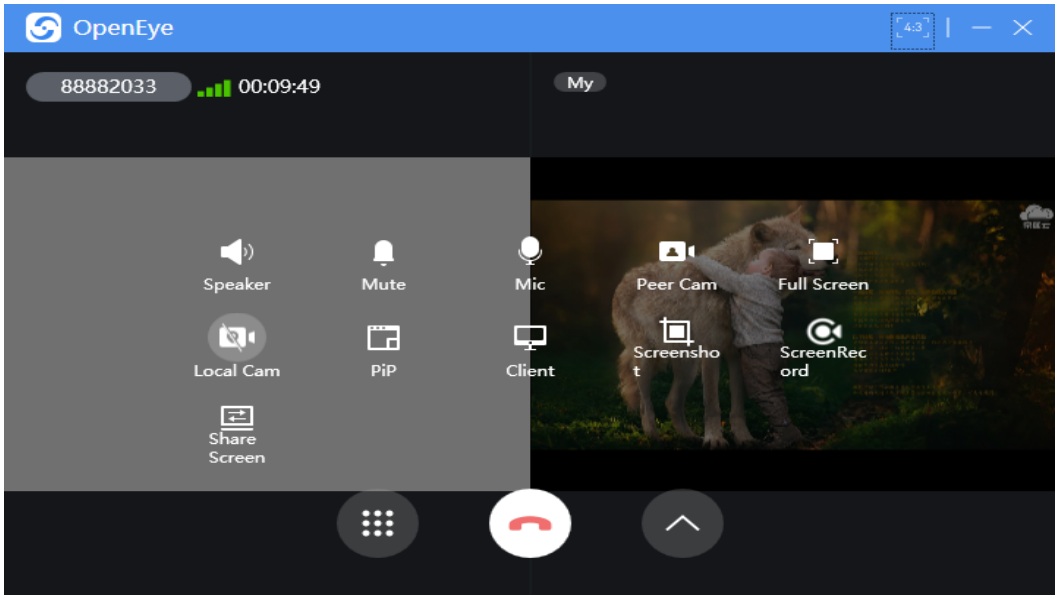
Procedure

Step 1 During a video call, click  to access the function area and choose the full screen function.

Step 2 Click 

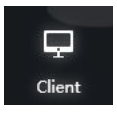
to display the page in full screen mode.

Figure 3-162 Full Screen



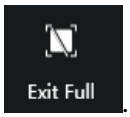
Step 3 In full screen mode, you can exit from this mode in either of the following methods.

- Return to the OpenEye home page.

  In the function area, click 

to access the home page of the OpenEye and continue the video call.
- Switch to a new window.

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In the function area, click 

. A new window is displayed for the video. For details about the new window, see **3.13.7.2.8 Window Size Switching**.

- End the call.

----End

NOTE

Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

3.13.7.2.10 Screenshot

During a video call, a screenshot can be captured by clicking a button or pressing shortcut keys. After the operation, the screenshot is automatically saved to the specified path.

Procedure

Step 1 During a video call, click  to access the function area and choose the screenshot function.

Step 2 Click 

to capture a screenshot for the current window.

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Figure 3-163 Screenshot



Step 3 (Optional) You can also press the shortcut keys to capture a screenshot.

----End

NOTE

For details about how to set the path for storing screenshots, see **Screenshot Saving Path**.

For details about how to set the screenshot format, see **Screenshot Saving Format**.

For details about how to set shortcut keys for screenshots, see **Screenshot Shortcut Key**.

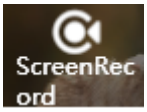
3.13.7.2.11 Screen Recording

A video call supports the synchronous screen recording function. During screen recording, only the peer video window is displayed.

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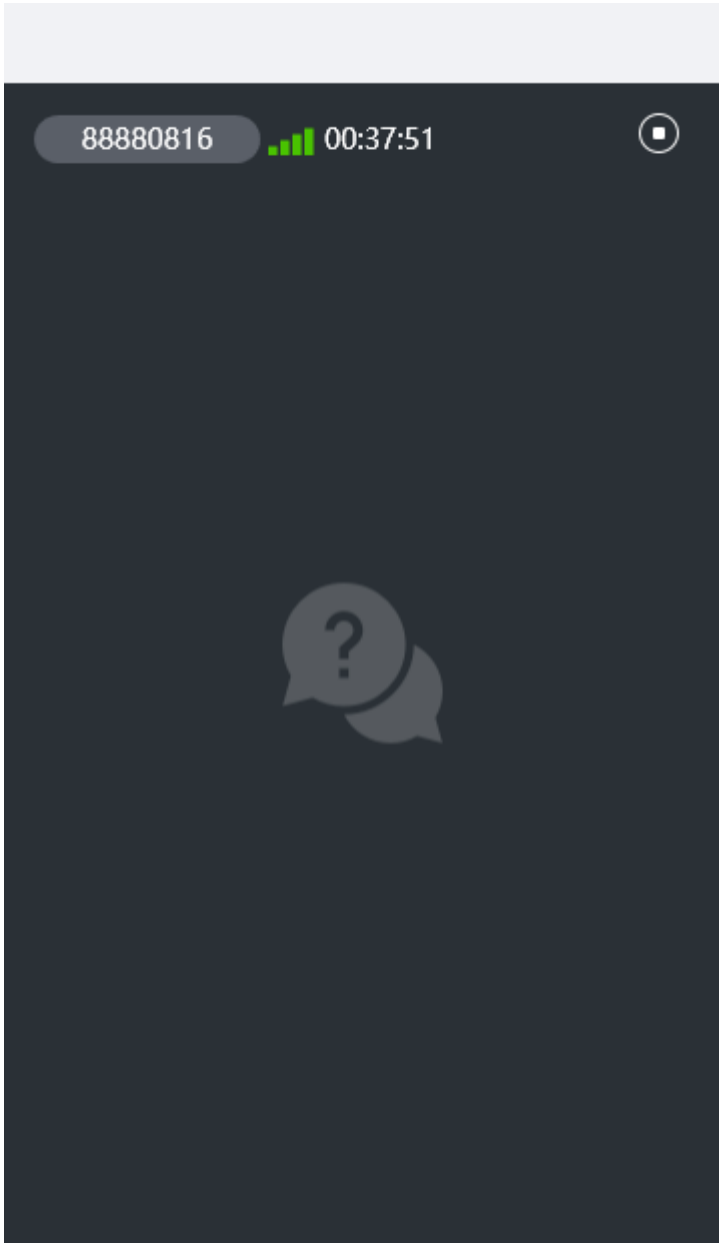
Procedure

Step 1 During a video call, click  to access the function area and choose the screen recording function.

Step 2 Click 

to start the screen recording in the current video window.

Figure 3-164 Screen recording



Copyright © Huawei Technologies Co., Ltd.

Step 3 Click  to stop screen recording.

----End

3.13.7.2.12 Screen Sharing

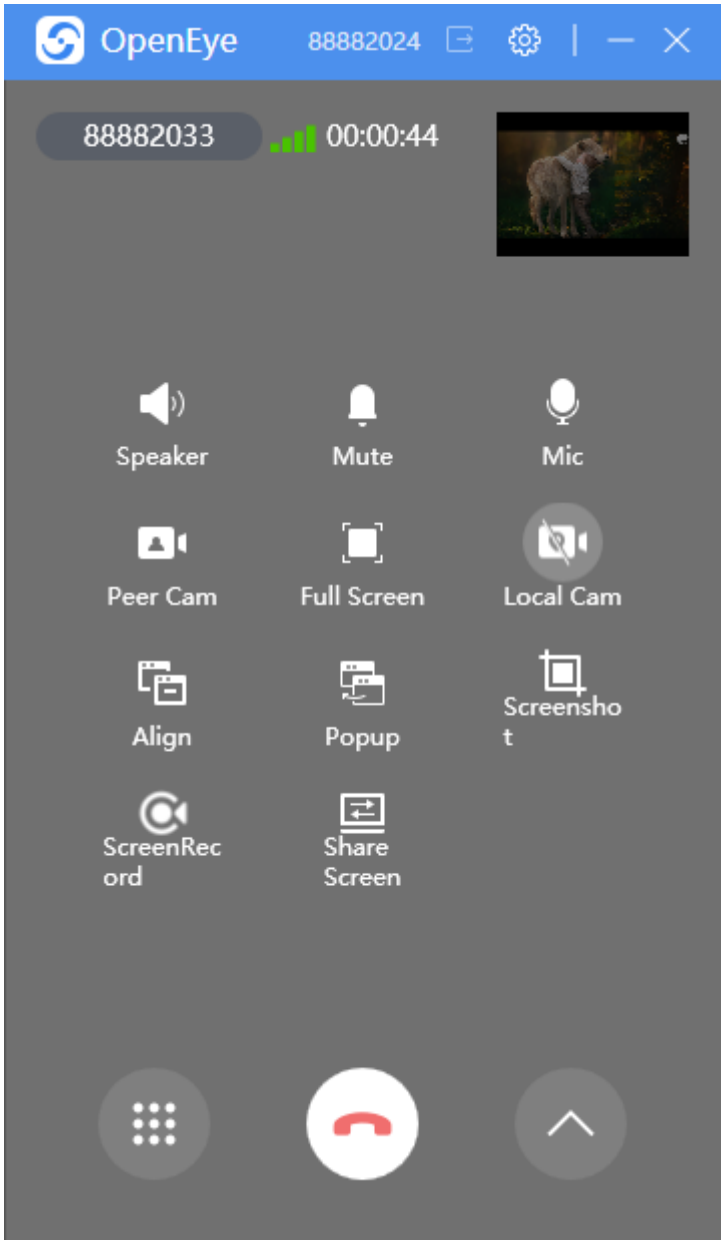
Screen sharing scope includes desktop, specified area, and specified application. The sharing scope can be customized as required.

Procedure

Step 1 During a video call, click  to access the function area and choose the screen sharing function.

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Figure 3-165 Screen sharing

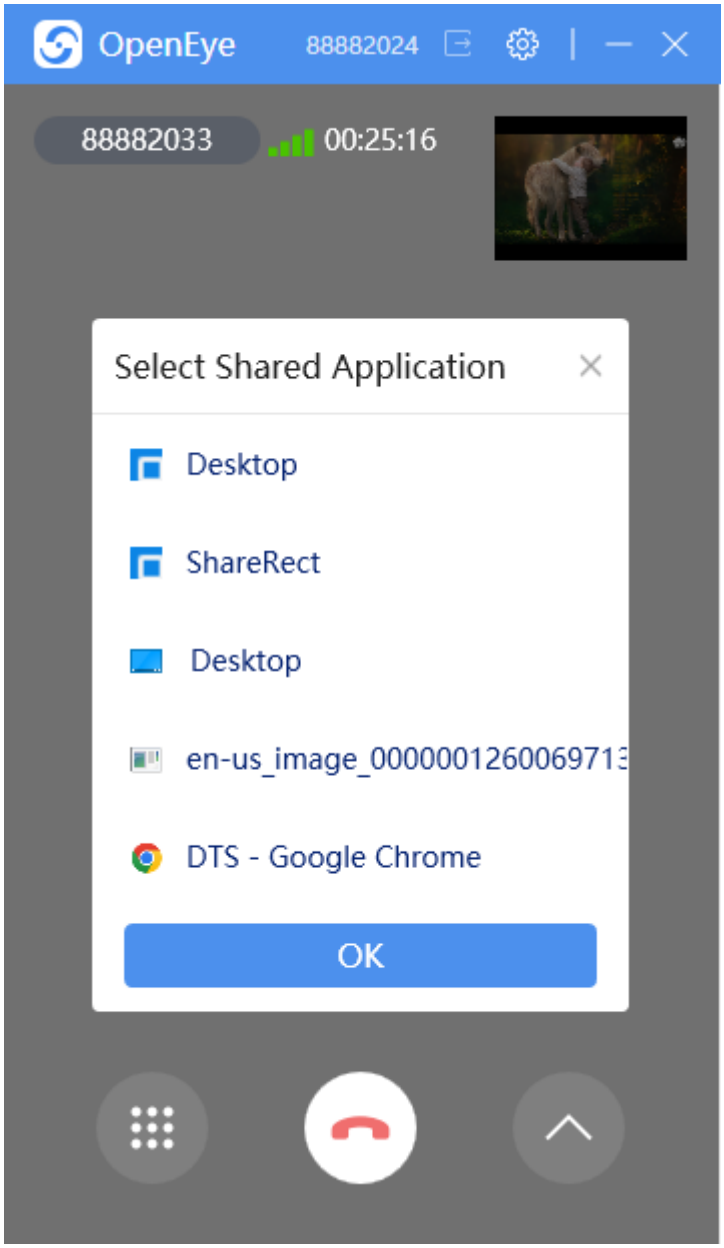


Step 2 Click 

and select an application to be shared.

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Figure 3-166 Selecting an application to be shared

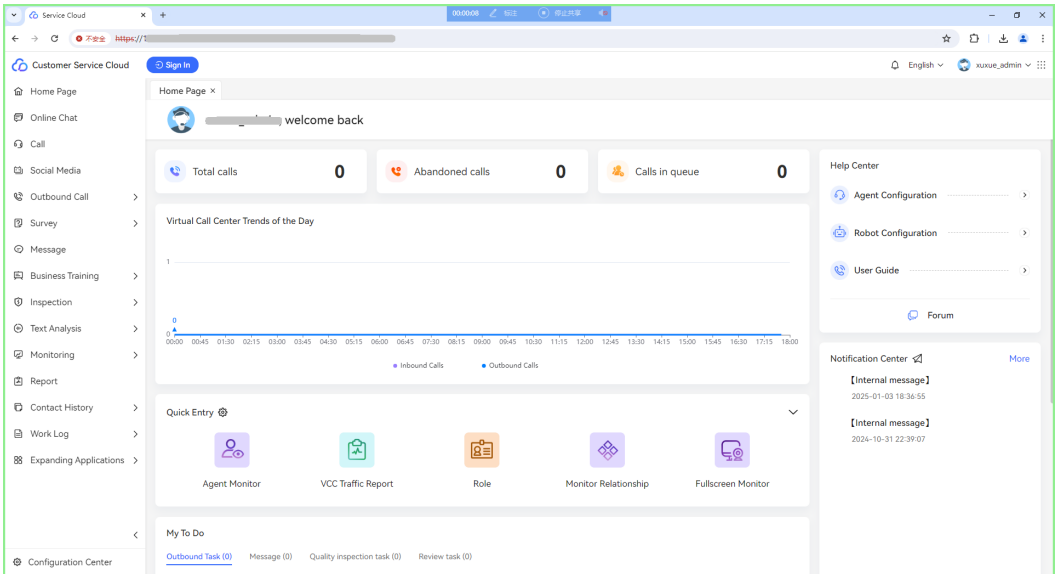


Step 3 Share the screen.

- **Desktop**: The sharing scope is the entire local desktop.

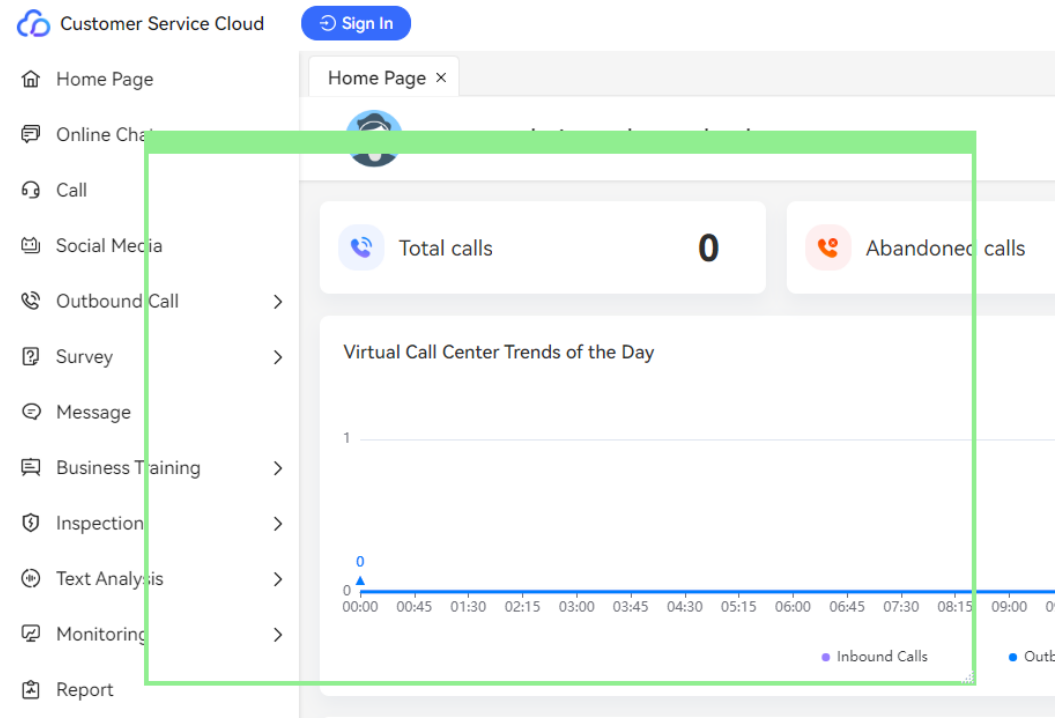
Copyright © Huawei Technologies Co., Ltd.

Figure 3-167 Sharing the desktop



- **ShareRect**: The sharing scope is the content covered by the green box. You can drag the box to change the sharing scope as required.

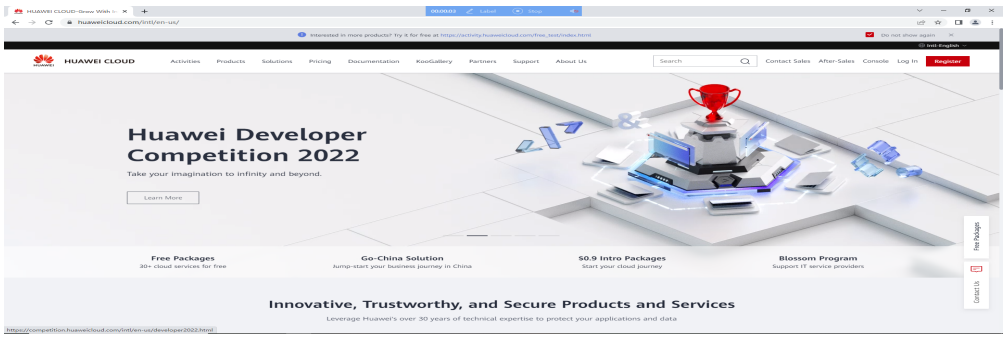
Figure 3-168 Sharing a specified area



- Specified application: The sharing scope is the content in the selected application window.

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Figure 3-169 Sharing a specified application



NOTE

An application that has been opened in the taskbar can be shared.

The Chinese version does not support sharing of specified areas.

Step 4 View the sharing duration, perform the labeling, stop sharing, and enable the sound on the sharing menu bar that is displayed in the middle of the top of the computer screen.

Step 5 Click  to stop the sharing.

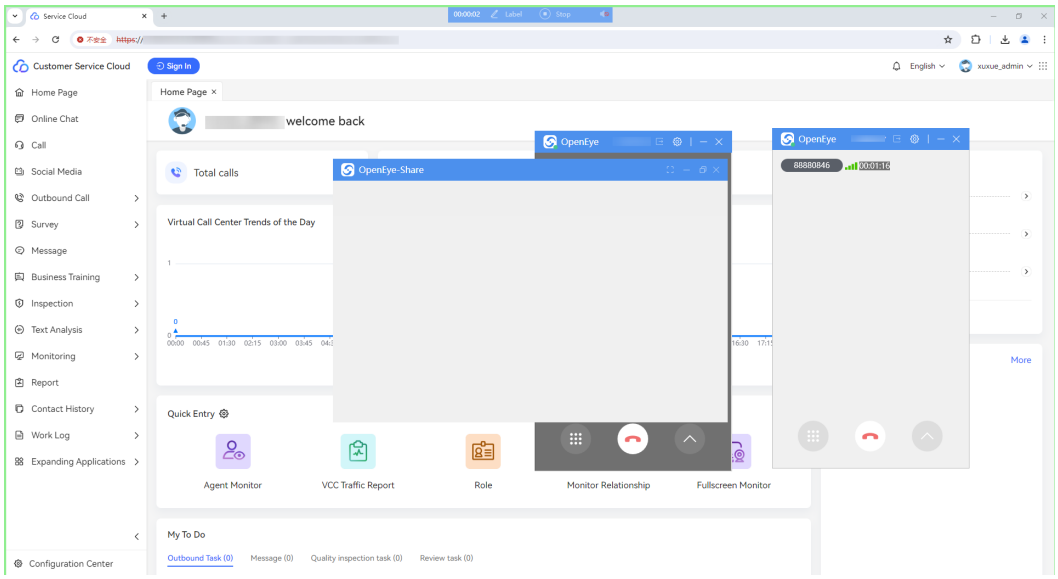
Figure 3-170 Menu bar



----End

Follow-up Operations

During screen sharing, the peer client can switch to the full screen mode, and minimize and maximize the screen.



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NOTE

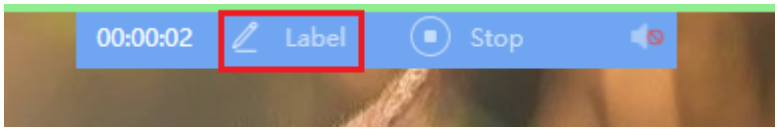
During screen sharing, the peer end can only end the call to stop screen sharing.

3.13.7.2.13 Label Sharing

During screen sharing, you can customize labels as required.

Procedure

Step 1 Enable the sharing function during a video call by referring to **3.13.7.2.12 Screen Sharing**.



Step 2 On the sharing menu bar of a shared area, click Label.

Figure 3-171 Sharing labels on the desktop

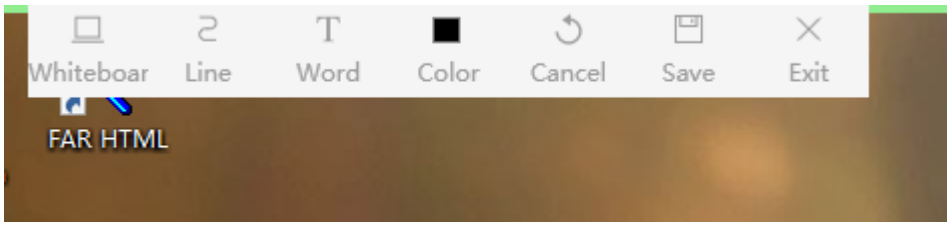
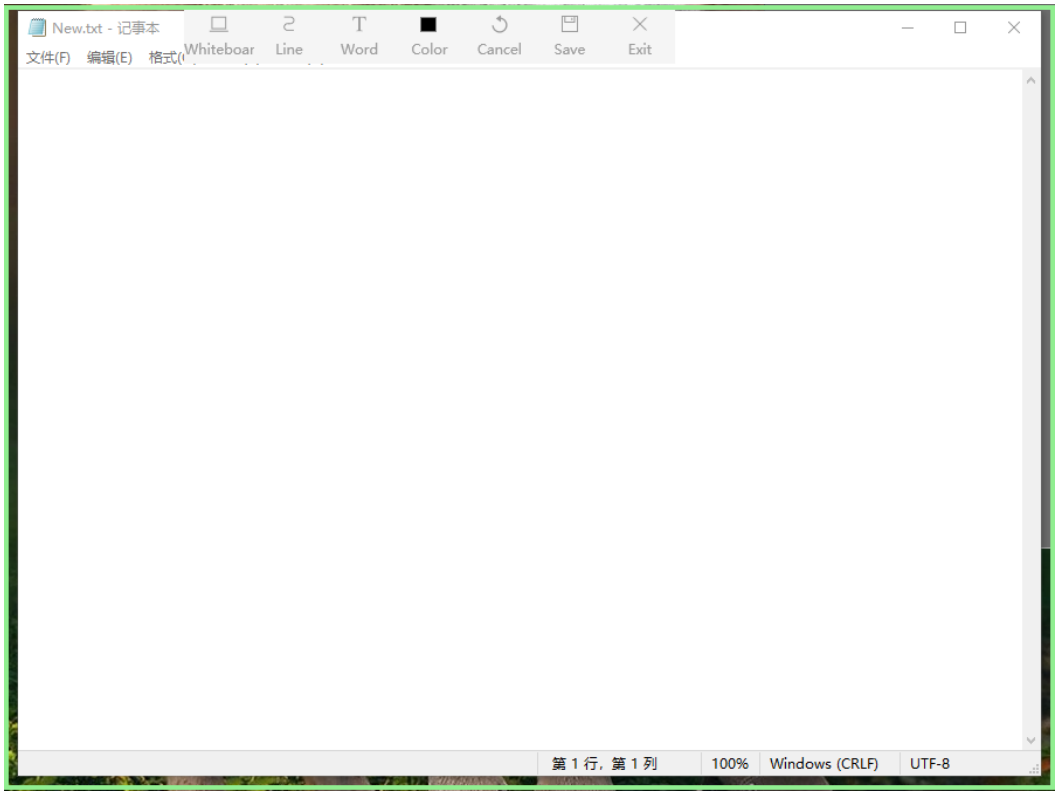
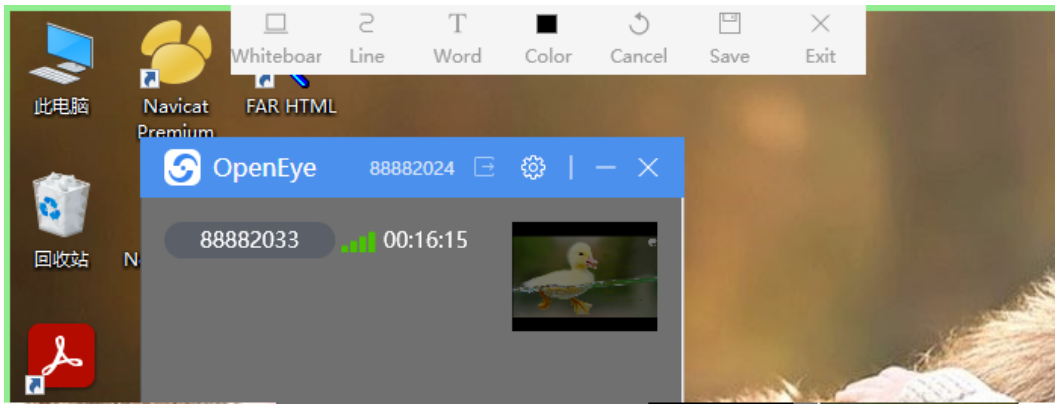


Figure 3-172 Sharing labels in a specified application



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Figure 3 Sharing labels in a specified area



Step 3 Verify that label sharing supports the following functions:

- **Whiteboard**: Switch the background between the **Whiteboard** and **Desktop** during labeling. After the background is switched, the previous labels are cleared.
- **Line**: Select a line tool, such as a brush, straight line, arrow, dotted line, circle, or rectangle, for labeling.
- **Word**: Insert text and adjust the size of the inserted text.
- **Color**: Select the color of lines and texts.
- **Cancel**: Cancel the last step.
- **Save**: Save the current label screenshot. The save path is the same as that of the video image screenshot. You can choose **Settings** > **General** > **Screenshot Saving Path** to set the save path.
- **Exit**: Manually exit the labeling page.

----End

3.13.7.2.14 Replacing the Background

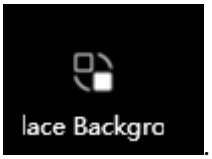
A video call supports background replacement. For privacy purposes, the video background image can be replaced as required.

NOTE

The client of the Chinese version does not support the background replacement function.

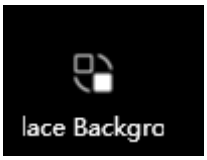
Procedure

Step 1 After a video call starts, click  to access the function area and choose the background replacement function.

Step 2 Click 

. The background image is replaced with the selected image during a video call.

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Step 3 Click 

to return to the actual video background.

----End

NOTICE

For details about how to replace the background image, see **Modify background**. If the background replacement image is not set, the background replacement function does not take effect.

3.13.7.2.15 Beautification

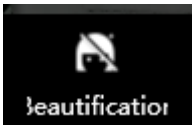
A video call supports facial beautification for the local video. The beautification settings include skin whitening and smooth. The beautification degree can be adjusted as required.

NOTE

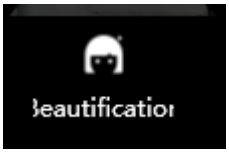
The client of the Chinese version does not support the beautification function.

Procedure

Step 1 After the video call starts, click  to access the function area and choose the beautification function.

Step 2 Click 

to enable the beautification function.

Step 3 Click 

to disable the beautification function.

----End

3.13.7.2.16 Initiating an Anonymous Call

You can initiate an anonymous voice call by referring to **3.13.7.1.6 Initiating an Anonymous Call**.

3.13.7.3 Call Records

Call records store detailed call information of a user. A user can also perform related operations in call records, for example, initiating calls.

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3.13.7.3.1 Viewing Call Records

Context

Call records are classified into the following types:

- Missed calls: calls that are not answered, marked with  .
- Answered calls: calls that have been answered, marked with  .
- Dialed calls: calls that have been dialed, marked with  .

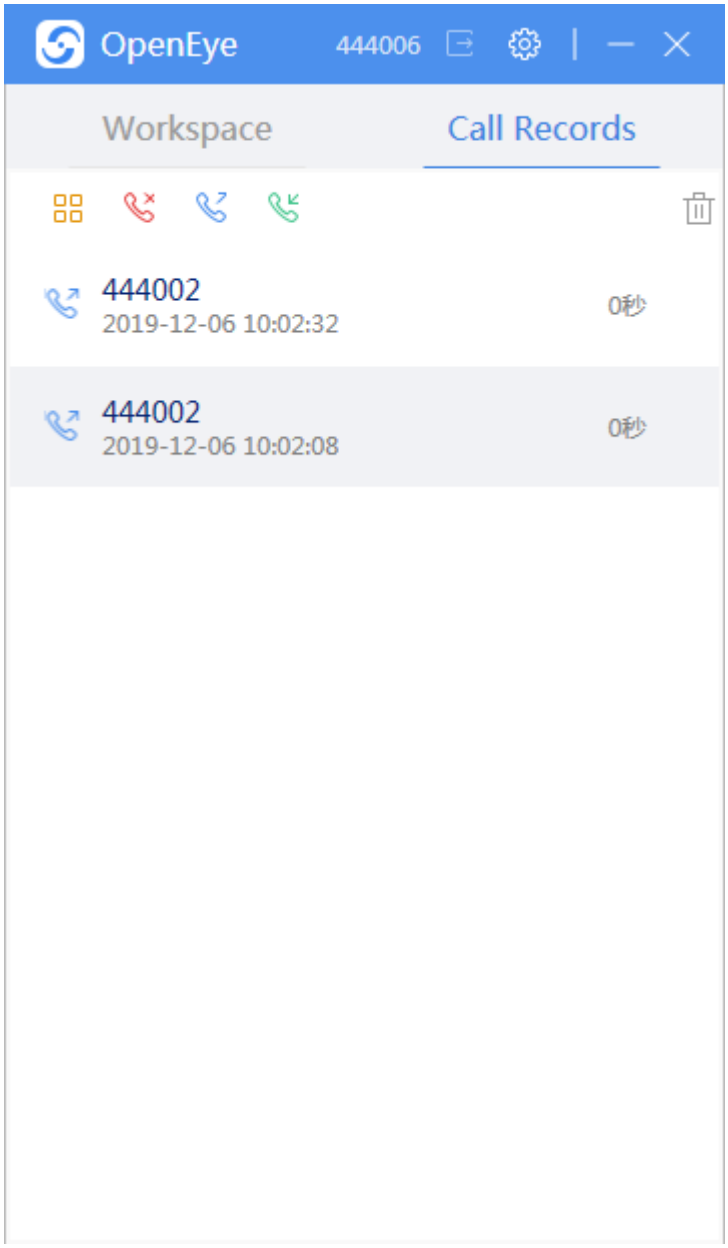
Procedure

Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Call Records** tab to view the call details.

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Figure 3-173 Call Records page



Step 3 View the call details.

- : View all calls.
- : View missed calls.
- : View outbound calls.
- : View inbound calls.
- : View the call quality analysis.

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Step 4 Click . The call quality analysis page is displayed, showing the quality of each call.

Figure 3-174 Call Quality Analysis



----End

NOTE

A maximum of 200 call records can be stored on the local PC. If the number of call records exceeds 200, the earliest call records are automatically deleted.

A maximum of 50 latest calls can be displayed in the Windows version, and a maximum of 20 latest calls can be displayed in the Chinese version.

3.13.7.3.2 Deleting or Clearing Call Records

You can clear call records in one-click mode, or delete a call record as required.

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Procedure

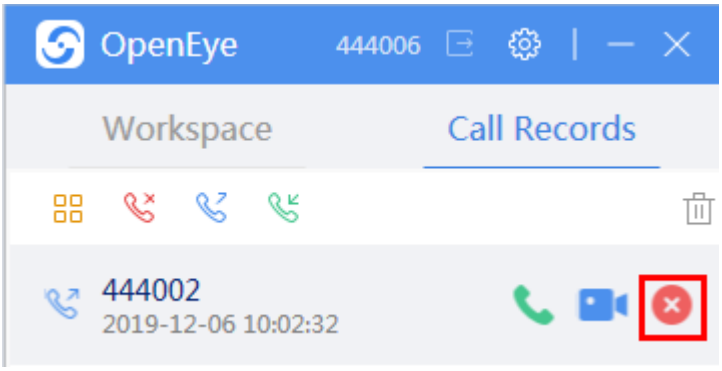
Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Choose **Call Records** to view the call details.

Step 3 Click  to delete all call records.

Step 4 Select a call record you want to delete and click  on the right to delete it. You can delete unnecessary call records one by one.

Figure 3-175 Deleting a call record



----End

3.13.7.3.3 Initiating a Call

Voice calls and video calls can be initiated from call records.

Procedure

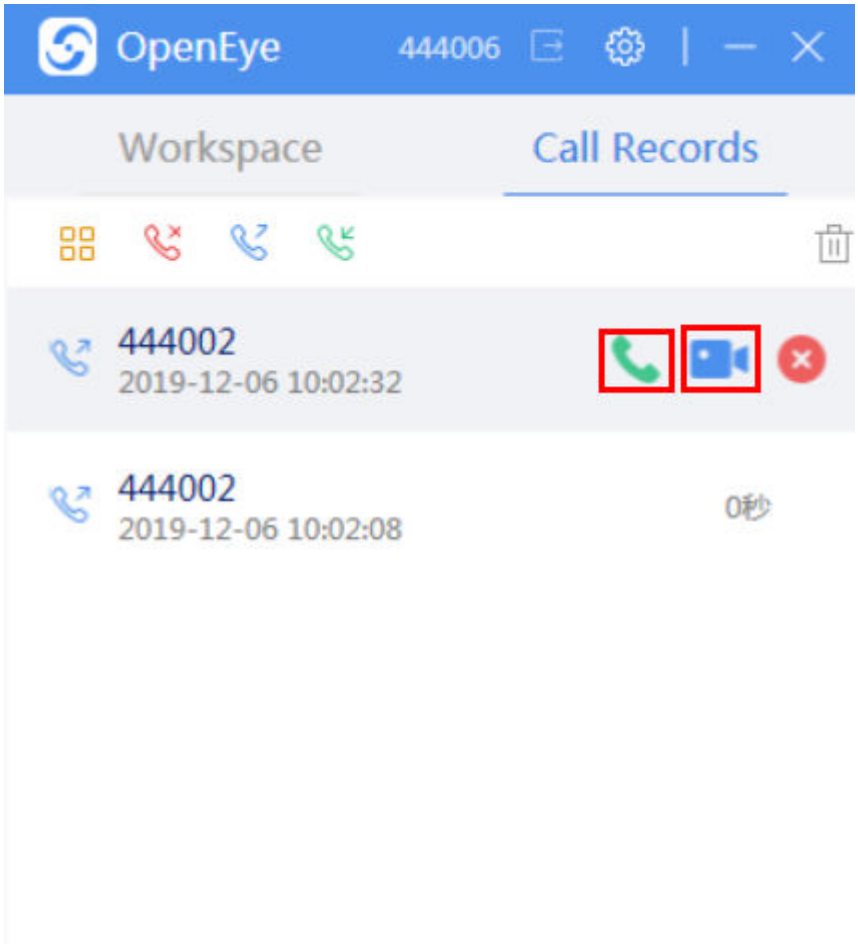
Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

Step 2 Click the **Call Records** tab to view the call details.

Step 3 Select a call record and click  to initiate a voice call. Click  to initiate a video call.

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Figure 3-176 Initiating a call



----End

3.13.8 Description of Personal Data

During business operation or fault locating, the OpenEye Desktop platform obtains or uses users' personal data listed in the following table. You are obligated to formulate necessary user privacy policies and take sufficient measures based on the laws of concerned countries to ensure that users' personal data is fully protected.

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Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Operation logs; Remember Password	Soft client account and password	Operation logs: User operations on the OpenEye Desktop are recorded in logs. Operation logs contain accounts and passwords. **Remember Password**: A password is encrypted and saved after users select **Remem**	Accounts and passwords in operation logs are anonymized and can be backtracked. The **Remember Password** and **Auto Login** functions are used to facilitate the next login. Passwords are encrypted and saved locally.	When a user selects **Remember Password**, the password is encrypted and saved locally. When a user does not select **Remember Password**, the encrypted password is deleted.	Accounts and passwords in operation logs are anonymized. When a user does not select **Remember Password**, the encrypted password is deleted.	Accounts and passwords in operation logs are anonymized. Operation logs can be directly copied from the installation path. Encrypted passwords cannot be exported.	Accounts and passwords in operation logs are anonymized. Operation logs can be directly copied from the installation path. Encrypted passwords cannot be exported.

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Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
		ber Password and **Auto Login** check boxes.					
Call records	Call duration, calling number, called number, and call type	Call records of users are collected and stored in the database.	Call records are used for user service appraisal or audit. Call records are encrypted and saved in the database provided by the software.	The latest 200 call records are recorded. The OpenEye Desktop provides the **Clear** button to clear call records.	The OpenEye Desktop provides the **Clear** button to clear call records.	Call records cannot be exported.	Call records cannot be exported.

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Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Machine code generation	MAC address and CPU information of a machine where the OpenEye Desktop is installed	Information is collected from the machine where the OpenEye Desktop is installed by invoking functions.	Information such as the MAC address and CPU of a machine where the OpenEye Desktop is installed is used to generate the machine code. The information is not stored.	The MAC address and CPU information of a machine is not stored.	N/A	N/A	N/A

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Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Video call screenshot and screen recording	Images in a video call	A user uses the screen capture or screen recording function during a video call.	A function entry is provided to meet user requirements, which generates images or video files from video calls, and saves the images or video files to a specified directory.	Files are saved to a specified directory and managed by users.	Data can be deleted by the user.	N/A	Generated images or video files can be directly copied.

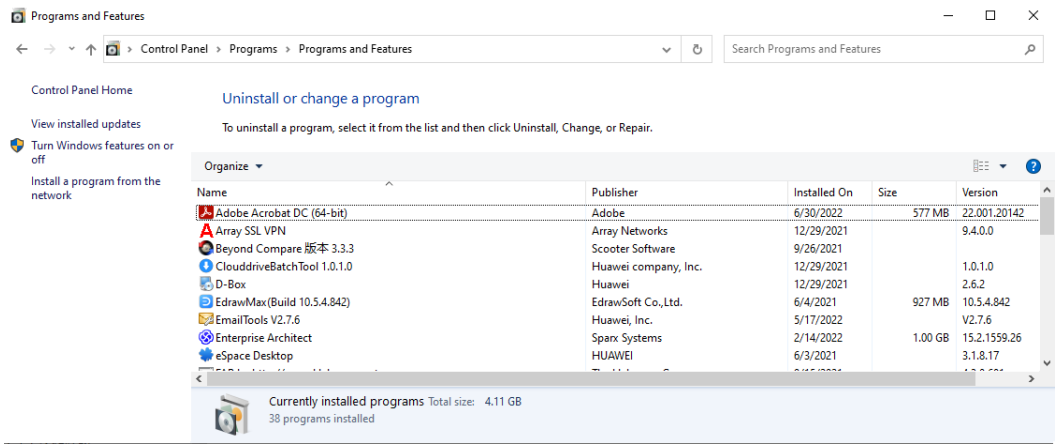
Copyright © Huawei Technologies Co., Ltd.

3.13.9 Uninstallation Description

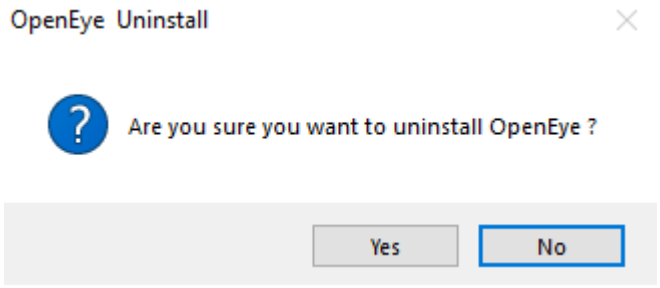
The OpenEye can be uninstalled manually.

Procedure

Step 1 Choose **Start** > **Control Panel** > **Programs and Features**. The **Uninstall or change a program** window is displayed.



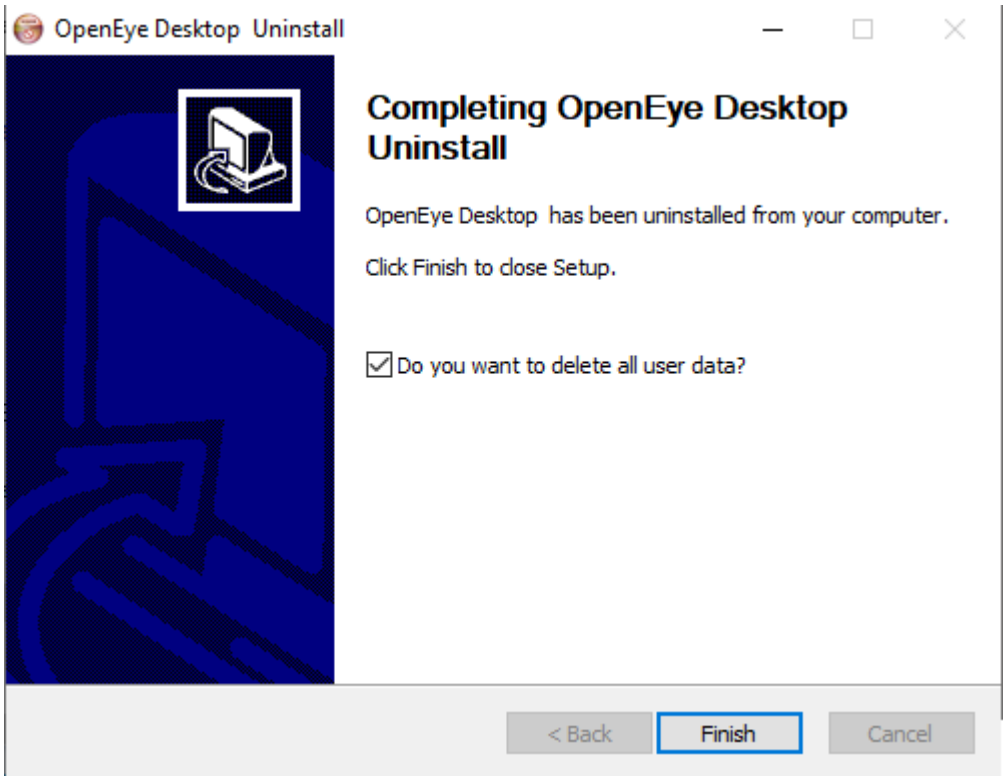
Step 2 Click the OpenEye and right-click **Change/Uninstall Program**. A confirmation dialog box is displayed.



Step 3 Click **Yes** to uninstall the OpenEye. The background automatically performs the uninstallation.

Step 4 When the uninstallation is complete, select **Do you want to delete all user data?** and click **Finish**.

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----End

3.13.10 Reference

3.13.10.1 Call Quality Log Reference

Call quality logs are recorded in the OpenEye installation path **\Log\TsdkLog\tsdk\tup_callapi.log**.

Log Format

The format of call quality logs is as follows: **[***Time***][***Log level***][***Log definition module name***][***Location of the code file where the log is recorded Name of the function where the log is recorded***][***Process ID Thread ID***][***Log content***]**.

Example:

```
[2025-04-02 16:25:41.674-08:00][INFO][][][api][call_interface.c:893 callPrintChannelInfo][P=16124, T=109172][[audio]bIsCalling:1, bIsSRTP:0, acEncodeProtocol:opus, acDecodeProtocol:opus, ulChannelID:0, ulSendBitRate:7, ulRecvBitRate:29, ulSendTotalLostPacket:0, fSendLossFraction:0.000000, fSendNetLossFraction:0.000000, fSendJitter:120.000000, fSendDelay:12.000000, ulRecvTotalLostPacket:0, fRecvLossFraction:0.000000, fRecvNetLossFraction:0.000000, fRecvJitter:0.000000, fRecvDelay:12.000000]
```

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Table 3-33 Description of startup logs

Element	Description
Time	Time when log information is recorded. Format: *yyyy-MM-dd HH:mm:ss.SSS* Example: **2012-09-18 13:40:32.401**
Log level	Level of the information recorded in a log. Call quality log level: **[INFO]**
Location of the code file where the log is recorded	Location of the code for recording the log. Call quality logs are recorded in the **call_interface.c** file. The line number varies depending on the OpenEye version. In this example, the line number is **893**.
Name of the function where the log is recorded	Call quality logs are recorded in the function callPrintChannelInfo.
Process ID Thread ID	Different call quality logs with the same process ID are recorded by the same OpenEye program. **P** indicates the process, and **T** indicates the thread.
Log content	Call quality logs are classified into the following types: • Call ID: The parameter value consists of **GetChannelInfo** and **callId**. Example: **[GetChannelInfo callId=806420640]** • Numbers of calling and called parties: The parameter value consists of the local number (**localNum**) and the peer number (**remoteNum**). The numbers are encrypted. Example: **[localNum:666***03, remoteNum:666***02]** • Streaming media information in a call: The parameter value consists of the call type and the detailed streaming media information. The call type can be **[audio]**, **[video]**, or **[data]**. Example: For details about the log content, see **3.13.10.1.1 Call Quality Log Description**.

3.13.10.1.1 Call Quality Log Description

- Voice streaming media information in a call, which starts with **[audio]**

```
[2025-04-03 14:16:26.973-08:00][INFO][][][api][call_interface.c:893 callPrintChannelInfo][P=167552, T=137748][[audio]bIsCalling:1, bIsSRTP:0, acEncodeProtocol:opus, acDecodeProtocol:opus, ulChannelID:0, ulSendBitRate:9, ulRecvBitRate:26, ulSendTotalLostPacket:0, fSendLossFraction:0.000000, fSendNetLossFraction:0.000000, fSendJitter:105.000000, fSendDelay:5.000000, ulRecvTotalLostPacket:0, fRecvLossFraction:0.000000, fRecvNetLossFraction:0.000000, fRecvJitter:43.000000, fRecvDelay:5.000000]
```

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NOTE

The standard call quality value is **3**. If the value is greater than 3, the call quality is good. If the value is less than 3, the call quality is poor.

The call quality is calculated based on the delay, jitter, and packet loss rate. The packet loss rate in this log refers to the value of **NetLossFraction**.

- Weight calculation for the Opus codec format:
  - Delay weight: DelayEvalueWeight = (Delay < 150 ? 2 : (Delay <= 300 ? 1 : (Delay <= 500 ? 0.5 : 0)))
  - Jitter weight: JitterEvalueWeight = (Jitter < 50 ? 2 : (Jitter <= 70 ? 1 : (Jitter <= 200 ? 0.5f : 0)))
  - Packet loss rate weight: LostEvalueWeight = (NetLost < 20 ? 2 : (NetLost <= 30 ? 1.5f : (NetLost <= 40 ? 1 : 0)))
- Weight calculation for other codec formats such as G711:
  - Delay weight: DelayEvalueWeight = (Delay < 100 ? 2 : (Delay <= 300 ? 1 : (Delay <= 500 ? 0.5f : 0)))
  - Jitter weight: JitterEvalueWeight = (Jitter < 30 ? 2 : (Jitter <= 70 ? 1 : (Jitter <= 200 ? 0.5f : 0)))
  - Packet loss rate weight: LostEvalueWeight = (NetLost < 10 ? 2 : (NetLost <= 15 ? 1.5f : (NetLost <= 20 ? 1 : 0)))
- Network quality calculation:

  NetLevel: LostEvalueWeight * 0.5 + DelayEvalueWeight * 0.25 + JitterEvalueWeight * 0.25
- Call quality calculation:

  NetLevel < 0.7 Call quality 1

  0.7 <= NetLevel < 1.1 Call quality 2

  1.1 <= NetLevel < 1.45 Call quality 3

  1.45 <= NetLevel < 1.75 Call quality 4

  1.75 <= NetLevel Call quality 5

Table 3-34 Voice streaming media information

Element	Description
bIsCalling	Whether a call is in progress. **1**: yes.
bIsSRTP	Whether to enable SRTP. **1**: yes.
acEncodeProtocol	Encoding protocol name.
acDecodeProtocol	Decoding protocol name.
ulSendBitRate	Send bit rate (kbit/s).
ulRecvBitRate	Receive bit rate (kbit/s).
ulSendTotalLostPacket	Total lost packets of the sender.
fSendLossFraction	Packet loss rate (%) of the sender.
fSendNetLossFraction	Packet loss rate (%) of the sender on the network.
fSendJitter	Average send jitter (ms).

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Element	Description
fSendDelay	Average send delay (ms).
ulRecvTotalLostPacket	Total lost packets of the recipient.
fRecvLossFraction	Packet loss rate (%) of the recipient.
fRecvNetLossFraction	Packet loss rate (%) of the recipient on the network.
fRecvJitter	Average receive jitter (ms).
fRecvDelay	Average receive delay (ms).

- Video streaming media information in a call, which starts with **[video]**

```
[2025-04-03 14:16:26.973-08:00][INFO][][][api][call_interface.c:927 callPrintChannelInfo][P=167552, T=137748][[video]acEncodeName:H264, acDecodeName:H264, acEncoderSize:512*288, acDecoderSize:VGA, bIsSRTP:0, ulSendFrameRate:22, ulRecvFrameRate:15, ulVideoSendBitRate:2, ulVideoRecvBitRate:1248, acEncoderProfile:HP, acDecoderProfile:HP, VideoSendLossFraction:0.000000, VideoSendJitter:26.000000, VideoSendDelay:5.000000, VideoRecvLossFraction:0.000000, VideoRecvJitter:12.000000, VideoRecvDelay:5.000000, lWidth:640, lHeight:480]
```

Table 3-35 Video streaming media information

Element	Description
acEncodeName	Encoding name.
acDecodeName	Decoding name.
acEncoderSize	Image encoding resolution.
acDecoderSize	Image decoding resolution.
bIsSRTP	Whether to enable SRTP. **1**: yes.
ulSendFrameRate	Video encoding frame rate.
ulRecvFrameRate	Video decoding frame rate.
ulVideoSendBitRate	Encoding bit rate (bit/s).
ulVideoRecvBitRate	Decoding bit rate (bit/s).
acEncoderProfile	Video encoding format.
acDecoderProfile	Video decoding format.
VideoSendLossFraction	Packet loss rate (%) of the sender.
VideoSendJitter	Average send jitter (ms).
VideoSendDelay	Average send delay (ms).
VideoRecvLossFraction	Packet loss rate (%) of the recipient.
VideoRecvJitter	Average receive jitter (ms).
VideoRecvDelay	Average receive delay (ms).

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Element	Description
lWidth	Video resolution width (PPI).
lHeight	Video resolution height (PPI).

- Presentation media information in a call, which starts with **[data]**

```
[2025-04-03 14:16:26.973-08:00][INFO][][][api][call_interface.c:948 callPrintChannelInfo][P=167552, T=137748][[data]acEncodeName:, acDecodeName:, acEncoderSize:, acDecoderSize:, bIsSRTP:0, ulSendFrameRate:0, ulRecvFrameRate:0, ulVideoSendBitRate:0, ulVideoRecvBitRate:0, acEncoderProfile:, acDecoderProfile:, VideoSendLossFraction:0.000000, VideoSendJitter:0.000000, VideoSendDelay:0.000000, VideoRecvLossFraction:0.000000, VideoRecvJitter:0.000000, VideoRecvDelay:0.000000, lWidth:0, lHeight:0]
```

Table 3-36 Presentation media information

Element	Description
acEncodeName	Encoding name.
acDecodeName	Decoding name.
acEncoderSize	Image encoding resolution.
acDecoderSize	Image decoding resolution.
bIsSRTP	Whether to enable SRTP. **1**: yes.
ulSendFrameRate	Video encoding frame rate.
ulRecvFrameRate	Video decoding frame rate.
ulVideoSendBitRate	Encoding bit rate (bit/s).
ulVideoRecvBitRate	Decoding bit rate (bit/s).
acEncoderProfile	Video encoding format.
acDecoderProfile	Video decoding format.
VideoSendLossFraction	Packet loss rate (%) of the sender.
VideoSendJitter	Average send jitter (ms).
VideoSendDelay	Average send delay (ms).
VideoRecvLossFraction	Packet loss rate (%) of the recipient.
VideoRecvJitter	Average receive jitter (ms).
VideoRecvDelay	Average receive delay (ms).
lWidth	Video resolution width (PPI).
lHeight	Video resolution height (PPI).

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3.14 Implementing Intelligent Case Filling

When a user communicates with an agent through voice or multimedia, the agent may need to create a case. In this case, the agent can click the one-click case creation button.

Procedure

Step 1 Choose **Audio and Video Workbench** to open the audio and video workbench, and click **Sign In** on the navigation bar.

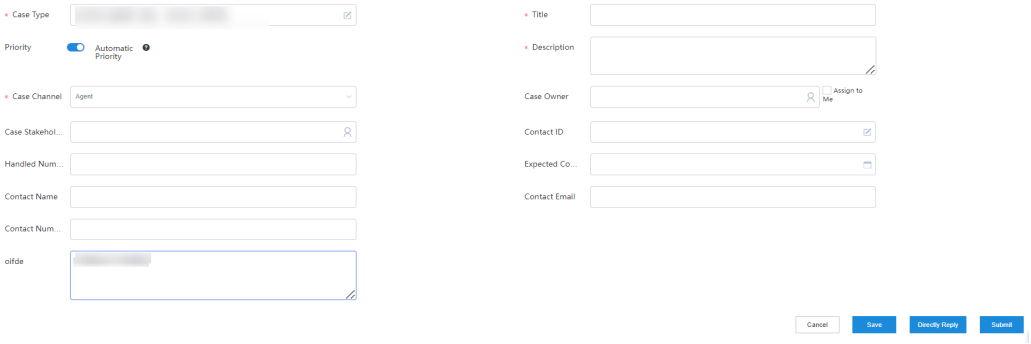
Step 2 Click  in the upper part of the page to call another agent.

Step 3 Click  above the session to create a case after the call ends. In the **Select a case type** dialog box that is displayed, select a case type based on business requirements.

Step 4 After a case type is selected, the **Create Case** page is displayed, and the case type is automatically filled in.

Step 5 The address information during the call is automatically filled in **oifde**. The **oifde** field is customized.

Figure 3-177 Intelligent case filling



----End

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4 Inspector Guide

To guide and evaluate the service of agents, an enterprise can assign inspectors to monitor the conversation between agents and customers in real time.

The inspection mode varies depending on the inspection content. An inspector can select an inspection mode to perform inspections.

4.1 Processing Manual Post-Event Inspections
After an agent completes a call, an inspector can check the call content, inspect the agent, and process violations.

4.2 AI Inspection
The AICC automatically queries agents' service content based on the rules set by inspectors, reducing inspector operations.

4.3 Performing Agent Monitoring and Inspections
Quality checkers can monitor VDNs, IVRs, skill queues, and agents, and inspect agents.

4.1 Processing Manual Post-Event Inspections

After an agent completes a call, an inspector can check the call content, inspect the agent, and process violations.

4.1.1 Executing Inspection Tasks

An inspector can access an inspection task and inspect the calls of agents.

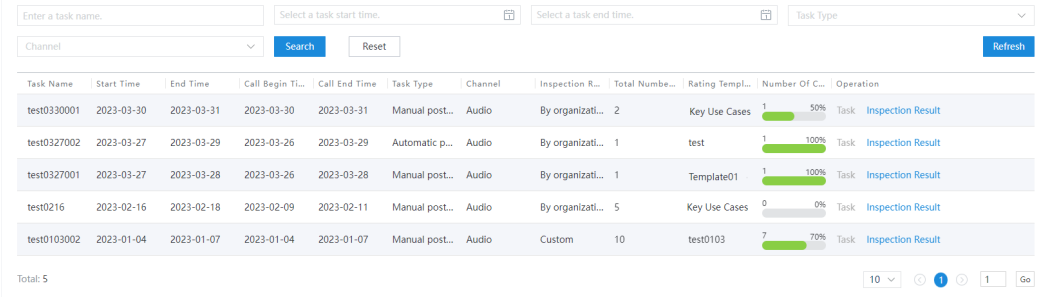
Step 1 Use an allocated business account to sign in to the CEC.

Step 2 Choose **Inspection** > **Task Query**.

Step 3 By default, the inspection task list displays the tasks that an inspector is involved in.

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Figure 4-1 Task Query



Step 4 Click **Task** next to a desired inspection task. The list of pending records for an inspector is displayed.

Step 5 If the list of pending records is empty, click **Obtain To-Be-Inspected Record** to obtain the pending records.

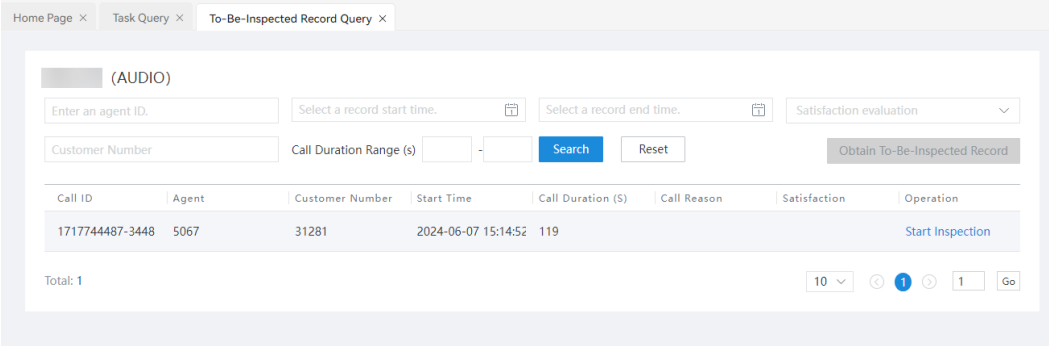
NOTE

Before obtaining inspection records, ensure that the inspected agent has made calls during the inspection period.

If the task type is automatic post-event inspection, contact records are automatically extracted from the system.

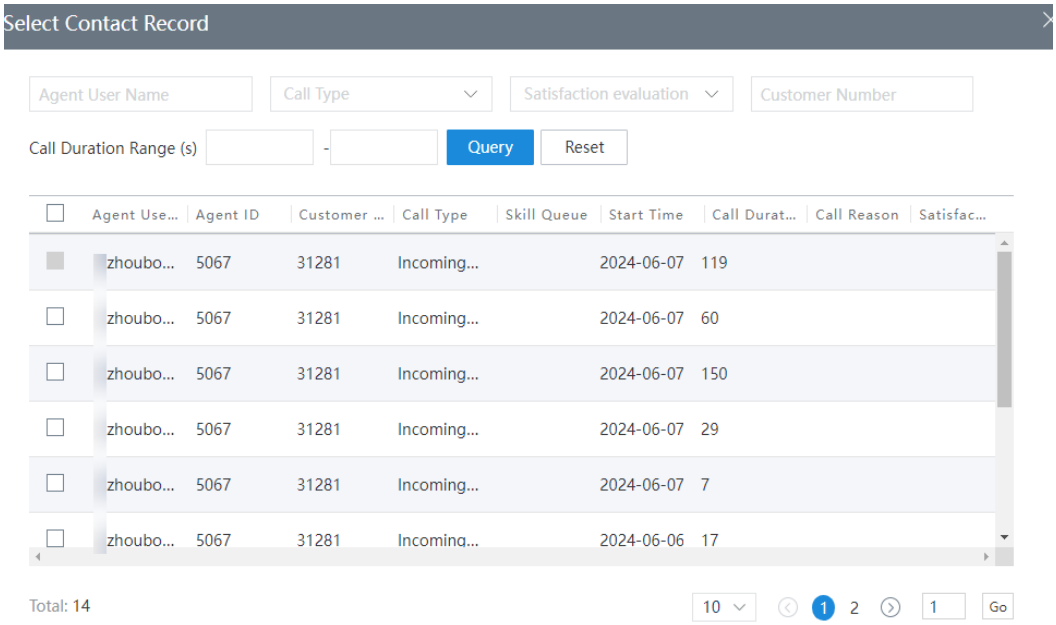
When the task type is manual post-event inspection, you need to manually select contact records.

Figure 4-2 To-Be-Inspected Record Query



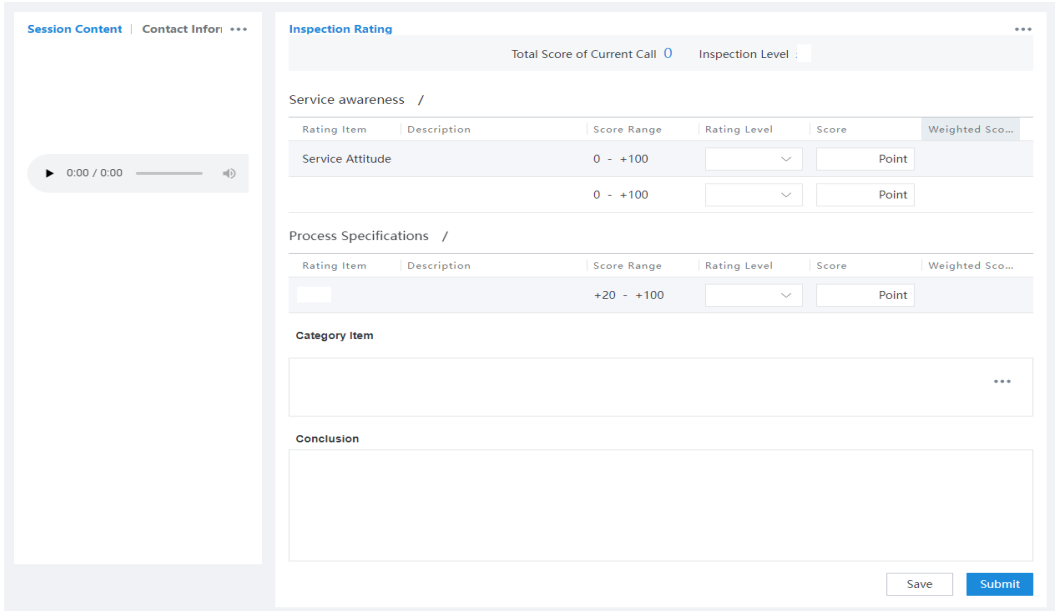
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Figure 4-3 Select Contact Record



Step 6 Select an inspection record and click **Start Inspection** to access the manual inspection stage. The **Session Content** and **Contact Information** tab pages are displayed on the left, and the rating template of the inspection task is displayed on the right. The inspector can perform an inspection based on the rating items and click **Submit** to complete the inspection. The inspector can then view the inspection result. For details, see **4.1.2 Viewing Inspection Results**.

Figure 4-4 Manual inspection page



----End

4.1.2 Viewing Inspection Results

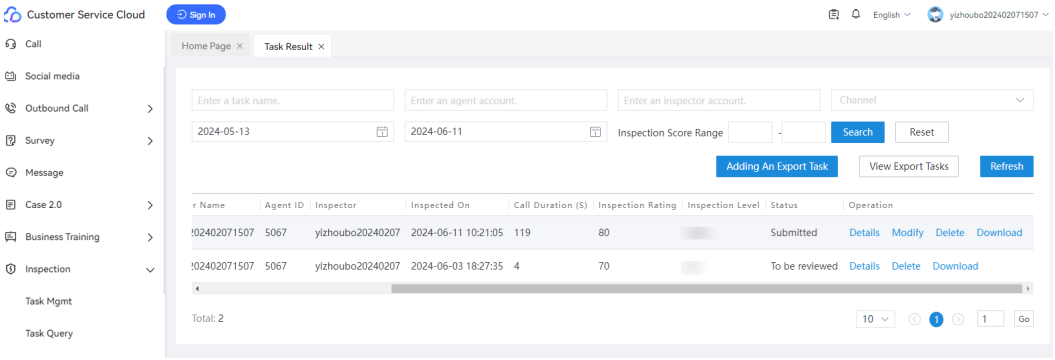
An inspector can view inspection results.

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Step 1 Choose **Inspection** > **Task Result**.

Step 2 Set search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Figure 4-5 Task Result



Step 3 Click **Adding An Export Task** to export the inspection result.

Step 4 Click **Details**. On the **Manual Inspection** page, view the score details and summary for the current inspection record.

----End

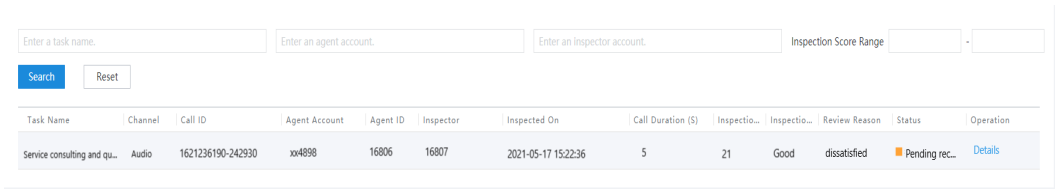
4.1.3 Handling Review Applications

If an agent disagrees with an inspection result, the agent can apply for a review. An inspector with the permission can handle the review application.

Step 1 Choose **Quality Inspection** > **Reconsideration Management**.

Step 2 Set the search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

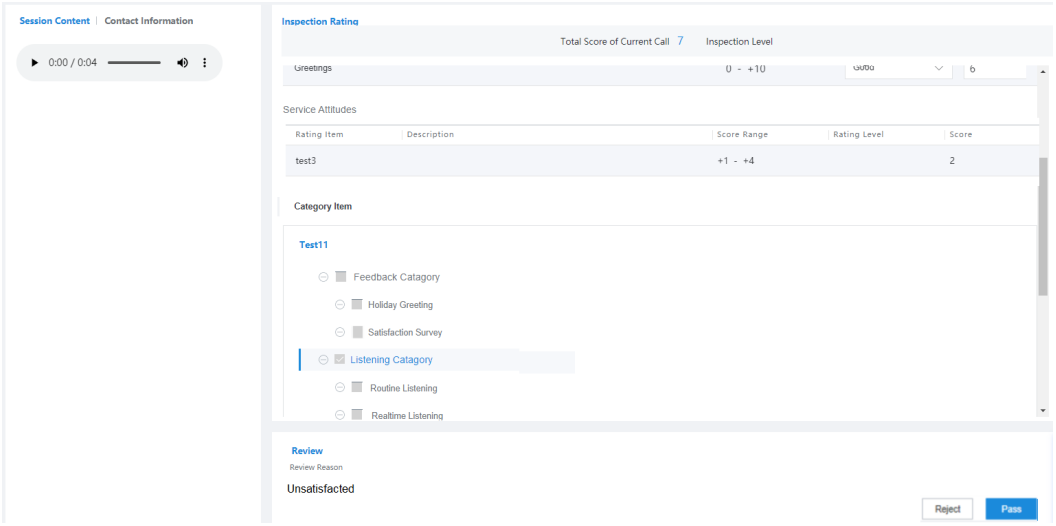
Figure 4-6 Reconsideration Management page



Step 3 Click **Details** in the **Operation** column to view the inspection details. If an inspection record is in **Approved** or **Failed** state, you can only view the result. If it is in **Pending** state, you can click **Details** to handle the review application.

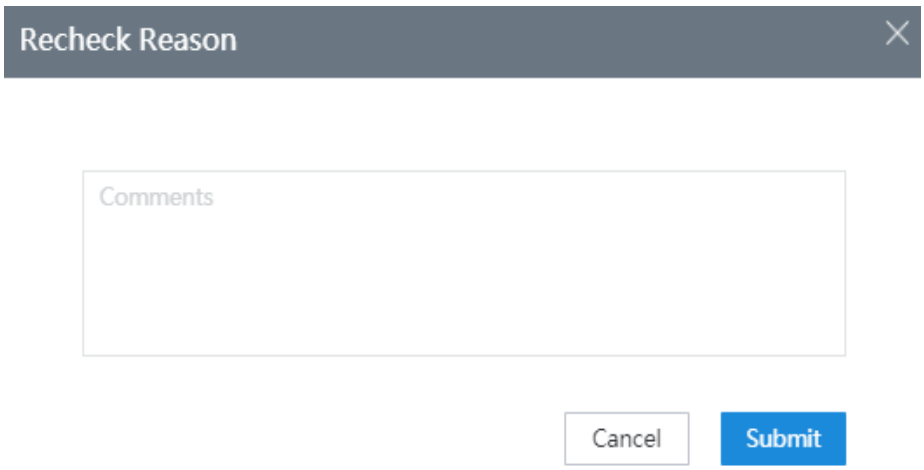
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Figure 4-7 Handling a review application



Step 4 Click **Reject**. In the dialog box that is displayed, enter the comments. The manual inspection result remains unchanged. If you modify the score or summary of an inspection item, click **Submit**, and then enter the comments, the manual inspection result of the record is updated.

Figure 4-8 Entering review comments



----End

4.2 AI Inspection

The AICC automatically queries agents' service content based on the rules set by inspectors, reducing inspector operations.

4.2.1 Viewing To-Be-Inspected Records

An inspector can quickly view and handle to-do tasks, improving inspection efficiency.

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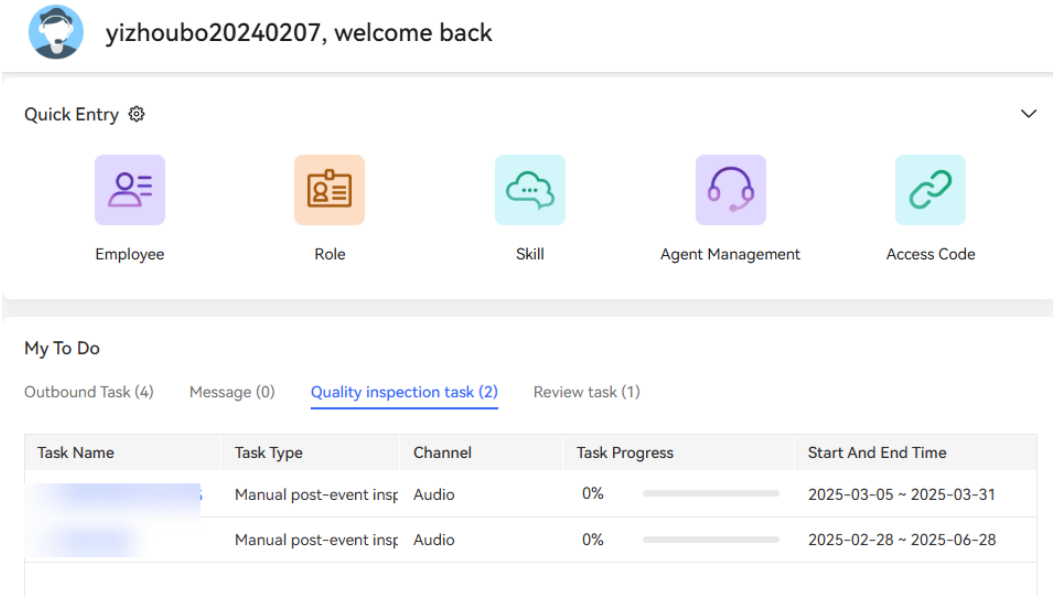
Prerequisites

The inspected agent has contact records.

Procedure

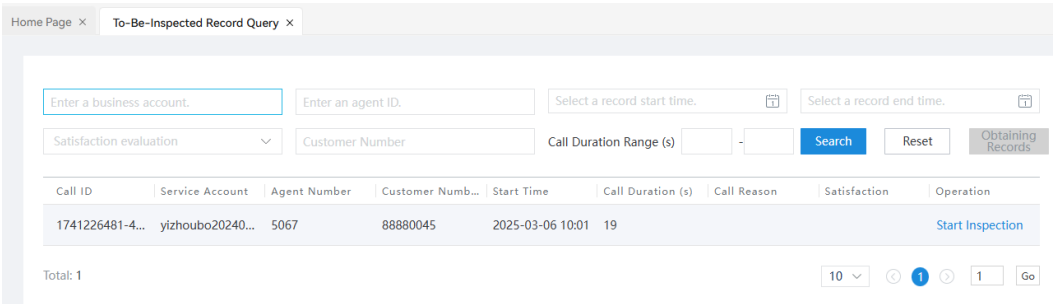
Step 1 Sign in to the AICC as a tenant administrator and view to-do inspection tasks in the **My To Do** area on the home page.

Figure 4-9 Home Page



Step 2 Click the name of a quality inspection task. The **To-Be-Inspected Record Query** page is displayed.

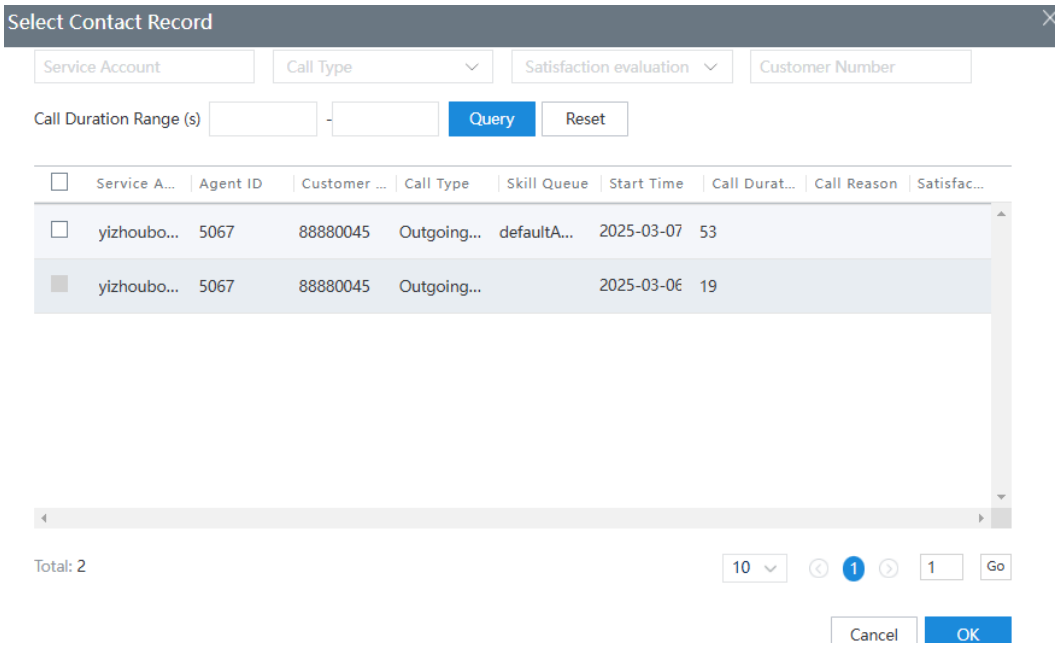
Figure 4-10 To-Be-Inspected Record Query page



Step 3 Click **Obtain To-Be-Inspected Record** and select contact records.

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Figure 4-11 Select Contact Record page



Step 4 Click **OK** to obtain to-be-inspected records.

Step 5 Click **Start Inspection** to inspect a record.

----End

4.2.2 Executing Manual Sample Inspection Tasks

After an inspection supervisor creates a manual sample inspection task and assigns it to an inspector, the inspector can view it in **My Inspection Task** and review the AI inspection result.

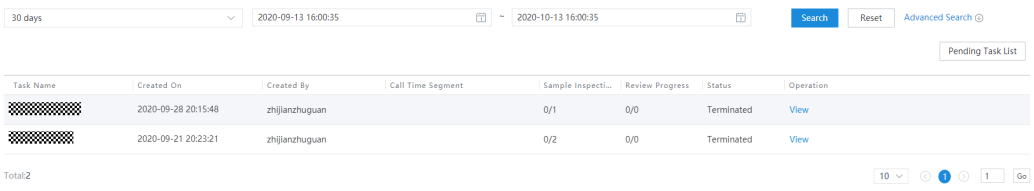
Procedure

Step 1 Use the allocated business account to sign in to the CEC.

Step 2 Choose **Quality Inspection** > **My Inspection Task**.

Step 3 View the inspection task list. By default, the list displays the tasks that an inspector is involved in.

Figure 4-12 Inspection task list



Step 4 Click **View** corresponding to an inspection task. The **Basic Task Details** list is displayed.

Step 5 In the **Basic Task Details** list, click **View** corresponding to a record. The **Call Inspection Details** page is displayed.

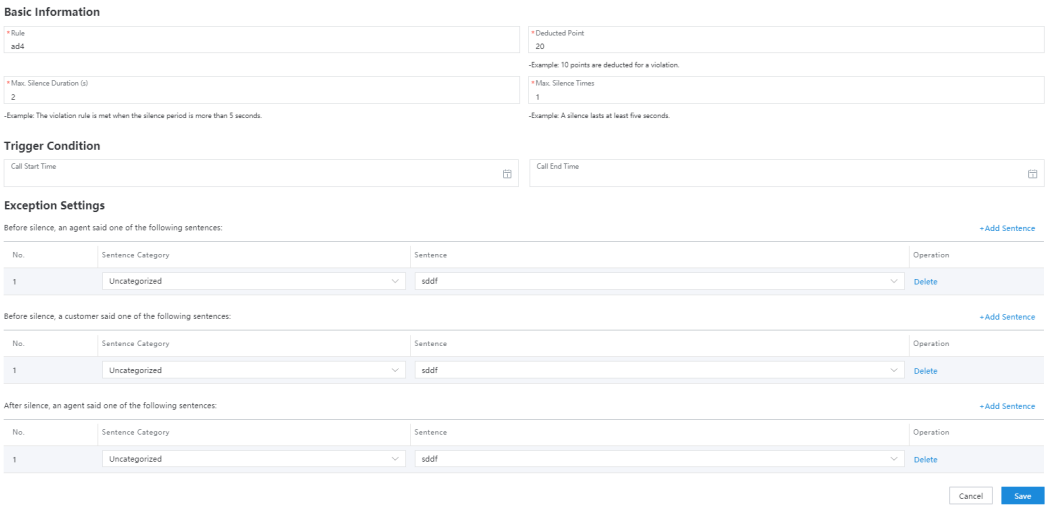
 Copyright © Huawei Technologies Co., Ltd.

Figure 4-13 Call Inspection Details page



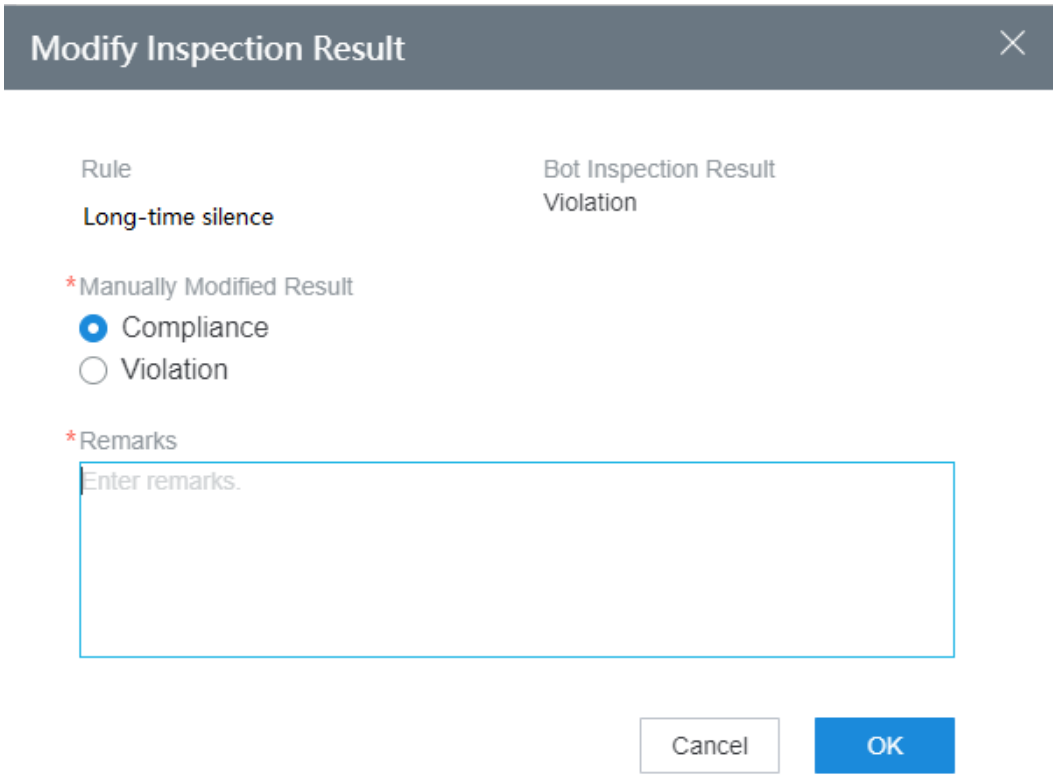
Step 6 On the **Call Inspection Details** page, click **View** to view the rule, or click **Modify** to modify the inspection result.

Figure 4-14 Silence Rule Details page



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Figure 4-15 Modify Inspection Result page



Step 7 On the **Call Inspection Details** page, click **Complete Sample Inspection** and **Complete Re-Inspection** to complete the sample inspection.

----End

4.3 Performing Agent Monitoring and Inspections

Quality checkers can monitor VDNs, IVRs, skill queues, and agents, and inspect agents.

4.3.1 Monitoring Configuration

A system administrator can configure inspection relationships, full screen monitoring, and report subscription tasks.

4.3.1.1 Configuring Monitoring and Inspection Relationships

When inspectors need to perform agent monitoring and recording inspection, a tenant administrator can configure the monitoring and inspection relationships between inspectors and agents.

Prerequisites

- Inspectors and agents have been configured for the tenant.

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- The system supports separate configuration of operation permissions in menus so that specific roles can have the permissions to query or operate configurations. If an operation permission is not configured, the corresponding operation button is not displayed on the page. For details about how to configure operation permissions, see **Table 2-5**.

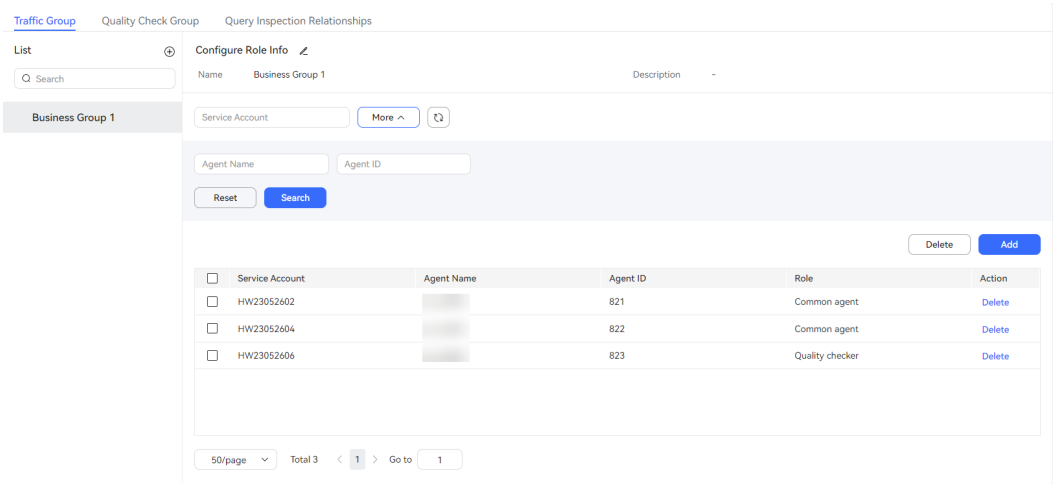
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Monitor Relationship**.

Step 2 Configure an agent group.

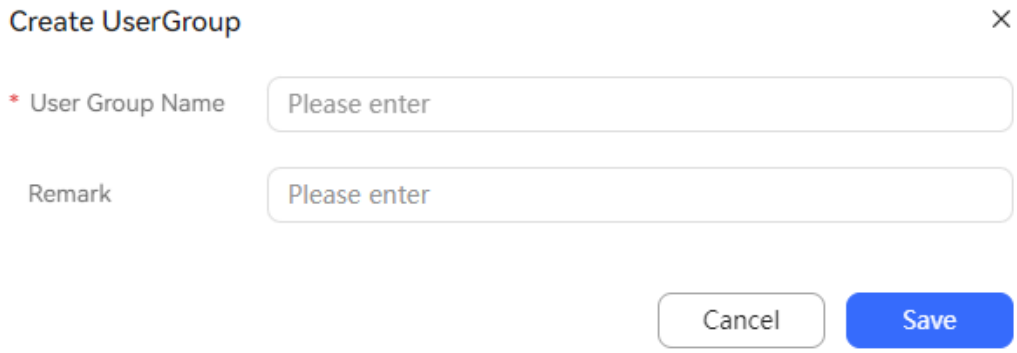
1. Click the **Traffic Group** tab.

   Figure 4-16 Traffic Group



2. Click ⊕ to create an agent group.

   Figure 4-17 Creating an agent group



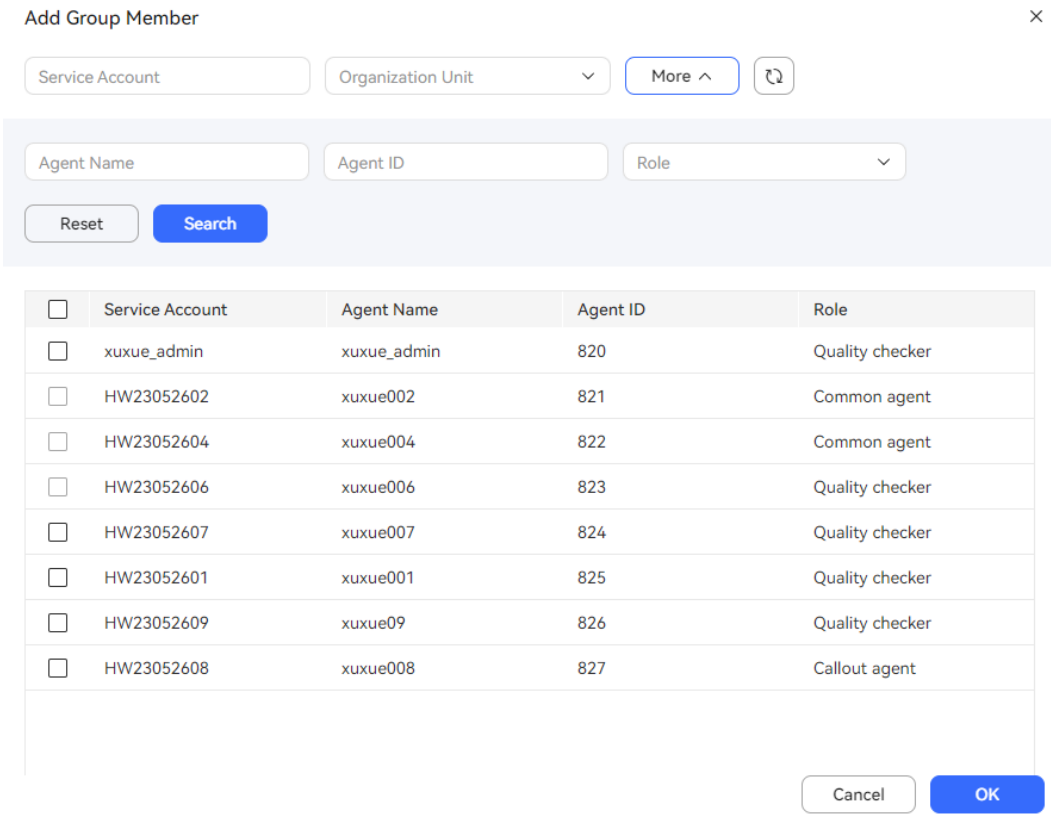
   – **User Group Name**: The value cannot contain special characters and must be unique.

   Click **Save**.

3. Select the new agent group, click **Add** in the **Configure Role Info** area on the right, and add agents to the agent group.

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Figure 4-18 Adding agents to an agent group



- Agents of all roles can be selected.
- OU selection:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**:
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

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- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

- If the preceding tenant parameter is set to **No**, all OUs can be selected.

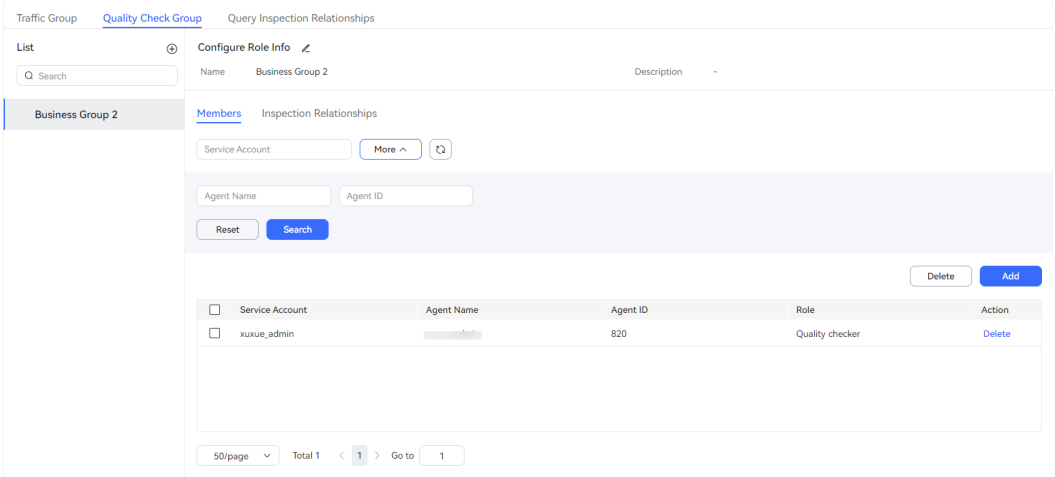
Click **OK**.

4. (Optional) You can perform the following operations on an agent group and its members.
   - Hover the pointer over the agent group and click to delete the agent group and its members.
   - Click to edit basic information about the agent group.
   - Search for configured agents in the agent group based on the agent ID, name, and business account.
   - Click **Delete** corresponding to a configured agent to delete the agent from the agent group.
   - Select multiple configured agents and click **Delete** to delete the agents in batches.

Step 3 Configure an inspector group.

1. Click the **Quality Inspection Group** tab.

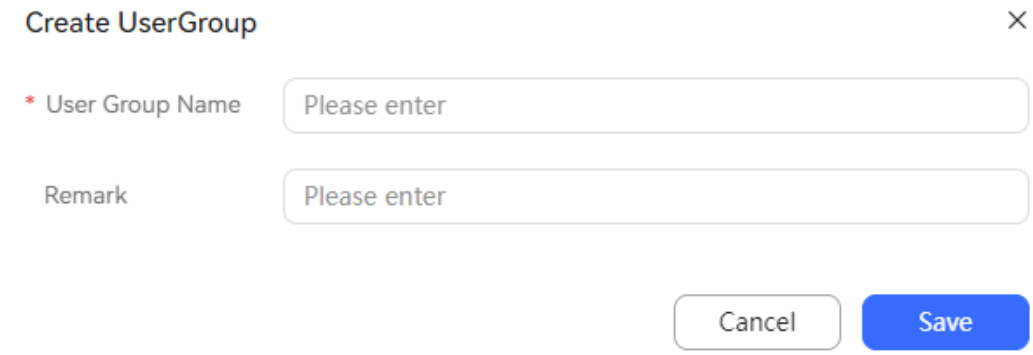
Figure 4-19 Quality Inspection Group



2. Click to create an inspector group.

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Figure 4-20 Creating an inspector group

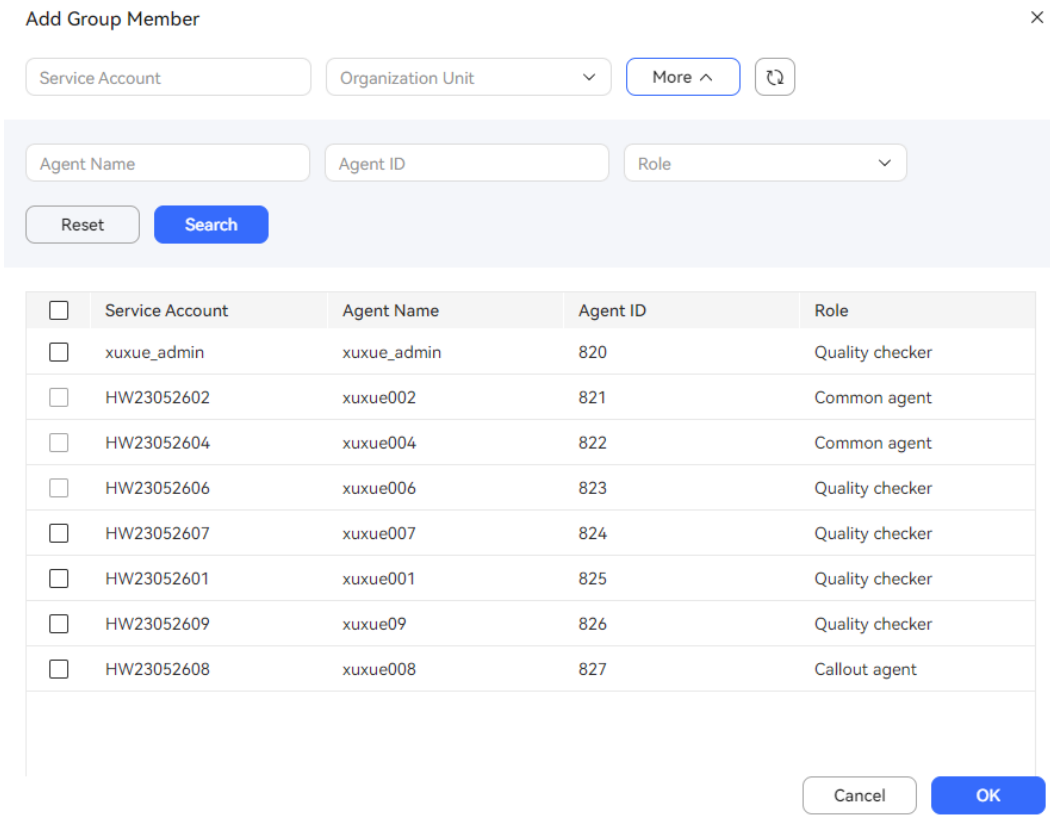


- **User Group Name**: The value cannot contain special characters and must be unique.

Click **Save**.

3. Select the new inspector group, click **Add** in the **Configure Role Info** area, and add agents to the inspector group.

Figure 4-21 Adding agents to an inspector group



- Only agents of the **Quality checker** role can be selected.
- OU selection:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**:

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- Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
  - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

    NOTE

    If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
  - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
  - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

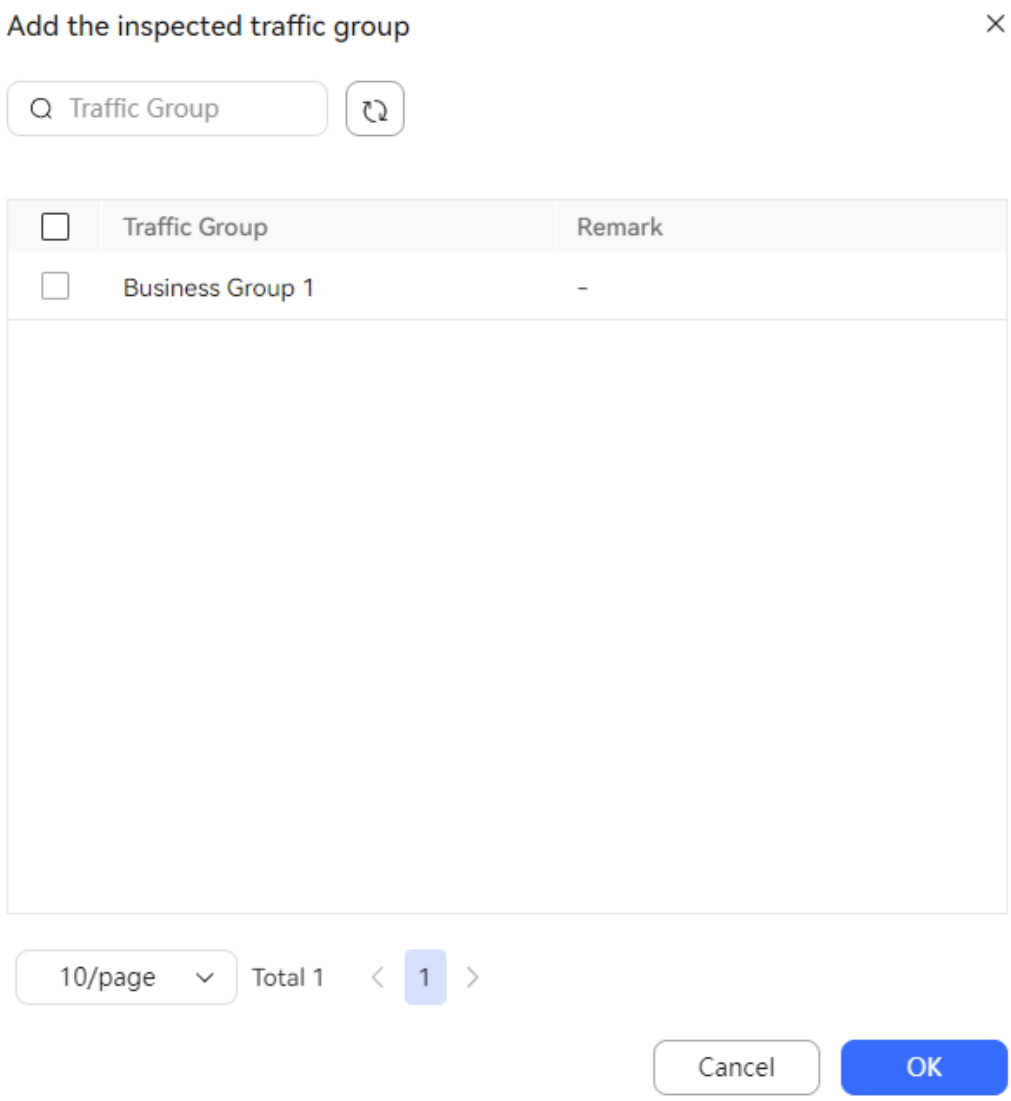
- If the preceding tenant parameter is set to **No**, all OUs can be selected.

Click **OK**.

4. Click the **Inspection Relationships** tab, click **Add**, and configure monitoring and inspection relationships.

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Figure 4-22 Adding agent groups to be inspected



Click **OK**.

5. (Optional) You can perform the following operations on an inspector group, its members, and inspection relationships.
   - Hover the pointer over the inspector group and click to delete the inspector group, its members, and inspection relationships configured for the group.
   - Click to edit basic information about the inspector group.
   - Search for configured agents in the inspector group based on the agent ID, name, and business account.
   - Click **Delete** corresponding to a configured agent to delete the agent from the inspector group.
   - Select multiple configured agents and click **Delete** to delete the agents in batches.

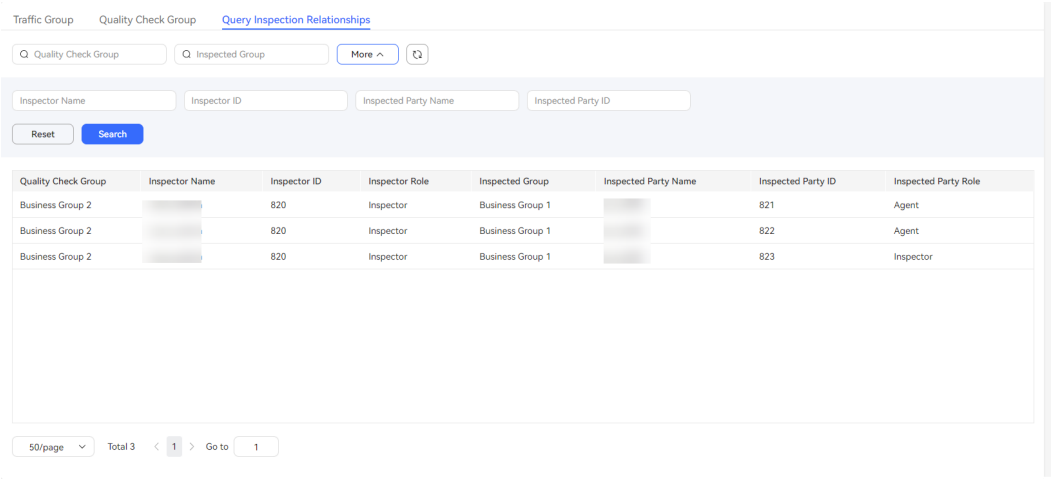
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- Search for configured inspection relationships by agent group name.
- Click **Delete** corresponding to a configured inspection relationship to delete it.
- Select multiple configured inspection relationships and click **Delete** to delete the inspection relationships in batches.

Step 4 Search for inspection relationships.

1. Click the **Query Inspection Relationships** tab.
2. Enter an inspector group or inspected group and click  to search for configured inspection relationships.

Figure 4-23 Query Inspection Relationships



3. Click **More** and set more search criteria, including **Inspector Name**, **Inspector ID**, **Inspected Party Name**, and **Inspected Party ID**, to search for inspection relationships.

----End

4.3.1.2 Configuring Fullscreen Monitoring

A tenant administrator performs this operation when a fullscreen is required to view real-time monitoring data, today's indicator statistics, historical indicator monitoring data, and the trend chart of the number of calls, call rate, duration, and number of agents under the tenant space, or display the monitoring data.

Prerequisites

The system supports separate configuration of operation permissions in menus so that specific roles can have the permissions to query or operate configurations. If an operation permission is not configured, the corresponding operation button is not displayed on the page. For details about how to configure operation permissions, see **Table 2-5**.

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Procedure

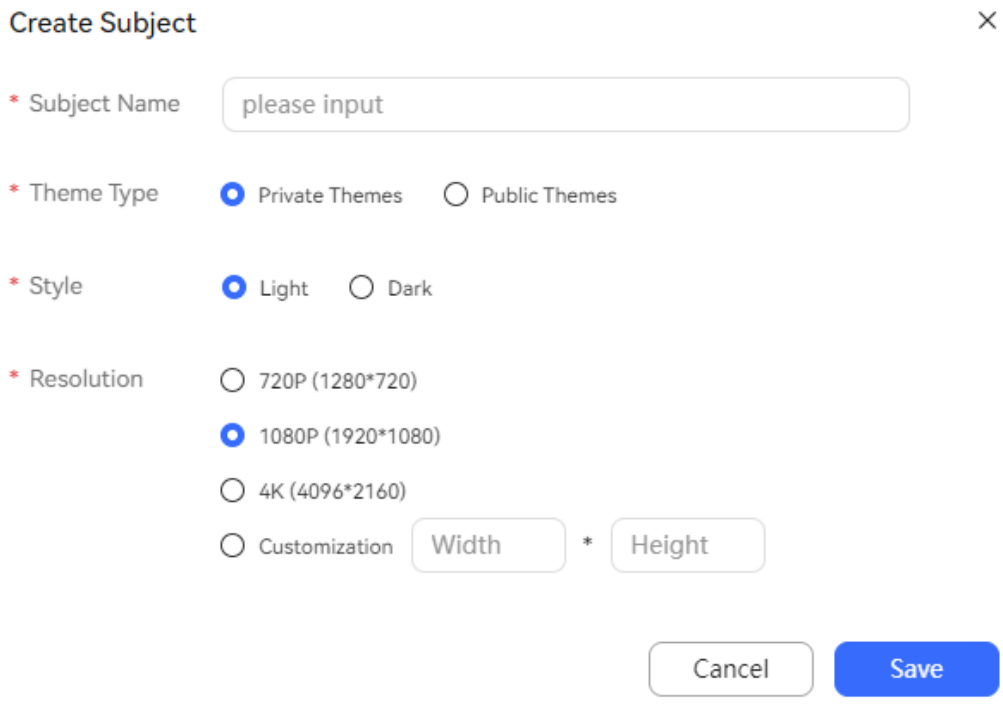
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Fullscreen Monitor**.

Figure 4-24 Fullscreen Monitor



Step 2 Click ⊕ to add a theme.

Figure 4-25 Create Subject



- **Subject Name**: Enter a name that contains a maximum of 32 characters. The name must be unique and cannot contain special characters.
- **Theme Type**: Select **Public Themes** or **Private Themes**.

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You can create a private or public theme. A maximum of 20 private themes and 20 public themes can be created.

Employees who have the following permissions share screen data of public themes:

- Menu permissions **Call Center Monitor**, **Monitor Configuration**, and **Full Screen Monitoring Configuration**
- Operation permissions **Large-screen monitoring management**, **Viewing Public Large-Screen Monitoring**, and **Edit Public Large-Screen Monitoring**

- **Style**: Select **Light** or **Dark**.
- **Resolution**: Select **720P (1280*720)**, **1080P (1920*1080)**, **4K (4096*2160)**, or **Customization** (the resolution ranges from 720P to 8K).

Step 3 Click **Save**.

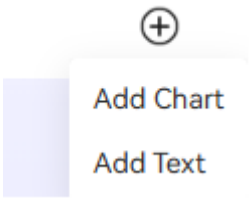
Step 4 (Optional) You can perform the following operations on the new theme:

- Click ↑ or ↓ to change the sequence of the theme in the list.
- Click ⊙ to display the theme in fullscreen mode.
- Click ✎ to modify the theme information.
- Click 🗑 to delete the theme.
- Click ⇢ to share the private theme.

Step 5 Select the new theme and add monitoring information.

1. In the chart information pane on the right, click ⊕ and select the monitoring information to be added.

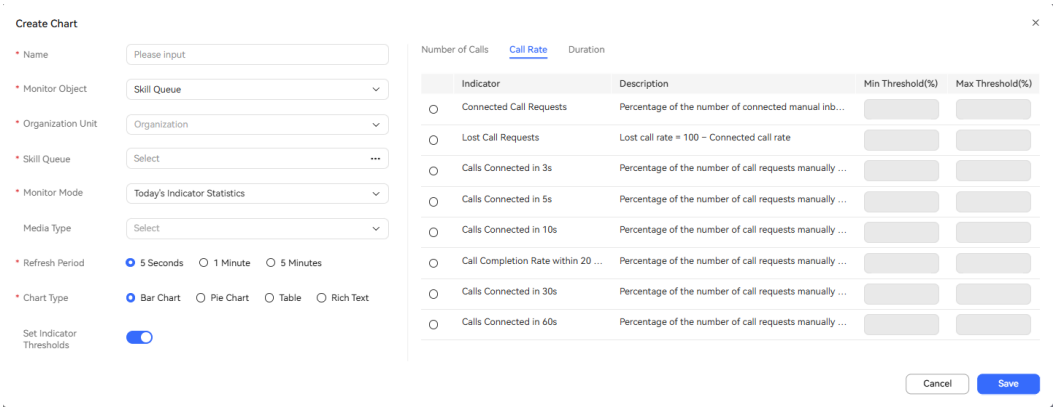
   Figure 4-26 Adding monitoring information

2. Choose **Add Chart** and configure chart information.

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Figure 4-27 Create Chart



- **Name**: Enter a customized name that contains a maximum of 32 characters. The name must be unique and cannot contain special characters.
- **Monitor Object**: Select an object to be monitored on a fullscreen. The options are **Skill Queue**, **VCC**, **IVR**, **Access Code**, **Agent**, **Skill Queue group**, and **Monitor Group**. When **Monitor Object** is set to **Access Code**, only the indicator **Number of outgoing calls** can be monitored.
- **Organization Unit**: Select the OU to which the fullscreen belongs.
  - This parameter is mandatory when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, and **Monitor Object** is set to **Agent**, **Skill Queue**, or **Access Code**. Use either of the following methods to configure the corresponding permission based on site requirements:
    - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the roles configured for the current account.
    - Configure the read permission on the OUs specified by **Accessible Organizations** on the **Employee Info** page for the current account.
  - This parameter is mandatory when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, and **Monitor Object** is set to **Agent**.

  NOTE

  In the independent deployment scenario, OU data isolation is not supported. Perform operations by referring to the scenario where the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**.
- **Skill Queue** or **Access Code**:
  - After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only skill queues and access codes under the selected OU can be selected.

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- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, set this parameter based on the selected monitored object.

– **Select Agent**: This parameter is mandatory when **Monitor Object** is set to **Agent**.

– **Skill Queue group**: This parameter is mandatory when **Monitor Object** is set to **Skill Queue group**.

– **Monitor Group**: This parameter is mandatory when **Monitor Object** is set to **Monitor Group**.

– **Monitor Mode**: Select a fullscreen monitoring mode. The options are **Today's Indicator Statistics**, **Real-time Monitoring During Running**, **Today's Trend**, **Historical Indicator Statistics**, **Comprehensive Indicator Monitoring**, and **Periodic Indicator Monitoring**.

- When **Monitor Object** is set to **Skill Queue**, **VCC** or **IVR**, all options of **Monitor Mode** are available.
- When **Monitor Object** is set to **Access Code**, you can select only **Today's Trend**.
- When **Monitor Object** is set to **Agent**, you can select **Today's Indicator Statistics**, **Real-time Monitoring During Running**, or **Today's Trend**.
- When **Monitor Object** is set to **Skill Queue group**, you can select only **Comprehensive Indicator Monitoring**.
- When **Monitor Object** is set to **Monitor Group**, you can select **Today's Indicator Statistics**, **Real-time Monitoring During Running**, **Historical Indicator Statistics**, **Comprehensive Indicator Monitoring**, or **Periodic Indicator Monitoring**.

– **Media Type**/**Multimedia Type**: Select a call media type.

– **Statistical Period**: Select a period for collecting statistics on report indicators.

- When **Monitor Mode** is set to **Today's Trend**, this parameter is mandatory.
- When **Monitor Object** is set to **Access Code**, you can select only **1 hour**.

– **Refresh Period**: Select an interval for automatically refreshing report data.

When **Monitor Mode** is set to **Comprehensive Indicator Monitoring**, **15 seconds** can be selected.

– **Report Type**/**Collection Period**: Select a report type or the time when historical indicator report statistics are collected. This parameter is mandatory when **Monitor Mode** is set to **Historical Indicator Statistics**

- When **Report Type** is set to **Daily Report (Relative Time)**, you can select a day earlier than the current time. The value ranges from 1 to 31 days earlier than the current time.

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- When **Report Type** is set to **Daily Report (Fixed Time)**, you can select a fixed date.

– **Chart Type**: Select a display type. The options are **Bar Chart**, **Pie Chart**, **Line Chart**, **Table**, and **Rich Text**.

- When **Monitor Mode** is set to **Today's Indicator Statistics** or **Real-time Monitoring During Running**, you can select **Bar Chart**, **Pie Chart**, **Table**, or **Rich Text**.
- When **Monitor Mode** is set to **Today's Trend**, you can select only **Line Chart**.
- When **Monitor Mode** is set to **Historical Indicator Statistics**, you can select **Bar Chart** or **Table**.
- When **Monitor Object** is set to **Skill Queue** and multiple options are selected for **Skill Queue**, you can select only **Table**.
- When **Monitor Mode** is set to **Comprehensive Indicator Monitoring**, you can select only **Table**.
- When **Monitor Mode** is set to **Periodic Indicator Monitoring**:

  When **Monitor Object** is set to **Skill Queue**, you can select **Table**.
- When **Monitor Object** is set to **Monitor Group**, you can select only **Table**.

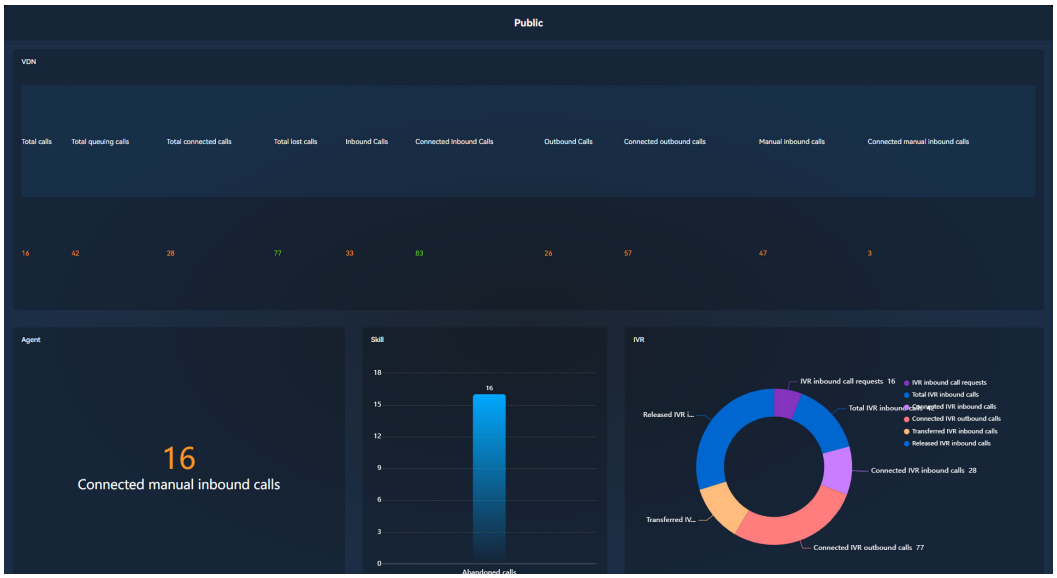
– Indicator type: Select a report indicator type. The options include **Number of Calls**, **Call Rate**, **Duration**, and **Number of Agents**.

- When **Monitor Mode** is set to **Today's Indicator Statistics**, **Today's Trend**, or **Historical Indicator Statistics**, you can select indicators under **Number of Calls**, **Call Rate**, and **Duration**.
- When **Monitor Mode** is set to **Real-time Monitoring During Running**:
  - If **Monitor Object** is set to **Skill Queue** or **VCC**, you can select indicators under **Number of Calls** and **Number of Agents**.
  - If **Monitor Object** is set to **IVR**, you can select indicators only under **Number of Calls**.
  - If **Monitor Object** is set to **Agent**, you can select indicators under **Number of Calls** and **Duration**.
- If **Monitor Object** is set to **Access Code**, you can select indicators only under **Number of Calls**.
- If **Monitor Object** is set to **Skill Queue group**, you can select indicators under **Daily Metrics Statistics** and **Real-time Monitoring Metrics**.

– **Automatic page turning**: This parameter is displayed when **Chart Type** is set to **Table**.

– **Set Indicator Thresholds**: Determine whether to enable the function of configuring indicator thresholds. This parameter is not displayed when **Chart Type** is set to **Pie Chart**.

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Min Threshold/**Max Threshold**: Enter a customized value. The threshold can be empty. The minimum threshold must be less than the maximum threshold.

- For indicators of the **Number of Calls** and **Number of Agents** types, the value is an integer ranging from 0 to 99999999.
- For indicators of the **Call Rate** type, the value is an integer ranging from 0 to 100, in percentage.
- For indicators of the **Duration** type, the value is an integer ranging from 0 to 86,400, in seconds.

– **Recipient's Organization**: Select the organization to which the threshold alarm recipient belongs. **This parameter is available when the current account is not a tenant administrator account.**

- This parameter is available when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**. Use either of the following methods to configure the corresponding permission based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the roles configured for the current account.
  - Configure the read permission on the OUs specified by **Accessible Organizations** on the **Employee Info** page for the current account.
  - If the current account is an OU administrator account, the OU to which the account belongs and the administrators of the OUs at the same level can be selected.
- This parameter is hidden when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**.

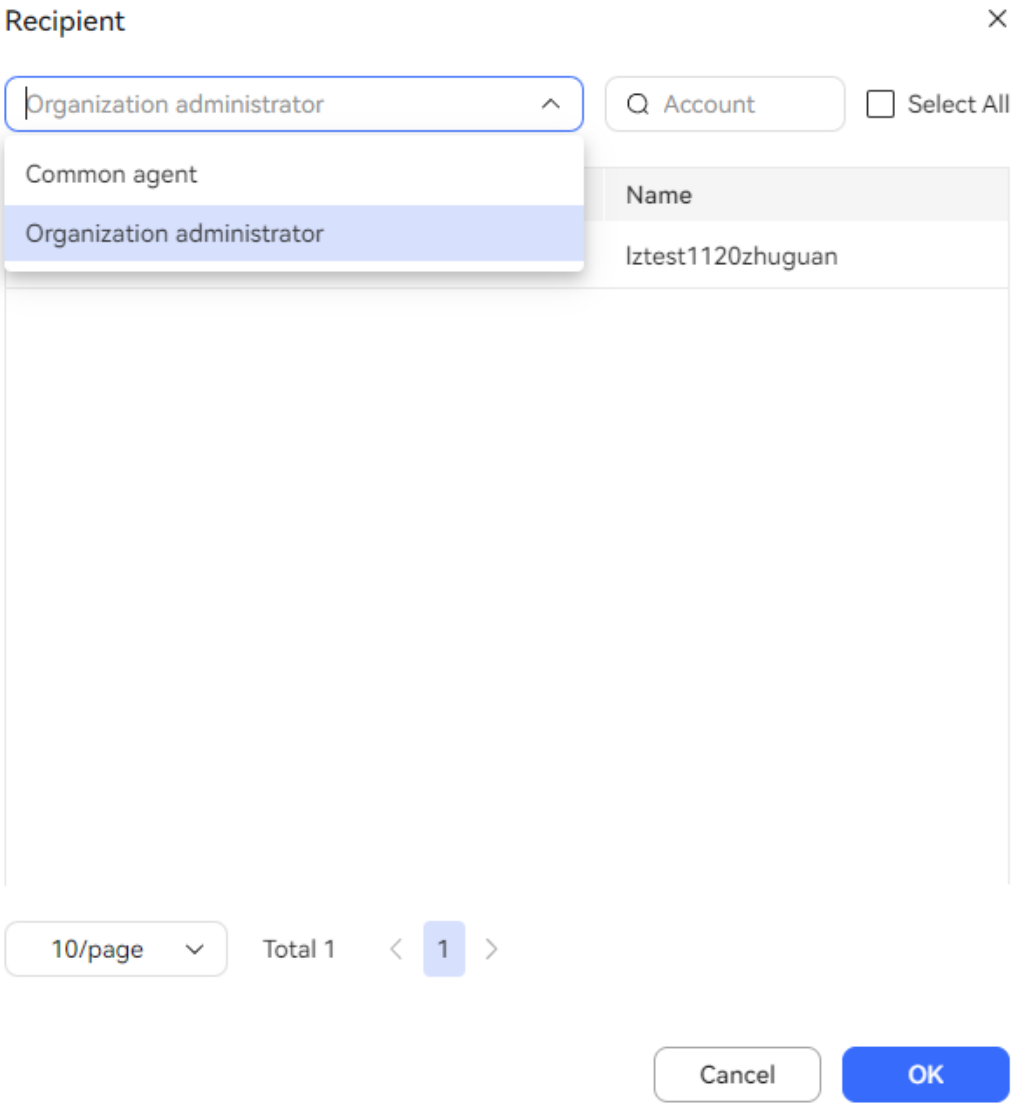
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NOTE

The current parameter is used only to filter recipients under the available OUs during chart configuration. No data saving operation is performed.

- **Threshold Alarm Recipient**: Select the recipient of threshold alarm information. This parameter is displayed when **Set Indicator Thresholds** is enabled.

Figure 4-28 Selecting recipients



- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, the value range of this parameter is as follows:
  - If the current account is an OU administrator, select the OU to which the account belongs or the administrators of the OUs at the same level.

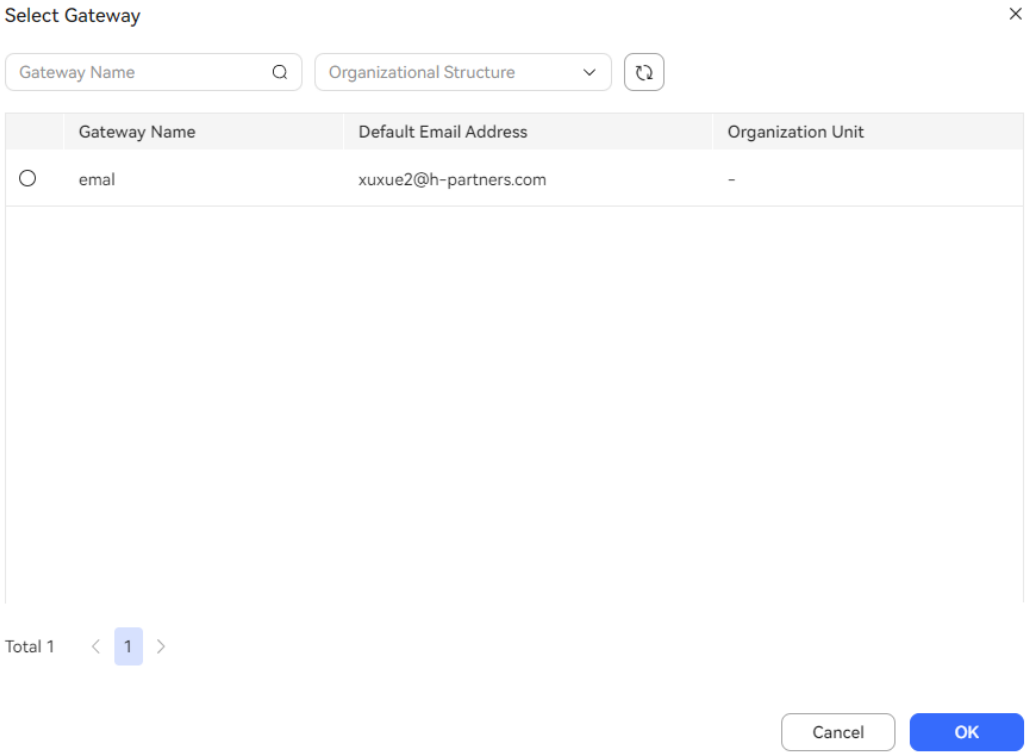
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    - If the current account is not an organization administrator, set this parameter based on the configured **Recipient's Organization**.

  - After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all business accounts can be selected.

- **Alarm Sending Gateway**: Select the gateway for sending threshold alarm information. This parameter is displayed when **Set Indicator Thresholds** is enabled and the tenant parameter **Alarm sending mode** is set to **Send email only** or **Send internal messages and emails**.

Figure 4-29 Select Gateway



OU selection:

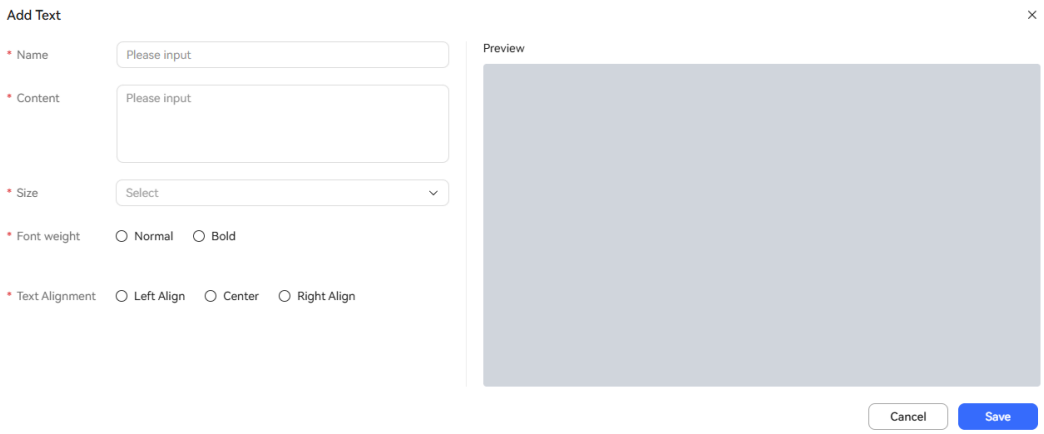
- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs can be selected. Use either of the following methods to configure the corresponding permission based on site requirements:
  - Add the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** to the roles configured for the current account.
  - Configure the read permission on the OUs specified by **Accessible Organizations** on the **Employee Info** page for the current account.

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- After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, this parameter is hidden.

3. (Optional) Choose **Add Text** and configure text information.

Figure 4-30 Add Text



- **Name**: Customize a text name.
- **Content**: Edit the text content.
- **Size**: Select the font size of the text content.
- **Font weight**: Select the font weight of the text content.
- **Text Alignment**: Select the text alignment mode.

4. Click **Save**.
5. (Optional) Repeat the preceding steps to create multiple charts for the theme.

Step 6 (Optional) You can perform the following operations on the new chart:

- Click  to modify the chart information.

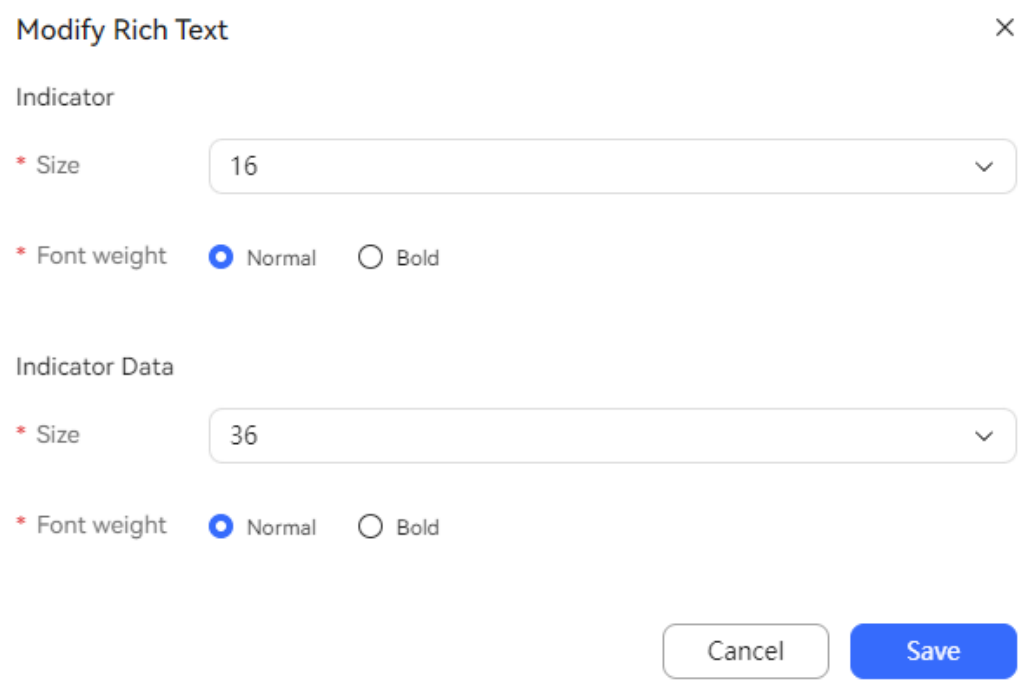
  NOTE

  After modifications are saved, refresh the fullscreen page or play the monitoring fullscreen again to ensure that the monitoring data displayed is correct.

- Click  to delete the chart.
- Click  to modify the chart of the rich text type.

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Figure 4-31 Modify Rich Text



- Drag the chart to change its display position.

Step 7 Click to save the layout.

Step 8 (Optional) Click on the chart information page to preview the theme layout.

Step 9 (Optional) Click on the theme information page to play the theme layout.

NOTE

- During the playback of a card of the rich text type, an actual value less than or equal to the minimum threshold is displayed in orange, an actual value greater than or equal to the maximum threshold is displayed in red, and an actual value within the normal range is displayed in green. If the actual value is less than or equal to the minimum threshold or greater than or equal to the maximum threshold, it blinks for three consecutive times at an interval of 3 or 4 seconds, and a periodic alarm sound is played based on the configured **Refresh Period**.
- During the playback of a card of the table type, an actual value less than or equal to the minimum threshold is displayed in orange, an actual value greater than or equal to the maximum threshold is displayed in red, and an actual value within the normal range is displayed in green. If the actual value is less than or equal to the minimum threshold or greater than or equal to the maximum threshold, a periodic alarm sound is played based on the configured **Refresh Period**.

----End

4.3.1.3 Configuring Report Subscription

A tenant administrator can configure report subscription to periodically send report data via email. This function can be used only in the integration environment.

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NOTE

The report data to be sent contains personal data. Exercise caution when processing the received report data to prevent personal data leakage and abuse.

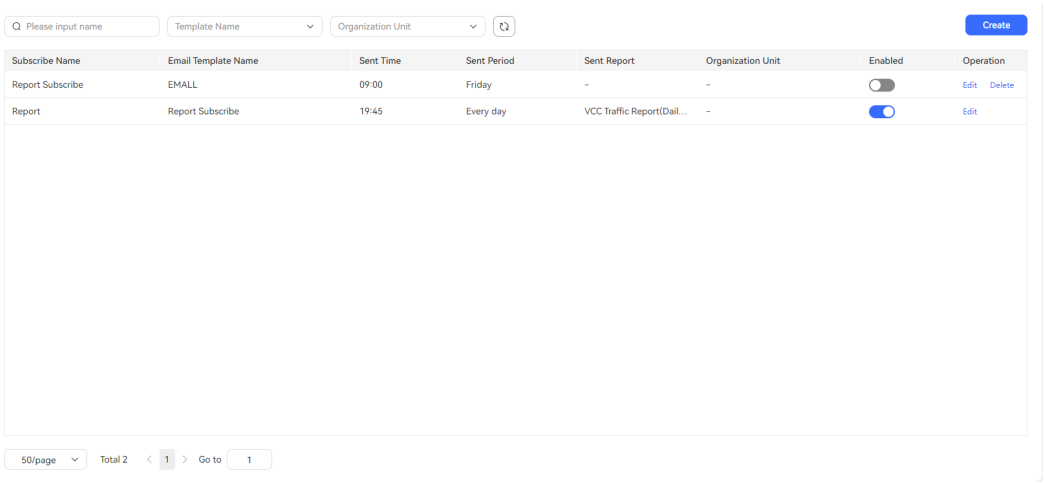
Prerequisites

- You have configured an email gateway. For details, see **2.11.4.2 Configuring Email Gateways**.
- You have configured an email notification template. For details, see **2.11.7 Configuring Notification Templates as an Administrator**.
- The system supports separate configuration of operation permissions in menus so that specific roles can have the permissions to query or operate configurations. If an operation permission is not configured, the corresponding operation button is not displayed on the page. For details about how to configure operation permissions, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Report Subscription**.

Figure 4-32 Report Subscription



- OU selection:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

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NOTE

If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– If the preceding tenant parameter is set to **No**, all OUs can be selected.

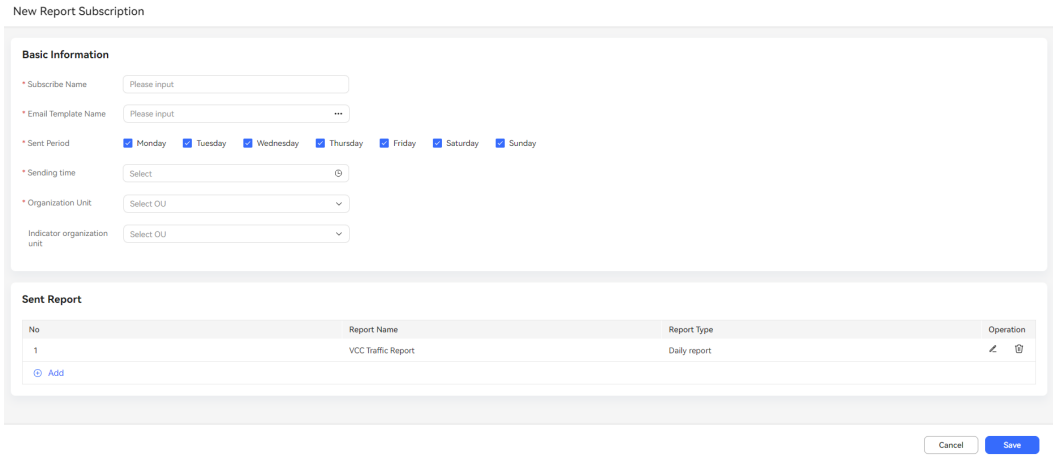
- **Enabled**/**Operation**: These configuration items are controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  – After the parameter is set to **Yes**, you can edit or delete a subscription task and configure whether to enable a report subscription task when any of the following permission configurations is met:
    - The following permission is configured for the roles configured for the current account: **Edit All Organization Data** under **System Public Permissions** > **View All Organization Data**, **Viewing and Editing Home Organization Data** under **System Public Permissions**, or **Edit Lower-Level Organization Data** under **System Public Permissions** > **View Lower-Level Organization Data**.
    - The write permission on the OUs specified by **Accessible Organizations** on the **Employee Info** page is configured for the current account.
    - The write permission on the OU specified by **Owning Organization** on the **Employee Info** page is configured for the current account.

    If none of the preceding permission configurations is met, a hyphen (-) is displayed in the **Enabled** and **Operation** columns for a report subscription task, and other operations are not supported.
  – After the parameter is set to **No**, there is no restriction on operations in the **Enabled** and **Operation** columns for a report subscription task.

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Step 2 Click **Create**.

Figure 4-33 New Report Subscription



- **Subscribe Name** (mandatory): Enter a customized subscription name, which can contain a maximum of 50 characters and must be unique.
- **Email Template Name** (mandatory): Select the notification template configured in **2.11.7 Configuring Notification Templates as an Administrator**. One email template can correspond to multiple subscription data records.

  The options are specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

  – If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, email templates that can be selected are subject to the configured permissions.

    ■ Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:

      ○ If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the email templates under the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

      ○ If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, email templates under the OU (excluding sub-OUs) to which the current business account belongs can be selected.

      ○ If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, email templates under the sub-OUs of the OU to which the current business account belongs can be selected.

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  - If the preceding tenant parameter is set to **No**, all email templates can be selected.
- **Sent Period** (mandatory): Set the period for subscribing to reports. The options are Monday to Sunday.
- **Sending time** (mandatory): Select the time for sending subscribed reports. The value ranges from 00:00 to 23:45 with a step of 15 minutes.
- **Organization Unit** (mandatory): Select the organization to which the subscription task is sent.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/ **Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the OU (excluding sub-OUs) to which the current business account belongs can be selected.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, sub-OUs of the OU to which the current business account belongs can be selected.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, all OUs can be selected.
- **Indicator organization unit**: Select the OU to which the indicator data belongs. The options are specified by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/ **Organization Unit** page can be selected.

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NOTE

If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of **Maximum number of tenant organizations** on the **Configuration Center** > **System Management** > **Tenant Parameter** > **Tenant parameters** > **Unified Public Configuration** > **Common** page.

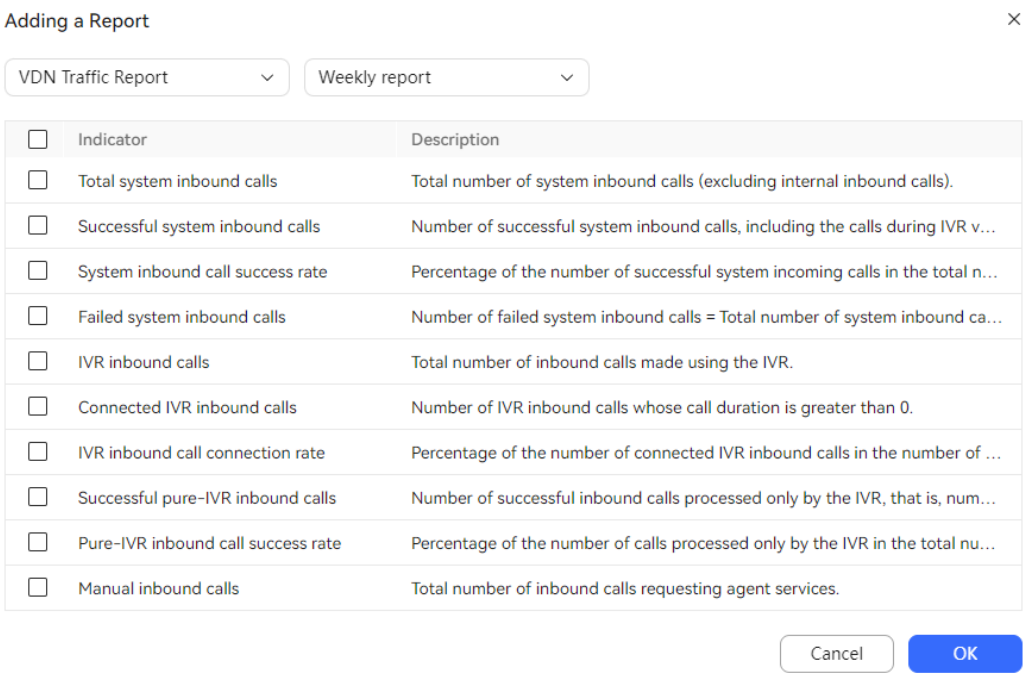
– If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, this parameter is hidden.

NOTE

Subscription tasks created when the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No** will fail. Therefore, you are advised to update the existing report subscription tasks after the parameter is set to **Yes**.

Step 3 Click Add and select reports to be subscribed to.

Figure 4-34 Adding a Report



- Report name: Select the report to be subscribed to. For details about the report data, see **4.3.3 Report Query**.
- Report type: Select the type of the report to be subscribed to. The options are **Daily report**, **Weekly report**, and **Monthly report**.

Select indicators of the report to be subscribed to as required and click **OK**.

Step 4 Click **Save**.

Step 5 The new report subscription information is enabled by default. You can click  to disable the report subscription.

Step 6 (Optional) You can perform the following operations on the configured report subscription information:

- Click **Edit** to update the basic information about the report and sending scope.
- Click **Delete** to delete disabled report subscription information.

Step 7 (Optional) Create a perspective view based on the downloaded Excel report data.

1. Select the data area to be used for creation.
2. Click **Insert**, and then click **PivotChart**.
3. Access the PivotChart, and click **Field List** and **Field Button**.
4. Drag the filter criteria (agent ID, agent name, and date) to the axis (type) area and drag various indicators to the value area.
5. Filter data by date and agent ID.

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6. By default, the chart is a bar chart. To generate a line chart, right-click the chart area, choose **Change Chart Type** from the shortcut menu, and then select the line chart.

----End

4.3.2 Monitoring Management

A tenant administrator can manage the monitoring content after the monitoring content configuration.

4.3.2.1 Monitoring Offline Messages

The customer service representative can view the number of offline customers and offline messages in each channel to understand the business handling pressure, adjust agents, and improve service quality.

Prerequisites

The following channels are available under the current tenant:

- WhatsApp
- Web
- Email
- SMS
- Instagram
- Telegram

Procedure

Step 1 Sign in to the AICC as an agent and choose **Monitoring** > **Offline Message**.

Step 2 View the number and trend of offline customers and offline messages in channels.

By default, a tenant administrator has the permission on the **Offline Message Monitoring** menu. If the agent has no such permission, contact the tenant administrator to add the permission.

- Click **Selection of Organization**. This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. When the tenant parameter is set to **Yes**, you can query offline messages by OU. In addition, a non-administrator account that is not configured with the OU permission can query only employees under the current OU.

  OU selection:

  – After **Include Sub-Organizations** is selected, offline messages of sub-OUs can be queried. If an OU with the number of sub-OUs exceeding the value of the system parameter **Maximum number of OU organizational unit queries** is selected, only the first *x* (the value of **Maximum number of OU organizational unit queries**) sub-OUs are selected.

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- Click  to refresh the data in the list.
- Select a channel from the **Access channel** drop-down list to view the data of offline customers and offline messages in the channel.

----End

4.3.2.2 Monitoring Agents

An inspector can monitor agents and dynamically adjust agent resources based on business requirements. A tenant administrator can monitor agent status but cannot perform inspection operations, such as skill queue adjustment, on agents.

Prerequisites

Prerequisites for an inspector:

- Monitoring and inspection relationships have been configured for the inspector.
- The **Agent Monitor** menu permission has been assigned to the inspector.
- To allow the inspector to monitor multimedia sessions, the inspector has been bound to a multimedia agent and has the following operation permissions: **Multimedia Session Monitoring**, **Multimedia Session Insertion**, and **Multimedia Session Interception**.

  By default, a tenant administrator has the preceding operation permissions and other roles do not have them. You need to contact a tenant administrator to assign the operation permissions to the inspector.
- To allow the inspector to monitor screens, the **Screen Monitoring** role permission has been assigned to the inspector, the **Screen recording and screen inspection** feature has been enabled during tenant provisioning, the VRC has been started locally, and the inspector and agent have signed in.

  To install the VRC locally, perform the following steps:

  a. Sign in to the AICC using an agent business account.
  b. Click the business account in the upper right corner of the page and choose **Personal Center**.
  c. On the **Agent Info** tab page, click **Download VRC** to obtain the VRC installation package.
  d. Decompress the VRC installation package **VRC.zip** on the local PC.

     It is recommended that the **Client_update_pack** directory be a level-2 directory. The path cannot be too long and cannot contain Chinese characters.
  e. Right-click **VRCService\Client_update_pack\client_update_script.bat** and choose **Run as administrator**.
  f. Create a shortcut for the VRC application.
     i. Go to the **VRCService** folder, for example, **D:\VRCService**.
     ii. Right-click the **vrc_service_tray.exe** file and choose **Create shortcut**. The **vrc_service_tray.exe - Shortcut** file is generated.
  g. Configure the VRC to automatically start upon system startup.

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i. Open the system startup directory. The following uses Windows as an example:
   1) Press **Win+R** to open the **Run** window.
   2) Enter **shell:startup** and click **OK**. The system startup directory is displayed.

ii. Copy the **vrc_service_tray.exe -Shortcut** file generated in **f.ii** to the startup directory.

h. Change the local port number of the VRC.

i. Edit the **D:\VRCService\vrc.ini** file.

ii. Add or modify the information as follows under **[common]**:

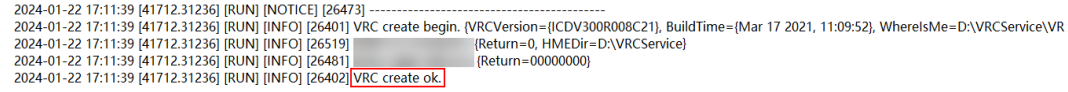
```
ListenPort = 8024
LocalIP = 10.10.10.1
```

- The port number must be available. Run the **netstat -ano | findstr :8024** command in the CLI on Windows to check whether the port number is occupied. The port number must be the same as the value of the tenant parameter **VRC WebSocket Port**.
- **LocalIP**: Enter the local IP address of the VRC client.

i. Right-click on the taskbar of the desktop and choose **Task Manager** to open the task manager and click the **Startup** menu. If **vrc_service_tray** is displayed, the VRC is successfully configured to automatically start upon system startup.

j. During the first startup, run **vrc_service_tray** as an administrator and view the **vrc.log** file. The information shown in **Figure 4-35** is displayed.

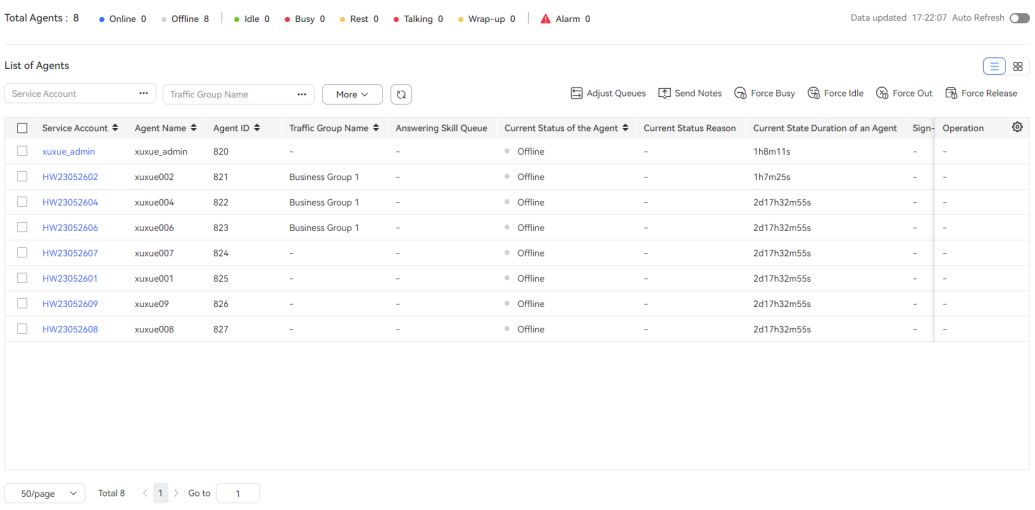
Figure 4-35 Successful startup



Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Agent Monitor**.

Figure 4-36 Agent Monitor (in list mode)



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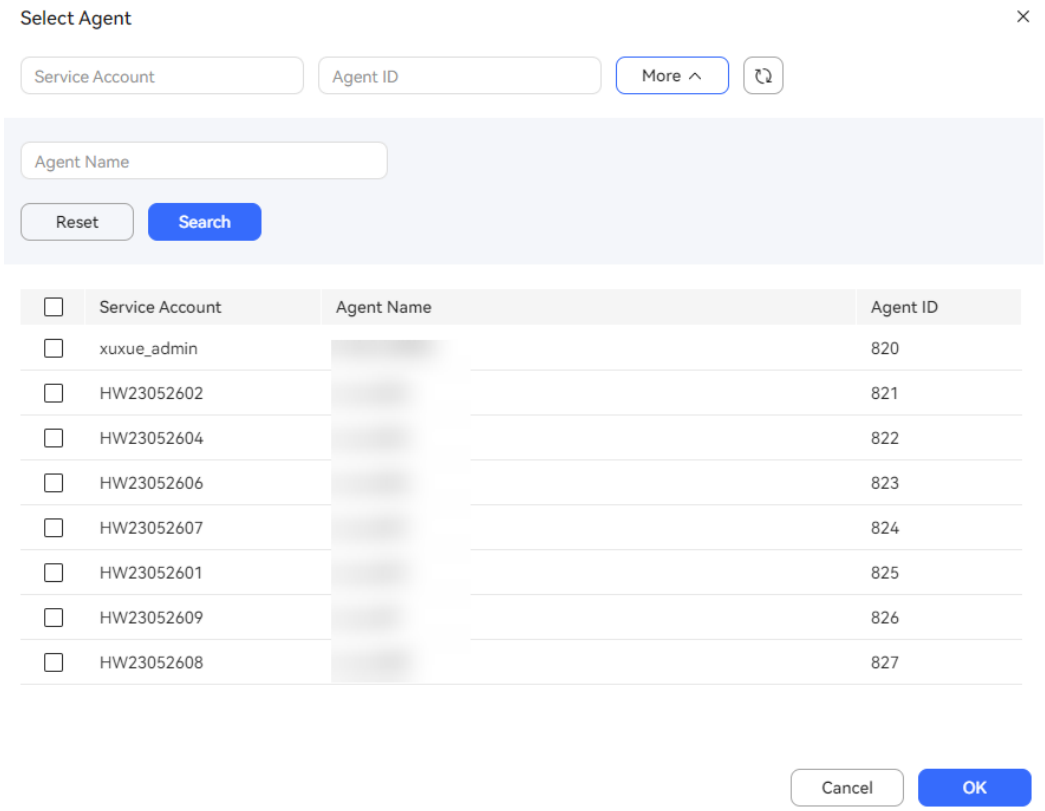
- Agent statistics: Statistics on the total number of agents for whom monitoring and inspection relationships with the current inspector have been configured, including the agent status and alarm information, are displayed.
- **Data updated**: The time when agent monitoring information is last updated is displayed. Automatic refresh can be enabled.
- **Current Status of the Agent**: The current agent status can be **Offline**, **Idle**, **preoccupied**, **Occupied**, **Answering**, **Talking**, **Wrap-up**, **Busy**, **Rest**, **Learning**, or **Adjusting**. You can click **Busy** or **Rest** to view the detailed reason.
- **Current Status Reason**:
  - When the value of **Current Status of the Agent** is **Rest**, the rest reason (configured in **2.3.2.2 Configuring Rest Reasons**) selected by an agent is displayed in this column.
  - When the value of **Current Status of the Agent** is **Busy**, the busy reason (configured in **2.3.2.14 Setting Busy Reasons**) selected by an agent is displayed in this column.
- **Alarm**: This function is available only in the integration environment. If an agent says sensitive words when answering a call, an alarm is generated. The alarm validity period is 12 hours. After the validity period ends, the alarm is no longer displayed on the page.
- **Current State Duration of an Agent**:
  - Click  to manually refresh data.
  - Enable **Auto Refresh** to automatically refresh data every 10 seconds.
  - In CTI ultra-large capacity networking, the CTI does not collect statistics on the duration when an agent is offline. In this case, the current field is displayed as a hyphen (-).
- **Traffic Group Name**: Agent group to which an agent belongs. If an agent does not belong to any agent group, a hyphen (-) is displayed.
- **Answering Skill Queue**: If an agent who signs in is not in talking state, a hyphen (-) is displayed. Otherwise, the skill queue name is displayed.

Step 2 Set data filter criteria.

- Click a value in the **Service Account** column. The **Select Agent** page is displayed. Enter a business account or agent ID and click  to query information about a specified agent.

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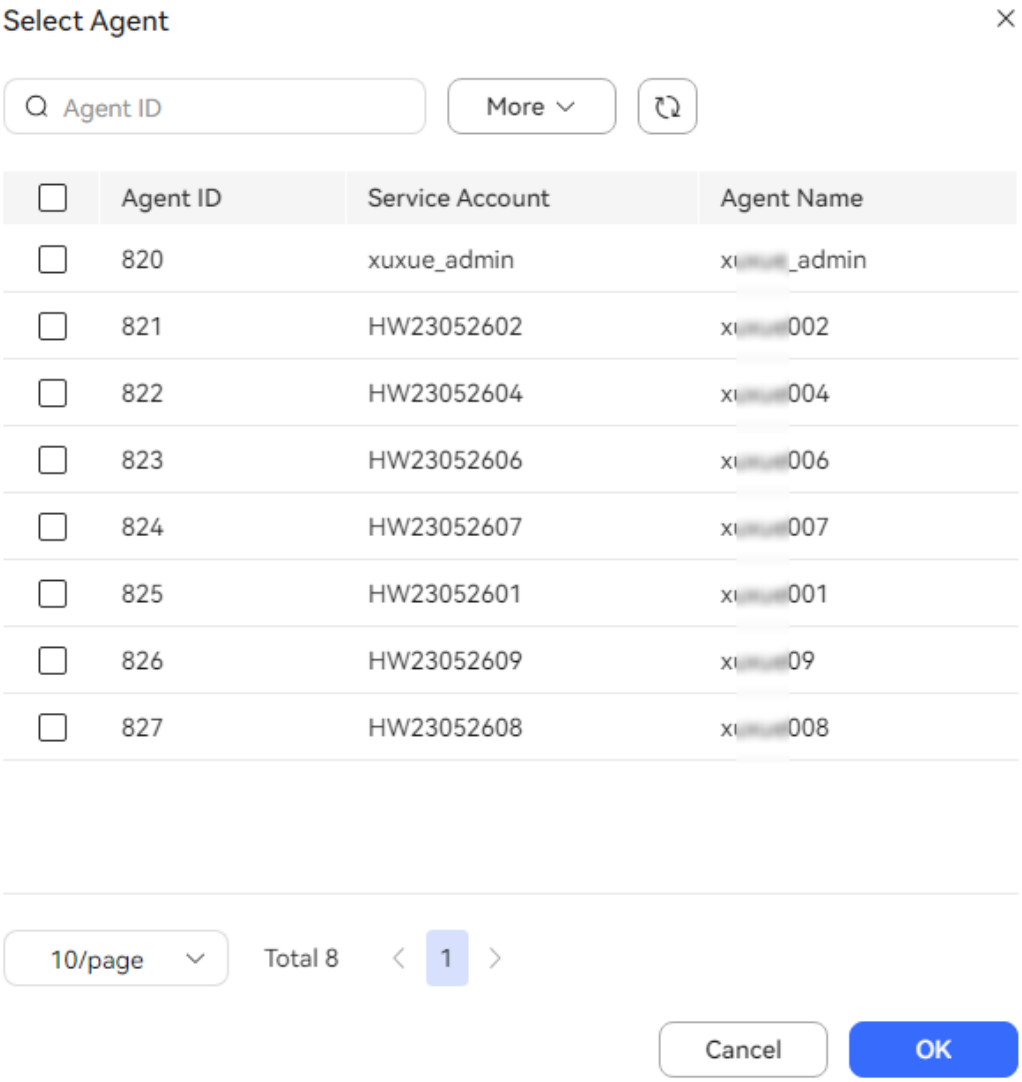
Figure 4-37 Select Agent



- Click **More**, set **Agent Status**, **>= Status Duration (Minute)**, **Inspection Status**, **Alarm Status**, and **Agent Group**, and click **Search** to filter detailed data.

  After clicking **Sign-in Queue**, you can query skill queues by skill queue name.

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The options of **Agent Group** are as follows:

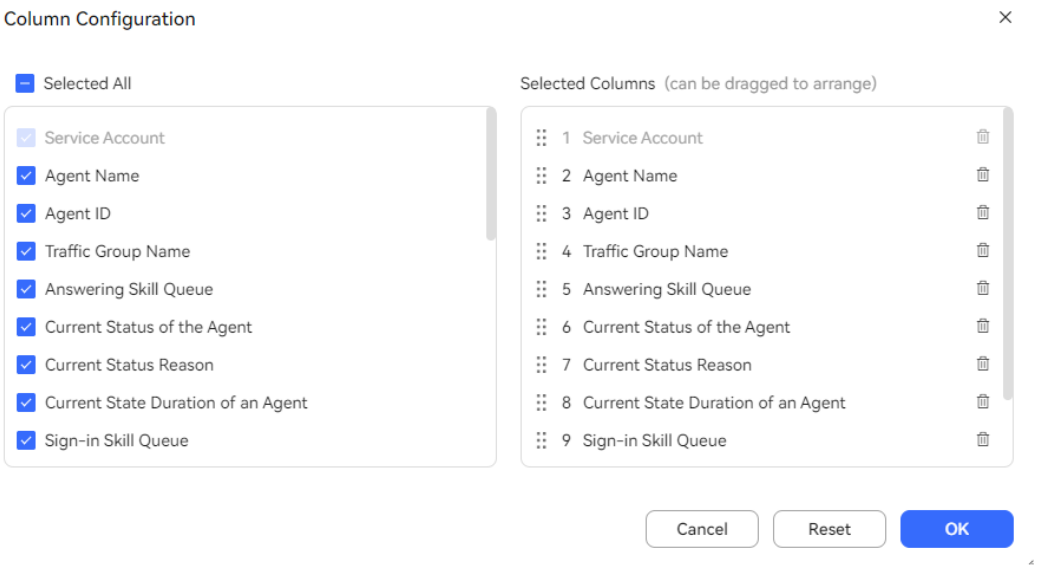
- For a tenant administrator, the options are all agent groups.
- For an inspector, the options are agent groups for which inspection relationships have been configured.

- Click to refresh real-time data.

Step 3 Click to set the table header.

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Figure 4-38 Column Configuration

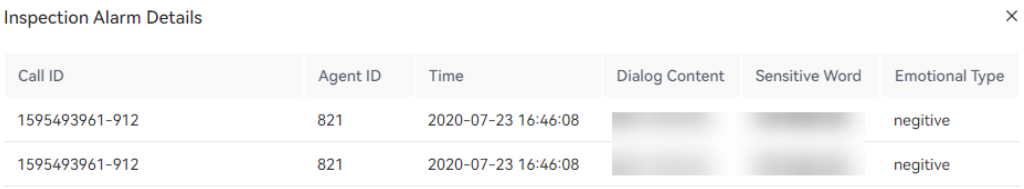


- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Click **Detail** corresponding to an agent for whom an alarm is generated. The alarm details dialog box is displayed, showing the following information: **Call ID**, **Agent ID**, **Time**, **Dialog Content**, **Sensitive Word**, and **Emotional Type**.

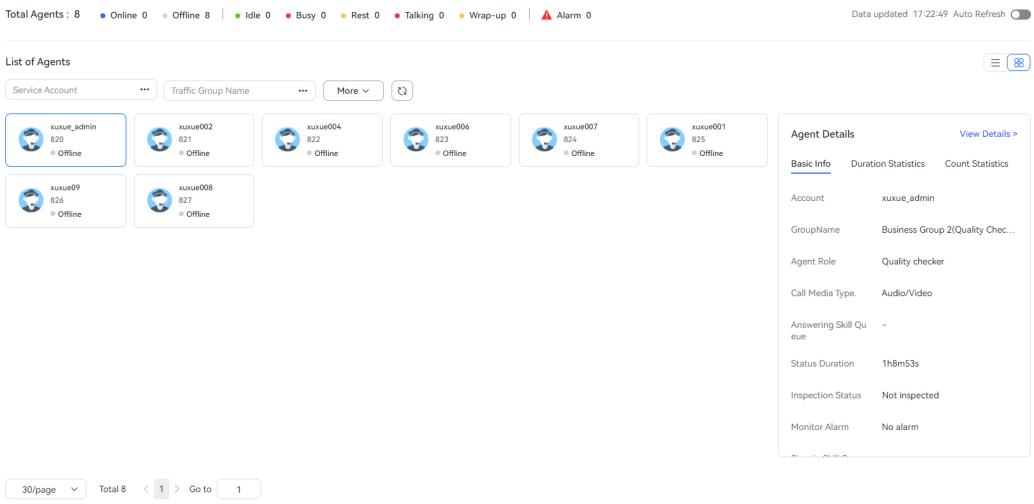
Figure 4-39 Inspection Alarm Details



Step 5 Click to switch the **Agent Monitor** page between the list mode and card mode.

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Figure 4-40 Agent Monitor (in card mode)



NOTE

- In card mode, hover the pointer over *** in the upper right corner of the card of an agent to be inspected to view inspection operations that can be performed.
- In list mode, view common inspection operations that can be performed in the **Operation** column of the list and view other inspection operations that can be performed on the button bar in the upper right corner of the list.

Step 6 Perform inspection operations.

NOTE

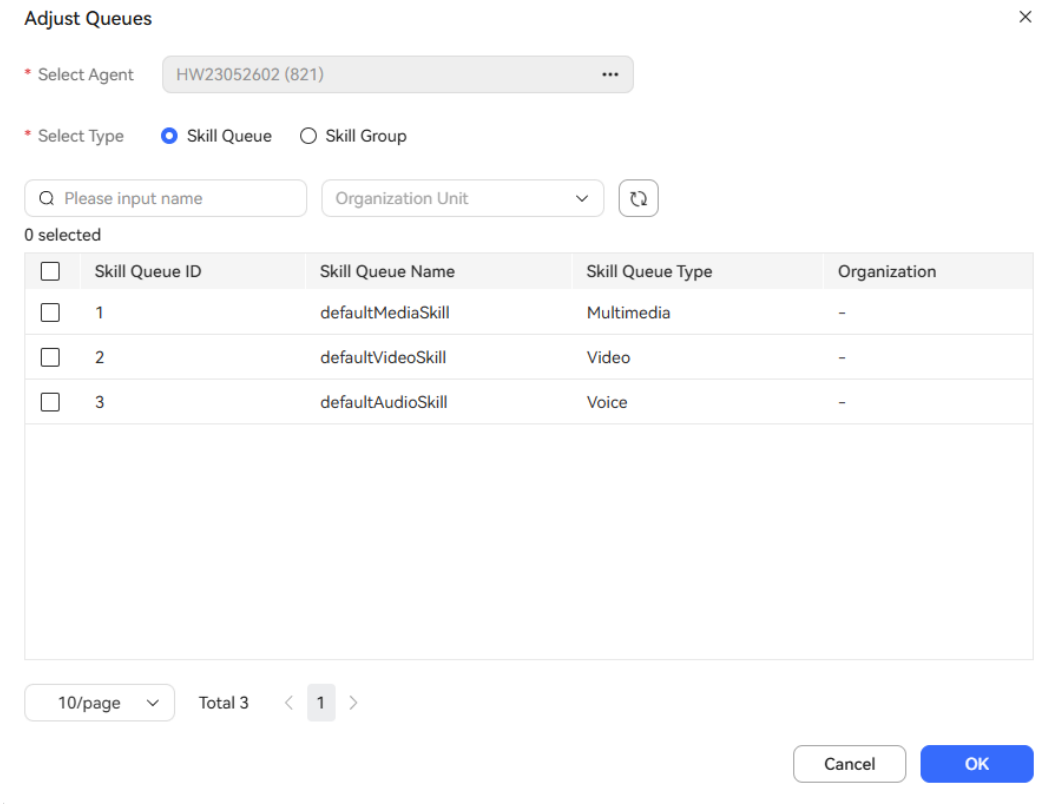
In the independent deployment environment, when an inspector clicks any inspection operation for the first time, a dialog box is displayed, asking the inspector to change the password. Set the password to the one used by the inspector to log in to the web configuration console.

When an inspector has not logged in to the OpenEye or an inspected agent is not in talking state, you are advised to avoid frequently switching the inspection type. Otherwise, an operation exception message will be displayed by the platform.

- **Adjust Queues**: Select one or more signed-in agents and click **Adjust Queues** to adjust their skill queues or skill queue groups.

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Figure 4-41 Adjust Queues



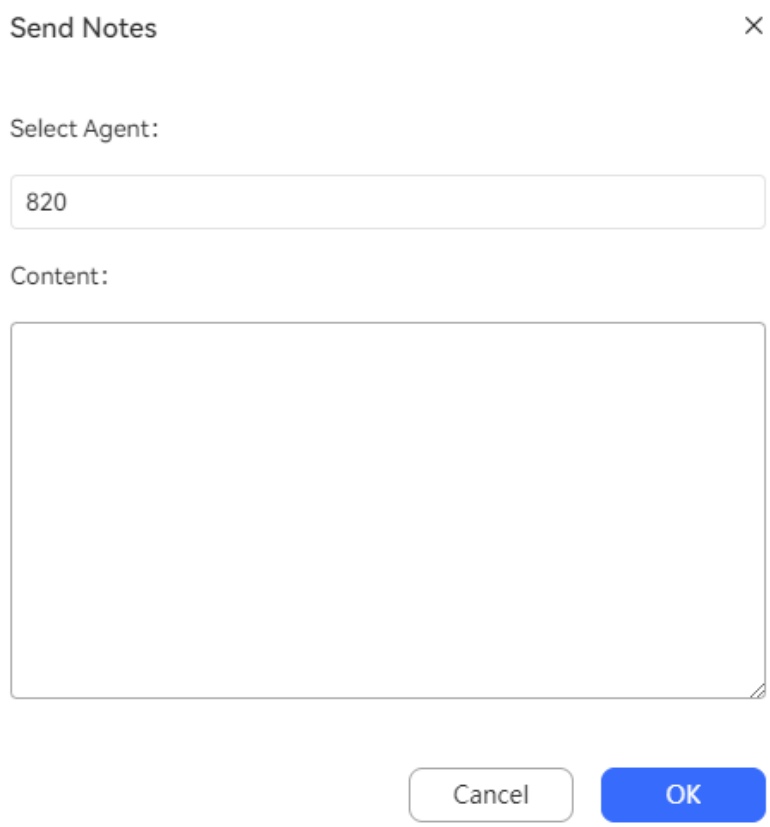
NOTE

- After an agent whose skill queue is adjusted signs out and then signs in again, the skill queue configuration of the agent is restored to that before the skill queue adjustment.
- If a tenant requires cross-channel agent support, the multi-channel support feature needs to be enabled when the tenant is created. In addition, the **Agent multi-channel support** operation permission needs to be assigned to the inspector and the agent whose skill queue needs to be adjusted.

- **Send Notes**: Select one or more signed-in agents and click **Send Notes** to send notes to the agents.

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Figure 4-42 Send Notes

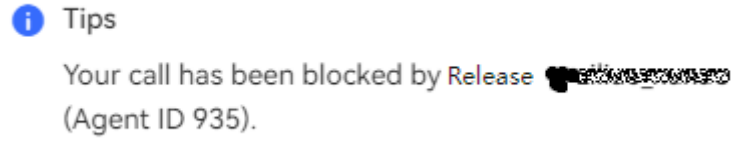


NOTE

In the integration environment, after an inspector sends a note to an agent, the agent can choose > **Inbox** > **Internal Message** to view the received note whose subject is inspection note.

- **Force Busy**: Select an agent in **Idle** state and click **Force Busy** to change the status to **Busy**.
- **Force Idle**: Select an agent in **Busy** state and click **Force Idle** to change the status to **Idle**.
- **Force Release**: Select an agent in **Talking** state and click **Force Release** to forcibly release the ongoing call. The agent receives a notification indicating the inspector's operation.

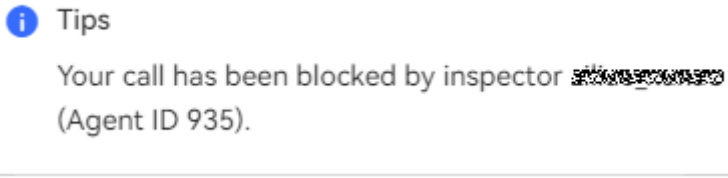
Figure 4-43 Notification



- **Force Out**: Select a signed-in agent and click **Force Out** to forcibly sign out the agent.

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- **Listen**: Click **Listen** in the **Operation** column corresponding to an agent to listen to the agent.
- **Insert**: Click **Insert** in the **Operation** column corresponding to an agent to insert into the call of the agent.
- **switch**: Click **switch** in the **Operation** column corresponding to an agent who is being inspected (listening or insertion) by the inspector to switch the inspection mode (from **Listen** to **Insert** or from **Insert** to **Listen**).
- **intercept**: Click **intercept** in the **Operation** column corresponding to an agent who is being inspected (listening, insertion, or whispering) by the inspector to kick out the agent and talk with the customer. The agent receives a notification indicating the inspector's operation.

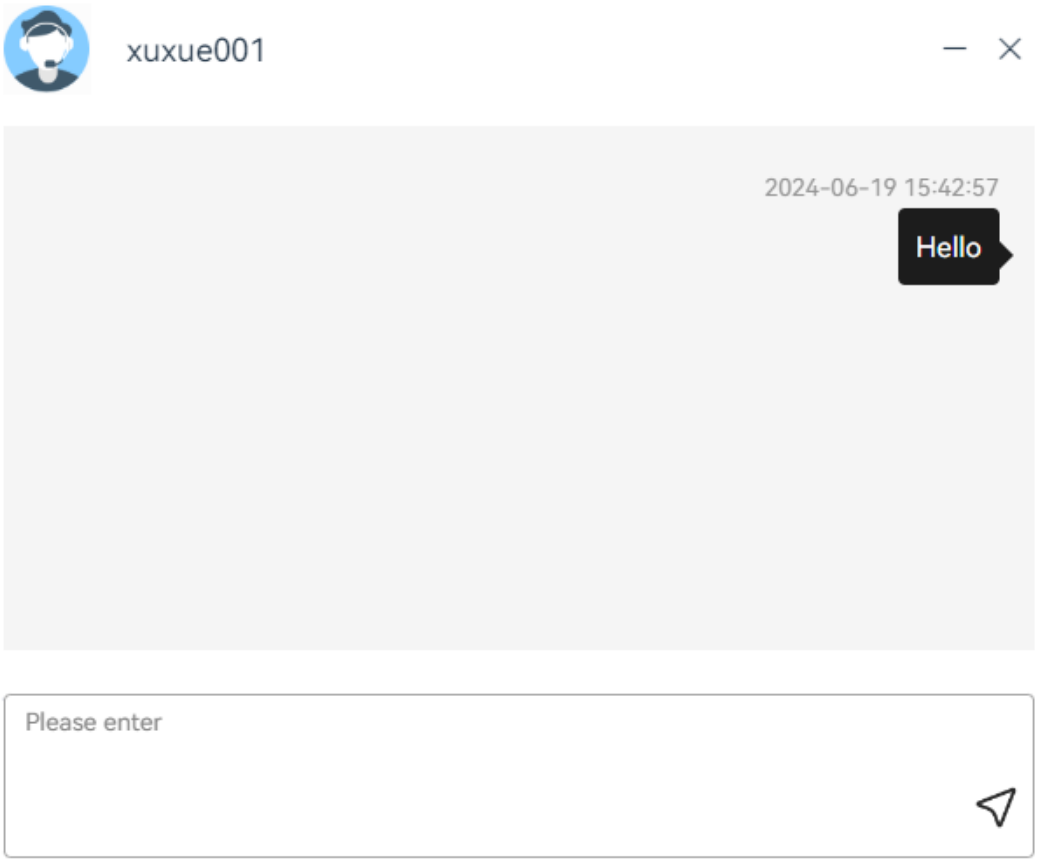
- **Whisper**: Click **Whisper** in the **Operation** column corresponding to an agent to whisper to the agent. (The customer is unaware of the talk between the inspector and the agent.)
- **Send Message**: Send text messages to an agent. You can send messages to a signed-in agent in real time, or send messages to an offline agent who can view the messages after sign-in.

  Select an agent and click **Send Message**.

  After a session is created, click  in the lower right corner of the browser to expand or collapse the session list.

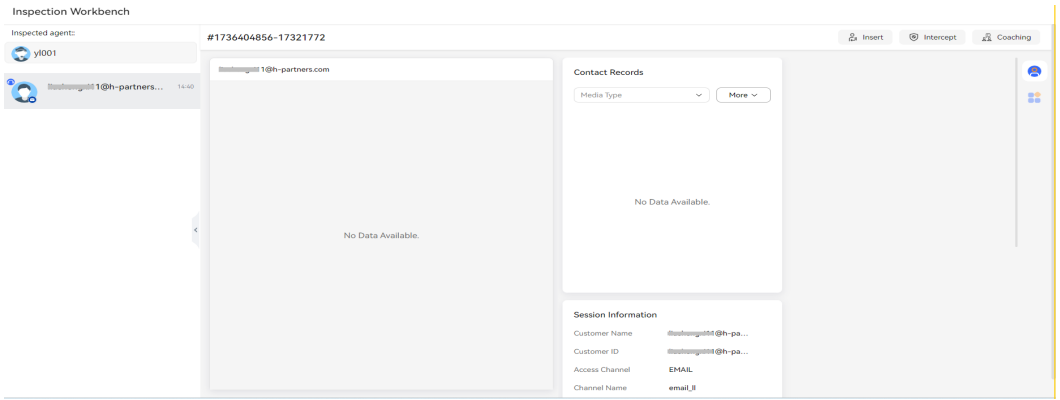
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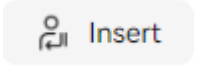
Figure 4-44 Sending messages



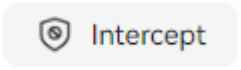
- **Multimedia Session Monitoring**: Click **Multimedia Session Monitoring** in the **Operation** column corresponding to a multimedia agent in **Idle** state to monitor the agent in real time. The inspector can view the customer access channel, chat records of the inspected agent and customer, and contact history. The customer is unaware of the operations.

Figure 4-45 Multimedia session monitoring



Click  to directly participate in the conversation between the agent and customer.

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Click 

to directly chat with the customer.

NOTE

This function is not supported for the full containerized installation scenario.

Click 

to have a point-to-point chat with the agent.

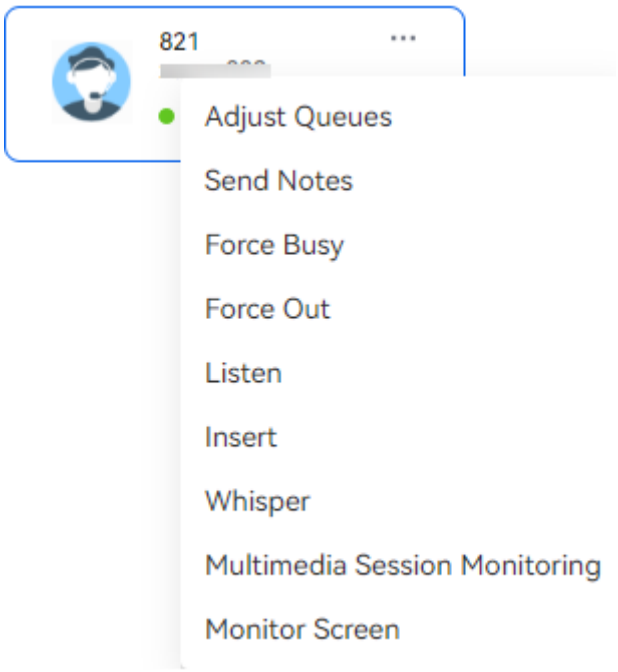
- **Monitor Screen**: Click **Monitor Screen** in the **Operation** column corresponding to an agent to view the agent's screen.

NOTE

In list mode, a maximum of three buttons are displayed in the **Operation** column corresponding to an agent. If there are more than three buttons, two buttons and ⋮ are displayed. Click ⋮ to view other buttons.

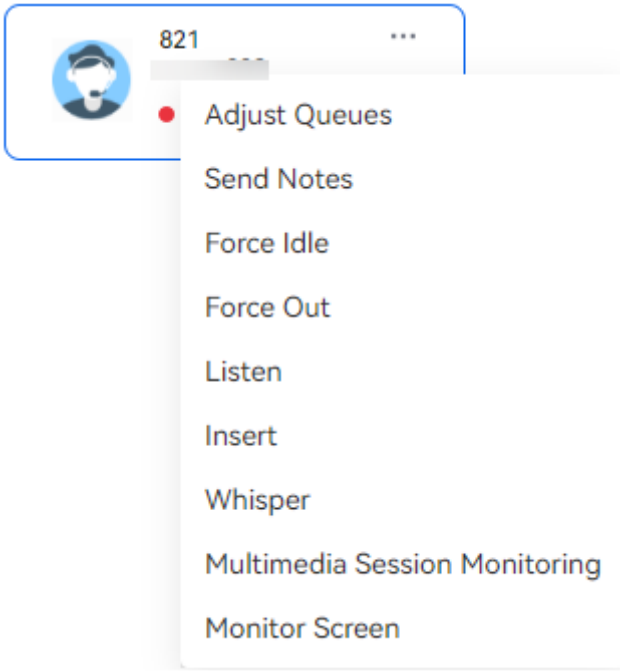
Step 7 In card mode, perform different inspection operations based on agent states.

- Agent in Idle state

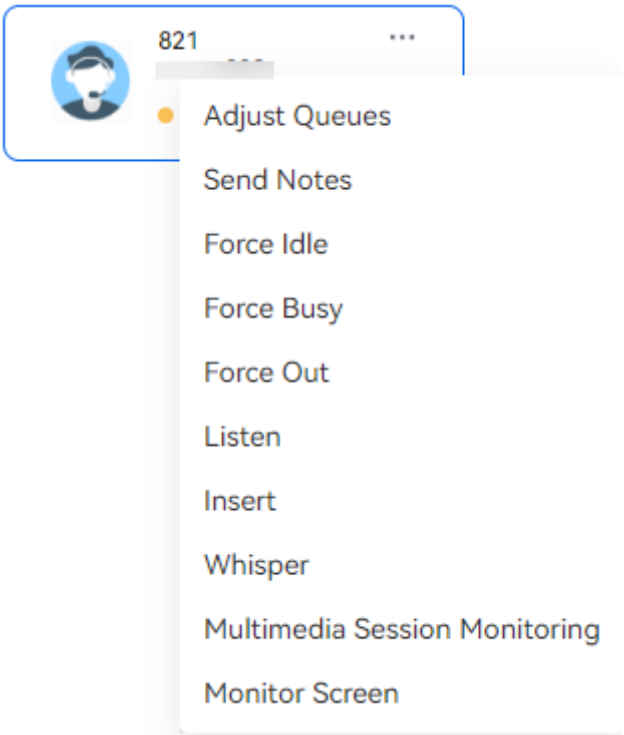


- Agent in Busy state

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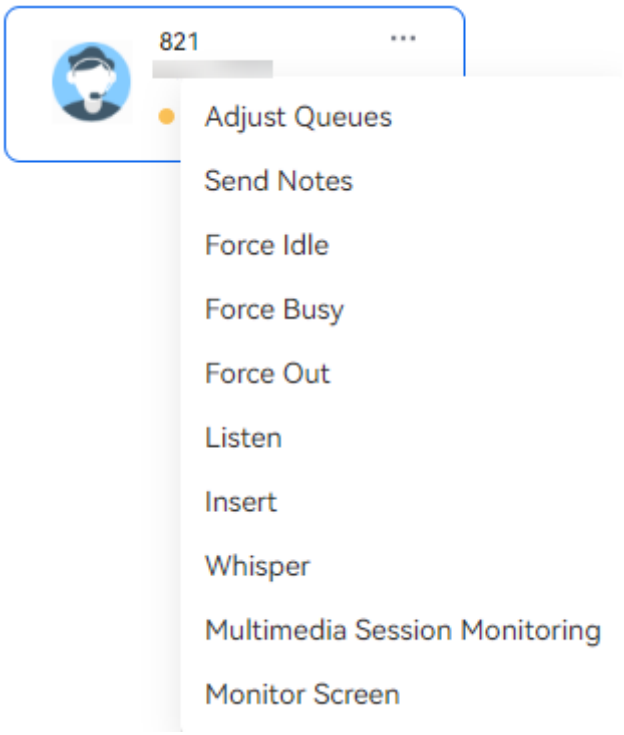


- Agent in Rest state

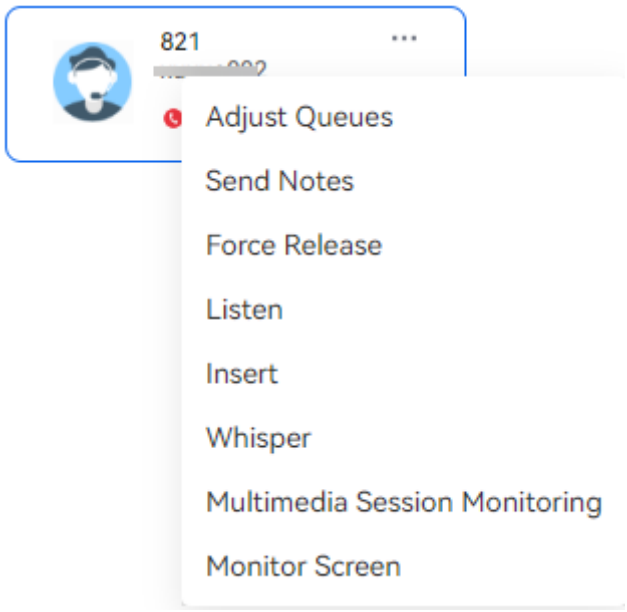


- Agent in Wrap-up state

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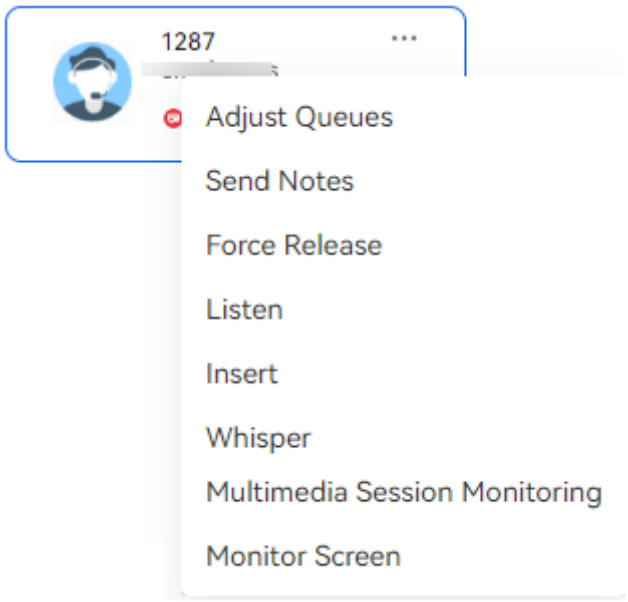


- Agent in Talking state



- Agent in a multimedia chat

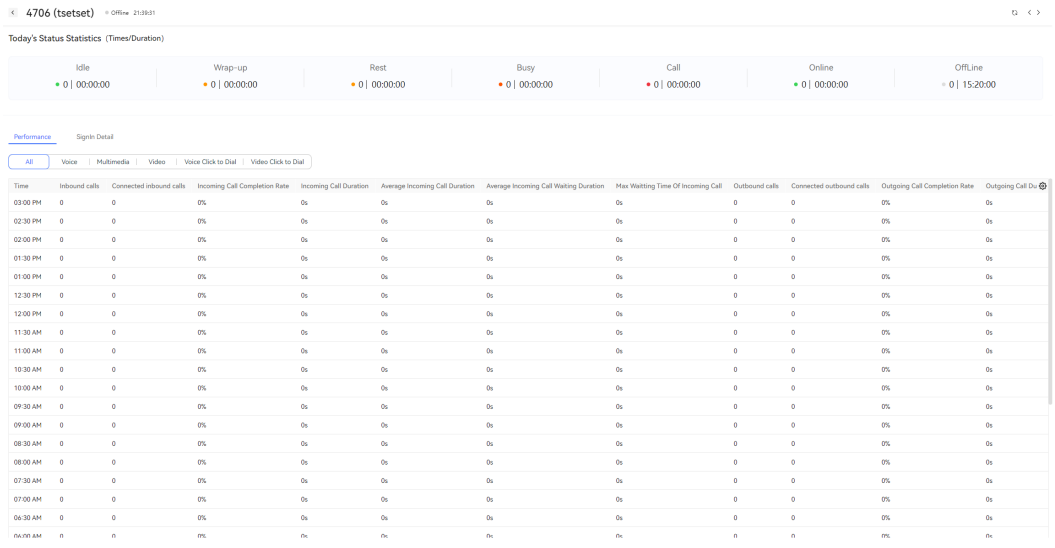
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Step 8 View details about an agent.

- In list mode, click an agent and view the agent details on the page that is displayed.

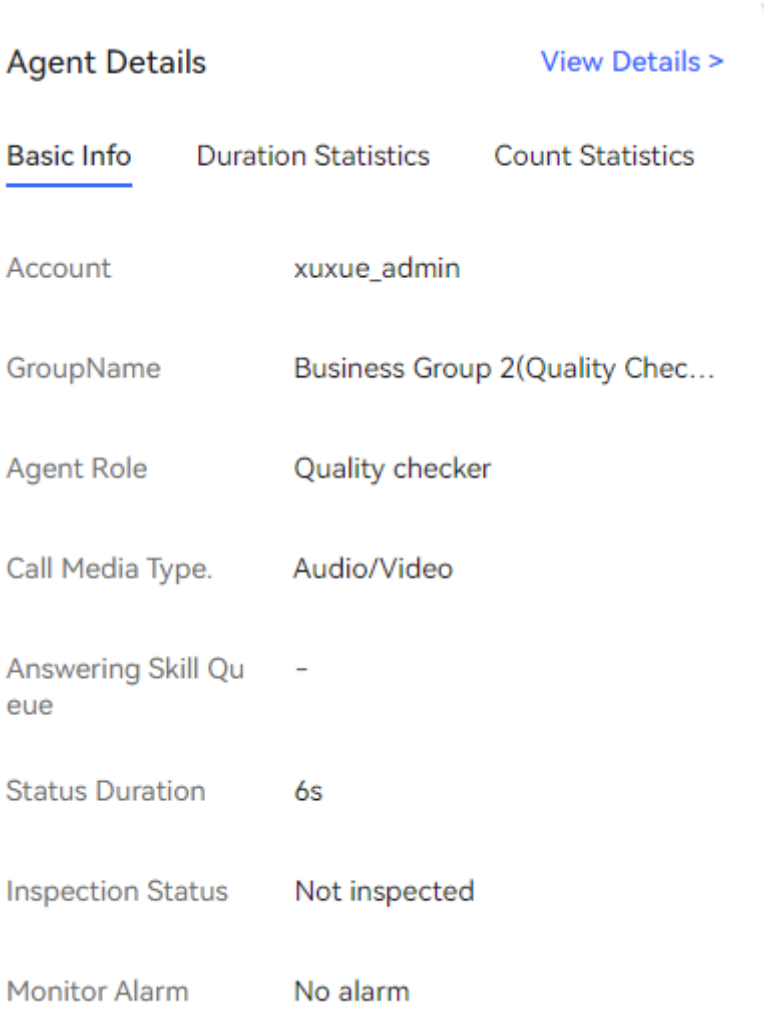
  Figure 4-46 Agent details (in list mode)



- In card mode, click an agent and view the agent sign-in details on the right of the page. Click **View Details** to view the agent details on the page shown in **Figure 4-46**.

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Figure 4-47 Agent details (in card mode)



----End

4.3.2.3 Monitoring Agents (Integration with the Dynamics)

Prerequisites

- Inspection relationships have been configured.
- The permission on the **Agent Monitor** menu has been assigned to an inspector.
- (Optional) To allow inspectors to inspect inspectors, you have set **Support QC on QC Inspectors** to **Yes** on the **Web Configuration Console** > **VDN Configuration** > **Recording Quality Inspection** > **Recording Quality Inspection Parameter** page on the web configuration console as a configuration administrator.

Procedure

Step 1 Sign in the Dynamics using a Microsoft account bound to an inspector account, and the password.

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Step 2 Click **Customer Service workspace** to access the workspace.

Step 3 Click 

. On the agent monitoring page that is displayed, view agents who can be inspected.

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Figure 4-48 Monitoring page



Step 4 Perform the following operations on agents:

- Forcible busy state setting

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Select an agent in **Idle** state and click **Force Busy** to change the agent status to **Busy**.

Select an agent who is in a voice or video call or a multimedia chat, and click **Force Busy**. The message "An agent is forcibly set to the busy state successfully. After the call ends, the agent enters the busy state." is displayed.

- Forcible idle state setting

  Select an agent in **Busy** state and click **Force Idle** to change the agent status to **Idle**.

  Select an agent who is in a voice or video call or a multimedia chat, and click **Force Idle**. The message "An agent is forcibly set to the idle state successfully. After the call ends, the agent enters the idle state." is displayed.

- Forcible release

  Select an agent in **Talking** state and click **Force Release** to forcibly release the ongoing call of the agent.

- Forcible sign-out

  Select a signed-in agent and click **Force Out** to forcibly sign out the agent.

- Listening
  - Select an agent who is in a voice or video call, and click **Listen** to listen to the agent. Click **Cancel Listening** to cancel the listening.
  - Select an agent who is in non-**Talking** state or in a multimedia chat, and click **Listen** to pre-listen to the agent. When the agent is in a voice or video call, the system automatically calls the inspector.
- Insertion
  - Select an agent who is in a voice or video call, and click **Insert** to insert into the call of the agent. Click **Cancel Insertion** to cancel the insertion.
  - Select an agent who is in non-**Talking** state or in a multimedia chat, and click **Insert** to pre-insert into the call of the agent. When the agent is in a voice or video call, the system automatically calls the inspector.
- Switching

  Select an agent who is being inspected (listening or insertion), and click **switch** to switch the inspection mode (from listening to insertion or from insertion to listening).

- Interception

  Select an agent who is in a voice or video call and is being inspected (listening, insertion, or whispering), and click **Intercept** to intercept the call of the agent. After the interception, the agent's call is released, and the inspector and customer are in a call.

- Whispering
  - Select an agent who is in a voice or video call, and click **Whisper** to whisper to the agent. Click **Cancel Whispering** to cancel the whispering.
  - Select an agent who is in non-**Talking** state or in a multimedia chat, and click **Whisper** to pre-whisper to the agent. When the agent is in a voice or video call, the system automatically calls the inspector.

----End

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4.3.2.4 Playing Recordings

Inspectors can play and download call recording and video files.

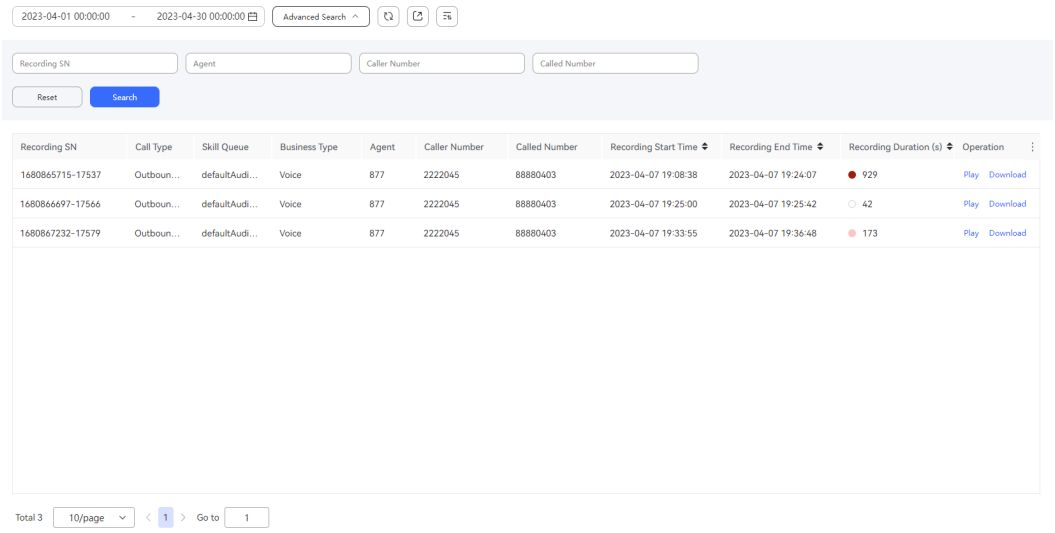
Prerequisites

- Monitoring and inspection relationships have been configured for the inspector.
- The permission on the **Recording** menu has been assigned to the inspector.
- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Recording**.

Figure 4-49 Recording



Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.
- Click **Advanced Search**, set **Caller Number**, **Called Number**, **Recording SN**, and **Agent**, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

The indicator color in the **Recording Duration (s)** column is red and cannot be configured. The color becomes darker for each additional minute, with the darkest shade representing 10 minutes or more.

The following fields are displayed in the list:

- **Recording SN**
- **Call Type**

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- **Skill Queue**
- **Business Type**
- **Agent**
- **Caller Number**
- **Called Number**
- **Recording Start Time**
- **Recording End Time**
- **Recording Duration (s)**

Step 3 Click **Play** in the **Operation** column to play a recording or video online. You can set the playback rate of the recording or video.

NOTE

The storage mode of recording files is controlled by the system parameter **Whether to enable the Baseweb mounting cache recording**. After the system parameter is set to **Yes**, ensure that Baseweb files have been mounted in the current system. The loading speed in this mode is fast. If the system parameter is set to **No**, the recording files are transcoded and then played in streams. The loading speed in this mode is slow.

Step 4 Click **Download** in the **Operation** column to download a recording or video file to the local PC.

NOTE

The downloaded data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

In the SaaS or OP integration environment, the encoding format of downloaded recording files is G711.A-law. Use a proper player to play the recording files.

Step 5 (Optional) Export recording playback data (excluding voice or video files) to the local PC.

1. Click  and enter a compression password to create an export task.

Figure 4-50 Export



– Different compression passwords can be set for different export tasks. The compression password is used to open the exported compressed file.

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- If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.
- Click to view the password plaintext.

NOTE

- The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
- In the independent deployment environment, click to export recording playback data without entering a compression password.

2. Click to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported data to the local PC. When opening the file, you need to enter the compression password set when you create the export task.

----End

4.3.2.5 Monitoring Indicators

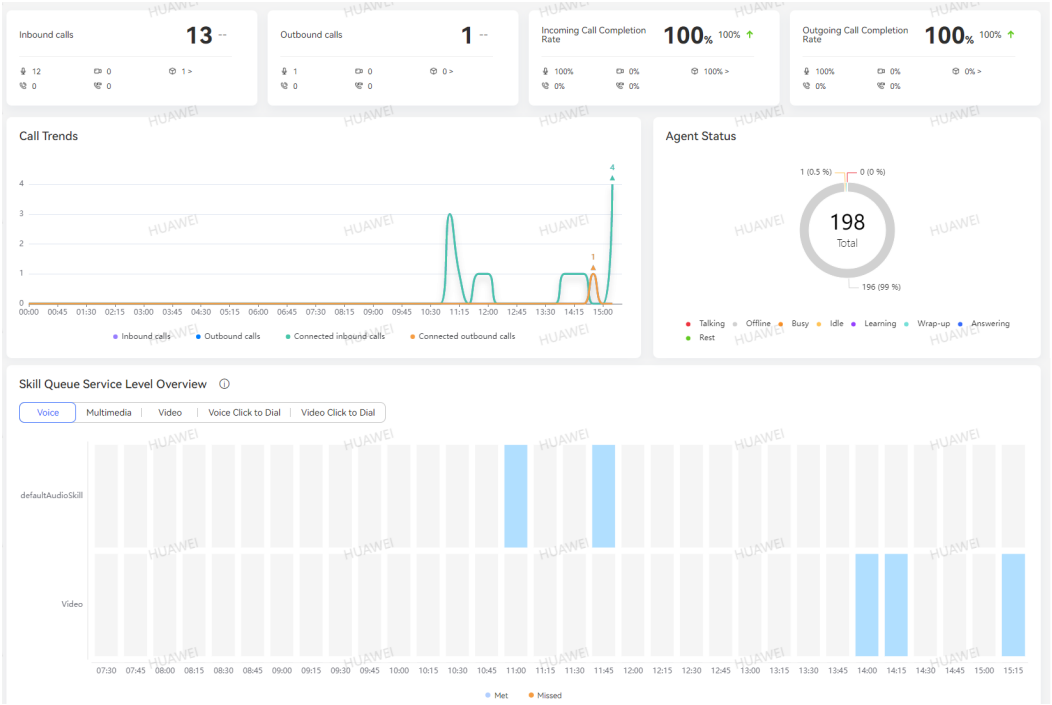
Inspectors can view data about the real-time overview, VCCs, voice and video IVR, skill queues, agents, multimedia IVR, and cases in the tenant space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Index Monitor**

Step 2 View the real-time overview.

Figure 4-51 RealTime Overview



- Indicator statistics: The indicators include the number of inbound calls, number of outbound calls, inbound call connection rate, and outbound call connection rate. The statistics are displayed in the following dimensions: data summary, day-over-day (DoD) rate (compared with the indicator value collected from the same time segment on the previous day), and data statistics by channel (covering only the channels preconfigured in the baseline version).
  - DoD rate: The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.
    - : No data is displayed because the value on the previous day is 0.
    - : The value increases compared with the previous day.
    - : The value decreases compared with the previous day.
  - Click 0 > to view submedia call statistics.
- **Call Trends**: The number of inbound calls, number of outbound calls, number of connected inbound calls, and number of connected outbound calls of the tenant space on the current day are displayed in a line chart.
- **Agent Status**: The real-time agent status distribution of the tenant space on the current day is displayed in a pie chart.
- **Skill Queue Service Level Overview**: Statistics on skill queue service level fulfillment are collected in real time by channel type.
  - By default, the skill queue service level data of the voice channel is displayed. Click a channel type tab to view the corresponding service level data.

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  - By default, five channel types are displayed. For the **Multimedia** type, statistics can be queried by submedia type.
  - By default, data of a maximum of 10 skill queues can be displayed. Scroll the content vertically to view the extra data.
  - The expected skill queue service level is that the number of calls connected within 20 seconds reaches 80%, which can be configured using a parameter.

    The integrated deployment environment supports the configuration and modification of tenant parameters. You can configure the tenant parameter **Expected service level of the skill queue** under **Configuration Center** > **System Management** > **Tenant Parameter** > **Call center monitoring** > **Index Monitor**. The default value is **0.8**, indicating 80%. The value ranges from 0 to 1.

    The independent deployment environment supports only the configuration of system parameters. You can configure the system parameter **Expected service level of the skill queue** under **Configuration Center** > **System Management** > **Parameter Settings** > **Call Center Monitoring** > **Index Monitor**. The default value is **0.8**, indicating 80%. The value ranges from 0 to 1.

- Click  to refresh real-time data. The indicator statistics as well as the **Call Trends**, **Agent Status**, and **Skill Queue Service Level Overview** areas are refreshed.

Step 3 View VCC monitoring information.

Figure 4-52 VCC monitoring



1. Click the **VCC Monitor** tab and select a media type to query today's VCC monitoring information.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's VCC monitoring information.

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- Click  to refresh real-time data.
- Click  to set indicators related to the real-time number of calls, today's number of calls, call rate, and duration.

  The real-time number of calls and today's number of calls are both displayed in the statistics under **Number of Calls**.

2. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.
3. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
4. Drag the trend chart to view the information of a desired time segment.

Step 4 View voice and video IVR monitoring information.

Figure 4-53 Audio&Video IVR Monitor



1. Click the **Audio&Video IVR Monitor** tab and select a media type to query today's voice and video IVR monitoring information.
   - Click  to refresh real-time data.
   - Click  to set indicators. You can select three to five indicators.
2. View the DoD rate of each IVR indicator. The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.

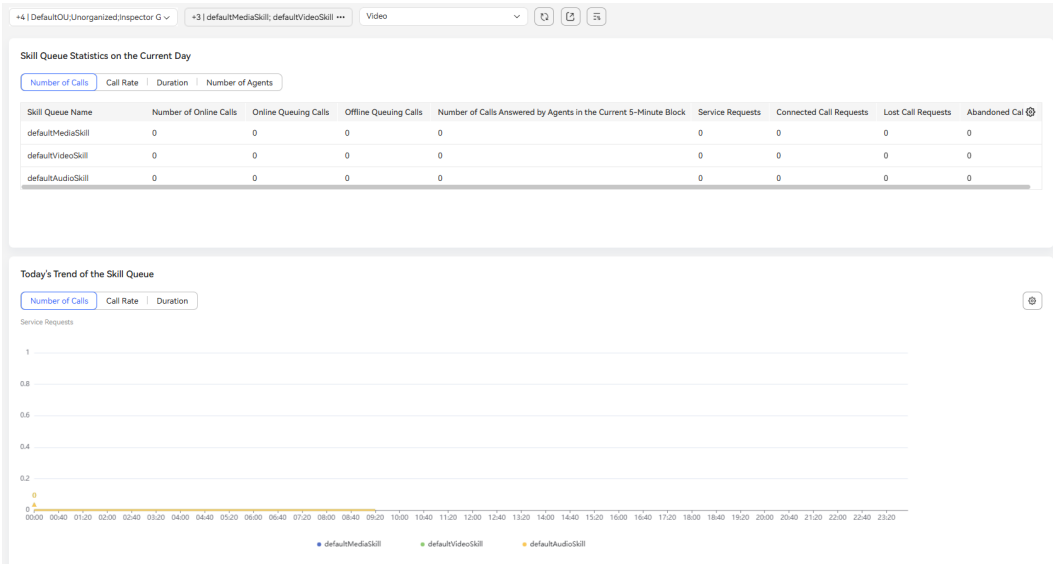
   For each indicator, a small chart of today's trend statistics is displayed.
3. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.

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4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
5. Drag the trend chart to view the information of a desired time segment.

Step 5 View skill queue monitoring information.

Figure 4-54 Skill Queue Monitor



1. Click the **Skill Queue Monitor** tab and select a skill queue and a media type to query today's skill queue monitoring information.
   - **Organization**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
     - If the parameter is set to **Yes**:
       - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
         - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

           NOTE

           If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
         - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
         - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

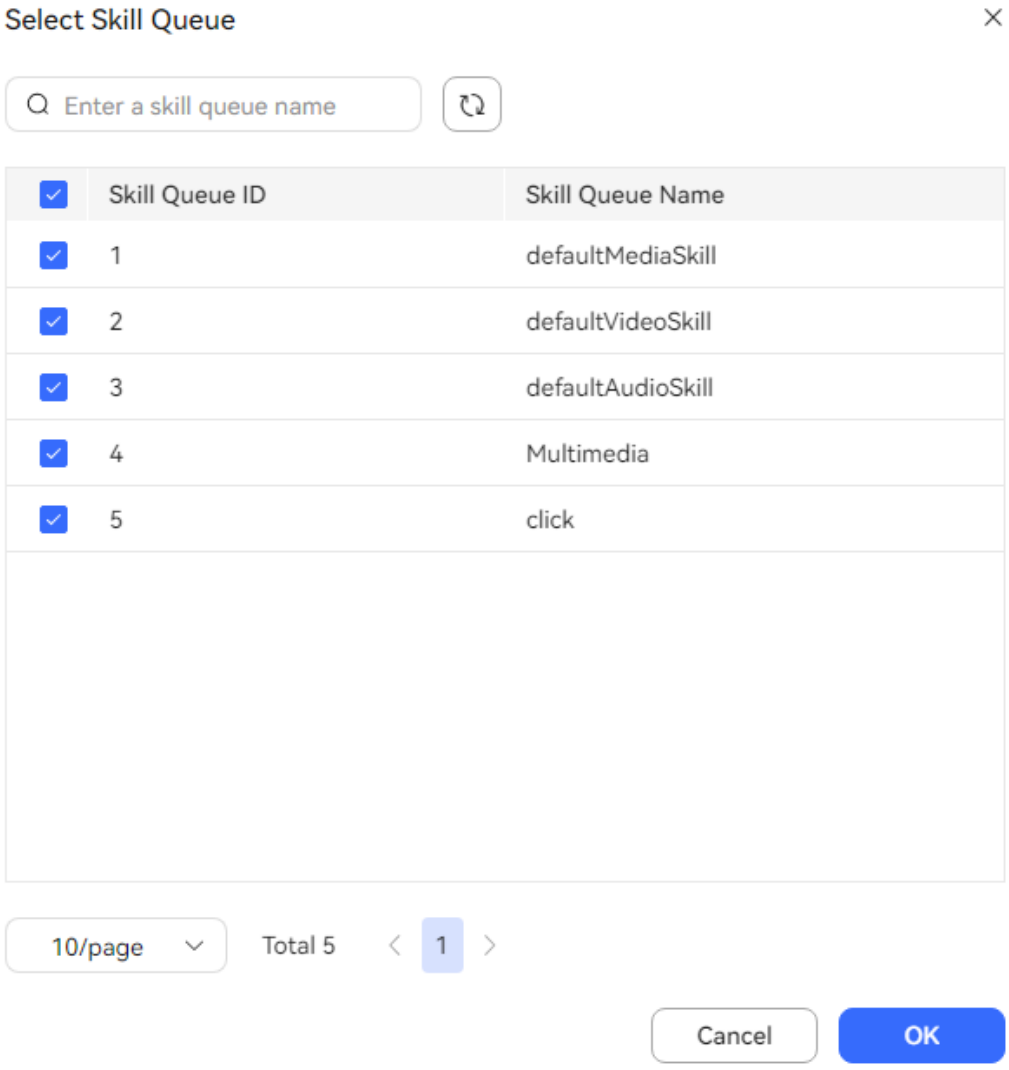
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- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

- If the parameter is set to **No**, the **Organization** parameter is hidden.

– You can select a maximum of 20 skill queues. Skill queues can be queried by name.

Figure 4-55 Select Skill Queue



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- When **Media Type** is set to **Multimedia**, select a submedia type to query today's skill queue monitoring information.
- Click  to refresh real-time data.

2. Click **Number of Calls**, **Call Rate**, **Duration**, or **Number of Agents** to view the corresponding monitoring indicator data.
3. Click  to set the table header.
4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
   - In the case of only one skill queue, you can select 1 to 10 indicators.
   - In the case of multiple skill queues, you can select only one indicator.
5. Drag the trend chart to view the information of a desired time segment.
6. (Optional) Export the query result to the local PC on the **Skill Queue Monitor** tab page.

   NOTE

   The export function is controlled by the **Monitoring** > **Index Monitor** > **Skill Queue Monitor** > **Export Skill Queue Monitoring** permission. Assign this permission to the role to which the current account belongs before using this function.

   a. Click  and enter a compression password based on the password requirements. Click **OK**. An export task is created.

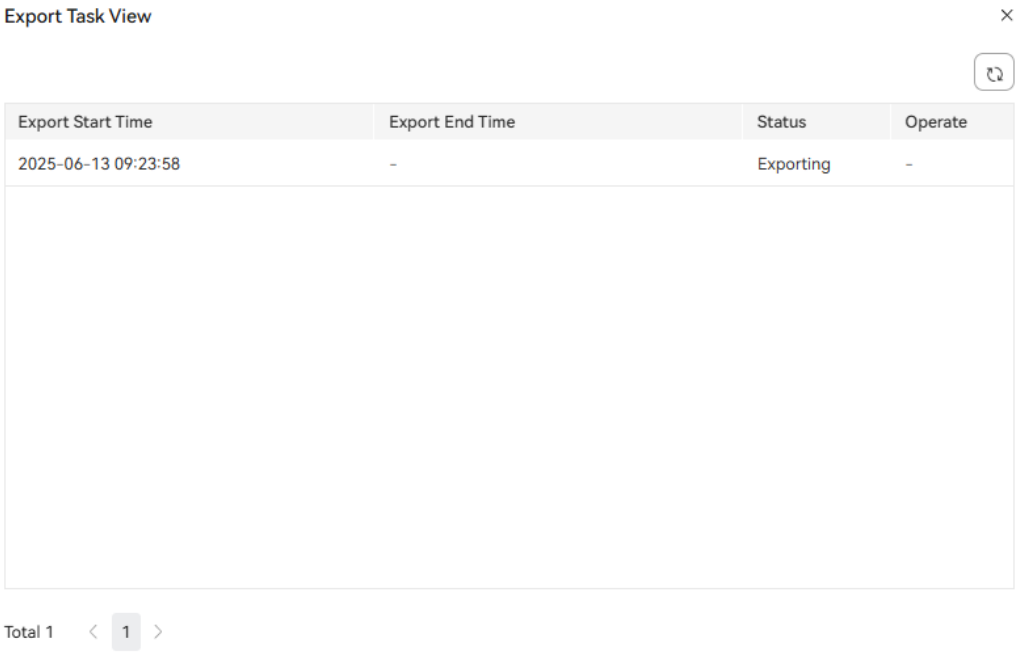
   Figure 4-56 Export

   b. Click  , select the export task whose **Status** is **Success** based on the export time, and click **download** to download the exported data.

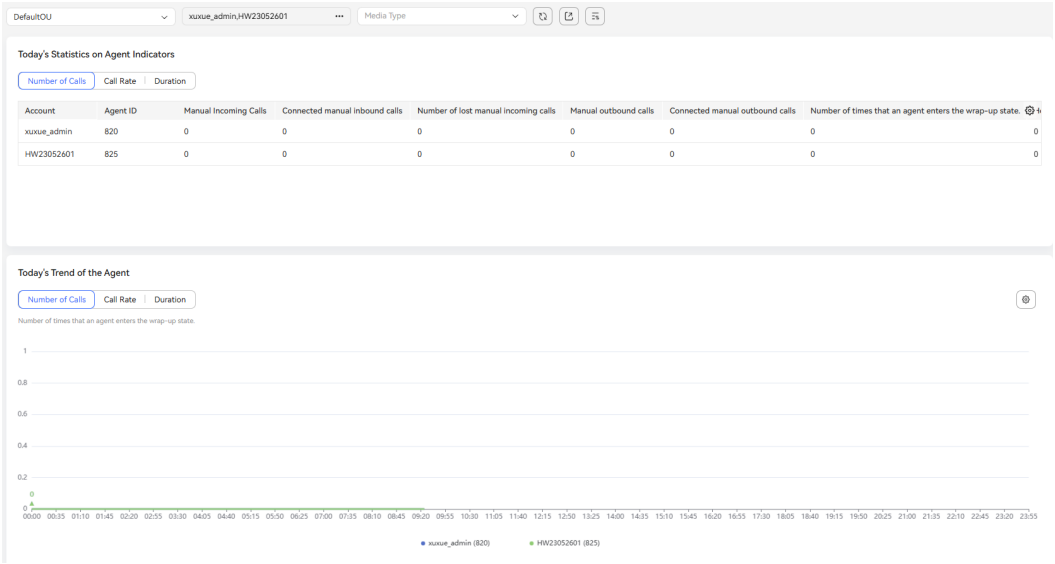
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Figure 4-57 Export Task View



Step 6 View agent indicator monitoring information.

Figure 4-58 Agent Indicator Monitoring



1. Click the **Agent Indicator Monitoring** tab and select an OU, an agent, and a media type to query today's agent indicator monitoring information.
   - You can select a maximum of five agents.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's agent indicator monitoring information.
   - **Organization**: Only one OU can be selected, and this parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.

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- If the parameter is set to **Yes**:
  - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
- If the parameter is set to **No**, the data scope of **Organization** is controlled by the **Monitoring** > **Index Monitor** > **Query Data of All Organizations** permission.
  - If this permission is configured, all OUs can be selected.
  - If this permission is not configured, only the OU to which the current account belongs can be selected for a common agent, and the OU to which the current account belongs and its sub-OUs can be selected for a supervisor.

– Click  to refresh real-time data.

2. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator data.
3. Click  to set the table header.
4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.

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- In the case of only one agent, you can select 1 to 10 indicators.
- In the case of multiple agents, you can select only one indicator.

5. Drag the trend chart to view the information of a desired time segment.
6. (Optional) Export the query result to the local PC on the **Agent Indicator Monitor** tab page.

   NOTE

   The export function is controlled by the **Monitoring** > **Index Monitor** > **Agent Indicator Monitor** > **Export Agent Indicator Monitoring** permission. Assign this permission to the role to which the current account belongs before using this function.

   a. Click  and enter a compression password based on the password requirements. Click **OK**. An export task is created.

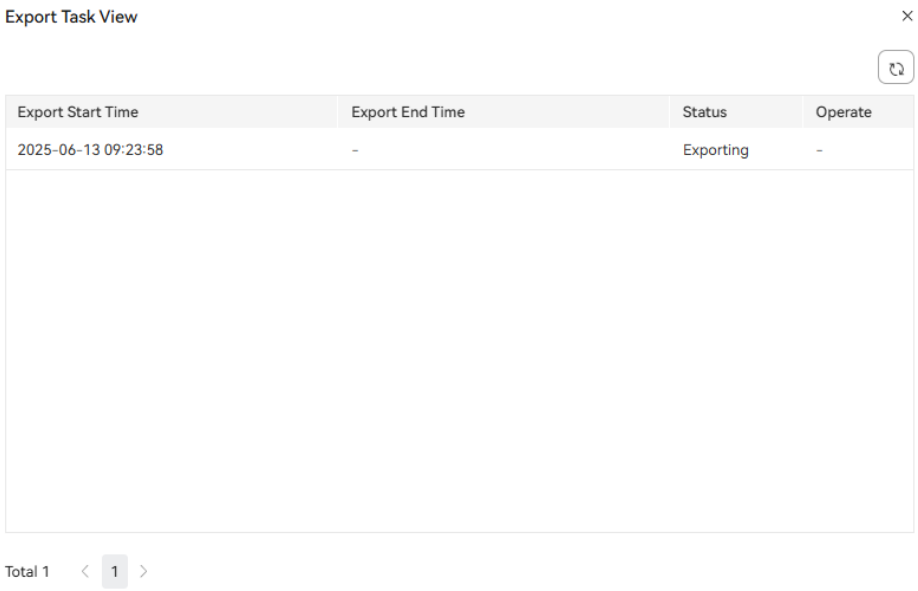
   Figure 4-59 Export

   b. Click  , select the export task whose **Status** is **Success** based on the export time, and click **download** to download the exported data.

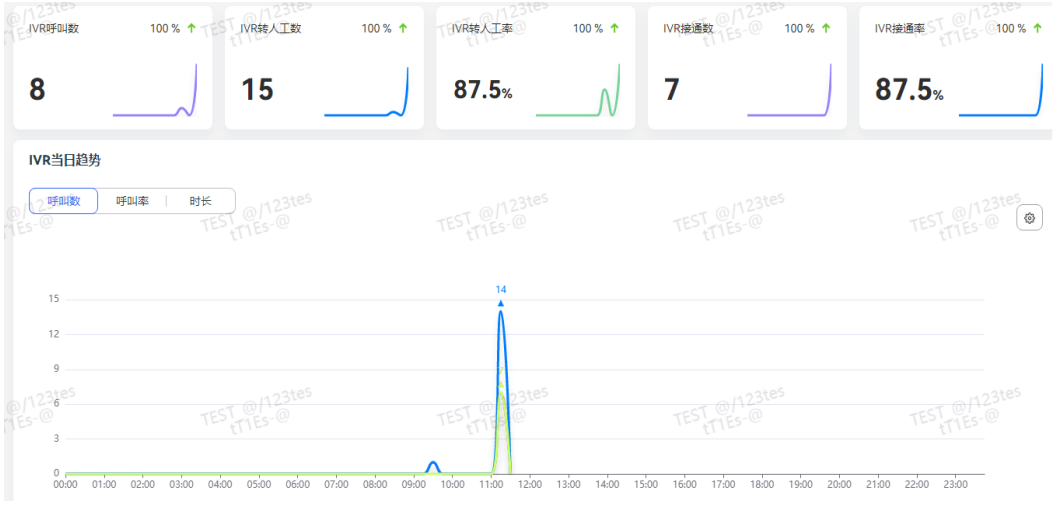
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Figure 4-60 Export Task View



Step 7 View multimedia IVR monitoring information.

Figure 4-61 Multimedia IVR Monitor



1. Click the **Multimedia IVR Monitor** tab and select a multimedia type to query today's multimedia IVR monitoring information.
   - Select a channel from the drop-down list to view the corresponding statistics.
   - Click  to refresh real-time data.
   - Click  to set indicators. You can select three to five indicators.
2. View the DoD rate of each IVR indicator. The comparison result between the indicator value until the current time on the current day and the indicator value of the same time segment on the previous day is displayed.

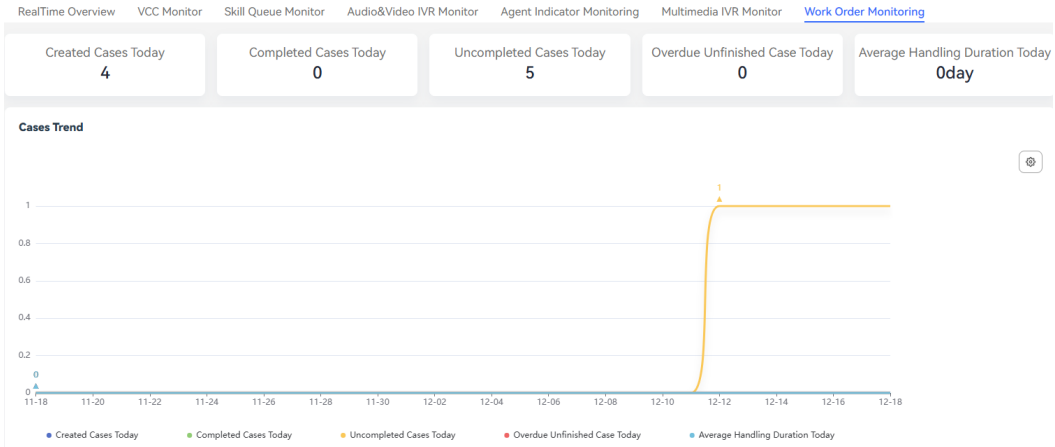
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For each indicator, a small chart of today's trend statistics is displayed.

3. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.
4. Click  to set the indicators for querying today's trend statistics and refresh the statistics.
5. Drag the trend chart to view the information of a desired time segment.

Step 8 View case monitoring.

Figure 4-62 Work Order Monitoring



1. A tenant space administrator can view the statistics of the following indicators in the current tenant space: **Created Cases Today**, **Completed Cases Today**, **Uncompleted Cases Today**, **Overdue Unfinished Case Today**, and **Average Handling Duration Today**.
2. Click  to set indicators for querying the case trend and refresh statistics.
3. Drag the trend chart to view the information of a desired time segment.

----End

4.3.2.6 Monitoring Inbound Call Records

Inspectors can view information about abandoned customer calls, calls requiring callback, and inbound calls.

Prerequisites

- Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.
- The non-real-time UnProcessOffLneCall CDRs have been imported to the database by referring to "Commissioning the Function of Importing CDRs to the Database Using the CCDIS."

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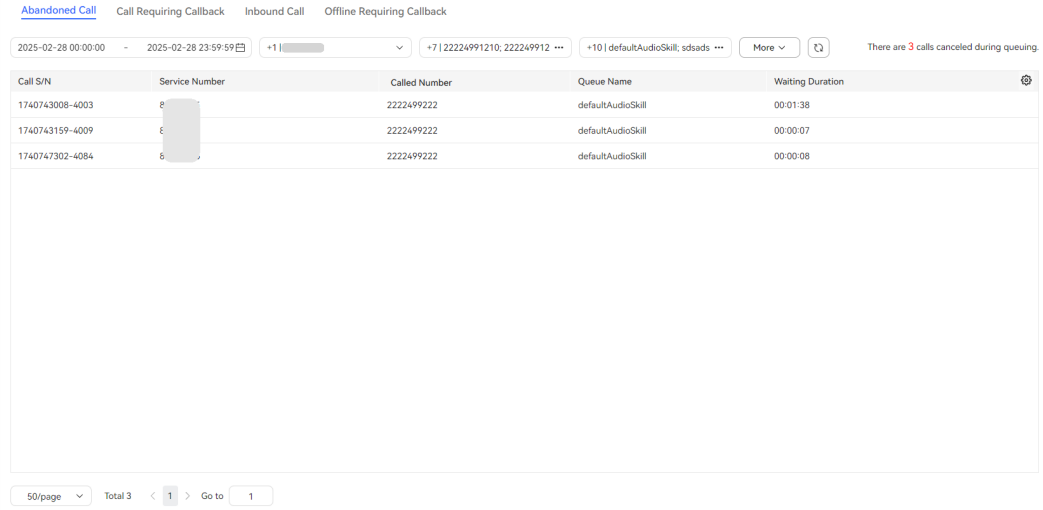
Procedure

Step 1 Sign in to the AICC as an inspector. Choose **Monitoring** > **Incoming Call Record**.

Step 2 Query information about abandoned calls.

1. Click the **Abandoned Call** tab to view information about abandoned customer calls in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

   Figure 4-63 Abandoned Call

   - You can query abandoned calls in the tenant space based on the start time, end time, customer number, called number, and skill queue name.
   - By default, the list displays information about abandoned customer calls in the tenant space on the current day, including the call SN, customer number, called number, skill queue name, and waiting duration.

2. Set data filter criteria.
   - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**:
     - OU selection:
       - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
         - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

           NOTE

           If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
         - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured,

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the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.

- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

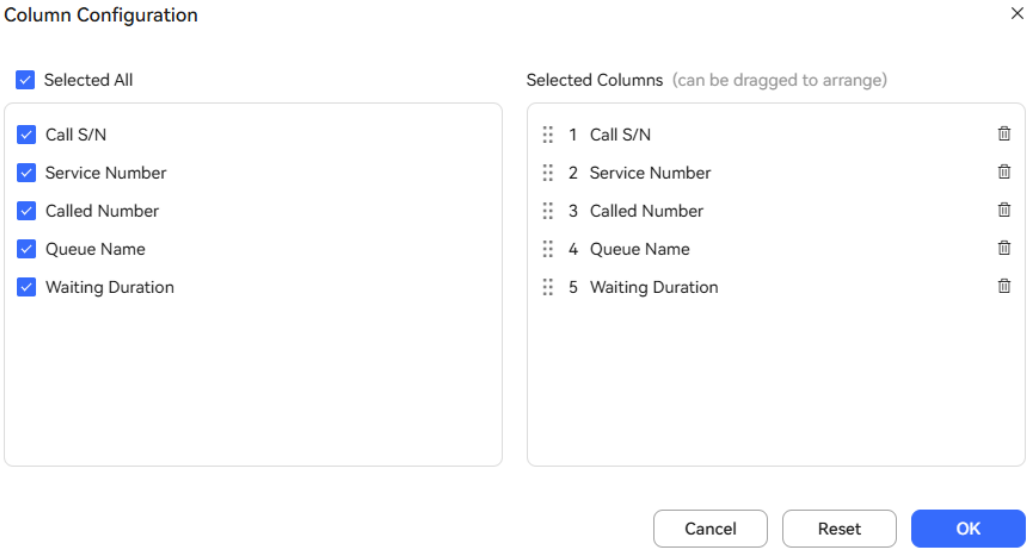
- Skill queue selection: You can query skill queues by skill queue name.

– If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**:

- Click **More**, enter a customer number and called number, select a skill queue, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

3. Click to set the table header.

Figure 4-64 Abandoned Call - Column Configuration



– Click  or  to deselect a column.

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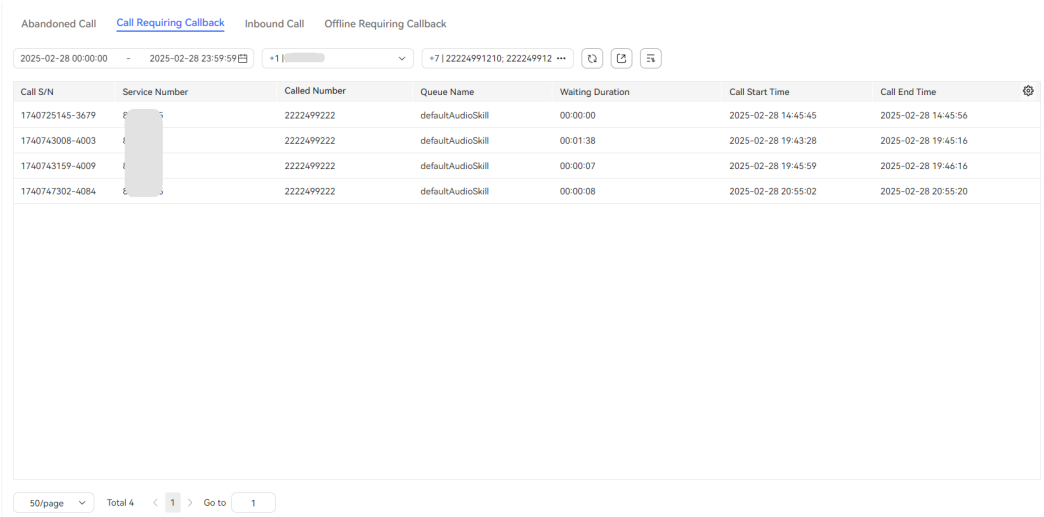
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 3 Query information about calls requiring callback.

1. Click the **Call Requiring Callback** tab to view information about calls requiring callback in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

Figure 4-65 Call Requiring Callback



- You can query calls requiring callback in the tenant space based on the start time and end time.
- By default, the list displays information about calls requiring callback in the tenant space on the current day, including the call SN, customer number, called number, skill queue name, and waiting duration.

2. Click  to refresh real-time data.
   - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
     - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
       - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

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NOTE

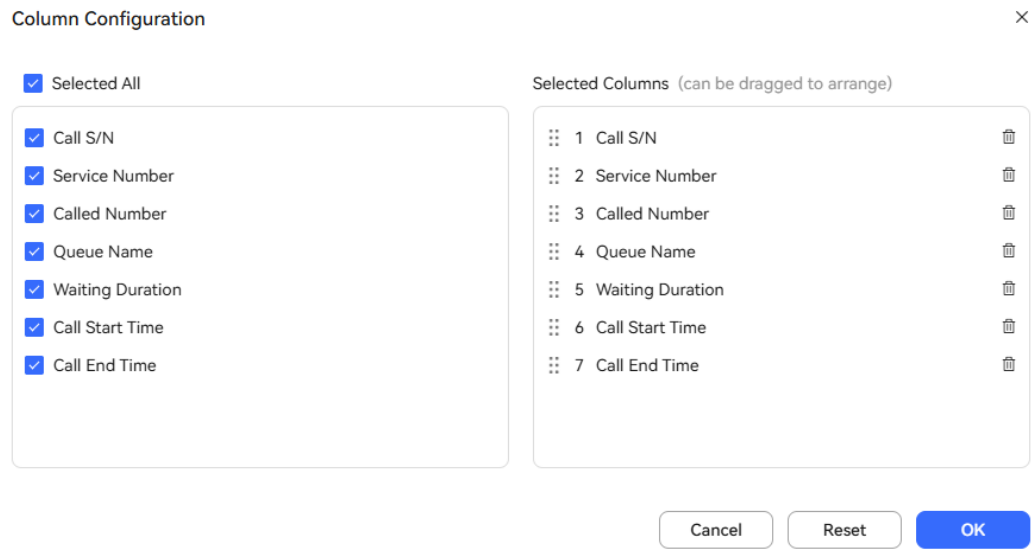
If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**, data can be queried only by time.

3. Click ⋮ to set the table header.



– Click 🗑 or ☑ to deselect a column.
– Drag a selected column to change its sequence.
– Click **Reset** to reset the column configuration to the state when the dialog box is opened.

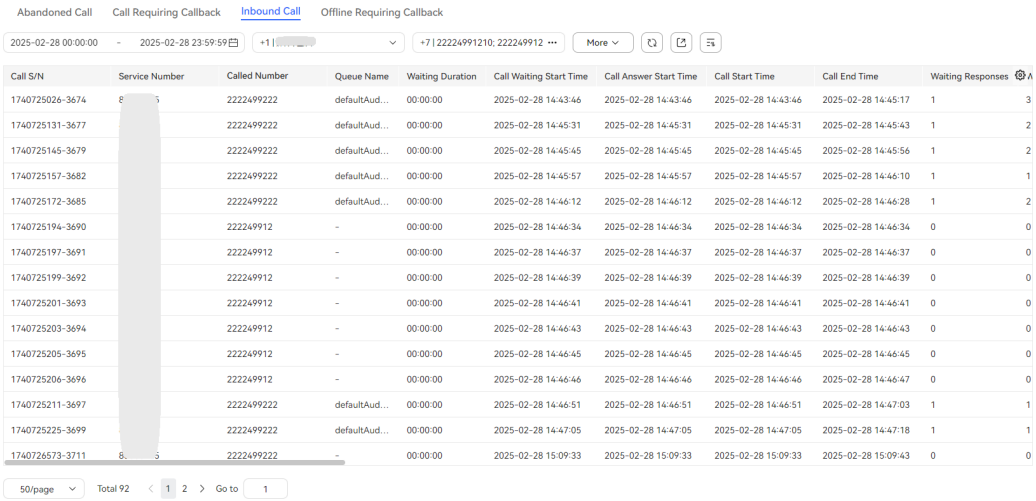
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After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 Query information about inbound calls.

1. Click the **Inbound Call** tab to view information about inbound calls in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

   Figure 4-66 Inbound Call



   - You can query inbound calls in the tenant space based on the start time, end time, call release cause, whether manual service is requested, and whether the call is answered.
   - By default, the list displays information about inbound calls in the tenant space on the current day.

2. Set data filter criteria.
   - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
     - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
       - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

         NOTE

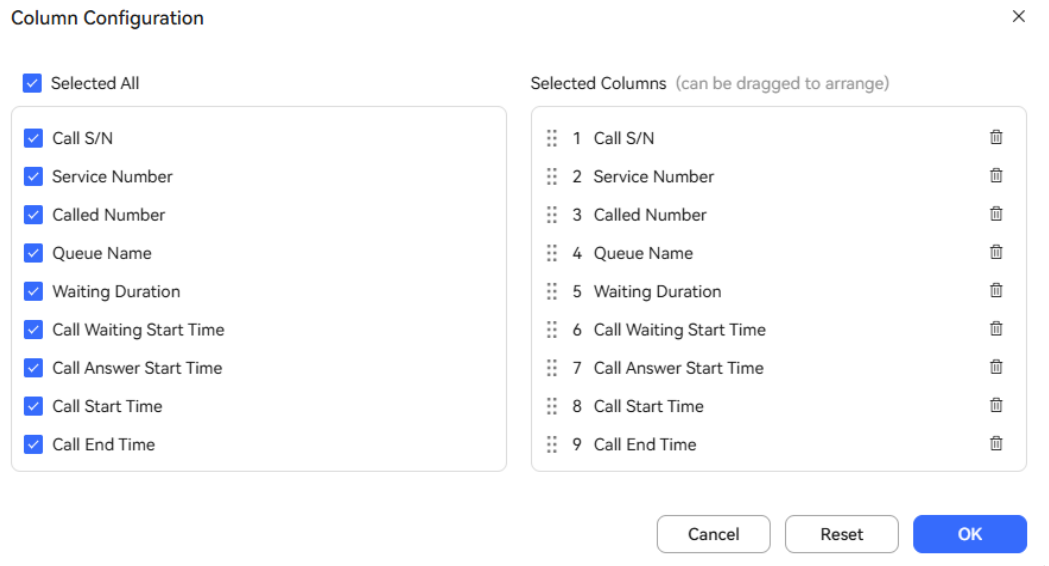
         If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
       - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.

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    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - Operations supported for OU selection:
    - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**:
  - Click **More**, enter a call release cause, set whether manual service is requested, and set whether the call is answered, and click **Search** to filter detailed data.
  - Click  to refresh real-time data.

3. Click to set the table header.

Figure 4-67 Inbound Call - Column Configuration



- Click  or  to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

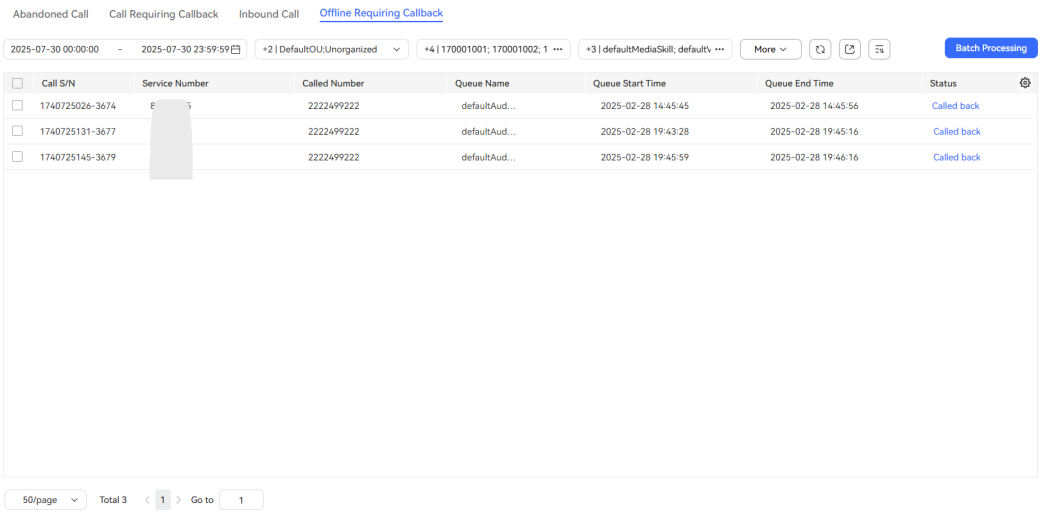
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After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 5 Query information about calls that are received when an agent is in offline state and require callback.

1. Click the **Offline Requiring Callback** tab to view information about calls that are received when an agent is in offline state and require callback in the tenant space. Only data generated within seven days before the current time can be queried, and the query time range cannot span days.

   Figure 4-68 Offline Requiring Callback

   - You can query calls that are received when an agent is in offline state and require callback in the tenant space based on the start time, end time, customer number, and status type.
   - By default, the list displays the information about calls that are received when an agent is in offline state and require callback in the current tenant on the current day.

2. Set data filter criteria.
   - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
     - OU selection:
       - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
         - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info** page can be selected.

           NOTE

           If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

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- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

- Skill queue selection: You can query skill queues by skill queue name.

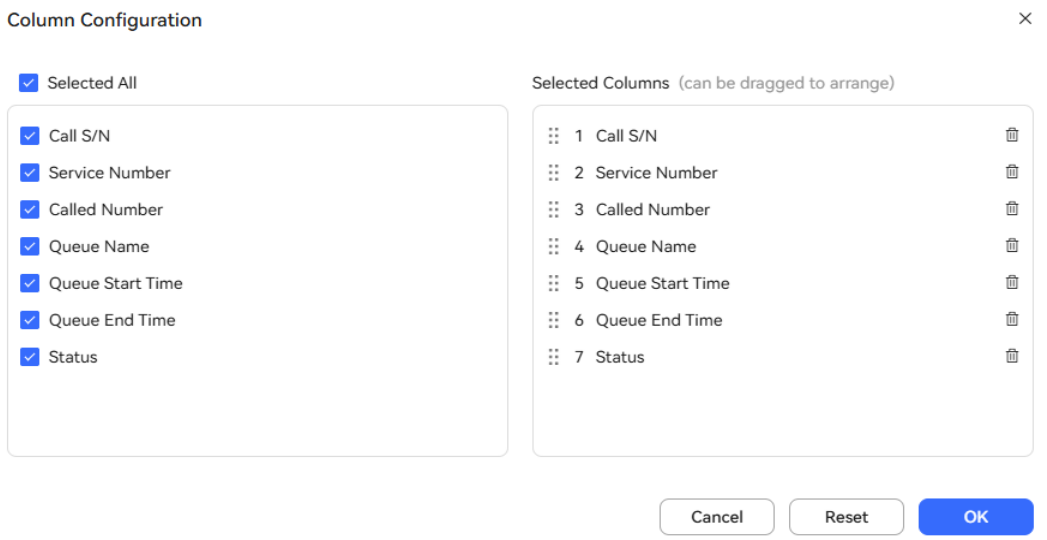
– If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **No**:

- Click **More**, enter a customer number and called number, select a skill queue and status type, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

3. Select a call log for which callback has been made and click **Unprocessed**. After the callback is completed, the call log status is updated to **Called Back**.
4. (Optional) Select call logs for which callback has been made and click **Batch Processing** to set the call log status in batches.
5. Click to set the table header.

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Figure 4-69 Column Configuration for Offline Requiring Callback



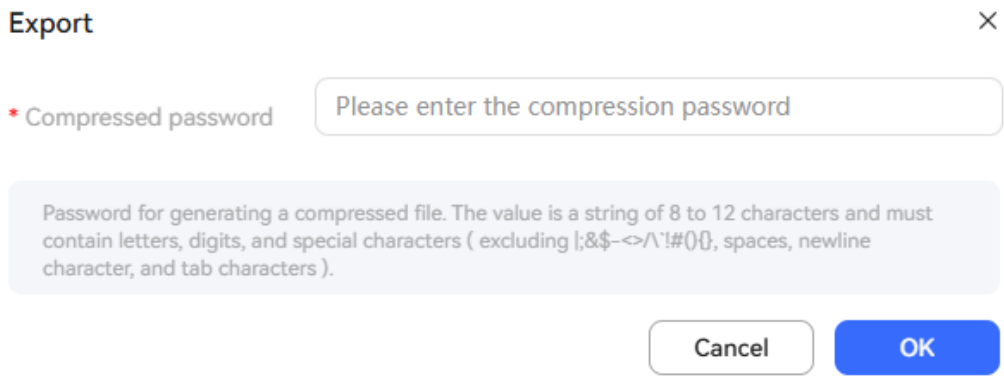
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 6 (Optional) On the **Call Requiring Callback**, **Inbound Call**, or **Offline Requiring Callback** tab page, export the queried data to the local PC.

1. Click and enter a compression password based on the password requirements. Click **OK**. An export task is created.

Figure 4-70 Export



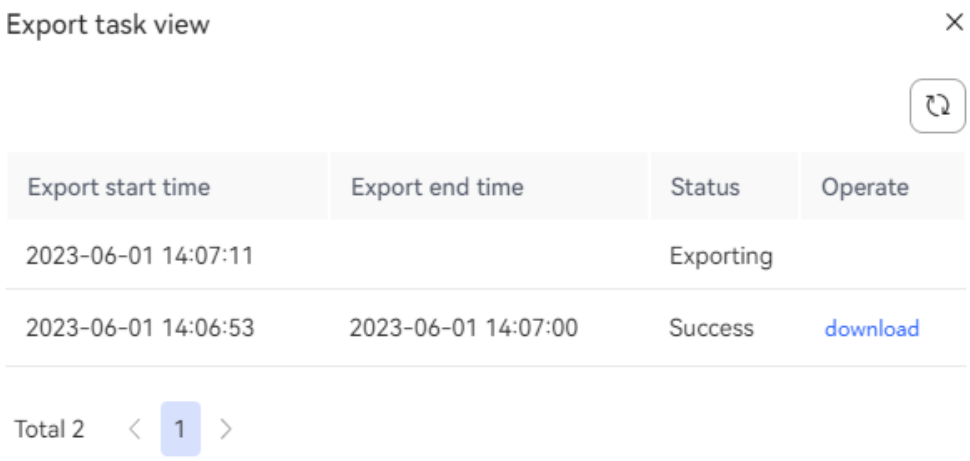
- Different compression passwords can be set for different export tasks. The compression password is used to open the exported compressed file.

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- If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.
- Click to view the password plaintext.

2. Click , select the export task whose **Status** is **Success** based on the export time, and click **download** to download the exported data.

Figure 4-71 Export task view



NOTICE

Data files can be exported only in the integration environment.

----End

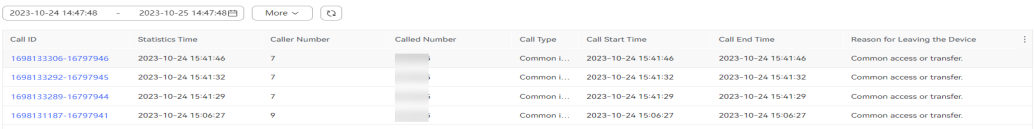
4.3.2.7 Monitoring Full-Link Call

Inspectors can view full-link call information.

Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Call Link**. Inbound call details are displayed.

Figure 4-72 Monitoring full-link call



Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

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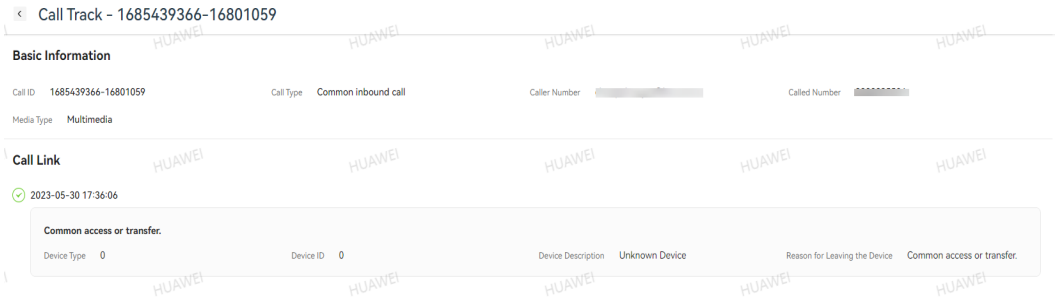
NOTE

The earliest start time is 00:00:00 on the previous day, and the latest end time is 23:59:59 on the current day.

- Click **Advanced Search**, enter a calling number and a called number, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

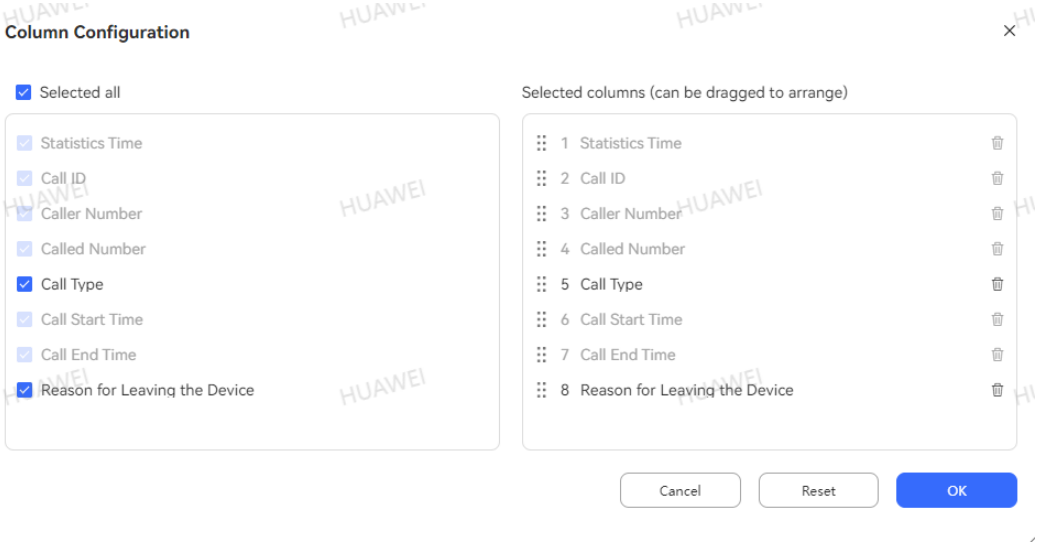
Step 3 Click a call ID to view the call track of a specific call.

Figure 4-73 Call Track



Step 4 Click to set the table header.

Figure 4-74 Column Configuration



- Click  or  to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

----End

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4.3.2.8 Querying Bidirectional Call Details

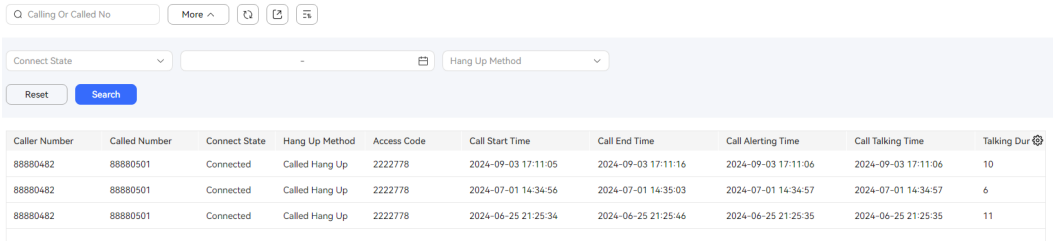
Prerequisites

Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Bidirectional Call** to query bidirectional call details.

Figure 4-75 Querying Bidirectional Call Details



Step 2 Set data filter criteria.

- **Please Input Calling Or Called No.**: Enter a calling or called number.
- Click **Advanced Search** and set the following search criteria:
  - **Connect State**: The options are **Connected** and **Unconnected**.
  - **Hang Up Method**: The options are **Caller Hang Up**, **Called Hang Up**, and **Exception Hang Up**.
  - Start time and end time: Click the time widget and set the time range of the call start time.

    NOTE

    The call start time and call end time must be both set or left blank. The time range cannot exceed seven days.

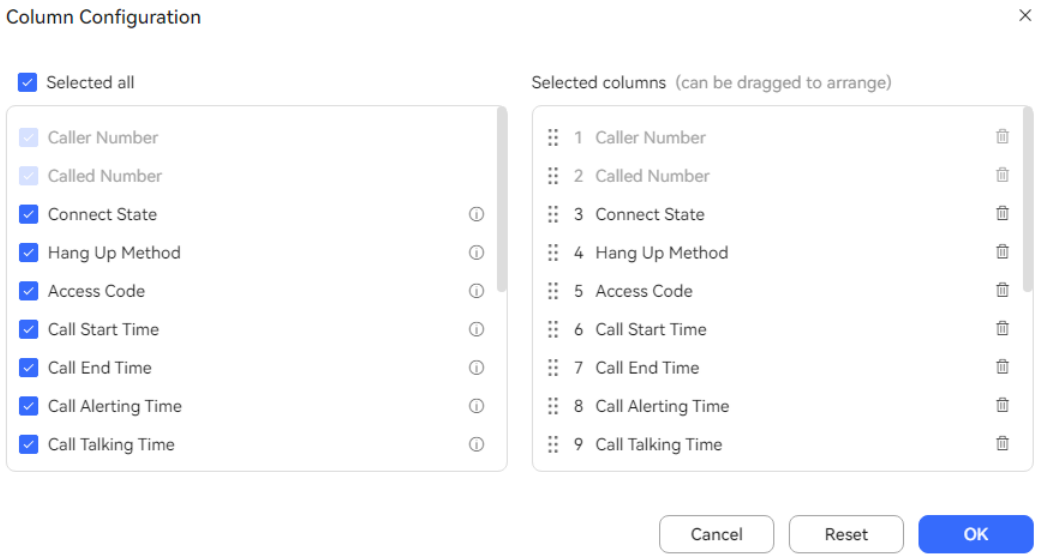
  After the filter criteria are set, click **Search** to filter detailed data.
- Click  to refresh real-time data.

Step 3 Click to set the table header.

1. Click **Set Table Header**. The **Filter Table Header** page is displayed

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Figure 4-76 Column Configuration



- For some columns, you cannot deselect them or change their sequence.
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Hover the pointer over to view the detailed description of a column.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Table 4-1 Column description

Column	Description
Calling Number	Calling number of a bidirectional call.
Called Number	Called number of a bidirectional call.
Connect State	Connection status.
Hang Up Method	Release mode.
Access Code	Access code.
Call Start Time	Call start time.
Call End Time	Call end time.
Call Alerting Time	Called party ringing time.
Call Talking Time	Talking start time.
Talking Duration(s)	Talking duration (s).
Caller Release Time	Talking end time.

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Column	Description
Caller Alerting Time	Calling party ringing time.
Caller Talking Time	Calling party talking time.
Caller Talking Duration(s)	Agent talking duration (s).
Create Time	Call creation time.
Call Type	Call type.
Caller Alerting Duration(s)	Calling party ringing duration (s).
Called Alerting Duration(s)	Called party ringing duration (s).

Step 4 Export data.

1. Click  and enter a compression password to create an export task.

   Figure 4-77 Export

   - Different compression passwords can be set for different export tasks. The compression password is used to open the exported compressed file.
   - If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.
   - Click to view the password plaintext.

   NOTE

   The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.

2. Click  to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported data to the local PC. When opening the file,

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you need to enter the compression password set when you create the export task.

----End

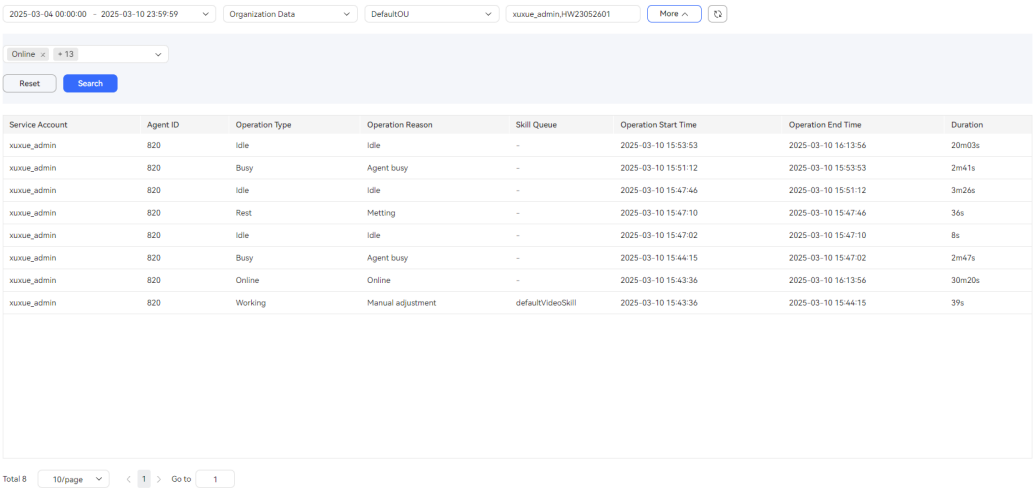
4.3.2.9 Viewing Agent Monitoring Operation Details

Inspectors can view connection operation details of agents in a tenant space.

Procedure

Step 1 Sign in to the AICC as an inspector, choose **Monitoring** > **Agent Operation Details**, and view the connection operation details of agents in the current tenant space.

Figure 4-78 Agent Operation Details



Step 2 Set data filter criteria.

- Select the operation time. You can select **1 Day**, **3 Days**, **7 Days**, or **Customization** and search for agent operation details in the last day, last three days, last seven days, or customized time period.

  CAUTION

  The customized time period must be equal to or less than seven days. A maximum of the last 60 days are displayed in the start time selector.

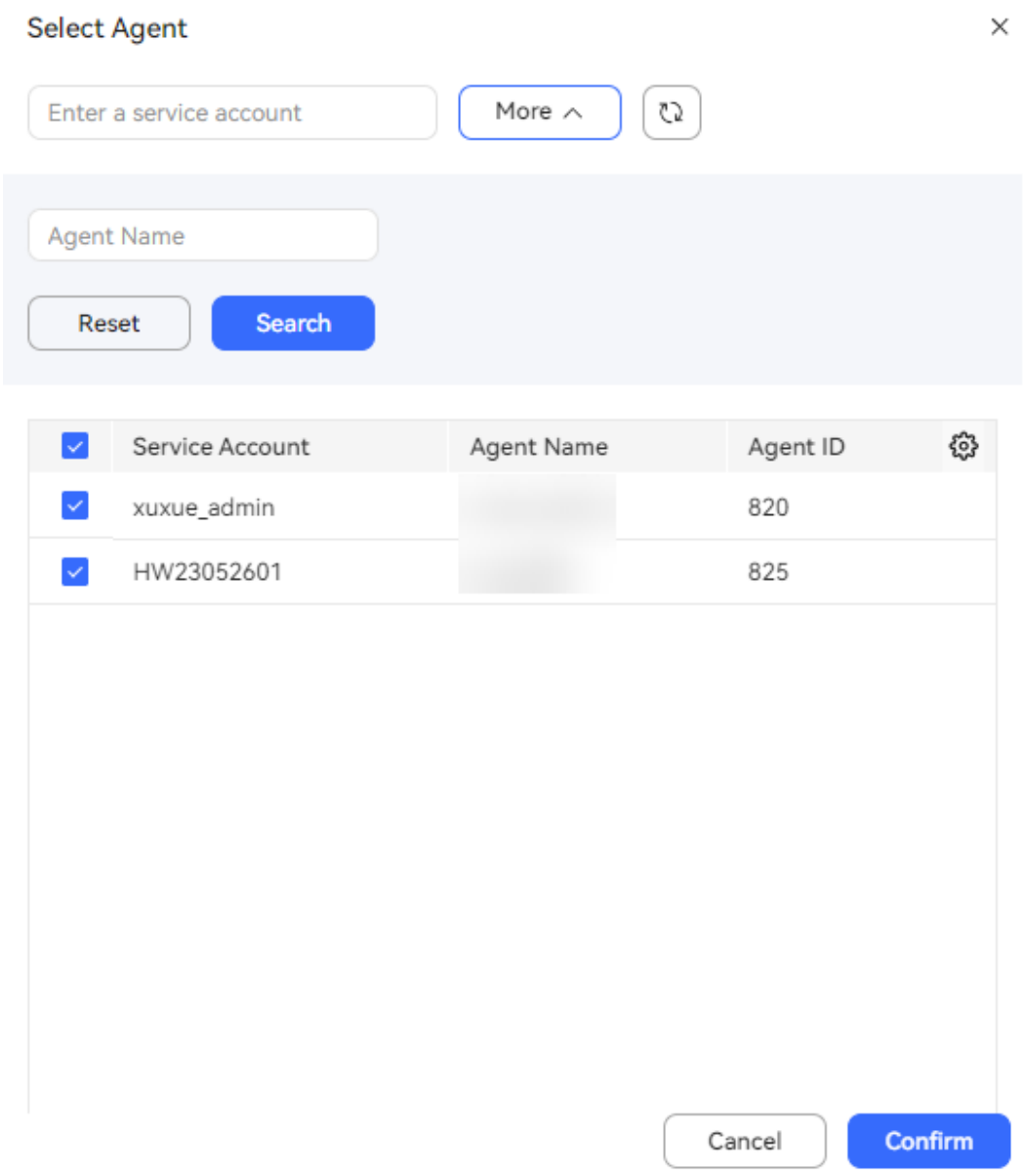
- Click the OU drop-down list and select the OU to which agents belong.

  This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**. If the tenant parameter is set to **Yes**, accounts without the OU permission support only querying employee information under the current organization. If the tenant parameter is set to **No**, all OUs can be selected.

- Click the **Select Agent** selection box and select agents in the specified OU.

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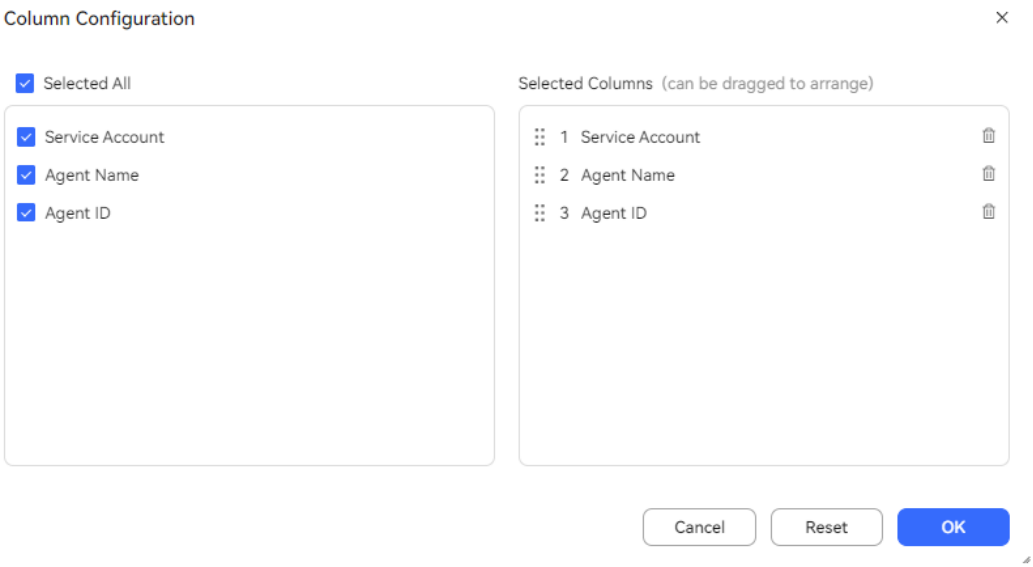
Figure 4-79 Select Agent



- Search for an agent by agent name or business account.
- Click to set the table header.

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Figure 4-80 Column Configuration



- For some columns, you cannot deselect them or change their sequence.
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

- Select an operation type and search for agent operation details based on the selected agent operation type.

  When an agent selects the default rest reason, the value of **Operation Type** is **Rest**. When an agent selects a customized rest reason, the value of **Operation Type** is the corresponding rest reason description. For details about how to configure rest reasons, see **2.3.2.2 Configuring Rest Reasons**.

- Click to refresh real-time data.

----End

4.3.2.10 Monitoring Call Details

Inspectors can view call details.

Prerequisites

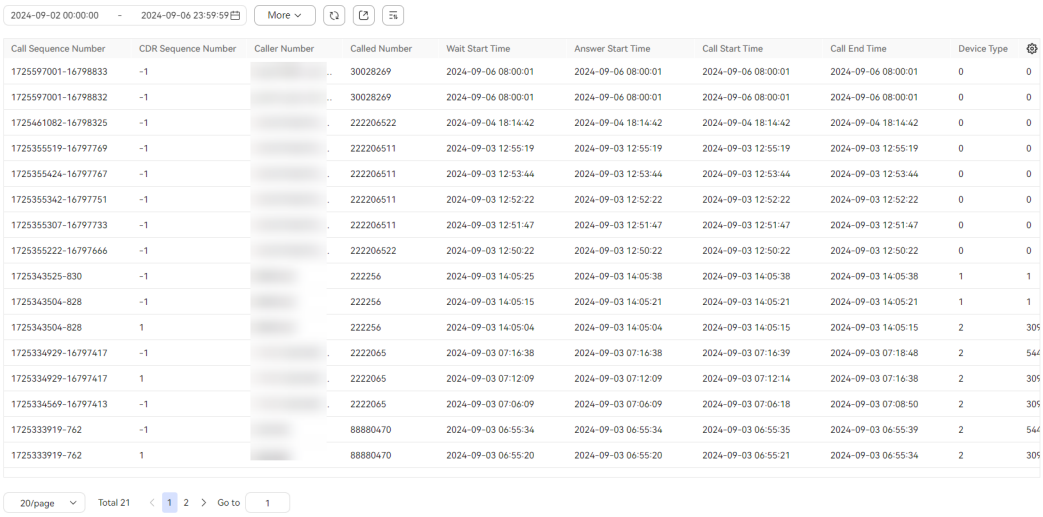
Permissions on operations under the current menu that require separate configuration have been configured. For details about the operation permissions that can be configured separately, see **Table 2-5**.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Call Detail** to view call details of the tenant space.

Figure 4-81 Call details



Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

  NOTE

  In the integrated deployment environment, the maximum time span between the start time and end time is five days.

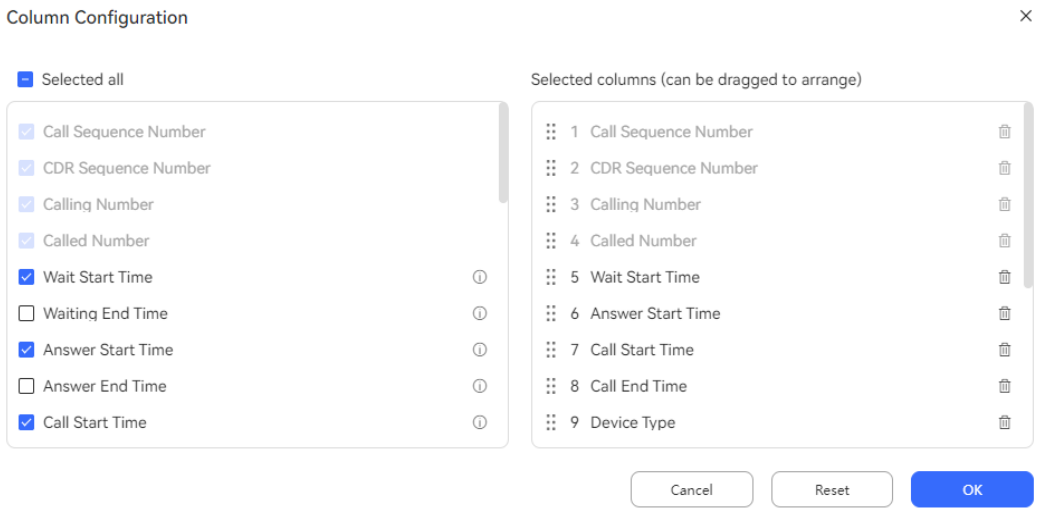
  In the independent deployment environment, the maximum time span between the start time and end time is one day.

- Click **Advanced Search**, enter a calling number and a called number, and click **Search** to filter detailed data.
- Click  to refresh real-time data.

Step 3 Click to set the table header.

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Figure 4-82 Column Configuration



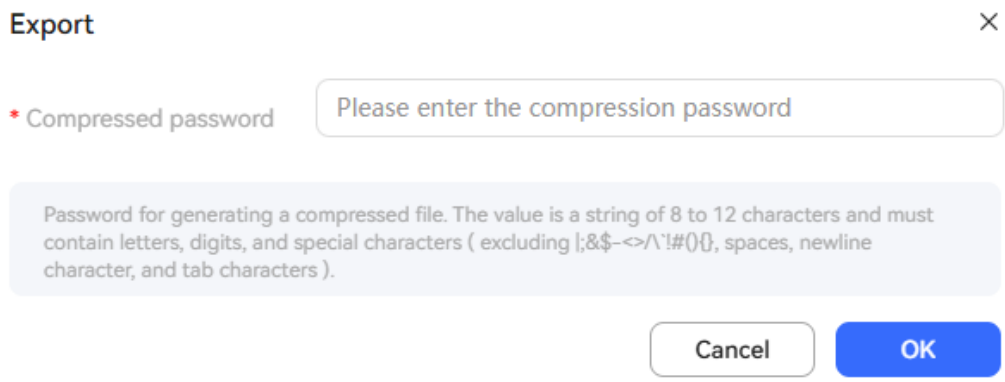
- For some columns, you cannot deselect them or change their sequence.
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Hover the pointer over to view the detailed description of a column.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Step 4 (Optional) Export details to the local PC.

1. Click and enter a compression password to create an export task.

Figure 4-83 Export



– Different compression passwords can be set for different export tasks. The compression password is used to open the exported compressed file.

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- If the tenant parameter **Specifies whether to set the password of the compressed file for exporting data.** is set to **No**, an export task can be created without entering a compression password.
- Click to view the password plaintext.

NOTE

- The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
- In the independent deployment environment, you can click  to export call details without entering a compression password.

2. Click  to view the export tasks in the last seven days.
3. Click **download** in the **Operation** column corresponding to the created export task to download the exported details to the local PC. When opening the file, you need to enter the compression password set when you create the export task.

----End

4.3.3 Report Query

The AICC provides 14 reports. The first 13 reports include daily, weekly, and monthly reports. A tenant administrator can view various indicators in the reports and export the reports to the local PC.

NOTE

- The exported data contains personal data. Exercise caution when processing the exported data to prevent personal data leakage and abuse.
- Some operations under all **Report** menus are controlled by separate permissions. If related operation permissions are not configured, the corresponding operations are not supported. For details about the operation permissions that can be configured separately, see **Table 2-5**.

4.3.3.1 VCC Traffic Report

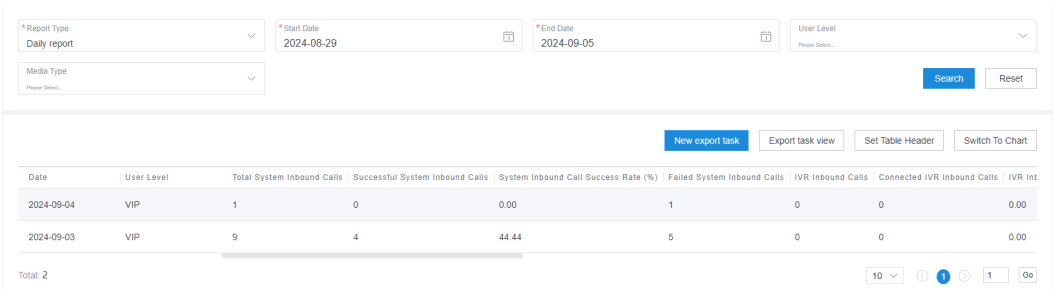
The VCC traffic report collects statistics on the inbound call traffic of the call center in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VCC Traffic Report** to query VCC traffic report data.

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Figure 4-84 VCC Traffic Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

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Figure 4-85 Filter Indicator

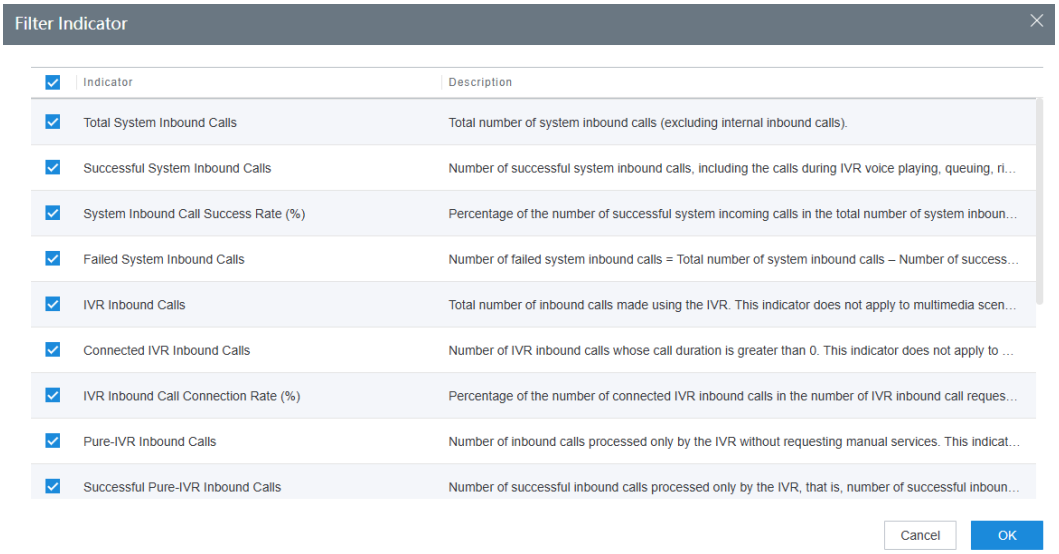


Table 4-2 Indicators in the Filter Indicator dialog box

Indicator	Description
Total System Inbound Calls	Total number of system inbound calls (excluding internal inbound calls).
Successful System Inbound Calls	Number of successful system inbound calls, including the calls during IVR voice playback, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System Inbound Call Success Rate (%)	Percentage of successful system inbound calls to total system inbound calls.
Failed System Inbound Calls	Number of failed system inbound calls = Total number of system inbound calls – Number of successful system inbound calls
IVR Inbound Calls	Total number of calls connected to the IVR. This indicator does not apply to multimedia scenarios.
Connected IVR Inbound Calls	Number of IVR inbound calls whose call duration is greater than 0. This indicator does not apply to multimedia scenarios.
IVR Inbound Call Connection Rate (%)	Percentage of the number of connected IVR inbound calls to the number of IVR inbound call requests. This indicator does not apply to multimedia scenarios.

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Indicator	Description
Pure-IVR Inbound Calls	Number of inbound calls that are processed only by the IVR and do not request manual service. This indicator does not apply to multimedia scenarios.
Successful Pure-IVR Inbound Calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent. This indicator does not apply to multimedia scenarios.
Pure-IVR Inbound Call Success Rate (%)	Percentage of the number of calls processed only by the IVR to the total number of inbound calls. Pure-IVR inbound call success rate = Number of successful pure-IVR inbound calls/(Number of successful IVR inbound calls + Number of agent-answered calls) x 100. This indicator does not apply to multimedia scenarios.
Manual Inbound Calls	Total number of inbound calls requesting agent services.
Manual Request Rate (%)	Percentage of the number of inbound calls that request manual services to the total number of inbound calls. Manual request rate = Number of manual inbound calls/(Number of manual inbound calls + Number of pure-IVR inbound calls) x 100
Agent Answered Calls	Number of calls successfully answered by agents.
Manual Inbound Call Success Rate (%)	Percentage of agent answered calls to manual inbound calls.
Manual Success Rate in Total Inbound Calls (%)	Percentage of agent answered calls to total inbound calls. Manual success rate in total inbound calls = Number of agent answered calls/(Number of successful IVR inbound calls + Number of agent answered calls) x 100
Called Agents	Number of agents who receive inbound calls.
Agent Calls	Number of incoming calls assigned to each agent during the selected time period.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

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- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.2 VCC Traffic Report by Access Code

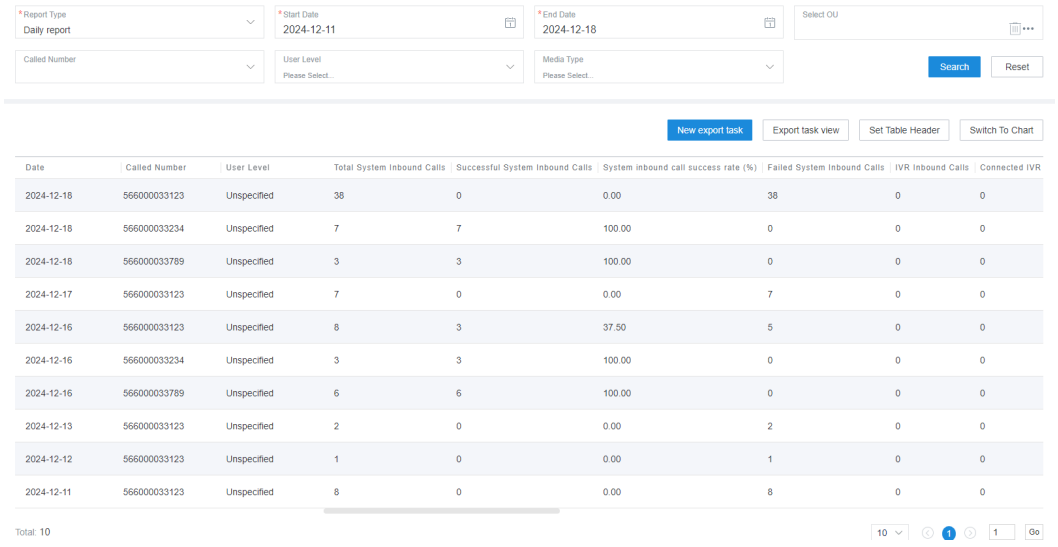
The VCC traffic report by access code collects statistics on the inbound call traffic of the call center by access code in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VCC Traffic Report by AccessCode** to query VCC traffic report data by access code.

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Figure 4-86 VCC Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- OU selection:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.

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        - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
      - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
      - Operations supported for OU selection:
        - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
      - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
    - If the preceding tenant parameter is set to **No**, the **Select OU** parameter is hidden.
  - **Called Number**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.

    After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only access codes under the selected OUs can be selected.
  - **User Level**: The options are existing customer levels of the VCC on the web configuration console.
  - **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
  - **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
    - **Web**
    - **WhatsApp**
    - **LINE**
    - **WeChat**
    - **Facebook**
    - **X (Twitter)**
    - **Email**
    - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

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Figure 4-87 Filter Indicator

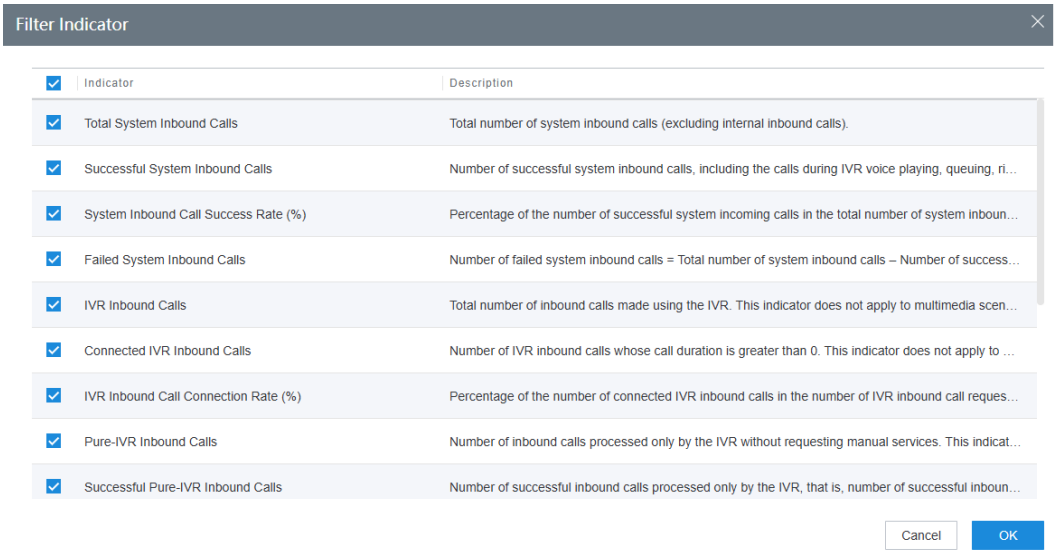


Table 4-3 Indicators in the Filter Indicator dialog box

Indicator	Description
Total System Inbound Calls	Total number of system inbound calls (excluding internal inbound calls).
Successful System Inbound Calls	Number of successful system inbound calls, including the calls during IVR voice playback, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System Inbound Call Success Rate (%)	Percentage of successful system inbound calls to total system inbound calls.
Failed System Inbound Calls	Number of failed system inbound calls = Total number of system inbound calls – Number of successful system inbound calls
IVR Inbound Calls	Total number of calls connected to the IVR. This indicator does not apply to multimedia scenarios.
Connected IVR Inbound Calls	Number of IVR inbound calls whose call duration is greater than 0. This indicator does not apply to multimedia scenarios.
IVR Inbound Call Connection Rate (%)	Percentage of the number of connected IVR inbound calls to the number of IVR inbound call requests. This indicator does not apply to multimedia scenarios.

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Indicator	Description
Pure-IVR Inbound Calls	Number of inbound calls that are processed only by the IVR and do not request manual service. This indicator does not apply to multimedia scenarios.
Successful Pure-IVR Inbound Calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent. This indicator does not apply to multimedia scenarios.
Pure-IVR Inbound Call Success Rate (%)	Percentage of the number of calls processed only by the IVR to the total number of inbound calls. Pure-IVR inbound call success rate = Number of successful pure-IVR inbound calls/(Number of successful IVR inbound calls + Number of agent-answered calls) x 100. This indicator does not apply to multimedia scenarios.
Manual Inbound Calls	Total number of inbound calls requesting agent services.
Manual Request Rate (%)	Percentage of the number of inbound calls that request manual services to the total number of inbound calls. Manual request rate = Number of manual inbound calls/(Number of manual inbound calls + Number of pure-IVR inbound calls) x 100
Agent Answered Calls	Number of calls successfully answered by agents.
Manual Inbound Call Success Rate (%)	Percentage of agent answered calls to manual inbound calls.
Manual Success Rate in Total Inbound Calls (%)	Percentage of agent answered calls to total inbound calls. Manual success rate in total inbound calls = Number of agent answered calls/(Number of successful IVR inbound calls + Number of agent answered calls) x 100
Called Agents	Number of agents who receive inbound calls.
Agent Calls	Number of incoming calls assigned to each agent during the selected time period.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

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- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

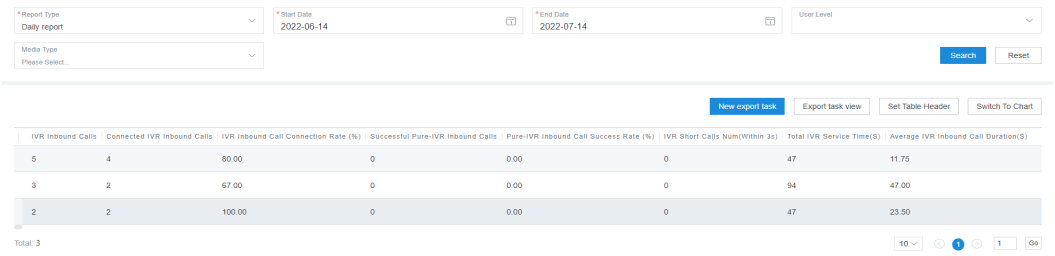
4.3.3.3 IVR Traffic Report

The IVR traffic report collects statistics on the inbound call traffic of IVRs in a specified period, and provides indicators including the number of inbound calls and number of successful inbound calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **IVR Traffic Report** to query IVR traffic report data.

Figure 4-88 IVR Traffic Report



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- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**
  - **Voice**
  - **Video**
  - **Voice Click to Dial**
  - **Video Click to Dial**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-89 Filter Indicator

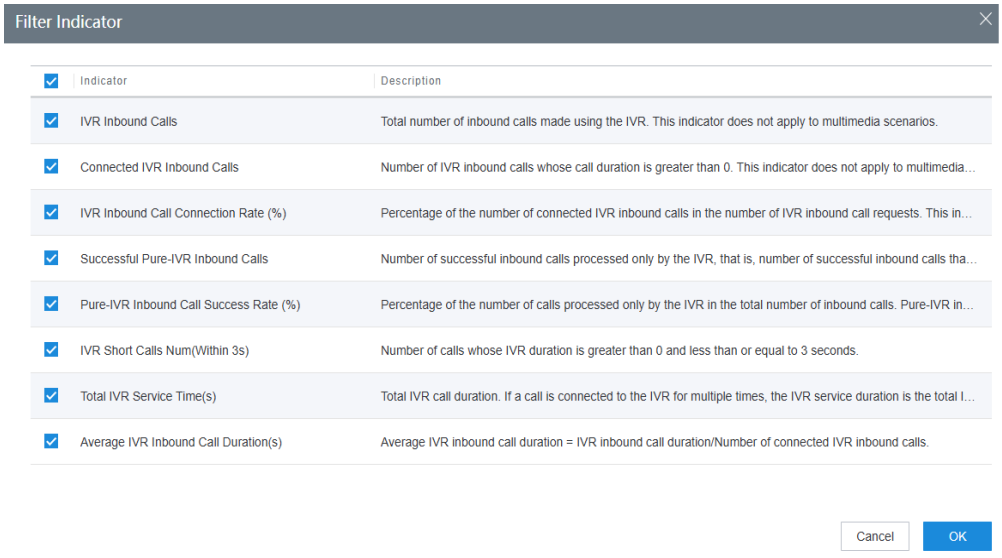


Table 4-4 Indicators in the Filter Indicator dialog box

Indicator	Description
IVR Inbound Calls	Total number of inbound calls made using the IVR.

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Indicator	Description
Connected IVR Inbound Calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR Inbound Call Connection Rate (%)	Percentage of the number of connected IVR inbound calls to the number of IVR inbound call requests.
Successful Pure-IVR Inbound Calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.
Pure-IVR Inbound Call Success Rate (%)	Percentage of the number of calls processed only by the IVR in the total number of inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
IVR Short Calls Num(Within 3s)	Number of calls whose IVR duration is greater than 0 and less than or equal to 3 seconds.
Total IVR Service Time(s)	Total IVR call duration. If a call is connected to the IVR for multiple times, the IVR service duration is the total IVR call duration.
Average IVR Inbound Call Duration(s)	Average IVR inbound call duration = IVR inbound call duration/Number of connected IVR inbound calls

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

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NOTE

- The compression password is used to open the downloaded package.
- You do not need to configure the compression password in the independent deployment environment.

– Click **OK** to create an export task.

3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

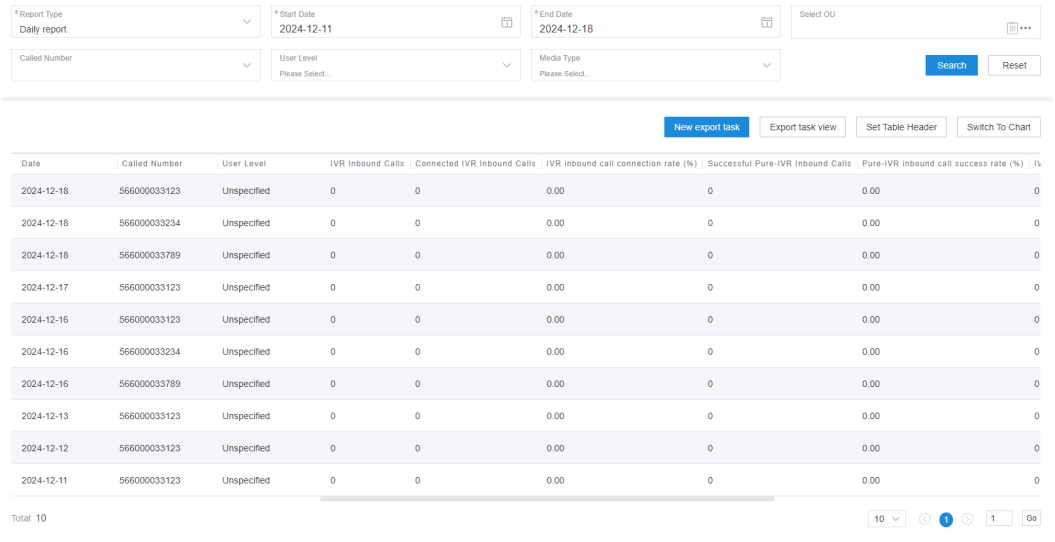
4.3.3.4 IVR Traffic Report by Access Code

The IVR traffic report by access code collects statistics on the inbound call traffic of IVRs by access code in a specified period, and provides indicators including the number of inbound calls and number of successful inbound calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **IVR Traffic Report by AccessCode** to query IVR traffic report data by access code.

Figure 4-90 IVR Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  – **Daily report**: The time range cannot exceed 31 days.
  – **Weekly report**: Set the start year and week as well as the end ones.

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  - **Monthly report**: Set the start year and month as well as the end ones.

    NOTE

    The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- OU selection:
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
    - Operations supported for OU selection:
      - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
    - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
  - If the preceding tenant parameter is set to **No**, the **Select OU** parameter is hidden.
- **Called Number**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.

  After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only access codes under the selected OUs can be selected.

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- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**
  - **Voice**
  - **Video**
  - **Voice Click to Dial**
  - **Video Click to Dial**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-91 Filter Indicator

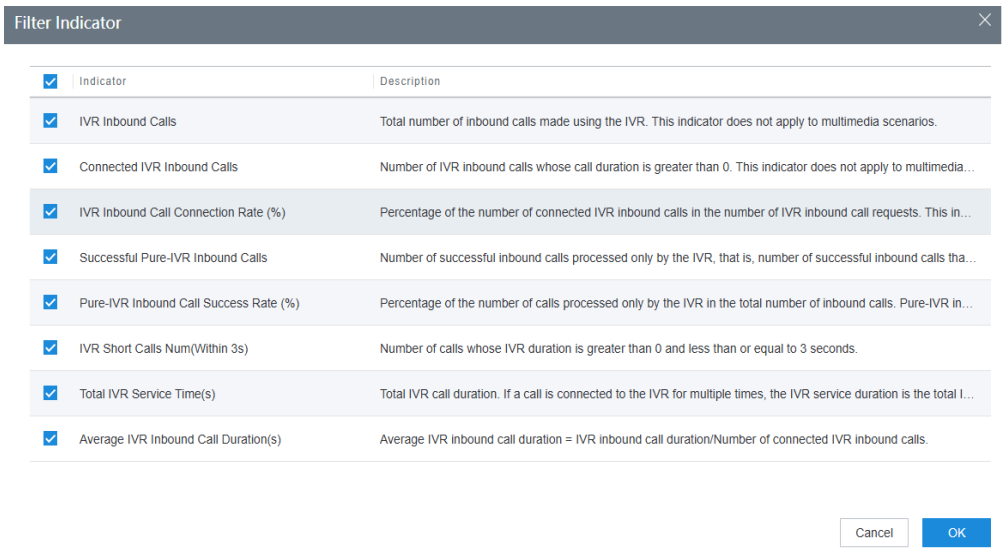


Table 4-5 Indicators in the Filter Indicator dialog box

Indicator	Description
IVR Inbound Calls	Total number of inbound calls made using the IVR.
Connected IVR Inbound Calls	Number of IVR inbound calls whose call duration is greater than 0.
IVR Inbound Call Connection Rate (%)	Percentage of the number of connected IVR inbound calls to the number of IVR inbound call requests.
Successful Pure-IVR Inbound Calls	Number of successful inbound calls processed only by the IVR, that is, number of successful inbound calls that are not processed by any agent.

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Indicator	Description
Pure-IVR Inbound Call Success Rate (%)	Percentage of the number of calls processed only by the IVR in the total number of inbound calls. Pure-IVR inbound call success rate = Successful pure-IVR inbound calls/(Successful pure-IVR inbound calls + Number of agent answered calls) x 100
IVR Short Calls Num(Within 3s)	Number of calls whose IVR duration is greater than 0 and less than or equal to 3 seconds.
Total IVR Service Time(s)	Total IVR call duration. If a call is connected to the IVR for multiple times, the IVR service duration is the total IVR call duration.
Average IVR Inbound Call Duration(s)	Average IVR inbound call duration = IVR inbound call duration/Number of connected IVR inbound calls

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report

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file on the local PC, you need to enter the compression password set when you create the export task.

----End

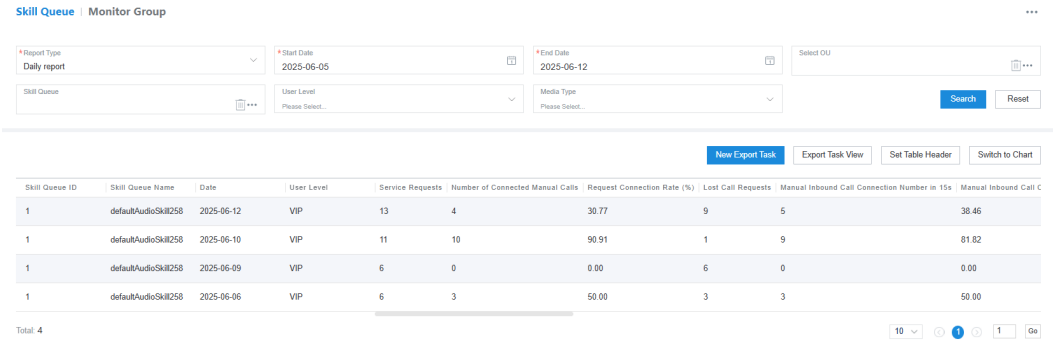
4.3.3.5 Skill Queue Traffic Report

The skill queue traffic report collects statistics on the inbound call traffic of skill queues in a specified period, and provides indicators including the number of inbound calls, call duration, and number of abandoned calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Skill Queue Traffic Report** to query skill queue traffic report data and query skill queue data by monitoring group.

Figure 4-92 Skill Queue Traffic Report



- Data type: Select the type of the data to be queried. The options are **Skill Queue** and **Monitor Group**.
- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Select OU**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:

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- If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/ **Organization Unit** page can be selected.

  NOTE

  If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

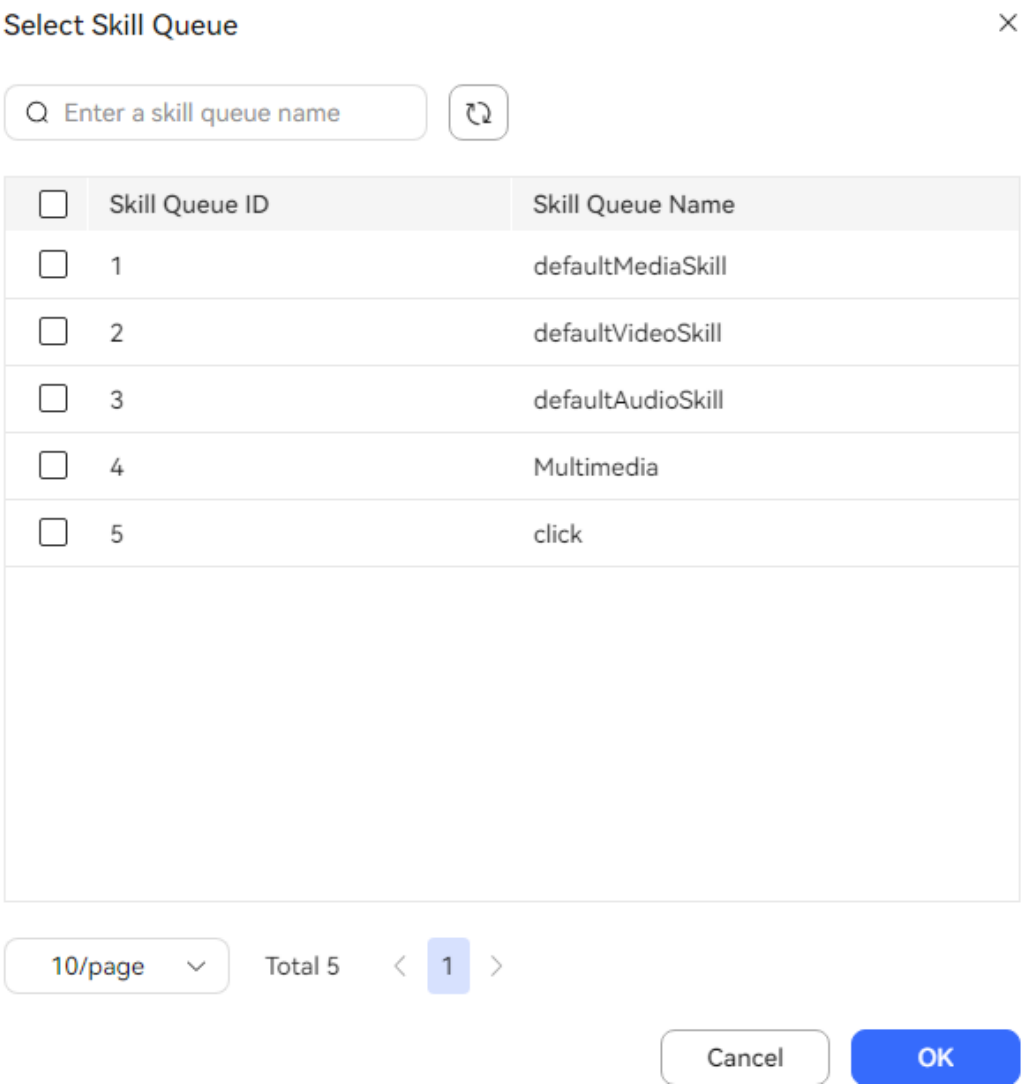
– If the preceding tenant parameter is set to **No**, the **Select OU** parameter is hidden.

- **Skill Queue**: Select skill queues that have been configured in the call center configuration. On the **Skill Queue** tab page, reports can be queried based on this criterion.

  If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only skill queues under the selected OUs can be selected.

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Figure 4-93 Select Skill Queue



- **User Level**: The options are existing customer levels of the VCC on the web configuration console. On the **Skill Queue** tab page, reports can be queried based on this criterion.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**. On the **Skill Queue** tab page, reports can be queried based on this criterion.
- **Submedia Type**: On the **Skill Queue** tab page, reports can be queried based on this criterion. This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**

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- **Email**
- **SMS**

- **Monitor Group**: When **Monitor Group** is set, reports can be queried based on the current search criteria.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-94 Filter Indicator

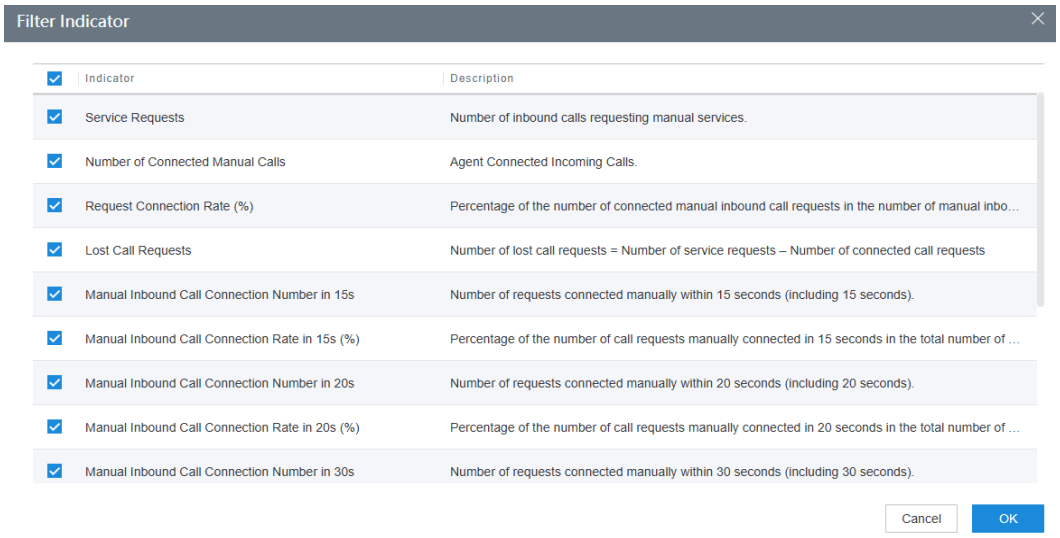


Table 4-6 Indicators in the Filter Indicator dialog box

Indicator	Description
Service Requests	Number of inbound calls requesting manual services.
Connected Manual Inbound Calls	Number of inbound calls connected by agents.
Request Connection Rate (%)	Percentage of connected manual inbound call requests to manual inbound calls requesting services.
Lost Call Requests	Number of lost call requests = Number of service requests – Number of connected call requests
Manual Inbound Call Connection Number in 15s	Number of call requests connected to agents within 15 seconds.

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Indicator	Description
Manual Inbound Call Connection Rate in 15s (%)	Percentage of call requests connected to agents within 15 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 20s	Number of call requests connected to agents within 20 seconds.
Manual Inbound Call Connection Rate in 20s (%)	Percentage of call requests connected to agents within 20 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 30s	Number of call requests connected to agents within 30 seconds.
Manual Inbound Call Connection Rate in 30s (%)	Percentage of call requests connected to agents within 30 seconds to total calls requesting manual service.
Average Waiting Duration (s)	Average waiting duration of all connected calls in a queue.
Average Ring Duration of Lost Calls (s)	Average ring duration of all unanswered calls.
Average Call Duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average Ring Duration of Manual Inbound Calls (s)	Average ringing duration of an agent's terminal. Average ring duration of manual inbound calls = Total ring duration of manual inbound calls/Number of answering times
Abandoned Queuing Calls	Number of calls proactively abandoned by customers during queuing.
Unanswered Calls	Number of unanswered calls after being assigned to agents.

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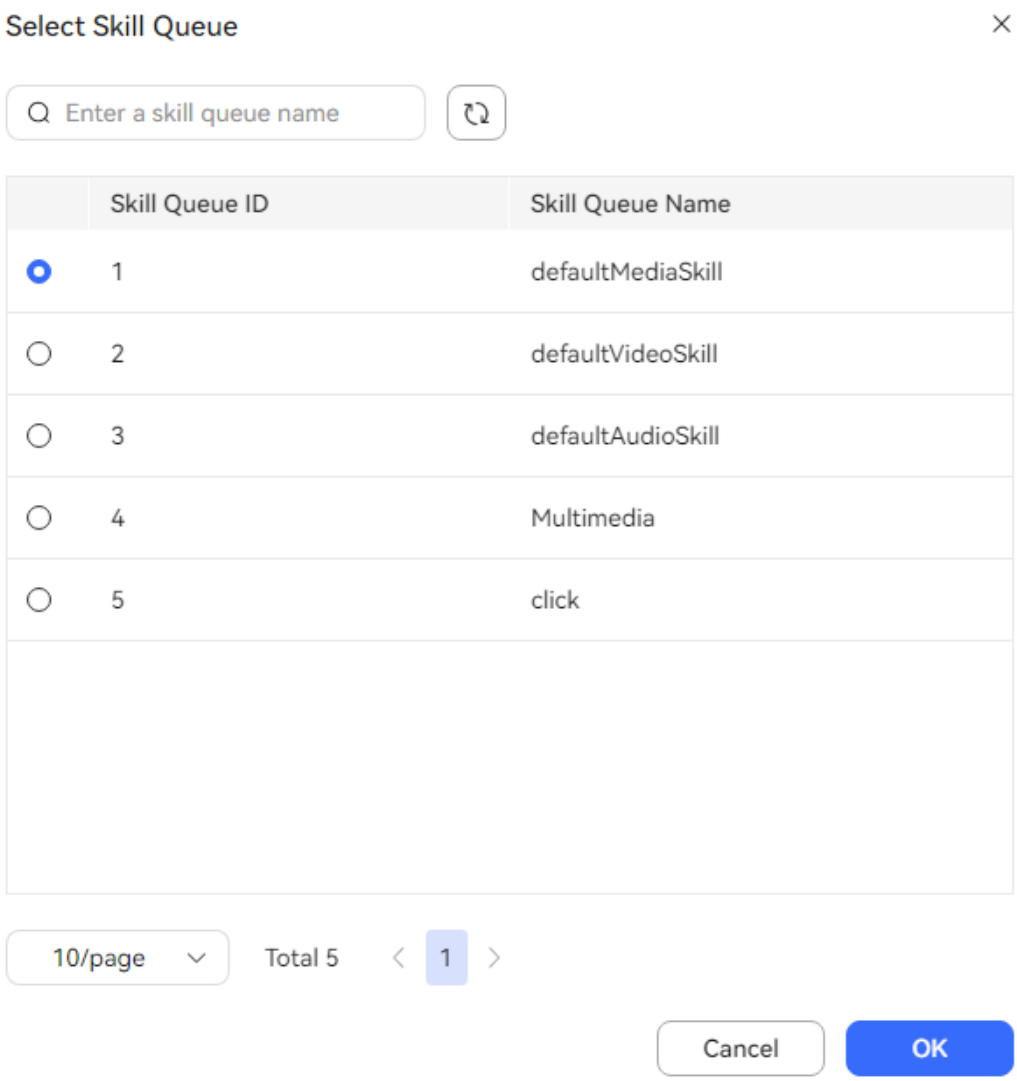
2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

  Skill queues can be queried by skill queue name.



- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.

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- **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

  NOTE

  - The compression password is used to open the downloaded package.
  - You do not need to configure the compression password in the independent deployment environment.

- Click **OK** to create an export task.

3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

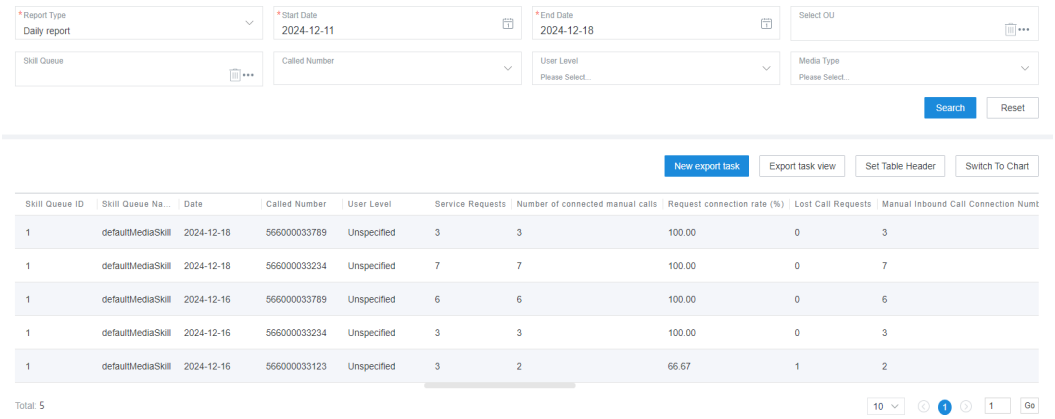
4.3.3.6 Skill Queue Traffic Report by Access Code

The skill queue traffic report by access code collects statistics on the inbound call traffic of skill queues by access code in a specified period, and provides indicators including the number of inbound calls, call duration, and number of abandoned calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Skill Queue Traffic Report by AccessCode** to query skill queue traffic report data by access code.

Figure 4-95 Skill Queue Traffic Report by AccessCode



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.

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  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **Select OU**: This parameter is controlled by the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement**.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

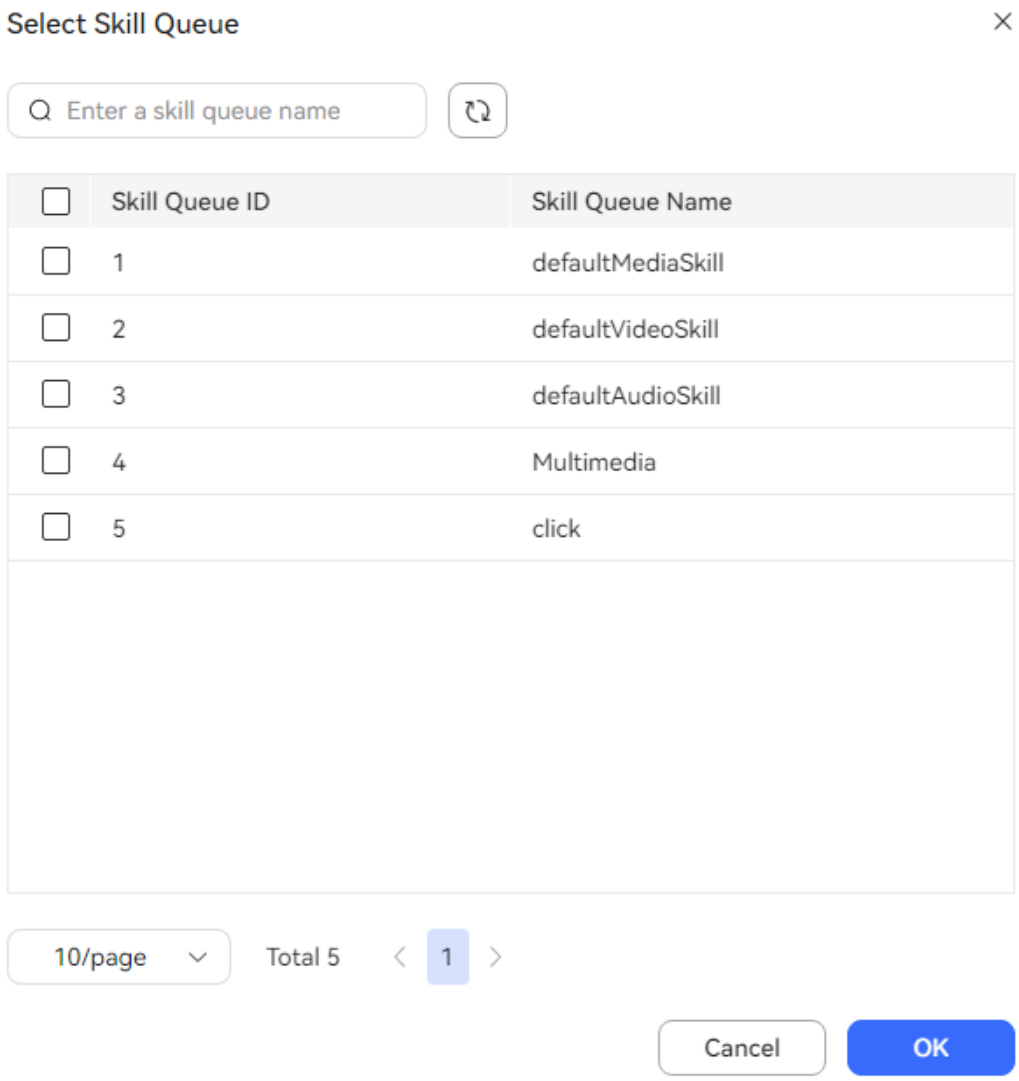
        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
    - Operations supported for OU selection:
      - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
    - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
  - If the preceding tenant parameter is set to **No**, the **Select OU** parameter is hidden.
- **Skill Queue**: Select skill queues that have been configured in the call center configuration. Skill queues can be queried by name.

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If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only skill queues under the selected OUs can be selected.

Figure 4-96 Select Skill Queue



- **Called Number**: Fuzzy search is supported. The value is a number of at least three digits. In chart mode, the value can contain fewer than three digits.

  After the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only access codes under the selected OUs can be selected.
- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**

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- **WhatsApp**
- **LINE**
- **WeChat**
- **Facebook**
- **X (Twitter)**
- **Email**
- **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-97 Filter Indicator

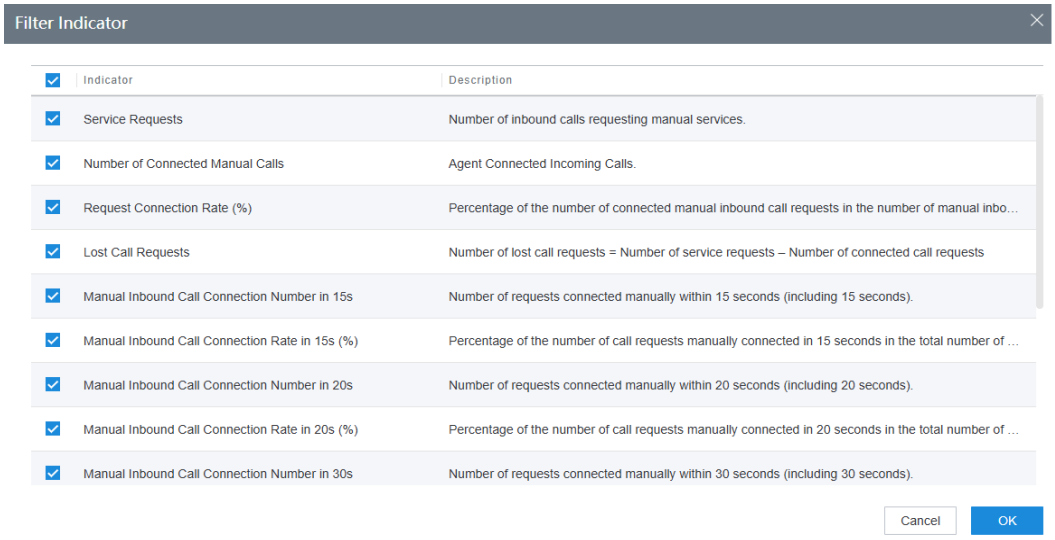


Table 4-7 Indicators in the Filter Indicator dialog box

Indicator	Description
Service Requests	Number of inbound calls requesting manual services.
Number of Connected Manual Calls	Number of inbound calls connected by agents.
Request Connection Rate (%)	Percentage of connected manual inbound call requests to manual inbound calls requesting services.
Lost Call Requests	Number of lost call requests = Number of service requests – Number of connected call requests

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Indicator	Description
Manual Inbound Call Connection Number in 15s	Number of call requests connected to agents within 15 seconds.
Manual Inbound Call Connection Rate in 15s (%)	Percentage of call requests connected to agents within 15 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 20s	Number of call requests connected to agents within 20 seconds.
Manual Inbound Call Connection Rate in 20s (%)	Percentage of call requests connected to agents within 20 seconds to total calls requesting manual service.
Manual Inbound Call Connection Number in 30s	Number of call requests connected to agents within 30 seconds.
Manual Inbound Call Connection Rate in 30s (%)	Percentage of call requests connected to agents within 30 seconds to total calls requesting manual service.
Average Waiting Duration (s)	Average waiting duration of all connected calls in a queue.
Average Ring Duration of Lost Calls (s)	Average ring duration of all unanswered calls.
Average Call Duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average Ring Duration of Manual Inbound Calls (s)	Average ringing duration of an agent's terminal. Average ring duration of manual inbound calls = Total ring duration of manual inbound calls/Number of answering times

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Indicator	Description
Abandoned Queuing Calls	Number of calls proactively abandoned by customers during queuing.
Unanswered Calls	Number of unanswered calls after being assigned to agents.

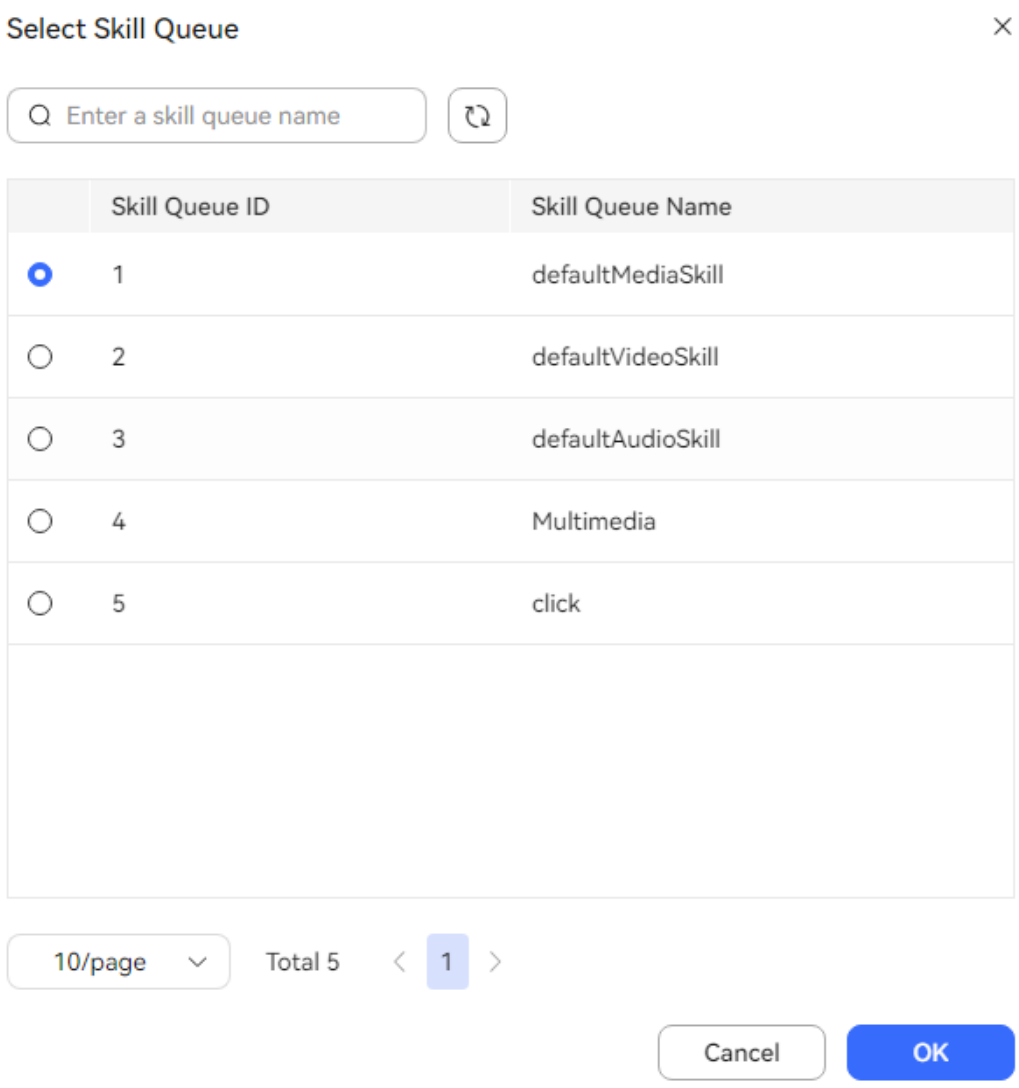
2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

  Skill queues can be queried by skill queue name.



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- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

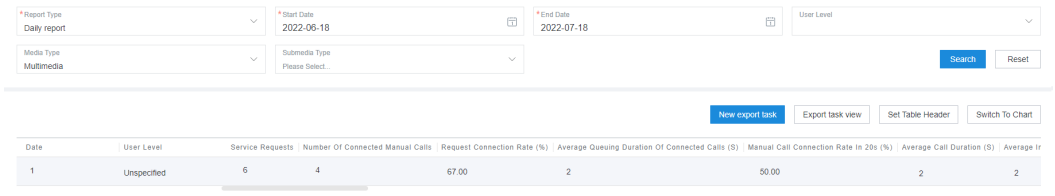
4.3.3.7 Traffic Summary Report

The traffic summary report collects statistics on the call traffic in a specified period, and provides indicators including the number of manual inbound calls, number of manual outbound calls, call duration, wrap-up duration, idle duration, and busy duration.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Traffic Summary Report** to query traffic summary report data.

Figure 4-98 Traffic Summary Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.

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  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-99 Filter Indicator



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Table 4-8 Indicators in the Filter Indicator dialog box

Indicator	Description
Service Requests	Number of inbound calls requesting manual services.
Number of Connected Manual Calls	Number of inbound calls connected by agents.
Request Connection Rate (%)	Percentage of the number of connected manual inbound call requests in the number of manual inbound calls requesting services.
Average Queuing Duration of Connected Calls (s)	Average queueing duration of all connected calls in a queue.
Manual Call Connection Rate in 20s (%)	Percentage of the number of calls manually connected in 20s in the total number of manually connected calls.
Average Call Duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Average Inbound Call Duration of Terminals (s)	Average inbound call duration through agent terminals.
Lost Call Requests	Number of lost call requests = Number of service requests – Number of connected call requests
Request Loss Rate (%)	Request loss rate (%) = 100 (%) – Call connection rate (%)
Average Ring Duration of Lost Calls (s)	Average ring duration of all unanswered calls.
Max Waiting Duration (s)	Maximum waiting duration (queuing and ring duration) of all calls.
Outbound Calls	Number of calls made by an agent to customers.
Connected Manual Outbound Calls	Number of connected manual outbound calls.

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Indicator	Description
Outbound Call Connection Rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.
Total Failed Outbound Calls	Total number of failed outbound calls.
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.
Average Ring Duration of Outbound Calls (s)	Average ring duration of outbound calls = Total ring duration of outbound calls/Number of answering times
Total Connected Calls	Number of connected inbound and outbound calls.
Average Successful Calls Per Hour	Average number of successful calls per hour in the selected working time segment.
Called Agents	Number of agents who receive inbound calls.
Agent Calls	Number of incoming calls assigned to each agent during the selected time period.
Work Duration Rate (%)	Work duration rate = (Total work duration – Rest duration)/Total work duration x 100
Online Rate (%)	Online rate = (Manual call duration + Total wrap-up duration + Total duration of other states)/(Total work duration – Rest duration) x 100
Work Duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Total work duration = Manual call duration + Total wrap-up duration + Total busy duration + Total rest duration + Total duration of other states + Idle duration
Manual Call Duration (s)	Total call duration of an agent, excluding the text chat duration.
Total Talk Duration (s)	Total duration when an agent is in talking state.

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Indicator	Description
Percentage of Call Duration (%)	(Total talk duration/Total work duration) x 100
Average Manual Call Duration (s)	Average call duration of an agent. Average manual call duration = Manual call duration/Number of successful manual calls
Wrap-up Duration (s)	Total duration when an agent is in wrap-up state.
Wrap-up Duration Rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100
Average Wrap-up Duration (s)	Average duration when an agent is in wrap-up state. Average wrap-up duration = Total wrap-up duration/ Number of wrap-up times
Average Processing Duration (s)	Average processing duration = (Manual call duration + Total wrap-up duration)/Number of successful manual calls
Rest Duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Rest Duration Rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100
Busy Duration (s)	Total duration when an agent is in busy state.
Busy Duration Rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Duration of Other States (s)	Total duration when an agent is in another state, or call duration of other skills when multiple skills exist.
Other Duration Rate (%)	Other duration rate = (Total duration of other states/Total work duration) x 100
Total Ring Duration (s)	Total ringing duration of an agent, excluding the call duration.
Idle Duration (s)	Total duration when an agent is in idle state.
Idle Rate (%)	Percentage of an agent's total idle duration to the total work duration.
Hold Duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.

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Indicator	Description
Average Hold Duration (s)	Average call hold duration. Average hold duration = Hold duration/Number of hold times

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.8 Agent Traffic Report

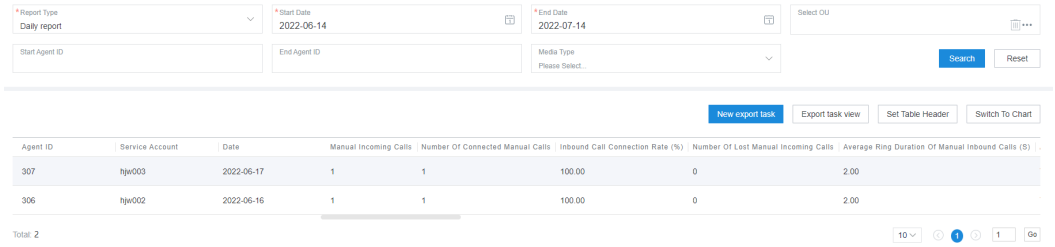
The agent traffic report collects statistics on the activities of each agent in a specified OU, and provides indicators including the number of inbound calls, number of outbound calls, call duration, and connection operation duration of the agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Traffic Report** to query agent traffic report data.

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Figure 4-100 Agent Traffic Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- OU selection:

  - Click ..., select OUs in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

    NOTE

    Unorganized is used to adapt to report data in the versions earlier than 24.400.

  - Click to delete the selected OUs. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.

    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the

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data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.

- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– If the preceding tenant parameter is set to **No**:

If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is added to the roles configured for the current account:

- The OUs with the corresponding permission can be selected.
- If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is not added to the roles configured for the current account:

- Only the current OU can be selected.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click to select an agent account.
- **Start Agent ID**: The value can contain a maximum of six characters. If no value is entered, the search result contains the agent performance report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of six characters. The end agent ID must be greater than or equal to the start agent ID.

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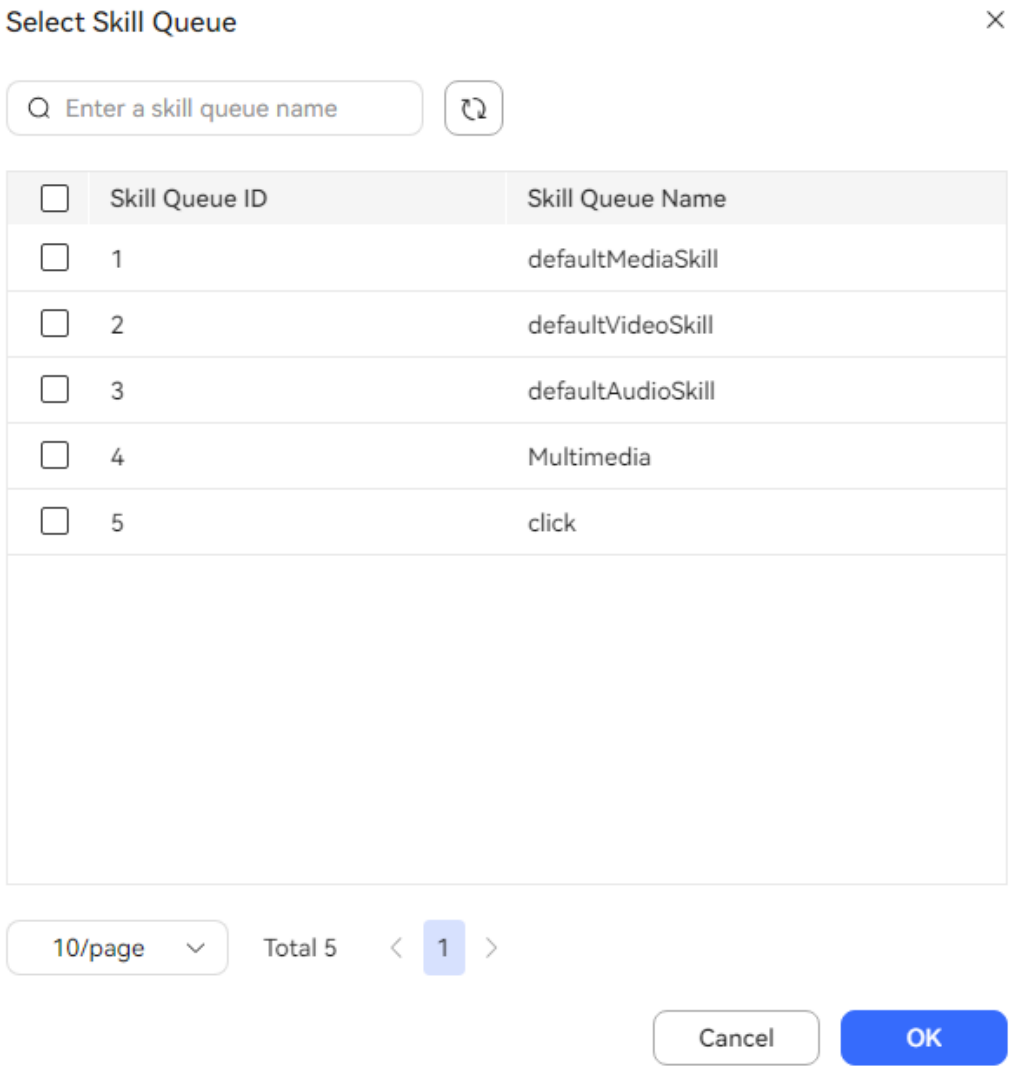
- **Skill Queue**: Select skill queues that have been configured in the call center configuration. Skill queues can be queried by name.

  If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, only skill queues under the selected OUs can be selected.

  NOTE

  If a skill queue cannot be selected, check whether the **View All Organization Data** permission under **System Public Permissions** is configured or whether the selected OU is not within the value range of accessible OUs configured for the employee account.

Figure 4-101 Select Skill Queue



- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**

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- **WhatsApp**
- **LINE**
- **WeChat**
- **Facebook**
- **X (Twitter)**
- **Email**
- **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-102 Filter Indicator

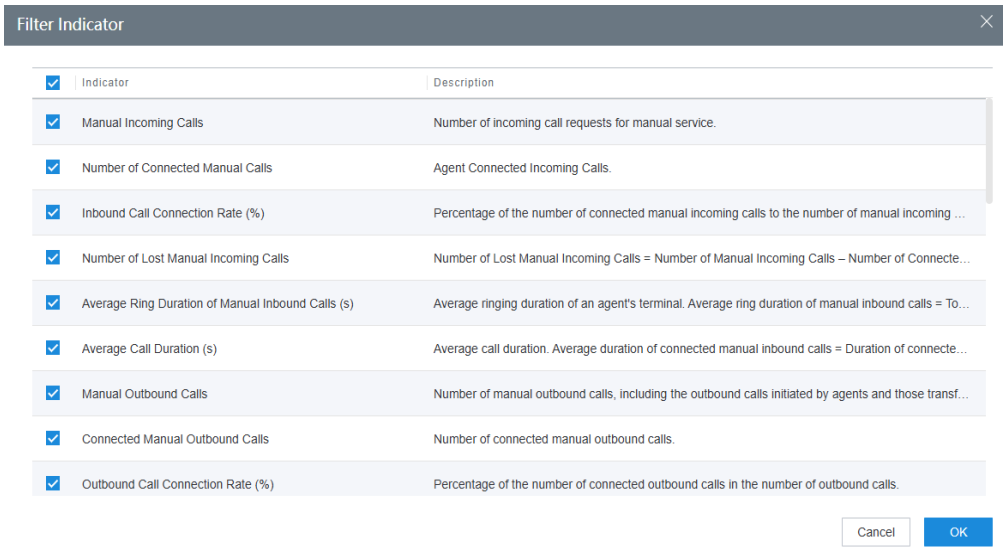


Table 4-9 Indicators in the Filter Indicator dialog box

Indicator	Description
Manual Incoming Calls	Number of inbound calls requesting manual services.
Number of Connected Manual Calls	Number of inbound calls connected by agents.
Inbound Call Connection Rate (%)	Percentage of the number of connected manual incoming calls to the number of manual incoming calls.
Number of Lost Manual Incoming Calls	Number of lost manual incoming calls = Number of manual incoming calls – Number of connected manual incoming calls

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Indicator	Description
Average Ring Duration of Manual Inbound Calls (s)	Average ringing duration of an agent's terminal. Average ring duration of manual inbound calls = Total ring duration of manual inbound calls/Number of answering times
Average Call Duration (s)	Average call duration. Average duration of connected manual inbound calls = Duration of connected manual inbound calls/Number of connected manual inbound calls
Manual Outbound Calls	Number of manual outbound calls, including the outbound calls initiated by agents and those transferred from the IVR to manual services.
Connected Manual Outbound Calls	Number of connected manual outbound calls.
Outbound Call Connection Rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.
Average Ring Duration of Manual Outbound Calls (s)	Average time for an agent to wait for customers to answer outbound calls.
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.
Total Connected Calls	Number of connected inbound and outbound calls.
Average Manual Inbound Calls Per Hour	Average number of calls answered by an agent per hour in the selected working time segment.
Work Duration Rate (%)	Work duration rate = (Total work duration – Rest duration)/Total work duration x 100
Work State Duration Rate (%)	Work state duration rate = (Total call duration + Total wrap-up duration)/(Total work duration – Rest duration) x 100

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Indicator	Description
Work Duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Total work duration = Manual call duration + Total wrap-up duration + Total busy duration + Total rest duration + Total duration of other states + Idle duration
Manual Call Duration (s)	Total call duration of an agent, excluding the text chat duration.
Total Talk Duration (s)	Total duration when an agent is in talking state.
Average Manual Call Duration (s)	Average call duration of an agent. Average manual call duration = Manual call duration/Number of successful manual calls
Wrap-up Duration (s)	Total duration when an agent is in wrap-up state.
Wrap-up Duration Rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100
Average Wrap-up Duration (s)	Average duration when an agent is in wrap-up state. Average wrap-up duration = Total wrap-up duration/ Number of wrap-up times
Average Processing Duration (s)	Average processing duration = (Manual call duration + Total wrap-up duration)/Number of successful manual calls
Rest Duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Rest Duration Rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100
Busy Duration (s)	Total duration when an agent is in busy state.
Busy Duration Rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Total Ring Duration (s)	Total ringing duration of an agent, excluding the call duration.
Idle Duration (s)	Total duration when an agent is in idle state.
Idle Rate (%)	Percentage of an agent's total idle duration to the total work duration.
Hold Duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.

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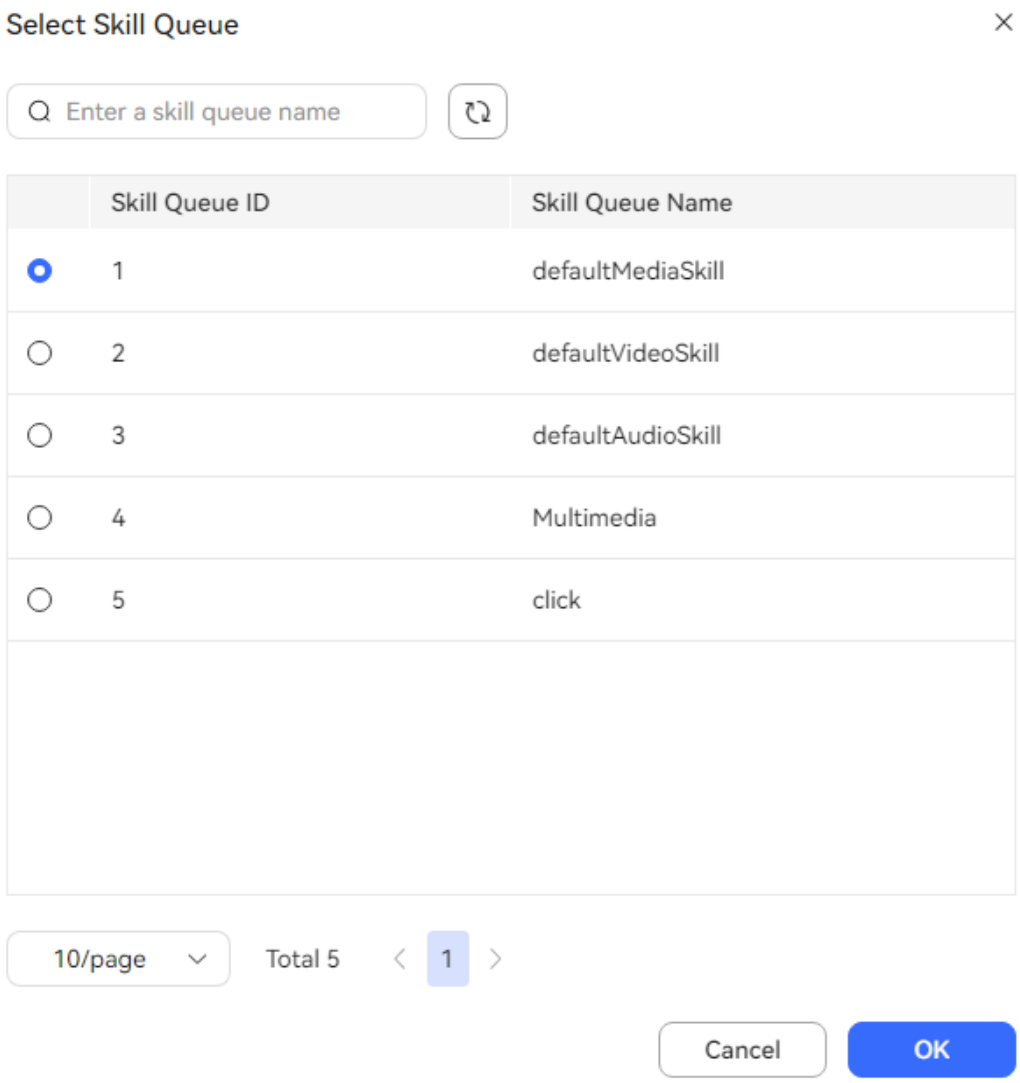
Indicator	Description
Average Hold Duration (s)	Average call hold duration. Average hold duration = Hold duration/Number of hold times
Percentage of Call Duration (%)	(Total talk duration/Total work duration) x 100

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  Skill queues can be queried by skill queue name.



- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

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Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

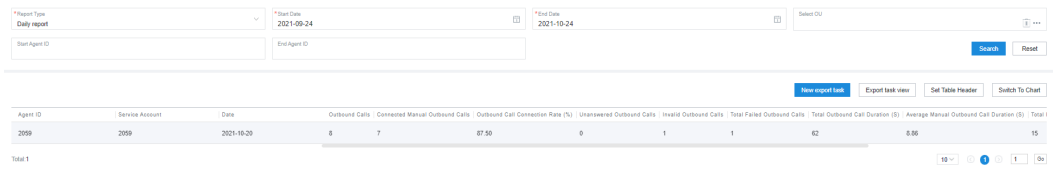
4.3.3.9 Agent Outbound Call Report

The agent outbound call report collects statistics on the outbound call traffic of each agent in a specified OU, and provides indicators including the number of successful outbound calls, number of failed outbound calls, and outbound call duration.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Outbound Call Report** to query agent outbound call report data.

Figure 4-103 Agent Outbound Call Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

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NOTE

The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

- **Select OU**
  - Click ..., select OUs in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

    NOTE

    Unorganized is used to adapt to report data in the versions earlier than 24.400.

  - Click  to delete the selected OUs. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

        NOTE

        If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

      - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
      - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
    - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
    - Operations supported for OU selection:
      - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
    - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

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  - If the preceding tenant parameter is set to **No**:

    If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is added to the roles configured for the current account:

    - The OUs with the corresponding permission can be selected.
    - If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
    - After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

    If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is not added to the roles configured for the current account:

    - Only the current OU can be selected.
    - If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
    - After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

- **Select Agent**: Click *** to select an agent account.
- **Start Agent ID**: The value can contain a maximum of six characters. If no value is entered, the search result contains the agent outbound call report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of six characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

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Figure 4-104 Filter Indicator

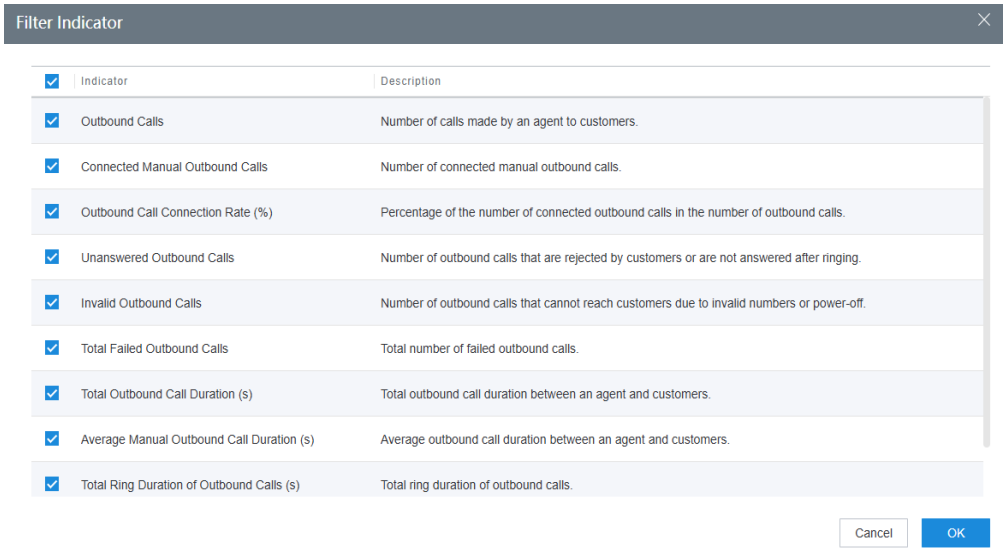


Table 4-10 Indicators in the Filter Indicator dialog box

Indicator	Description
Outbound Calls	Number of calls made by an agent to customers.
Connected Manual Outbound Calls	Number of connected manual outbound calls.
Outbound Call Connection Rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.
Unanswered Outbound Calls	Number of outbound calls that are rejected by customers or are not answered after ringing.
Invalid Outbound Calls	Number of outbound calls that cannot reach customers due to invalid numbers or power-off.
Total Failed Outbound Calls	Total number of failed outbound calls.
Total Outbound Call Duration (s)	Total outbound call duration between an agent and customers.

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Indicator	Description
Average Manual Outbound Call Duration (s)	Average outbound call duration between an agent and customers.
Total Ring Duration of Outbound Calls (s)	Total ring duration of outbound calls.
Average Ring Duration of Outbound Calls (s)	Average ring duration of outbound calls = Total ring duration of outbound calls/Number of answering times

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

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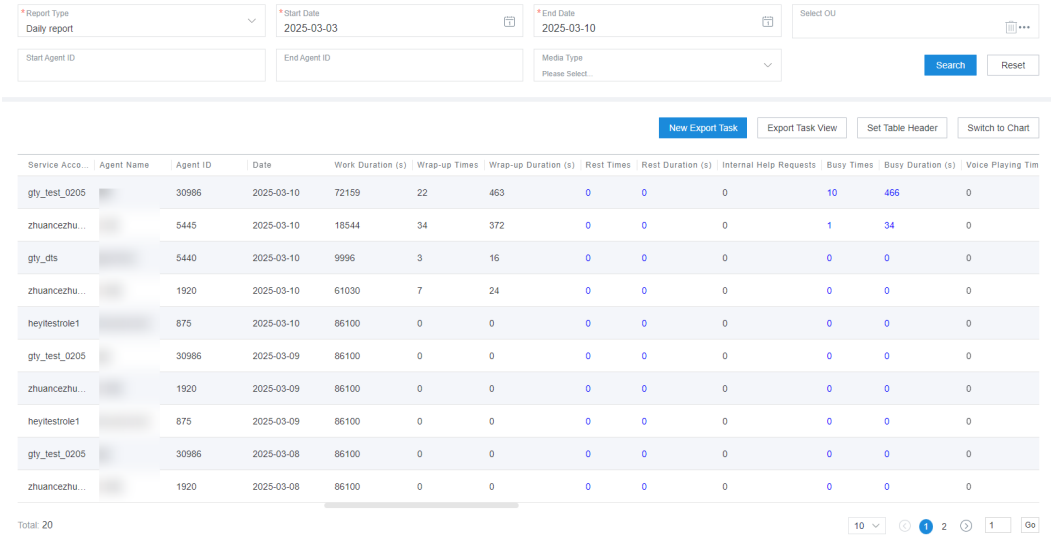
4.3.3.10 Agent Operation Report

The agent operation report collects statistics on the connection operations and duration of each agent in a specified OU, and provides indicators including the number of sign-in times, number of sign-out times, connection status duration, number of call transfers, and number of call hang-ups.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Operation Report** to query agent connection report data.

Figure 4-105 Agent Operation Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Select OU**

  - Click ***, select OUs in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

    NOTE

    Unorganized is used to adapt to report data in the versions earlier than 24.400.

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- Click  to delete the selected OUs. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.
- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
  - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/ **Organization Unit** page can be selected.

      NOTE

      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - Operations supported for OU selection:
    - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
- If the preceding tenant parameter is set to **No**:

  If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is added to the roles configured for the current account:
  - The OUs with the corresponding permission can be selected.
  - If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.

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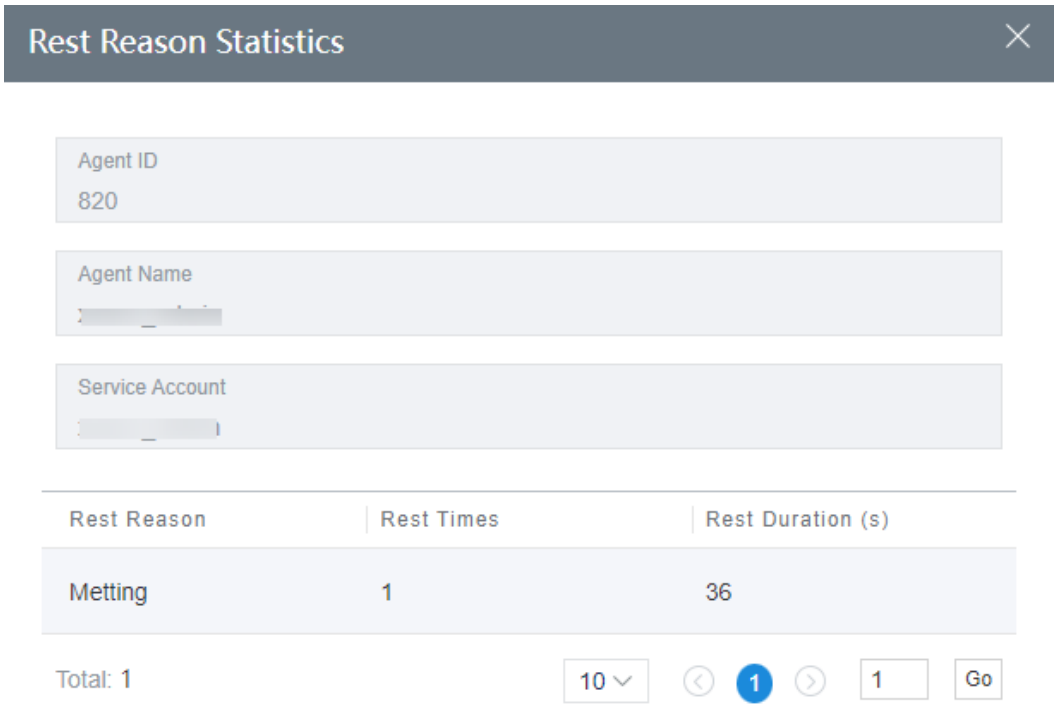
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is not added to the roles configured for the current account:

- Only the current OU can be selected.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

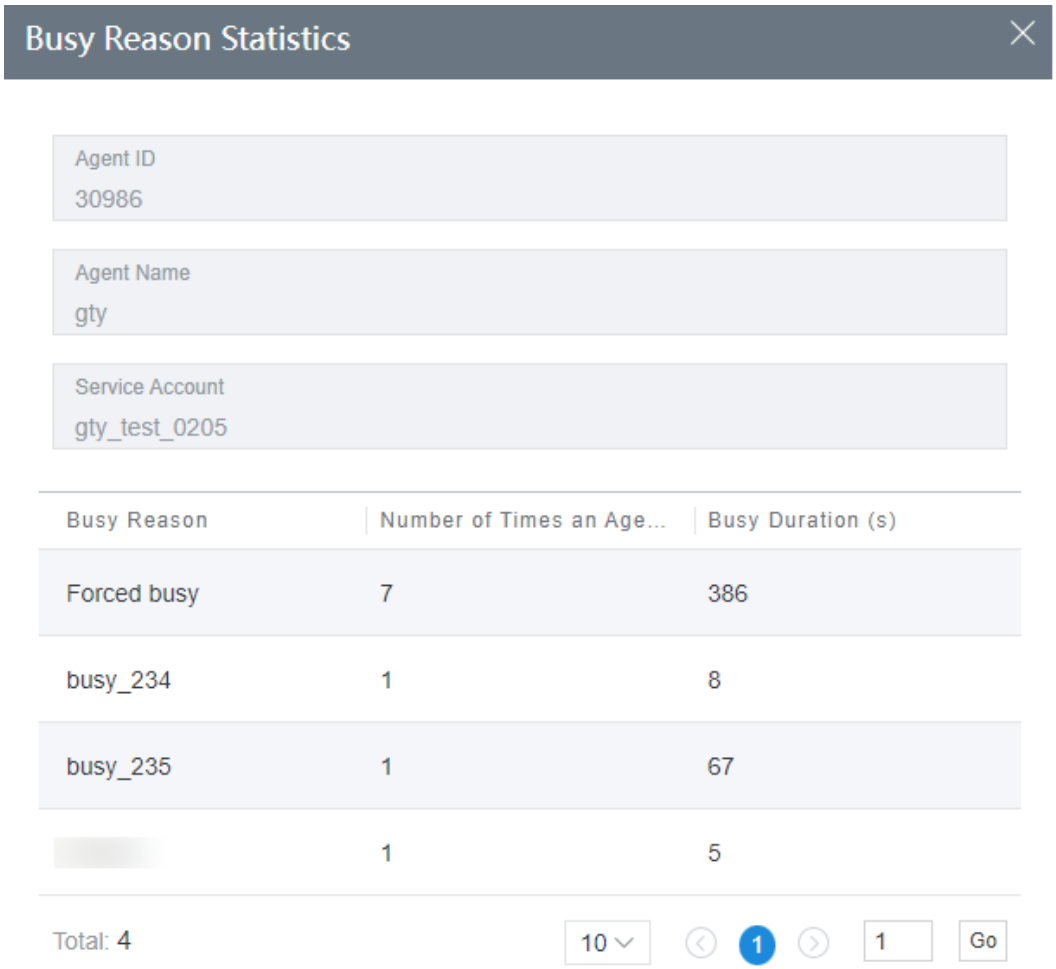
- **Select Agent**: Click to select an agent account.
- **Start Agent ID**: The value can contain a maximum of six characters. If no value is entered, the search result contains the agent connection operation report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of six characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**
- **Rest Times**/**Rest Duration (s)**: You can click a value to view details about agent rest reason statistics.

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- **Number of Times an Agent in Busy/Busy Duration (s)**: You can click a value to view details about agent busy reason statistics.

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Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-106 Filter Indicator



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Table 4-11 Indicators in the Filter Indicator dialog box

Indicator	Description
Work Duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out. Work duration = Manual call duration + Wrap-up duration + Busy duration + Rest duration + Duration of other states + Idle duration.
Wrap-up Times	Number of times that an agent enters the wrap-up state.
Wrap-up Duration (s)	Total duration when an agent is in wrap-up state.
Outbound Call Wrap-up Times	Number of times that an agent enters the wrap-up state after outbound calls end.
Outbound Call Wrap-up Duration (s)	Wrap-up duration after outbound calls end.
Inbound Call Wrap-up Times	Number of times that an agent enters the wrap-up state after inbound calls end.
Inbound Call Wrap-up Duration (s)	Wrap-up duration after inbound calls end.
Rest Times	Number of times that an agent enters the rest state.
Rest Duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Hold Times	Number of hold times.
Hold Duration (s)	Total duration when an agent is in call hold state. The call duration of an agent includes the call hold time.
Silence Times	Number of silence times.
Silence Duration (s)	Silence duration.
Internal Help Requests	Number of internal help requests.
Internal Help Request Duration (s)	Duration of internal help requests.
Busy Times	Number of times that an agent enters the busy state.
Busy Duration (s)	Total duration when an agent is in busy state.

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Indicator	Description
Voice Playing Times	Number of voice playback times.
Voice Playing Duration (s)	Voice playback duration.
Duration of Other States (s)	Total duration when an agent is in another state, or call duration of other skills when multiple skills exist.
Sign-In Times	Number of sign-in times.
Sign-Out Times	Number of sign-out times.
Three-Party Calls	Number of three-party call times.
Internal Transfers	Number of internal transfer times.
Manual Transfer-Out Times	Number of manual transfer-out times.
Manual-to-IVR Transfer Times	Number of manual-to-IVR transfer times.
Internal Calls	Number of internal calls.
Internal Call Duration (s)	Internal call duration.
Manual-to-Skill Queue Transfers	Number of manual-to-skill queue transfers.
Agent Hang-Ups	Number of agent hang-ups.
Customer Hang-Ups	Number of customer hang-ups.
System Hang-Ups	Number of system hang-ups.
Number of Times an Agent Is Suspended to Transfer to the IVR	Number of times that the agent suspends the call and transfers the call to the IVR after the call is connected.

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Indicator	Description
Number of Manual Transfers to IVR And Re-transfers Out	Number of times that the agent transfers to the IVR and then transfers out.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

   NOTE

   When only one agent is selected, an agent operation reason details table is added for download. The operation types include rest and busy.

----End

4.3.3.11 Abandoned Call in Ringing Report

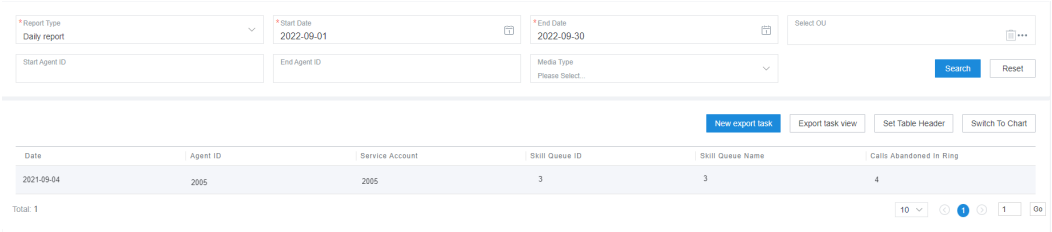
The abandoned call in ringing report collects statistics on the number of calls abandoned by customers before agents answer the calls.

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Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Abandoned Call in Ringing Report** to query abandoned call in ringing report data.

Figure 4-107 Abandoned Call in Ringing Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Select OU**

  - Click , select OUs in the **Select OU** dialog box, and click **OK** to save the configuration. After the saving, the **Start Agent ID** and **End Agent ID** text boxes are hidden, and the **Select Agent** selection box is displayed.

    NOTE

    Unorganized is used to adapt to report data in the versions earlier than 24.400.

  - Click to delete the selected OUs. After the deletion, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.
  - If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
    - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
      - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

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NOTE

If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.

- If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
- If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.

- Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
- Operations supported for OU selection:
  - **Include Sub-Organizations**: When this option is selected, the sub-OUs of selected OUs are selected by one click.
- The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.

– If the preceding tenant parameter is set to **No**:

If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is added to the roles configured for the current account:

- The OUs with the corresponding permission can be selected.
- If no OU is selected, the **Start Agent ID** and **End Agent ID** text boxes are displayed.
- After an OU is selected, the options of the **Select Agent** selection box are agents of the selected OU.

If the **View All Organization Data**, **Viewing and Editing Home Organization Data**, or **View Lower-Level Organization Data** permission under **System Public Permissions** is not added to the roles configured for the current account:

- Only the current OU can be selected.
- If no OU is selected, the current agent ID is displayed in the **Select Agent** selection box.
- After an OU is selected, if you are the manager of the OU, the options of the **Select Agent** selection box are agents of the selected OU. If you are a common agent of the OU, the current agent ID is displayed in the **Select Agent** selection box.

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- **Select Agent**: Click ••• to select an agent account.
- **Start Agent ID**: The value can contain a maximum of six characters. If no value is entered, the search result contains the abandoned calls (during ringing) summary report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of six characters. The end agent ID must be greater than or equal to the start agent ID.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.
- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-108 Filter Indicator

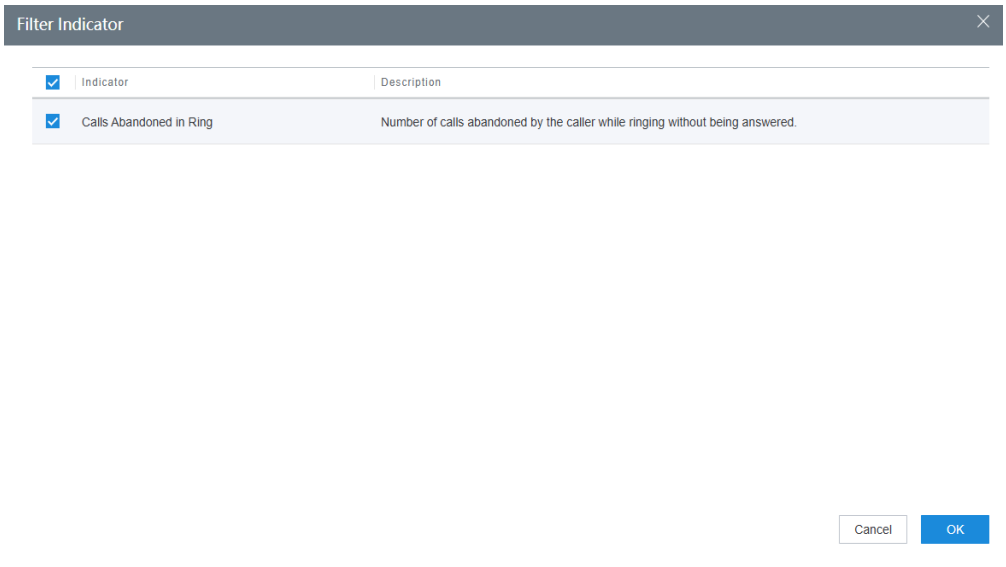


Table 4-12 Indicators in the Filter Indicator dialog box

Indicator	Description
Calls Abandoned in Ring	Number of calls abandoned by the caller while ringing without being answered.

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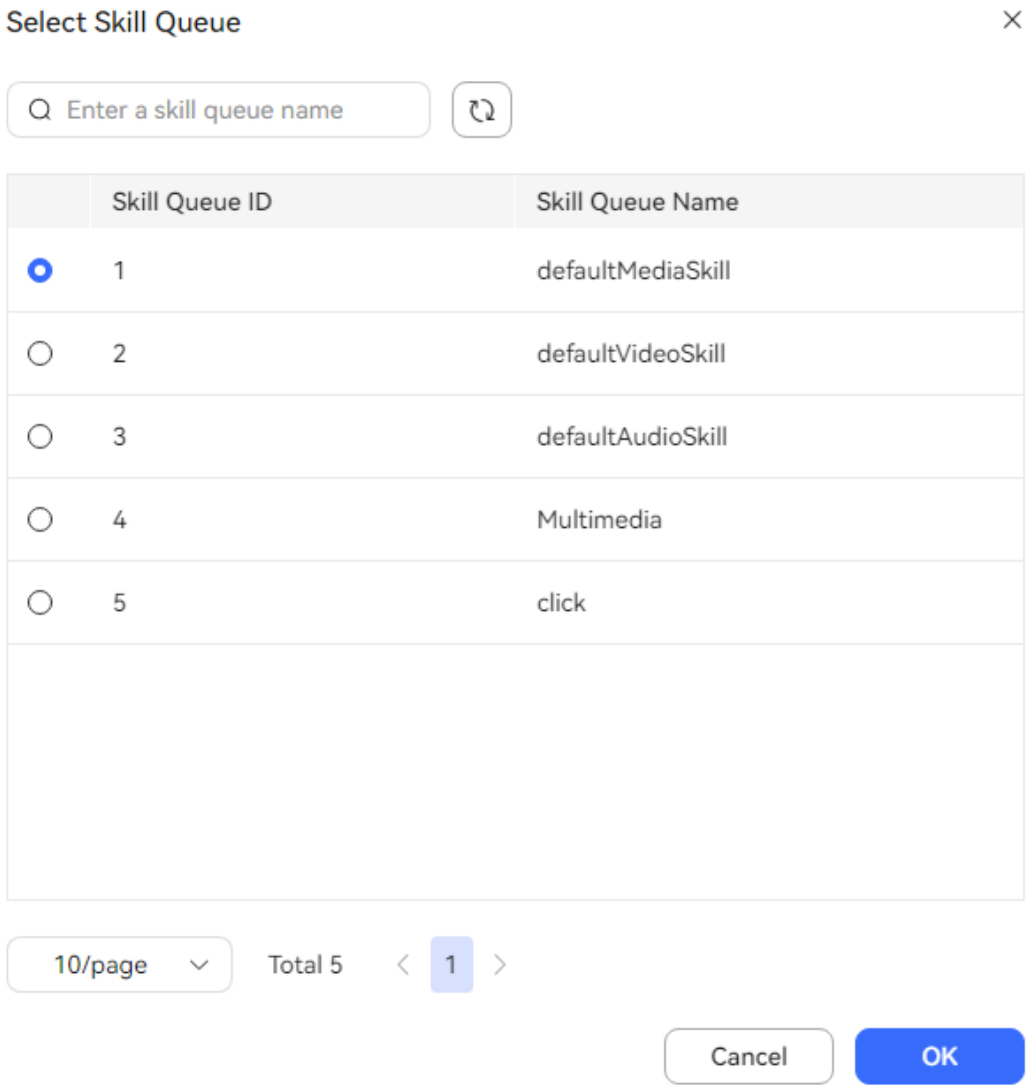
2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.

  Skill queues can be queried by skill queue name.



- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.

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- **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

  NOTE

  - The compression password is used to open the downloaded package.
  - You do not need to configure the compression password in the independent deployment environment.

- Click **OK** to create an export task.

3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

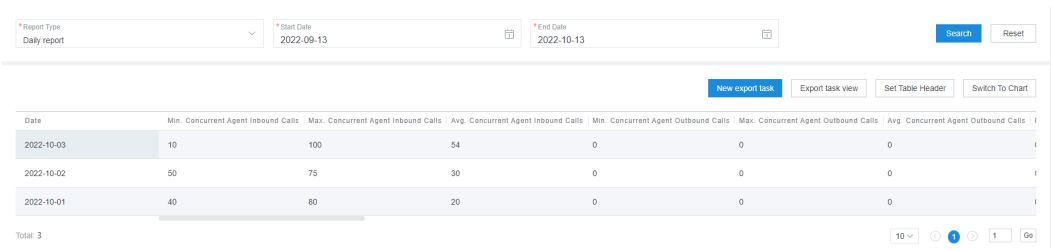
4.3.3.12 Interval-based VCC Traffic Report

The interval-based VCC traffic report collects statistics on the inbound call traffic of the call center at a specified interval in a specified period, and provides indicators including the total number of inbound calls, number of calls answered by IVRs, and number of calls answered by agents.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Interval-Based VCC Traffic Report** to query interval-based VCC traffic report data.

Figure 4-109 Interval-Based VCC Traffic Report



- **Statistical Step**: The options are **15 minutes**, **30 minutes**, and **1 hour**. The default value is **15 minutes**.
- **Start Time**: Only data of the last seven days can be queried. The time range cannot exceed one day.
- **End Time**: Only data of the last seven days can be queried. The time range cannot exceed one day.
- **User Level**: The options are existing customer levels of the VCC on the web configuration console.
- **Media Type**: The options are **Voice**, **Multimedia**, **Video**, **Voice Click to Dial**, and **Video Click to Dial**.

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- **Submedia Type**: This parameter needs to be set when **Media Type** is set to **Multimedia**. The options are as follows:
  - **Web**
  - **WhatsApp**
  - **LINE**
  - **WeChat**
  - **Facebook**
  - **X (Twitter)**
  - **Email**
  - **SMS**

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-110 Filter Indicator

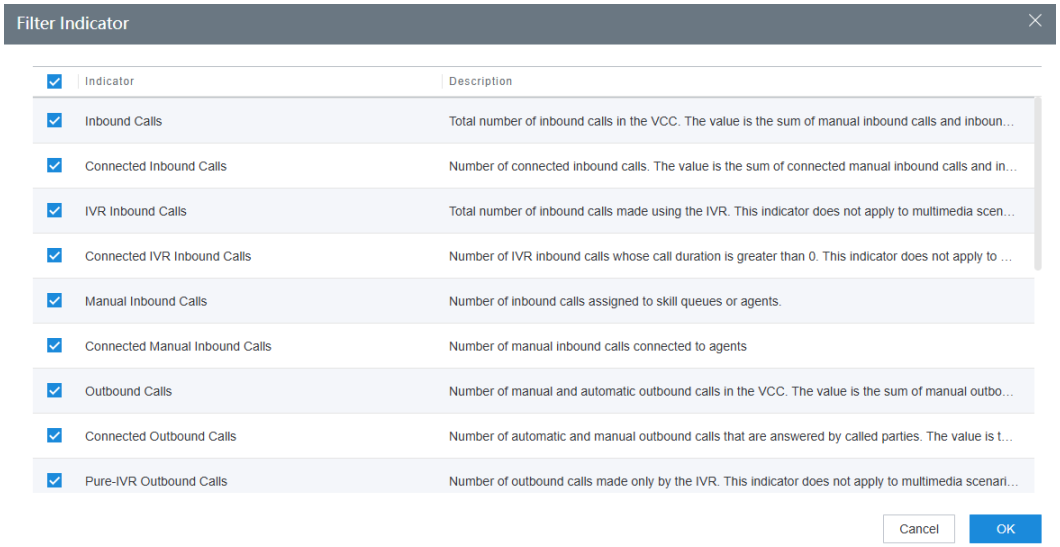


Table 4-13 Indicators in the Filter Indicator dialog box

Indicator	Description
Inbound Calls	Total number of inbound calls in the VCC. The value is the sum of manual inbound calls and inbound calls automatically made using the IVR.
Connected Inbound Calls	Number of connected inbound calls. The value is the sum of connected manual inbound calls and inbound calls automatically connected using the IVR.
IVR Inbound Calls	Total number of calls connected to the IVR. This indicator does not apply to multimedia scenarios.
Connected IVR Inbound Calls	Number of IVR inbound calls whose call duration is greater than 0. This indicator does not apply to multimedia scenarios.

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Indicator	Description
Manual Inbound Calls	Number of inbound calls assigned to skill queues or agents.
Connected Manual Inbound Calls	Number of manual inbound calls connected to agents, which is the number of manual inbound calls whose call duration is greater than 0.
Outbound Calls	Number of manual and automatic outbound calls in the VCC. The value is the sum of manual outbound calls and outbound calls automatically made using the IVR.
Connected Outbound Calls	Number of automatic and manual outbound calls that are answered by called parties. The value is the sum of connected manual outbound calls and outbound calls automatically connected using the IVR.
Pure-IVR Outbound Calls	Number of outbound calls made only by the IVR. This indicator does not apply to multimedia scenarios.
Connected Pure-IVR Outbound Calls	Number of connected pure-IVR outbound calls whose IVR device occupation duration is greater than 0. This indicator does not apply to multimedia scenarios.
Manual Outbound Calls	Number of manual outbound calls made by agents.
Connected Manual Outbound Calls	Number of manual outbound calls connected to users, which is the number of manual outbound calls whose call duration is greater than 0.
Inbound Call Connection Rate (%)	Percentage of connected inbound calls to total inbound calls.
IVR Inbound Call Connection Rate (%)	Percentage of connected IVR inbound calls to total IVR inbound calls. This indicator does not apply to multimedia scenarios.
Manual Inbound Call Connection Rate (%)	Percentage of connected manual inbound calls to total manual inbound calls.
Outbound Call Connection Rate (%)	Percentage of the number of connected outbound calls to the number of outbound calls.

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Indicator	Description
Pure-IVR Outbound Call Connection Rate (%)	Percentage of connected pure-IVR outbound calls to total pure-IVR outbound calls. This indicator does not apply to multimedia scenarios.
Manual Outbound Call Connection Rate (%)	Percentage of connected manual outbound calls to total manual outbound calls.
Average Inbound Call Duration in VCC (s)	Average inbound call duration in the VCC. The value is the total inbound call duration divided by the number of inbound calls.
Average Outbound Call Duration in VCC (s)	Average outbound call duration in the VCC. The value is the total outbound call duration divided by the number of outbound calls.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.

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4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

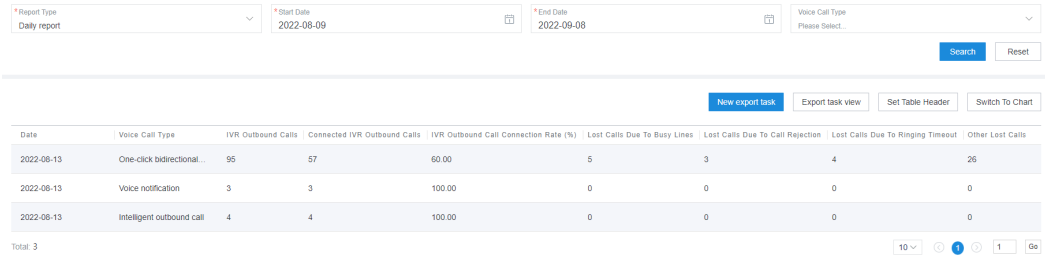
4.3.3.13 IVR Outbound Call Report

The IVR outbound call report collects statistics on the outbound call traffic of IVRs in a specified period, and provides indicators including the number of outbound calls and number of lost calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or inspector and choose **Report** > **IVR Outbound Call Report** to query IVR outbound call report data.

Figure 4-111 IVR Outbound Call Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Voice Call Type**: The options are **One-click bidirectional call**, **Voice notification**, and **Intelligent outgoing call**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

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Figure 4-112 Filter Indicator

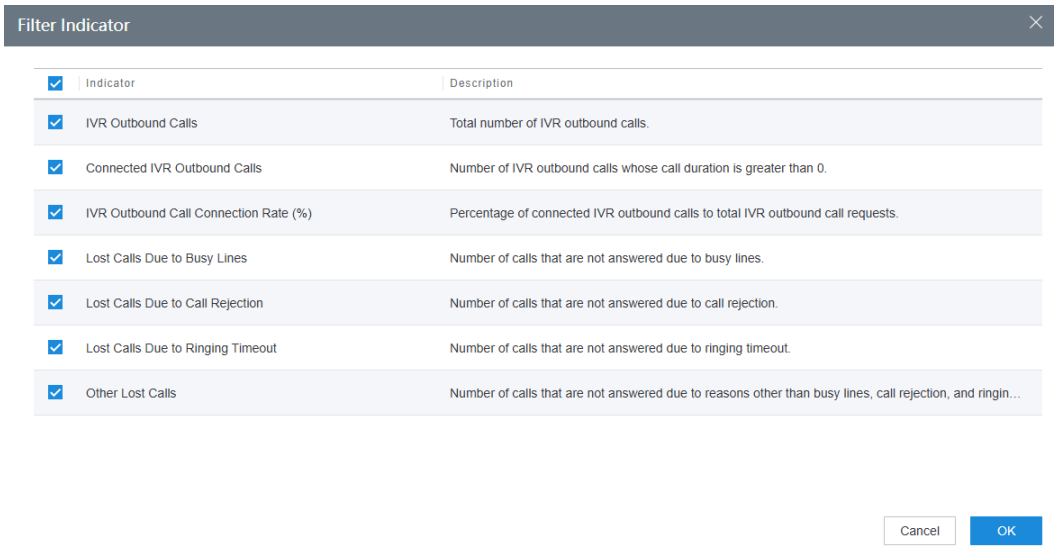


Table 4-14 Indicators on the Filter Indicator page

Indicator	Description
IVR Outbound Calls	Total number of IVR outbound calls.
Connected IVR Outbound Calls	Number of IVR outbound calls whose call duration is greater than 0.
IVR Outbound Call Connection Rate (%)	Percentage of connected IVR outbound calls to total IVR outbound call requests.
Lost Calls Due to Busy Lines	Number of calls that are not answered due to busy lines.
Lost Calls Due to Call Rejection	Number of calls that are not answered due to call rejection.
Lost Calls Due to Ringing Timeout	Number of calls that are not answered due to ringing timeout.
Other Lost Calls	Number of calls that are not answered due to reasons other than busy lines, call rejection, and ringing timeout.

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2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     The compression password is used to open the downloaded package.
   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

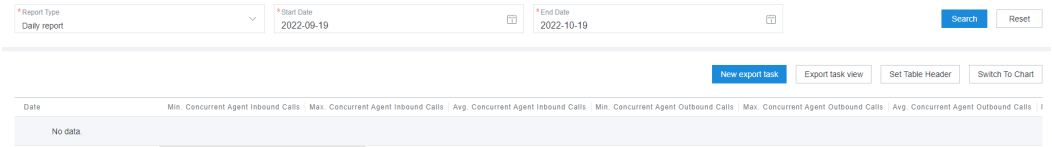
4.3.3.14 System Performance Report

The system performance report collects statistics on the number of concurrent calls of IVRs, agents, and skill queues, and provides indicators including the maximum number of concurrent calls, minimum number of concurrent calls, and average number of concurrent calls.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or inspector and choose **Report** > **System Performance Report** to query system performance report data.

Figure 4-113 System Performance Report



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- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

NOTE

The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-114 Filter Indicator

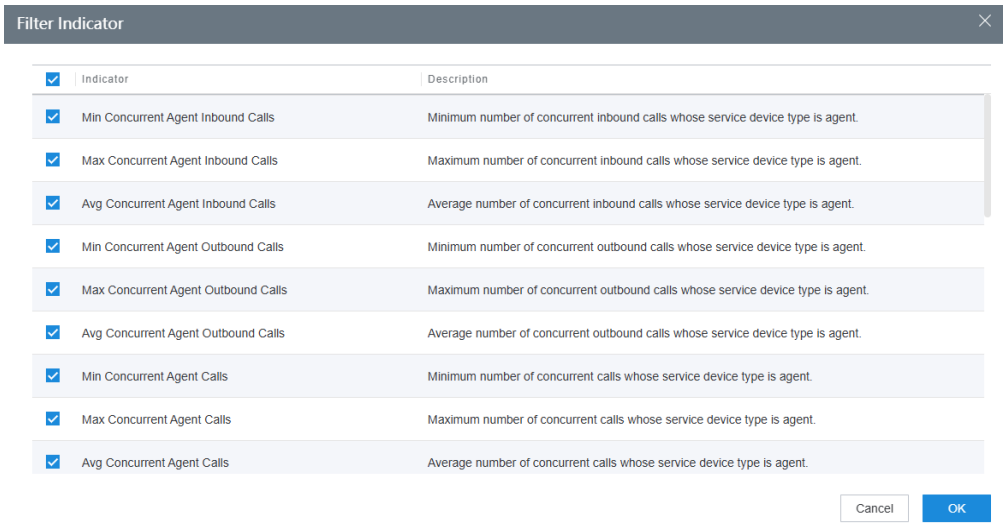


Table 4-15 Indicators on the Filter Indicator page

Indicator	Description
Min Concurrent Agent Inbound Calls	Minimum number of concurrent inbound calls whose service device type is agent.
Max Concurrent Agent Inbound Calls	Maximum number of concurrent inbound calls whose service device type is agent.
Avg Concurrent Agent Inbound Calls	Average number of concurrent inbound calls whose service device type is agent.

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Indicator	Description
Min Concurrent Agent Outbound Calls	Minimum number of concurrent outbound calls whose service device type is agent.
Max Concurrent Agent Outbound Calls	Maximum number of concurrent outbound calls whose service device type is agent.
Avg Concurrent Agent Outbound Calls	Average number of concurrent outbound calls whose service device type is agent.
Min Concurrent Agent Calls	Minimum number of concurrent calls whose service device type is agent.
Max Concurrent Agent Calls	Maximum number of concurrent calls whose service device type is agent.
Avg Concurrent Agent Calls	Average number of concurrent calls whose service device type is agent.
Min Concurrent IVR Inbound Calls	Minimum number of concurrent inbound calls whose service device type is IVR.
Max Concurrent IVR Inbound Calls	Maximum number of concurrent inbound calls whose service device type is IVR.
Avg Concurrent IVR Inbound Calls	Average number of concurrent inbound calls whose service device type is IVR.
Min Concurrent IVR Outbound Calls	Minimum number of concurrent outbound calls whose service device type is IVR.

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Indicator	Description
Max Concurrent IVR Outbound Calls	Maximum number of concurrent outbound calls whose service device type is IVR.
Avg Concurrent IVR Outbound Calls	Average number of concurrent outbound calls whose service device type is IVR.
Min Concurrent IVR Calls	Minimum number of concurrent calls whose service device type is IVR.
Max Concurrent IVR Calls	Maximum number of concurrent calls whose service device type is IVR.
Avg Concurrent IVR Calls	Average number of concurrent calls whose service device type is IVR.
Min Concurrent Skill Queue Inbound Calls	Minimum number of concurrent inbound calls whose service device type is skill queue.
Max Concurrent Skill Queue Inbound Calls	Maximum number of concurrent inbound calls whose service device type is skill queue.
Avg Concurrent Skill Queue Inbound Calls	Average number of concurrent inbound calls whose service device type is skill queue.
Min Concurrent Skill Queue Outbound Calls	Minimum number of concurrent outbound calls whose service device type is skill queue.
Max Concurrent Skill Queue Outbound Calls	Maximum number of concurrent outbound calls whose service device type is skill queue.

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Indicator	Description
Avg Concurrent Skill Queue Outbound Calls	Average number of concurrent outbound calls whose service device type is skill queue.
Min Concurrent Skill Queue Calls	Minimum number of concurrent calls whose service device type is skill queue.
Max Concurrent Skill Queue Calls	Maximum number of concurrent calls whose service device type is skill queue.
Avg Concurrent Skill Queue Calls	Average number of concurrent calls whose service device type is skill queue.

NOTE

All minimum numbers of concurrent calls are 0 only when the values of all related indicators of the day are 0. Otherwise, the value is the minimum indicator value after related indicators of the day whose values are 0 are excluded.

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.

  In chart mode, you can set search criteria and click **Search** to filter specific data based on the search criteria.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     The compression password is used to open the downloaded package.

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- Click **OK** to create an export task.

3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

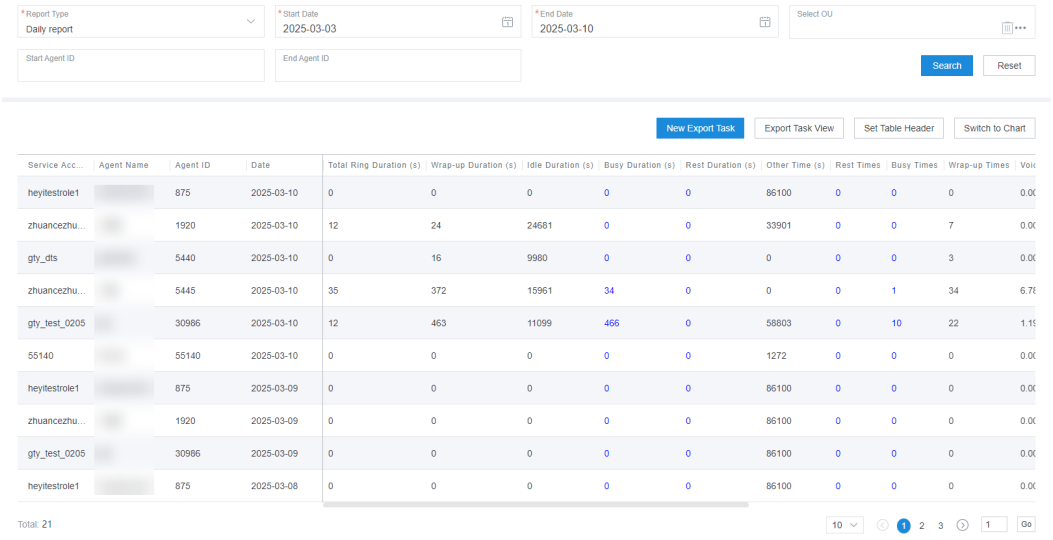
4.3.3.15 Agent Timesheet Report

The agent timesheet report collects statistics on the working status of agents in a specified period, and provides indicators such as the connection operation duration and number of connection operations.

Procedure

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Agent Timesheet Report** to query agent timesheet report data.

Figure 4-115 Agent Timesheet Report



- **Report Type**: The options are **Daily report**, **Weekly report**, and **Monthly report**.
- Report time: Set the time range for report data query.
  - **Daily report**: The time range cannot exceed 31 days.
  - **Weekly report**: Set the start year and week as well as the end ones.
  - **Monthly report**: Set the start year and month as well as the end ones.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Select OU**

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- If the tenant parameter **Has the tenant enabled inter-organization data isolation enforcement** is set to **Yes**, OUs that can be selected are subject to the configured permissions.
  - Accounts without the **View All Organization Data** permission under **System Public Permissions** configured:
    - If the **Viewing and Editing Home Organization Data** and **View Lower-Level Organization Data** permissions under **System Public Permissions** are not configured, only the OUs specified by **Accessible Organizations** configured on the **Employee Info**/**Organization Unit** page can be selected.

      NOTE

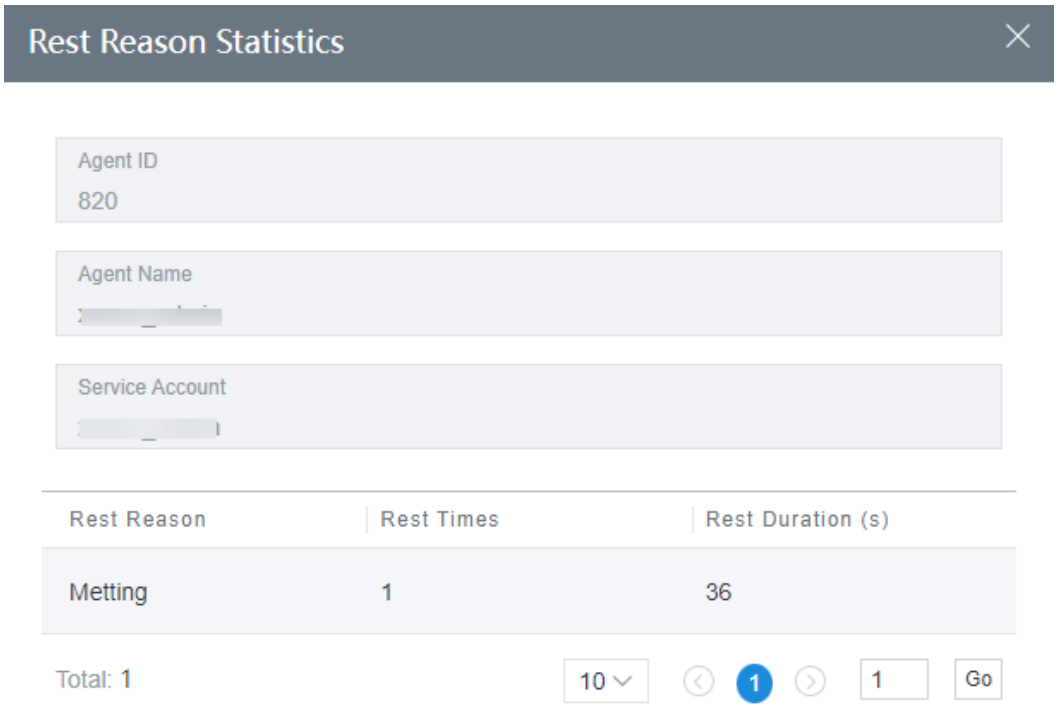
      If accessible OUs are configured both on the **Employee Info** and **Organization Unit** pages, the permissions on the accessible OUs configured on the **Employee Info** page take precedence.
    - If the **Viewing and Editing Home Organization Data** permission under **System Public Permissions** is configured, the data under the OU (excluding sub-OUs) to which the current business account belongs can be viewed.
    - If the **View Lower-Level Organization Data** permission under **System Public Permissions** is configured, the data under the sub-OUs of the OU to which the current business account belongs can be viewed.
  - Accounts with the **View All Organization Data** permission under **System Public Permissions** configured: All OUs can be selected.
  - The number of OUs that can be selected is specified by the value of the system parameter **Maximum number of OU organizational unit queries** on the **Configuration Center** > **System Management** > **System Parameter** > **System parameters** > **Unified Public Configuration** > **Common** page.
- If the preceding tenant parameter is set to **No**, the **Select OU** parameter is hidden.

NOTE

Unorganized is used to adapt to report data in the versions earlier than 24.400.

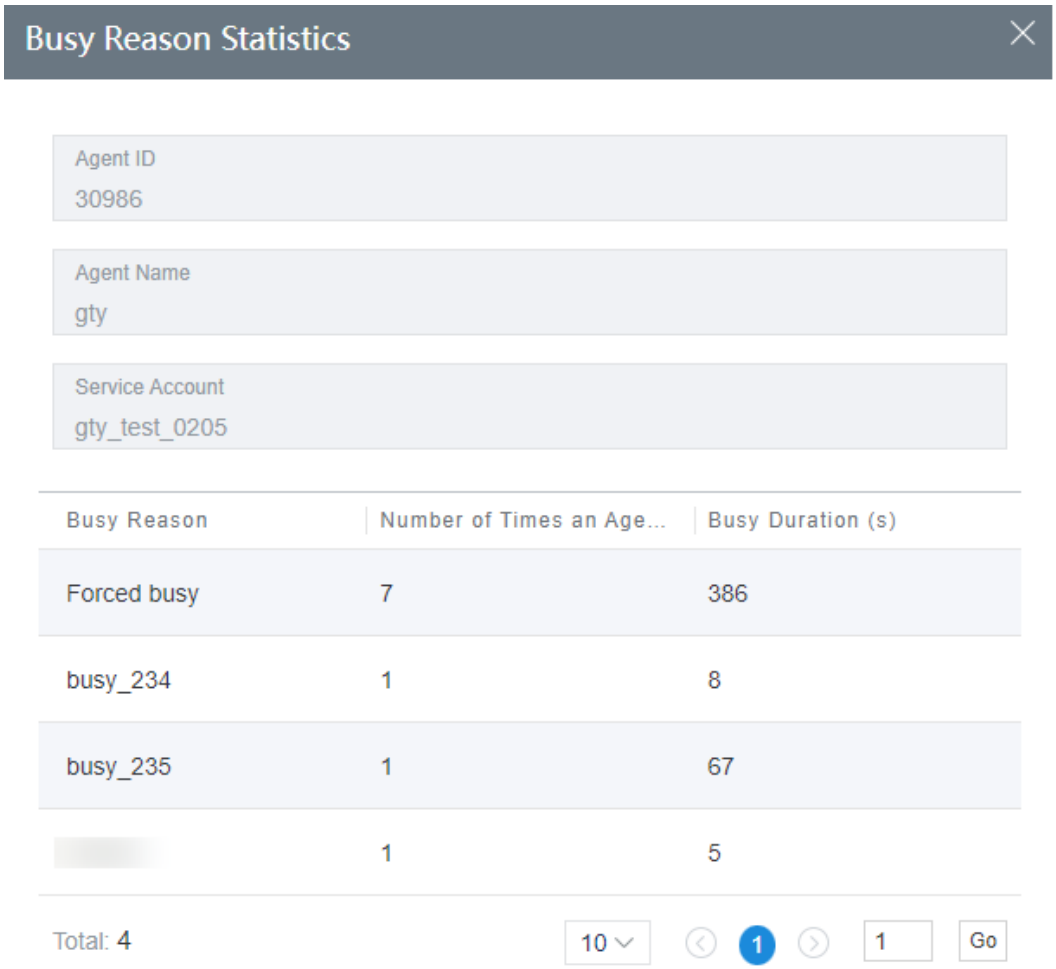
- **Start Agent ID**: The value can contain a maximum of six characters. If no value is entered, the search result contains the agent timesheet report data of all agent IDs in the current tenant space.
- **End Agent ID**: The value can contain a maximum of six characters. The end agent ID must be greater than or equal to the start agent ID.
- **Rest Times**/**Rest Duration (s)**: You can click a value to view details about agent rest reason statistics.

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- **Number of Times an Agent in Busy/Busy Duration (s)**: You can click a value to view details about agent busy reason statistics.

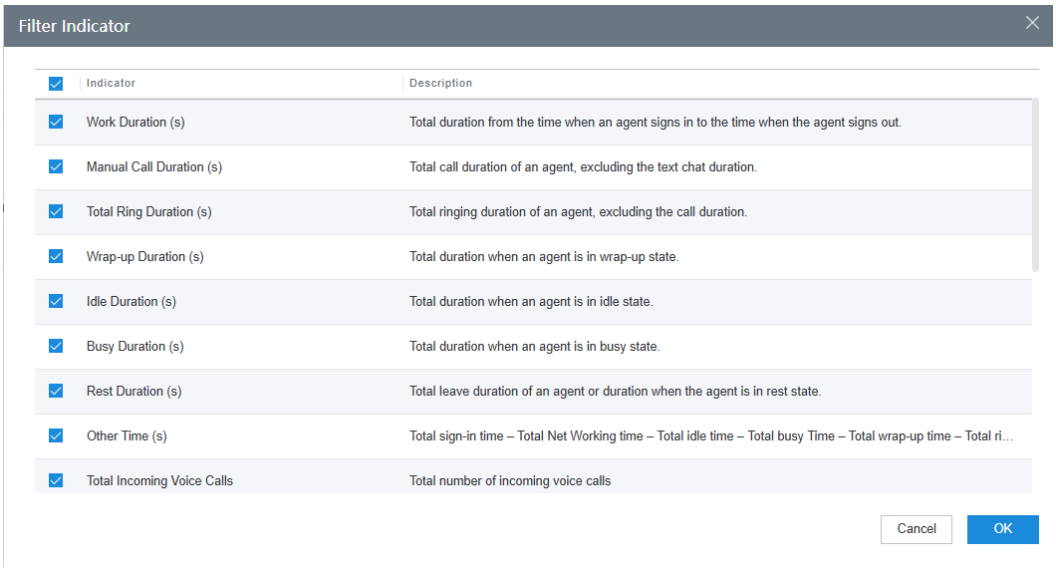
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Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** dialog box is displayed.

Figure 4-116 Filter Indicator



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Table 4-16 Indicators in the Filter Indicator dialog box

Indicator	Description
Work Duration (s)	Total duration from the time when an agent signs in to the time when the agent signs out.
Manual Call Duration (s)	Total call duration of an agent, excluding the text chat duration.
Total Ring Duration (s)	Total ringing duration of an agent, excluding the call duration.
Wrap-up Duration (s)	Total duration when an agent is in wrap-up state.
Idle Duration (s)	Total duration when an agent is in idle state.
Busy Duration (s)	Total duration when an agent is in busy state.
Rest Duration (s)	Total leave duration of an agent or duration when the agent is in rest state.
Other Time (s)	Other time = Total signed-in duration – Total net work duration – Total idle duration – Total busy duration – Total wrap-up duration – Total ring duration – Total rest duration **NOTE** The total net work duration indicates the duration when an agent is in talking state. If the agent is in both a multimedia call and a voice call for a period of time, the period is counted only once.
Total Incoming Voice Calls	Total number of voice inbound calls.
Total Number of Outgoing Voice Calls	Total number of voice outbound calls.
Total Incoming Multimedia Calls	Total number of multimedia inbound calls.
Total Number of Multimedia Outgoing Calls	Total number of multimedia outbound calls.
Rest Times	Number of times that an agent enters the rest state.
Busy Times	Number of times that an agent enters the busy state.

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Indicator	Description
Wrap-up Times	Number of times that an agent enters the wrap-up state.
Voice Call Ratio (%)	Percentage of voice call duration to total work duration.
Idle Rate (%)	Percentage of an agent's total idle duration to the total work duration.
Busy Duration Rate (%)	Busy duration rate = (Total busy duration/Total work duration) x 100
Rest Duration Rate (%)	Rest duration rate = (Total rest duration/Total work duration) x 100
Wrap-up Duration Rate (%)	Wrap-up duration rate = (Total wrap-up duration/Total work duration) x 100

2. Select the report indicators to be displayed and click **OK** to save the configuration.

Step 3 Switch the data display mode.

- Click **Switch To Chart** to switch the data display mode from table to line chart and bar chart.
- Click **Switch To Table** to switch the data display mode from line chart and bar chart to table.

Step 4 Export report data.

1. Click **New Export Task**. The export task dialog box is displayed.
2. Configure an export task.
   - **Export File Format**: The exported file can be in CSV or PDF format.
   - **Compressed password**: The value is a string of 8 to 12 characters and must contain letters, digits, and special characters (excluding |;&$-<>/\`! #(){}, spaces, newline characters, and tabs).

     NOTE

     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.

   - Click **OK** to create an export task.
3. Click **Export Task View** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

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NOTE

When only one agent is selected, an agent operation reason details table is added for download. The operation types include rest and busy.

----End

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