CEC
2.5.0.0
User Guide

Issue 01

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HUAWEI TECHNOLOGIES CO., LTD.

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Contents

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.

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

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

Procedure

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

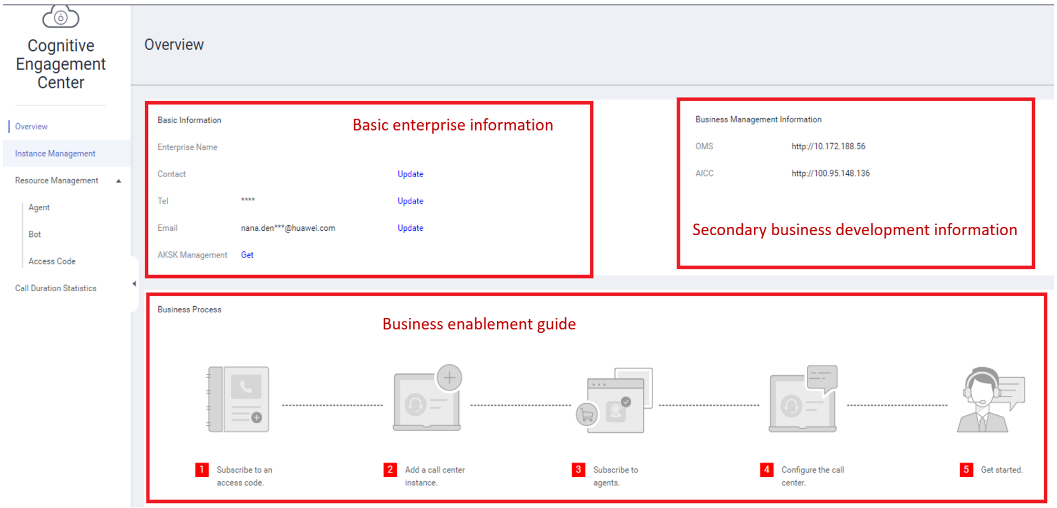
Step 2 Click **Buy Now**.

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

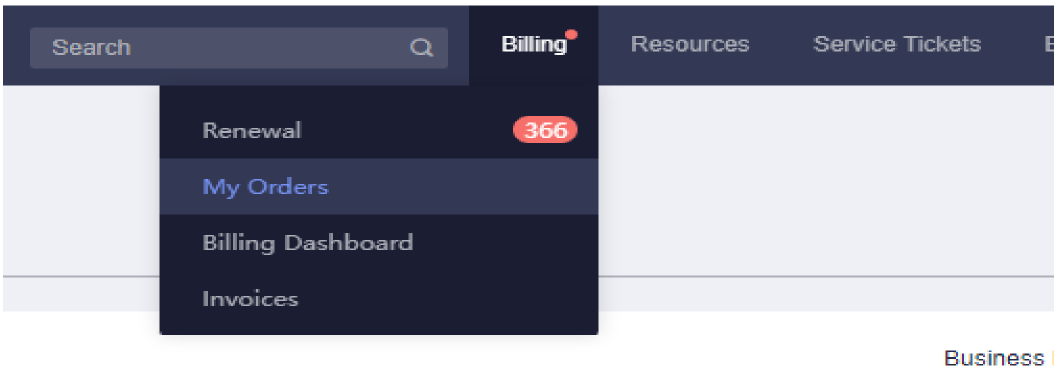
Step 4 Click **Go to complete** to complete payment details as prompted. This step is required for enterprises that log in to the CEC console for the first time and have not filled in the payment information. For details about the authentication, see **Adding a Payment Method**.

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.

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 **1.4.3.1 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 **1.4.3.1 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:

– **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.

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 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 full 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 phone number and 95 number: Enterprises can submit applications themselves or Huawei helps enterprises submit applications to carriers.
  - 400 number: You can directly apply for connecting 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 a multimedia communication protocol developed by the Internet Engineering Task Force (**IETF**). 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 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 the session contents. Therefore, SIP can carry any session contents, 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 host name 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 call ID. The value is a string of random characters.*/
From: <sip:02160123456@10.11.56.61;user=phone>;tag=yv20ze22-CC-57
/*Initiator of the request. The calling number can be obtained. For the first message, only the **From** field contains **tag**, and the **To** field does not contain **tag**.*/
To: <sip:18012345678@10.11.56.68;user=phone>
/*Recipient of the request. During registration, it specifies the public customer to be registered. During a session, it 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 **tag**, but any request or response in a session must carry **tag**. *IP address*:*Port number* obtained by the UAP from the **To** field is the local signaling address. The UAP obtains the original called number from the **Historyinfo** or **Diversion** field first. If the **Historyinfo** or **Diversion** field does not contain the required information, the UAP obtains the original called number from the **To** field.*/
CSeq: 1 INVITE
/*Sequence number of a transaction. The sequence number is incremented by 1.*/
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 the customer. The SIP URI indicates the address for receiving responses.*/
Max-Forwards: 69
/*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
/*All SIP extension methods supported by the UAC or UAS.*/
User-Agent: Huawei UAP9600 V100R005C00
Content-Length: 236
//Length of the message body, in bytes.*/
Content-Type: application/sdp
/*Type of the message body. In this example, the type is SDP.*/
/*SIP Header-end*/

/*SIP Body-start*/
v=0
/*Protocol version. In this example, 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 the session initiator. This parameter is optional.
The second parameter: **929076** indicates the session identifier of the calling party.
The third parameter: **929076** indicates the version of the calling party. When the session data changes, the version number is increased by 1.
The fourth parameter: **IN** indicates the network type Internet. Only this type of network is supported.
The fifth parameter: **IP4** indicates the IP address type. IPv4 and IPv6 are supported.
The sixth parameter: **10.11.56.61** indicates the IP address of the session initiator, which is a signaling plane IP address.*/
s=SBC call
/*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 is mandatory in any case.
The first parameter: **IN** indicates the network type Internet. Only this type of network is supported.
The second parameter: **IP4** indicates the IP address type. 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 persistent.*/
m=audio 59354 RTP/AVP 8 0 97
/*m=<media> <port> <transport> <fmt list>. media indicates the media type, which can be audio or video.
Currently, audio, video, application, data, and control are defined. port indicates the media port number.
transport indicates the transport protocol. Currently, RTP/AVP is used. fmt list indicates the format list.*/
a=rtpmap:8 PCMA/8000
a=rtpmap:0 PCMU/8000
/*rtpmap indicates the keyword, which is in the format of {PT value} {Stream name}/{Sampling rate}.*/
a=rtpmap:97 telephone-event/8000
a=ptime:20
/*Media encapsulation duration (media duration that can be encapsulated in each packet, in milliseconds).
In this example, the duration is 20 ms.*/
a=fmtp:97 0-15
a=sendrecv
/*Media direction. In this example, the media direction is bidirectional. The media direction can be inactive,
sendonly, recvonly, or sendrecv.*/
/*SIP Body-end*/
```

- SIP header is a signaling message used by the sending party to notify 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 only enable the sending party and receiving party to know that they are connected. Media messages enable both parties to know the specific content of the messages.

  The media messages may be understood as:

  My version is 0.

  The message is sent to you through the signaling address 10.11.56.61, and the media address is 10.11.56.61 (the server that processes the signaling may be different from the server that processes the media). The audio media stream port is 10002, and data is transmitted using RTP. The video media stream port is 10004, and data is also transmitted using RTP.

  Not all terminals support video media. Therefore, when a SIP message is received, the peer end may receive only the audio media information. 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 to ensure the real-time audio 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.

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.

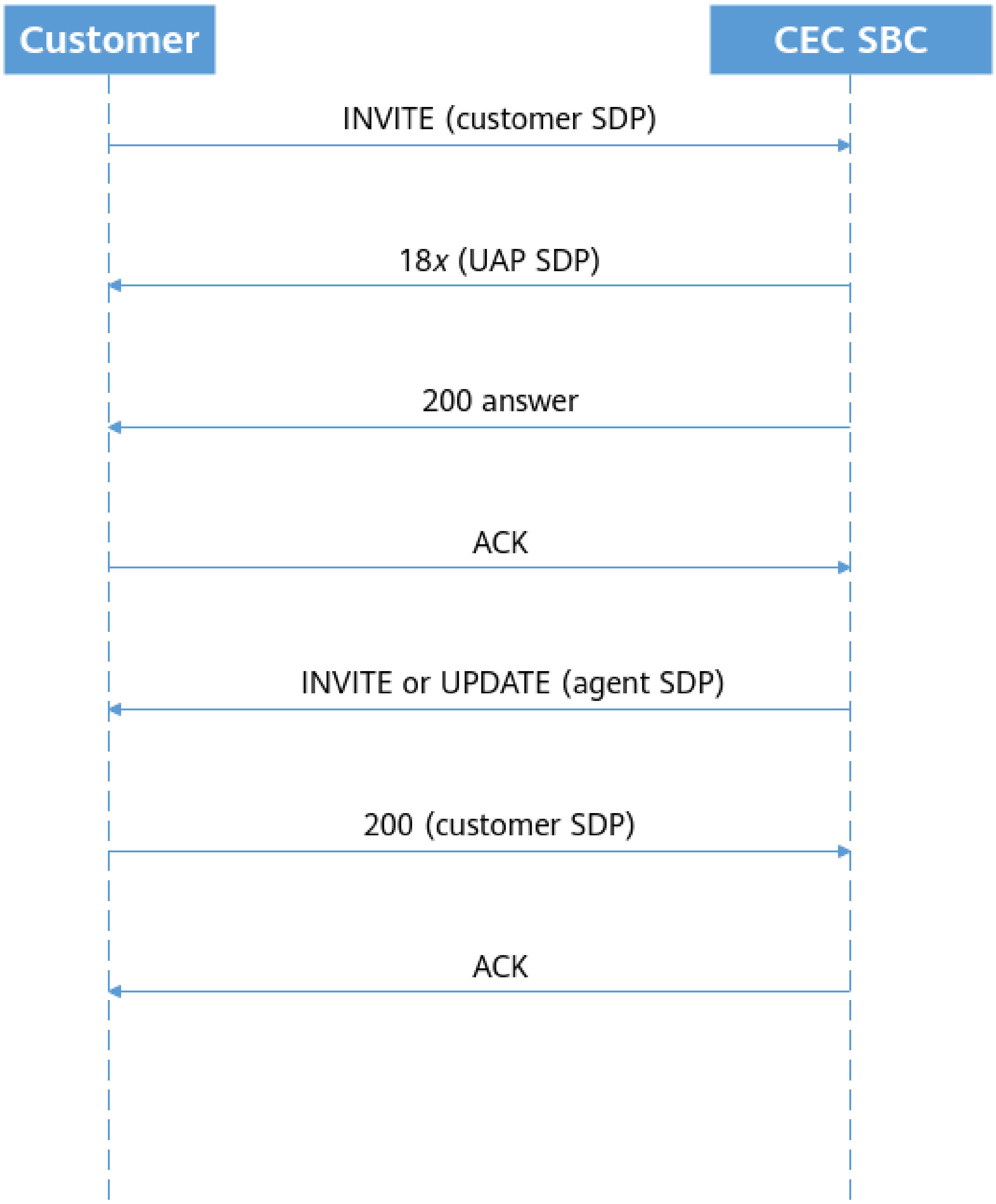
Introduction to the call process

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.

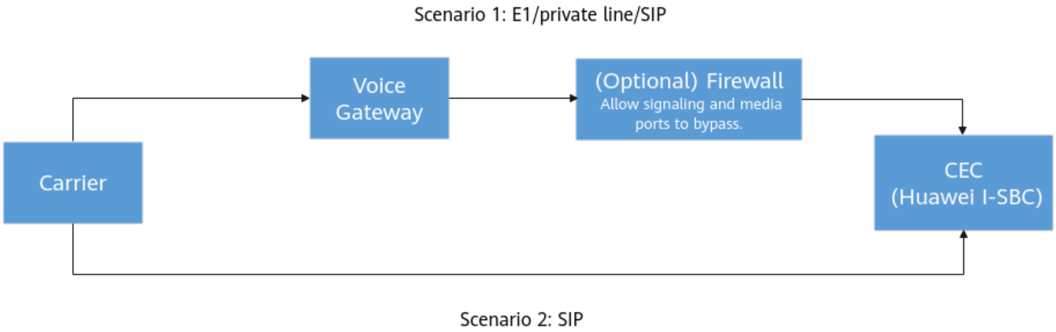
Figure 1-1 Call process



Business Scenario

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

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 the **procedure of applying for connecting to a self-owned access code**, 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 whitelist on the local firewall and connect to the line.

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**.

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

You need to wait for the CEC operations personnel to configure the connection between Huawei Cloud and the self-owned access code. 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[redacted]1	laLa01	Fixed-Line Phone Number	2020-12-21 16:00:00~2020-12-22 16:00:00	0	2	2
0[redacted]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

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.

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.

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.

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

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

A common IVR flow can complete relatively simple outbound call tasks and implement automatic outbound call without manual intervention, thus reducing the cost. However, the customer needs to provide feedback on the operation, and the flow is relatively fixed.

You can drag diagram elements to draw a flow and configure a task-type multi-round chatbot and a Q&A chatbot.

A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

The tenant administrator can configure access channels to implement online text chats between customers and agents.

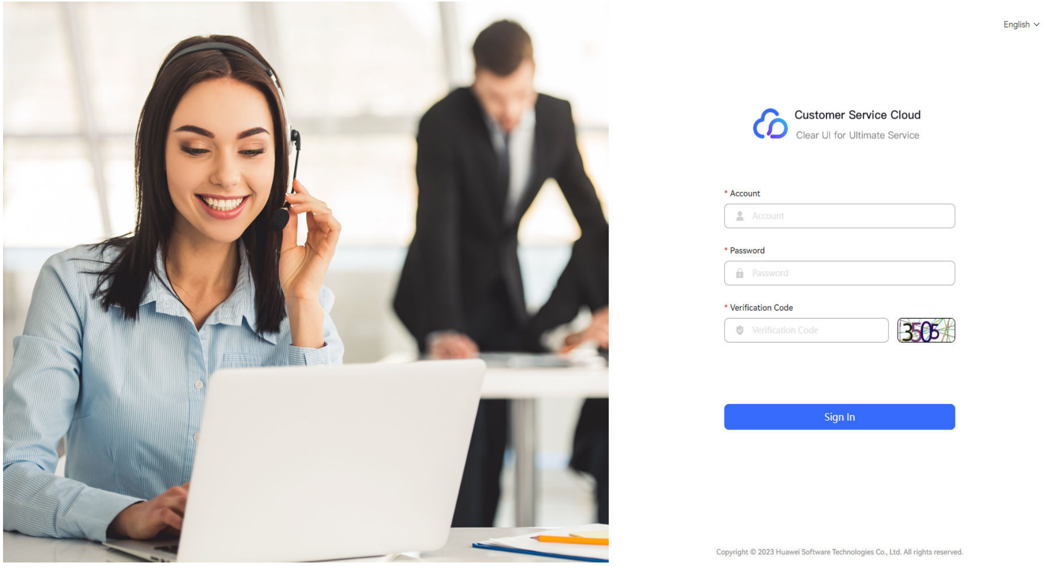
When the number of outbound calls of a tenant exceeds the warning threshold in the configured policy, a risk control record is generated. The system administrator notifies the tenant administrator of the risk control record. The tenant administrator can view the execution status of the risk control policy.

2.1 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.

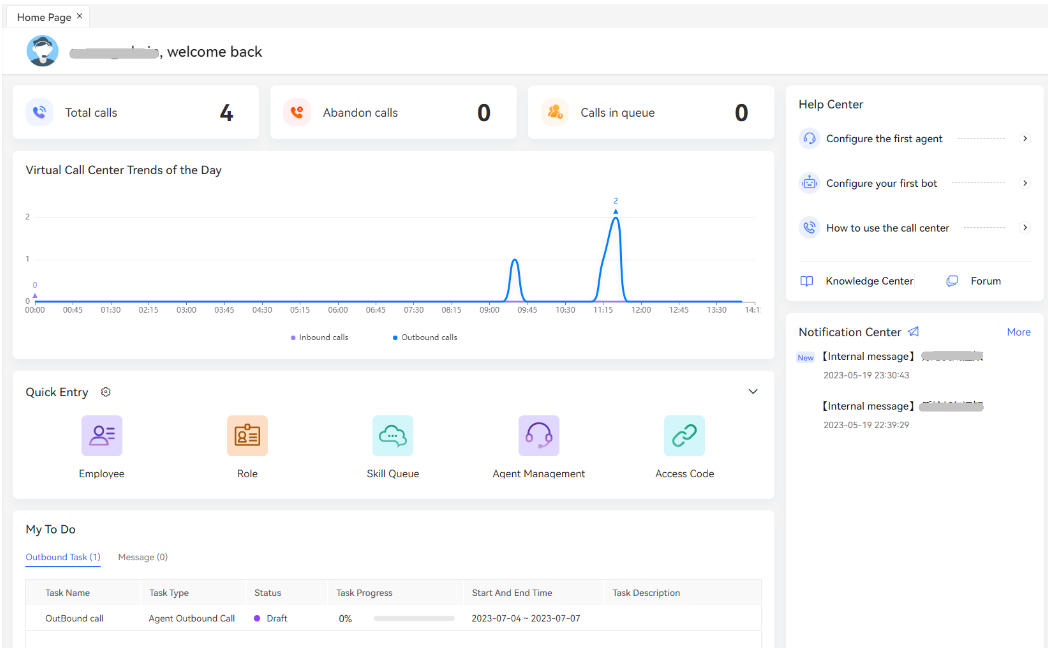
You can use an allocated business account to sign in to the AICC.

Figure 2-1 Sign-in navigation



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



- 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 VDN on the current day.

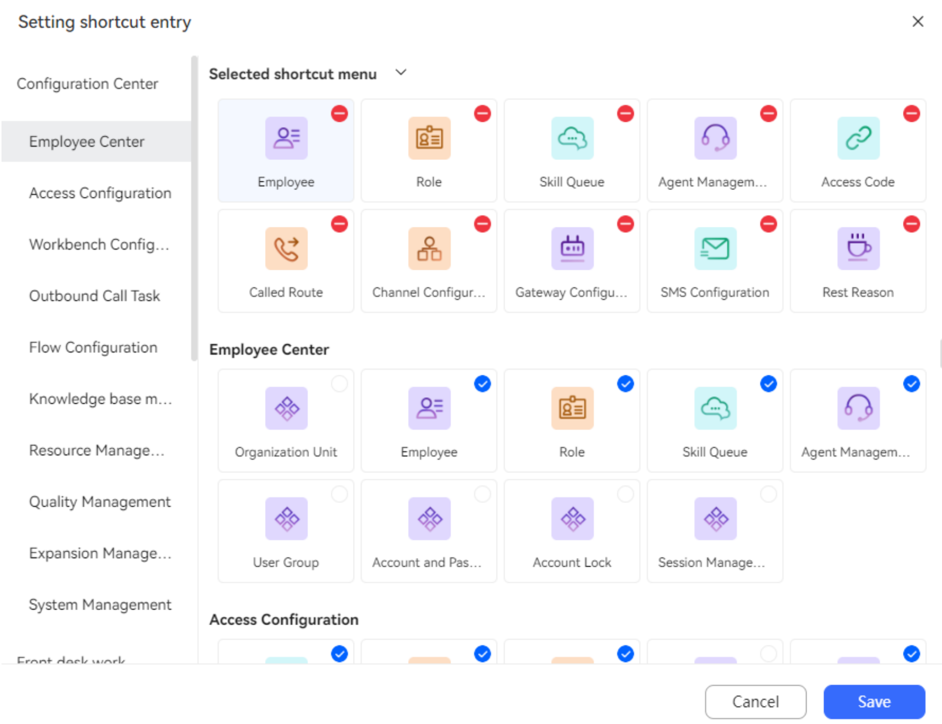
  Click Inbound calls or Outbound calls for the inbound or outbound call indicator respectively to select or deselect the call indicator of the VDN on the current day.

- **Quick Entry**

  a. By default, the following quick menu entries are selected for a tenant administrator: **Employee**, **Role**, **Skill Queue**, **Agent Management**, **Access Code**, **Called Route**, **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. 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.

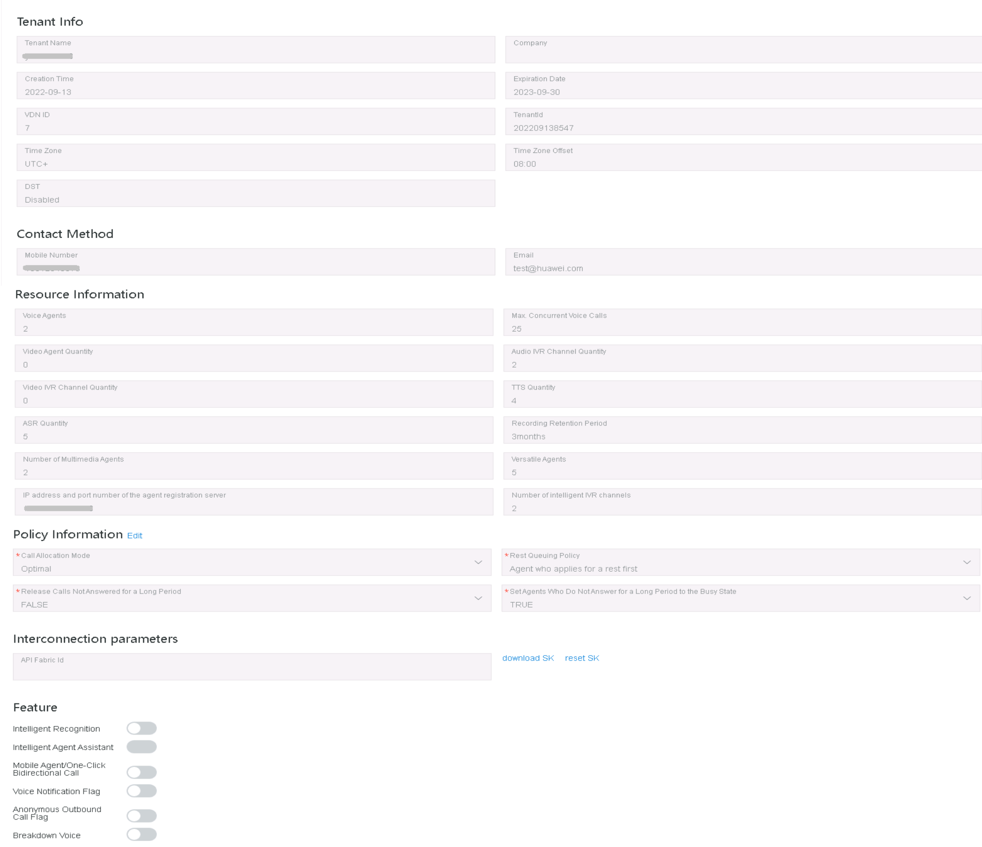
iii. Click **Save**. The setting of quick menu entries is complete.

- **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 chatbots 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.
- **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 the tenant space information and 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.

Figure 2-3 Basic information



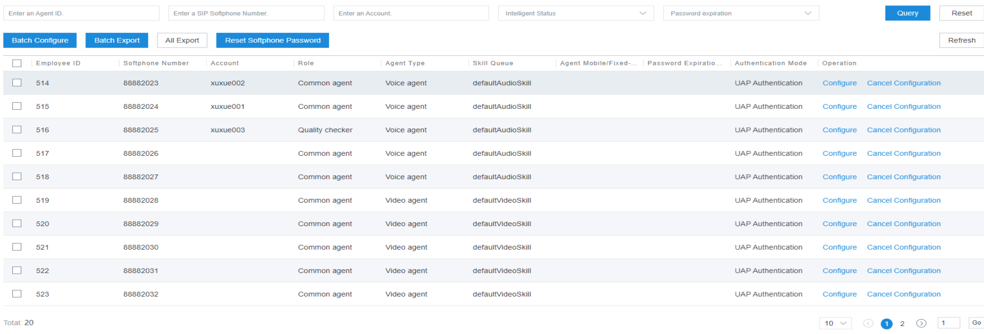
Only features can be configured. Other information, including tenant and resource information, cannot be modified. To modify the basic information and resource information, contact Huawei operations personnel. Tenant space features that can be customized include:

- **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.
- **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 **2.4.3.1 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 employee 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 **2.4.1.3 Associating an Allocated Employee 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.

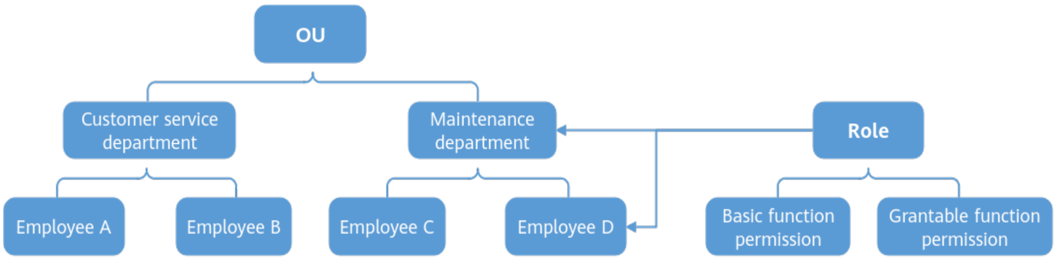
  After associating agents, skill queues, and access codes, you can use an OpenEye softphone number to test call functions.

2.2 Managing Employees

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.

You need to understand the following concepts before configuring employees.

Figure 2-5 Employee configuration



- OU: An enterprise tenant space has a default OU. You can create OUs under the default OU based on responsibilities. Multiple organizations 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, and 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 permission on the system.

Configuring an Employee

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

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

Step 2 Configure a role. For details, see **Configuring a Role**.

Step 3 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.

Step 4 Select an OU and click **New**. The **Add Employee** page is displayed.

Step 5 Configure basic employee information based on **Table 2-1**.

Table 2-1 Configuring basic employee information

Parameter	Description and Example
Account	Employee account, for example, **j100006**.
Employee	Employee name, for example, **Jack**.
Organization Unit	By default, the OU selected before creation is displayed, which can be modified.
Title	Title. This parameter is used to determine the operation permissions of an employee in the inspection task handling process.
Account and Password Rule Group	Retain the default value.
Description	Description.
New password/ Confirm Password	Password for the first sign-in. 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.
Email	Email address of an employee.
Phone Number	Phone number of an employee.
Access Organizations	Select an OU. The employee can access the skill queue resources of the OU during call transfer and help seeking.

Step 6 Click **Next**, click **Add**, and select the configured role.

Step 7 Click **Next** and configure manager information.

1. Click **Add** to add a manager.
2. Click the text box in the **Employee** column. In the **Assign Manager** dialog box, select the desired manager and click **OK**.
3. Click **Save** in the **Operation** column to save the manager information. If you click **Finish** without performing this step, the manager configuration fails.

Step 8 Click **Finish**.

----End

NOTE

- A created account cannot be directly deleted. You need to disable the account before deleting it.
- To search for a forbidden account, set **Status** to **Forbid** in the **Search Criteria** area and click **Search**.

Configuring an OU

Step 1 Choose **Configuration Center** > **Employee Center** > **Organization Unit**. On the OU management page, select the default OU.

Step 2 Click  to add a lower-level OU and configure OU information.

- Default parameters: **Parent OU** and **BE Name**
- User-defined parameters
  - **OU Name**: OU name, which is mandatory.
  - **Description**: OU description, which is optional.
  - **Number of multimedia clients concurrently served by agents**: The parameter priority is as follows: agent parameter > OU parameter > tenant parameter. If this OU parameter is set to **0**, it does not take effect.

    NOTE

    - Agent parameter: After a tenant administrator grants the menu permission **Maximum Number Of Concurrent Service Customers** to an agent, the agent can change the value of **Maximum concurrent service customers** on the **Configuration Center** > **Workbench Configuration** > **Personalization** page.
    - Tenant parameter: A tenant administrator can change the value of **Multimedia Sessions Concurrently Processed by Agent** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.
  - **Agent status configuration after a call ends**: The options are as follows:
    - **Idle state**
    - **Wrap-up state**

    The parameter priority is as follows: OU parameter > tenant parameter. If this OU parameter is set to **...**, it does not take effect.

    NOTE

    Tenant parameter: A tenant administrator can change the value of **After-Call Agent State** on the **Configuration Center** > **System Management** > **Tenant Parameter** page.

Step 3 Click **Next** and configure role information. If no role information is available, you can directly go to the next step.

1. Click **Add**. The role list for selecting the roles to be assigned is displayed. For details about how to configure a role, see **Configuring a Role**.
2. Select the required roles and click **Save**.

Step 4 Click **Next** and configure employee information. If no employee information is available, you can directly go to the next step.

1. Click **Add**. The employee list for selecting the employees to be assigned is displayed. For details about how to configure an employee, see **Configuring an Employee**.
2. Select the required employees and click **OK**.

Step 5 Click **Finish**.

----End

Configuring a Role

Step 1 Choose **Configuration Center** > **Employee Center** > **Role**. A default role whose name is the same as the tenant space name is preset on the role management page. This role cannot be deleted or modified.

Step 2 Select the default role and click to add a role and configure role information.

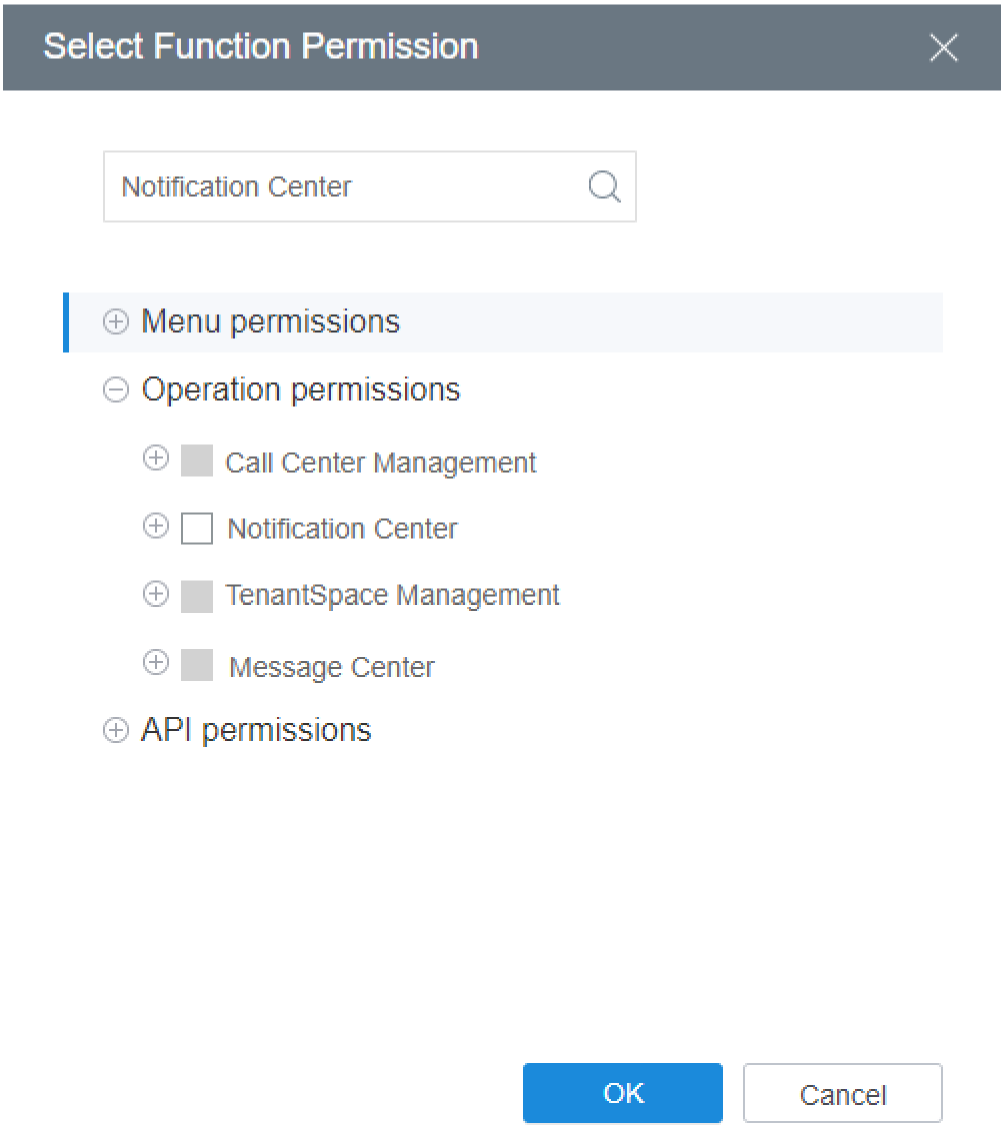
User-defined parameters:

- **Role Name**: Role name, which is mandatory.
- **Description**: Role description, which is optional.

Step 3 Click **Next**. On the **Function Permission** page, configure permissions for the role.

1. Open the **Function Permission** tab page.
   - Click the **Basic Function Permission** tab and click **AddFunction Permission**. The **Select Function Permission** dialog box is displayed.
   - Click the **Grantable Function Permission** tab and click **Add**. The **Select Function Permission** dialog box is displayed.
2. Select function permissions. You can search for permissions. Permissions that are not supported by the current account are dimmed, and the queried permissions are highlighted.

Figure 2-6 Selecting function permissions



Function permission status description:

- : The function permission is not 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.

3. Click **OK** to save the configuration.

Step 4 Click **Next**. On the **Assigned Employee** page, click **Add**, select the required employees, and click **OK**. The selected employees have the grantable function permissions configured for the role.

Step 5 Click **Finish**.

----End

Reference

- **Menu permissions**: Configure system menus to restrict the menus available to employees with the current role. For details, see **Table 2-2**.
- **Operation permissions**: Configure page operation functions to restrict the operation permissions of employees with the current role. For details, see **Table 2-3**.
- **API permissions**: Configure APIs that are available to employees with the current role. For details, see **Table 2-4**.

Table 2-2 Menu permissions

<table>
<tr><th colspan="2">Permission</th><th>Description</th></tr>
<tr><td rowspan="6">System Management</td><td>Security Configuration</td><td rowspan="5">Function permissions for the system administrator, which do not need to be configured at the tenant level.</td></tr>
<tr><td>Tenantspace Management</td></tr>
<tr><td>Tenant Management</td></tr>
<tr><td>Service Type Management</td></tr>
<tr><td>Space Type Management</td></tr>
<tr><td>System Management</td><td>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.
Menu Management: Manage operation menus in the tenant space.
Permission Management: Manage operation permissions on menus in the tenant space.</td></tr>
</table>

Permission		Description
User Management	User Management	• **Organization**: Manage OU information in the tenant space. • **Employee**: Manage business account information of employees in the tenant space. • **Role**: Manage function permission information of employees in the tenant space. • **Account and Password Rule**: Manage account and password rules in the tenant space. • **Account Lock Management**: Manage account lock status in the tenant space. • **User Group Management**: Manage employee group information in the tenant space. • **Session Management**: Manage sign-in sessions of accounts in the tenant space.
Chat	Workbench	**Audio and Video Workbench**: When an agent signs in, the voice and video workbench is automatically opened for business handling.
Online Studio	-	Function permissions for the system administrator, which do not need to be configured at the tenant level.
Call Center Monitor	Monitor Configuration	• **QC Relation Management**: Manage inspection relations between inspectors and agents. • **Full Screen Monitoring Configuration**: Configure fullscreen monitoring indicators. • **Report Subscribe Configuration**: Configure subscribed reports and periodically send information about the subscribed reports to specified personnel via email. For details about the email sending configuration, see **Creating an Email Notification Template**. • **CMS System Configuration**: This is a function permission for the system administrator, which does not need to be configured at the tenant level.

<table>
<tr><th colspan="2">Permission</th><th>Description</th></tr>
<tr><td rowspan="2"></td><td>Monitor Management</td><td>Agent Monitor: View agent sign-in information in the 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.
Call QC: View the voice and video call details of agents in the tenant space. Inspectors (whose platform role is Quality checker) can preview or download recording files of agent calls.
Canceled Queuing Call Monitor: View details about users who cancel queuing in the tenant space.
Index Monitor: View data about the VDN, IVRs, skill queues, and agents in the tenant space.
Call Link Monitor: View details and tracks of calls in the tenant space from 00:00 on the previous day.
Offline Message Monitoring: View offline messages received by agents in the tenant space.</td></tr>
<tr><td>Report</td><td>View the monitoring data of the call center, including the following reports: Skill Queue Performance Report, Agent Performance Report, Agent Outbound Call Report, Agent Connection Operation Report, IVR Traffic Report, IVR Traffic By AccessCode Report, Skill Queue Performance Statistics Report by Access Code, Skill Queue Summary Report, VDN Performance Report, VDN Performance Statistics Report by Access Code, Abandoned Calls (During Ringing) Summary Report, and Interval-based VDN Traffic Report.</td></tr>
</table>

Permission		Description
ISales	ISales Management	• **ISales Task Management**: Configure outbound call task details. • **Holiday Management**: Set special dates and plan the execution time of outbound call tasks. • **ISales Task Statistics**: Monitor outbound call tasks and check the execution of outbound call tasks. • **Outbound Black List Management**: Configure the outbound number blocklist to reduce invalid outbound calls. • **Business Result Define**: Define outbound call business results to summarize business status. • **Outbound Call Result Definition**: Define outbound call execution results. • **Outbound Call Data Attribute Definition**: Configure different attributes for outbound call data and add customer information. • **Outbound Call Template Management**: Configure outbound call task templates to reference templates during outbound call task configuration. • **Special List**: Configure the special list to filter out invalid data during outbound call task execution. • **Agent Work Statistics**: Collect statistics on the outbound call workbench and summarize outbound call tasks. • **Multimedia Marketing Management**: Perform multimedia marketing using SMS messages, emails, and WhatsApp messages.
	Outbound Execute	• **Outbound Workbench**: An agent can view and execute outbound call tasks on the outbound call workbench. • **Appointment Outbound**: An agent can reserve outbound call tasks at specified time in advance.
	Outbound Call Configuration	• **Outbound Call File Server**: Upload outbound call task data from the server. • **Mapping Rule Import**: Customize the mapping rules for importing data related to outbound call tasks.
	Outbound Call DataSource Management	Back up and store outbound call data on other servers.

Permission		Description
Outbound Call DataSource Management	-	Back up and store outbound call data on other servers.
Intelligent Training	Intelligent training management	**Training Task Management**: Configure training task details.
	My Training Tasks	**My Tasks**: An agent can participate in intelligent training tasks.
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	View the execution of risk control strategies.
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.
Knowledge Base	Knowledge Management	Manage and create knowledge.
	Knowledge Review	Review knowledge details.

Permission		Description
	Knowledge Application	Search for knowledge and add knowledge to favorites.
	Template management	Create and manage knowledge templates.
Questionnaire Management	Questionnaire Management	• **Script Management**: Configure survey details. • **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.
Channel Configuration	Call Center Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.

Permission		Description
	Call Center Configuration	Manage basic tenant space configurations. ● **Basic Information**: View basic tenant space information. ● **Skill Queue**: Manage tenant space skill queues. ● **Agent Management**: Manage tenant space agent configurations. ● **Called Route**: Configure called party routes. ● **Access Code**: View access code information of the tenant space. ● **Settings**: Manage system parameter settings of the tenant space. For details, see **2.17 Configuring Public Resources** and **2.4 Enabling Manual Services**. The permissions include **Parameter Configuration**, **Screen Pop-up**, **Call Reason**, **Mobile Agent**, **Callback Url Configuration**, **Satisfaction Survey**, **SMS Configuration**, **Authentication Configuration**, **Gray Configuration**, **Gateway Configuration**, **Dynamic Data Table**, **Page Configuration**, **Gateway monitoring**, **Certificate**, **Rest Reason**, **Prompt Tone**, **Contact Record**, **Resource Dump**, **Encryption Information Management**, **Configuring the Voice Muting Agent**, **Agent Routing Rules Configuration**, **Message flow control management**, **Email Signature**, **System Parameter Configuration**, **Special List**, **SP Management**, **Federated App Management**, **UC Integration**, **Voice Notification**, **Authentication**, and **Harassment record review**. ● **Table Data**: Query and configure data values in dynamic data tables. ● **Resource Dump Task**: Manage business resource data dump tasks.

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. • **Dual Call Record**: Query details about bidirectional call records after the one-click bidirectional call feature is enabled. • **Document Management**: Query contract signing information after the contract digital signature feature is enabled. • **Reset Skill Record**: Query skill queue adjustment details. • **Identity Authentication Record**: Query details about all identity authentication records.
	Tenant Space Management	Function permissions for the system administrator, which do not need to be configured at the tenant level.
	IVR Management	• **Intelligent IVR**: Configure intelligent IVR flows. • **IVR Voice**: Manage uploaded voice files. • **Flow Management**: Manage common IVR flows. • **Process Transfer Record**: View the records of call transfer to IVR flows in the current tenant space.

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 Configuration**: 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. • **Message Route Configuration**: Distinguish email messages from SMS messages. • **Notification Type Configuration**: Configure different notification types, for example, bulletin.
	System Management	**System Version**: This is a function permission for the system administrator, which does not need to be configured at the tenant level.
	Customer Center	**Customer Center Management**: Manage customer information in the tenant space.
Service Channel Configuration	Social Media Operations	Permissions for operations personnel.
	Operation Management	• **Channel Configuration**: Configure multimedia access channels, including WeChat, web, Twitter, email, WhatsApp, Facebook, LINE, and 5G message channels. • **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. • **Workbench Configuration**: Configure working time and non-working time. • **Email Message Management**: Manage emails.

Permission		Description
	Online Service	• **Personalization**: Configure personalized information such as nicknames and greetings, which are displayed when agents handle businesses. • **Online Chat Workbench**: An agent can handle business information accessed through the WeChat, web, Twitter, email, WhatsApp, Facebook, LINE, and 5G message channels. • **Personalized Common Language**: Configure common phrases used by agents to handle businesses.
Home	-	Configure functions frequently used on the home page.
Case Management 2.0	Case Workbench	Create cases, merge cases, and create tasks.
	Case Configuration	• **Case Status** • **Case Field** • **Case Template** • **Case Template Content** • **Case Type** • **Case Role** • **User Role**
	Historical Case	View historical cases.

Table 2-3 Operation permissions

Permission		Description
Message Center	Message Send	Send internal message notifications.
Notification Center	Sending a Bulletin	Send bulletins through the notification center.
	Group-send internal messages	Send internal messages to groups through the notification center.

Permission		Description
Agent Management	Modifying Agent Fixed-Line Phone Number	An agent can modify **Fixed-Line/Mobile Number** on the agent information page.

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 inbound call can be transferred 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 initiates 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 chat 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 proactively ends 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 dials 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**

Permission		Description
	Contact Record Management	● **Query Contact Record**: Query all the contact records of a business account. ● **Play Recording Online**: Play recordings in contact records online. ● **Recording Download**: Download recording files in contact records. ● **Contact Record Export**: Export 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**, and **Delete Inspection Result**.
	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**.
	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 in the 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.
	IVR Flow Management	-

Permission		Description
	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.
	Agent Workbench	• **Transfer pop-up parameters**: If the inbound call screen pop-up is set to an 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.

Permission		Description
	Basic data table management	**View demasking data**: View demasked data in customized dynamic data tables.
	download SK	Download SK information to the local PC.
	Large-screen monitoring management	• **Viewing Public Large-Screen Monitoring**: View details about fullscreen monitoring data. • **Edit Public Large-Screen Monitoring**: Customize fullscreen monitoring data parameters. • **Querying Data of All Organizations**: View the fullscreen monitoring data of all OUs.
	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 recording files in call transfer records online. • **Recording Download**: Download recording files in 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.
	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. The permission is assigned to tenant administrators by default and does not need to be configured for tenants.

Table 2-4 API permissions

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

Permission	Description
CaseBDF rest api auth	Obtain the CASE APP node service permission.
SLA rest api auth	Obtain the SLA node service permission.

Configuring a User Group

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

Step 1 Choose **Configuration Center** > **Employee Center** > **User Group**. On the user group management page that is displayed, select the default group.

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

- **Usergroup**: User group name, which is mandatory. An example is **Administrator group**.
- **Description**: User group description, which is optional.

Step 3 Click **Next**. On the **Employee** page, click **Add**, select the required employees, and click **OK**.

Step 4 Click **Finish**.

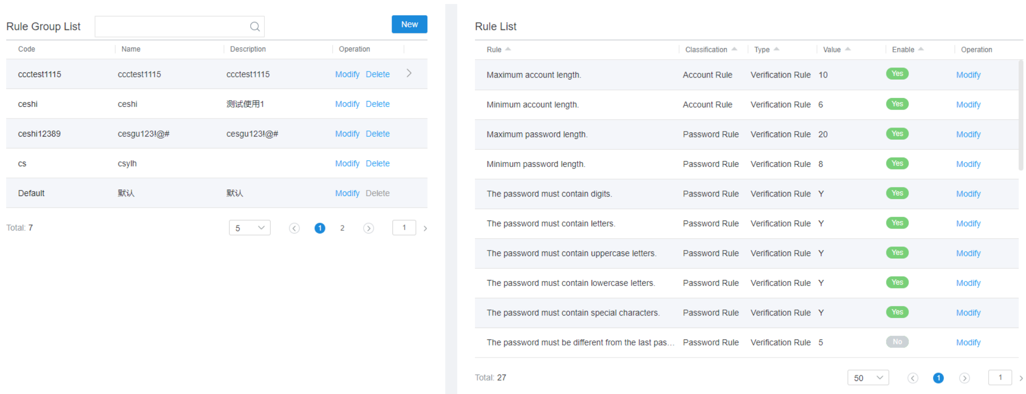
----End

Configuring an Account and Password Rule

The AICC provides a default account and password rule group **Default**, which cannot be modified or deleted. For the system administrator, the AICC also provides a default account and password rule group **Machine**, which is used to verify machine-machine interface passwords configured on the GUI (for example, API passwords in the intelligent IVR). A system administrator or tenant administrator can customize account and password rules.

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

Figure 2-7 Account and Password Rule page



Step 2 Click **New** in the **Rule Group List** to add an account and password rule group.

Step 3 Configure rule information and click **Save**. The customized account and password rule group is added successfully.

Step 4 (Optional) Click **Delete** or **Modify** to delete or modify a customized rule group. The code cannot be modified.

Step 5 Select the new account and password rule group, select the rule to be modified in the **Rule List**, and click **Modify** 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** column, and click **Save**.

----End

2.3 Importing Federated Users

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

Prerequisites

- A system administrator has added a federated app.
- A 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**.

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 Set a role for the federated user. For details, see **Configuring a Role**.

----End

2.4 Enabling Manual Services

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

2.4.1 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.

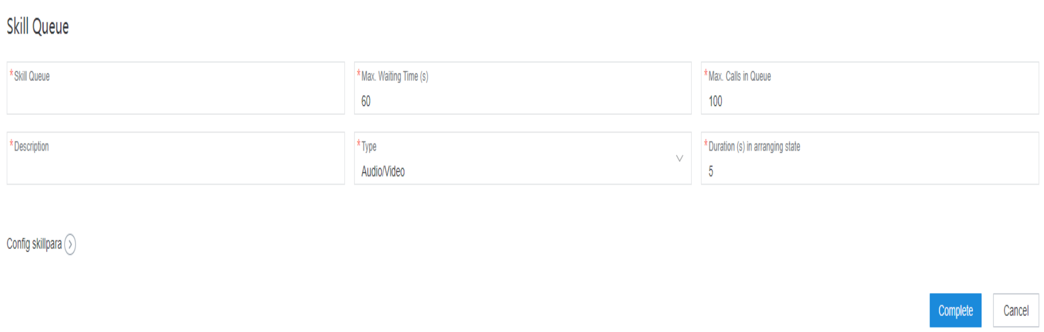
2.4.1.1 Maintaining a Tenant Space Skill Queue

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

Step 1 Log in to the AICC as the tenant administrator.

The tenant administrator account is created by the system administrator during tenant space enabling and distributed to the enterprise.

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



The parameters related to a skill queue are described as follows:

- **Max. Calls in Queue**
  Maximum number of customers who are allowed to enter a queue when all agents are busy.

If the number of customers in the queue reaches this value, no more customers who dial the customer service hotline can be added to the queue.

- **Max. Waiting Time (s)**

  Maximum period for a customer to wait in the queue when all agents are busy.

  If the waiting duration of a customer in the queue exceeds this value, the customer will be disconnected.

- **Type**

  Agents of the audio/video type handle voice businesses only. Agents of the multimedia type handle multimedia services only.

- **Duration(s) in arranging state**

  Duration for an agent to enter the arranging state after a call ends. The default value is 5 seconds.

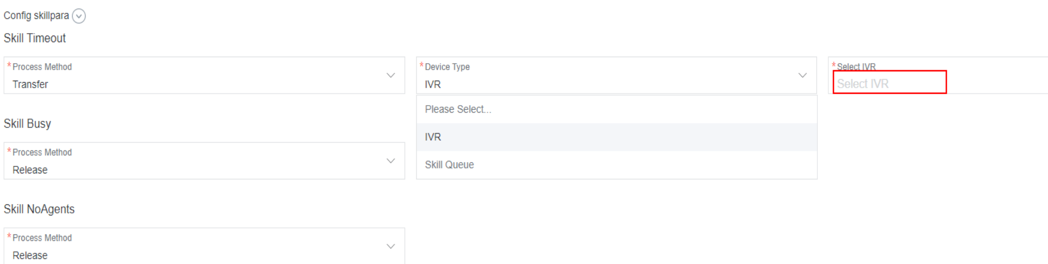
  If the duration exceeds this value, the agent enters the idle state and can answer calls from customers.

- **Config Skillpara**

  Three scenarios can be configured: **Skill Timeout**, **Skill Busy**, and **Skill NoAgents**.

  Process Method

  The options are **Release** and **Transfer**. If the process method is **Transfer**, you need to add an IVR flow or a skill queue. Then, calls are transferred to the new IVR or skill queue.



NOTE

- For compatibility purposes, **Type** of a skill queue is set to **Audio/Video** by default if it is left empty.
- You can click **Refresh** to display the latest data.
- **Process Method** is set to **Release** by default.
- If the new skill queue is set to an audio/video type, you can select **IVR** or **Skill Queue** from the **Type** column on the **Skill Queue** page.
- If the new skill queue is set to a multimedia type, you can select only **Multimedia** from the **Type** column on the **Skill Queue** page.

----End

2.4.1.1.1 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 **2.5.2 Configuring a Voice File**. 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

2.4.1.1.2 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 **2.5.2 Configuring a Voice File**. 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

2.4.1.2 Configuring Called Routes

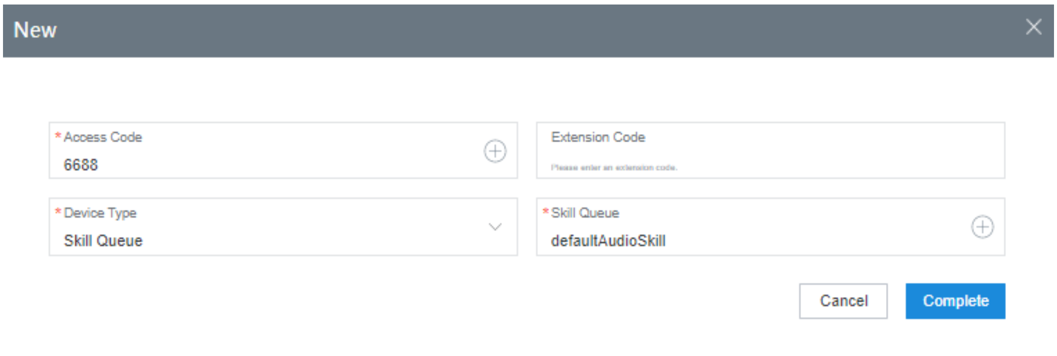
After receiving a call from a customer, the CTI routes the call to the IVR or an agent based on the routing policies. To allow agents to answer calls, you need to configure called routes.

Procedure

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

Step 2 Click **New** to add a called route for the VDN.

Figure 2-8 Page for adding a called route



The parameters are described as follows:

- **Access Code**: Click to select an access code in the dialog box that is displayed. 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, the extension code

is 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 a skill queue in the dialog box that is displayed. 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 **Complete** to save the configuration.

----End

2.4.1.3 Associating an Allocated Employee 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.

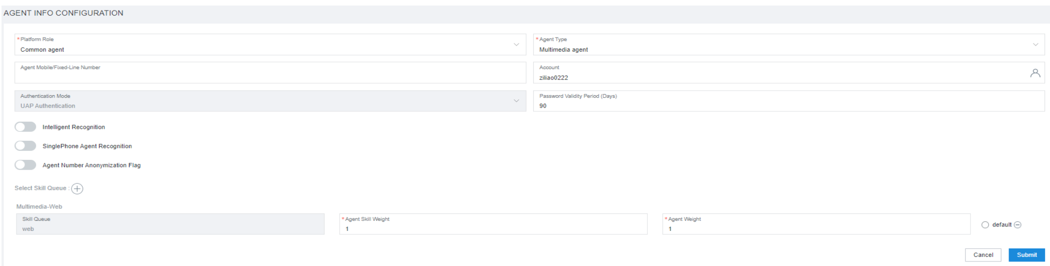
Procedure

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 2-9 Agent Info Configuration page



- **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 **Audio agent** for the manual voice business.

  - **Audio agent**
  - **Video agent**
  - **Multimedia agent**
  - **Versatile agent**
- **Agent Mobile/Fixed-Line Number**: Enter a mobile number or fixed-line phone number used by the agent. Leave this parameter empty for the manual voice business.
- **Account**: Enter a created employee account. For details, see **2.2 Managing Employees**. You can enter the tenant administrator created during tenant space 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.
- **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.
- **SinglePhone Agent Recognition**: 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 employee 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 single-phone agent process for the tenant based on the platform, and the tenant needs to provide number resources for accessing the single-phone 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).
- **Select Skill Queue**: Configure the skill queue 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. For example, the media types of all the skill queues are voice and video, or multimedia. Click **default** to specify the default skill queue.

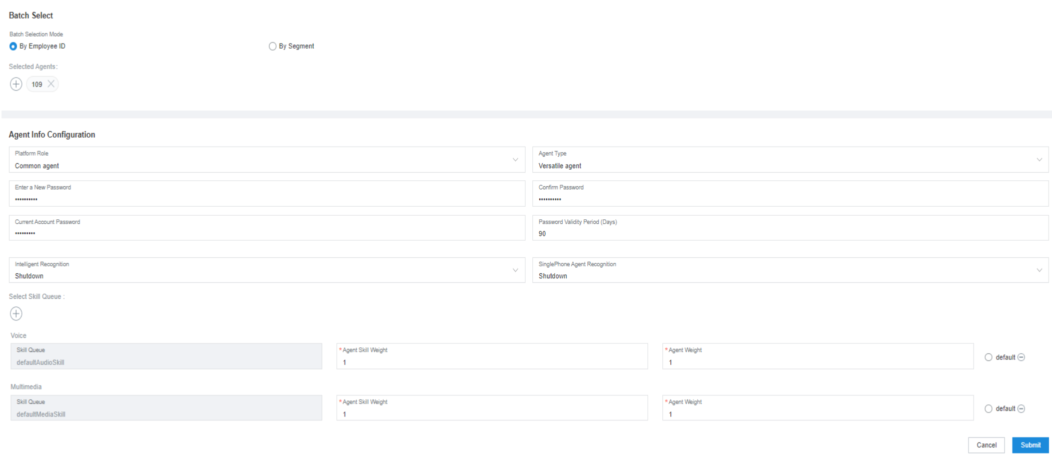
NOTE

- 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 **Submit**. The business account and skill queue are associated with the agent ID.

Step 5 (Optional) Click **Batch Configure**. On the **Batch Agent Info Configuration** page that is displayed, configure agent information in batches.

Figure 2-10 Batch Agent Info Configuration page



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

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

----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 left corner of the page.

NOTE

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

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

----End

2.4.1.4 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 **2.5.2 Configuring a Voice File**. 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**.

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

2.4.2 Agent Workbench

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

2.4.2.1 Configuring a Call Reason

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

Procedure

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

Step 2 Click  to add a call reason.

Step 3 Set call reason parameters.

Figure 2-11 Configuring a call reason

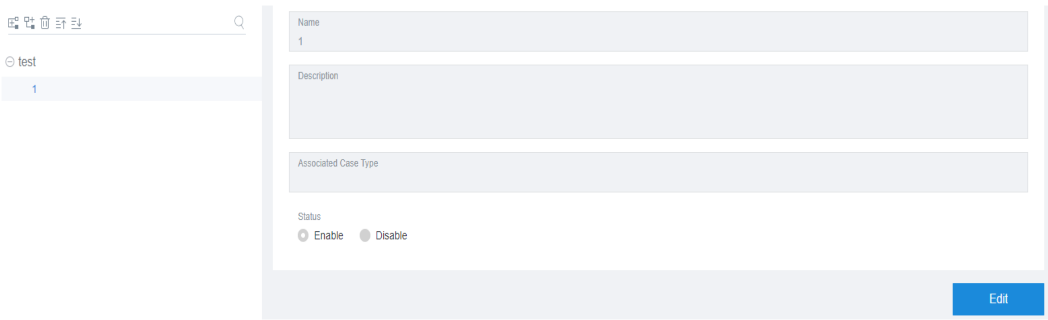


Table 2-5 Call reason parameters

Parameter	Description
Name	Call reason name. This parameter is mandatory. The value can contain a maximum of 50 characters.
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** feature is enabled.

Parameter	Description
Status	The options are as follows: ● **Enable** ● **Disable**

Step 4 Set **Status** to **Enabled** and click **Save**.

Step 5 (Optional) Select the configured call reason and click to add a level-2 call reason. Configure the level-2 call reason and click **Save**.

----End

2.4.2.2 Setting a Rest Reason

A tenant administrator can set 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.

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 **Add**. The **Add Rest Reason** page is displayed.

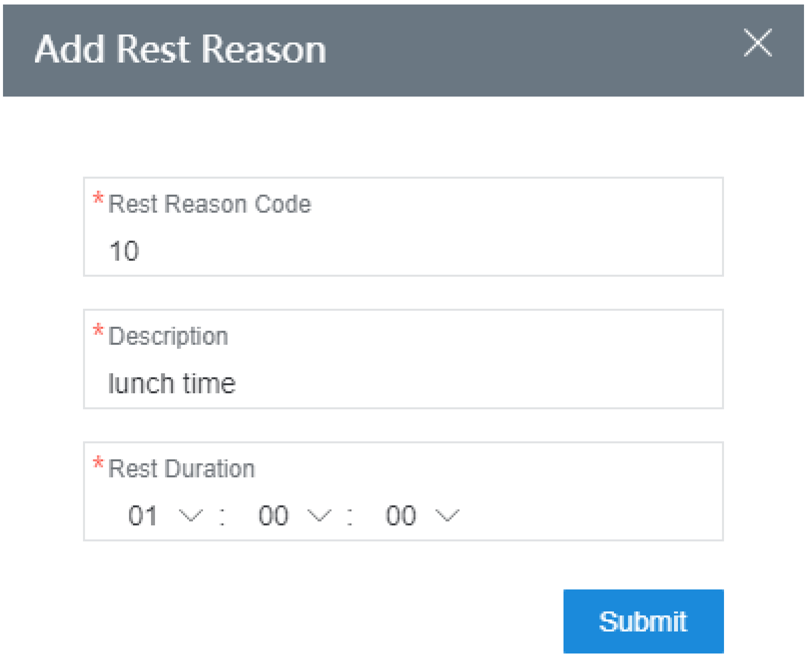


Table 2-6 GUI elements on the Add Rest Reason page

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.
Description	Text box	Reason description.	The value can contain a maximum of 100 characters.	Enter	-

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
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 **Submit**.

Step 4 Click **Refresh** to synchronize the information to the call center platform.

----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.

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.

2.4.2.3 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.

2.4.2.3.1 Adding Extended Data Items

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 Management** > **Contact Data Item**.

Step 2 Add an extended contact information dataset.

1. Click the **Extended Contact Information Dataset** tab and click **Add**.
2. Set parameters based on **Table 2-7**.

Table 2-7 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.
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 **Submit**.

Step 3 Add extended data items.

NOTE

A maximum of 10 extended data items can be added.

1. Click the **Contact Record Data Item** tab and click **Add**.
2. Set parameters based on **Table 2-8**.

Table 2-8 Parameters of extended data

Parameter	Description
Data Type	Set this parameter to **Extension data**.
Data Item Name	Data item name, which is customized. The value can contain a maximum of 1024 characters.
Data Item ID	The value can contain a maximum of 128 characters.

Parameter	Description
Visible Contact Record	Whether an extended field is visible in the contact record list. The options are as follows: – **Yes** – **No**
No.	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**
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 **Submit**.

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

----End

2.4.2.3.2 Adding Basic Data Items

Procedure

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

Step 2 Add a basic data item.

1. Click the **Contact Record Data Item** tab and click **Add**.
2. Set parameters based on **Table 2-9**.

Table 2-9 Parameters of basic extended data

Parameter	Description
Data Type	Set this parameter to **Basic data**.
Data Item 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**
Data Item ID	After you set **Data Item 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**
No.	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 **Submit**.

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

----End

2.4.2.3.3 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 **2.4.2.8 Configuring a Dynamic Data Table**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion Management** > **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 **Add**.
2. Set parameters based on **Table 2-10**.

Table 2-10 Parameters of a data item in the contact customer information area

Parameter	Description
Data Item Name	Data item name. The value can contain a maximum of 128 characters.
Data Item ID	Data item 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 Management** > **Dynamic Data Table** page.

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.
Extended Contact Record Writeback Field	Extended contact record writeback field. This parameter is left empty 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.
Font	Font style. – **Regular** – **Bold** – **Italic** – **Underlined**

3. Click **Submit**.

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

----End

2.4.2.4 Configuring Voice Notifications

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 contacted the system administrator to add voice notification callback URLs to the mobile agent callback URL trustlist.

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 Management** > **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 Management** > **Voice Notification**, and configure the voice notification callback URL.

Step 2 Click **Edit** to configure the release callback URL for voice notifications.

- **Hang-up Callback URL**: Release callback URL. The URL must start with **http** or **https**.

  NOTE

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

- **Method of Release Callback**: The default value is **POST**.
- **Shared Key**. The key 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

2.4.2.5 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 contacted the system administrator to add one-click bidirectional call callback URLs to the mobile agent callback address trustlist.

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 Management** > **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 Management** > **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 in to the system as a tenant administrator, choose **Configuration Center** > **Expansion Management** > **Bidirectional Call**, click **Edit**, and update the values of **Enter an accessKey**, **Enter an AppKey**, and **Enter a secretKey**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion Management** > **Bidirectional Call**. On the configuration page, configure callback URLs and select a bidirectional call type for the tenant space.

Step 2 Click **Edit** to configure callback URLs for one-click bidirectional calls.

- **Connection Callback URL**/**Hang-up Callback URL**: Connection or release callback URL. The URL must start with **http** or **https**.

NOTE

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

- **Method of Connection Callback**/**Method of Release Callback**: The default value is **POST**.
- **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 ID of 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 3 Configure the one-click bidirectional call type.

1. Click **Edit** to 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

2. If **ITA bidirectional call** is selected, set the following ITA parameters:
   - **Enter an accessKey**: The value is provided by the ITA.
   - **Enter a secretKey**: The value is provided by the ITA.
   - **Enter an AppKey**: The value is provided by the ITA.
   - **Enter a ITA Domain Name**: The value is provided by the ITA.
   - **Automatic**/**Specified**: Currently, **Automatic** is not supported.
   - **Enter a X Number**: Purchased number provided by the ITA.

Step 4 Click **Save**.

----End

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.

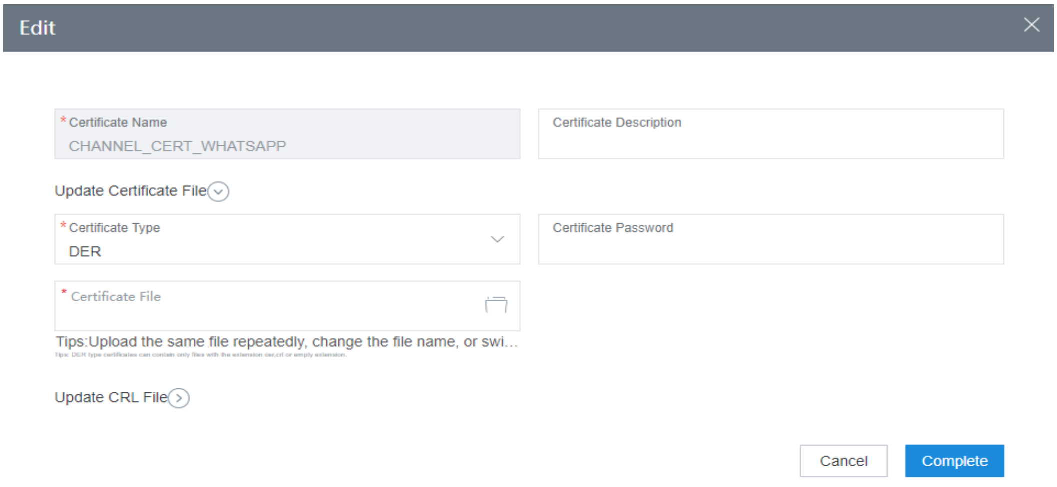
Step 1 Obtain the ITA authentication certificate by referring to **2.17.6 Managing a Certificate**.

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 **Complete**. After the certificate is uploaded, wait for 5 minutes for the certificate to take effect.

----End

2.4.2.6 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

- A system administrator has configured a third-party URL.
- You have configured internal pages. For details, see **2.4.2.7 Configuring a Page**.

Procedure

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

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 **Audio and video workbench**, and a **Multimedia** pop-up page can be integrated into the **Online Chat Workbench**.

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

- You can configure a maximum of five **Audio/Video** pop-up pages and a maximum of five **Multimedia** pop-up pages.
- You can configure internal and external pages for the **Audio/Video** type, but can only configure external pages for the **Multimedia** type.

Figure 2-12 Internal page

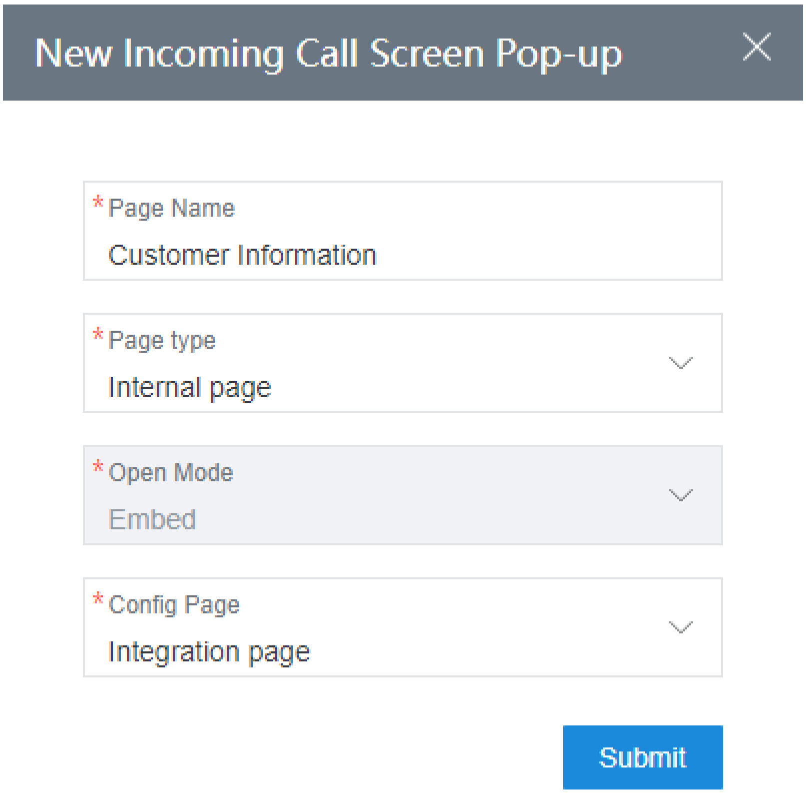


Figure 2-13 External page

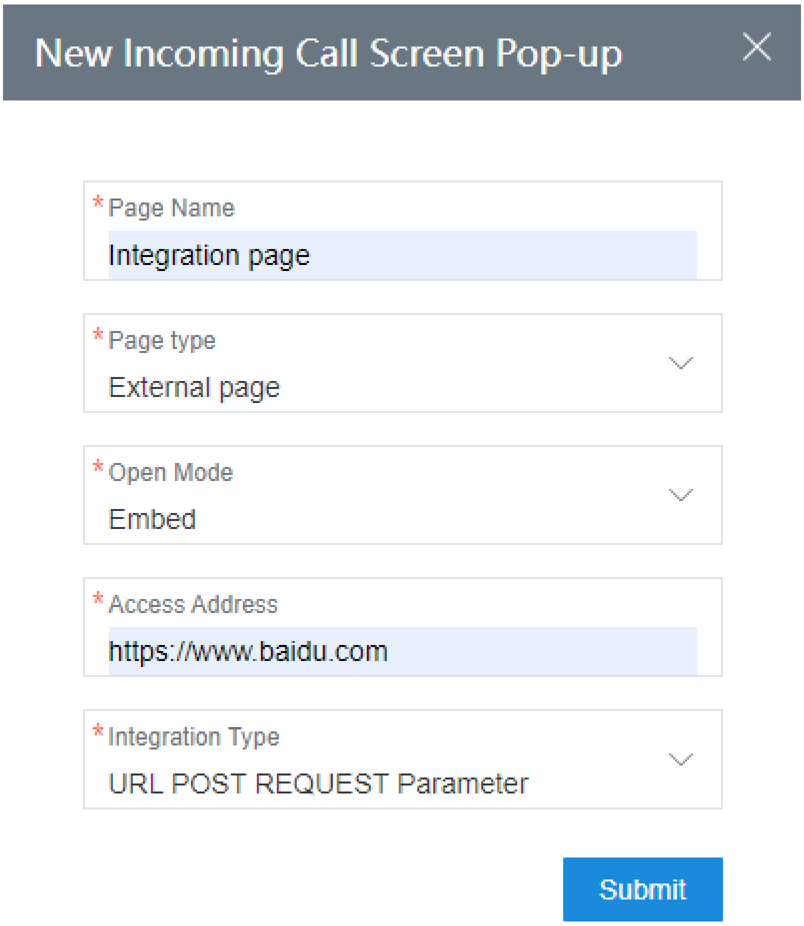


Table 2-11 Inbound call screen pop-up parameters

Parameter	Description
Page Name	Page name, which is customized.
Page type	The options are as follows: – **Internal page** – **External page**
Open Mode	The options are as follows: – **Embed** (By default, internal pages can be opened only in this mode.) – **Independently opened**
Config Page	This parameter is mandatory when **Page type** is set to **Internal page**. The value is the page customized and released in **2.4.2.7 Configuring a Page**.

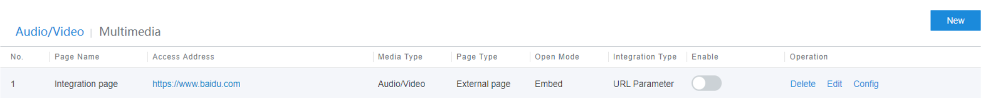
Parameter	Description
Access Address	This parameter is mandatory when **Page type** is set to **External page**. The value is the third-party URL configured by the system administrator. **CAUTION** For example, if this parameter is set to **https://www.huawei.com**, the transferred URL is actually https://www.huawei.com?callerNum=*400124*&calledNum=*88880344*&callid=*1574662344-400*&mediaType=*1*&callType=*1*&workNo=*1511*. 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
Integration Type	This parameter is mandatory when **Page type** is set to **External page** and **Open Mode** is set to **Embed**. 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 **Submit**.

Step 4 (Optional) Set screen pop-up parameters for an external page.

If screen pop-up parameters are not set, the following six parameters are transferred by default: **callerNum**, **calledNum**, **callid**, **mediaType**, **callType**, and **workNo**.

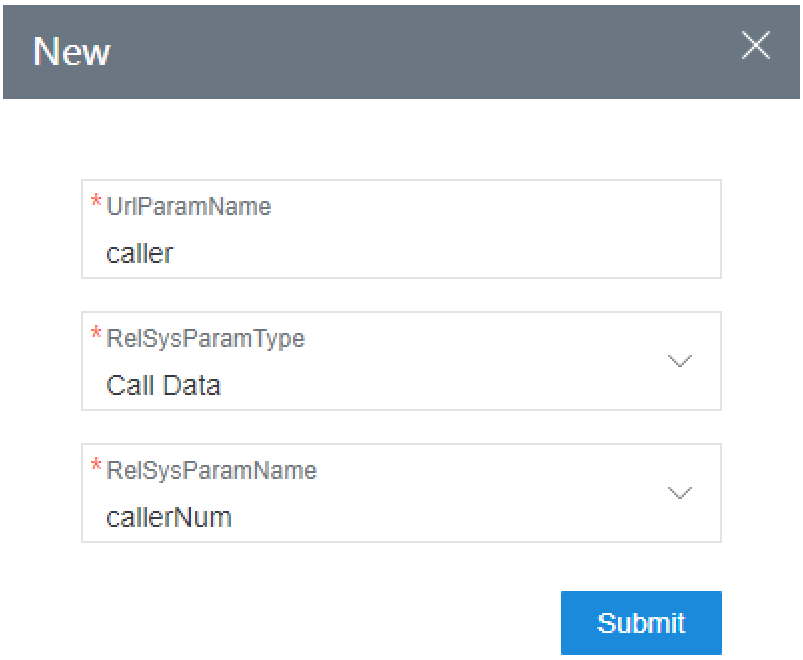
1. Select the configured inbound call screen pop-up and click **Config**. The page for setting external access address parameters is displayed.



2. Click **New** to add screen pop-up URL parameters to be transferred. A maximum of 10 parameters can be added.

3. Set **UrlParamName** (screen pop-up URL parameter), **RelSysParamType** (type of an associated system data parameter), and **RelSysParamName** (associated system data parameter).
   – **Call Data**

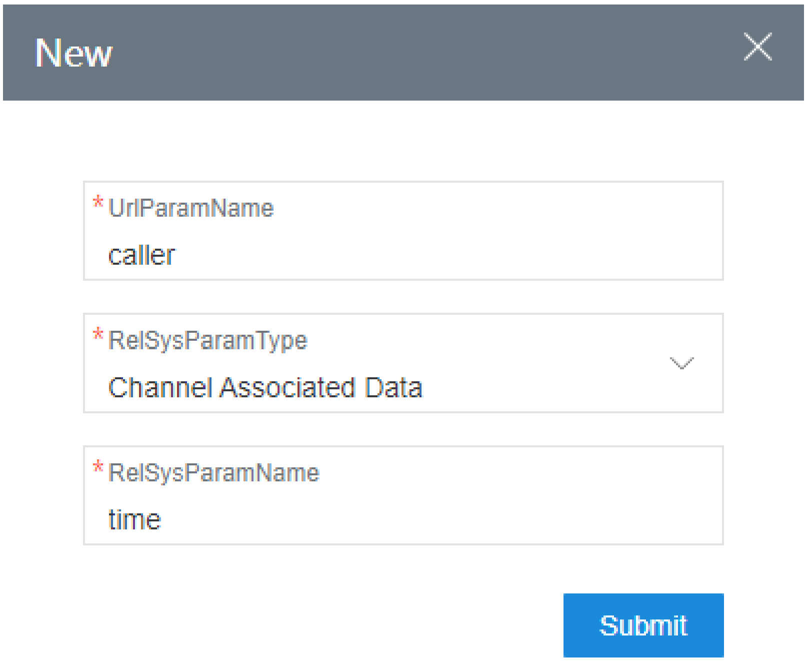
   Figure 2-14 Selecting Call Data



   The value of **RelSysParamName** 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

   – **Channel Associated Data**

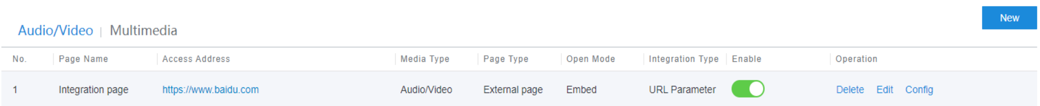
Figure 2-15 Selecting Channel Associated Data



The value of **RelSysParamName** is customized.

4. Click **Submit**. Click **Return** to return to the screen pop-up page.

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.

2.4.2.7 Configuring a Page

A tenant administrator can customize a page that can be used as a screen pop-up.

Prerequisites

- The system administrator has enabled the data customization function for the tenant space.
- A dynamic data table has been configured. For details, see **2.4.2.8 Configuring a Dynamic Data Table**.

Procedure

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

Step 2 Click . The creation page is displayed.

Step 3 Configure information about the customized page. **Page Name**: The value contains a maximum of 256 characters and must be unique.

Step 4 Click **OK** and save the customized page.

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 2-16 Page layout

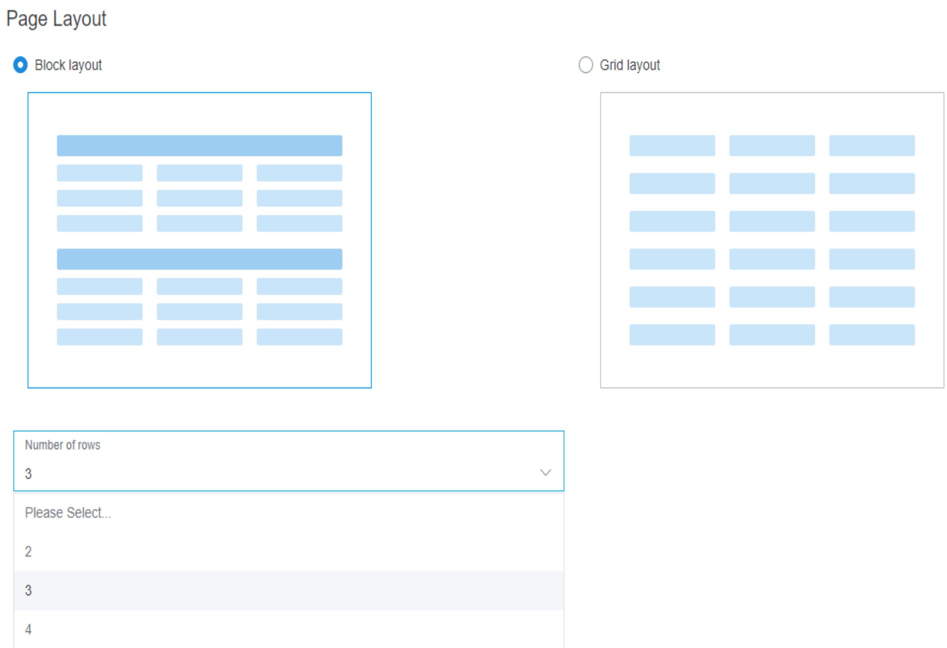


Table 2-12 Page parameters

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**

Parameter	Description
SAVE	Click **SAVE** to save the current page layout information.
Page Interface	
Internal interface	Configure the object list.
External interface	External interfaces are configured on the **API Management** page. Contact the system administrator.
Save	Click **Save** to save the interface parameter configuration on the current page.
Cancel	Click **Cancel** to cancel the interface parameter configuration on the current page.

2. Configure the page interface.
   – Internal interface

Figure 2-17 Internal interface

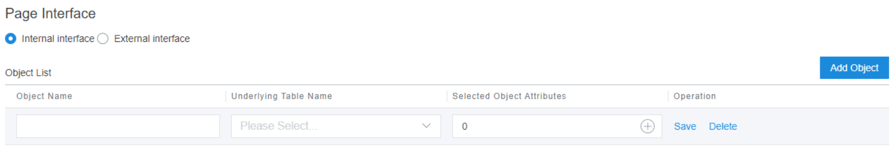


Figure 2-18 Selecting object attributes

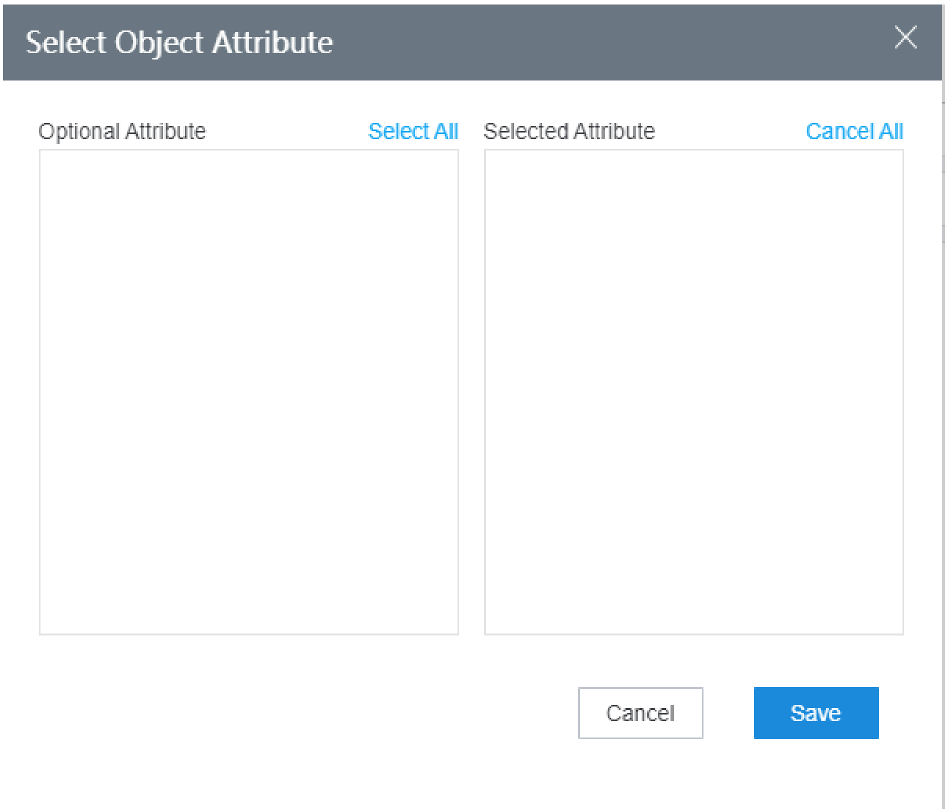


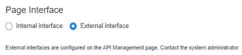
Table 2-13 Internal interface parameters

Parameter	Description
Add Object	Click **Add Object** to add an object to the internal interface.
Object List	
Object Name	Customize an object name.
Underlying Table Name	Select a released dynamic data table.
Selected Object Attributes	Select dynamic data table fields. You can select multiple fields.
Save	Click **Save** to save the configured object parameters.
Edit	Click **Edit** to modify the saved object parameters.
Delete	Click **Delete** to delete unnecessary objects.
Up	Click **Up** to edit the location of the object when adding multiple objects.

Parameter	Description
Down	Click **Down** to edit the location of the object when adding multiple objects.

– External interface

Figure 2-19 External interface



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

Step 6 Click **Save**. The customized page is configured.

Step 7 Click the name of configured page. The page information page is displayed. Under **Page Status**, click . In the confirmation dialog box that is displayed, click **OK** to release the customized page.

----End

NOTICE

- Only released pages can be referenced by inbound call screen pop-ups. The release of pages referenced by inbound call screen pop-ups cannot be canceled.
- 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.

2.4.2.8 Configuring a Dynamic Data Table

Tenant administrators can customize dynamic data table fields to display stored customer information on customized pages.

Prerequisites

The system administrator has enabled the data customization function for the tenant space.

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 **2.4.2.7 Configuring a Page**.

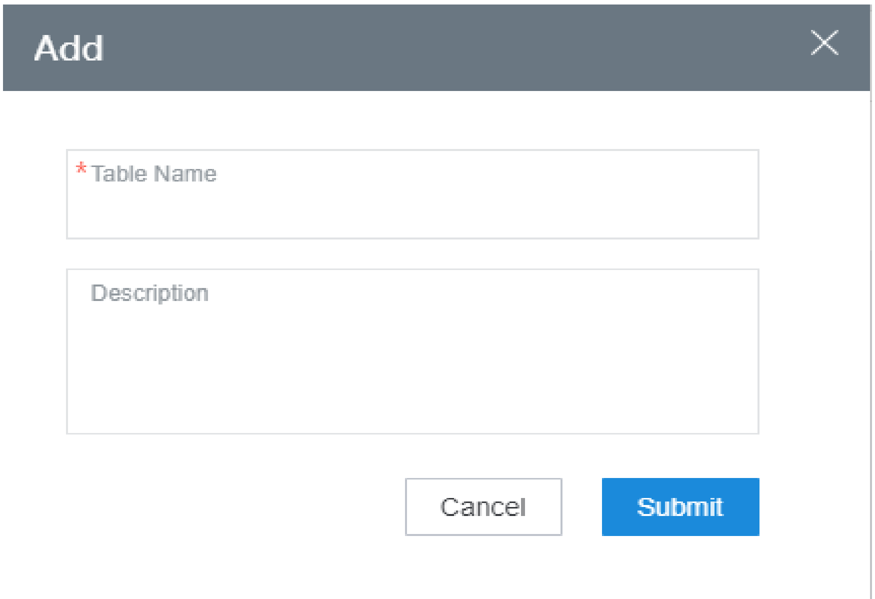
Procedure

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

Step 2 Click **Create**. The page for adding a dynamic data table is displayed.

Step 3 Set dynamic data table parameters.

Figure 2-20 Parameters for creating a dynamic data table



NOTE

A maximum of five dynamic data tables can be created.

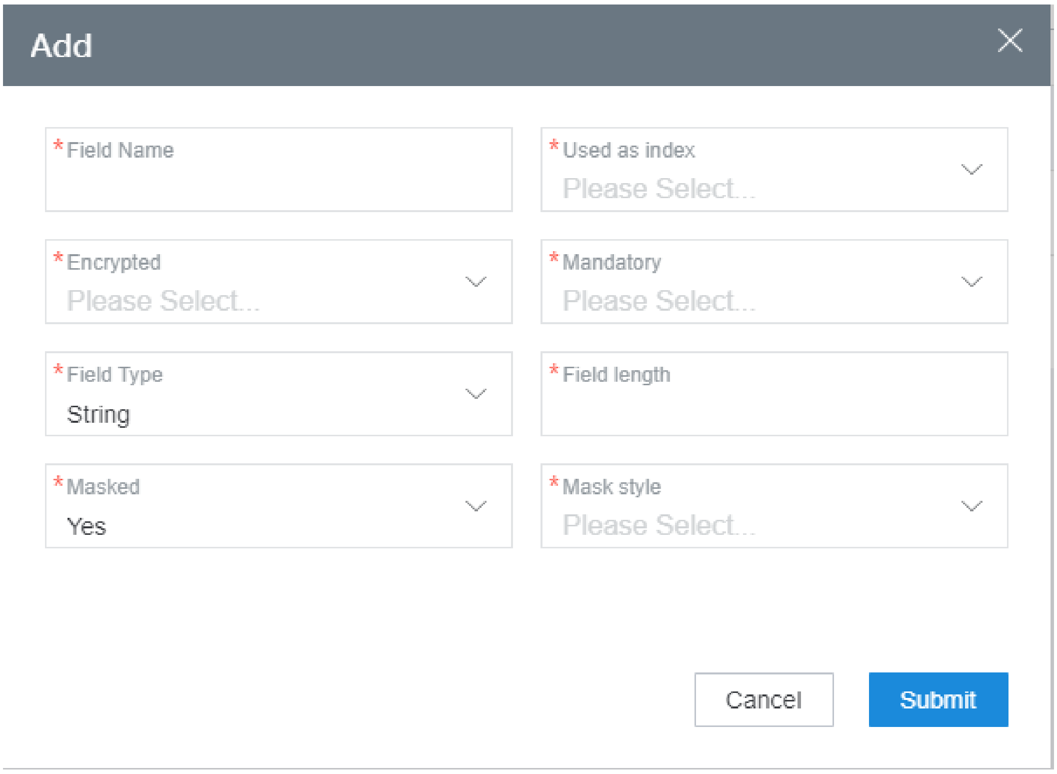
- **Table Name**: dynamic data table name, which is customized. This parameter is mandatory. The table name cannot contain special characters and can contain a maximum of 64 characters.
- **Description**: dynamic data table description. This parameter is optional. The description cannot contain special characters and can contain a maximum of 1024 characters.

Step 4 Click **Submit** to save the dynamic data table information.

Step 5 Return to the dynamic data table page, select the new dynamic data table, click **Details**, and configure table fields for the dynamic data table.

Step 6 Click **New**. Set the parameters by referring to **Figure 2-21**.

Figure 2-21 Creating a field parameter



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 **Yes** and **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 **Yes** and **No**.

  NOTE

  If the data is personal or sensitive data, set this parameter to **Yes** to ensure data security.
- **Mandatory**: This parameter is mandatory. The options are **Yes** and **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.
– **Retain 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 **Submit** to save the fields in the dynamic data table.

Step 8 (Optional) Select a configured field and click **Top**, **Up**, **Down**, or **Bottom** to update the field sequence. After confirming that the information is correct, click **OK** and save the field display sequence.

Figure 2-22 Field configurations

Step 9 Click **Return** to return to the dynamic data table page. Select the dynamic data table whose fields have been configured and click **Release**. In the dialog box that is displayed, click **YES** to release 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.
- Click **Details** to configure table fields.
- Click **Delete** to delete an unnecessary dynamic data table.
- Click **Release** to enable the configured dynamic data table.

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

- Click **Details** to configure table fields.
- 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 **Details** to configure table fields.
- Click **Delete** to delete an unnecessary dynamic data table.

NOTE

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

2.4.2.9 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 released. For details, see **2.4.2.8 Configuring a Dynamic Data Table**.

Procedure

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

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

Step 3 Click **Export Template** to download the table data template to a local path and fill in table data.

NOTE

- Only a CSV 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 CSV file must match that of the downloaded template file. 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}*.

Step 4 Import table data.

1. Choose **Import Data**. The data import page is displayed.
2. Click . In the dialog box that is displayed, select the configured table data file.
3. Click **Submit**. In the dialog box that is displayed, click **OK** to import the table data.

Step 5 Click **Import Result View**. On the import result list page that is displayed, confirm that the **Status** of the data import record is **Completed**.

Step 6 Click **Return**. The table data list page is displayed, showing details about the imported data.

----End

Follow-up Procedure

- Data editing: Imported table data can be edited again.
  - Click **Edit**. On the **Edit** page, edit table data except index data. After confirming that the data is correct, click **Submit** to save the table data.
  - Click **Delete**. In the dialog box that is displayed, click **Yes** 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 **New Export Task**. The **Enter compression password** dialog box is displayed.
  b. Enter the customized compression password and click **Confirm**. The data is exported successfully.
  c. In the dialog box that is displayed, click **OK** to return to the table data configuration page.
  d. Click **Export Task View**. The export result page is displayed.
  e. Select the export record whose **Status** is **Success**, and click **Download** to export the table data file to a local path.
  f. After the download is successful, open the exported file and enter the compression password to view table data.

2.4.2.10 Managing the Multimedia Library

A tenant administrator can preconfigure some multimedia library data, including common phrases, audio files, videos, images, documents, addresses, personalized emojis, rich texts, card templates, and WhatsApp templates, 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.

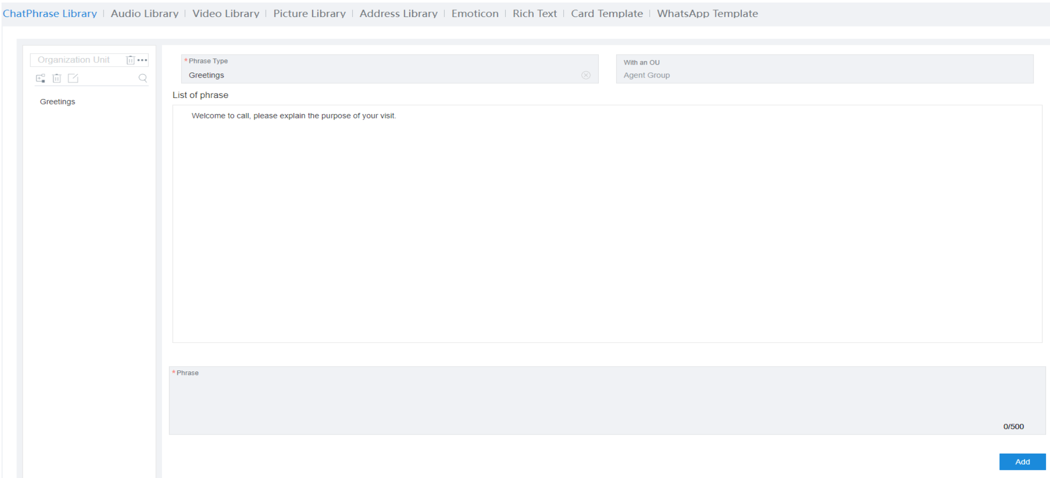
Context

After an earlier version is upgraded to 23.100.0, 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.

Procedure

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

Figure 2-23 Multimedia Library Management page



Step 2 Configure the common phrase library.

1. Click the **ChatPhrase Library** tab and click to add a common phrase category.
2. Enter a category name in the **Phrase Type** text box on the right, assign an OU, and click on the operation bar on the left to save the common phrase category.
3. Select the new common phrase category and click **Add** in the lower right corner to add a common phrase.
4. Enter the frequently used content in the **Phrase** text box and click **Save**. Only one common phrase can be added at a time. A common phrase can contain a maximum of 80 characters. If there are multiple common phrases, click **Add** to add them one by one.
5. View the configured common phrases in the **List of phrase**. To delete an unnecessary common phrase, select it and click **Delete**. To edit a common phrase again, click **Edit** in the lower right corner and edit the content in the **Phrase** text box.

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

1. Click the **Audio Library** tab and click . The **Add Category** page is displayed.
2. Enter a category name, assign an OU, and click **Finish**. The audio category is configured, and the system returns to the audio library configuration page.
3. Click **Upload**. The file upload page is displayed.
4. Enter a name, click next to **Please select a file to upload**, and select the file to be uploaded.

5. Click **Finish**. The file is uploaded.
6. (Optional) You can perform the following operations on uploaded files:
   – Click **Play** to play an audio 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 release uploaded multimedia data to the 5G platform. Multimedia data that is successfully synchronized can be sent to 5G message customers. The validity period of multimedia data released to the 5G platform is two months.
   – Click **Release Result** to view the result of releasing multimedia data to the 5G platform.

Step 4 Configure the address library.

1. Click the **Address Library** tab and click . The **Add Category** page is displayed.
2. Enter a category name, assign an OU, and click **Finish**. The address category is configured, and the system returns to the address library configuration page.
3. Click **Upload**. The address configuration page is displayed.
4. 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.
5. Click **Finish**. The address is configured.
6. (Optional) You can perform the following operations on uploaded addresses:
   – Click **Preview** to view an address online.
   – Click **Edit** to modify the description of an uploaded address.
   – Click **Delete** to delete an unnecessary address.

Step 5 Configure a rich text.

1. Click the **Rich Text** tab and click . The **Add Category** page is displayed.
2. Enter a category name, assign an OU, and click **Finish**. The rich text category is configured, and the system returns to the rich text configuration page.
3. Choose **Create**. The **Create Rich Text** page is displayed.
4. Set **Name** and **Description**, and enter the rich text content.
5. Click **Save**. The rich text is configured.
6. (Optional) 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.

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

2. Choose **5G Card** and click **New**. The template configuration page is displayed.
3. Configure 5G card template information.
   - **name**, **title**, and **Description**: Customize the values.
   - **Media Type**: The options are **IMAGE**, **VIDEO**, and **AUDIO**.
   - **Media Resource**: Click ⊕ and select the corresponding media resource. The options are media resources that are successfully released in **3**.
   - **Media height**: The options are **Short Height**, **Medium Height**, and **Tall Height**.
   - (Optional) **Organization Unit**: Assign an OU.
   - **Card Options**
     i. Click **Add Card Options** to add a card option. A maximum of three card options can be added.
     ii. Set **Card Option Name** and **Card Display Text**.
     iii. Select an option type and configure the option content.
        If **linking** is selected, the option content must be a URL for customers to click to go to the specified page.

        NOTE

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

        If **dial** is selected, the option content must be a number for customers to dial.

        If **reply** is selected, the option content must be a phrase for customers to reply with.
     iv. Click **Move Up** or **Move Down** to adjust the sequence.
4. Click **Save**. The 5G card template is configured.
5. Choose **5G Rotating Card** and click **New**. The template configuration page is displayed.
6. Configure 5G carousel card template information.
   - **name**, **title**, and **Description**: Customize the values.
   - **Card Arrangement Direction**: The options are **perpendicular**, **leveling**, and **floats**.
   - **Image Alignment Mode**: The options are **Left Alignment** and **Right Alignment**.
   - **Card Width**: The options are **Medium Width** and **Smaller width**.
   - (Optional) **Organization Unit**: Assign an OU.
   - **Card Options**: Click **Select Card**, select a maximum of five created 5G card templates, and click **Save**. Click **Up** or **Down** to adjust the playback sequence of a card.
7. Click **Save**.

Step 7 Create a WhatsApp template.

1. Click the **WhatsApp Template** tab. The template list page is displayed.
2. Click **New**. The **Create WhatsApp Template** page is displayed.

3. Configure template information.
   - **Template Name** and **Template Description**: Customize the values.
   - **Template Channel**: Select the WhatsApp channel configured on the **Channel Configuration** page. For details about how to configure the WhatsApp channel, see **2.8.8 Configuring the WhatsApp Channel**.
   - **Language**: Select the language of the template.
   - **Template Content**: Configure **Header**, **Body**, **Footer**, and **Buttons** as required.
4. Click **Save**. The WhatsApp template is configured.

Step 8 Configure a WhatsApp template message.

1. Click the **Card Template** tab. The template list page is displayed.
2. Choose **WhatsApp Template Message** and click **New**. The template message configuration page is displayed.
3. Configure template message information.
   - **Template Message Name** and **Description**: Customize the values.
   - **WhatsApp Template Name**: Select the template created in **Step 7**.
   - **Organization Unit**: The OU is automatically associated.
4. Set **Template availability times per day**.

   If the number of times the template is sent in a day exceeds the configured value, the template message fails to be sent.
5. Click **Save**.

Step 9 Create a web card.

1. Click the **Card Template** tab. The template list page is displayed.
2. Choose **WebCard** and click **New**. The template configuration page is displayed.
3. Configure card template information.
   - **name**, **title**, and **Description**: Customize the values.
   - **Media Type**: Only images are supported.
   - **Media file type**: Only JPG and PNG images are supported.
   - **Media Resource**: Click and select a media resource. The options are images uploaded in **3**.
   - **linking**: Enter a URL for customers to click to go to the specified page.

     NOTE

     HTTP requests have security risks. HTTPS is recommended.
4. Click **Save**. The web card template is configured.

Step 10 Create a co-browsing URL.

1. Choose **Cobrowse Site**. The co-browsing URL list page is displayed.
2. Click **Create**. The page for creating a co-browsing URL is displayed.
3. Configure template information.
   - **Name** and **Describe**: Customize the values.

– **Cobrowse Site**: Enter a proper URL for agents to click to send co-browsing requests to customers on the online chat workbench.

NOTE

HTTP requests have security risks. HTTPS is recommended.

4. Click **Finish**. The co-browsing URL is configured.

Step 11 (Optional) Select a configured multimedia data category and click to edit the category name. Click to delete an unnecessary category. Click to search for a category by keyword.

CAUTION

The modification, deletion, and query are not supported on the **Card Template** tab page.

----End

Follow-up Procedure

To send picture, video, audio, and personalized emoticon data to 5G subscribers, click the release button of the corresponding multimedia data to release the data to the 5G CSP platform. The size of a file released to the 5G CSP platform must be within 10 MB. The multimedia data released to the 5G CSP platform will expire in two months.

2.4.2.11 Configuring an Identity Authentication Process

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

Prerequisites

- The **Authentication** operation permission has been enabled.
- An IVR flow voice has been configured.

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 Management** > **Authentication**.

Step 2 Click **Add**. The **Add Identity Authentication Process** page is displayed.

Figure 2-24 Add Identity Authentication Process page

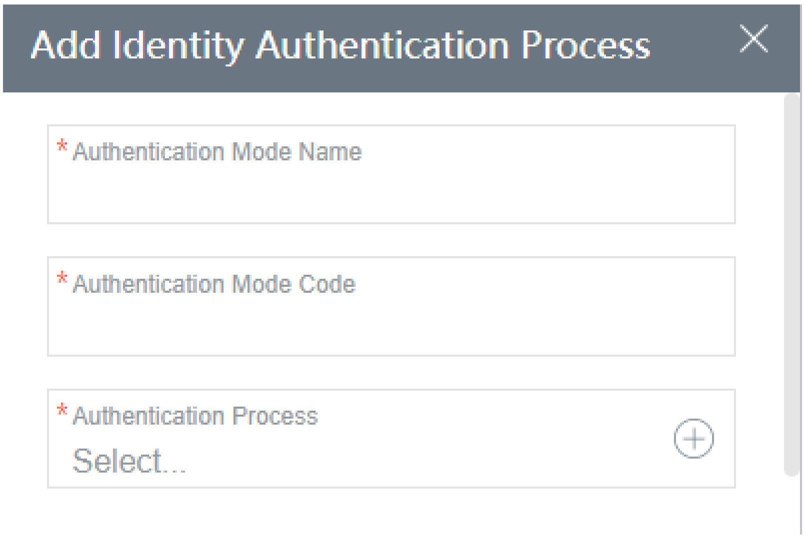


Table 2-14 Parameters on the Add Identity Authentication Process page

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

Step 3 Click **Submit**.

Step 4 Click **Enable** 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.

2.4.3 Other Configurations

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

2.4.3.1 Configuring the Fault Prompt Tone

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

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.

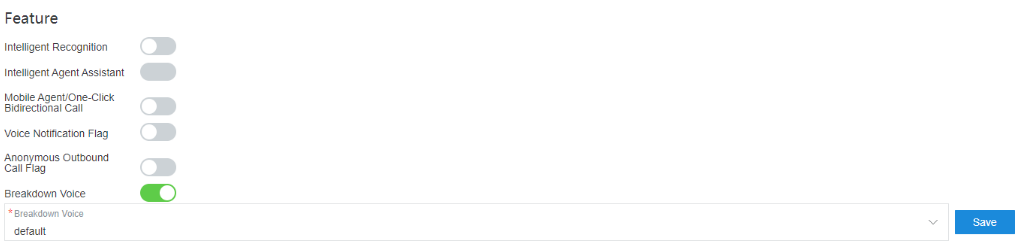
For example, a transfer diagram element is configured in an IVR flow, and an agent who transfers a call to a skill queue is configured for the diagram element. When a customer accesses the IVR flow and chooses to transfer the call to a skill queue, the system plays the fault prompt tone. In addition, 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 Under **Feature**, click next to **Breakdown Voice** to enable the fault prompt tone function for the tenant space.

Figure 2-25 Breakdown Voice



Step 3 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

2.4.3.2 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.

- 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, Twitter, WhatsApp, 5G, Telegram, LINE and SMS channel satisfaction survey

  After an agent ends a session, the system automatically sends a satisfaction survey text message to the customer.

Procedure

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

Step 2 Set parameters on the **Satisfaction Level** tab page.

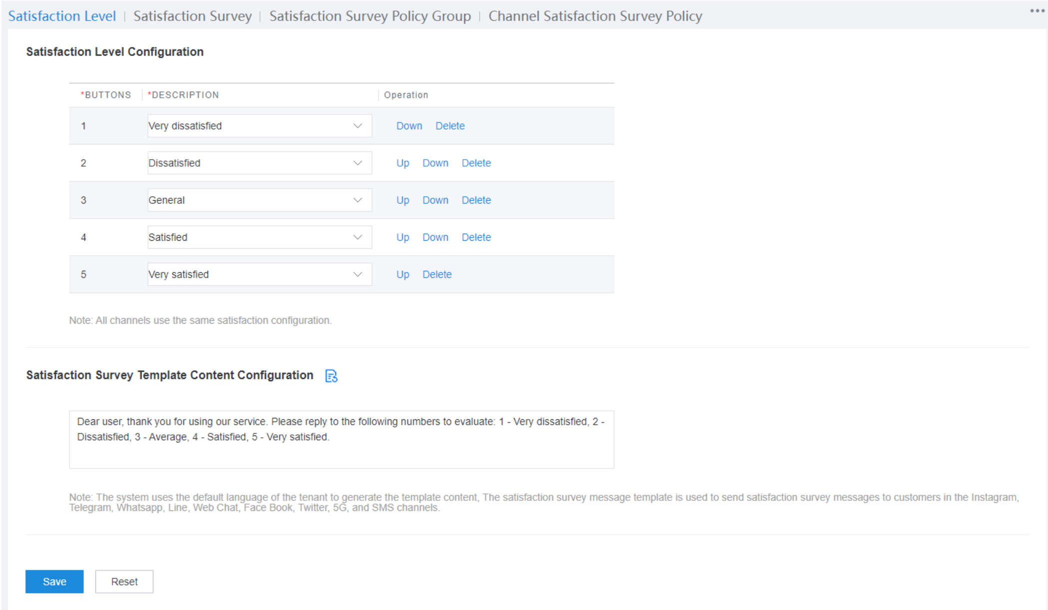
Satisfaction Level: The default satisfaction levels are **1: Very dissatisfied**, **2: Dissatisfied**, **3: General**, **4: Satisfied**, and **5: Very satisfied**.

- Click **Add** in the last row to add a satisfaction level. The **Add** button is displayed only when the number of satisfaction levels does not reach the maximum.
- Click **Delete** to delete a satisfaction level.
- Click **Up** or **Down** to adjust the sequence of a satisfaction level.
- Select a satisfaction level description in the **DESCRIPTION** text box. The value can contain a maximum of 200 characters.

Satisfaction Survey Template Content Configuration: Configure the satisfaction survey template content. The content can contain a maximum of 500 characters.

Click before modifying the template content. Otherwise, the content will be restored to the default one.

Figure 2-26 Satisfaction Level page



NOTE

Three to five satisfaction levels must be configured.

Ensure that 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, Twitter, WhatsApp, 5G, Telegram, LINE, and SMS channel satisfaction surveys.

If a satisfaction-related voice flow exists, after satisfaction levels are updated, choose **Configuration Center** > **Resource Management** > **Audio and Video Resource Management**, clone the flow, confirm that the satisfaction levels have been synchronized to the cloned flow, save the cloned flow, and release the cloned flow. After the cloned flow is released, the original flow is brought offline.

The system uses the default language of the tenant to generate the satisfaction survey template content.

The satisfaction survey message template is used to send satisfaction survey messages to customers through the Instagram, Telegram, WhatsApp, LINE, WeChat, Facebook, Twitter, 5G, and SMS channels.

Step 3 Click **Save**.

Step 4 Set parameters on the **Satisfaction Survey** tab page.

- **Satisfaction Survey 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 released IVR flow and ensure that the flow contains the **Satisfaction Survey** diagram element.

NOTE

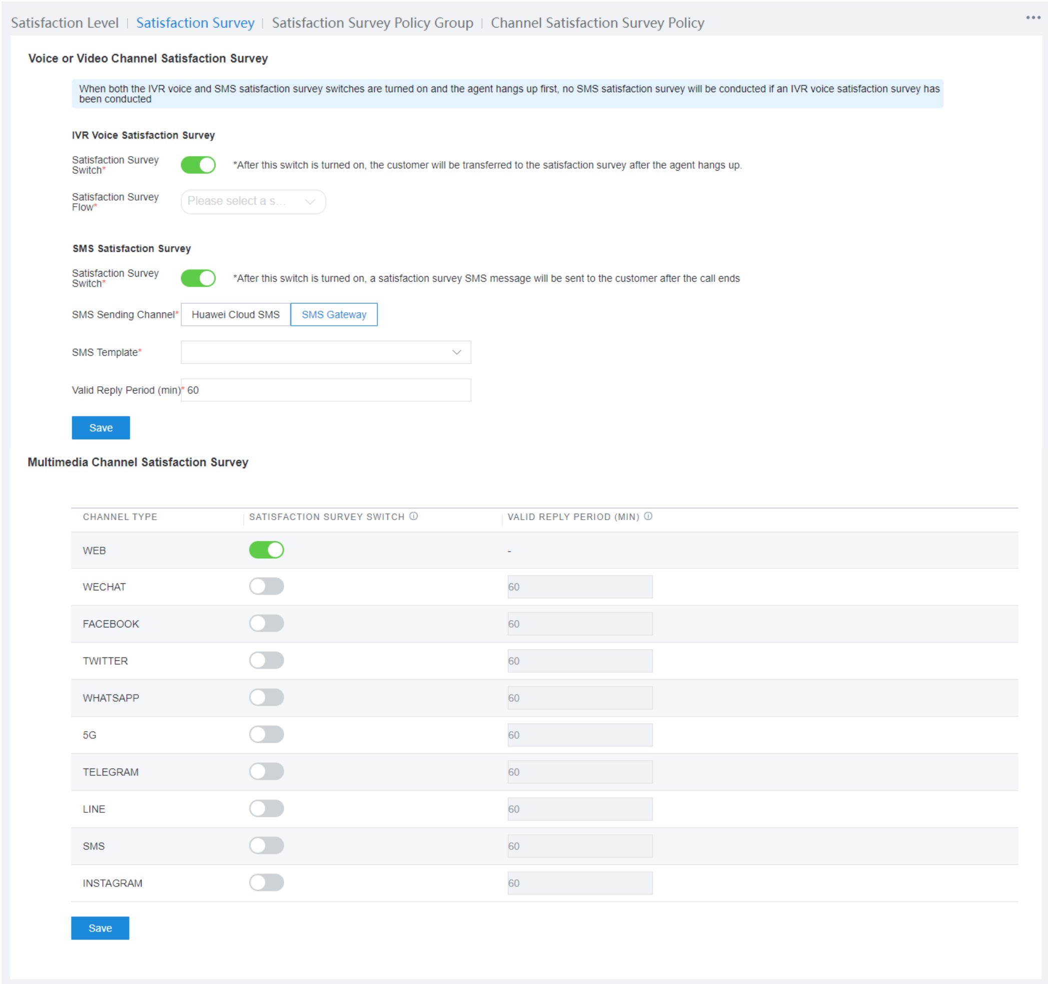
The procedure for configuring an IVR flow is as follows:

1. Choose **Configuration Center** > **Resource Management** > **Audio and Video Resource Management**, upload the voice or video file used in the **Satisfaction Survey** diagram element, and approve the file.
2. Confirm that a main flow and exception handling flow have been created and released successfully.
3. Choose **Configuration Center** > **Flow Configuration** > **Flow Management** and create a subflow.
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 released, it can be used.

For details, see 2.5 Configuring Common IVR.

- **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 2.11.5 Configuring Notification Templates as an Administrator.
- **Valid Reply Period (min)**: Validity period for replying to a satisfaction survey. The value ranges from 1 to 1440, in minutes.

Figure 2-27 Satisfaction Survey page



Step 5 Click **Save**.

Step 6 Set parameters on the **Satisfaction Survey Policy Group** tab page.

- **Policy Group Name**: Name of a satisfaction survey strategy 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.
- **Call Type**: Type of calls transferred to the satisfaction survey.
  - **Inbound call**
  - **Outbound call**

Step 7 Click **Save**.

Step 8 Set parameters on the **Channel Satisfaction Survey Policy** tab page.

- **Channel Type**: Channel type to which a satisfaction survey policy applies.
  - **Voice or video channel**
  - **Multimedia channels-WEB**
  - **Multimedia channels-WECHAT**
  - **Multimedia channels-FACEBOOK**
  - **Multimedia channels-TWITTER**
  - **Multimedia channels-WHATSAPP**
  - **Multimedia channels-5G**
  - **Multimedia channels-TELEGRAM**
  - **Multimedia channels-LINE**
  - **Multimedia channels-SMS**
  - **Multimedia channels-INSTAGRAM**
- **Channel**: Select a web channel configured on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page. For details, see 2.8.2 Configuring the Web Channel.

  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**: Type of the channel satisfaction survey.
  - When **Channel Type** is set to **Voice or video channel**, the options are as follows:
    - **IVR voice**
    - **SMS**
    - **No survey**
  - When **Channel Type** is set to **Multimedia channels-WEB**, the options are as follows:
    - **Web**

        - **No survey**
    - When **Channel Type** is set to other multimedia channels, the options are as follows:
        - **Text Message**
        - **No survey**
- **Survey Policy**: Select a policy group configured on the **Satisfaction Survey Policy Group** page.

Step 9 Click **Save**.

----End

2.4.3.3 Configuring a 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 Resource Management** page.

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.

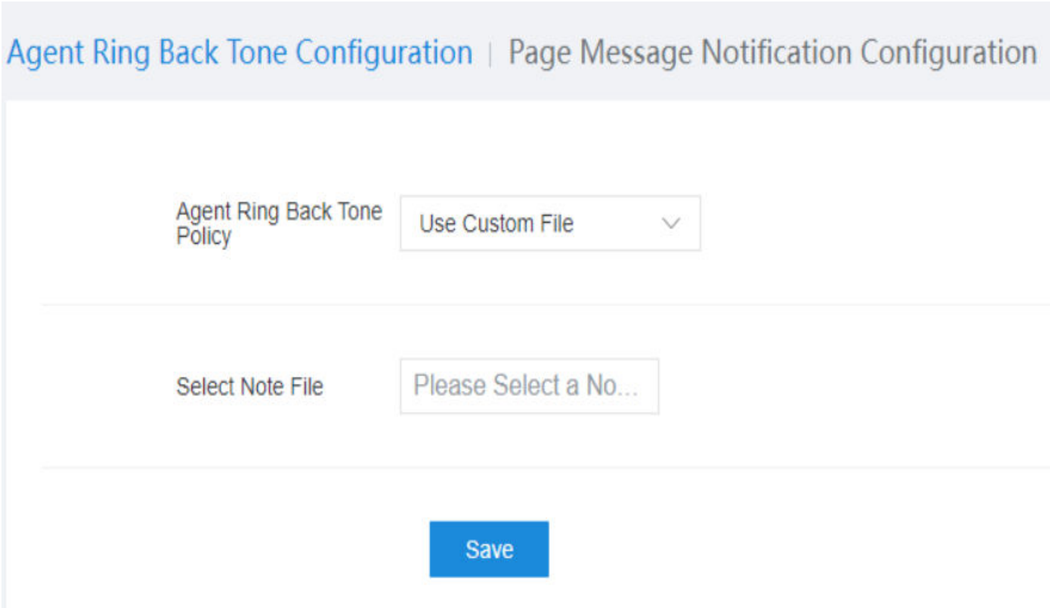
Procedure

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

Step 2 Set parameters on the **Agent Ring Back Tone Configuration** tab page.

- **Agent Ring Back Tone Policy**: Select **Use Custom File**.
- **Select Note File**: Select an uploaded voice file and click **OK**.

Figure 2-28 Agent Ring Back Tone Configuration



Step 3 Click **Save**.

----End

2.4.3.4 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

None

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 Tone**.

Step 2 Click **Page Message Notification Configuration**.

Step 3 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**

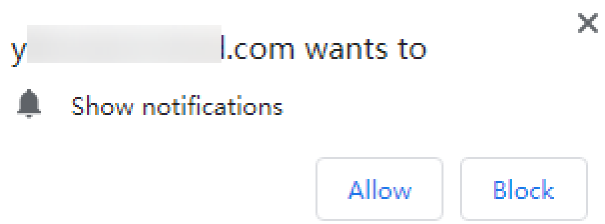
Step 4 Click **OK**.

----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 2-29 Dialog box asking whether to allow notifications



2.4.3.5 Configuring Voice Silent Agents

Voice silent agents are used to assist the intelligent voice chatbot. If the chatbot training is incomplete, agents can assist the chatbot in replying.

Prerequisites

- You have configured and released an intelligent IVR flow in the monitored or inserted state.
- You have configured the following called routes. For details, see **2.4.1.2 Configuring Called Routes**.
  - Called route whose **Device Type** is **IVR** and **Type** is **Audio/Video**
  - Called route whose **Device Type** is **Skill Queue** and **Type** is **Multimedia**
- A skill queue whose **Type** is **Voice** exists. For details, see **2.4.1.1 Maintaining a Tenant Space Skill Queue**.

Procedure

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

Step 2 Choose **New**. On the **New** page that is displayed, set voice silent agent parameters.

Figure 2-30 New page

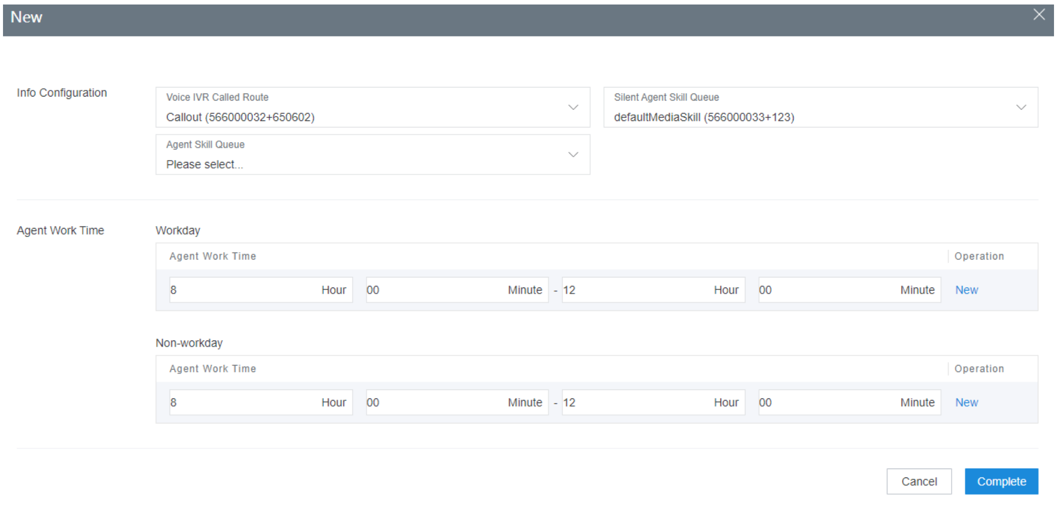


Table 2-15 Voice silent agent parameters

Parameter	Description
Info Configuration	
Voice IVR Called Route	Released intelligent IVR flow in the monitored or inserted state.
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 **Complete**.

----End

2.4.3.6 Managing Messages

A tenant administrator can query messages in the current tenant space by page based on criteria, or allocate, process, play, or download them.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Message Management**.

Step 2 Manually query messages based on criteria.

Figure 2-31 Message list page

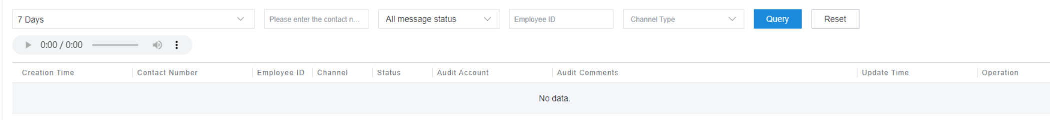


Table 2-16 Parameters for querying messages

Parameter	Description
Time	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Contact number	Customer number.
Message status	The options are as follows: ● **All message status** ● **To be allocated** ● **Unprocessed** ● **Processing** ● **Processed** ● **Allocation failed**
Employee ID	Employee ID of a tenant space agent.
Channel Type	The options are as follows: ● **Voice**: Message processing, playback, and download are supported. ● **WEB**: Message allocation, viewing, and processing are supported.

Step 3 Select a message whose **Status** is **To be allocated** and allocate it to an agent.

1. Click **Allocate**. The **Allocate** dialog box is displayed.
2. Query all agents that have been bound to accounts in the tenant space or query agents based on criteria. Click  and select an agent.
3. Click **Complete**. The message is allocated to the selected agent.
4. On the **Leave Message** page, the agent ID and business account are the employee ID and business account of the selected agent, the update time is the current time, and the message 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 a voice.
- : Adjust the volume.
- : Set the playback speed, which can be **0.75**, **1.0**, **1.25**, **1.5**, **1.75**, or **2.0**.

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.

1. Select the message to be downloaded and click **Download**.
2. In the confirmation dialog box, click **Yes**.
3. Select a message download path to download the message.

Step 6 Process a received message.

1. Select a message whose **Status** is **Unprocessed** and click **Process**. The **Process** dialog box is displayed, and the message status changes from **Unprocessed** to **Processing**.
2. After confirming that the agent is in idle state, click Call Out to initiate a call to the contact number to process the message.
3. Return to the **Handling Comments** text box, enter comments, and click **Submit** to complete the message processing. After the submission is successful, the message status changes from **Processing** to **Processed**.

----End

2.4.3.7 Viewing Contact Records

A tenant administrator can query and export contact records of the current tenant space to learn about the working status of agents.

Prerequisites

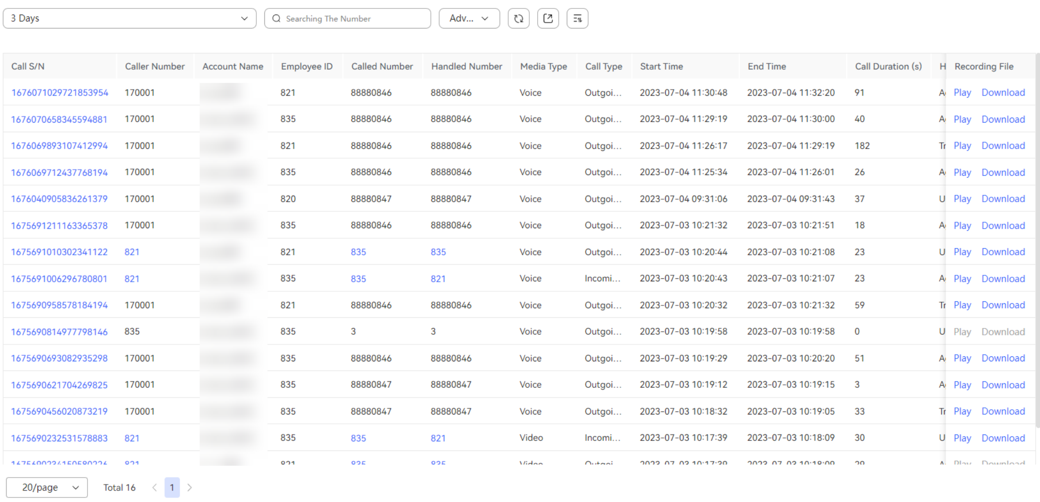
None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Contact History** > **Contact Record**.

Step 2 Set search criteria to search for contact records based on the criteria.

Figure 2-32 Contact Record page



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 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.

Step 4 Recording files in contact records can be played and downloaded.

1. In the **Recording File** column, click **Play** to play the recording file.
2. In the **Recording File** column, click **Download** and enter the password of the compressed package to download 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.

----End

2.4.3.8 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 space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Contact History** > **Bidirectional Call Record**.

Step 2 Set search criteria to search for bidirectional call records based on the criteria.

Figure 2-33 Bidirectional Call Record page

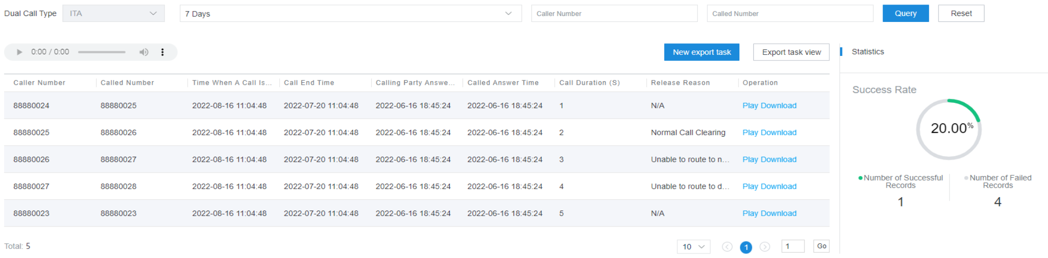


Table 2-17 GUI elements on the Bidirectional Call Record page

Element	Type	Description
Dual Call Type	Drop-down list	The bidirectional call feature supports bidirectional calls of the CEC and ITA. The bidirectional call record query function on the current page supports only ITA bidirectional calls.
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Caller Number	Text box	Agent-side number of a one-click bidirectional call.
Called Number	Text box	Customer-side number of a one-click bidirectional call.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.

Element	Type	Description
New export task	Button	Add a task for exporting bidirectional call records.
Export task view	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.
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.

Element	Type	Description
Operations that can be performed.	Label	• **Play** • **Download**
Statistics	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 **New export task** and enter the 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 **Export task view** 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 a voice message.
- 

: Fast forward or rewind a voice.
- : Adjust the volume.
- : Set the playback speed, which can be **0.5**, **0.75**, **1.0**, **1.25**, **1.5**, **1.75**, or **2.0**.

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.

2. In the confirmation dialog box, click **Yes**.

----End

2.4.3.9 Configuring Agent Parameters

An agent can configure agent parameters to meet personalized requirements of the outbound call and call answering functions.

Procedure

Step 1 Sign in to the AICC as an agent or tenant administrator and choose **Configuration Center** > **System Management** > **Agent Parameters**.

Figure 2-34 Agent parameters

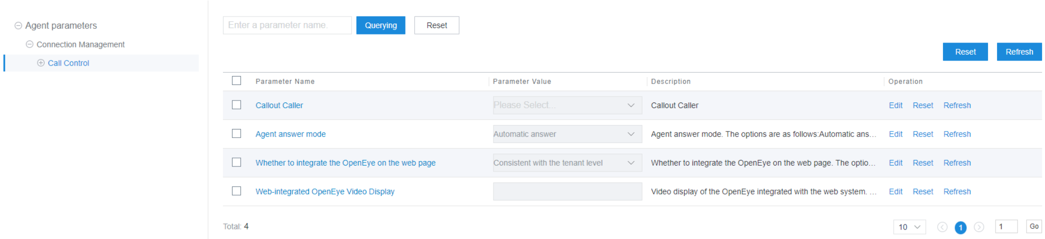


Table 2-18 Agent parameters

Parameter	Description
Callout Caller	Calling number for making outbound calls. Select the access code configured for the tenant space. After this parameter is set, an agent can use the number as the calling number to make outbound calls after sign-in.
Agent answer mode	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 configuration is **Custom**, the default value is **Automatic answer**.
Whether to integrate the OpenEye on the web page	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.

Parameter	Description
Web-integrated OpenEye Video Display	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, and **Cut** indicates that the video is displayed at full size according to its original proportions and cropped if necessary).

Step 2 Click **Edit** to set a parameter.

Step 3 Click **Reset** to restore a parameter to the initial value set when the tenant space is created.

Step 4 After the parameter configuration is successful, sign in again for the configuration to take effect.

----End

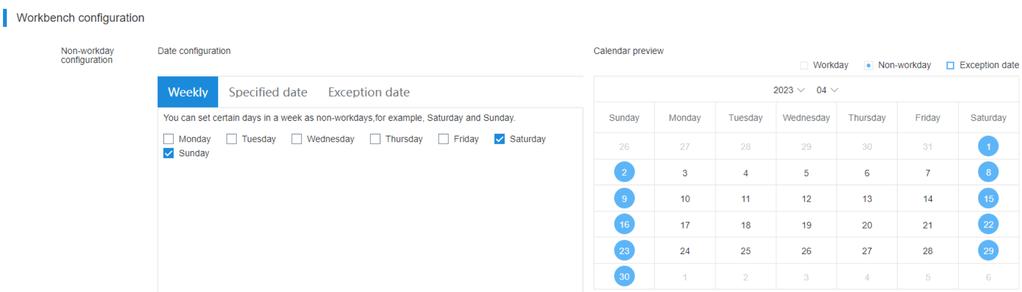
2.4.3.10 Configuring a Workbench

A tenant administrator can set workdays and non-workdays 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** > **Online Chat Service Hours**.

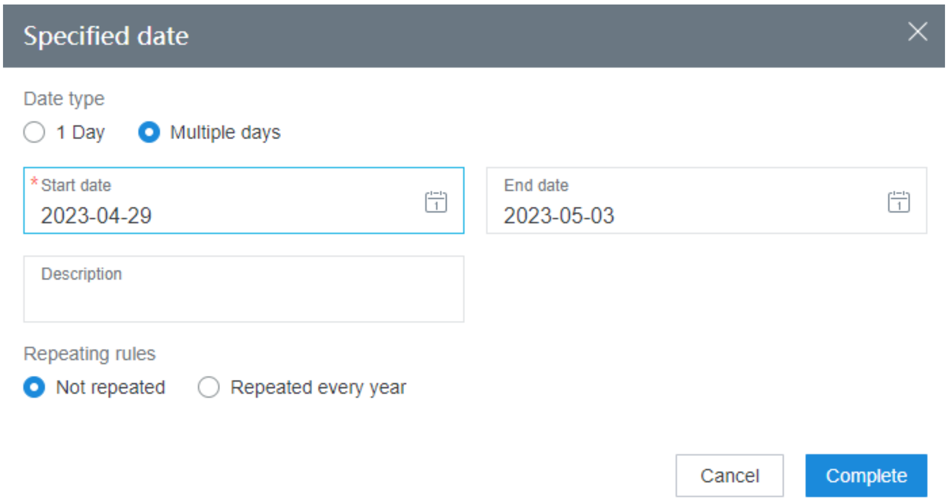
Figure 2-35 Workbench configuration



Step 2 Set **Date configuration**.

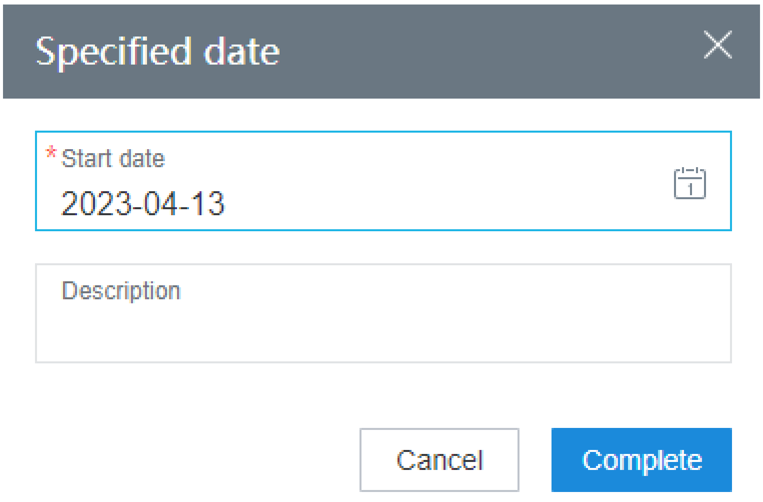
- **Weekly**: Select multiple days in a week as non-workdays. For example, select **Saturday** and **Sunday** as non-workdays. The selected dates are synchronized to all months.
- **Specified date**: Specify certain days as non-workdays. For example, specify the days from October 1, 2019 to October 7, 2019 (National Day holiday) as non-workdays.
  a. Click **New**. The page for adding specified dates is displayed.
  b. Set parameters of the specified dates by referring to **Figure 2-36**.

  Figure 2-36 Configuring specified dates

  c. Click **Complete** to save the configuration of the specified dates.
- **Exception date**: Specify several days as workdays. You can select days in a year. For example, specify July 13, 2019 (Saturday, temporary overtime) as a workday.
  a. Choose **New**. The page for adding exception dates is displayed.
  b. Set parameters of the exception dates by referring to **Figure 2-37**.

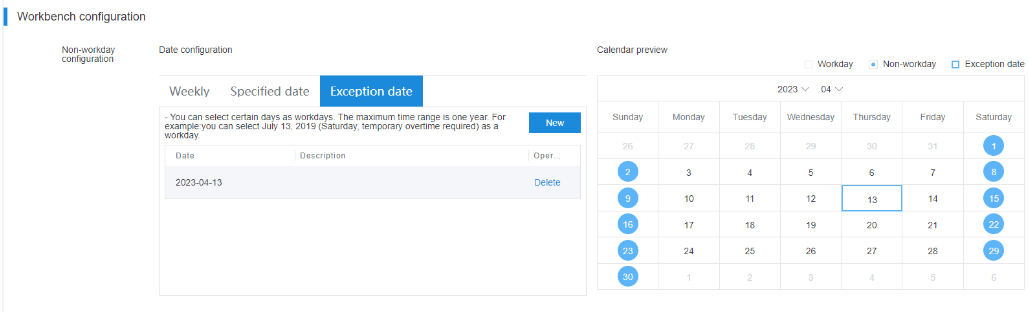
Figure 2-37 Configuring exception dates



c. Click **Complete** to save the configuration of the specified dates.

Step 3 The configured workdays and non-workdays are displayed in the calendar preview in real time. You can directly view the configuration result.

Figure 2-38 Calendar preview



----End

2.4.3.11 Managing Sessions

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

CAUTION

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**.

Step 2 View the session information list.

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

Step 3 Select a session and click **Delete** to terminate it.

NOTE

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

----End

2.4.3.12 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.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Connection Operation Log** > **Reset Skill Record**.

Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 2-39 Reset Skill Record page

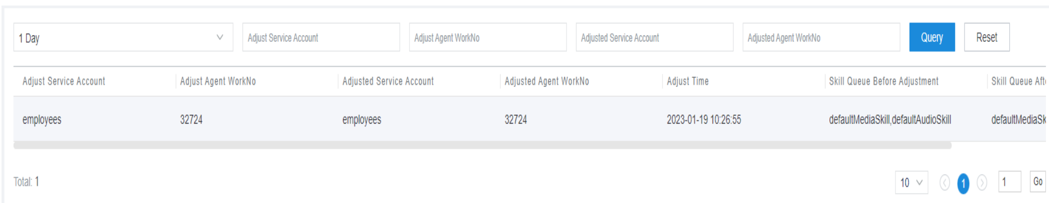


Table 2-19 GUI elements on the Reset Skill Record page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Adjust Service Account	Text box	● Business account of the agent who adjusts a skill queue. ● Business account of an inspector.
Adjust Agent WorkNo	Text box	● Employee ID of the agent who adjusts a skill queue. ● Agent ID of an inspector.
Adjusted Service Account	Text box	● 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 WorkNo	Text box	● Employee ID of the agent whose skill queue is adjusted. ● Employee ID of the agent whose skill queue is adjusted by an inspector.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
Adjust Service Account	Label	● Business account of the agent who adjusts a skill queue. ● Business account of an inspector.
Adjust Agent WorkNo	Label	● Employee 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 WorkNo	Label	● Employee ID of the agent whose skill queue is adjusted. ● Employee ID of the agent whose skill queue is adjusted by an inspector.
Adjust Time	Label	Time when a skill queue is adjusted.

Element	Type	Description
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.

----End

2.4.3.13 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 a tenant administrator and choose **Connection Operation Log** > **Identity Authentication Record**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

Figure 2-40 Identity Authentication Record page

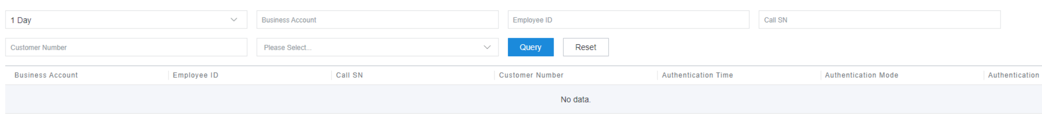


Table 2-20 GUI elements on the Identity Authentication Record page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**

Element	Type	Description
Business Account	Text box	Business account of the agent who performs identity authentication.
Employee ID	Text box	Employee ID of the agent who performs identity authentication.
Call SN	Text box	Call SN.
Customer Number	Text box	Customer number.
Please Select...	Drop-down list	• **Not returned** • **Pass** • **Fail** • **Error**
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
Business Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	Employee ID of the agent who performs identity authentication.
Call SN	Label	Call SN.
Customer Number	Label	Customer number.
Authentication Time	Label	Time when identity authentication is performed.
Authentication Mode	Label	Identity authentication mode.

Element	Type	Description
Authentication Result	Label	Identity authentication result. ● **Not returned** ● **Pass** ● **Fail** ● **Error**

----End

2.4.3.14 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 space.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 2-41 Document Management page

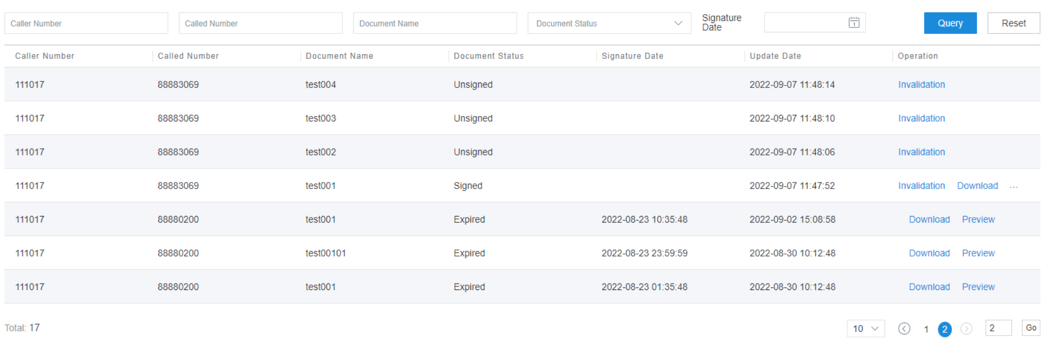


Table 2-21 GUI elements on the Document Management page

Element	Type	Description
Caller Number	Text box	● 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.

Element	Type	Description
Called Number	Text box	• 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.
Document Name	Text box	Document name.
Document Status	Drop-down list	Document status. • **Unsigned** • **Signed** • **Expired**
Signature Date	Drop-down list	Customized date.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
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.

Element	Type	Description
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.
Document Name	Label	Document name.
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.
Operation	Label	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. • **Preview** Select the document to be previewed and click **Preview**.

----End

2.4.3.15 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 administrators and agents can view the review results.

Prerequisites

To view the review result, agents must have the permission to perform operations on the **Channel Configuration**, **Call Center Configuration**, **Settings**, **Harassment record review**, and **Query Contact Record** menus.

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 2-42 Harassment Record page

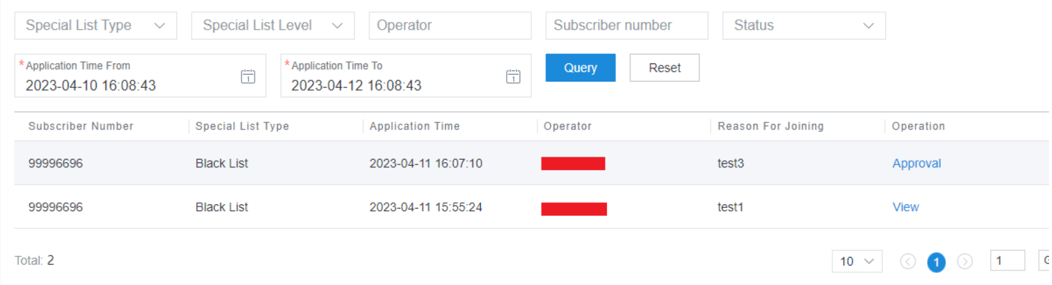


Table 2-22 Key elements on the Harassment Record page

Element	Type	Description
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	Business account of the agent who creates a harassment record. Search criterion.
Subscriber number	Text box	Customer number. Search criterion. ● Phone number ● Email address Example: **123@huawei.com**

Element	Type	Description
Status	Drop-down list	Harassment record status. Search criterion. ● **To be reviewed** ● **Approved** ● **Rejected** Select **To be reviewed**.
Application Time From	Calendar component	Start time of the application time. Search criterion. The interval between **Application Time From** and **Application Time To** cannot be longer than seven days.
Application Time To	Calendar component	End time of the application time. Search criterion. The interval between **Application Time From** and **Application Time To** cannot be longer than seven days.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
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.

- Choose **Accept**.
  - **Special List Level**: Select a special list level.
  - **Effective Time**: Set the time when the special list takes effect. The value of **Effective Time** must be later than the current time and earlier than May 19, 2038.
  - **Expiration Time**: Set the time when the special list expires. After **Special List Level** is selected, **Expiration Time** is automatically set to the time that equals to **Effective Time** plus **Restriction Duration (hours)** of the special list level by default. You can manually change the value. The value must be later than the current time and earlier than January 19, 2038.
  - **Comment**: Set the comment on the harassment record. The value contains a maximum of 500 characters.
- Choose **Reject**.
  - **Comment**: Set the comment on the harassment record. The value contains a maximum of 500 characters.

Step 4 Click **Complete**.

After the application is approved, you can choose **Configuration Center** > **Resource Management** > **Special List** > **SPECIAL LIST** to query the added 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

2.5 Configuring Common IVR

A common IVR flow can complete relatively simple outbound call tasks and implement automatic outbound call without manual intervention, thus reducing the cost. However, the customer needs to provide feedback on the operation, and the flow is relatively fixed.

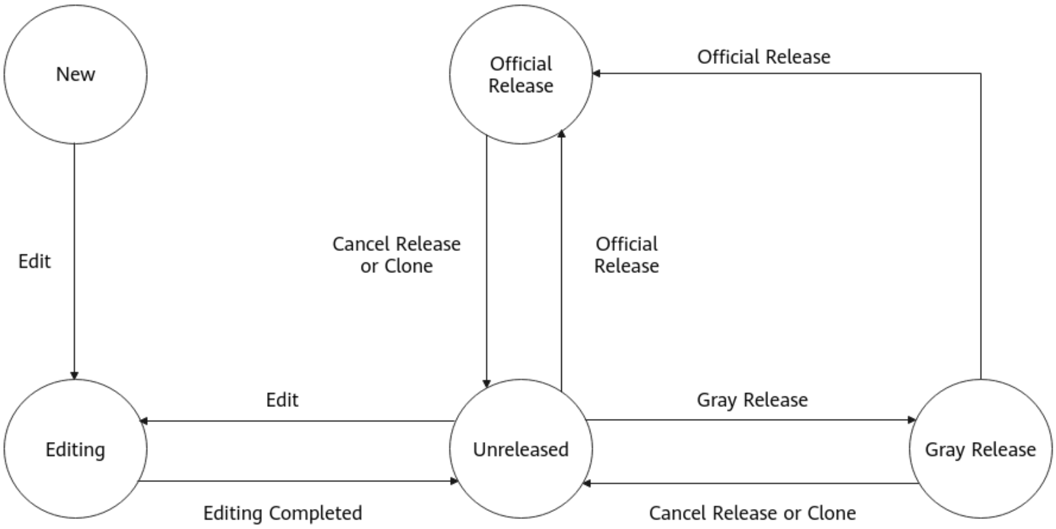
2.5.1 Introduction to the IVR Flow

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**.

Figure 2-43 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 subscribers. When the editing ends, the flow can be released.
- Unreleased

  If the editing ends, the edit page is closed during editing, an exception occurs during editing, or the release 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 released 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 released successfully, it is in **Gray Release** state. A flow in **Gray Release** state can be cloned, tested, released, canceled, and viewed. A flow in **Gray Release** state can only be released as an official version.

For all flows, you can view the values of **Type** and **Is Referenced** by clicking **Attribute**. Table 2-23 describes the operations supported for flows in different states.

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.

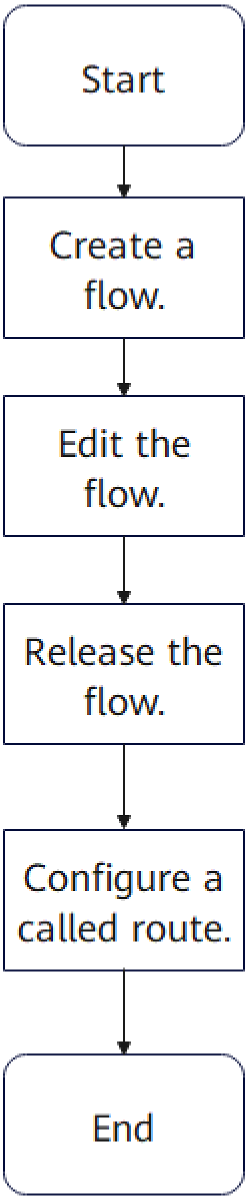
Table 2-23 Flow status and supported operations

Flow Status	Supported Operation
New	Edit and Delete
Edit	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 2-44** shows the editing and handling process of an IVR flow.

Figure 2-44 IVR flow configuration process



2.5.2 Configuring a Voice File

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.

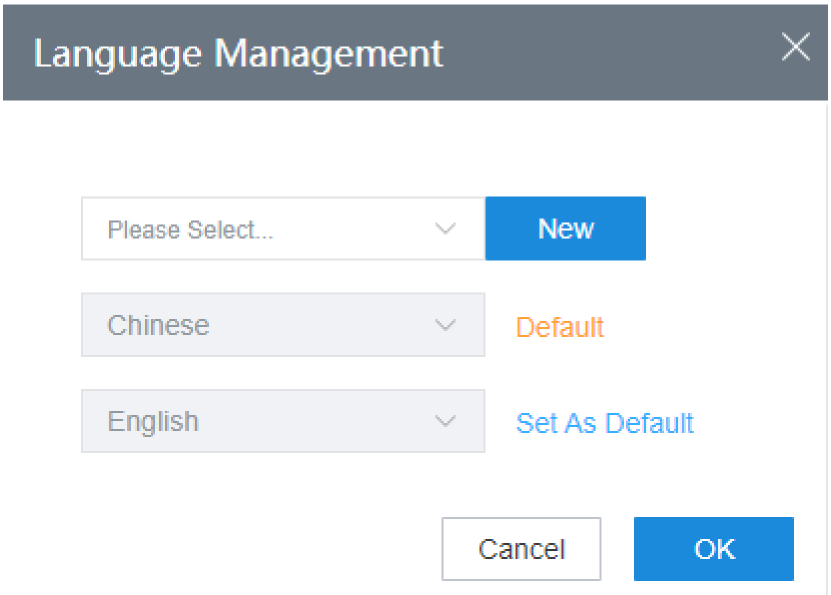
Procedure

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

Step 2 Click 

. The **Language Management** dialog box is displayed.

Currently, voice files in the following languages are supported: Chinese, English, Portuguese, Thai, Spanish, French, and Arabic.

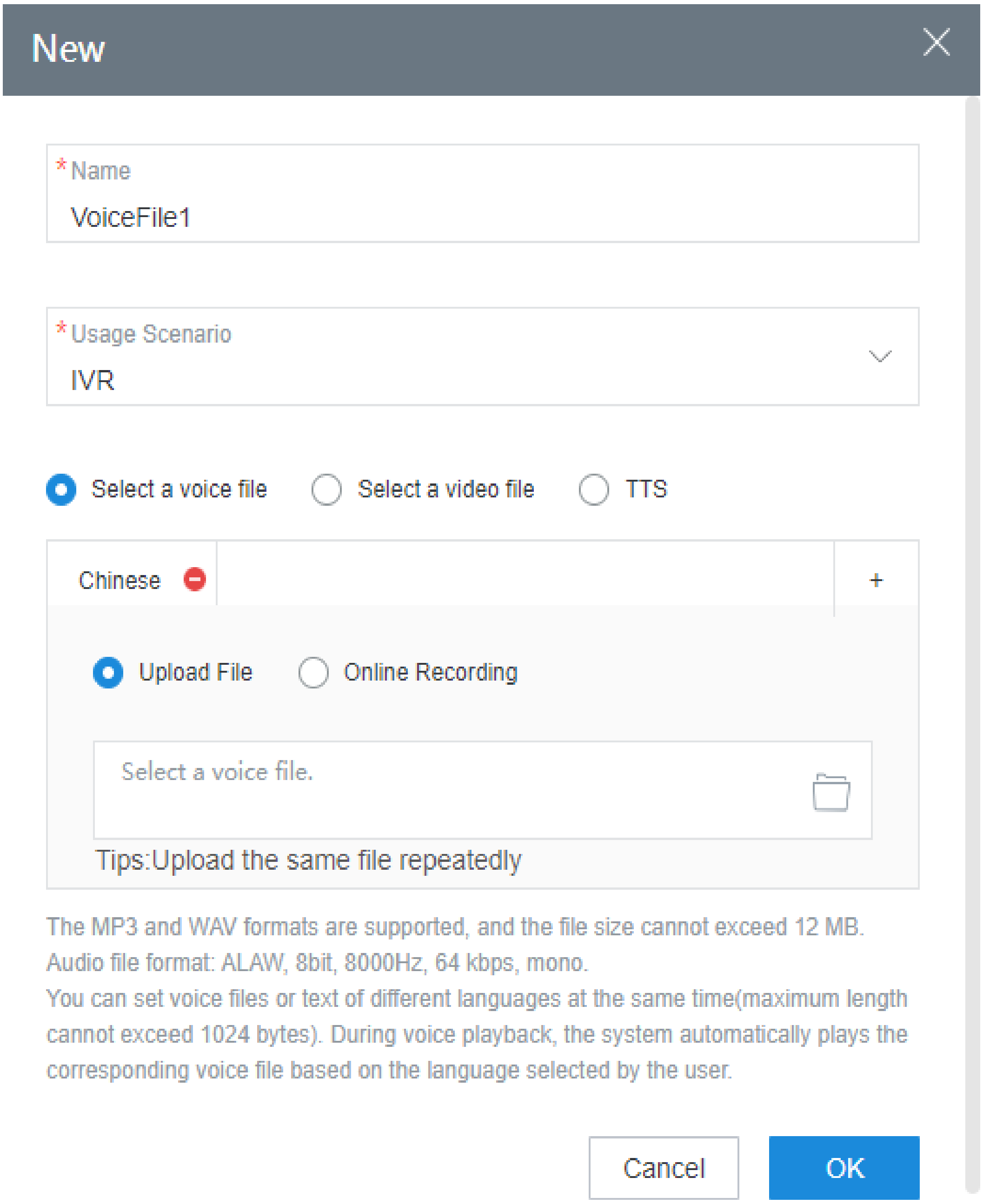


1. Select the language to be added and click **New**. The language is added successfully.
2. Click **Set As Default** to set a language as the default language.
3. Click **OK** to save the language configuration.

Step 3 Click 

to create an IVR voice or video file.

The file name cannot contain special characters.



- **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 IVR 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.

- 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**: Currently, only 3GP video files are supported. The file size cannot exceed 5 MB.
  - **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:

    - Text: The maximum length is 500 bytes. Variables are supported. The variable values can be filled in by the **templateParas** 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.

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 (Optional) View the file.

In the file list, click in the row of a voice or video file record to expand it.

1. Click to play the voice or video file.
2. In the file list, click in the row of a text record to expand it. Click to preview the TTS text.
3. After the voice or video file is approved, click **File path** to view the file server path where the file is located.

Step 6 (Optional) Click **Updates** to update the IVR voice file or video file.

Figure 2-45 Updating the file

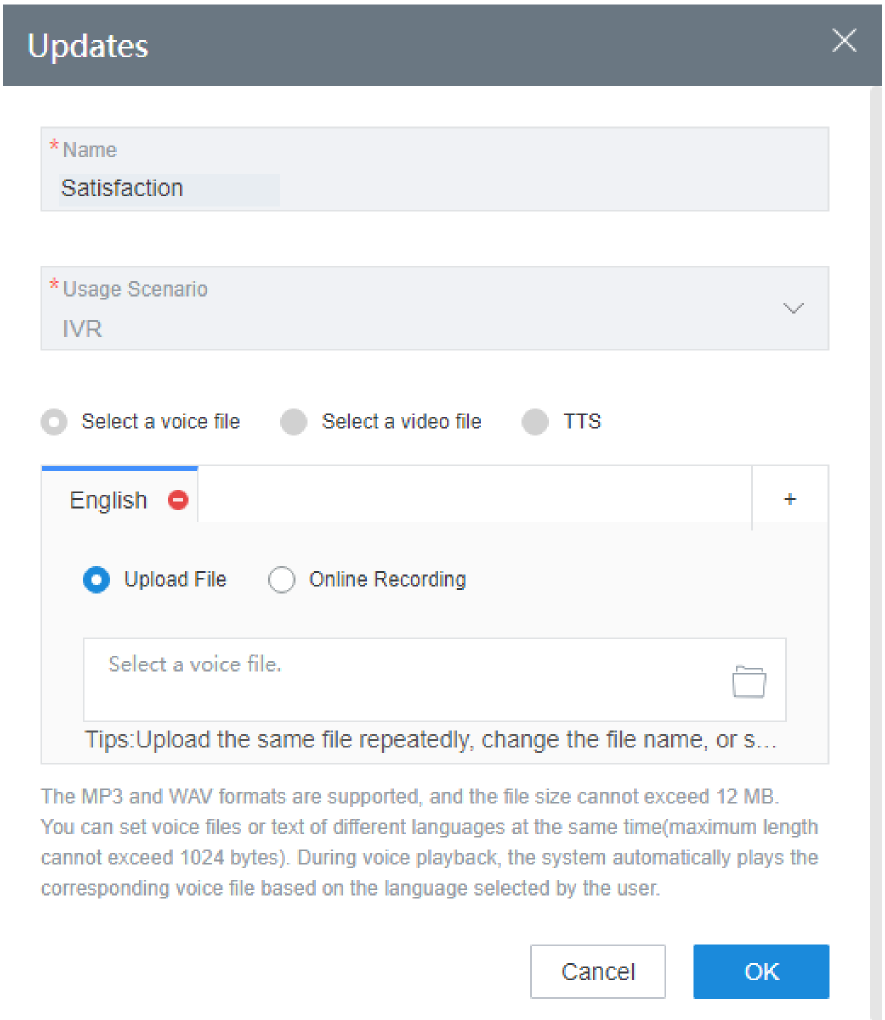
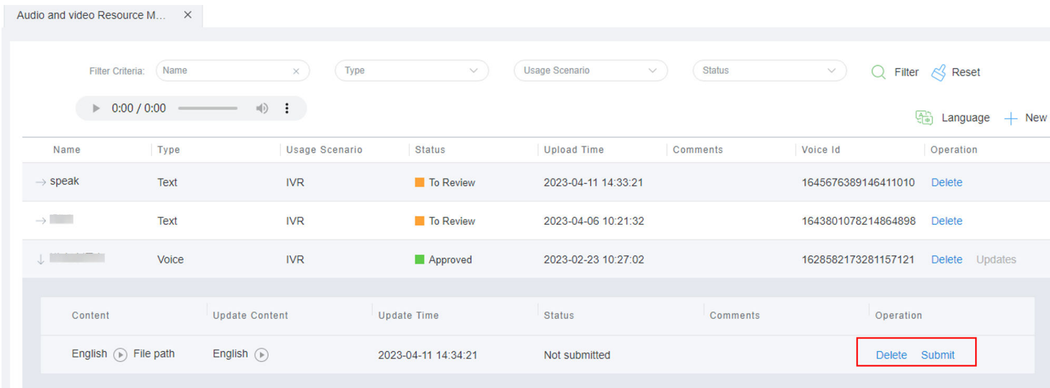


Figure 2-46 Submitting the file for review



📖 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 IVR Flow Configuration Guide > System Administrator: Managing Tenants and Systems" in *AICC **** Product Documentation *** at the **Huawei support website**.

----End

2.5.3 Configuring an IVR Flow

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.

2.5.3.1 Maintaining Flow Configurations

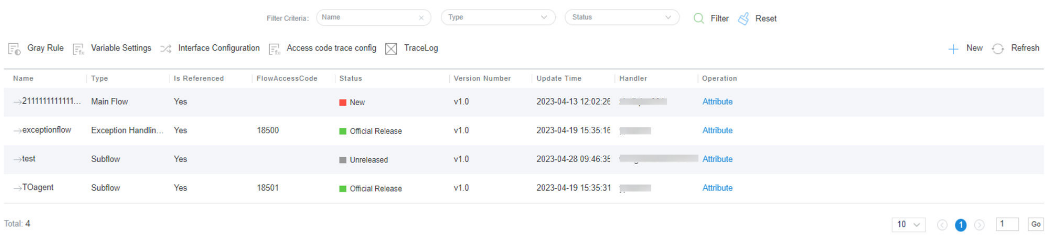
This section describes how to configure a complete IVR flow as an administrator.

2.5.3.1.1 Configuring a Gray Rule

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 released 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** > **Flow Configuration** > **Flow Management**.

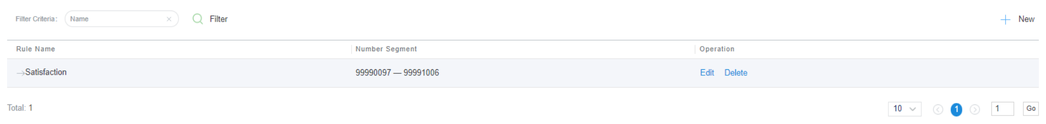
Figure 2-47 IVR flow management page



Step 2 Click 

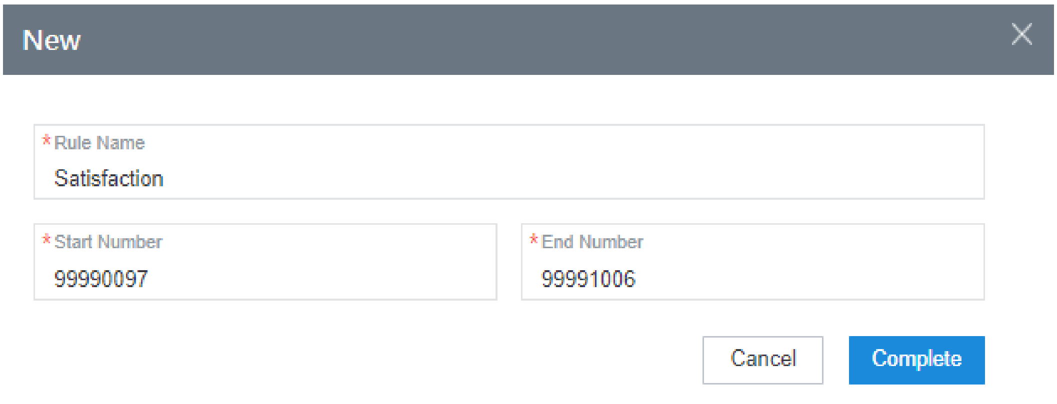
. The rule configuration page is displayed.

Figure 2-48 Gray rule list



Step 3 Click + New . The page for adding a rule is displayed.

Figure 2-49 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.

NOTE

Gray rules that have been used in flows cannot be deleted.

----End

2.5.3.1.2 Configuring a Variable

You can define a global variable applicable to all IVR flows by configuring the variable name and type. After a global variable is configured, it applies to cross-flow variable requirements. Input and output parameters are carried in the input or output of diagram elements in the IVR flow. By default, the name of a global variable is prefixed with **GLOBAL**.

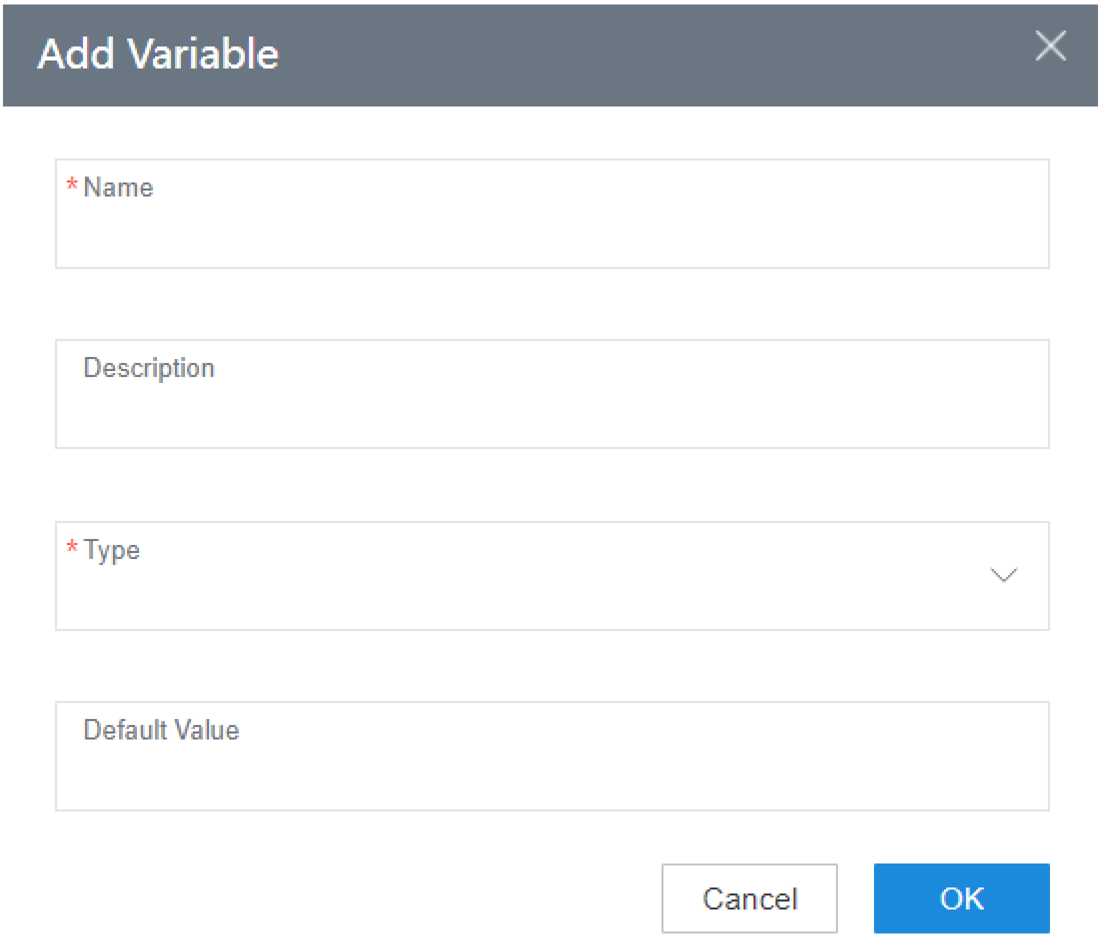
Procedure

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

Step 2 Click Variable Settings . The **Variable Management** page is displayed.

Step 3 Click New . The **Add Variable** page is displayed.

Figure 2-50 Add Variable page



- **Name**: The value cannot contain special characters.
- **Description**: description of the variable.
- **Type**: variable type, including integer and string. You can select a value from the drop-down list box.
- **Default Value**: default value of the variable.

Step 4 After the configuration is complete, click **OK** to save the variable configuration.

Step 5 (Optional) You can perform the following operations on variables:

- To edit a variable, click **Edit** in the **Operation** column. During the editing, only **Description** and **Default Value** can be modified.

- To delete variables in batches, select the variables and click Delete. To delete a variable, click **Delete** in the **Operation** column.

  NOTE

  Variables that have been used in a flow cannot be deleted.

----End

2.5.3.1.3 Configuring an Interface

You can define a third-party interface by setting the interface name, request URL, and interface parameters. After an interface is configured, the interface can be used in the interface invocation diagram element in an IVR flow so that the diagram element can invoke the interface.

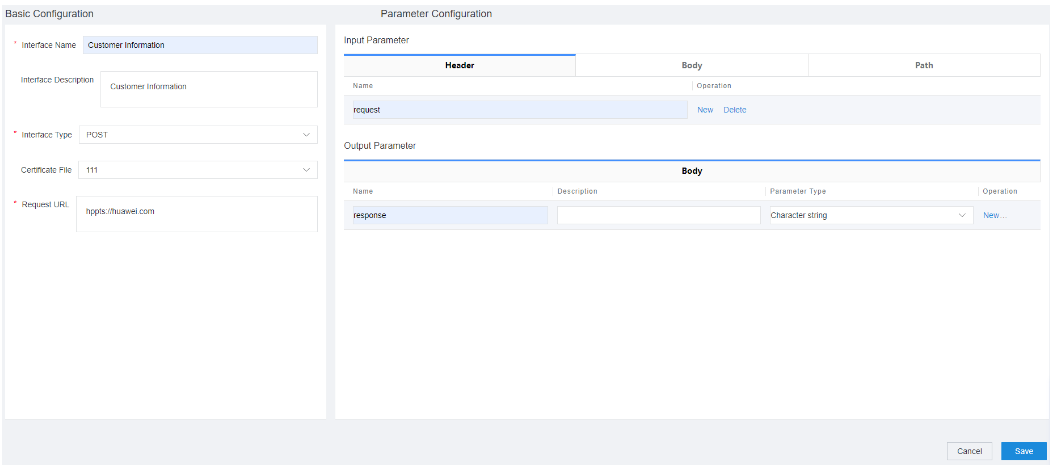
Procedure

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

Step 2 Click Interface Configuration. The **Interface Configuration** page is displayed.

Step 3 Click New. On the **Create Interface** page that is displayed, configure interface information.

Figure 2-51 Creating an interface



The rules for setting fields involved in interface configuration are as follows:

- **Basic Configuration**
  - **Interface Name**: The value is a string of a maximum of 64 characters.
  - **Interface Description**: description of an interface. The value is a string of a maximum of 64 characters. This parameter is optional.
  - **Interface Type**: The options are **POST** and **GET**.

- **Certificate File**: Select a certificate file. This parameter is optional.

  NOTE

  The certificate file is uploaded on the **Configuration Center** > **System Management** > **Certificate** page. When the interface is invoked, the client and server verify the certificate.

- **Request URL**: You are advised to set this parameter to a URL starting with **http** or **https**. To invoke an interface, IVR flows must use a URL in either of the formats.

  NOTE

  1. You need to contact the system administrator to add the request URL on the **Interface Control** page in advance.
  2. HTTP is not recommended, because it may bring risks. The secure HTTPS is recommended.

- **Parameter Configuration**
  - **Input Parameter**: input parameter information about an interface, including the header, body, and path. Set this parameter as required.
  - **Output Parameter**: output parameter information about an interface, including the body. Set this parameter as required.

Step 4 Click **Save**. The interface configuration is complete.

Step 5 (Optional) You can perform the following operations on interfaces:

- To refresh the interface list, click Refresh.
- To edit an interface, click the link in the **Interface Name** column or click **Edit** in the **Operation** column.
- To delete interfaces in batches, select the interfaces and click Delete. To delete an interface, click **Delete** in the **Operation** column.

----End

2.5.3.2 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** > **Flow Configuration** > **Flow Management**.

Step 2 Click New. In the dialog box for adding an IVR flow that is displayed, configure IVR flow information.

Figure 2-52 Adding a flow

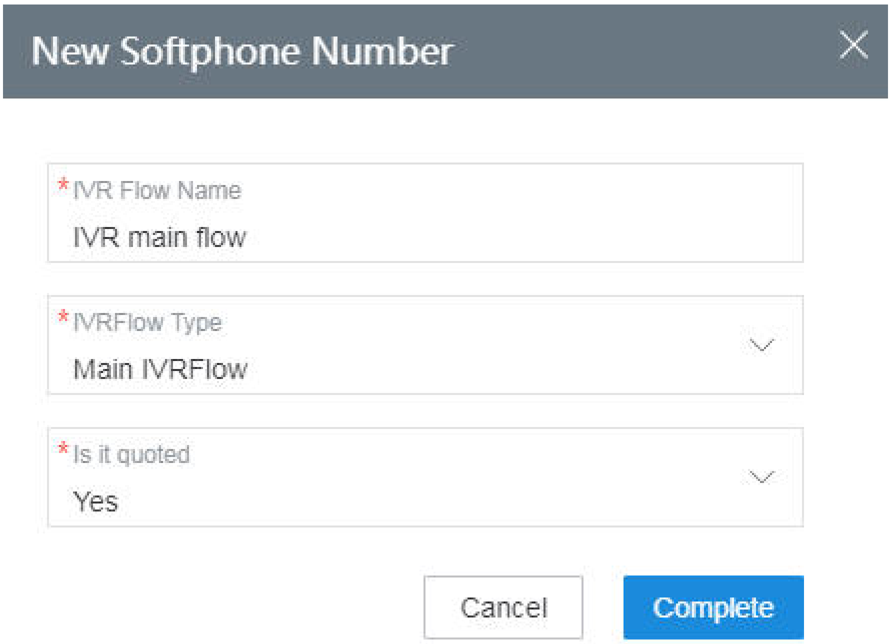


Table 2-24 Parameters in the dialog box for adding a flow

Parameter	Description
Name	Flow name. 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 is entered first from a voice call. It is the main flow involved in voice 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.

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.

Step 3 Click **Complete** 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

NOTE

- An exception handling flow must be available in the IVR flows.
- A tenant space has only one exception handling flow.

2.5.3.3 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 **2.5.3.2 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 2-53** shows the flow editing page.

Figure 2-53 Page for editing a flow

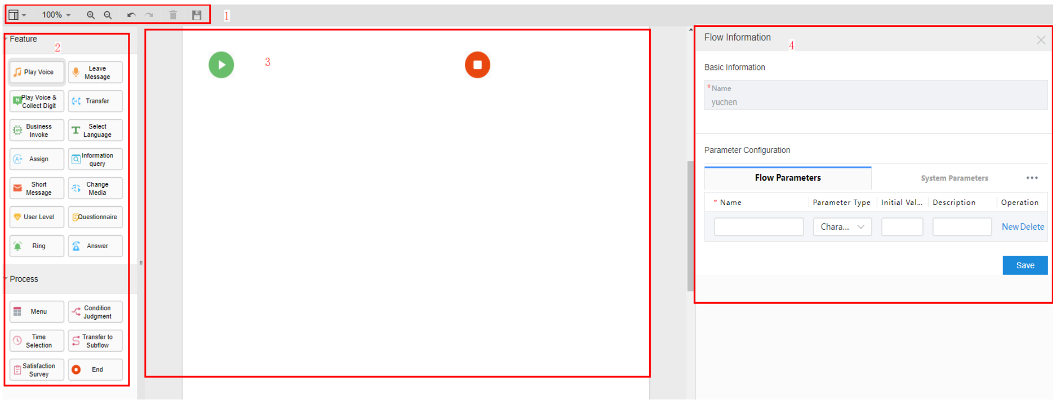


Table 2-25 Introduction to areas on the flow editing page

ID	Name	Description
1	Toolbar	This area provides shortcut tools for editing a flow.
2	Diagram element area	This area is used to drag diagram elements to the canvas area to edit a flow.
3	Canvas area	This area is used to edit an IVR flow.
4	Diagram element parameter area	This area is used to set parameters of a selected diagram element.

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

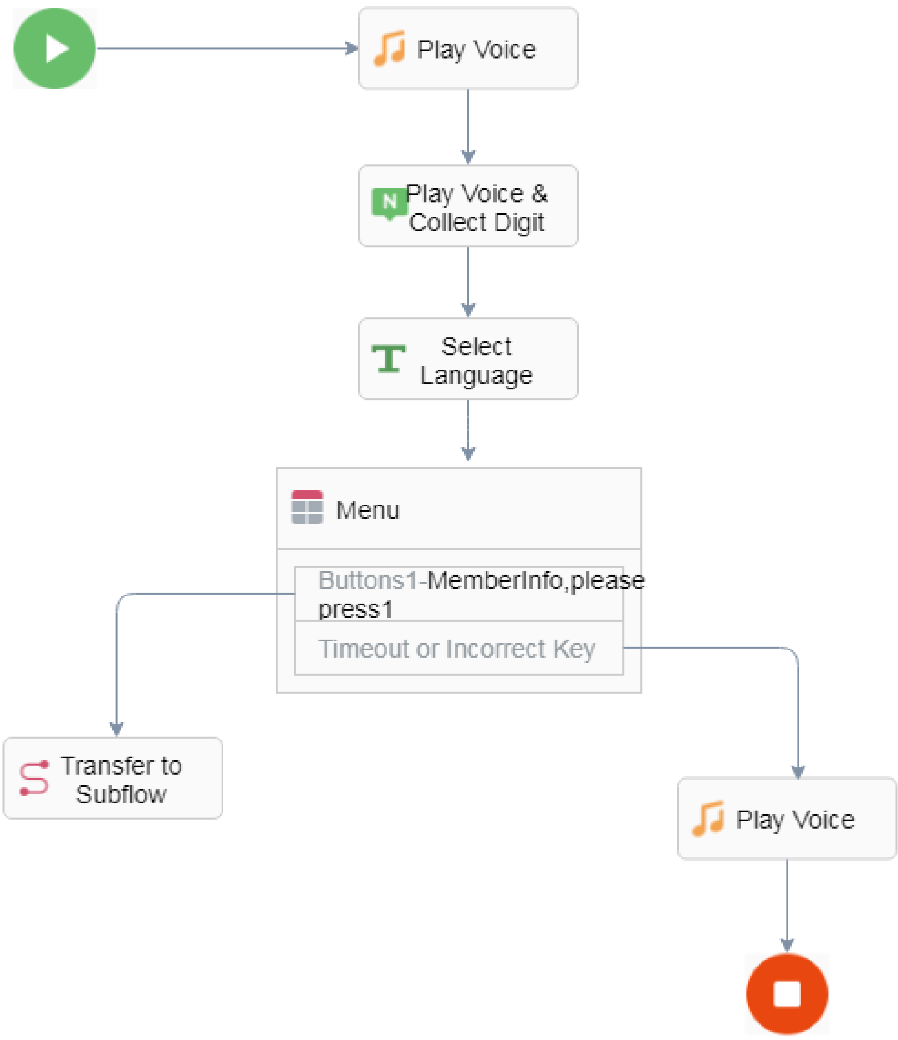
Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Edit**.

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. 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 2-54**.

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 **2.5.10 Diagram Elements**.

Figure 2-54 Editing a flow



Step 3 After the flow editing is complete, click . In the success dialog box that is displayed, click **OK** to close the flow editing page.

NOTE

During the flow editing, you can click  to save the edited flow at any time. After the flow editing is complete, you need to close the flow editing page so that the flow can be released in the flow list.

----End

2.5.3.4 Releasing a Flow

A flow that is added or edited can be used only after being released.

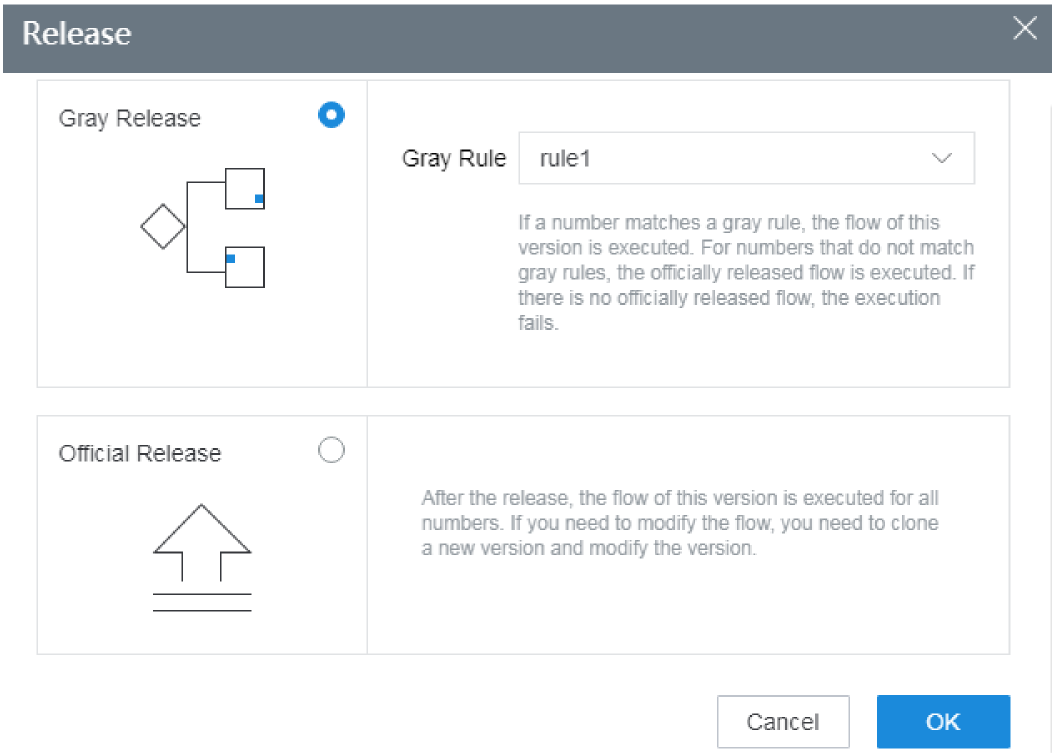
Procedure

Step 1 Select a flow in **New** or **Unreleased** state, expand the flow information, and click **Release**. The **Release** dialog box is displayed.

Step 2 Select a release mode and click **OK**, as shown in the following figure.

Two release modes are supported: gray release and official release. A flow can have only one official release version and one gray release version.

After a flow is released successfully, the status of the flow is displayed as gray release or official release according to the selected release mode.



The release 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. In the gray release process, only numbers that match gray rules can be transferred to the IVR flow.

- Official release: This process is applicable to all numbers when the voice is transferred to the IVR flow.

NOTE

  - After a flow is released, the system automatically allocates an access code to the flow.
  - Flows in official release and 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 released, the existing official release version or gray release version is replaced with the current version.
  - A released exception handling flow must be available for official release and gray release.
  - To cancel the release of an exception handling flow, ensure that no released or gray release flow exists.
  - Abnormal flows support gray release.

----End

2.5.4 Configuring Access Code Tracing

After the IVR is referenced by an agent, the agent can view the detailed information about the IVR flow in the contact record.

Prerequisites

A released IVR flow exists and the transfer diagram element has been configured.

Procedure

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

Step 2 Click Access code trace config. The **Access code trace config** dialog box is displayed.

Step 3 Click +, select a flow access code, and click **OK**.

A maximum of 20 flow 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.

2.5.5 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 Route**.

Step 2 Click **New** and configure called route information, as shown in Figure 2-55.

Figure 2-55 New

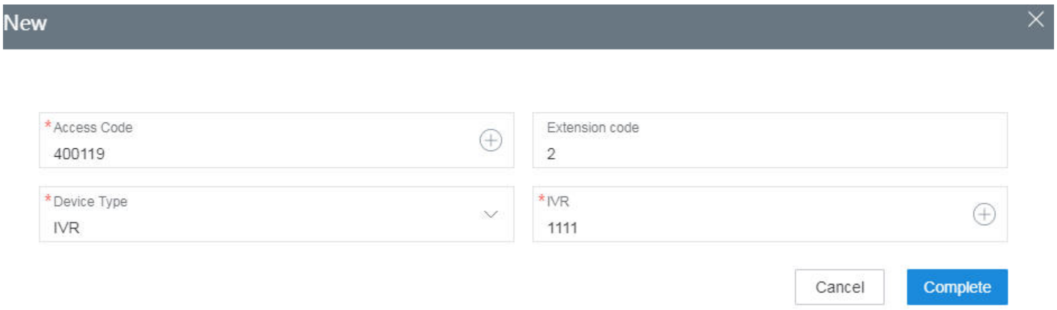


Table 2-26 Key parameters on the page for adding a called number

Parameter	Description
Access Code	A customer can directly dial the string in *Access code*+*Extension code* format to access the IVR flow. The available access codes are allocated by the system administrator when the system administrator adds a tenant.
Extension code	A customer can directly dial the access code and extension code to access the IVR flow. An extension code is a string of 1 to 12 characters, including digits (0–9), asterisks (*), and pound keys (#).
Device Type	Select **IVR** to transfer a voice call to the IVR flow.

Parameter	Description
IVR	Select a released IVR flow as required.

Step 3 Click **Complete**.

The configured flow is automatically synchronized to the intelligent IVR. The intelligent IVR saves the flow information based on the flow access code.

----End

2.5.6 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.

Procedure

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

Step 2 Click 

. The **TraceLog** page is displayed.

Step 3 Click . The page for adding a calling number is displayed. Enter a calling number and click **OK**.

Each calling number can contain a maximum of 32 digits. A maximum of 20 calling numbers can be added.

Step 4 Start the OpenEye, use the calling number to log in to OpenEye, and call the called route corresponding to the IVR flow. That is, dial the access code and extension code.

Before the verification, ensure that the following configurations have been completed:

- The IVR flow to be verified has been released. For details about how to release a flow, see **2.5.3.4 Releasing a Flow**.
- The called route has been configured, and the called route is associated with the IVR flow whose flow track needs to be verified. For details about how to configure a called route, see **2.5.5 Configuring a Called Route**.

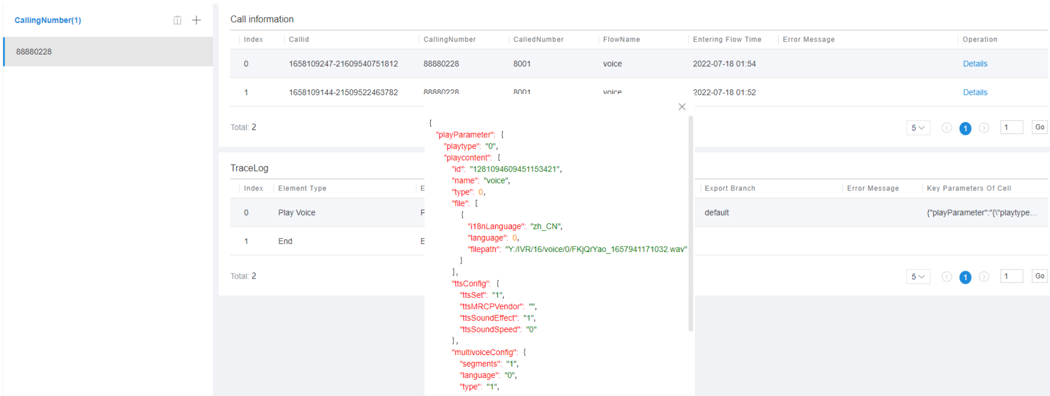
Step 5 After the call ends, click the calling number on the **TraceLog** page to view the call information and flow track of the calling party in the right pane of the page.

The current call record is displayed in the **Call information** area. You can click **Details** corresponding to a call record to view the flow execution track in the **TraceLog** area, that is, the execution sequence and execution result of each diagram element node in the flow. Click a key parameter of a diagram element, the content is displayed in a pop-up window in JSON format.

NOTE

The display of calling numbers is controlled by the permission to display subscriber numbers in plaintext. If an agent does not have the permission, the calling numbers are displayed anonymously. The anonymization rule is configured by the tenant administrator. For details, see **2.17.3 Configuring Parameters**.

Figure 2-56 TraceLog page



----End

2.5.7 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** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **System Configuration** > **System Settings** and edit the **CCIVRRECORDFLAG** parameter.

Step 3 Set **Value** to **Enable** to enable recording or **Disable** to disable recording.

Step 4 Log in to the OpenEye and dial the access code configured on the **Called Route** page. If you can hear the tone played by the chatbot, 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 2-57 System parameter for configuring IVR recording

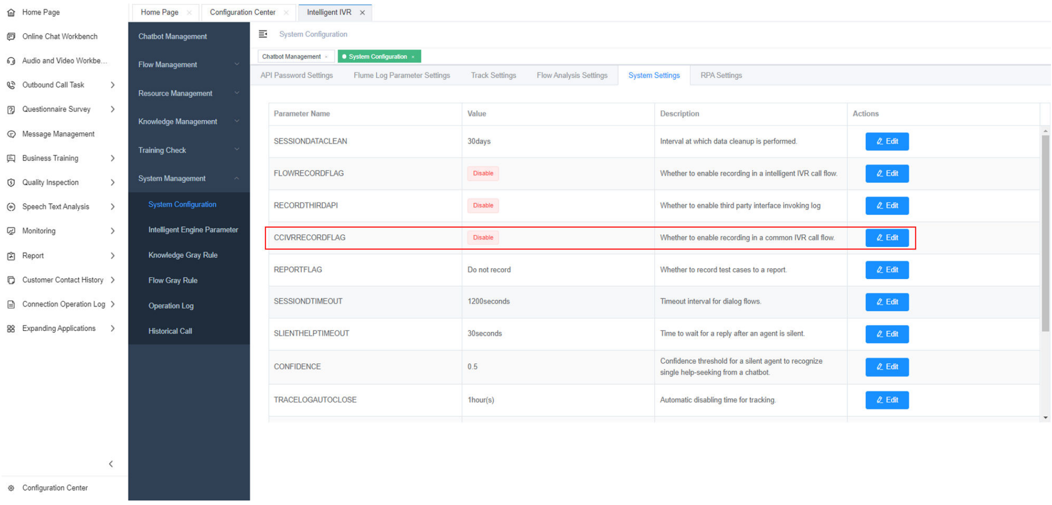
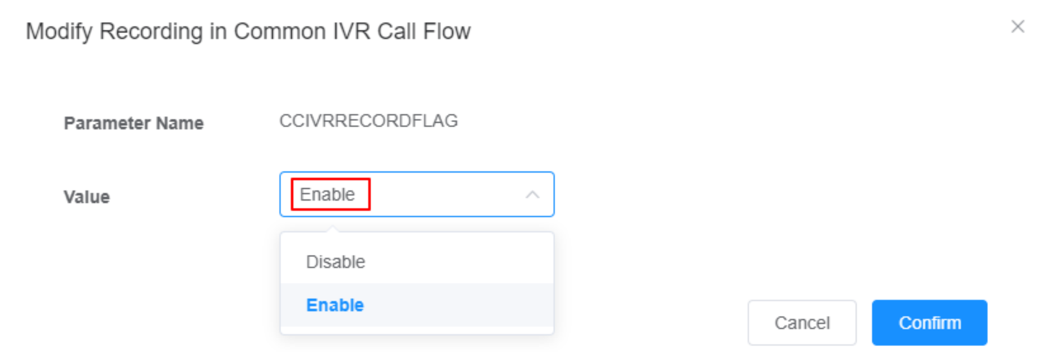


Figure 2-58 Selecting Enable for the recording flag



----End

2.5.8 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

- 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 permission on the **Process Transfer Record** page.
  - Have the permissions to play recordings online and download recordings.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Contact History** > **Process 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.

----End

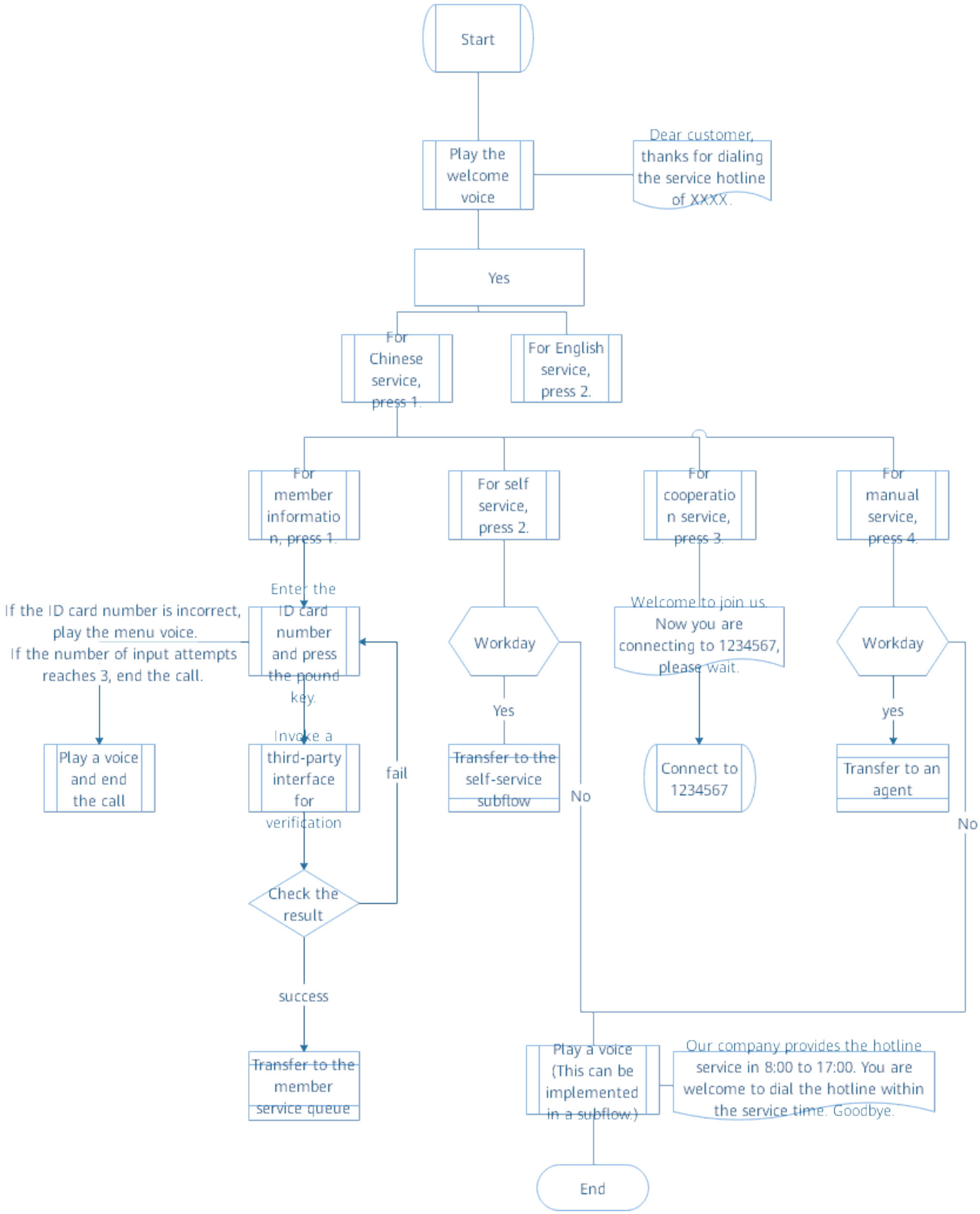
2.5.9 Typical Configuration Example

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.

Figure 2-59 IVR flow instance



Requirement Analysis

Table 2-27 describes the diagram elements involved in the flow instance configuration according to the analysis.

Table 2-27 Diagram elements involved in the flow instance

Involved Diagram Element	Description
Voice playback	Plays all voices required in the flow, including the welcome voice.

Involved Diagram Element	Description
Language selection	Provides Chinese and English for customers to select.
Menu selection	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.
Voice playback and digit collection	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 **Configuring a Voice File**.

The configured voice files can be used only after being approved.

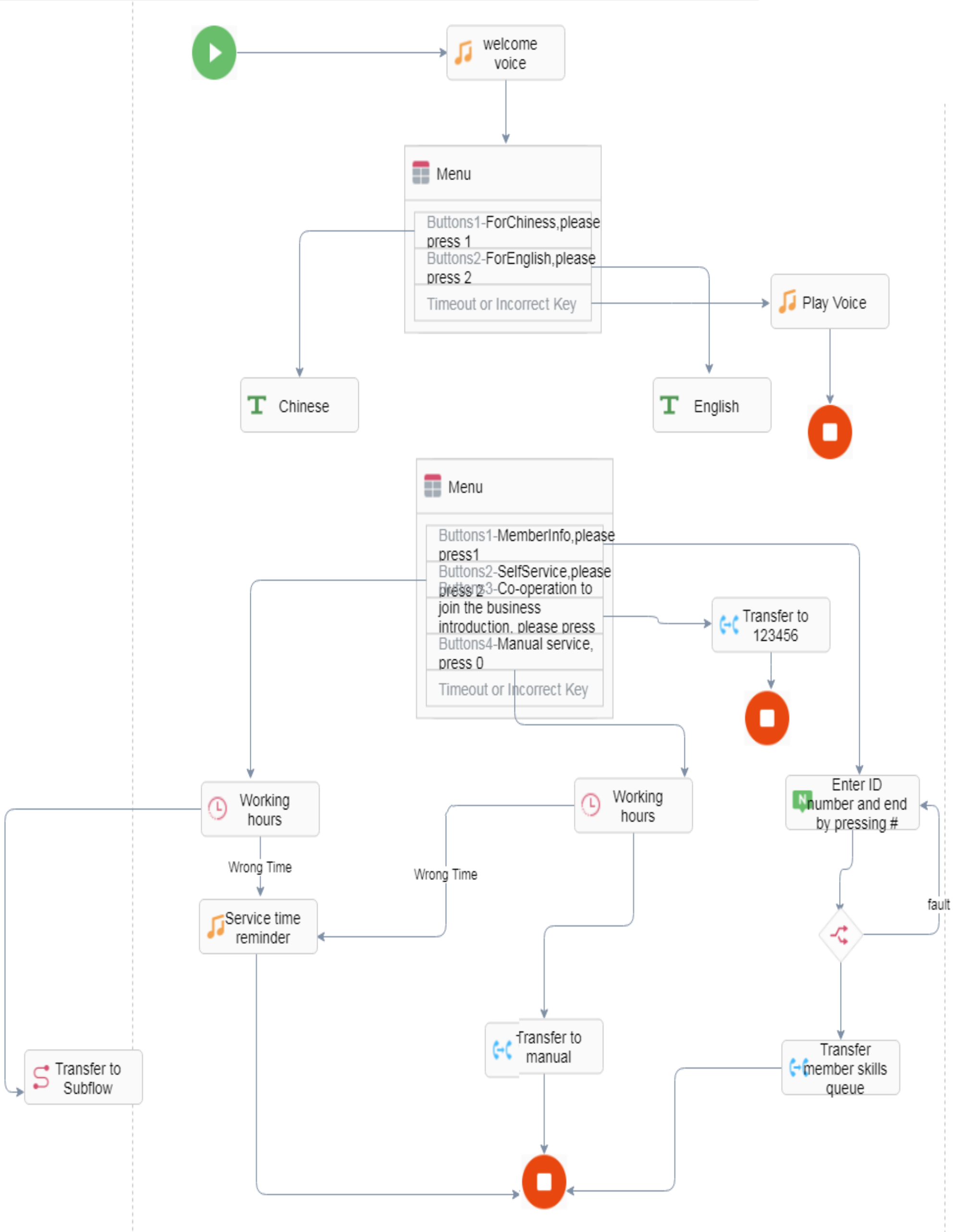
Step 3 Configure an empty main flow and an empty subflow. For details, see **Creating a Flow**.

You are advised to configure the self-service subflow before the main flow.

Step 4 Edit the flow by referring to **Editing a Flow**. **Figure 2-60** 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.

Figure 2-60 Flowchart of the configuration instance



Step 5 Release the flow by referring to **Releasing a Flow**.

Step 6 Configure the called route by referring to **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.

2.5.10 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.

2.5.10.1 Flow

An IVR flow defines the transfer sequence of an IVR voice.

Flow Parameters

Figure 2-61 Process Information

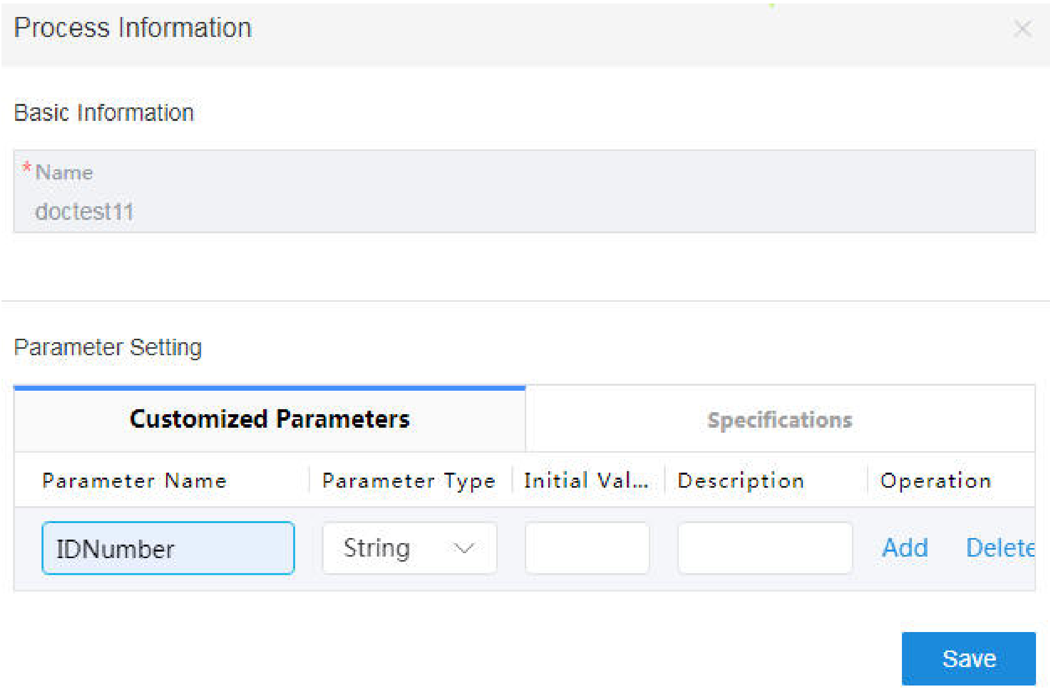
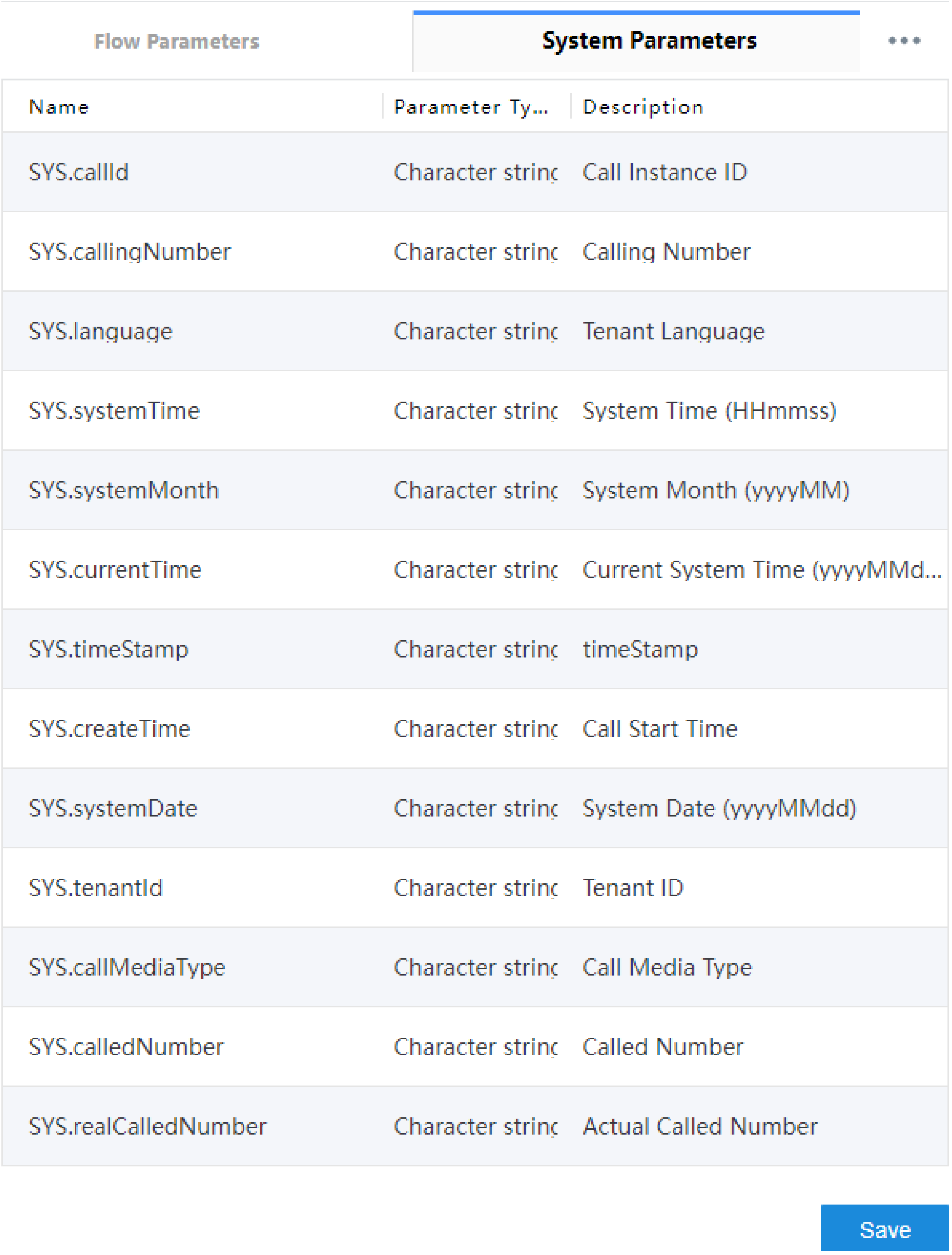


Figure 2-62 System Parameters



The flow parameters are described as follows:

- **Basic Information**: This area displays the flow name. When editing a flow, you cannot change its name.
- **Parameter Setting**: This area contains the **Customized Parameters** and **Specifications** tab pages, which define information to be transferred between source and target diagram elements.

  Customized Parameters: This tab page is used to set customized parameters. Customized parameters are generally used in actual flows, and need to be set when the related information is not configured in system parameters. You can add a customized parameter by setting the following fields.

NOTE

Customized parameters that have been referenced by flows cannot be deleted.

- **Parameter Name**: Set this parameter as required. The value must be unique. For example, when the parameter is set to **IDNumber** and referenced in a diagram element, a prefix is automatically added to it, such as **FLOW.IDNumber**.
- **Parameter Type**: Select a data type of a parameter value. Select **String** or **Digital** from the drop-down list.
- **Initial Value**: Enter an initial value of a parameter, which is optional.
- **Description**: Enter the description of a parameter, which is optional.
- Click **Add** to add a parameter record.
- Click **Delete** to delete a parameter record.

Specifications: This tab page displays parameters preset in the ODFS. These parameters cannot be set.

- **Name**: Enter a system parameter name, which is prefixed with **SYS**, for example, **SYS.callingNumber**.
- **Parameter Type**: Select a data type of a parameter value.

- Click **Save** to save all parameters set on the current page.

2.5.10.2 Start

This diagram element is used only to identify the beginning of a flow and does not have any internal logic.

Diagram Element

Parameter Description

None

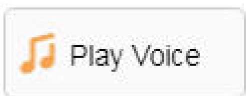
Typical Application Scenarios

This diagram element is used at the beginning of a flow.

2.5.10.3 Voice Playback

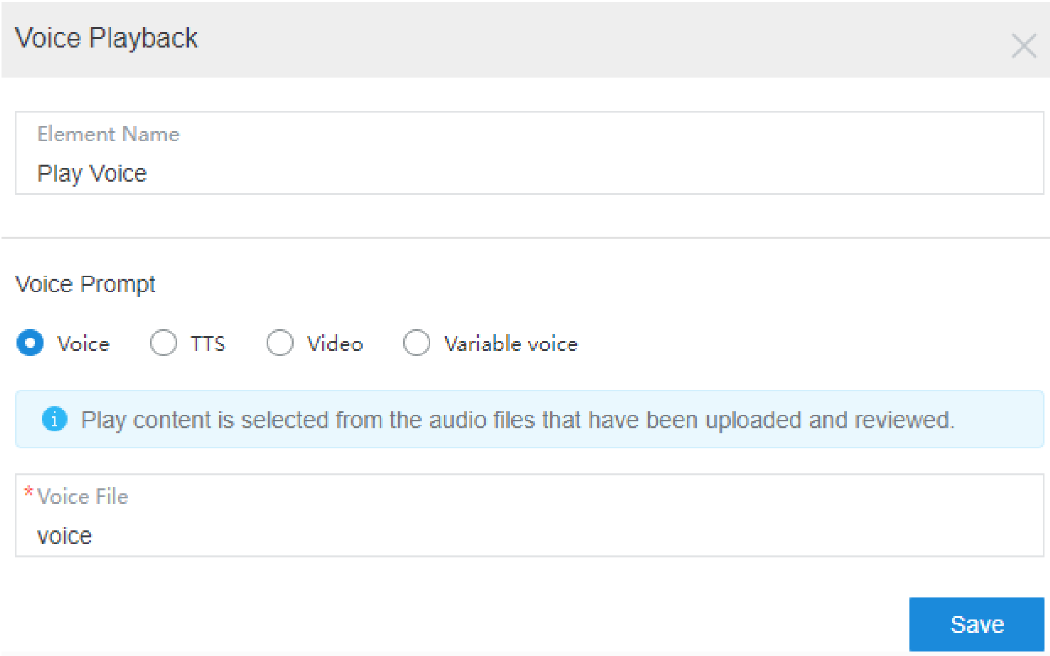
This diagram element is used to play a voice (for example, welcome voice) or video segment without interacting with the customer. The system supports WAV (8 kHz, 8 bits) voice files, TTS files, and video files.

Diagram Element



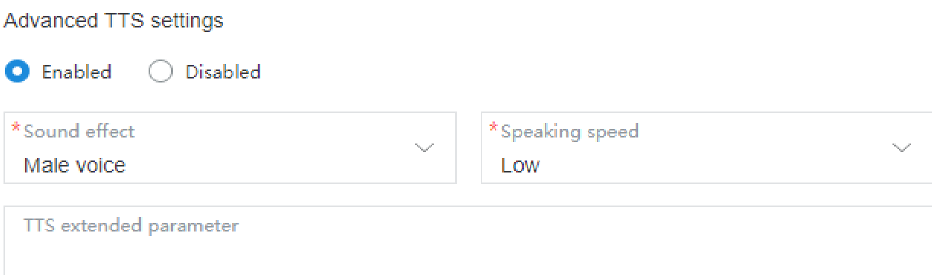
Parameter Description

The following figure shows the parameters of the **Play Voice** diagram element.



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value 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 voice file in WAV format. Currently, the UAP supports only WAV (8 kHz, 8 bits) 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 the sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low** by default, and **TTS extended parameter** is not set.



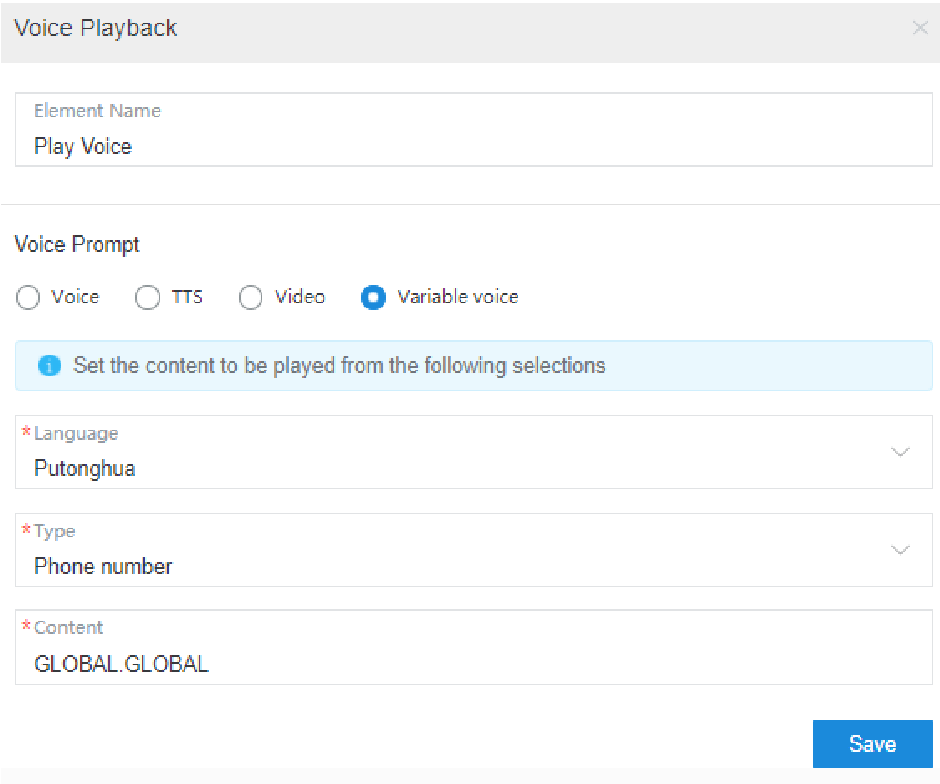
    - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. The options are **Low**, **Medium**, and **High**.

- **TTS extended parameter**: Set this parameter based on site requirements. The value contains a maximum of 200 characters.

– **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

– **Voice File**: The system displays reviewed voice files, TTS files, or video files based on the selected voice type, and displays the files meeting criteria 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 playing 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 playing 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.

Typical Application Scenarios

- 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.

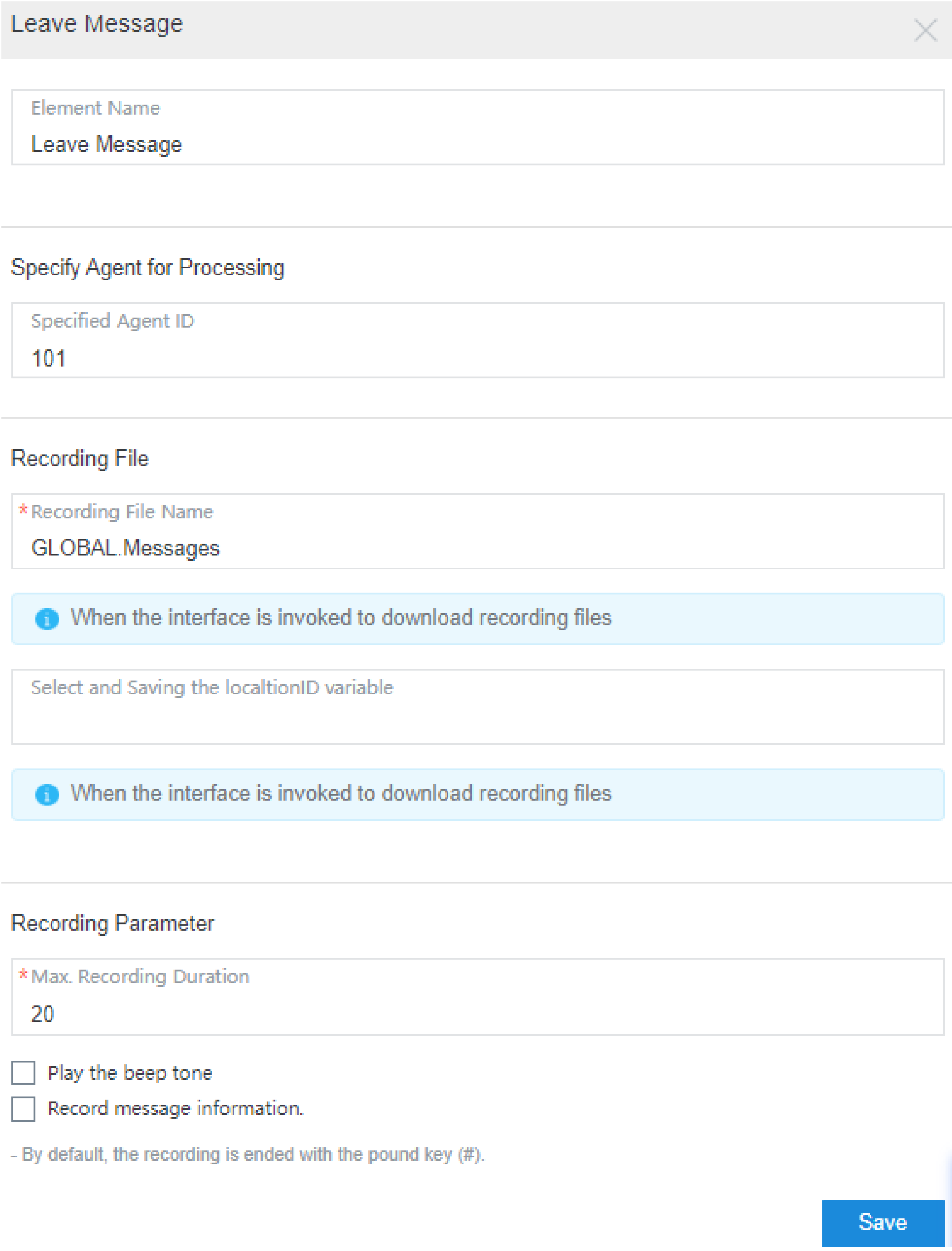
2.5.10.4 Message Leaving

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.



- **Element Name**: Enter a diagram element name. The value can be customized.
- **Specify Agent for Processing**

  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. If the specified agent ID does not exist, the message status changes to allocation failure. If no agent is specified, messages will be allocated by the administrator.
- **Recording File**

Recording 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.

Select and Saving the locationID variable (second text box): Select the UAP node set during installation. The 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.

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.

Typical Application Scenarios

This diagram element is used in the scenario where a voice message needs to be stored in a recording file.

2.5.10.5 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.

Figure 2-63 Play Voice & Collect Digit

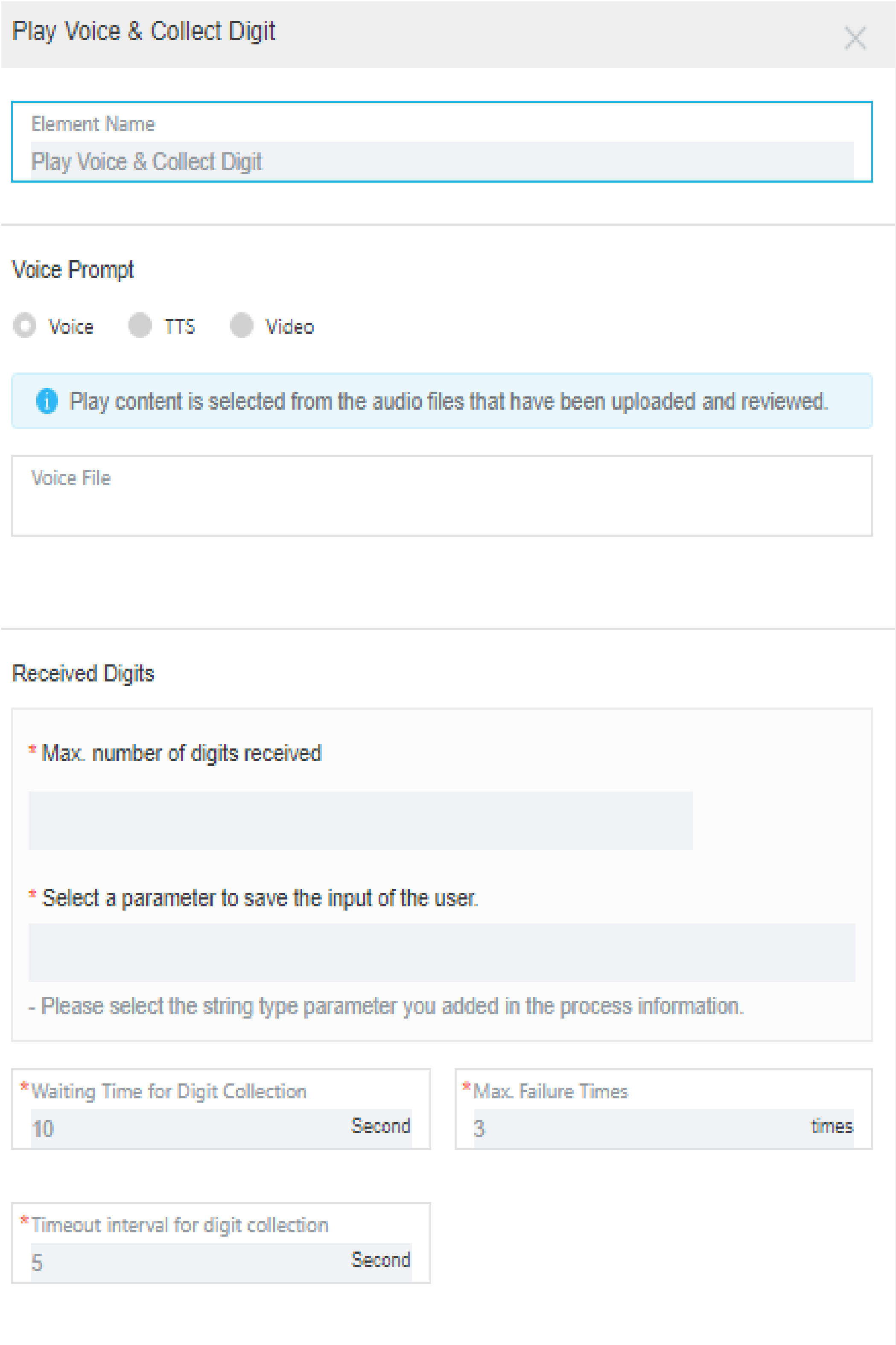
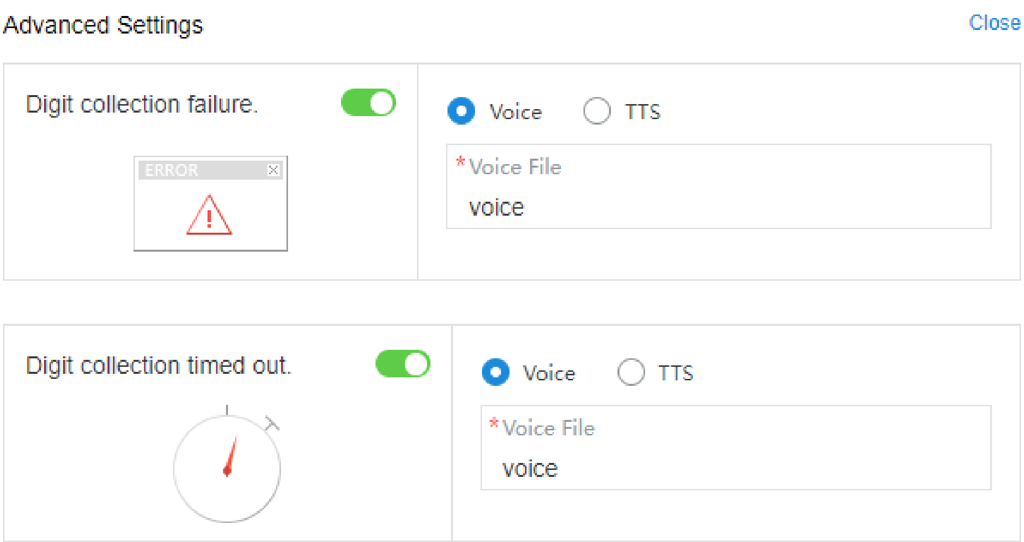
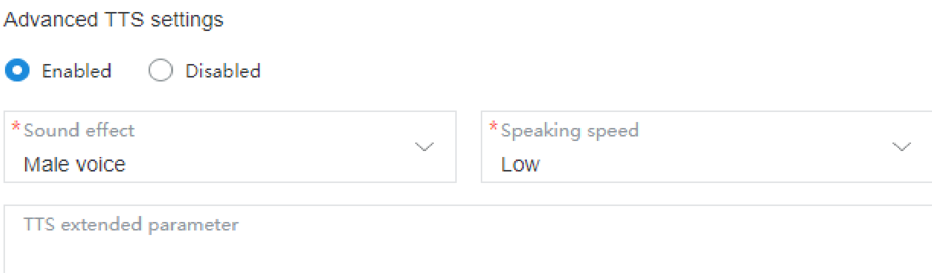


Figure 2-64 Advanced Settings



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value can be customized.
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a voice file in WAV format. 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 the sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice** and **Speaking speed** is set to **Low** by default, and **TTS extended parameter** is not set.

    - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. 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.

- **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 box. You can click and select a required file.
- **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.
  - **Select a parameter to save the input of the user**: 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 information entered by the customer by using a variable of the string type. Therefore, you can select only a variable of the string type.
  - **Waiting Time for Digit Collection**: time to wait for the digit 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 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.

Typical Application Scenarios

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.

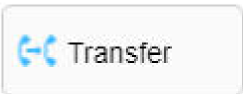
2.5.10.6 Transfer

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 **End** 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.

Figure 2-65 Transferring a call to a skill queue

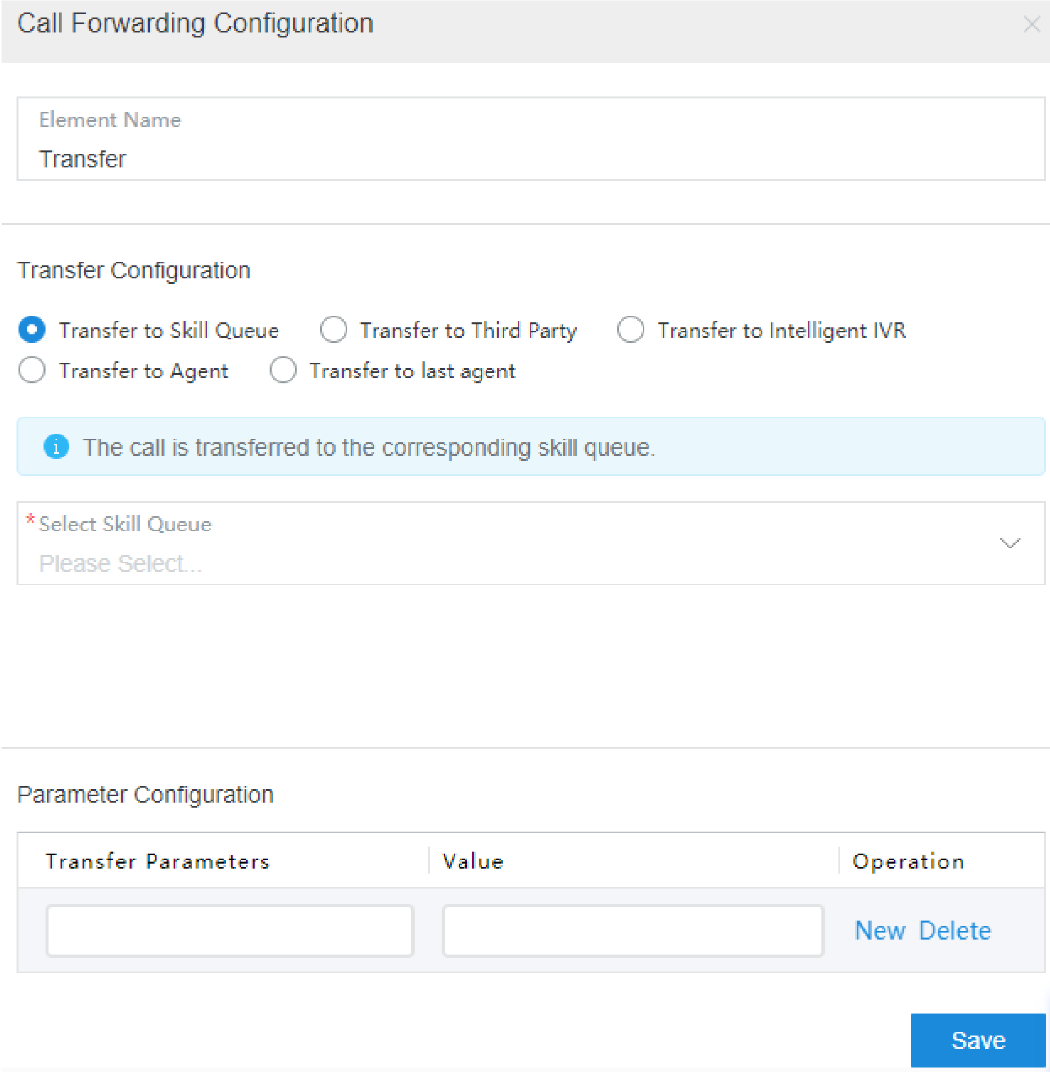


Figure 2-66 Transferring a call to a third party

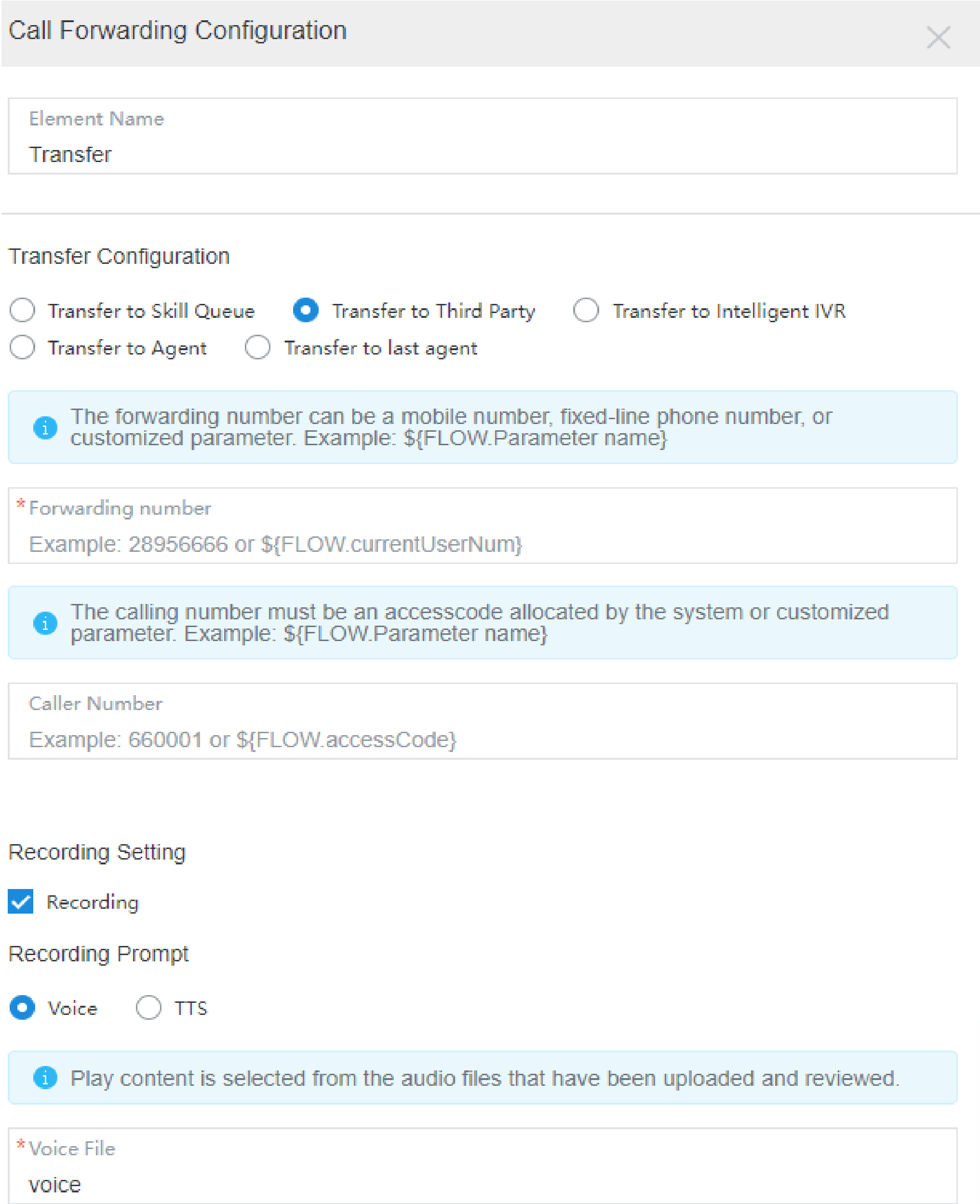


Figure 2-67 Recording file

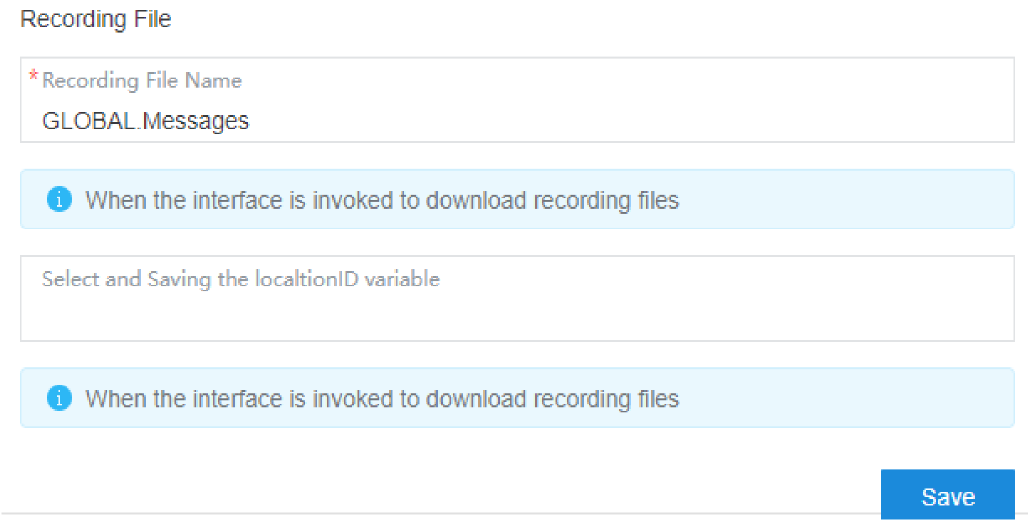


Figure 2-68 Transferring a call to an intelligent IVR

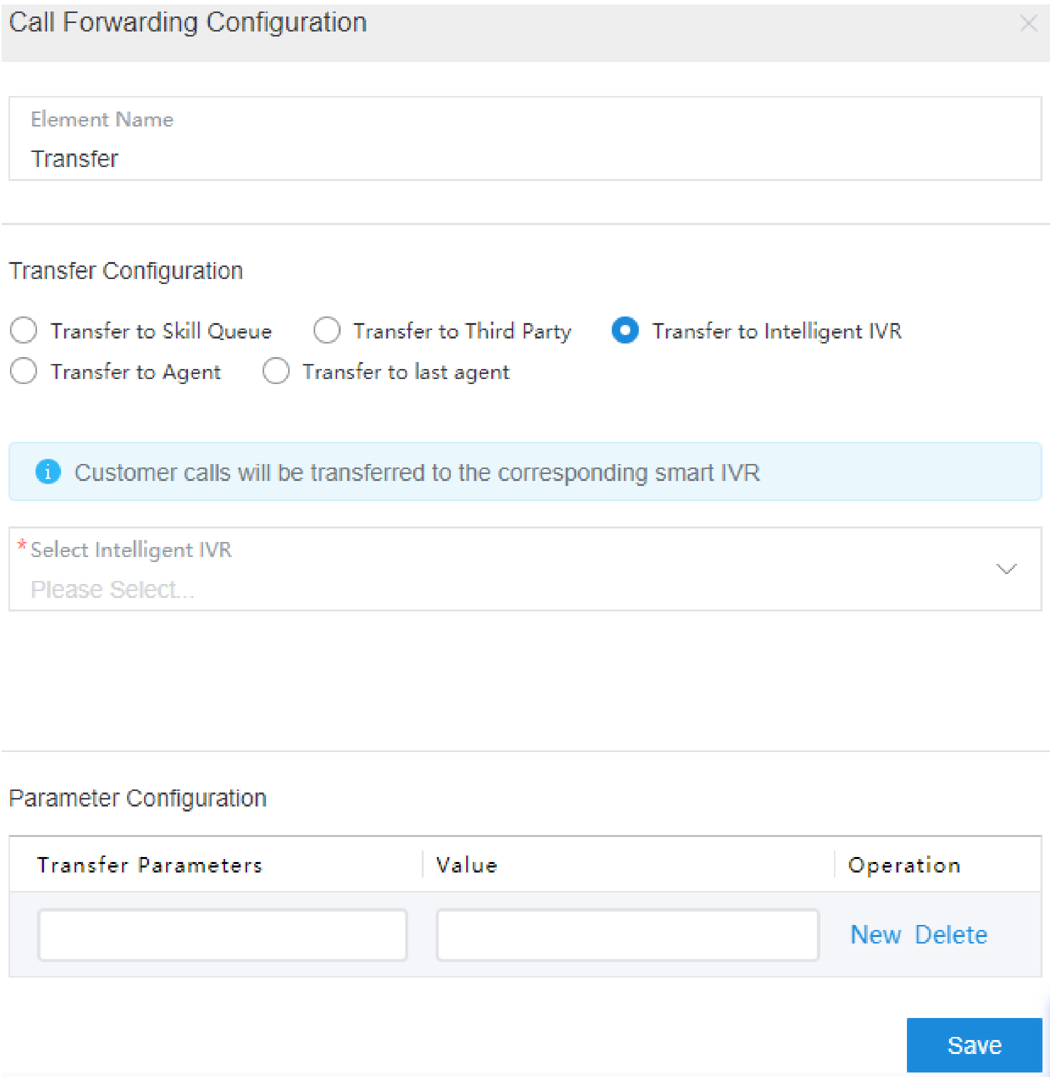


Figure 2-69 Transferring a call to an agent

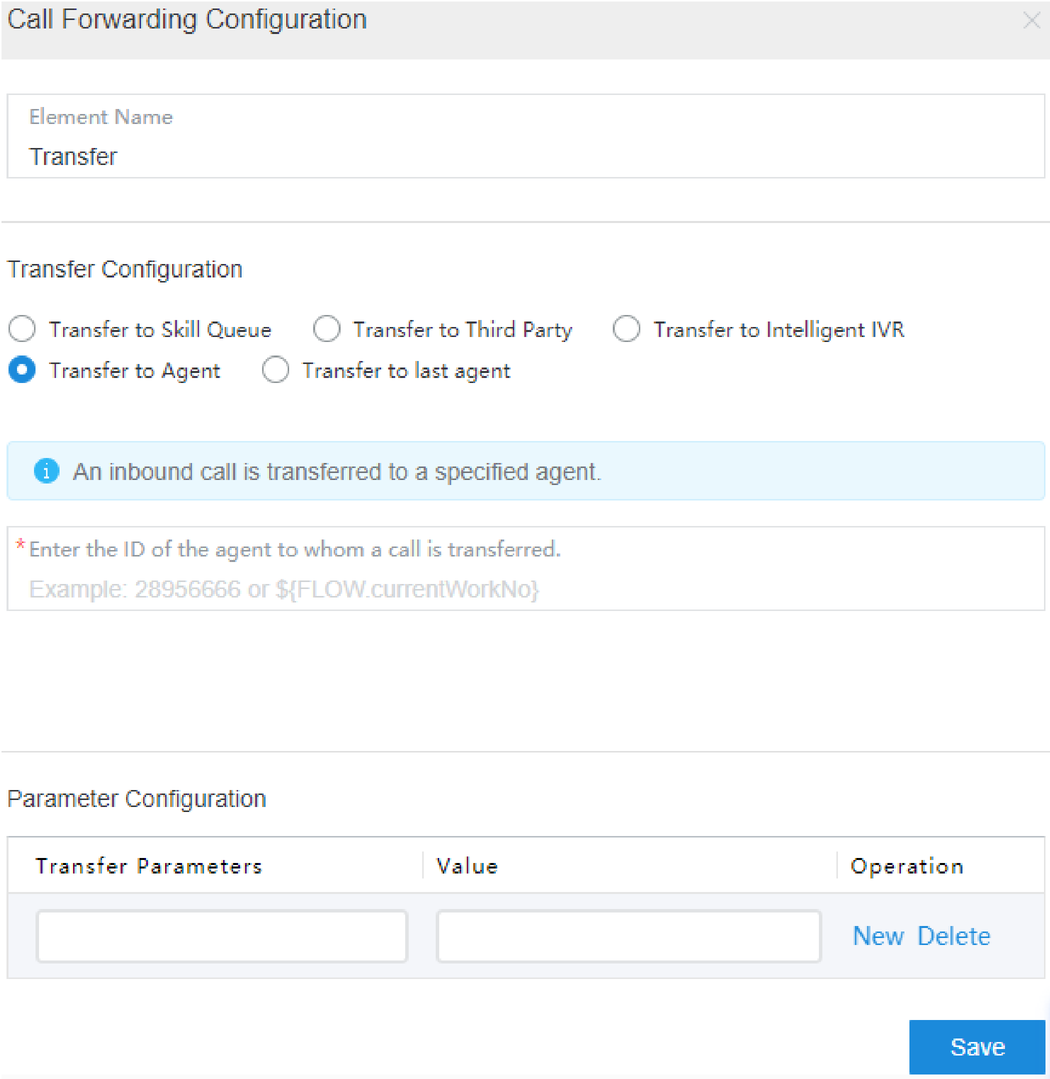
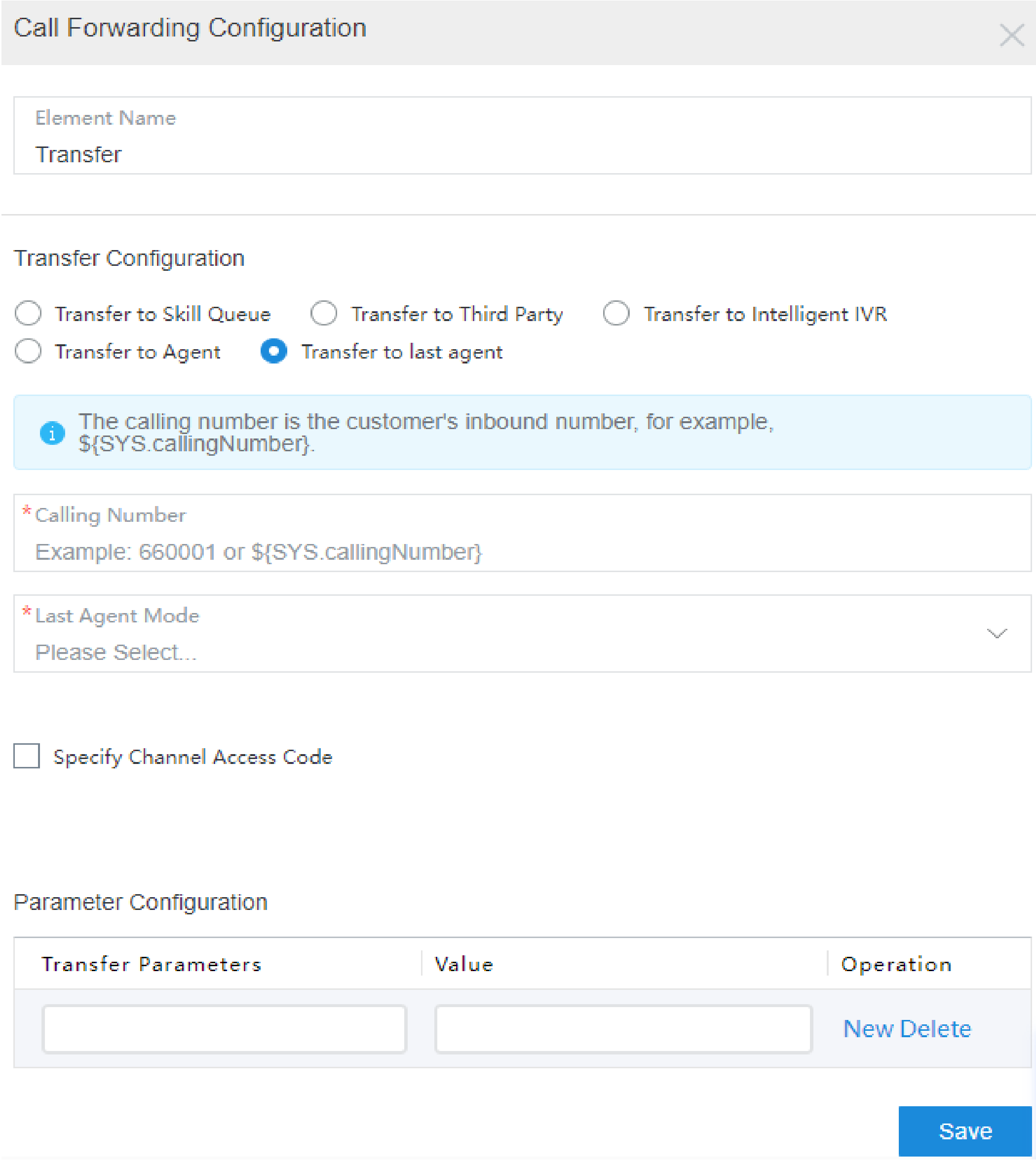


Figure 2-70 Transferring a call to the last agent



The parameters are described as follows:

- **Element 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.

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 character string type. Therefore, when selecting a variable, you can select only a variable of the character 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 released 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.
  - **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 Scenarios

A voice call needs to be transferred from the current flow to a skill queue or third party.

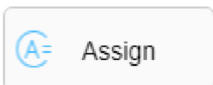
2.5.10.7 Assign

This diagram element assigns values to process variables or global variables, and assigns 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.

Figure 2-71 Assign TransferData

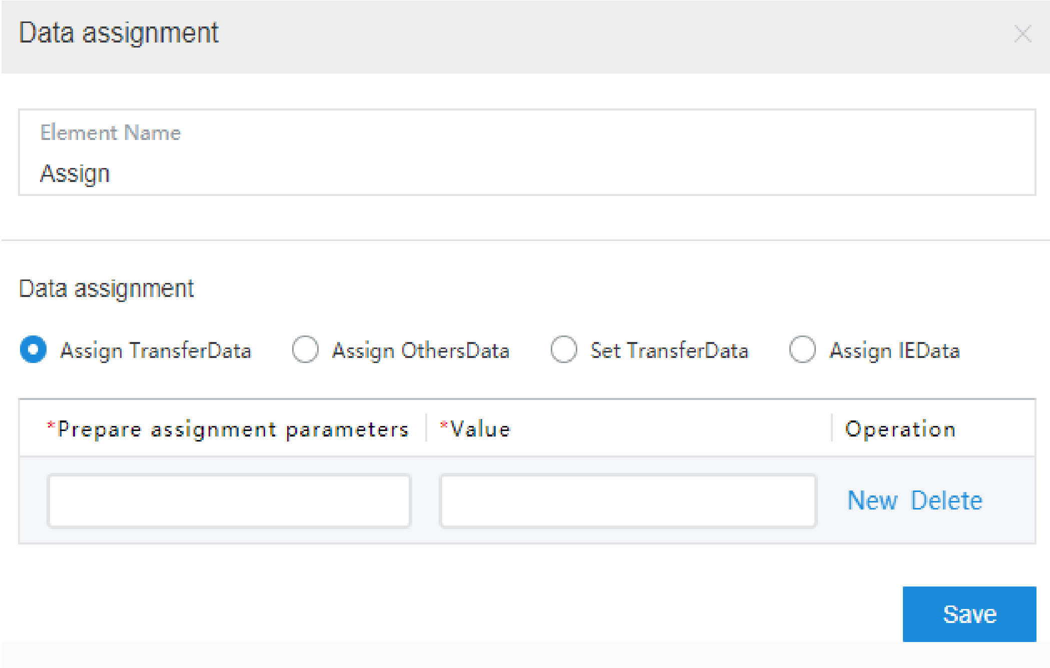


Figure 2-72 Assign OthersData

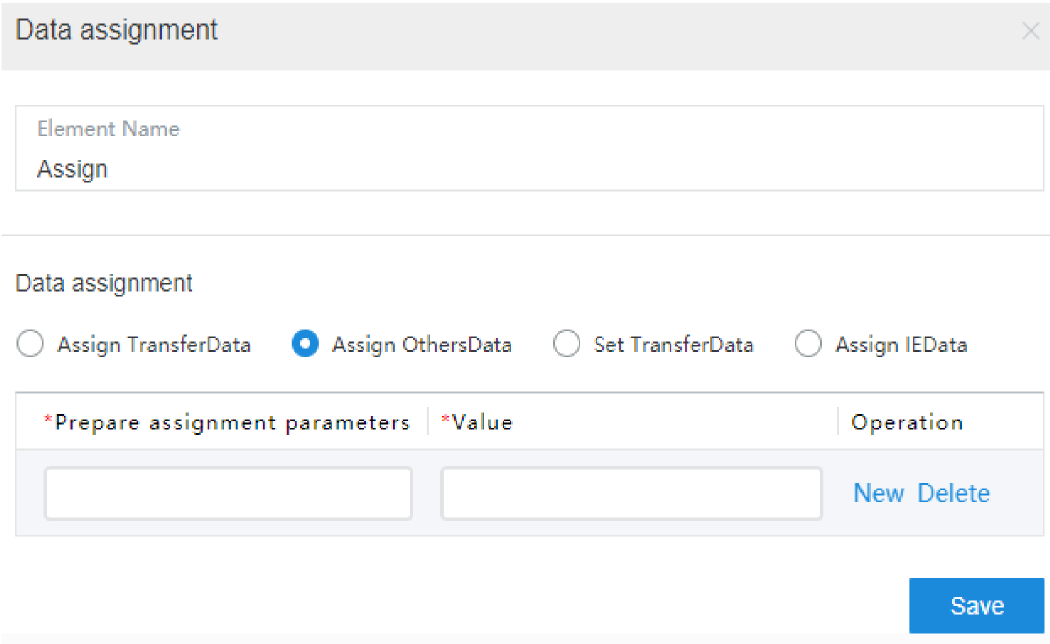


Figure 2-73 Set TransferData

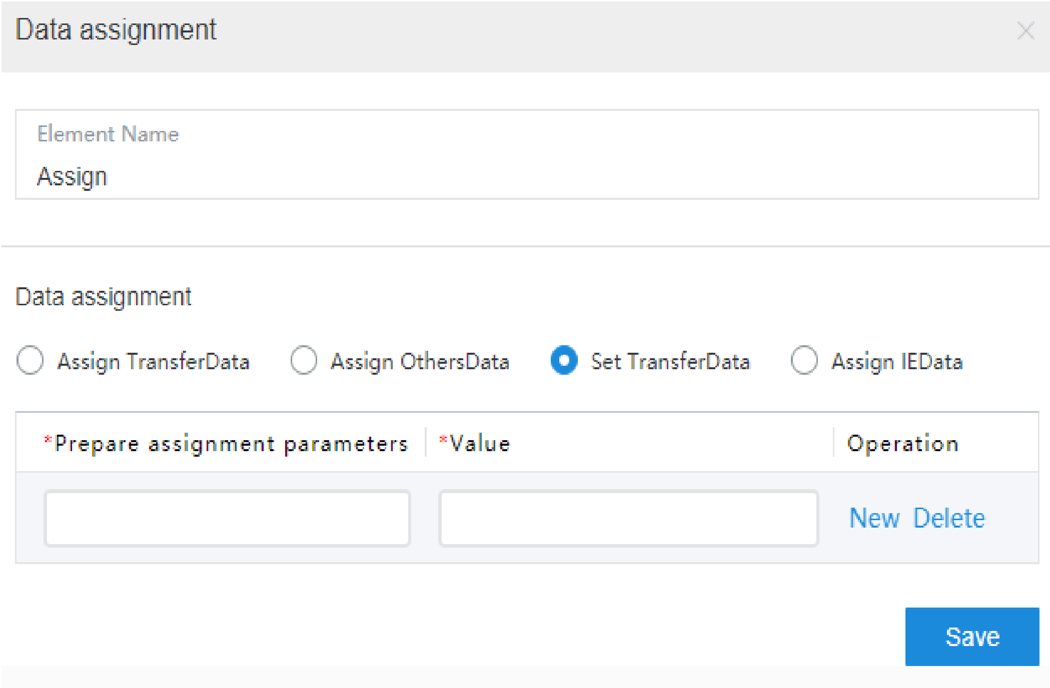
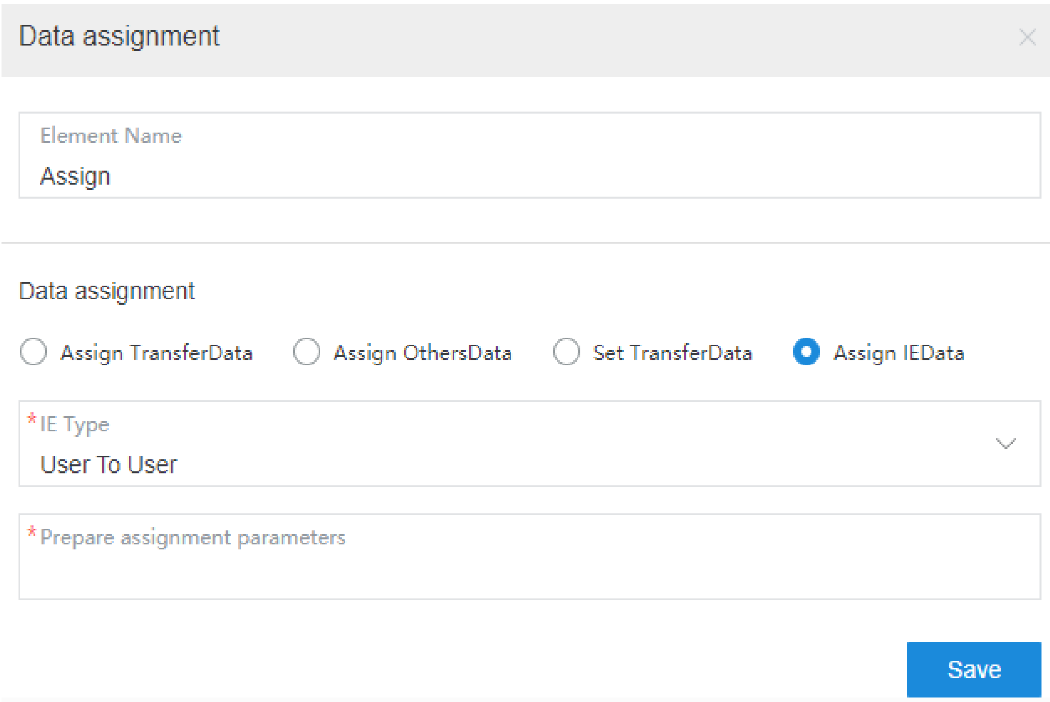


Figure 2-74 Assign IEData



The parameters are described as follows:

- **Module Description**: diagram element name to be displayed, which can be customized as required.
- **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**: parameter value, which is optional.
    1. **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.
    2. **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.

       Character 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()**
    3. **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.
    4. **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 Scenarios

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 value to a parameter at any time, and add the parameter to a flow variable or global variable.

2.5.10.8 Information Query

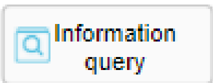
This diagram element is used to query the status of the current user in the queue. When all agents are busy, the system plays the call waiting announcement to the user through the IVR.

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.

You can query details about agents in configured skill queues.

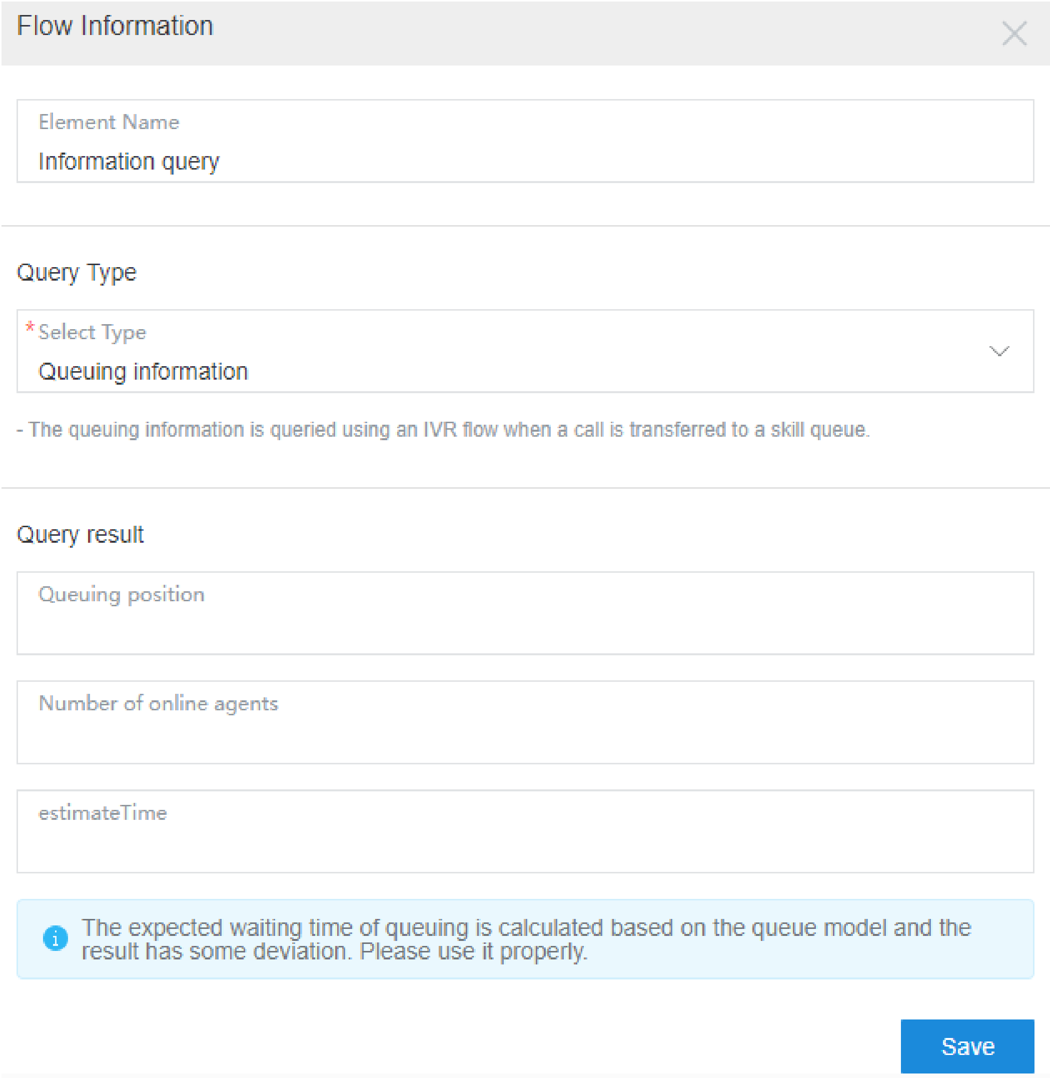
You can query whether the user is in the special list.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Information query** diagram element.



The parameters are described as follows:

- 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 the call waiting tone played with an IVR when a call is transferred to a skill queue.
  - **Query result**
    - **Queuing position**: position of a user in the current skill queue, that is, the number of queuing users in front of the user. 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 user belongs. Use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **estimateTime**: estimated duration for connecting a call to an agent during queuing. This parameter is affected by the queuing position and the number of online agents. 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 queue information
  - **Query Type**

    Queue information: Query queue information before a call is transferred to a skill queue.
  - **Request Parameter**

    Skill ID: skill queue to which a call is transferred.
  - **Query result**
    - **Queuing position**: Before a call is transferred to a skill queue, the estimated queuing position of the customer is displayed. 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. 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. Use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.
    - **estimateTime**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. 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.
  - **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 a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.

    NOTE

    You can choose **Agent Management** > **Configure** to configure the skill queue weight.

- Querying special list information
  - **Query Type**

    Special list information: Currently, the system can check whether a user is in the special list based on the user number. The next processing flow varies depending on the special list query result.

    NOTE

    The special list refers to the blocklist.
  - **Query result**

    Flag of Being in the Special List: whether the calling number exists in the special list. Use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.

    The values of **Flag of Being 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.

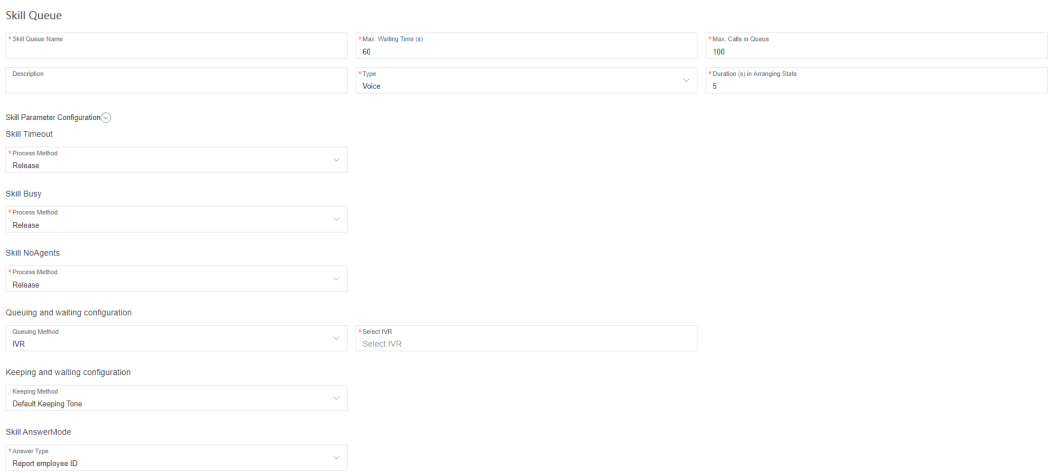
Typical Application Scenarios

A user makes a call to the CEC and the call is routed to a skill queue. When all agents in the skill queue are busy, the IVR can use this diagram element to obtain the current queuing status of the user and play the call waiting tone to the user if the call waiting tone played with an IVR is configured. Therefore, the user can determine whether to continue waiting based on the queuing status.

To configure the call waiting tone played with an IVR, perform the following operations:

- **Application scenario of queuing information**

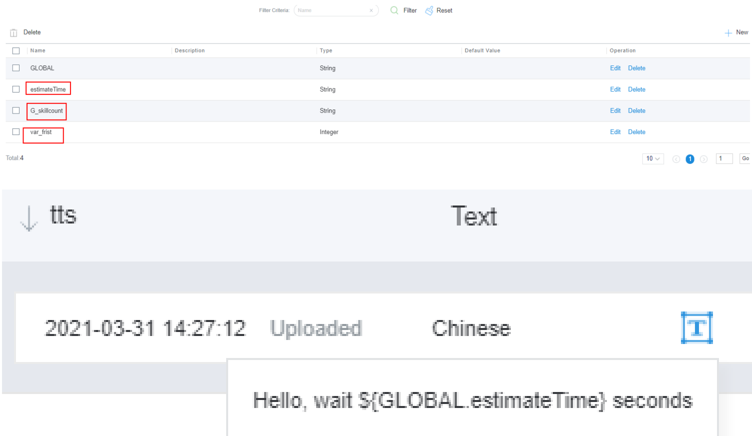
Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** in the **Queuing and waiting configuration** area.



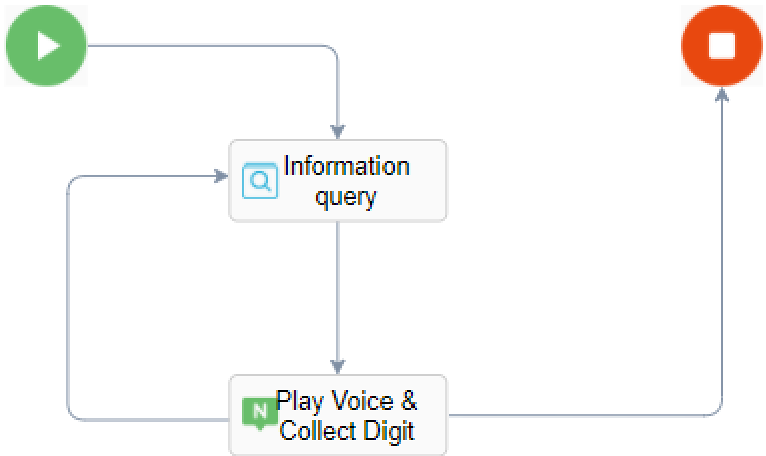
You can select a flow that you edited for the call waiting tone played with an IVR. In the flow, the diagram element can be used to query data, including the number of online agents, queuing position, and estimated waiting time.

Flow development process:

1. Create three global variables to receive the query result, and then configure the TTS voice playback. The voice playback content is replaced by the created global variables.



2. Create a flow, use the information query diagram element to assign values to the three global variables defined above, and then use the voice playback diagram element to play the preceding TTS content.



3. The subsequent operations are performed based on the services. The playback is repeated or other branches are used.

- **Application scenario of queue information**
  a. The parameter settings are the same as **Application scenario of queuing information**. The TTS voice playback diagram element is added.
  b. 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.

Figure 2-75 Flow example

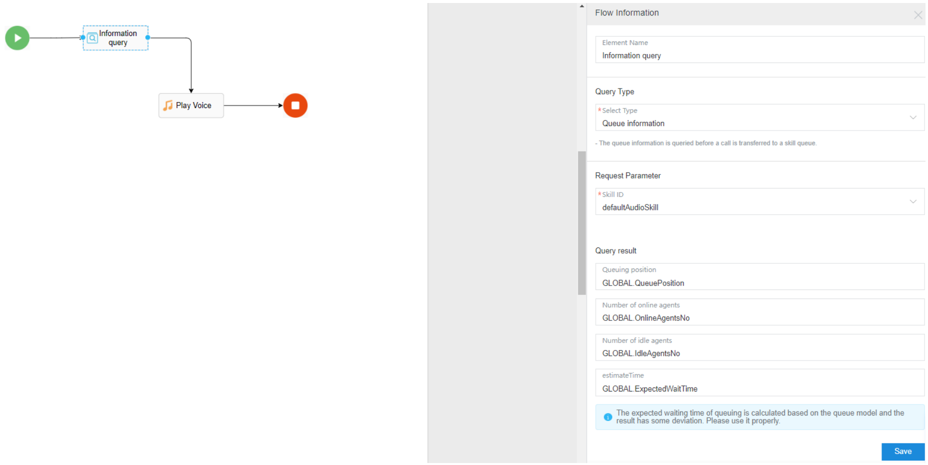
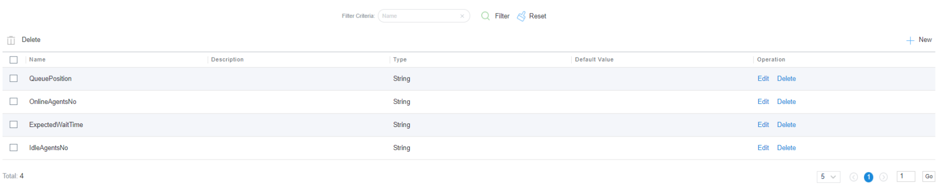


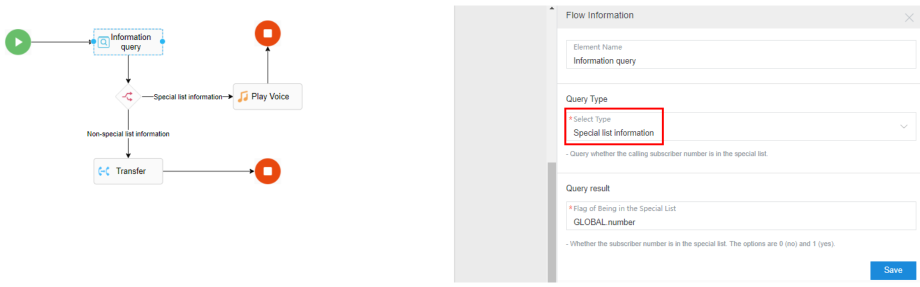
Figure 2-76 Query result variables



Name	Description	Type	Default Value	Operation
QueuePosition		String		Edit Delete
OnlineAgentsNo		String		Edit Delete
ExpectedWaitTime		String		Edit Delete
IdleAgentsNo		String		Edit Delete

- **Application scenario of special list information**
  a. During IVR flow management, a tenant administrator can query special list information in the **Information query** diagram element of a flow. The next processing flow varies according to **Query result** under **Special list information**.
  b. When the IVR flow runs to the special list information query node, the flow invokes the CC-Management to query the special list information, obtains the query result, and enters different processing flow nodes based on the query result.

Figure 2-77 Flow example



2.5.10.9 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 2-78 Short Message

Parameter Description

Figure 2-79 Common SMS message parameters

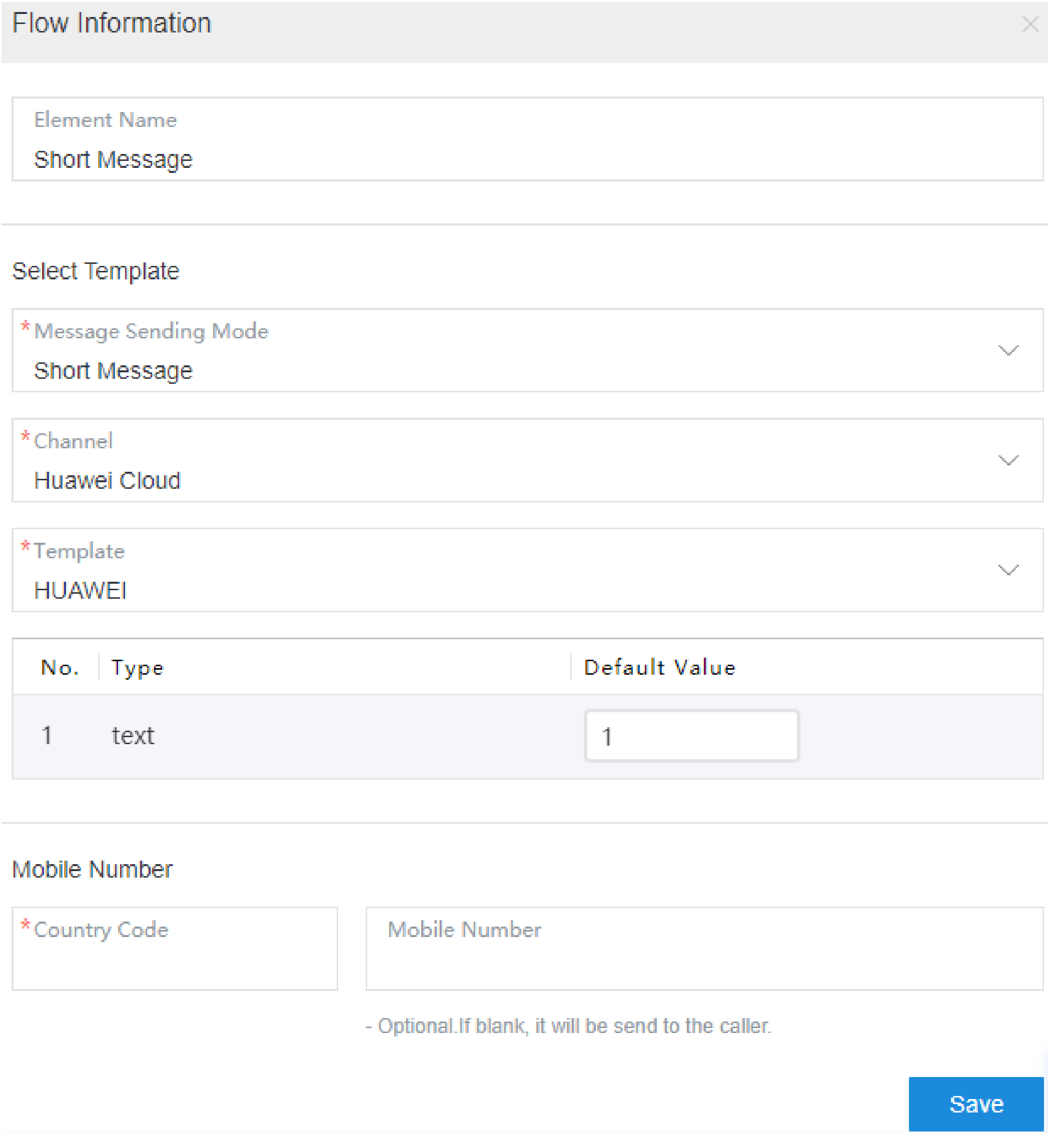
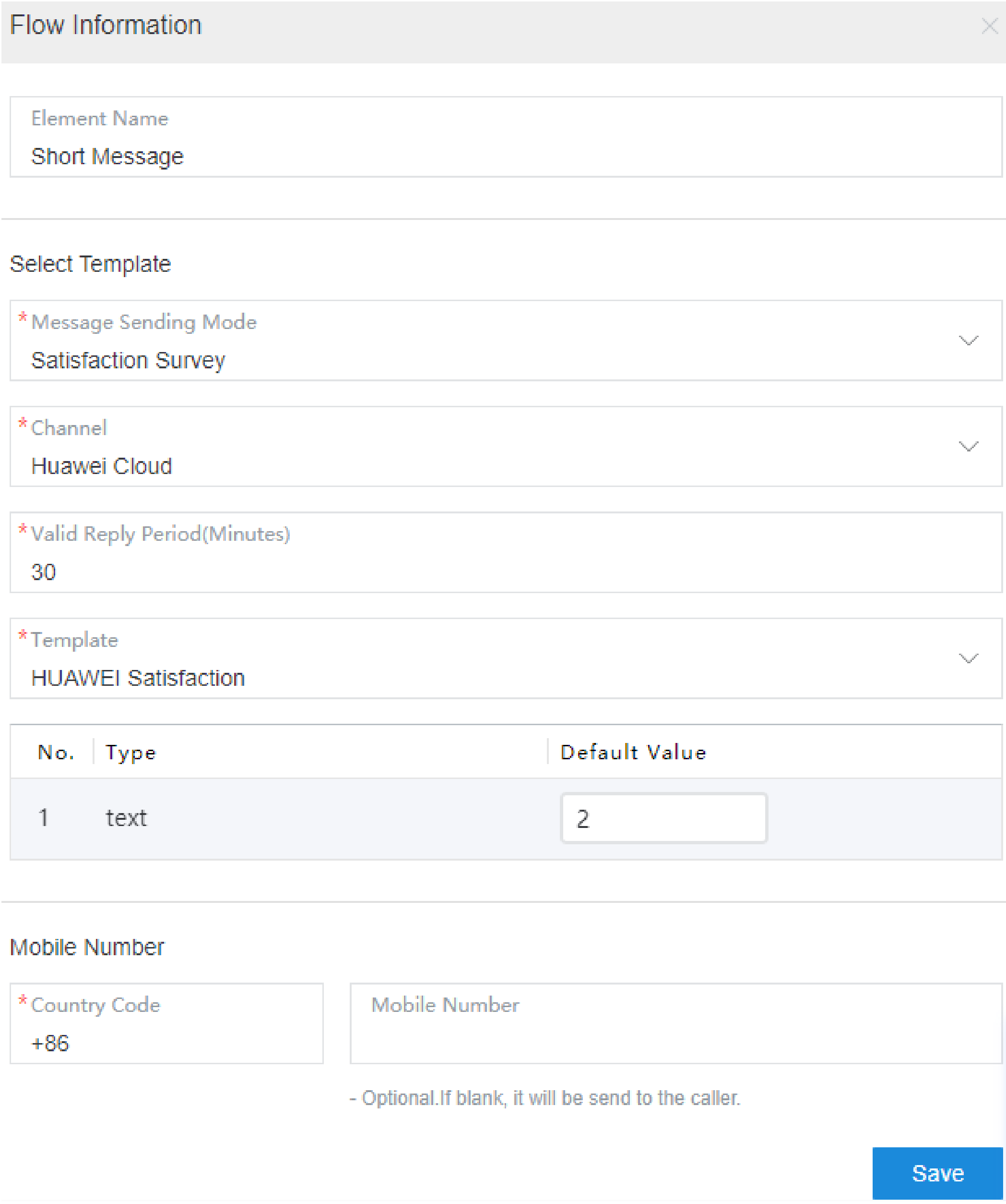


Figure 2-80 Satisfaction survey SMS parameters



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 2-81 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.
  – **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.

Typical Application Scenarios

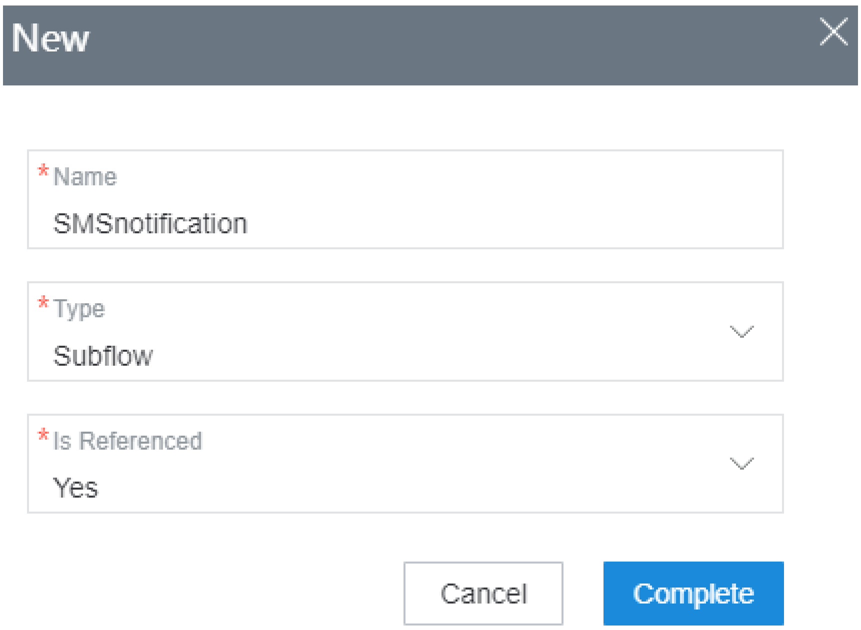
When a user calls the CEC and the call is routed to the IVR, if the IVR is configured with a **Short Message** diagram element, the **Short Message** diagram element is used to send an SMS message to the user.

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**.

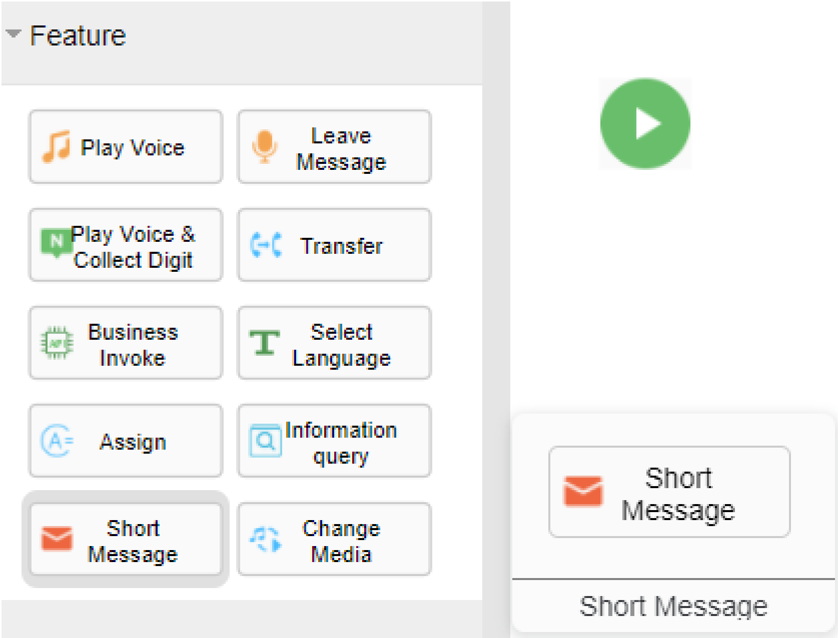
Figure 2-82 Adding a flow



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.

Figure 2-83 Short Message diagram element



Step 4 Set parameters of the **Short Message** diagram element and click **Save**. (Huawei Cloud SMS is used as an example.)

Figure 2-84 Short Message

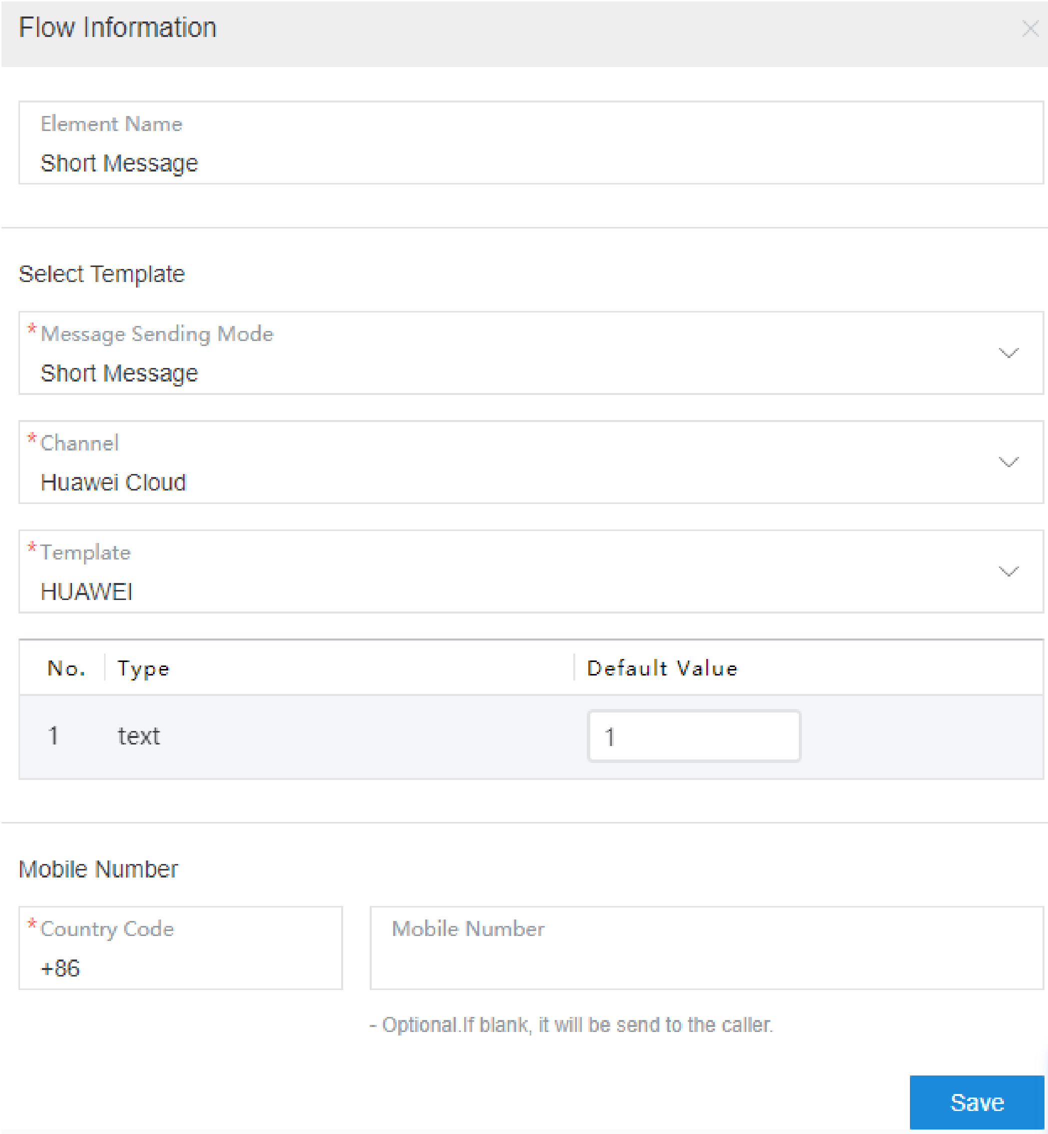
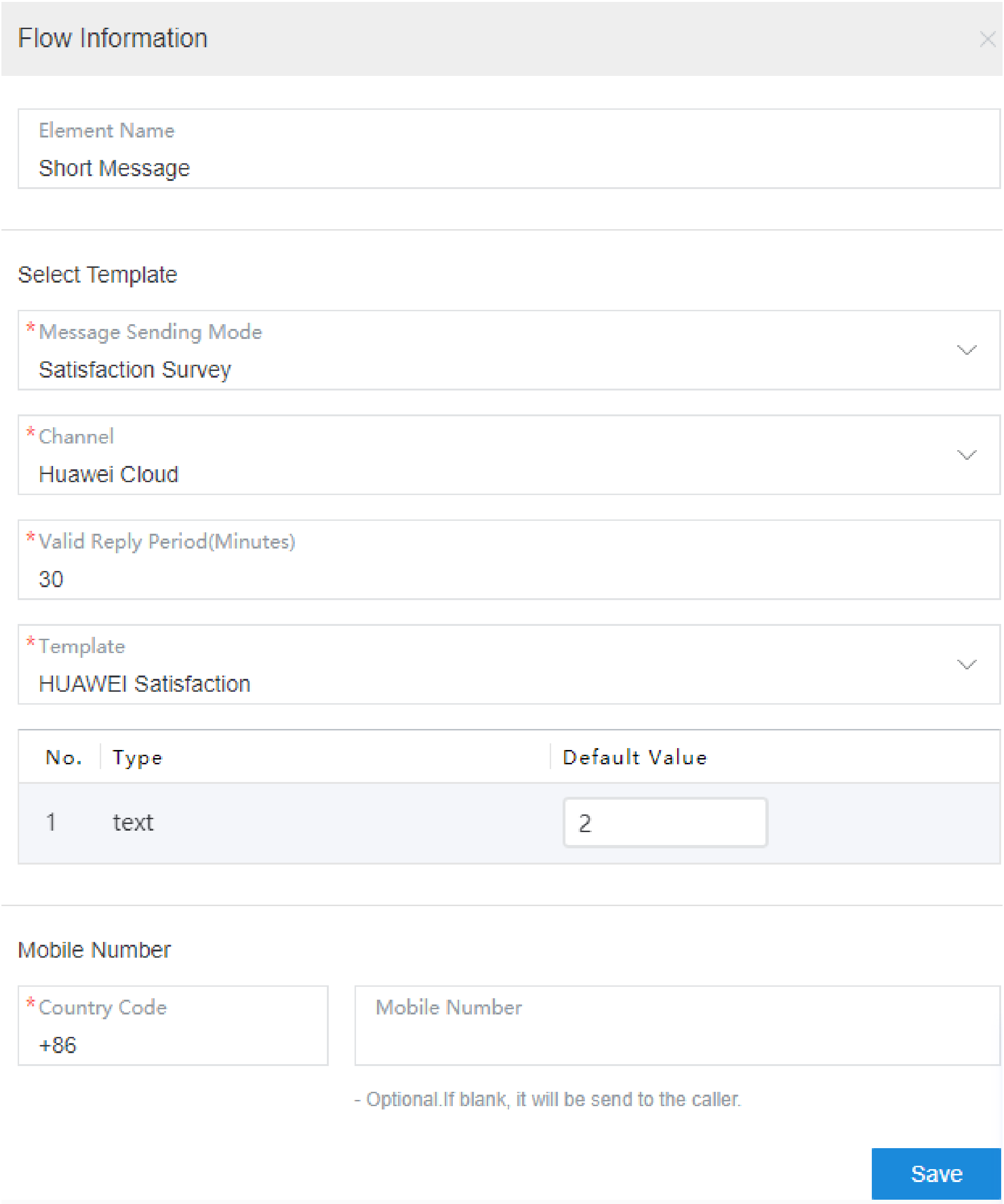
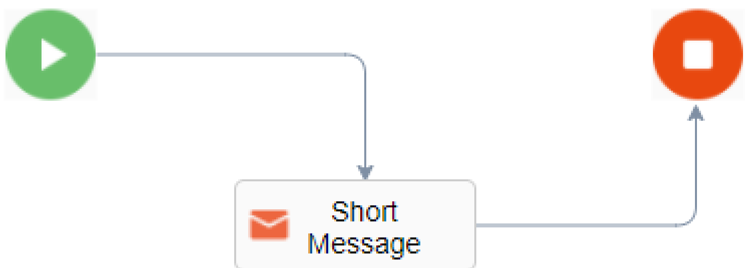


Figure 2-85 Satisfaction Survey



Step 5 Add connection lines. If there are no other diagram elements, the flow is shown in the following figure.

Figure 2-86 Example



Step 6 Perform subsequent operations based on the service requirements. You can add other diagram elements. After the development is complete, click  to save the flow.

----End

2.5.10.10 Switching Between Voice and Video Calls

During a user'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.

The parameters are described as follows:

- **Element Name**: Enter a diagram element name.
- **Select Media**: Select a media type to be switched to. The options are **Audio** and **Video**.
- **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 Scenarios

Voice and video calls need to be switched between each other when businesses are handled for a user. The corresponding media capabilities are used to intuitively display businesses.

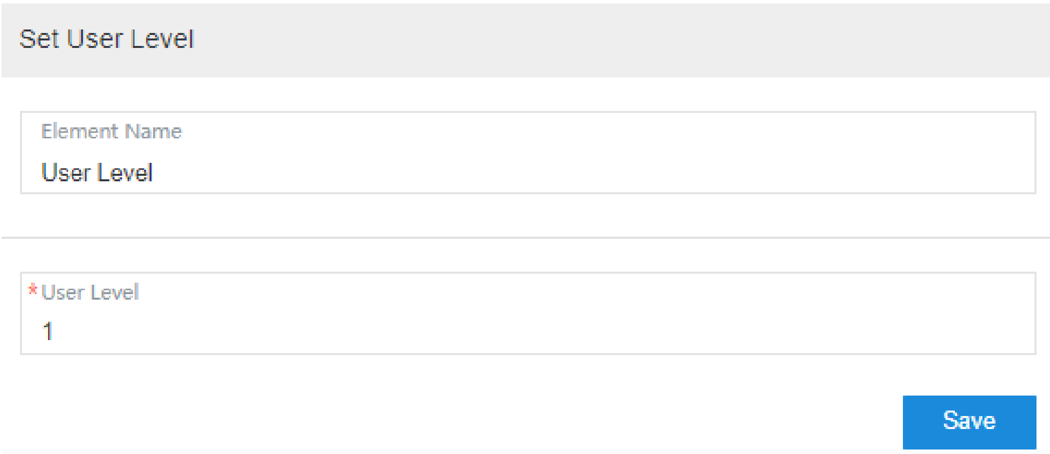
2.5.10.11 User Level

Set the user level. When multiple users are in the queue and an agent is idle, the user with the highest level is preferentially connected to the agent.

Diagram Element

Parameter Description

The following figure shows the parameters of the **User Level** diagram element.



The parameters are described as follows:

Element 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. Use a global variable (**GLOBAL.***) or flow variable (**FLOW.***) to save the value for subsequent operations.

Typical Application Scenarios

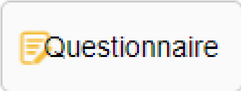
A user calls an IVR flow. The flow invokes a third-party interface to obtain the user level, uses the **User Level** diagram element to set the user level, and uses the **Transfer** diagram element to transfer the call to an agent.

If the user with highest level is in a queue, the call is preferentially connected to an agent.

2.5.10.12 Survey

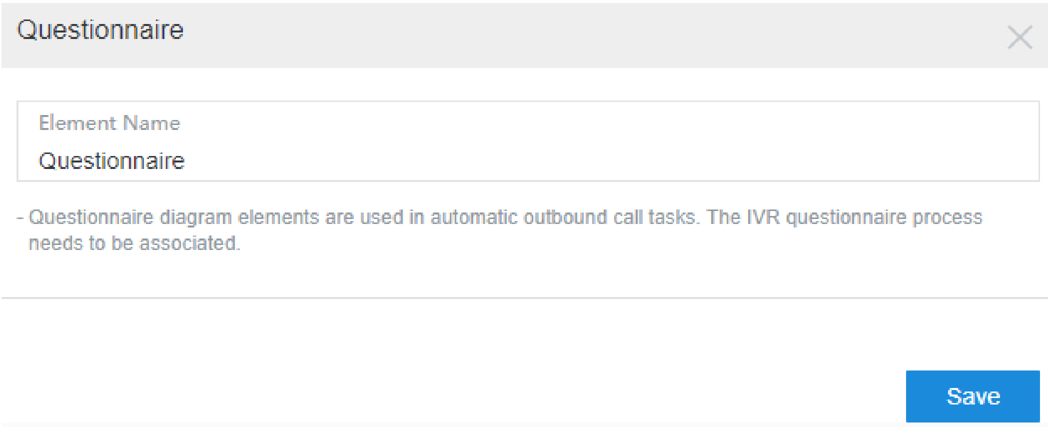
Add a survey for an automatic outbound call task.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Questionnaire** diagram element.



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value can be customized.

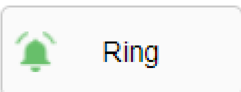
Typical Application Scenarios

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.

2.5.10.13 Ring

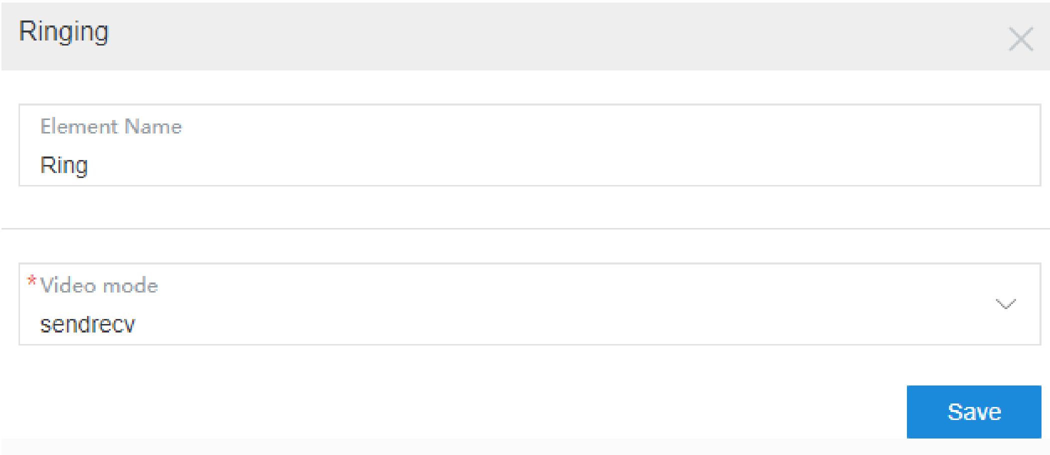
This diagram element is used in the video call scenario to determine whether to display the video content on the customer side or agent side.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Ring** diagram element.



The parameters are described as follows:

- **Element 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.

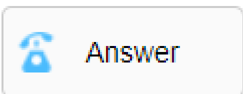
Typical Application Scenarios

The **Ring** 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 **Ring** diagram element.

2.5.10.14 Answer

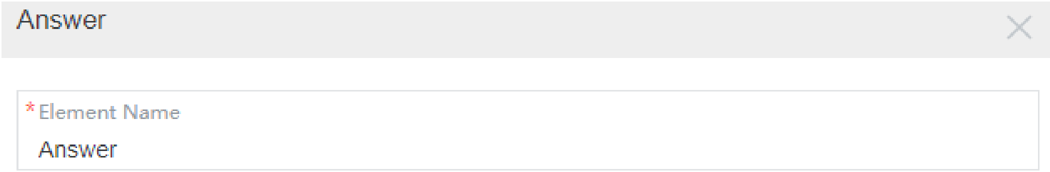
This diagram element is used together with the **Ring** diagram element. When **Ring** is configured with the **Transfer** diagram element and **Transfer Configuration** is set to **Transfer to Skill Queue**, you need to configure the **Answer** diagram element first to provide the agent answering capability.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Answer** diagram element.



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value can be customized.

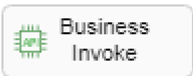
Typical Application Scenarios

This diagram element is used together with the **Ring** diagram element.

2.5.10.15 Interface Invoking

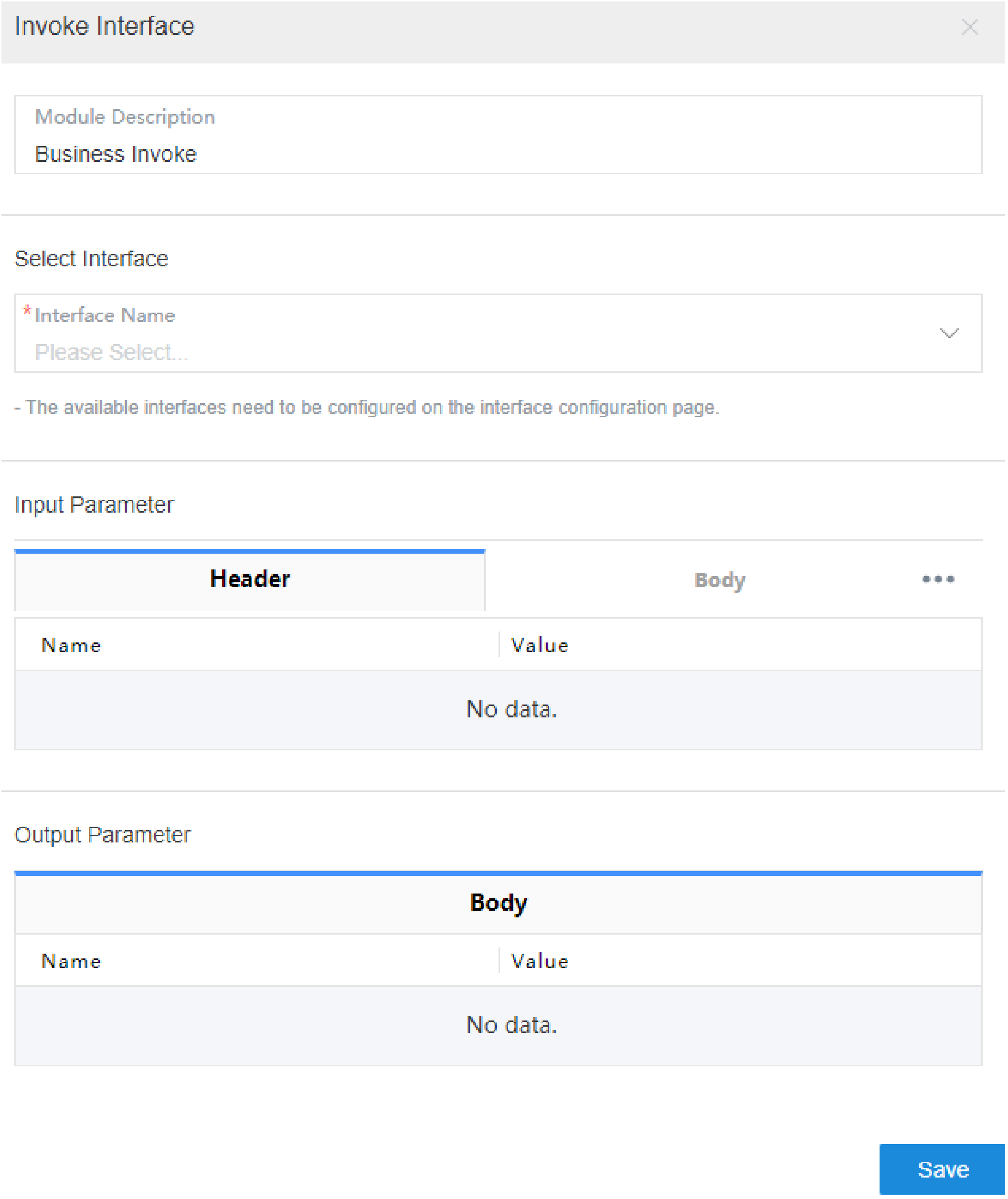
This diagram element is used to invoke the configured interfaces of a tenant. During interface invoking, you can assign values to the input and output parameters of the interface as required.

Diagram Element



Parameter Description

The following figure shows the parameters of the **Business Invoke** diagram element.



The parameters are described as follows:

- **Module Description**: diagram element name to be displayed, which can be customized as required.
- **Select Interface**: You need to 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 **2.5.3.1.3 Configuring an Interface**.
- **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 an output parameter exists, you can assign a value to the output parameter as required. In the dialog box that is displayed, select **Global Variable** or **Flow Variable**. The system automatically filters global variables or flow variables of the corresponding type based on the output parameter type defined in the interface. 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.

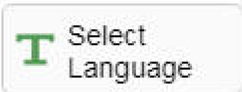
Typical Application Scenarios

This diagram element is used to invoke an interface.

2.5.10.16 Language Selection

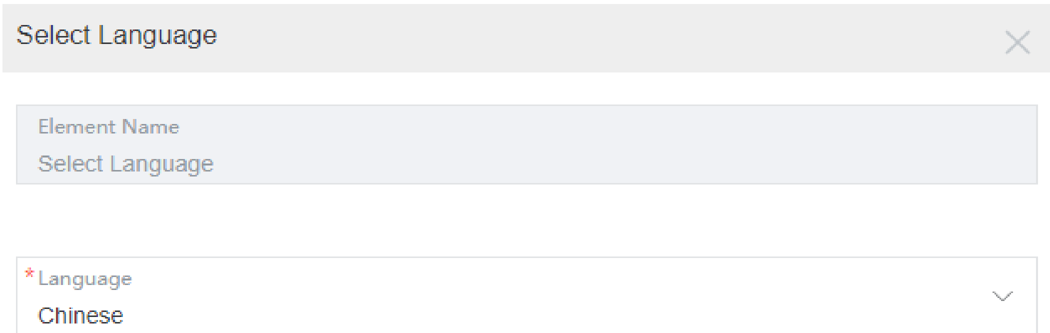
This diagram element is used to set the language for playing voices.

Diagram Element



Parameter Description

The following figure shows parameters of the **Select Language** diagram element.



The parameters are described as follows:

- **Element Name**: Enter a diagram element name, which cannot be changed.
- **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 **2.5.2 Configuring a Voice File**.

Typical Application Scenarios

This diagram is used in the scenario where a subscriber needs to select a language. After the system executes the voice playback and digit collection diagram element configured for a subscriber to select a language, the subscriber selects a language as prompted. For example, the subscriber can press 0 for Chinese, 1 for English, and 2 for Thai.

2.5.10.17 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** diagram element.

Figure 2-87 Menu configuration

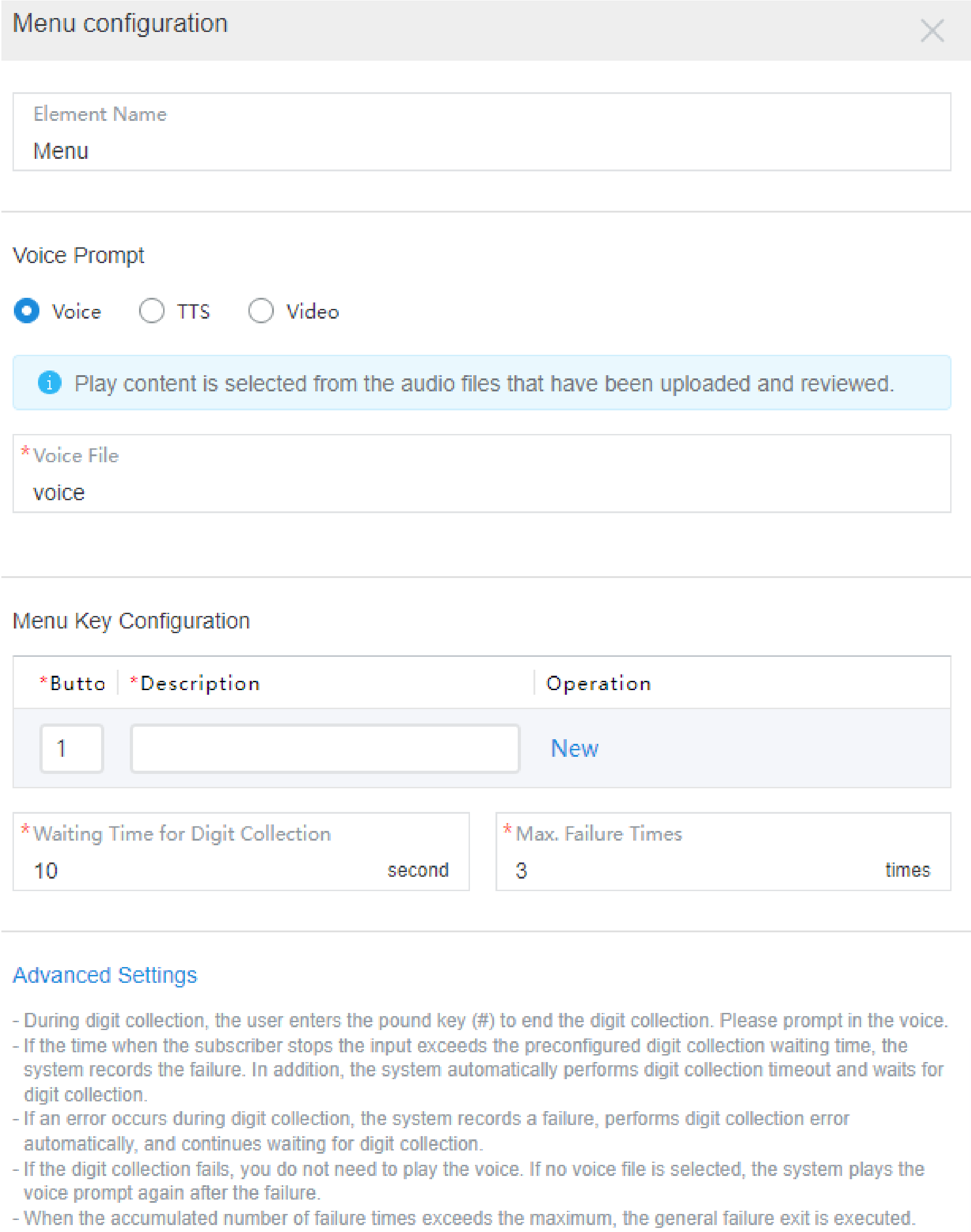
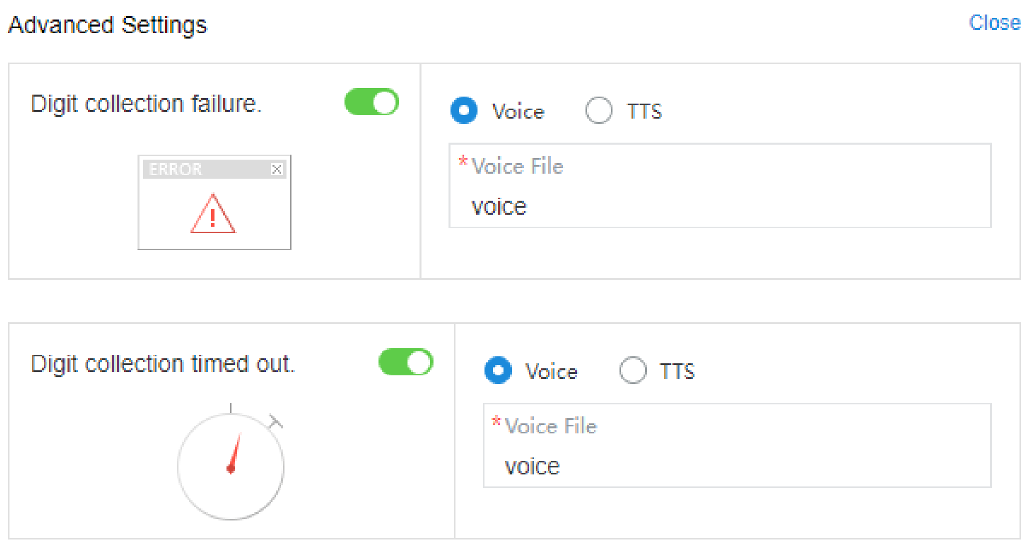
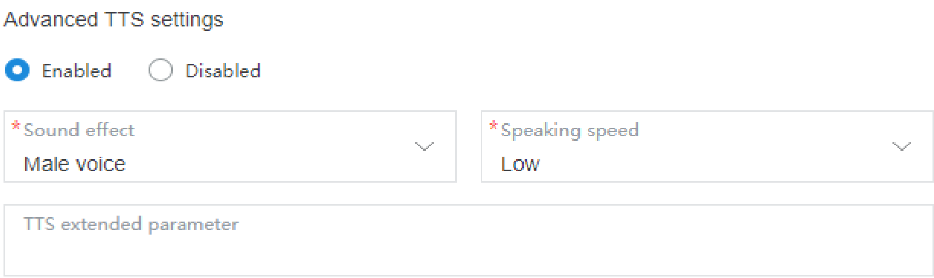


Figure 2-88 Advanced Settings



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value 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. 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 the sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low** by default, and **TTS extended parameter** is not set.



    - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. 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.
  - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.

- **Voice File**: The system displays reviewed voice files, TTS files, or video files based on the selected voice type, and displays the files meeting criteria 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 **New** 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**, or **3**.
  - **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**: time to wait for the digit 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.
- **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.

Typical Application Scenarios

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 provide complaints and suggestions, and 0 for manual services.

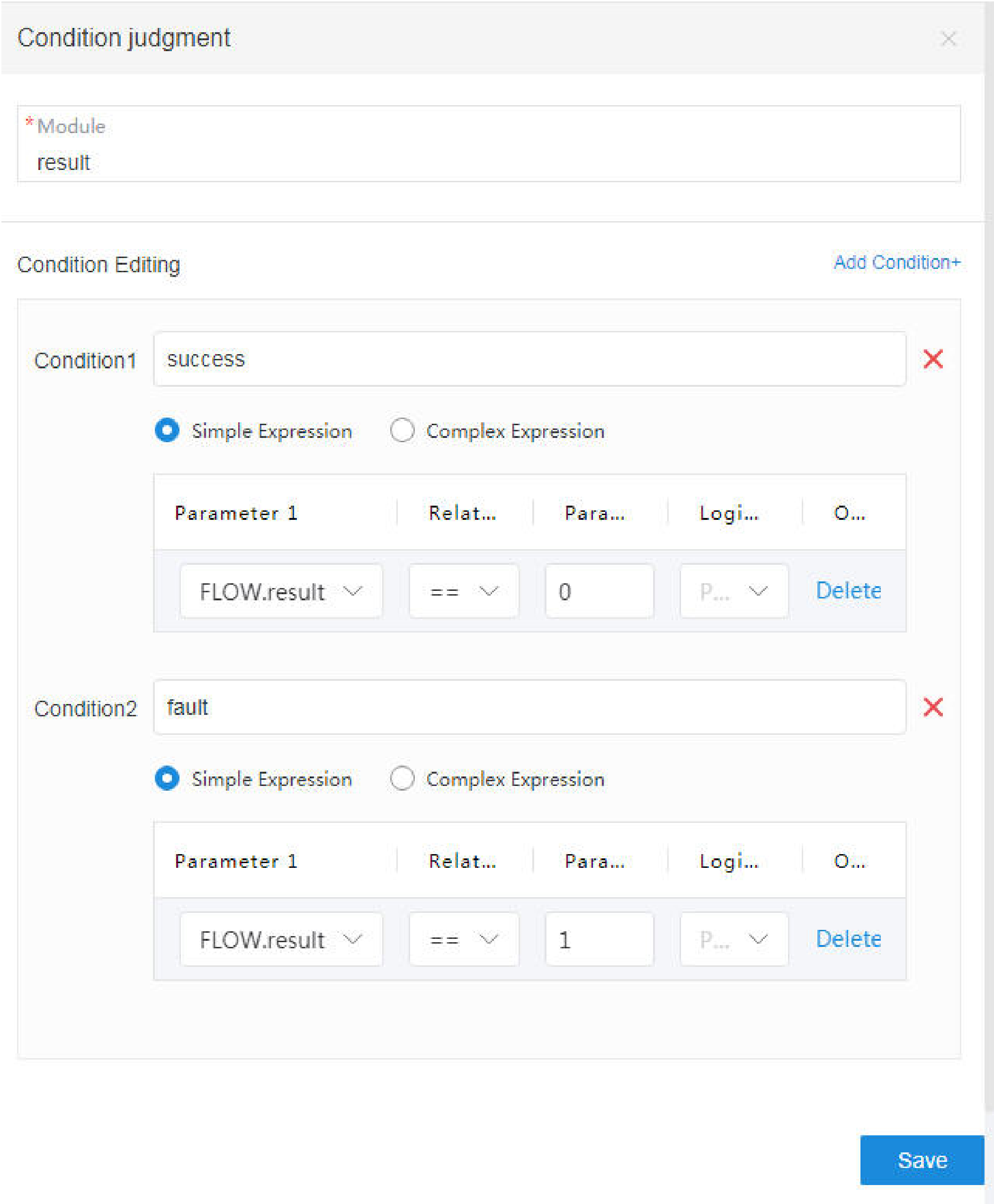
2.5.10.18 Condition Judgment

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.



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:

- **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**: Manually enter a variable or constant.
- **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:

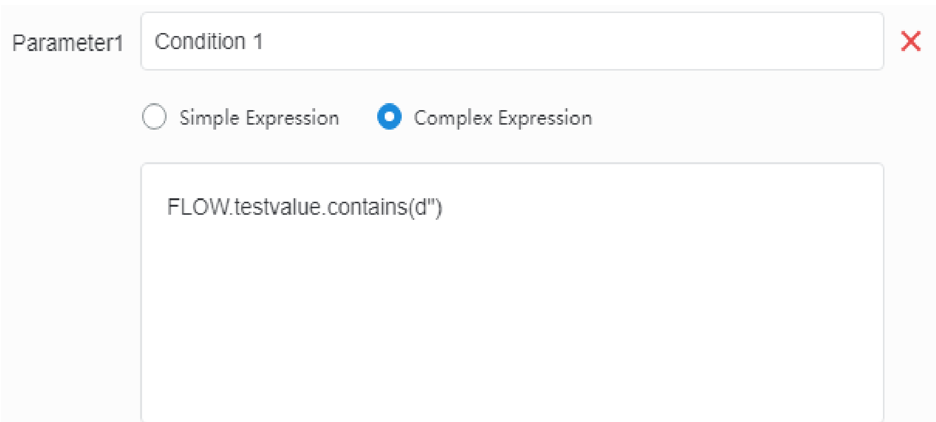
  Parentheses: ()

  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.

  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 Scenarios

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).

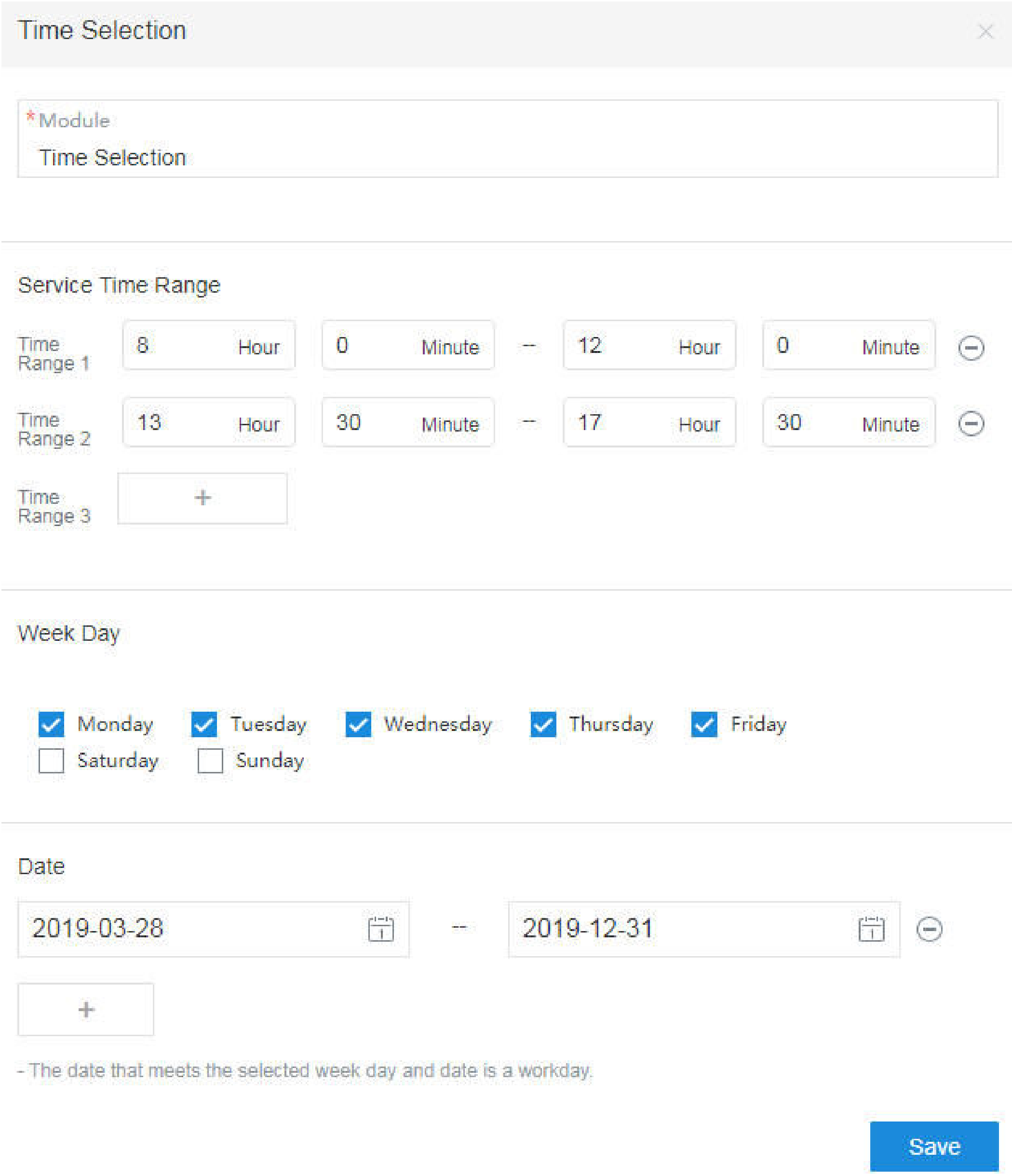
2.5.10.19 Time Selection

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.

Diagram Element

Parameter Description

The following figure shows parameters of the **Time Selection** diagram element.



The parameters are described as follows:

- **Module**: diagram element name to be displayed, which can be customized as required.
- **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

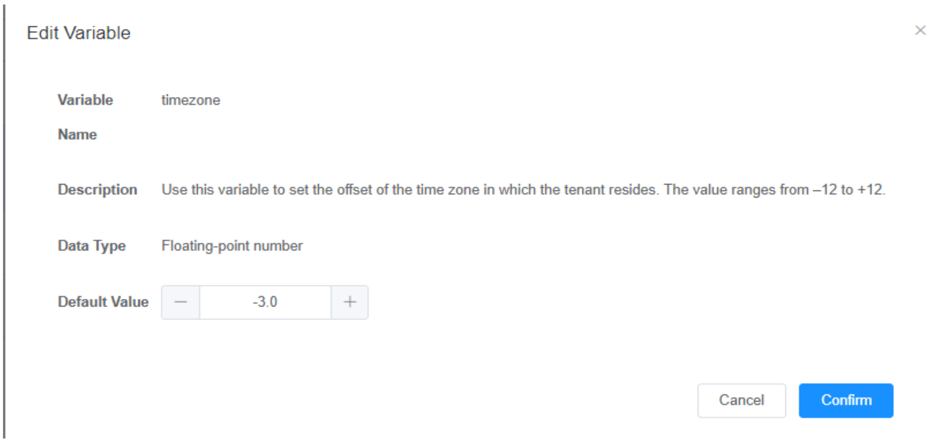
If **Date** is set to multiple inconsecutive periods and other services need to be provided in the period intervals, you need to add another time selection diagram element and configure the time for providing services in the intervals. In addition, you need to add a branch connection line between the 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.



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-level variable **timezone** has been preset in the system. Therefore, you are not advised to set the time zone in 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.

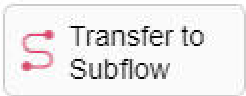
Typical Application Scenarios

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.

2.5.10.20 Subflow

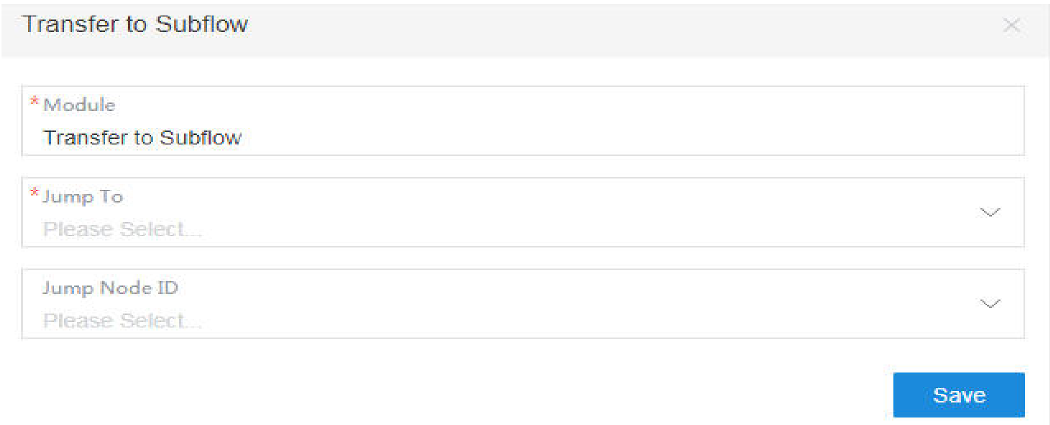
This diagram element is used to configure subflows for implementing tasks. No diagram element can be configured after a subflow.

Diagram Element



Parameter Description

The following figure shows parameters of the subflow diagram element.



The parameters are described as follows:

- **Module**: diagram element name to be displayed, which can be customized as required.
- **Jump To**: name of a subflow to be entered. You can select a subflow that has been released for the current tenant from the drop-down list box.
- **Jump Node ID**: flow node to be executed. After a node is selected, the subflow starts from it.

Typical Application Scenarios

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.

2.5.10.21 Satisfaction Survey

This diagram element is used to instruct users to press keys for interaction through voice or video and collect their satisfaction details about corresponding calls.

Diagram Element

Parameter Description

The following figure shows the parameters of the **Satisfaction Survey** diagram element.

Figure 2-89 Voice

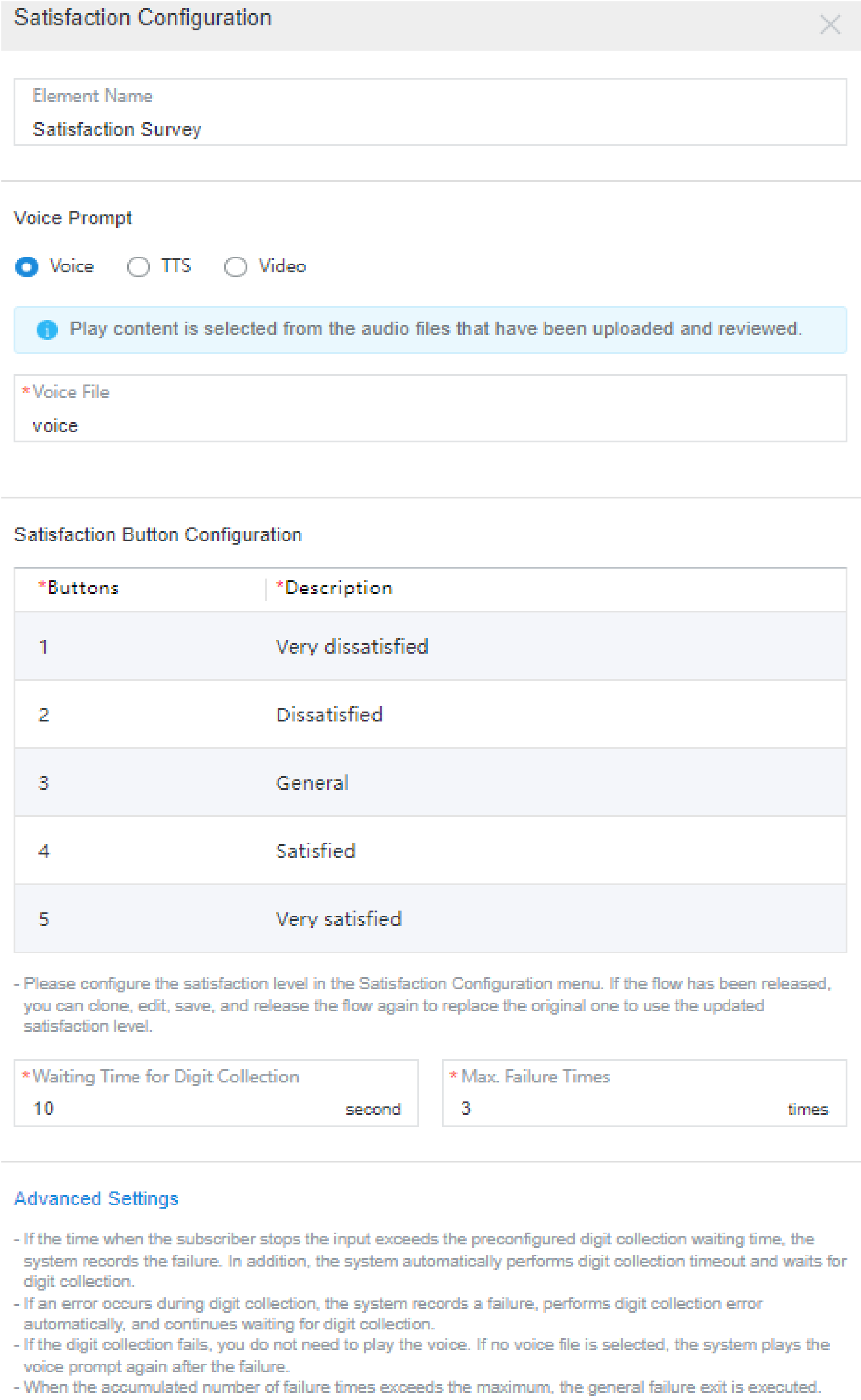


Figure 2-90 TTS

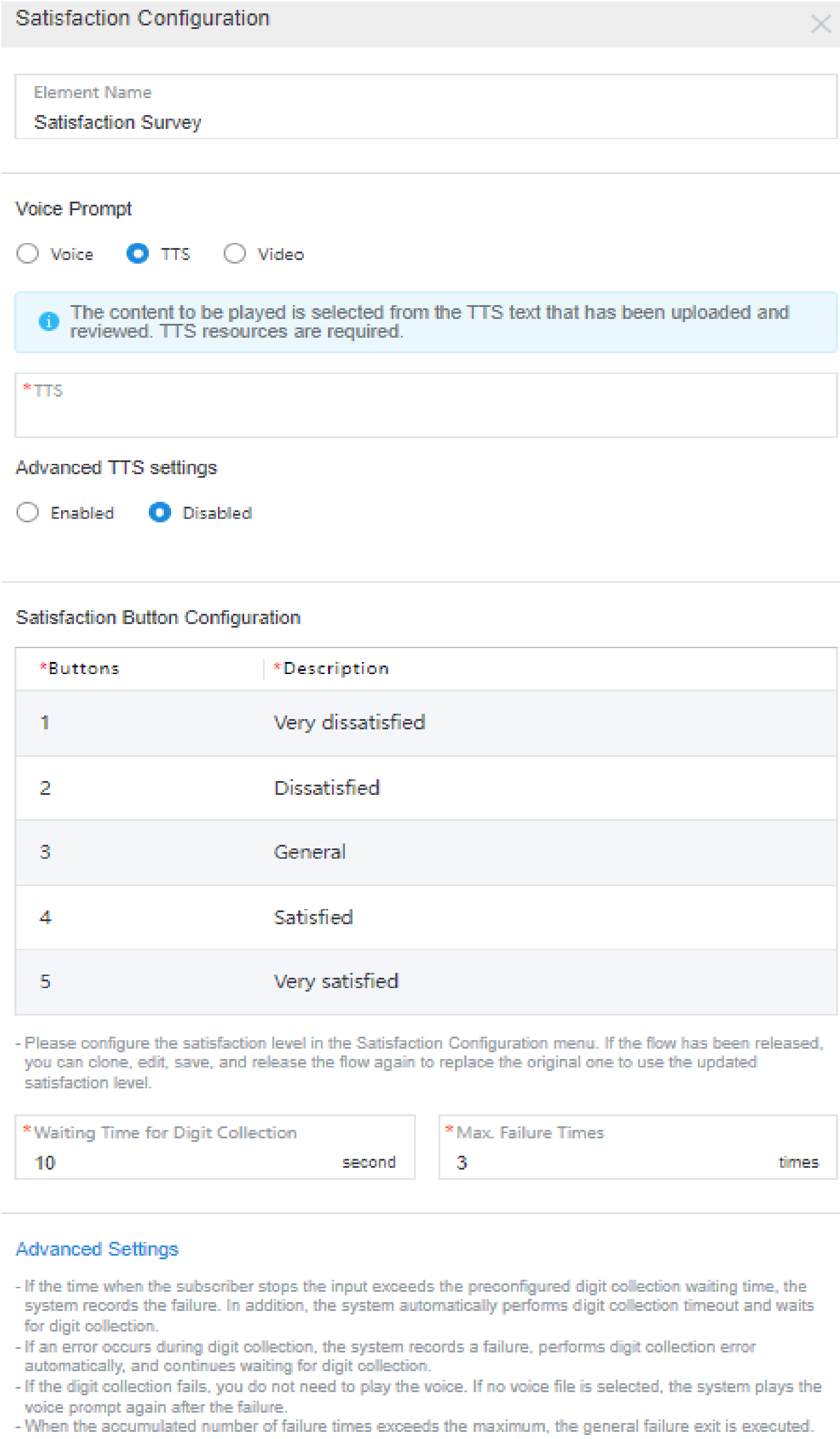
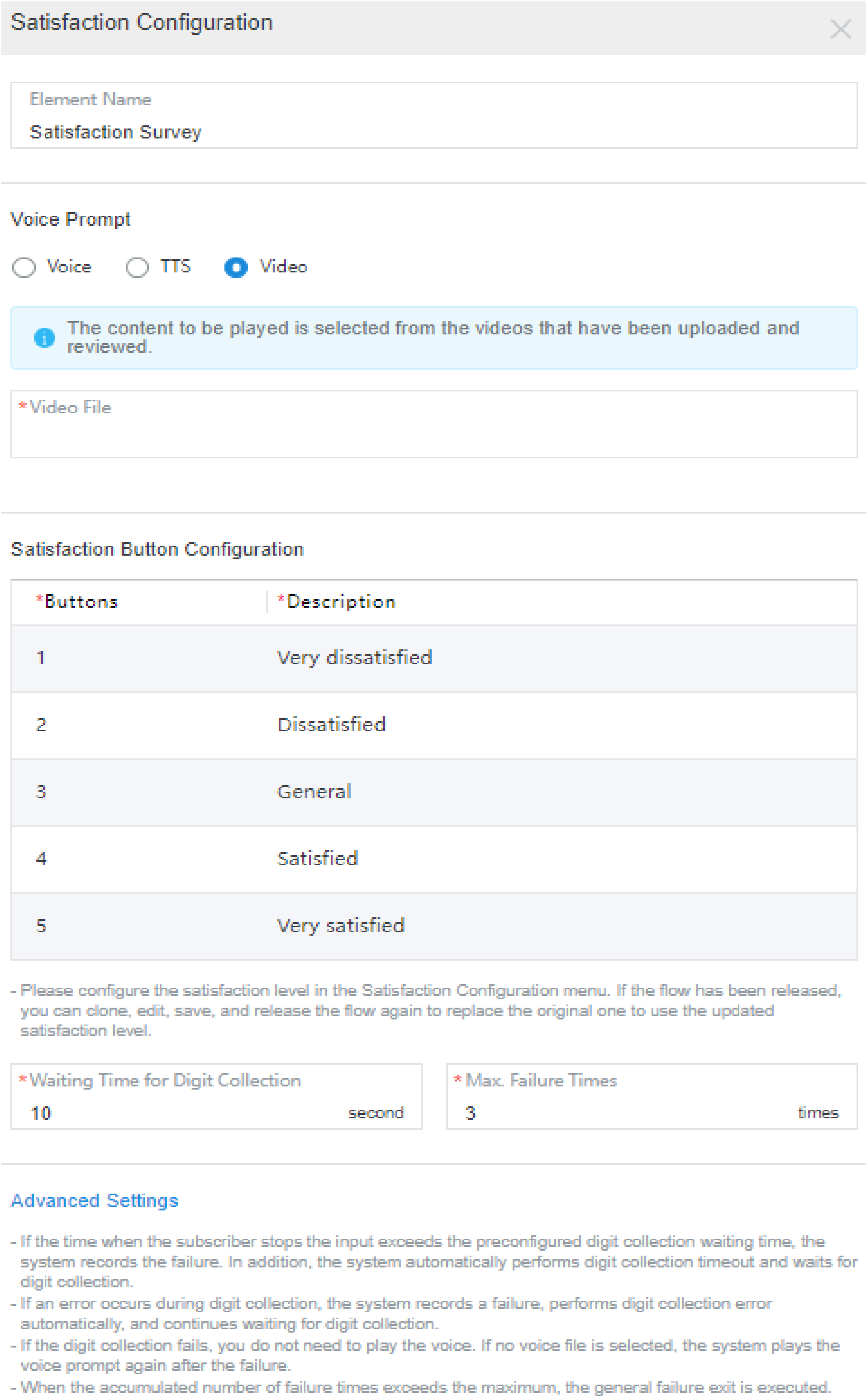


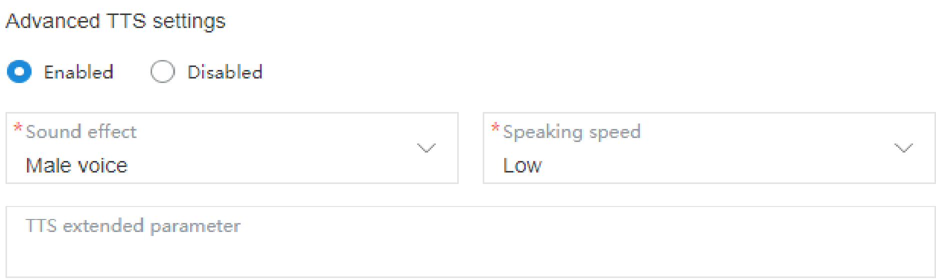
Figure 2-91 Video



The parameters are described as follows:

- **Element Name**: Enter a diagram element name. The value can be customized.

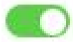
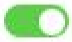
- **Voice Prompt**: Select **Voice**, **TTS**, or **Video**. You can click an option button to select a voice type.
  - **Voice**: Upload a WAV voice file. Currently, the UAP supports only WAV (8 kHz, 8 bits) voice files.
  - **TTS**: Generate a voice file in TTS mode. You can enable **Advanced TTS settings** to set voice playback parameters. Click in the drop-down list to select the sound effect and speaking speed. If this function is disabled, **Sound effect** is set to **Female voice**, **Speaking speed** is set to **Low** by default, and **TTS extended parameter** is not set.



    - **Sound effect**: Select the sound effect. The options are **Male voice** and **Female voice**.
    - **Speaking speed**: Select the speaking speed. 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.
  - **Video**: Upload a video file in 3GP format, whose size must be less than or equal to 5 MB.
- **Satisfaction Button Configuration**: satisfaction option provided in a flow. Each button maps a satisfaction option. For details about how to configure the satisfaction level, see 2.4.3.2 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 the satisfaction level on the **Satisfaction Survey** page. If the flow has been released, you can clone, edit, save, or re-release the flow to replace the original flow so that the updated satisfaction level can be used.
  - **Waiting Time for Digit Collection**: time to wait for the digit 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.

- **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.

Typical Application Scenarios

This diagram element is used when an agent hangs up without completing the flow.

NOTE

The application scenarios of the satisfaction survey diagram element are as follows:

- When an agent hangs up, the system invokes the satisfaction survey diagram element by default. In this case, ensure that the flow is connected to the satisfaction survey diagram element.

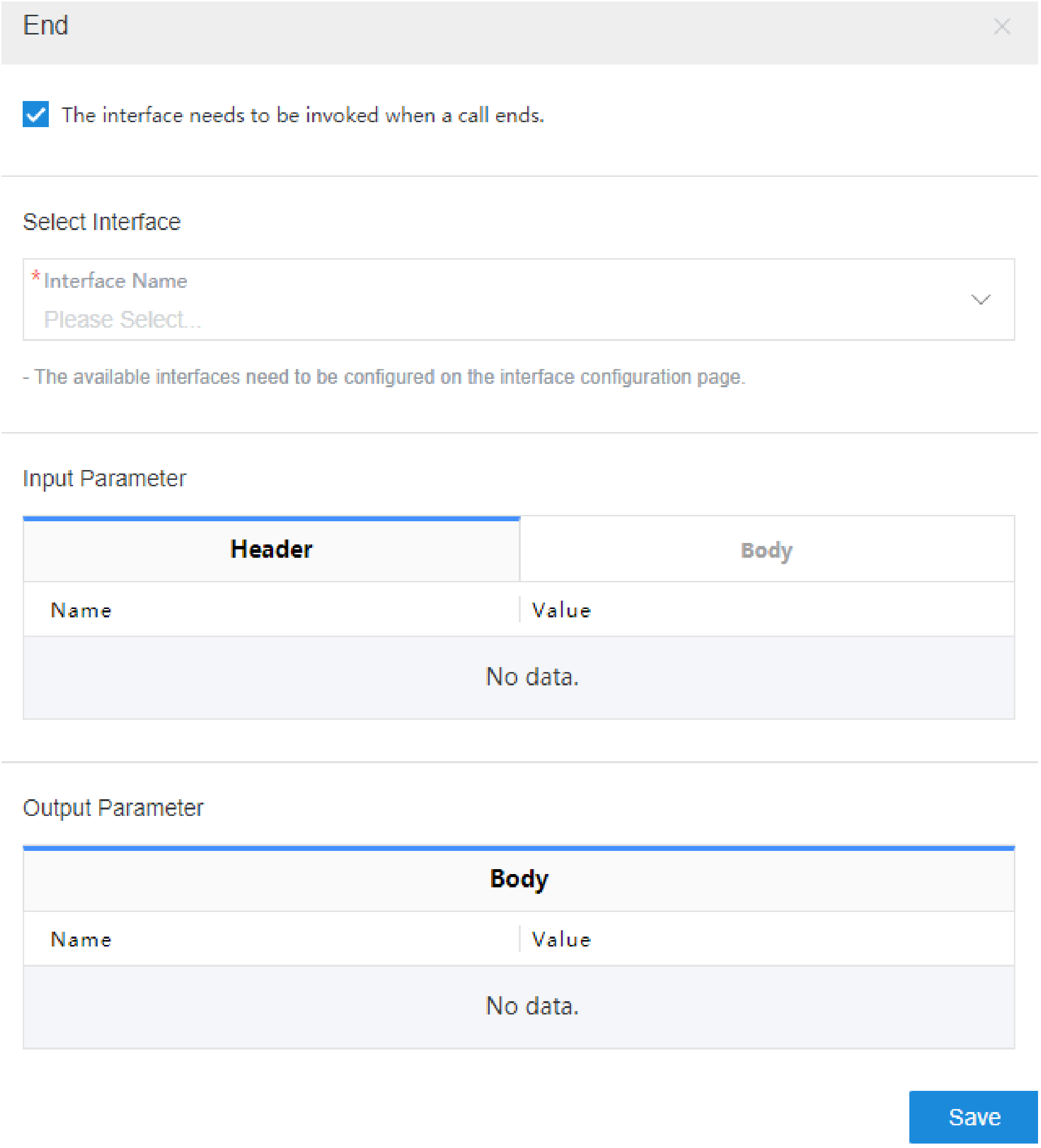
2.5.10.22 End

This diagram element is used to identify the end of a flow. Each flow has at least one end diagram element. In a complex flow, multiple end diagram elements can be used to identify the end of different branches.

Diagram Element

Parameter Description

The following figure shows the parameters of the **End** diagram element.



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 **2.5.3.1.3 Configuring an Interface**.
- **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 an output parameter exists, you can assign a value to the output parameter as required. In the dialog box that is displayed, select **Global Variable** or **Flow Variable**. The system automatically filters global variables

or flow variables of the corresponding type based on the output parameter type defined in the interface.

- Click **Save** to save all parameters set on the current page.

Typical Application Scenarios

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.

2.5.11 System Variables

In general, preset system variables are obtained from public data in the system environment and sessions, such as the system time and access code.

Table 2-28 System variables

Parameter	Description
SYS.callId	Call ID, which is the same as the value of **userid**.
SYS.cti_callid	Call ID transferred from the CTI.
SYS.currentTime	Current system time, which is in *yyyyMMddHHmmss* format.
SYS.createTime	Start time of the call.
SYS.systemDate	System date, which is in *yyyyMMdd* format.
SYS.tenantId	Tenant ID.
SYS.callingNumber	Calling number.
SYS.callMediaType	Media type of the call.
SYS.language	Language used by the tenant.
SYS.systemTime	System time, which is in *HHmmss* format.
SYS.calledNumber	Called number, which is an access code of the tenant space.
SYS.systemMonth	System month, which is in *yyyyMM* format.

Parameter	Description
SYS.realCalledNumber	Real called number, which is an access code of the tenant space plus an extension code.

2.6 Configuring Intelligent IVR

You can drag diagram elements to draw a flow and configure a task-type multi-round chatbot and a Q&A chatbot.

2.6.1 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...

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 Configuring an Appointment Chatbot (Task-oriented Chatbot)

This section uses a simple configuration example to describe how to configure a task-oriented chatbot.

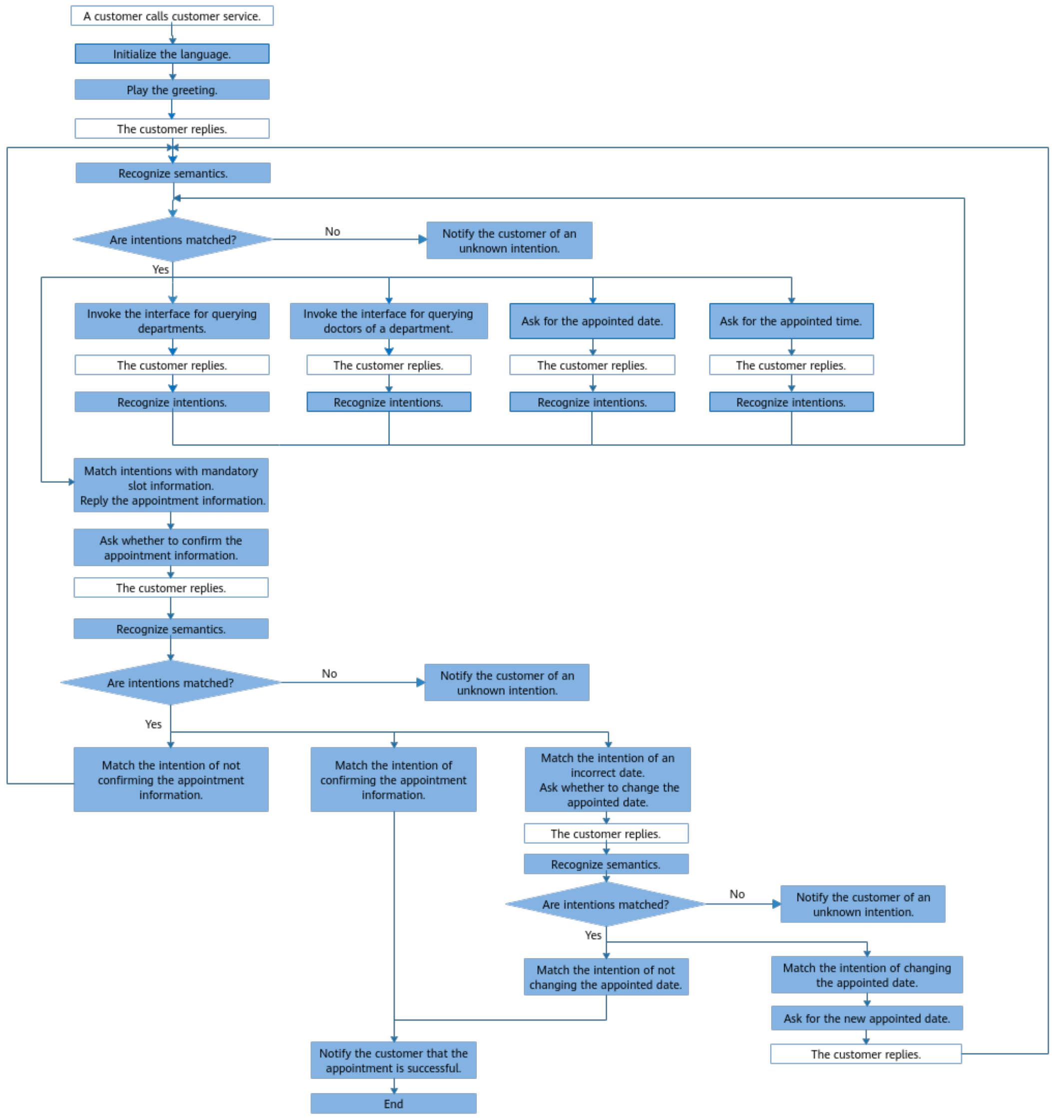
2.6.2.1 Configuration Scenario

This section describes how to configure a task-oriented chatbot.

Scenario

The following flowchart shows a scenario where a hospital uses the intelligent voice navigation (IVN) to complete a simple chatbot-based appointment flow.

Figure 2-92 Chatbot-based appointment flow



Note: The blue steps are performed by the IVN.

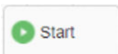
1. A customer dials the hospital customer service hotline 123456.
2. Initialize the language (Chinese or English).
3. Play the greeting.
4. The customer speaks.
5. Match the customer's words with existing intentions. If no appointment intention is matched, notify the customer of an unknown intention.
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:
      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.

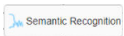
Table 2-29 Requirement analysis

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Start	-		-	-

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Initialize the language.	Business interface for initializing the language		Set **Cache Variable** to **GLOBAL.language**. Set **Response Attribute** to **"en_US"**.	In the actual application scenario, you can invoke a real interface to determine the language. In this chatbot 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

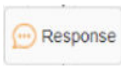
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
				following value: **"en_US"**
Play the greeting.	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.welcome**. Set **Response 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**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the customer's reply.	Business interface for caching the dialog interaction result.		Set **Cache Variable** to **FLOW.ask**. Set **Response Attribute** to **IVRREQUEST.input**.	You can directly add a cache 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}**.

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 – Set **Cache Variable** to **FLOW.roomSlot**. – Set **Response Attribute** to **TOC.ChatBotroom**. ● Variable for obtaining the doctor that matches intentions – Set **Cache Variable** to **FLOW.docSlot**. – Set **Response Attribute** to **TOC.ChatBotdoctor**. ● Variable for obtaining the date that matches intentions – Set **Cache Variable** to **FLOW.dateSlot**. – Set **Response Attribute** to **TOC.ChatBotdate**. ● Variable for obtaining the time that matches intentions – Set **Cache Variable** to **FLOW.timeSlot**. – Set **Response Attribute** to **TOC.ChatBottime**. In **Judgment Conditions**, set the following conditions: ● Condition when the configured appointment intention is matched – Set **Condition** to **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**.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
			– Set **Condition Expression** to **TOC.ChatBotIntentCode=='finish'**. ● 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'**.	

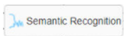
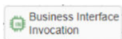
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the department that the customer needs to appoint. (The **room** condition is matched.)	Business interface for querying departments		Set **Cache Variable** to **FLOW.answer**. Set **Response Attribute** to **FLOW.room + TOC.ChatBotRespContent**.	You can directly add a cache 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**.

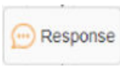
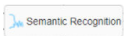
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.answer**. Set **Response Mode** to **Recognition after playback**.	-

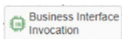
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Obtain the doctor that the customer needs to appoint. (The **doctor** condition is matched.)	Business interface for querying doctors in a department		Set **Cache Variable** to **FLOW.answer**. Set **Response Attribute** to **FLOW.doctor + TOC.ChatBotRespContent**.	You can directly add a cache 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**.

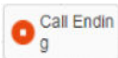
Step	Resource	Diagram Element	Node Attribute Settings	Remarks
	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.answer**. Set **Response Mode** to **Recognition after playback**.	-
Notify the customer of the appointment information. (The **finish** condition is matched.)	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **TOC.ChatBotRespContent**. Set **Response Mode** to **Playback only; no recognition or key presses**.	-
Send the default reply. (No condition is matched.)	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **TOC.ChatBotRespContent**. Set **Response Mode** to **Playback only; no recognition or key presses**.	**NOTE** If no condition is matched on a connection line, the flow goes to the default branch.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Ask whether to confirm the appointment information.	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.check**. Set **Response 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?**

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.)	-		Set **Cache Variable** to **FLOW.ask**. Set **Response Attribute** to **'Appointment'**.	You can directly add a cache variable without selecting an interface to be invoked.

Step	Resource	Diagram Element	Node Attribute Settings	Remarks
Confirm whether the customer wants to change the date. (The **part** condition is matched.)	Response template for confirming whether to change the date		Set **Response Type** to **TTS**. Set **Response Source** to **Response Template**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Template** to **redate**. Set **Response Mode** to **Interruption recognition**.	Add a response template.
	Intention template for confirmation		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'**.	-

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.)		Set **Cache Variable** to **FLOW.dateSlot**. Set **Response Attribute** to ''. Set **Cache Variable** to **FLOW.answer**. Set **Response Attribute** to **'What date would you like to appoint?'**	You can directly add a cache variable without selecting an interface to be invoked.
			Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.answer**. Set **Response Mode** to **Interruption recognition**.	-
			Set **Cache Variable** to **FLOW.dateSlot**. Set **Response Attribute** to **IVRREQUEST.input**. Set **Cache Variable** to **FLOW.ask**. Set **Response Attribute** to **'Appoint '+FLOW.docSlot +''s '+FLOW.roomSlot+' at '+FLOW.timeSlot+' on '+FLOW.dateSlot**.	You can directly add a cache variable without selecting an interface to be invoked.

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.)	-		Set **Response Type** to **TTS**. Set **Response Source** to **Response Variable**. (The TTS dynamically plays a voice based on the value returned by the variable.) Set **Response Variable** to **FLOW.thanks**. Set **Response Mode** to **Playback only; no recognition or key presses**.	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	-		-	-

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)

  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 Adding Business Interfaces

Business interfaces are encapsulated from third-party interfaces, and are then associated and invoked by the **Business Interface Invocation** diagram element. The IVN supports RESTful interfaces.

According to the analysis in **2.6.2.1 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.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

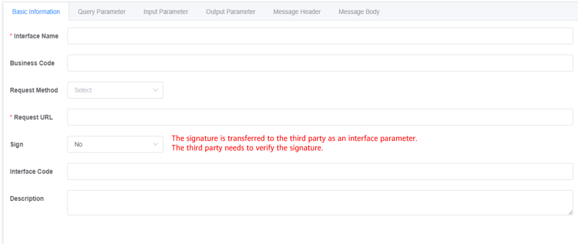
Step 2 Contact the system administrator to add the IP address or domain name of the third-party interface to be invoked to the trustlist.

Step 3 Choose **Resource Management** > **Business Interface**. Click **Add**.

Step 4 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 5 Add an interface by automatically generating a message body.

1. On the **Automatic Message Body** tab page, 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 **2.6.5.3 TUC Interfaces**.

Table 2-30 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.
/chatbot/rest/tuc/v1/nlp/detectEntity	Entity recognition interface.
/chatbot/rest/tuc/v1/qualityInspection	Intelligent training interface.

NOTICE

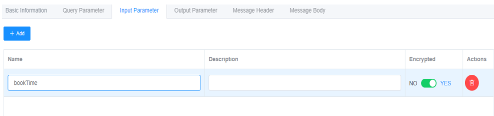
HTTP is not secure and may cause security risks. HTTPS is recommended.

– **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.

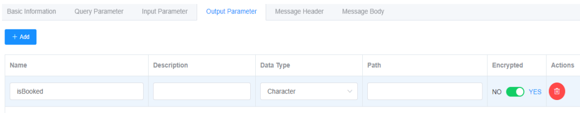
2. (Optional) If the interface has query parameters, add the query parameters, that is, *Interface request URL***?***Path parameter 1*=*Parameter value***&***Path parameter 2*=*Parameter value*.
3. Add interface input parameters. On the **Input Parameter** tab page, click **Add**. Generally, the input parameters of the interface are the same as those of the third-party system interface specifications.



NOTICE

For security purposes, set **Encrypted** to **YES** 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.

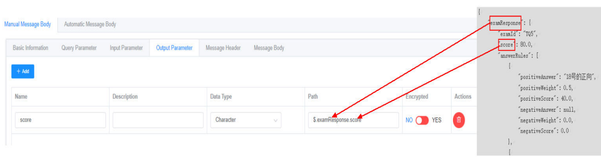


NOTICE

For security purposes, set **Encrypted** to **YES** 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 2-93 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.

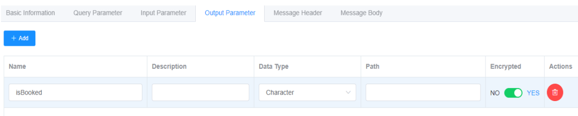
NOTICE

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 6 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 5.1**.
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.

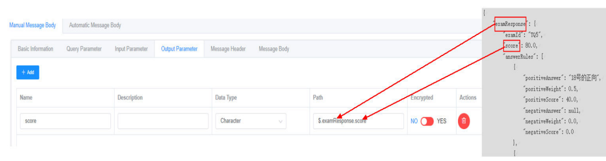


NOTICE

For security purposes, set **Encrypted** to **YES** 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 2-94 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.

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

2.6.2.3 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.

Context

Table 2-31 Description of the resources that can be added

Template Type	Description	Configuration Prerequisites
TTS	When **Response Type** of the **Response** diagram element is set to **TTS**, the resource is configured for playing the set 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.

Template Type	Description	Configuration Prerequisites
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 **Response Type** of the **Response** 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.
Video file	When **Response Type** of the **Response** 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.

Template Type	Description	Configuration Prerequisites
Card template	When **Resource Type** of the **Response** 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 **Resource Type** of the **Response** diagram element is set to **Multimedia**, the resource is configured for directly using the multimedia content on the server.	You can select rich texts, images, locations, or other templates only after they have been configured under **Configuration Center** > **Resource Management** > **Multimedia Library** in the AICC.

According to **Table 2-29**, you need to add a response template for the **Response** diagram element. The following describes how to add a response template for determining whether to change the date.

Procedure

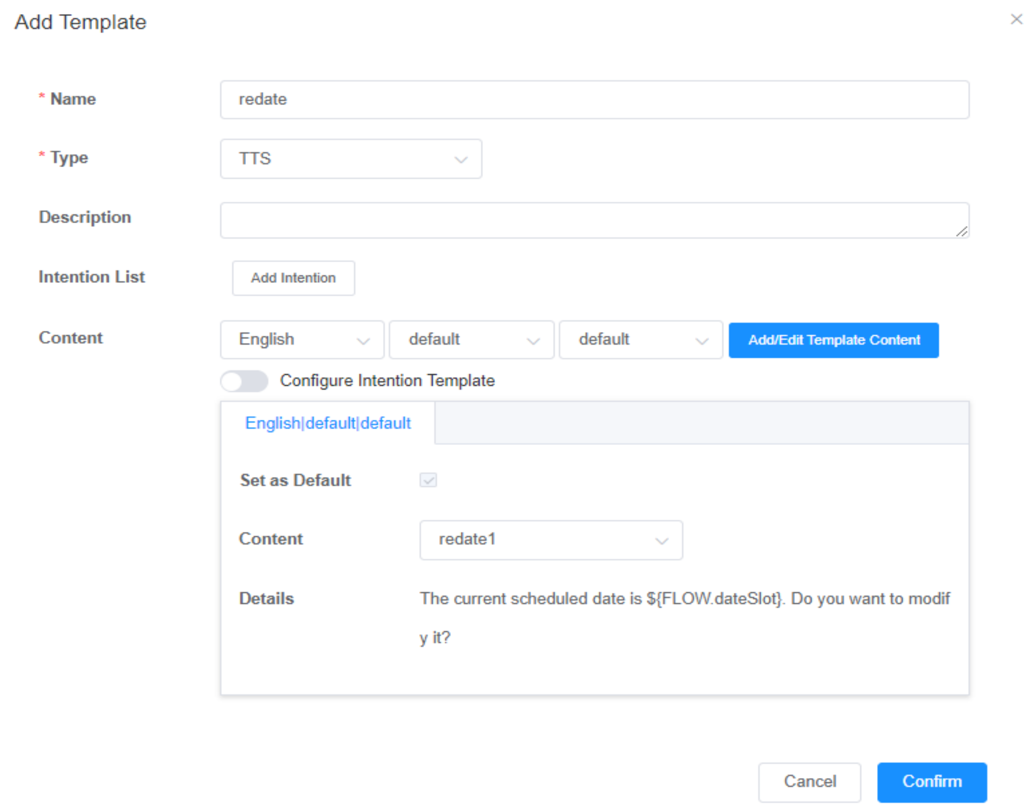
Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Resource Management** > **Resource Template**. Click **Add**.

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 content is selected from a drop-down list. You need to choose **Configuration Center** > **Resource Management** > **Audio and Video Resource Management**, 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. The names of IVR voice files that do not comply with the current language are dimmed and unavailable.

Figure 2-95 Resource template configuration page (integrated environment)



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.

Enable dynamic settings for flow variables can be set only when **Type** is set to **Static voice** or **Video file** in the integrated environment. For details, see **2.6.6.11 How Do I Configure Dynamic Flow Variables?**

----End

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.

2.6.2.4 Adding Intention Templates

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 about playing music for users. In this template, all possible statements related to music playing 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 2.4**. For details about how to add a rule corpus, see **2.6.6.12 How Do I Use a Rule Corpus?**.

  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 subscribers 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 operator input. A rule corpus cannot mark slots, but can be adapted to all expressions of the same sentence. When expressing statements in fixed sentence patterns, use a rule corpus.
- **Slots** are parameters to be collected during dialogs. For example, to implement a train ticket booking intention, a subscriber needs to provide information such as the departure city, arrival city, and departure time. Such details are called slots. To obtain a subscriber intention, you can obtain subscriber 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 voice content "I want to buy 3 kilograms of apples" or "one", "tomorrow", and "Beijing" in the voice 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 2-29**, you need to add four intentions without adding entities. You can use the preset entities. The following describes how to add an intention template for confirming the meal time.

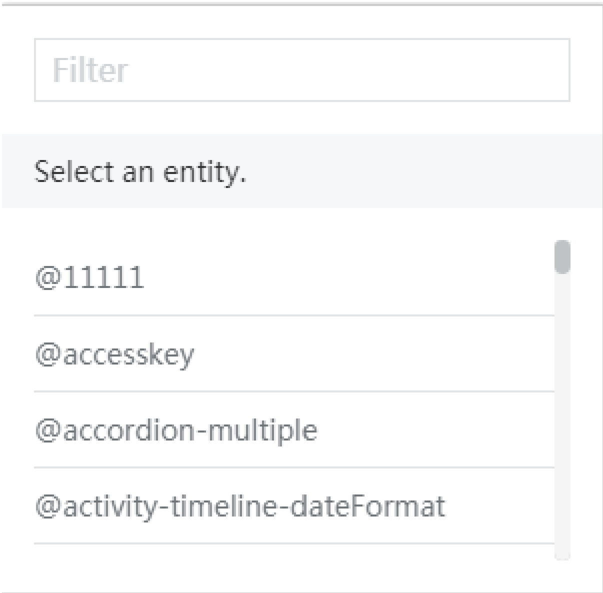
Step 1 **Add a domain**.

Step 2 Add an intention.

1. Go to the new domain, click **Add**, and select **General Intention**.
2. Enter the name of the intention, for example, **Meal Time Confirmation**.
3. On the **Context** tab page, click **Add** next to **Input Context**, and add the context of the current intention as **service**.

   Context indicates that the chatbot processes multiple groups of statements as the same round of dialogs based on the value in a multi-round dialog. When an intention template is specified, character strings configured in the context can be used to locate it.
4. On the **Corpus** tab page, click **Add**.

   Analyze the customer's possible answers and add the answers to corpora. For example, if the customer answers 12:00 on April 12, 2019, double-click the text box and enter **12:00 on April 12, 2019**. Then, select **April 12, 2019**, choose **@system.date** from the displayed menu, select **12**, and choose **@system.time** from the displayed menu.

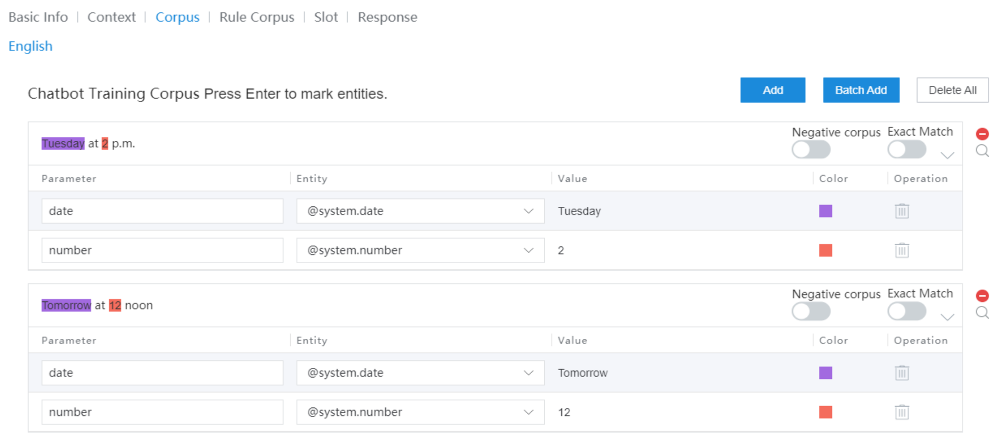
   

   NOTE

   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.

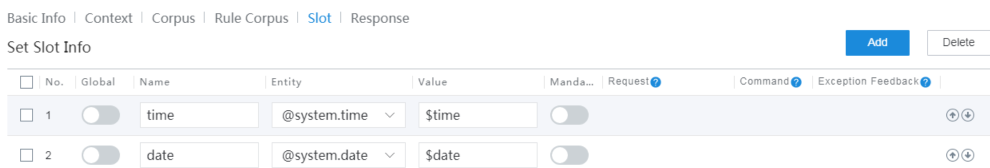


5. On the **Slot** tab page, set the slot name, whether the slot is mandatory, and the question information provided by the system when the slot information is missing.

   The name of the slot will be part of the slot variable name used during flow orchestration.

   NOTICE

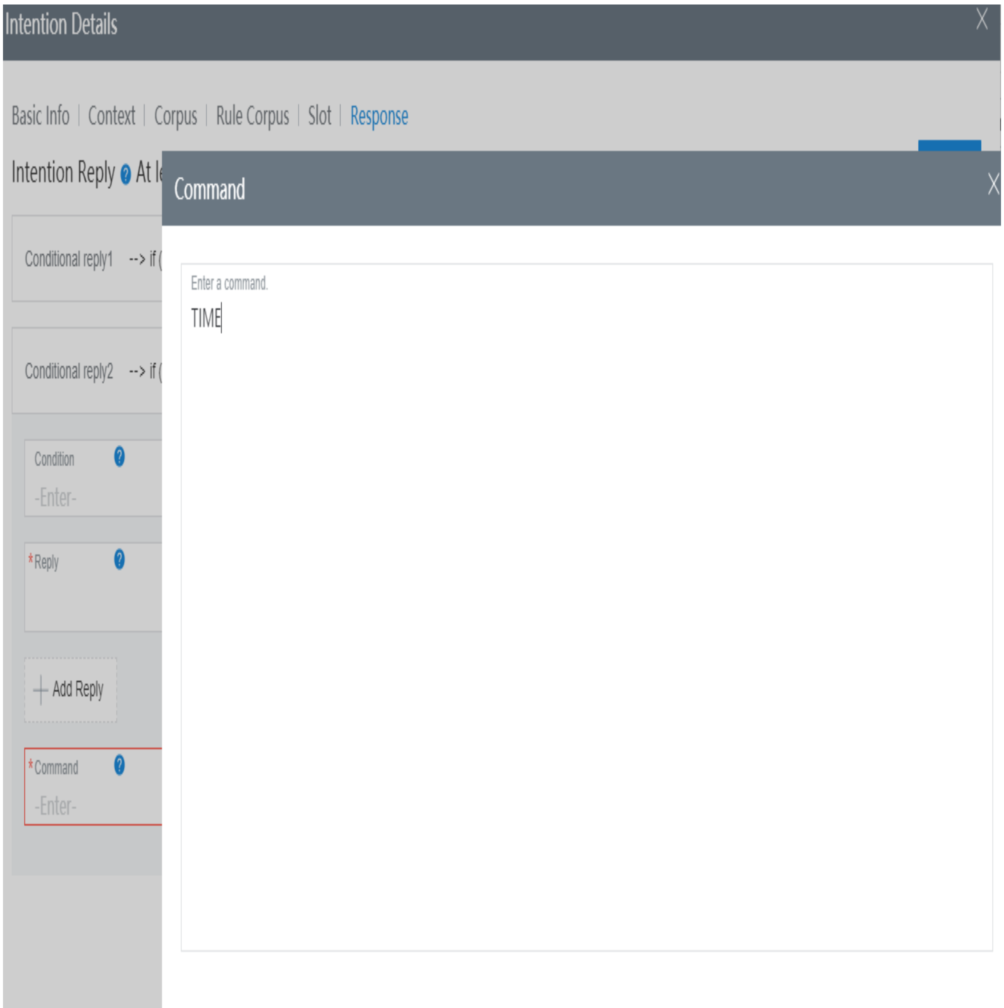
   The complete time and date must be provided to confirm the booked dining time. Therefore, the two slots are mandatory. However, the dialog flow is connected, and the dialog flow is used to control the filling of slot information. Therefore, the setting here must be **optional**.



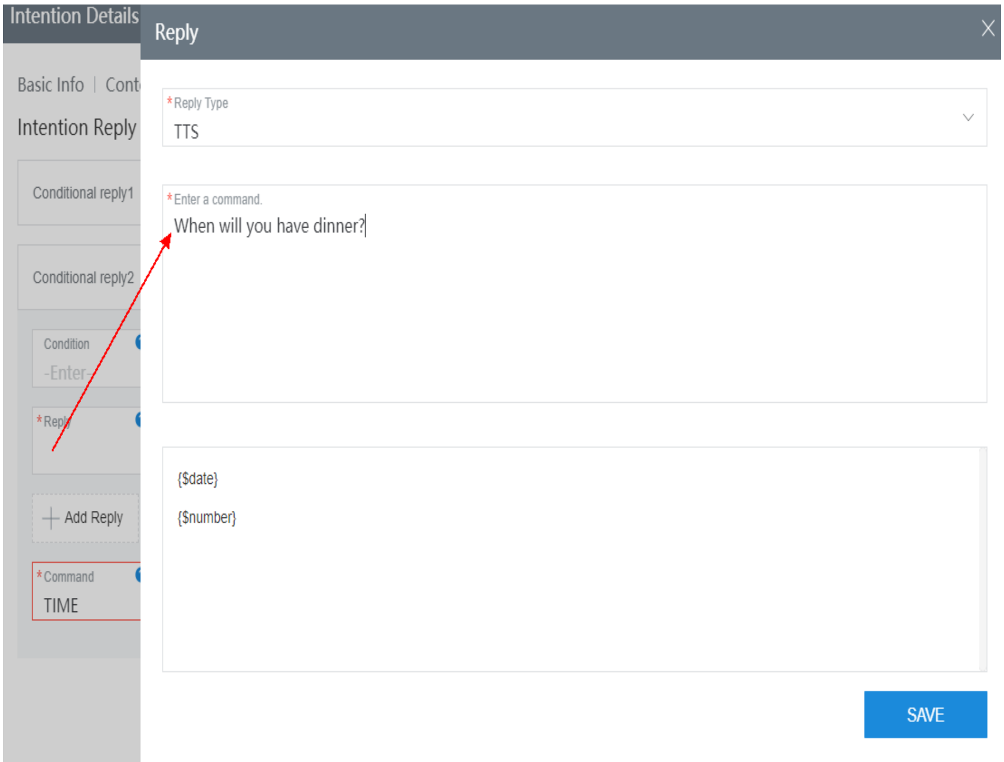
6. On the **Response** tab page, click **Add**, and configure the command word returned after the intention matching succeeds.

   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.

   Click the **Command** text box, and set it to **TIME**.



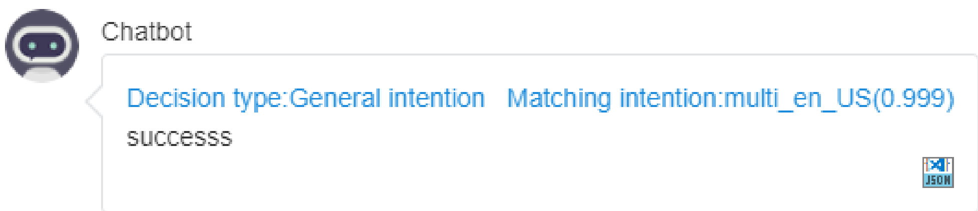
Click the **Command** text box or the **Add Reply** button, and set **Reply Type** to **TTS**. Click the **Enter a command.** text box, and set the value to **When will you have dinner?**.



7. Click **SAVE** in the lower right corner.
8. Click **Train** in the upper right corner.
9. Click **Ask Chatbot** in the upper right corner to test the current intention template.

   If you have configured the context when adding an intention, enter the configured context in the context selection box on the chat page before asking the chatbot.

   During the test, ask the chatbot according to your corpus and check its response. If the following information is displayed, the matching is successful.



----End

2.6.2.5 Adding Flows

A flow represents an IVN 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 2.6.2.8 Configuring an Access Code, 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 2.6.5.1 Diagram Elements.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Flow Management > Flow Orchestration** and click **Add**.

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

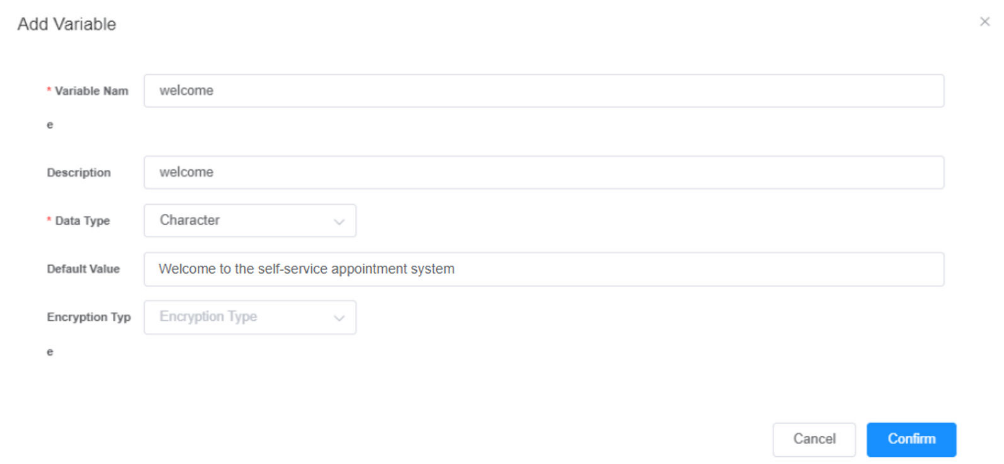
What are the benefits of using a flow template?

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 response templates, variables, and branch condition values for the flows. You can use a template to quickly configure a chatbot 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 **+** in the **Flow Variable** area.
2. In the dialog box that is displayed, set **Variable Name** and **Data Type**.



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**: response 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 ${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**.

3. Select an encryption type and click **Confirm**.

NOTICE

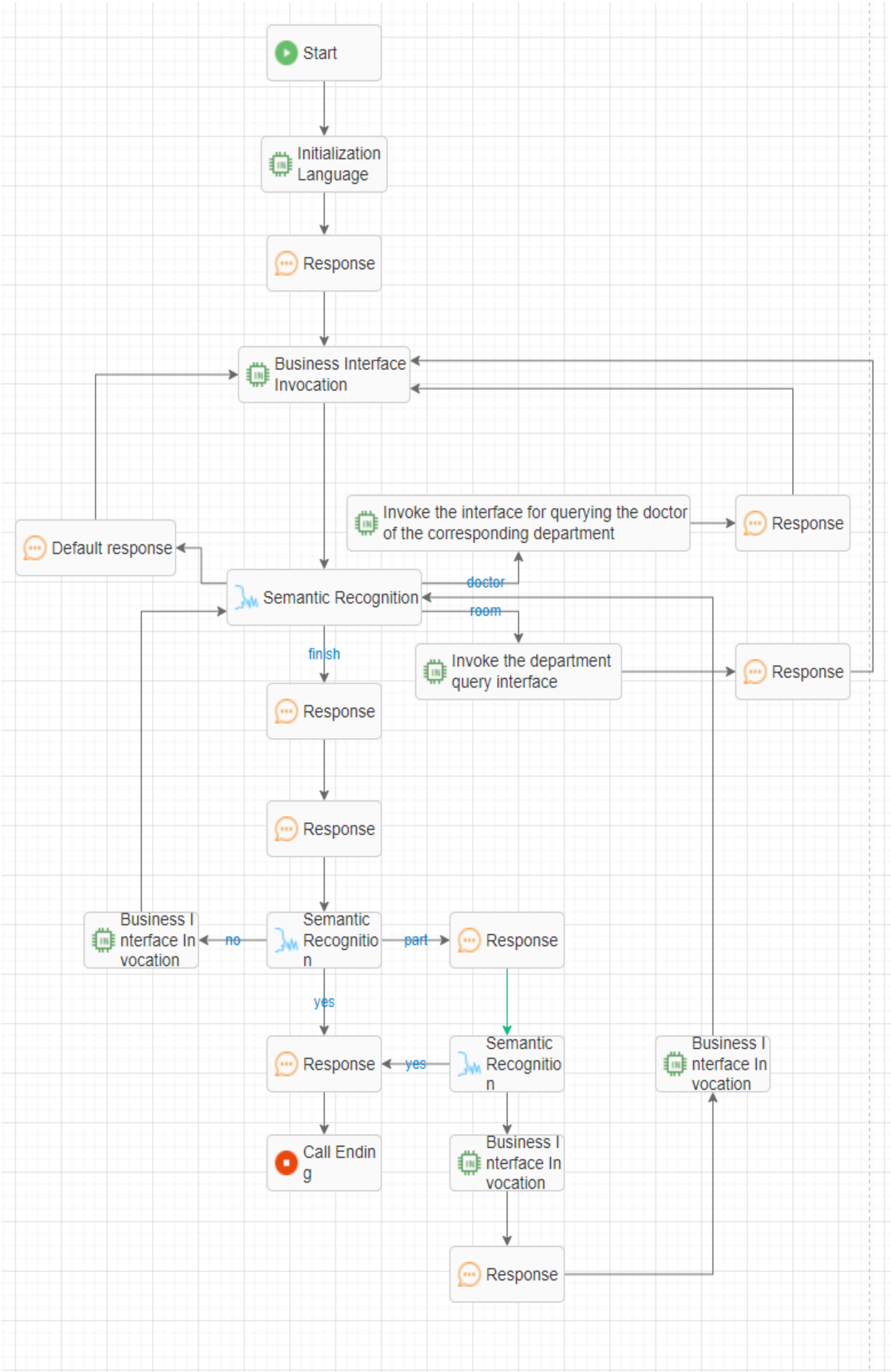
For security purposes, set **Encryption Type** to **Encrypted for storage and decrypted upon retrieval** or **Encrypted for storage and retrieval** if the flow variable contains personal data, such as the customer ID card number.

Step 5 Drag the corresponding diagram elements to the canvas on the right and connect the diagram elements based on **Figure 2-92** and **Table 2-29**.

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.

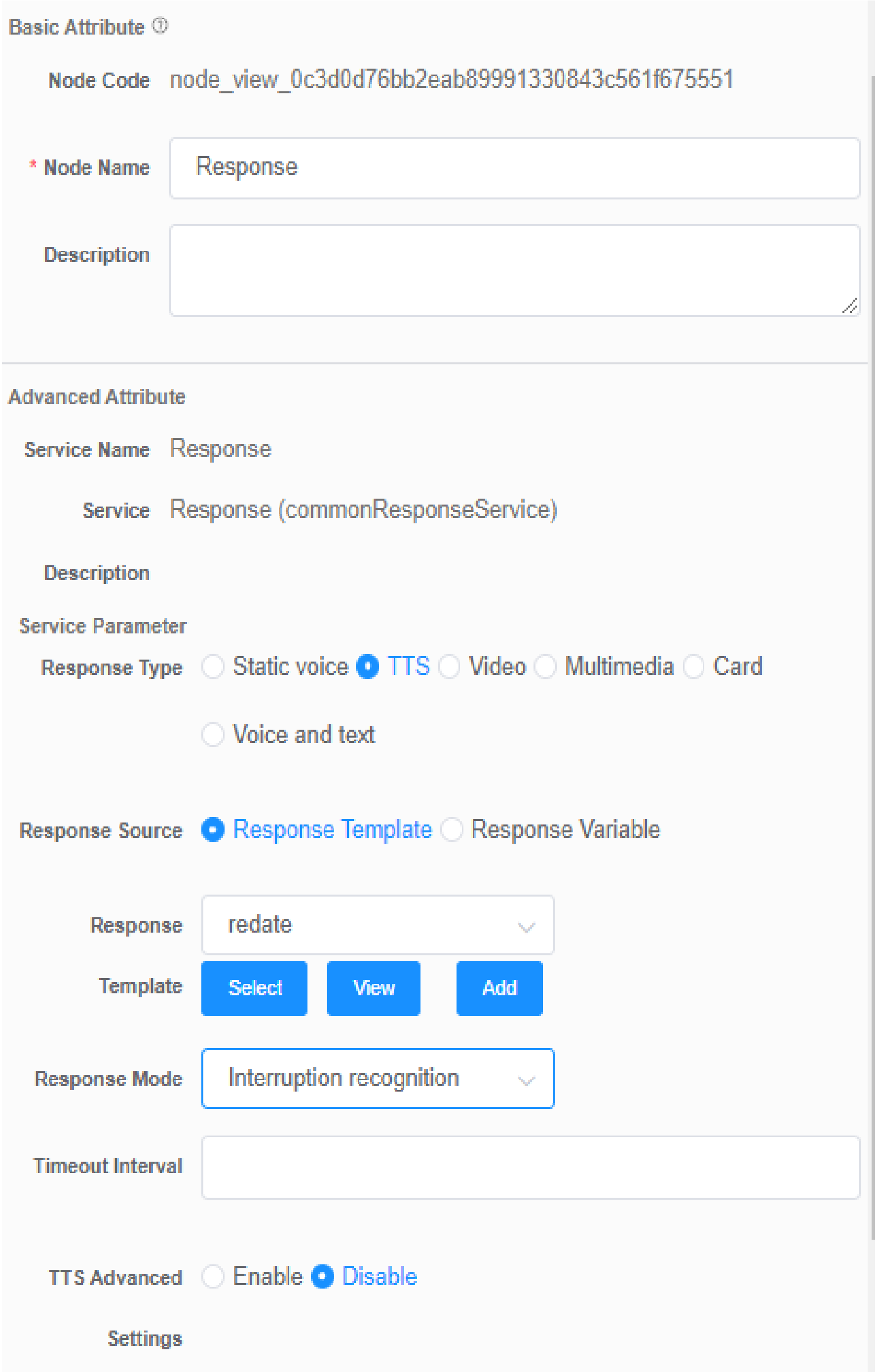
NOTE

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.



Step 6 Configure information for each node and connection in sequence. The methods for configuring diagram elements of the same type are similar. Here, diagram elements of all types are described, as shown in the preceding figure. For other configurations, complete them based on **Table 2-29**.

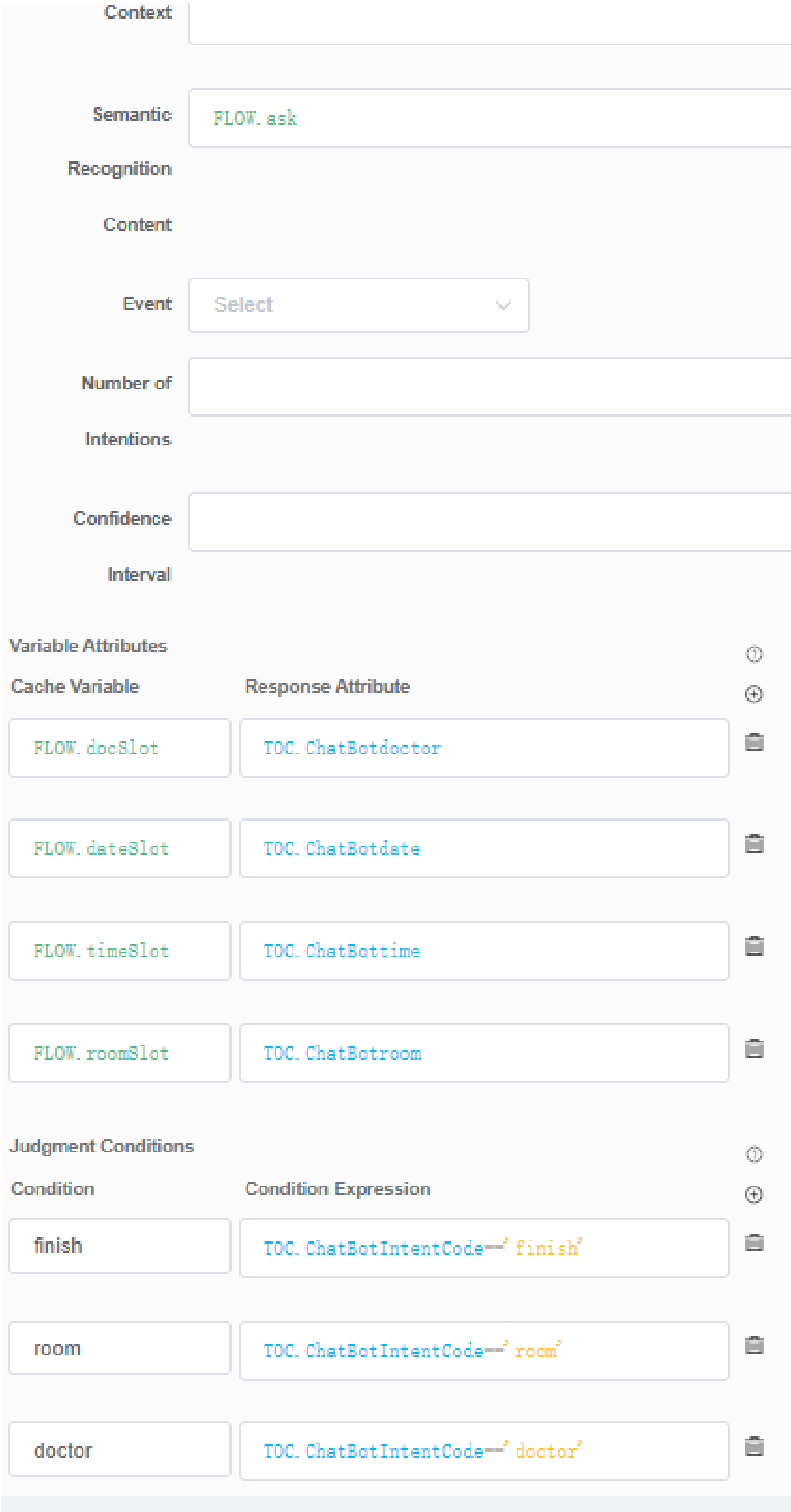
1. Configure a flow to ask whether to change the appointed date.



Set **Response Type** to **TTS**, and select the template configured in **2.6.2.3 Adding Resource Templates** for **Response Template**.

If **Response Mode** is set to **Interruption recognition**, the customer can speak before the voice playing ends, which saves the service time.

2. Configure the **Semantic Recognition** node.

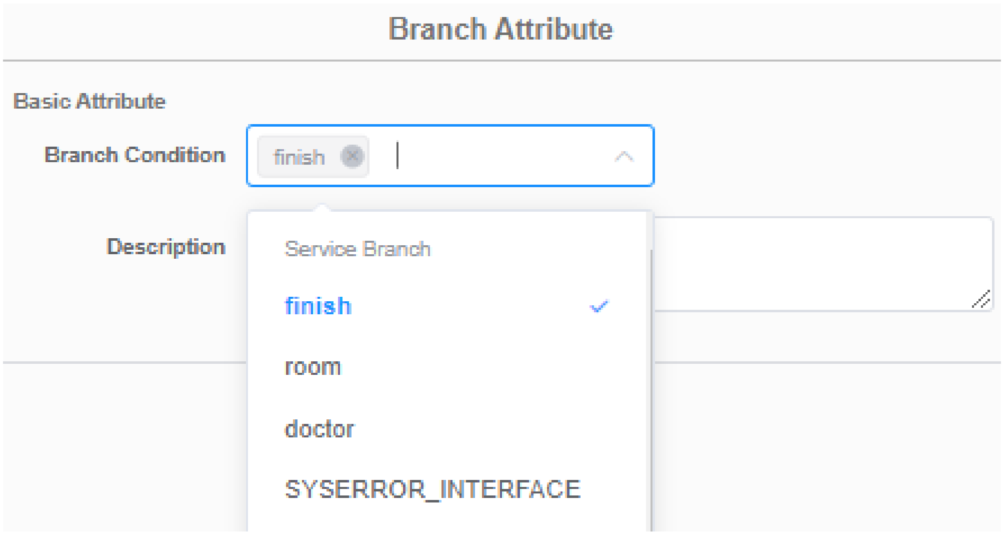

Context
Semantic Recognition Content
FLOW.ask
Event
Select
Number of Intentions
Confidence Interval
Variable Attributes
Cache Variable
Response Attribute
FLOW.docSlot
TOC.ChatBotdoctor
FLOW.dateSlot
TOC.ChatBotdate
FLOW.timeSlot
TOC.ChatBottime
FLOW.roomSlot
TOC.ChatBotroom
Judgment Conditions
Condition
Condition Expression
finish
TOC.ChatBotIntentCode=='finish'
room
TOC.ChatBotIntentCode=='room'
doctor
TOC.ChatBotIntentCode=='doctor'

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 template 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 **2.6.6.4 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.

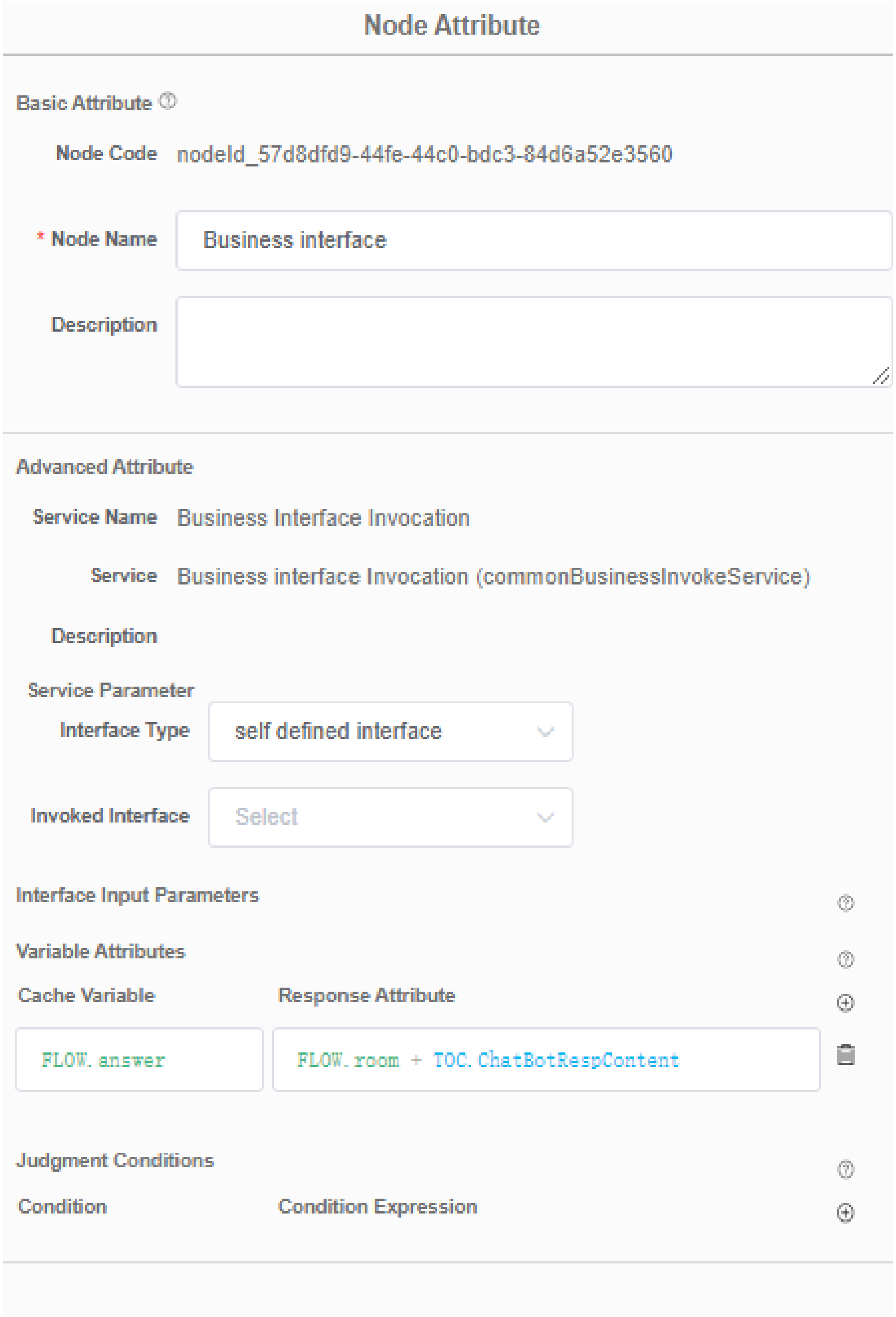
3. Click the connection line between the **Semantic Recognition** and **Response** diagram elements (the voice recognition matches the reply information configured in the intention response), and select the branch corresponding to the connection line as the branch configured in the previous step.



4. Configure the **Business Interface Invocation** 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 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.



Step 7 After configuring the diagram elements, select correct lines and branches, and click in the upper part of the canvas.

----End

2.6.2.6 Adding a Flow Gray Rule

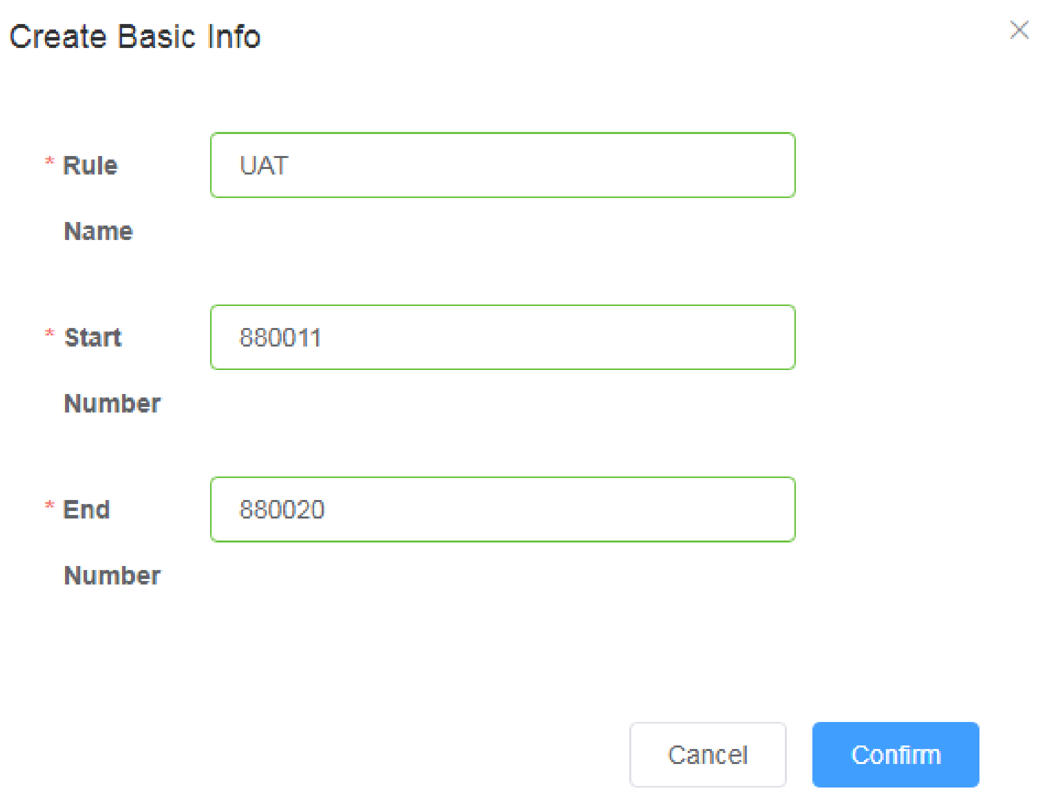
A gray rule indicates that a release rule can be specified when a flow is released so that a customer who meets the rule can experience the flow. A number segment can be specified for the current gray rule, which is used in the test phase.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Flow Gray Rule** and click **Add**.

Step 3 Configure a number segment for the gray rule and click **Confirm**.



----End

2.6.2.7 Releasing a Flow

The newly added flow is in draft state. You need to release the flow for the flow to take effect. To modify a released flow, you need to bring the flow offline, edit the flow, and release the flow again.

Currently, the system supports gray release and upgrade and 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 chatbot), **Insert** (silent agents assist the chatbot in reply), or **Common** (default).

Procedure

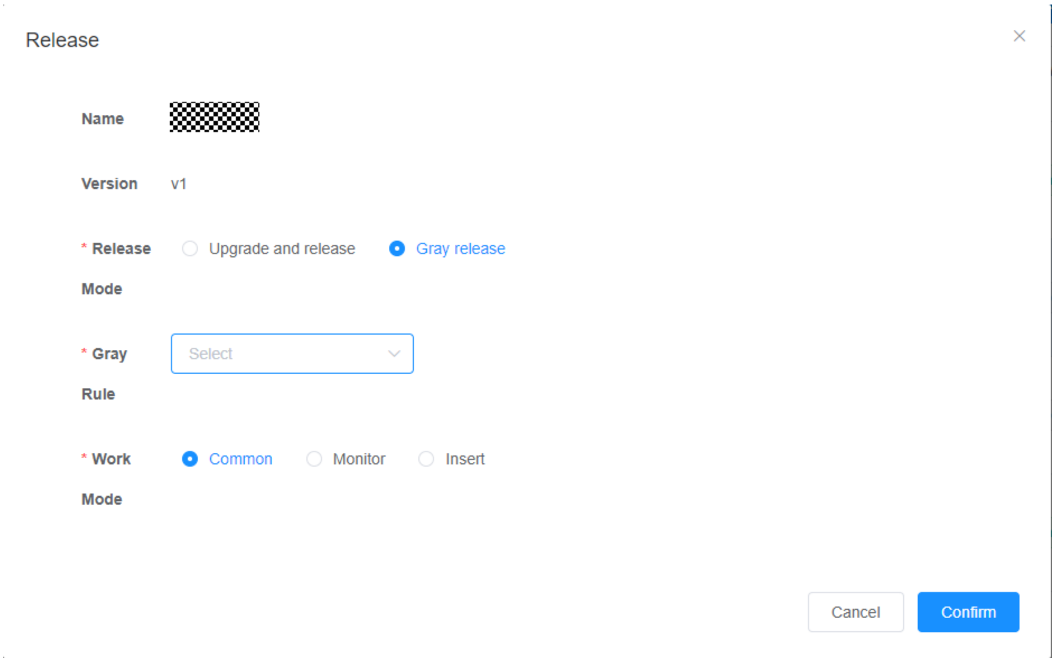
Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Flow Management** > **Flow Orchestration** and click corresponding to the flow to be released.

NOTE

You can also go to a specific flow page and click in the upper part of the canvas to release a flow.

Step 3 Set the release parameters as follows and click **Confirm**.



----End

If features need to be modified in a released flow, you are advised to click to save the current flow as a new version. After the new version is modified, bring the old version offline and release the new version.

2.6.2.8 Configuring an Access Code

After the flow is configured, you need to associate the flow with an access code, that is, the customer service hotline provided for the customer.

Your customer service hotline is allocated by the platform. The number will also be the value of the system variable **SYS.calledNumber** in your flow.

The OIAP supports the access in the following scenarios:

- Voice navigation: applicable to the general voice chatbot scenario.

- Intelligent outgoing call: applicable to the scenario where the flow is automatically triggered during an outgoing call.
- Chatbot: applicable to the scenario where the text chatbot is used.
- IVR flow: applicable to the scenario where the AICC is connected.

In this example, the first scenario is used.

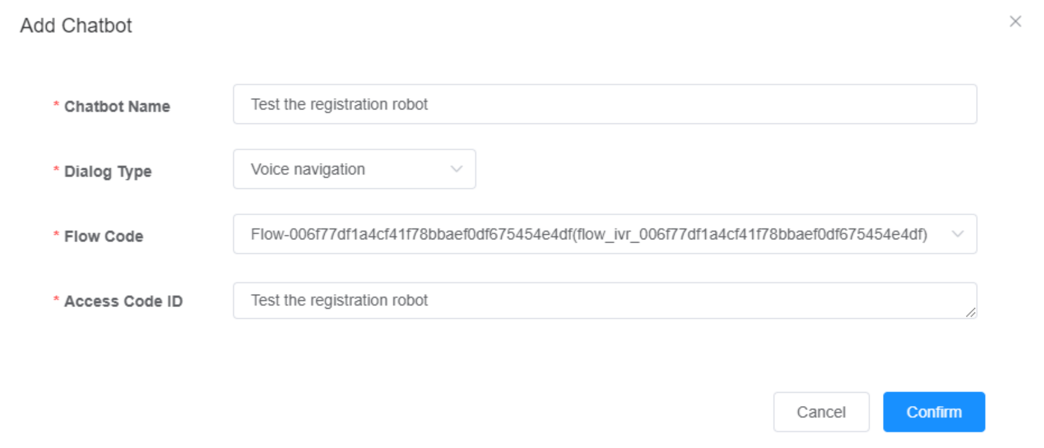
Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Chatbot Management**. Click **Add**.

Step 3 Enter information as shown in the following figure, click **Confirm**, and save the configuration.

Figure 2-96 Adding a chatbot access code



- **Chatbot Name**: Enter a customized name.
- **Chatbot Access Code**: Enter an identifier for associating with the flow when a called party 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 WAS console.
- **Dialog Type**: Select **Voice navigation**.

  The mappings between dialog types and scenarios are as follows:
  - When the chatbot interacts with a customer using voices, set **Dialog Type** to **Voice navigation**.
  - When the chatbot is connected to text chat platforms of the AICC as an intelligent text chatbot, set **Dialog Type** to **Chatbot**.
  - When a chatbot survey is required for outgoing 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 Management** on the AICC to configure flows.

- **Flow Code**: Select a released orchestrated flow. 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 flow version, the flow of this version is preferentially selected. Otherwise, the default flow is selected.
- **Number of Calls Processed Only by Agent**: 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**.
- **Packet Capture**: Set whether to enable the packet capture session service of VoiceCyber.
  - **Enable**: After this function is enabled, the system automatically sends a request to VoiceCyber to start packet capture when receiving an incoming call. The request is a necessary condition for starting VoiceCyber recording in the subsequent process.
  - **Disable**: No VoiceCyber service is used.

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.
- The **Packet Capture** parameter is available only when the system has been connected to the VoiceCyber system. For details, see "Commissioning Functions > Commissioning Intelligent Services > Commissioning VoiceCyber Voice and Video Recording" in *AICC Commissioning Guide*.

Step 4 Choose **More** > **Bound Domain** next to the new chatbot to set its domain range.

In addition, you can bind Q&As to the chatbot, and the chatbot preferentially matches the result of the Q&As.

----End

2.6.2.9 Testing the Chatbot

You can test your chatbot to determine whether your configuration is correct.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Chatbot Management**. Click **Test Call** in the last column corresponding to the access code to be tested.

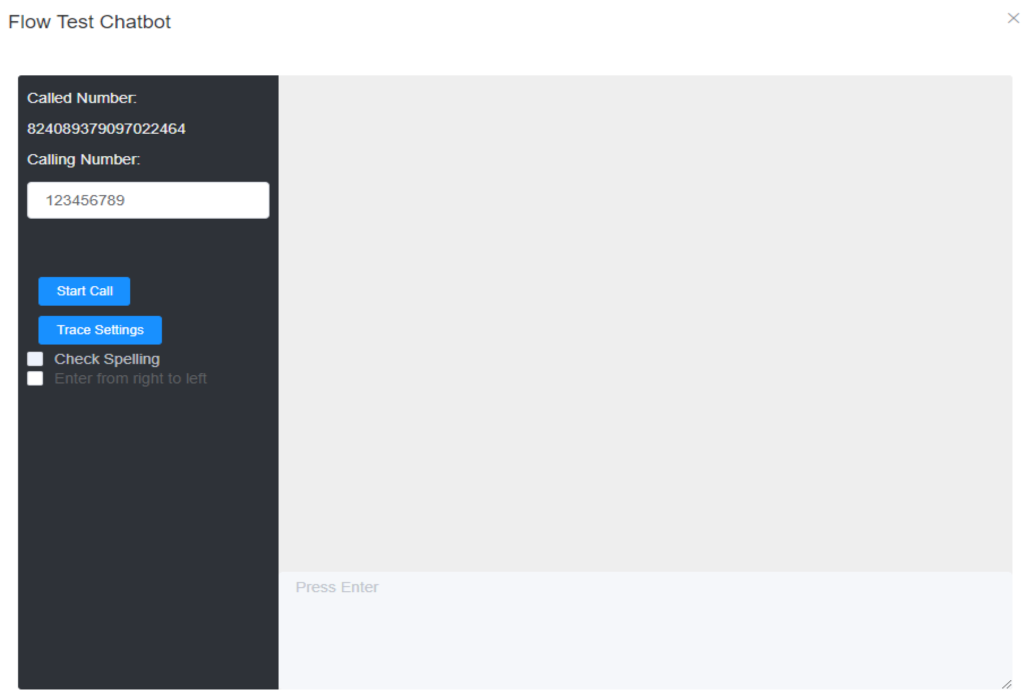
Step 3 In the test dialog box that is displayed, click **Start Call**.

If **Check Spelling** is selected and spelling check is enabled on the **System Management** > **System Configuration** page, an error message is displayed when a user enters incorrect words.

NOTE

If intention recognition is inaccurate, the possible cause is that the words entered by the user are changed after spelling check. In this case, you are advised to disable spelling check.

Figure 2-97 Testing the chatbot



----End

2.6.2.10 Viewing Flow Tracks

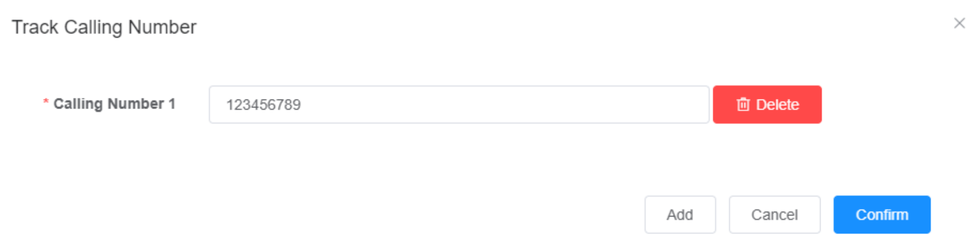
A flow track refers to the flow nodes that a call passes through after the call accesses the flow on the OIAP and the information returned by each node. When an error occurs in the test chatbot, you can use the test number to view the value change on each node in the flow track and locate the cause of the error.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Add the test number to the tracking trustlist.

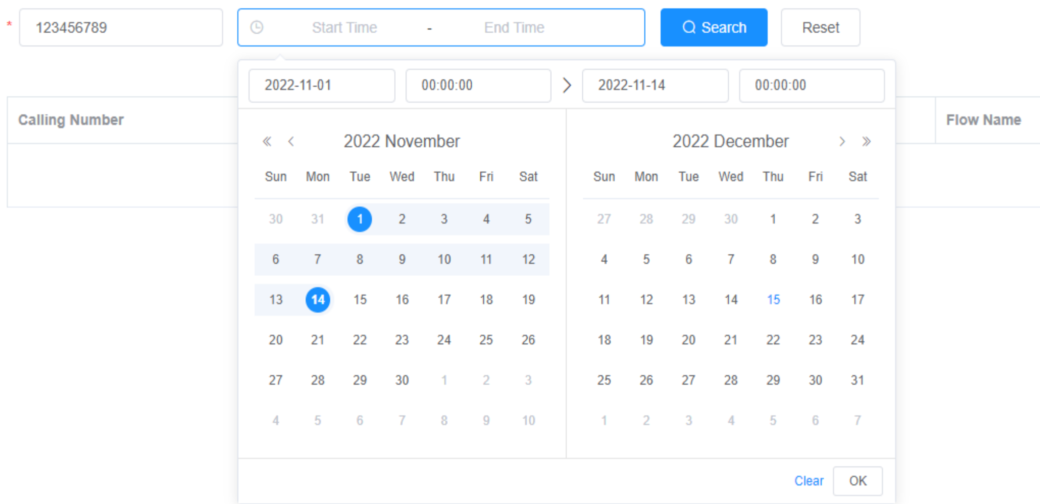
1. Choose **System Management > System Configuration**. Click the **Track Configuration** tab.
2. Click **Track Calling Number**, add the test number, and click **Confirm**, as shown in the following figure.



You can also track and locate the flow based on the access code.

Step 3 Choose **Flow Management** > **Flow Track**.

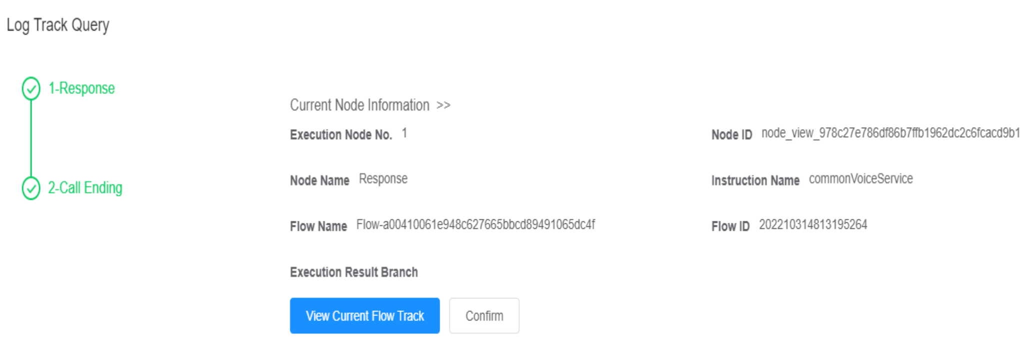
Step 4 Enter the test number, set the tracking time period, and click **OK**.



Step 5 Perform the test again by referring to **2.6.2.9 Testing the Chatbot**.

Step 6 Return to the **Flow Track** page, click **Search**, and click the record that is displayed.

Step 7 Click the node where the fault occurs in the flowchart, and view the log information and error information.



- Click **>>** next to **Current node information** for details.
- Or click **View Current Flow Track** below. On the page that is displayed, view the configurations of the flow node.

----End

Follow-up Procedure

Choose **System Management > System Configuration**. On the **Track Configuration** tab page, delete the added calling number.

2.6.3 Adding a Q&A-oriented Chatbot

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 chatbot to quickly add questions and answers.

A Q&A-oriented chatbot answers a customer's questions based on knowledge rather than the customer's objective.

Before adding a Q&A-oriented chatbot, you need to add an FAQ group, which is similar to a domain used in a task-oriented chatbot. An FAQ group is used to answer specific business questions, such as a product tariff question.

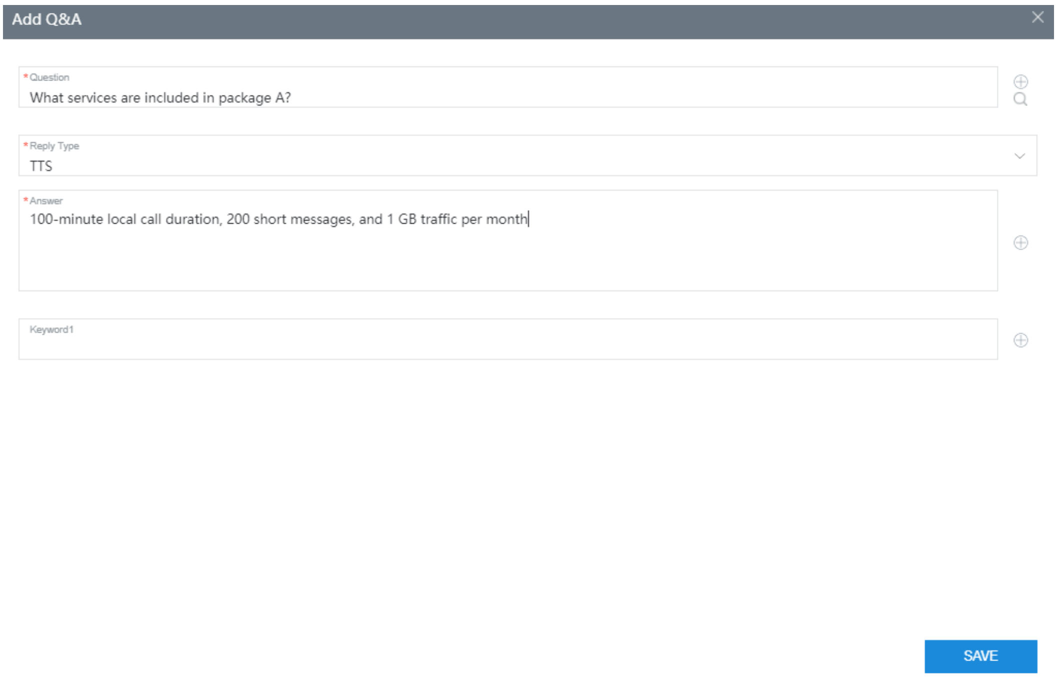
Step 1 Choose **Knowledge Management >FAQ Management**.

Step 2 Click **Add**.

Step 3 Set **Name** for the FAQ group, and click **SAVE**.

Step 4 Enter a question, click **Query**, and check whether a similar question has been added to the current FAQ group. If not, go to the next step.

Step 5 Click **Add** and enter the question, standard answer, and reply type (reply texts or resource templates), as shown in the following figure.



Step 6 To improve the answer matching accuracy, click ⊕ next to **Question** or ⊕ next to **Keyword1** to add a similar question or keyword.

Step 7 Click **SAVE**. In the dialog box that is displayed, click **OK**.

Step 8 (Optional) To improve efficiency in managing Q&As, enter them in a specified format and import them into the system in batches.

1. Select a Q&A record and click **Export All**.

   The system exports a .json file, as shown in the following figure.


```
{"answer":"Local call duration of 100 minutes, 200 SMS messages, and 1 GB provincial traffic per month.",
"keyWords":[],
"question":"What services are included in package A?",
"resource":"text",
"simAnswers":[],
"simQuestions":[]}
```


   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 **Import**, click , select the .json file on the local server, and click **UPLOAD**.

   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.

3. When the import succeeds, click **OK**.

Step 9 Test the Q&A-oriented chatbot.

1. Close the **Manage FAQ Group** page, click next to the new FAQ group, and choose **Test FAQ**.
2. In the input area, enter a question or keyword, and click .

   The Q&A-oriented chatbot returns an answer and a list of similar questions.

Step 10 Activate the Q&A-oriented chatbot.

1. Close the **Test FAQ** page, click next to the new FAQ group, and choose **Activate**.
2. In the confirmation dialog box that is displayed, click **Yes**.

   The FAQ group enters the **Activate** state.

----End

2.6.4 Other Operations

This section describes other operations related to an IVR flow.

2.6.4.1 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 is **${GLOBAL.***ParamName***}**.

Adding a Global Variable

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

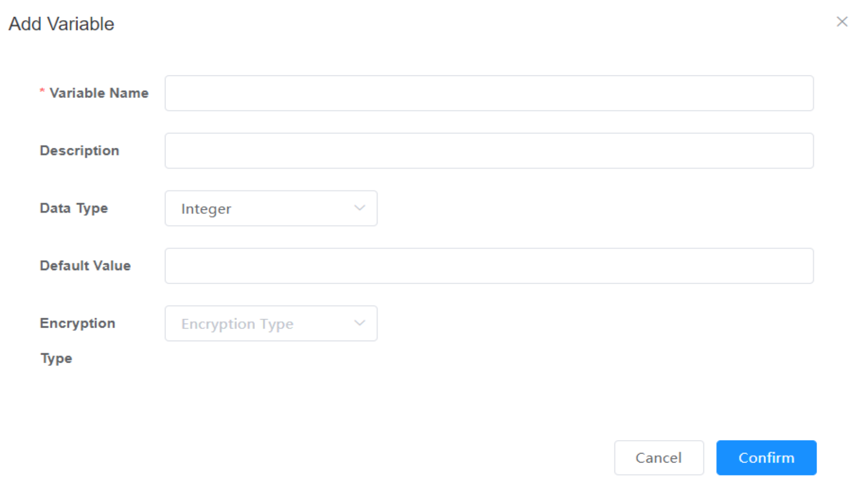
Step 2 Choose **Resource Management > Variable Management**. On the page that is displayed, click **Add**.

Step 3 Set **Variable Name** and **Data Type**, as shown in the following figure.

Step 4 Select an encryption type and click **Confirm**.

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.



----End

Modifying a Built-in Variable

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

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.

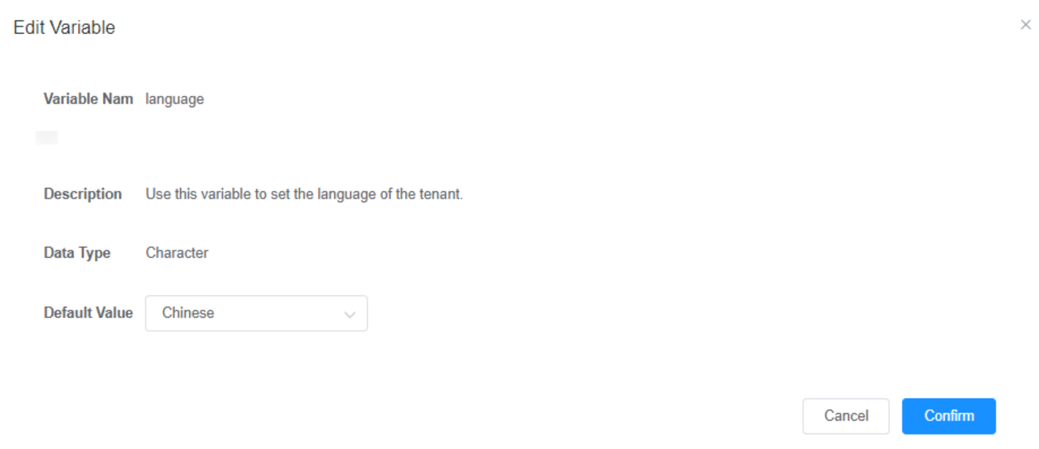


Table 2-32 Built-in variables

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**

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

2.6.4.2 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 work order types defined by the third-party system.

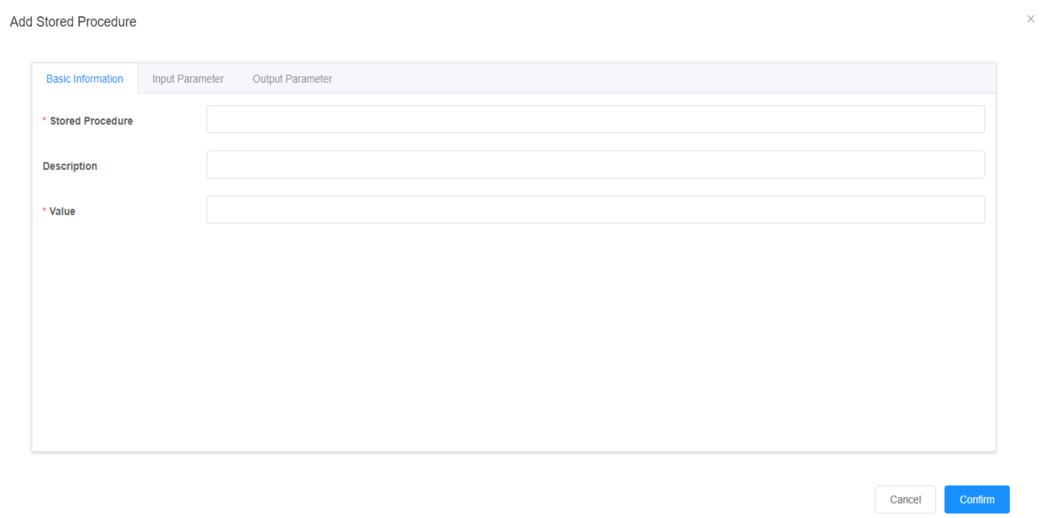
The system supports the MySQL, Oracle, and GaussDB stored procedures. The stored procedures must be predefined.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Resource Management > Stored Procedure** and click **Add** in the upper right corner.

Step 3 Enter the basic information about the stored procedure.



Set **Storage Procedure** based on the function description and set **Value** to the name of an existing stored procedure in the database.

Step 4 Click the **Input Parameter** tab. Click **Add** and configure the input parameters of the stored procedure one by one.

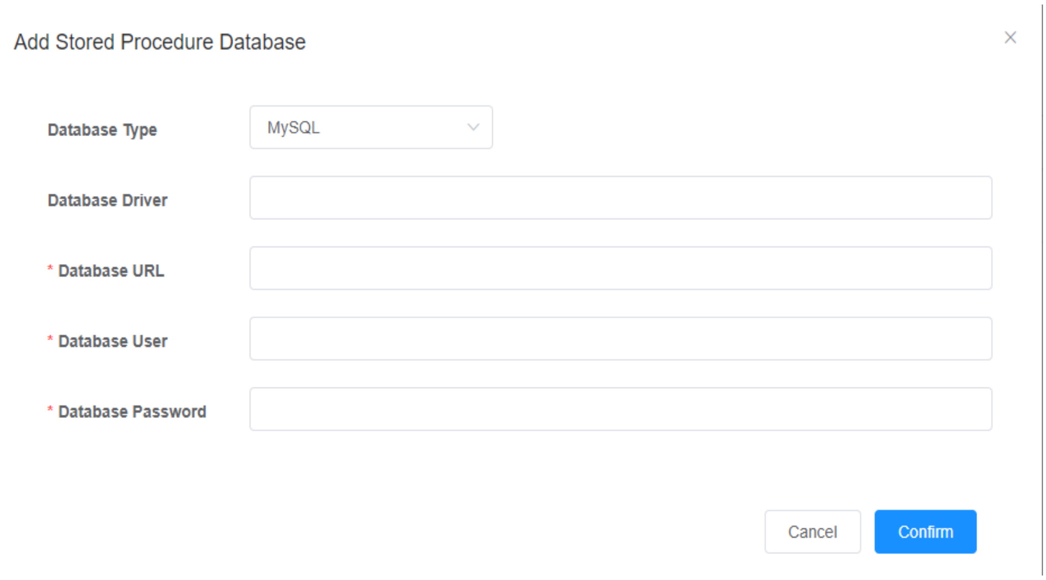
The input parameters of a stored procedure are usually in the same line as **CREATE PROCEDURE** and are identified by **IN**. For example, four input parameters are defined in the following stored procedure definition, where **varchar** corresponds to the **Character** data type in the system.

```
CREATE PROCEDURE p_modify_column_name (in tableName varchar(128), in oldName varchar(128), in
newName varchar(128), in incolumnType varchar(128))
```

Step 5 Click the **Output Parameter** tab. Click **Add** and configure the output parameters of the stored procedure one by one.

Step 6 Click **Confirm**.

Step 7 On the **Stored Procedure Databases** tab page, click **Add** to configure the database connection information of the stored procedure. If this information has been configured, click **Edit**.



- **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. Contact the administrator to add it to the trustlist.

Table 2-33 Configuration format of the database connection string

Database	Configuration Format	Configuring Example
MySQL	**jdbc:mysql://***IP address***:***Port number***/***SID*	**jdbc:mysql://***IP address***:***Port number***/oiap?autoReconnect=true&useServerPrepStmts=true&cachePrepStmts=true&useUnicode=true&characterEncoding=utf-8&useSSL=false**
GaussDB	**jdbc:zenith:@***IP address***:***Port number***:***SID*	**jdbc:zenith://***IP address***:***Port number***/oiap**
Oracle	**jdbc:oracle:thin:@***Host IP address***:***Port number***:***SID*	**jdbc:oracle:thin:@***IP address***:***Port number***:oiap**

- **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.

Step 8 Click **Confirm**.

----End

2.6.4.3 Adding Domains

A domain is considered as an independent task-oriented chatbot, which recognizes and replies to a group of intention templates.

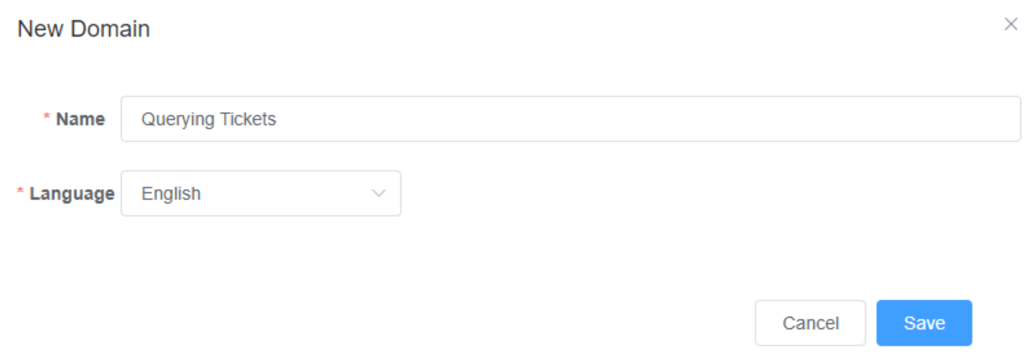
Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Knowledge Management** > **Domain Management**, and click **Create**.

Step 3 Set **Name** and **Language**, and click **Save**.

Figure 2-98 Adding a domain



Step 4 Save the settings and click **Active** in the **Operation** column to activate the domain.

----End

NOTE

How to divide domains?

A domain is considered as a chatbot that processes a service. Therefore, domains are usually divided based on service scenarios. For example, the telecom domain has the call fee query chatbot, the service provisioning chatbot, and other chatbots.

2.6.4.4 Adding Entities

Entities are variables or parameters, which can be used to configure multiple dialogs of a task-oriented chatbot 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 (POS) 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.

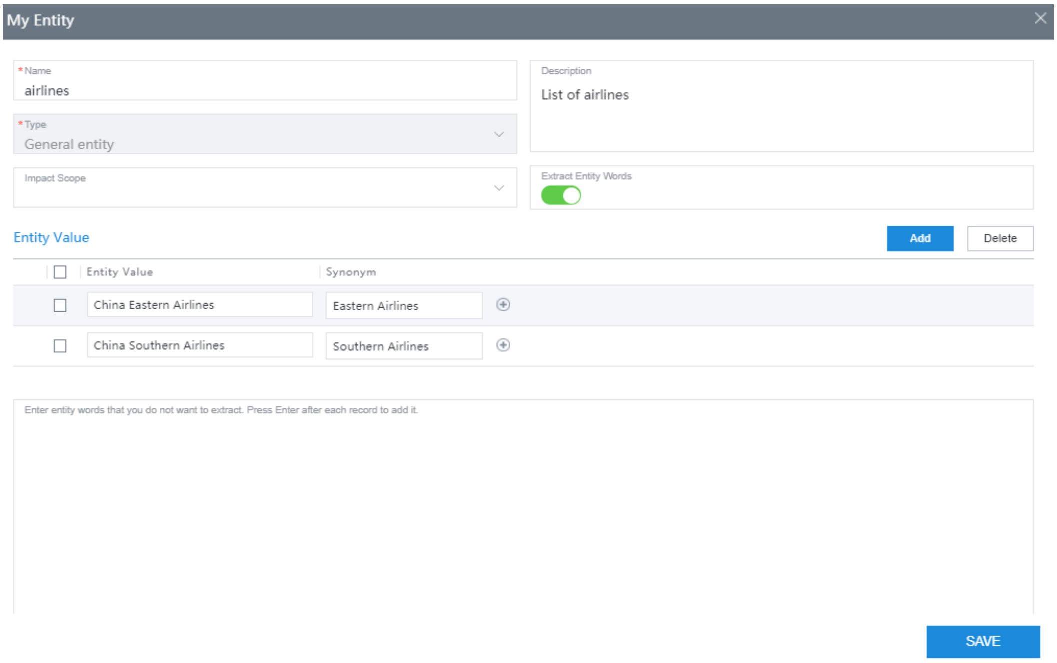
Configuring a General Entity

To add a flight company entity, perform the following steps:

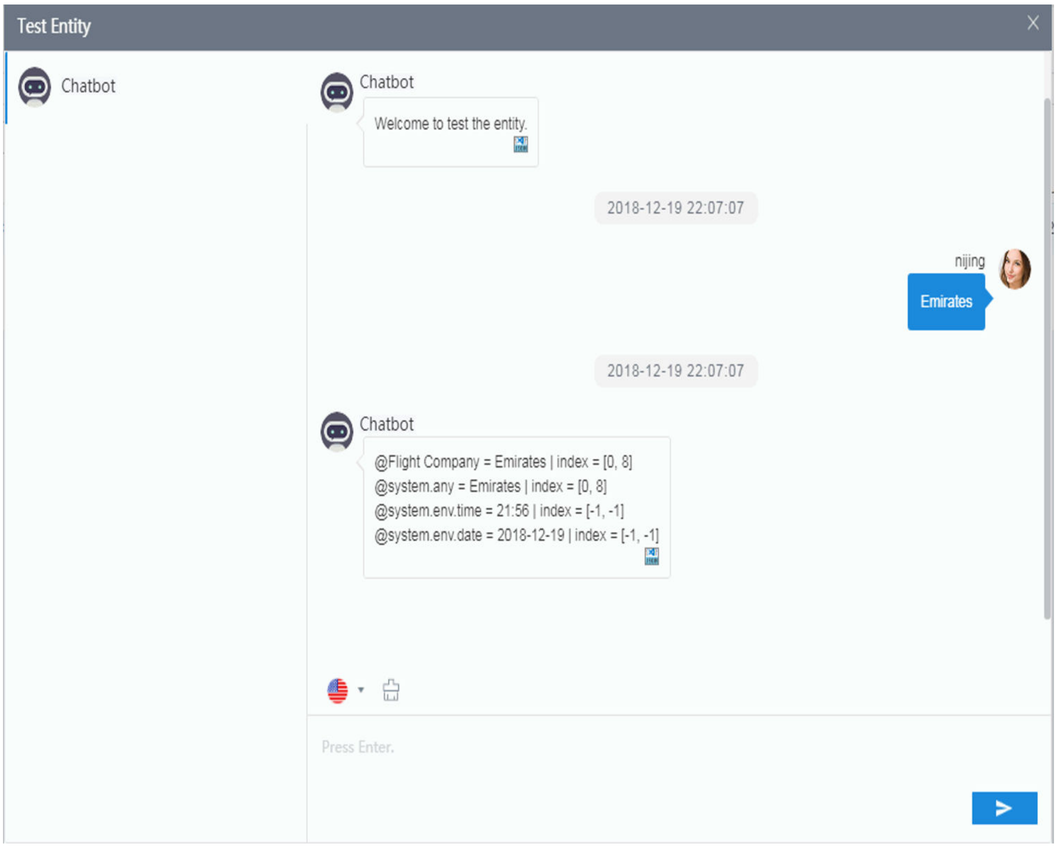
Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Knowledge Management > Entity Management**. Click **Add**, and choose **General Entity**.

Step 3 Set **Name** and click **Add** to add entity values and their synonyms. Then, click **SAVE** and click **OK** in the dialog box that is displayed.



Step 4 Click **Test Entity** in the upper right corner, and enter an entity value or synonym in the text box. If the chatbot 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.

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

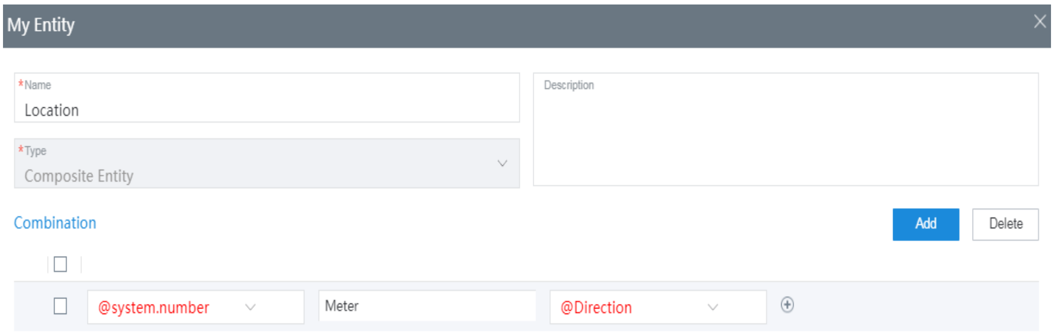
Step 2 Choose **Knowledge Management > Entity Management**. Add a general entity that indicates a direction by referring to **Configuring a General Entity**. A direction entity includes four elements: East, West, South, and North.

Step 3 Click **Add**, and choose **Composite Entity**.

Step 4 Set **Name**, and click **Add**.

Step 5 Configure a composite entity.

1. Select the entity added in **2** from the drop-down list.
2. Click , and select the second system entity @system.number, which indicates a number.
3. Click behind the text box, click in the new text box to change the input mode from selecting an entity to directly entering a string, 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.

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Knowledge Management > Entity Management**. Click **Add**, 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 POS and suffix are specified, the character string that meets the POS requirements is obtained after the suffix is matched. The length of the character string cannot exceed the value of **Max 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 specify the POS as 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.

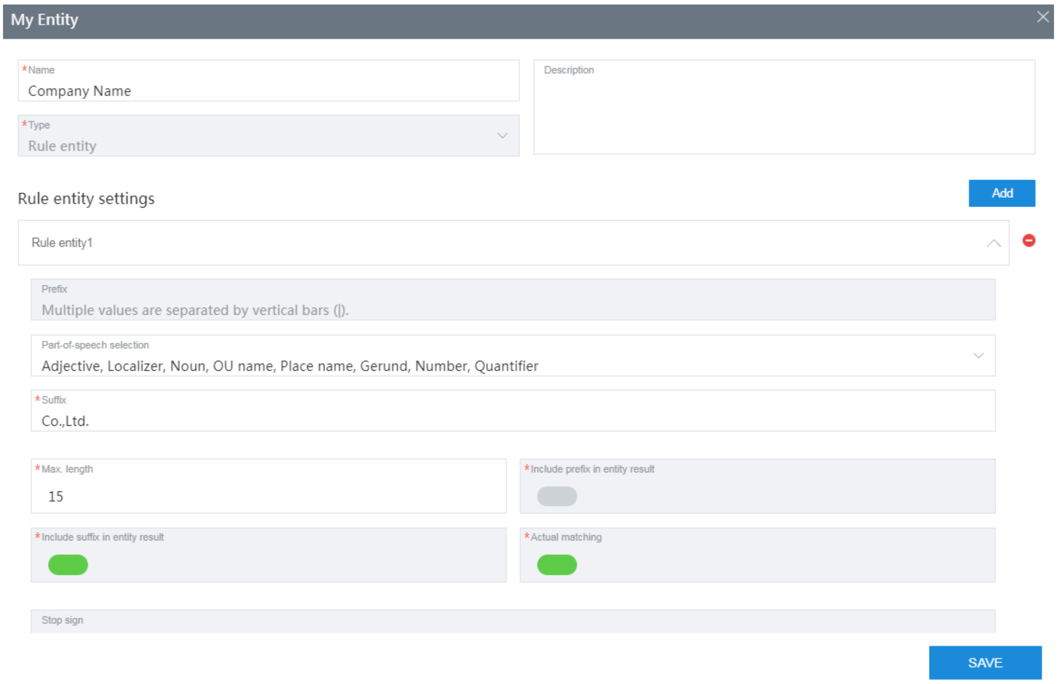
  – OU name: Without the prefix and suffix, the remaining characters indicate an OU group.

  – Place name: Without the prefix and suffix, the remaining characters indicate a city and province.

- When no POS is specified, characters between the prefix and suffix are used. The length cannot exceed the value of **Max Length**.

  Actual 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. After the entity is matched, the entity is **XX Co., Ltd.**.



Step 5 Click **SAVE**.

----End

2.6.4.5 Adding Sensitive Words

Sensitive words are configured to detect subscriber input. If a subscriber input contains a sensitive word, the chatbot receives a sensitive word triggering event for further processing.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

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

2.6.4.6 Adding Knowledge Gray Rules

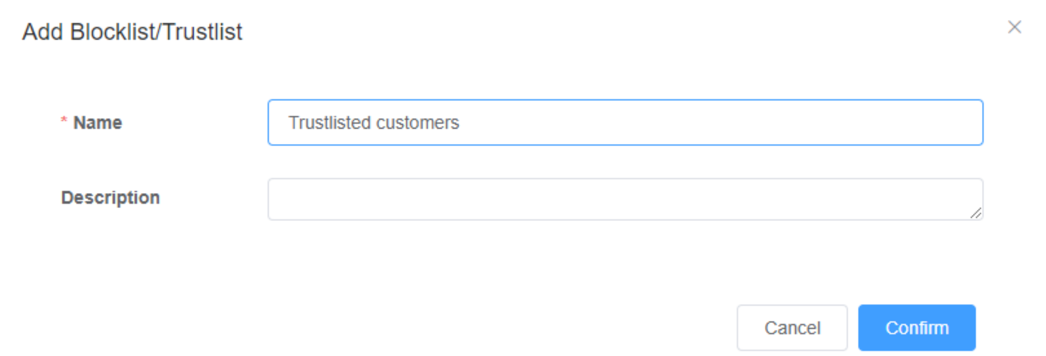
The system supports the configuration of knowledge gray rules to restrict users who use intention templates. You can configure a group of usernames. After an intention template is associated with a knowledge gray rule, the intention can be accessed only by users configured in the gray rule.

Procedure

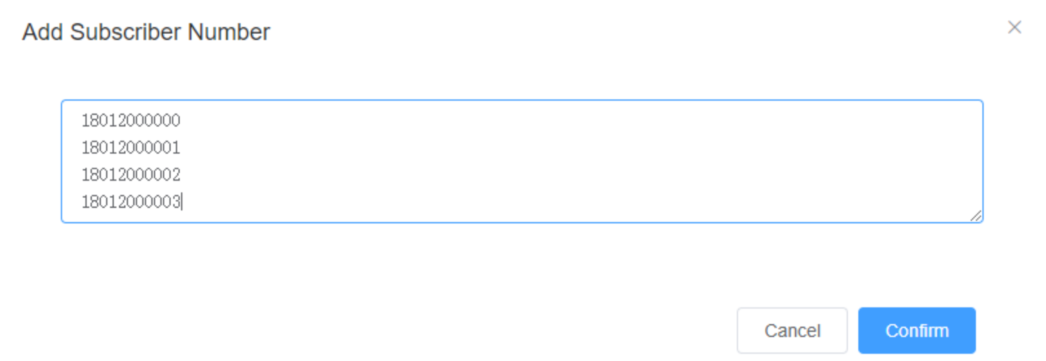
Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Knowledge Gray Rule**. Click **Create**.

Step 3 Set **Name**, and click **Confirm**.

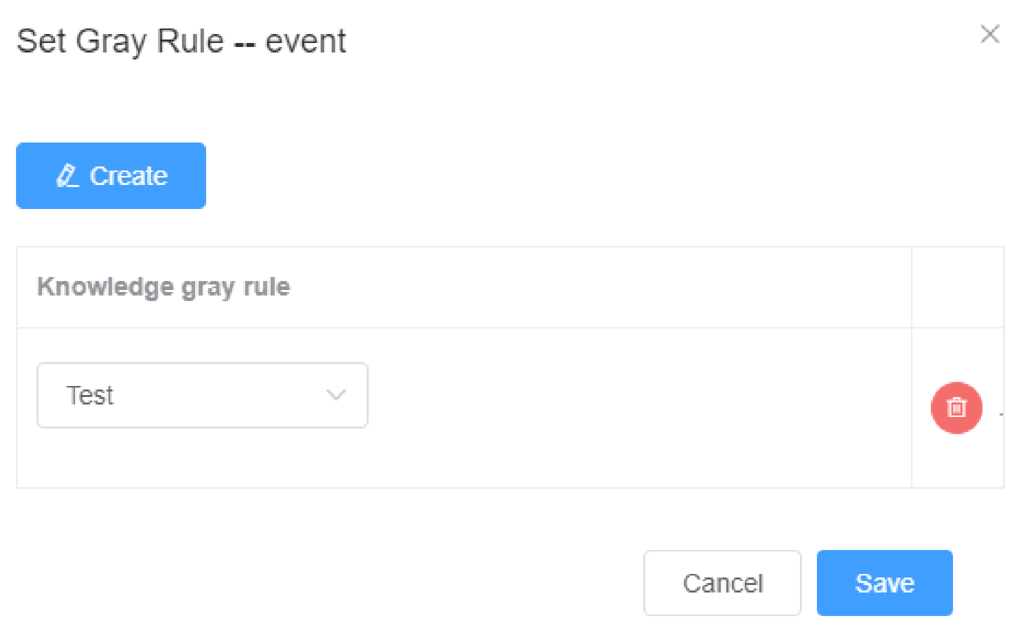


Step 4 In the dialog box that is displayed, click **Create**, enter customer names in different lines by pressing **Enter**, and click **Confirm**.



Step 5 Choose **Knowledge Management** > **Intention Management**, click  corresponding to the intention template to be associated, and choose **Set Gray Rule**.

Step 6 Click **Create**, select a knowledge gray rule, and click **Save**.



----End

2.6.4.7 Managing Chatbot Test Cases

You can maintain commonly used sentences in test cases, and periodically execute the test cases to verify that a chatbot can respond properly.

Prerequisites

You have configured the dialog flow and chatbot by referring to **2.6.2 Configuring an Appointment Chatbot (Task-oriented Chatbot)**.

NOTE

What are the benefits of managing test cases?

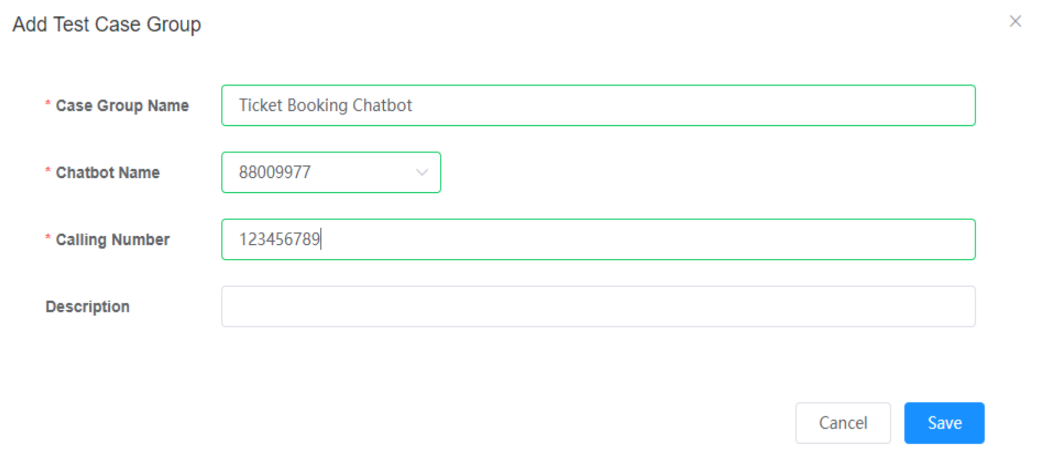
You can test conversations in batches with automated texts to verify that the chatbot's responses are meeting expectations, and to reduce the workload of verifying that the corpus is correct.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **Training Check** > **Dialog Test**. Click **Create**.

Step 3 Enter the test case group name, for example, **Ticket Booking Chatbot**, select a chatbot, 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.

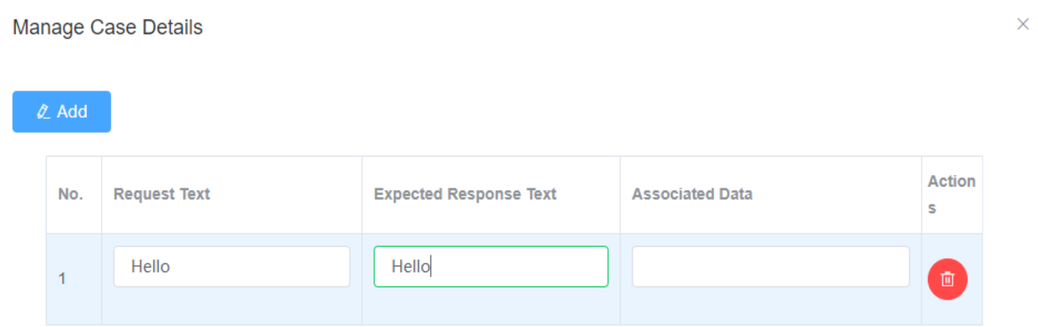
Step 6 Click **Create** and enter the case name.

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.



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.

2.6.4.8 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.

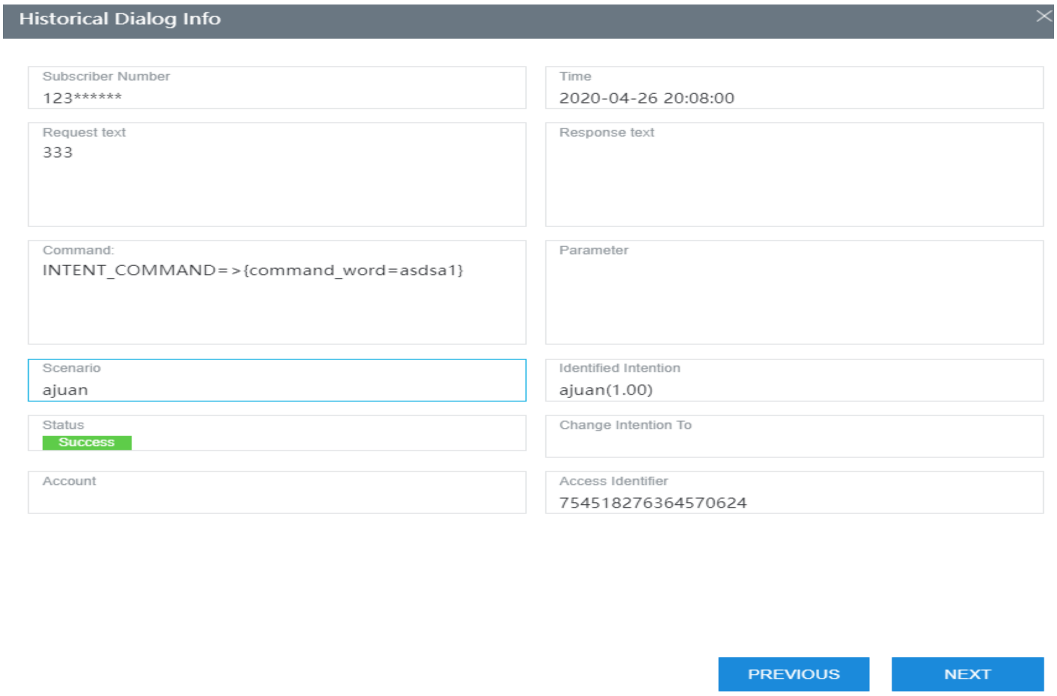
On the **Historical Message Review** page, intention matching is recorded. If an error occurs in intention matching, check the contents recognized by automatic speech recognition (ASR), and the command words matched by the intention.

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.



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

2.6.4.9 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.

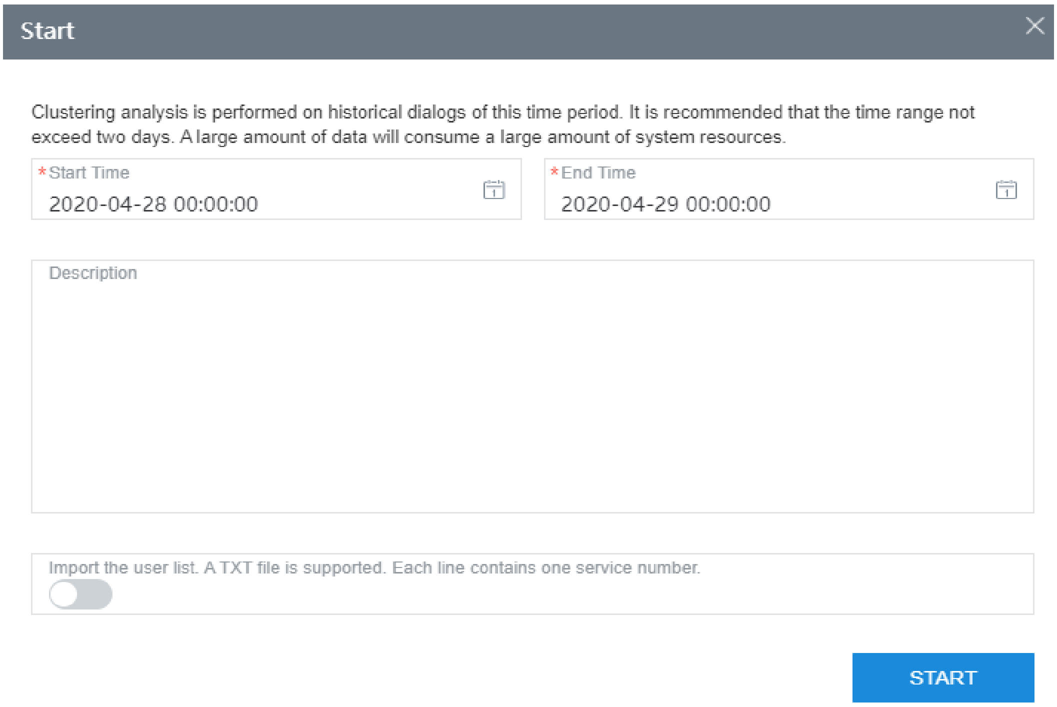
Step 1 Choose **Training Check** > **Question Clustering Task**.

Step 2 Click **Start**, set **Start Time** and **End Time**, and click **START**.

NOTICE

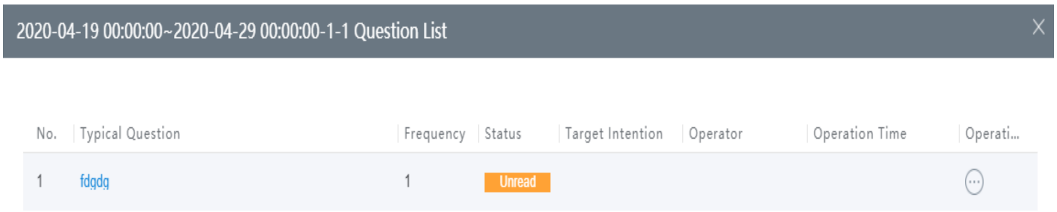
Ensure that the selected time period contains session records that can be used for analysis.

After the subscriber list is imported, the clustering task analyzes only the session records corresponding to the number.



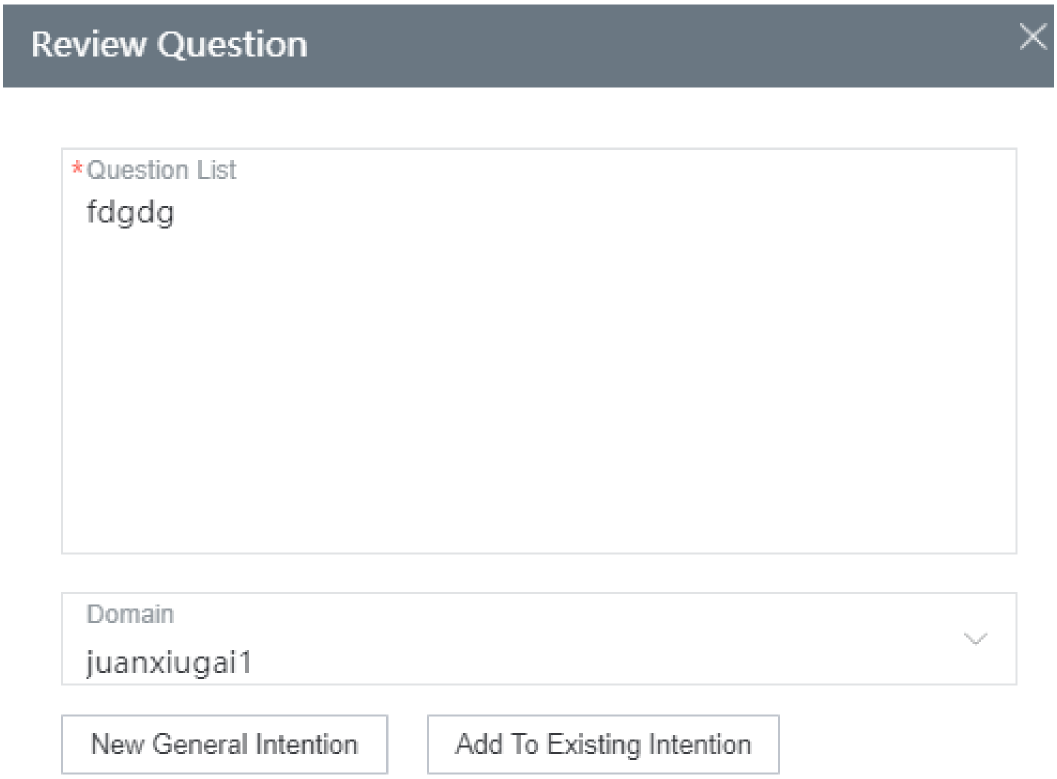
Step 3 Set the time period to be queried in the search criteria, and click **Query**.

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.



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

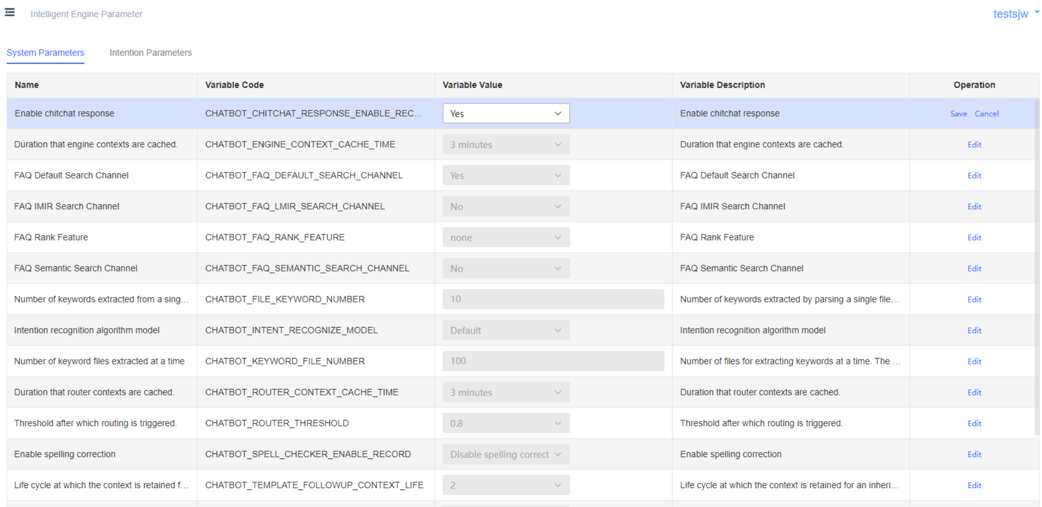
2.6.4.10 Setting Intelligent Engine Parameters

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.

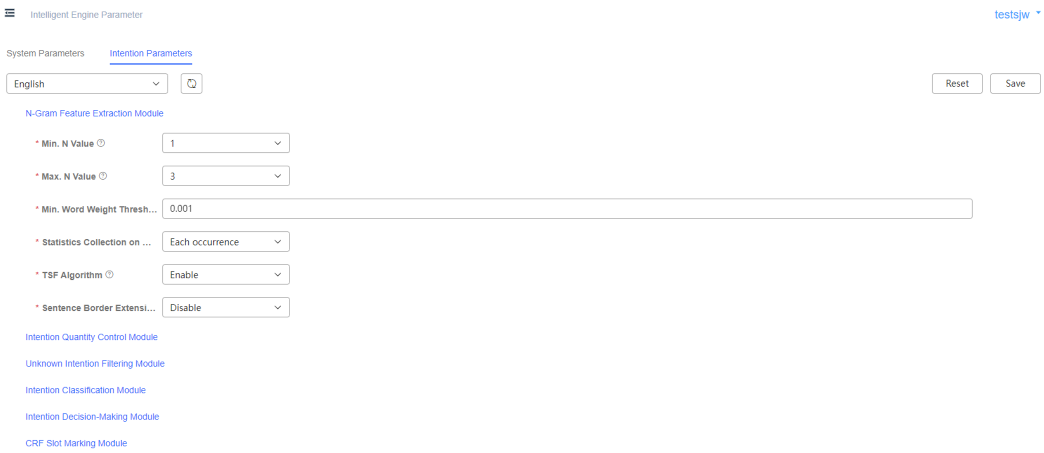
Procedure

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**.



Step 3 On the **Intention Parameters** page, select the language to be modified, modify the parameters to be modified, and click **Save**.



----End

2.6.4.11 Managing the Call History

Tenant administrators can query and manage historical customer service call records.

2.6.4.11.1 Querying the Call History

An operator can view historical calls and their details.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Historical Call** and click the **Call History** tab.

Step 3 Set at least one of the time segment and calling number as the search criteria.

Step 4 Click **Search** to query all records.

Step 5 Click **Call Details** to view the details of a single call record.

----End

2.6.4.11.2 Querying the Call Statistics Dashboard

An operator can view chatbot call statistics, including the number of inbound calls, number of calls disconnected without consulting the chatbot, number of calls transferred to agents without consulting the chatbot, number of calls that consult the chatbot without transferring to agents, number of calls transferred to agents after consulting the chatbot, net self-service resolution rate of the chatbot, number of dialog rounds, average number of dialog rounds, total number of interface invoking times, number of successful interface invoking times, and interface invoking success rate.

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Historical Call** and click the **Call Statistics Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and access code are mandatory.
- If you select **By day**, the access code is mandatory.

Step 4 Click **Search**.

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

2.6.4.11.3 Querying the Service Capability Dashboard

An operator can view chatbot 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** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Historical Call** and click the **Service Capability Dashboard** tab.

Step 3 Set the search criteria.

- If you select **By hour**, the date and access code are mandatory.
- If you select **By day**, the access code is mandatory.

Step 4 Click **Search**.

Figure 2-99 By hour

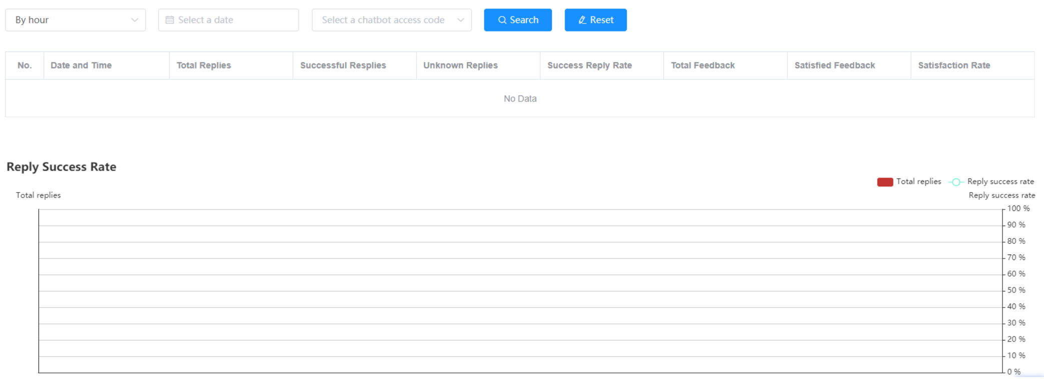
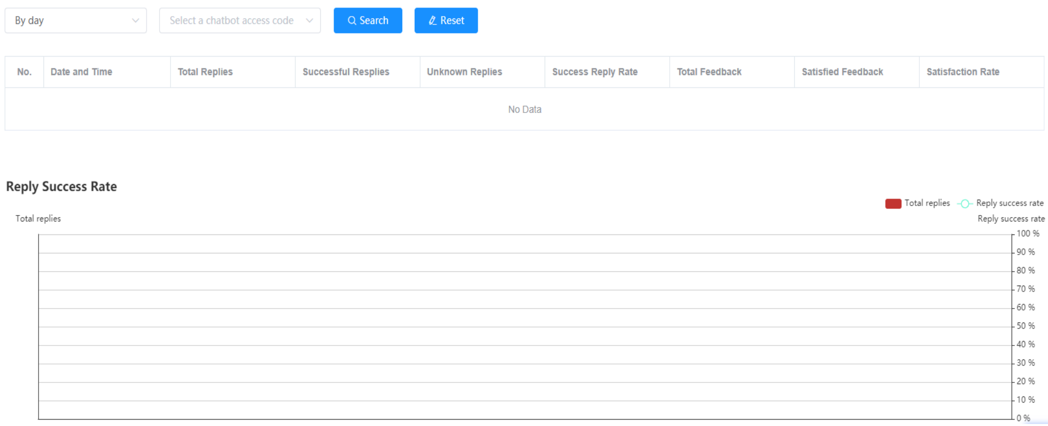


Figure 2-100 By day



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

2.6.4.11.4 Querying the Knowledge Dashboard

An operator can view the chatbot knowledge statistics, including the valid knowledge statistics and hit knowledge distribution.

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **Historical Call** and click the **Knowledge Dashboard** tab.

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 2-101 By day

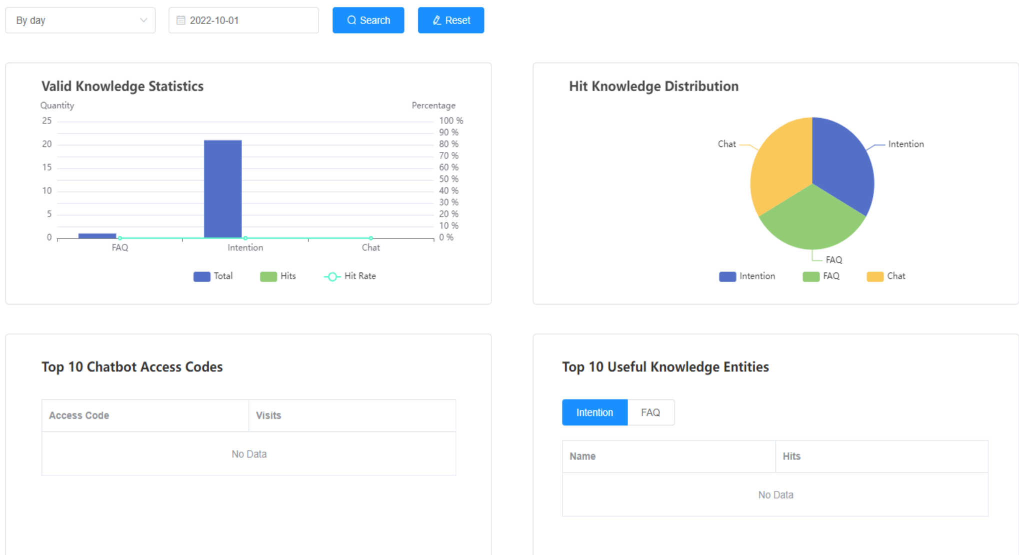
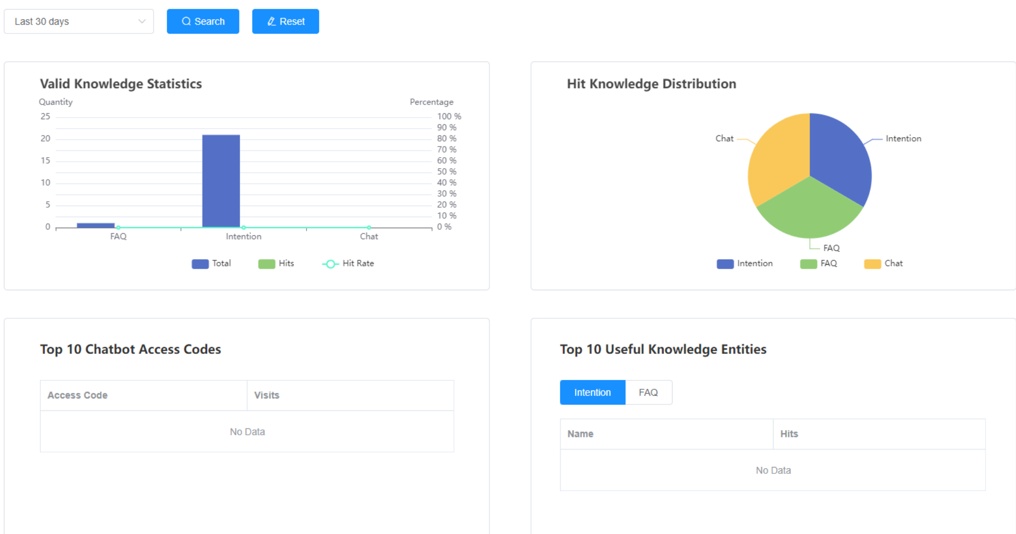


Figure 2-102 Last 30 days



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

2.6.4.12 Viewing Flow Analysis

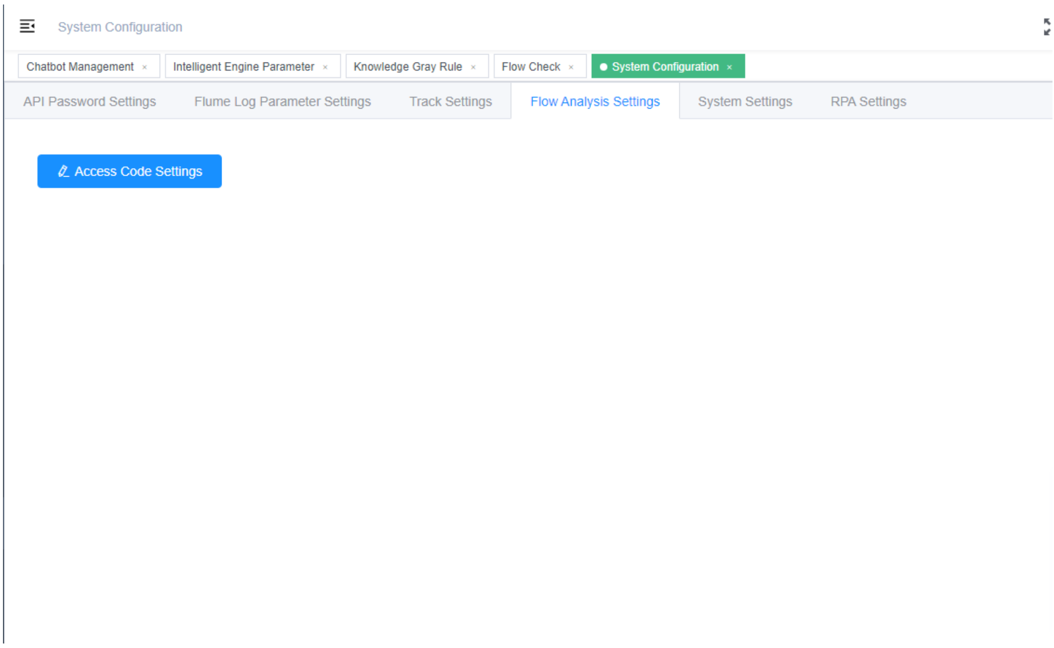
Users can collect statistics on the IVR key usage through flow analysis, which provides data reference for subsequent IVR hot key analysis and menu analysis.

Procedure

Step 1 Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Choose **System Management** > **System Configuration** > **Flow Analysis Settings** and add the chatbot access code to be analyzed.

Figure 2-103 Access Code Settings



Step 3 Run the chatbot. The branch execution statistics of the flow are collected by hour.

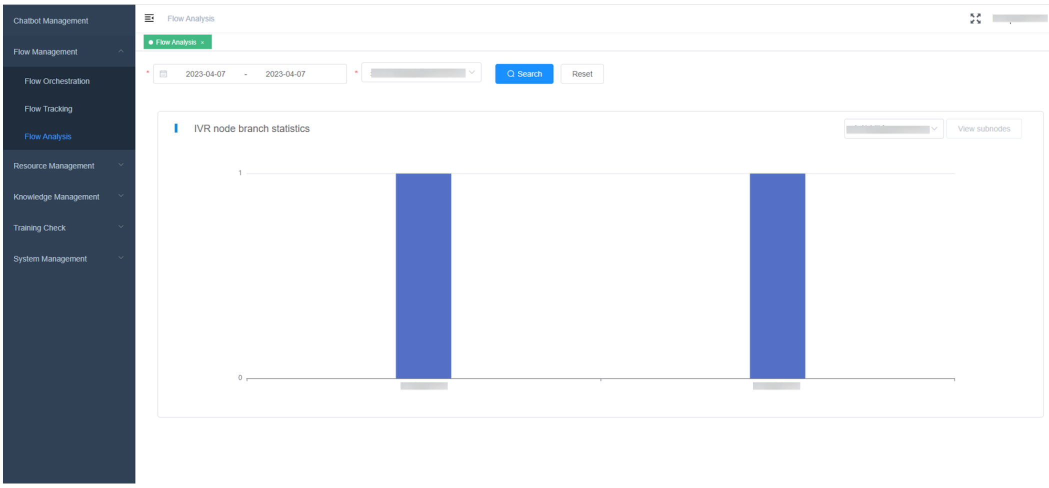
Step 4 Choose **Flow Management** > **Flow Analysis**, set the query time range, select the chatbot access code, and click **Search** to search for flow analysis records.

Step 5 (Optional) Switch the node name in the **Node Name** drop-down list to view the analysis details of different nodes.

Step 6 (Optional) If a node contains subnodes, the **View subnodes** button is highlighted. Click the button to view the analysis details of subnodes.

Step 7 (Optional) Click the parent node name next to **IVR node branch statistics** to return to the parent node.

Figure 2-104 Flow analysis records



----End

2.6.5 Reference

This section describes the references, including the diagram element reference, parameter reference, and TUC interface reference, in an intelligent IVR flow.

2.6.5.1 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

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.

2.6.5.1.1 Start

The **Start** diagram element marks the beginning of a flow.

Appearance

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

Typical Application Scenarios

The **Start** diagram element is used to mark the beginning of a flow.

NOTE

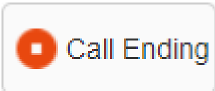
How to use the **Start** diagram element?

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.

2.6.5.1.2 Call Ending

The **Call Ending** diagram element marks the end of a flow.

Appearance



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.
- **Sending Interval**: Interval for sending satisfaction SMS messages, in days. The value is an integer and cannot exceed 365. If this parameter is set to **-1**, satisfaction SMS messages are not sent periodically. The sending is triggered when the **Call Ending** diagram element is reached at any time.

Using the Diagram Element

Click the diagram element, or drag it to the canvas.

Typical Application Scenario

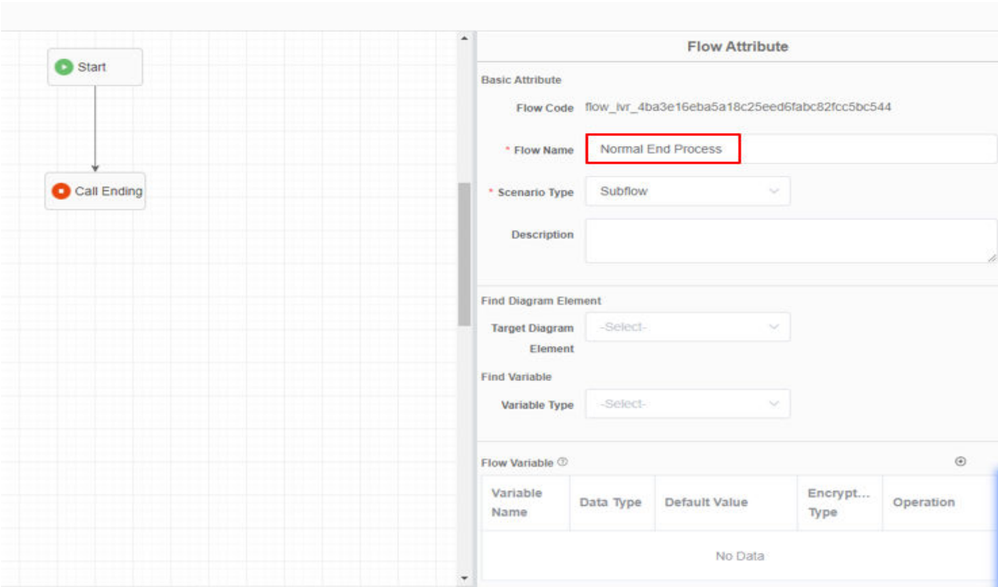
If you need to invoke a third-party interface to implement a specific business when using the **Call Ending** diagram element, you can perform the following operations to ensure that the **Call Ending** diagram element can be reached in any case:

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **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 2-105 Normal end flow



2. Save and release the flow.
3. Choose **Flow Management** > **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 **Flow Transfer** 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 2-106 Actual business flow (Flow Transfer diagram element)

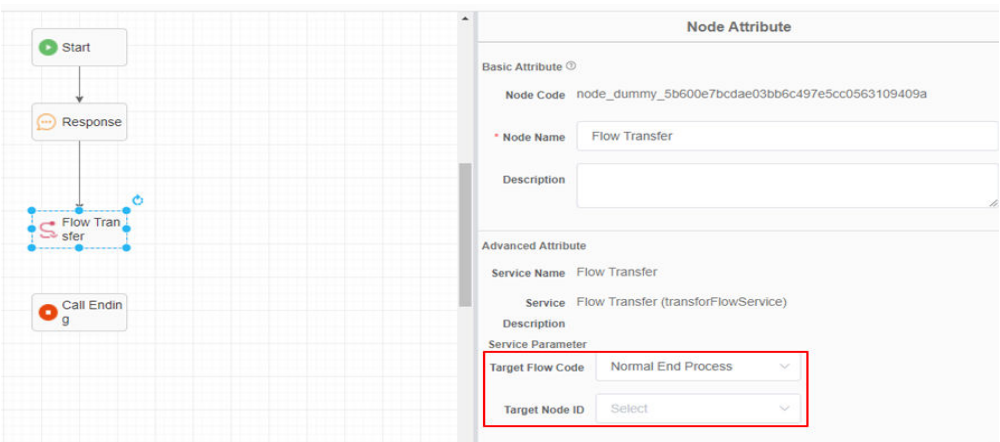
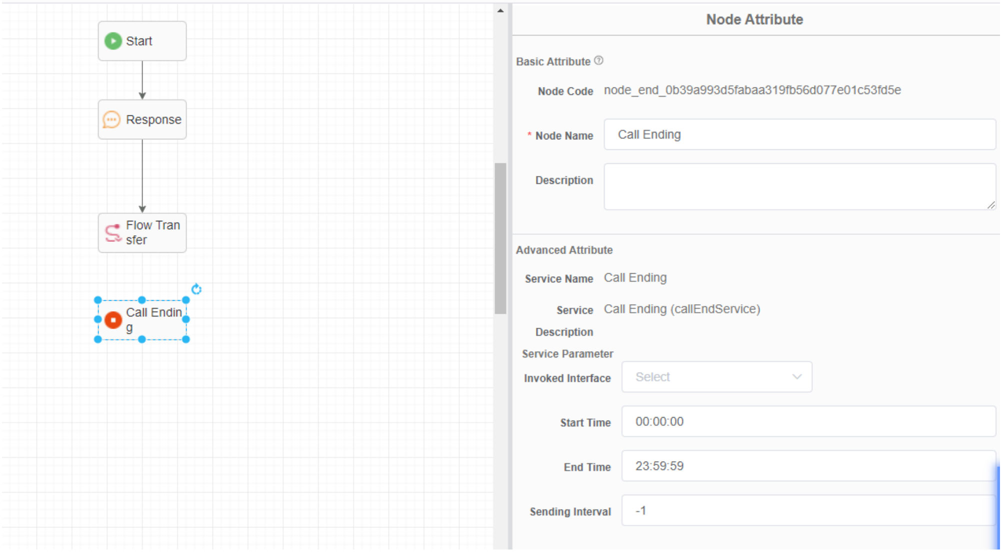


Figure 2-107 Actual business flow (Call Ending diagram element)



4. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

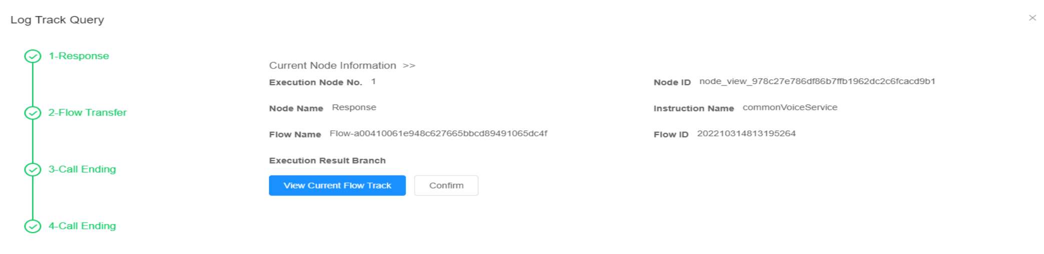
In the test dialog box that is displayed, click **Trace Settings** and enable **Calling Number Tracing**. Click **Start Call** to test the chatbot.

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 was transferred and has reached the **Call Ending** diagram element.

Figure 2-108 Flow track log page

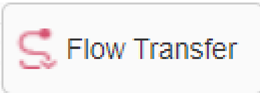


----End

2.6.5.1.3 Flow Transfer

The **Flow Transfer** diagram element transfers the current flow to the specified node of another flow for execution.

Appearance



Parameter Description

- **Node Name**: name of a node. You can change the text on the diagram element. For example, change it to **Exception Handling Flow**.
- **Description**: details of a node.
- **Target Flow Code**: code of a target flow. You can select an existing flow from the drop-down list, including flows that are not released. This parameter is mandatory.
- **Target Node ID**: 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 **Flow Transfer** 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 **Flow Transfer** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Call Ending** diagram element involves the **Flow Transfer** diagram element.

2.6.5.1.4 Response

The **Response** diagram element responds to customers on the IVN. The **Response** diagram element is used to play voices to customers in a flow.

Appearance

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Response Type**: The options are **Static voice**, **TTS**, **Video**, **Multimedia**, **Card**, **Voice and text**, and **Variable voice**.

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 according to the return values of the variables.
- **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.
- **Variable voice**: Set **Language**, **Type**, and **Response 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**.

- **Response Source**: source of the voice content to be played. The options are **Response Template** and **Response Variable**.
- **Response Template**: This parameter is displayed when **Response Source** is set to **Response Template**. Select a content template configured on the **Resource Management** > **Resource Template** page.
- **Response Variable**: This parameter is displayed when **Response Source** is set to **Response Variable**. If **Response Type** is set to **Voice and text**, set this parameter in *{Voice file URL}*~$*{Text}*$~*{Voice 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.
- **Response Mode**: This parameter is mandatory. The options are as follows:
  - **Playback only; no recognition or key presses**: 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 **Response Mode** of the **Response** diagram element is set to **Interruption by key presses** and the key interaction result needs to be obtained, the **Response** 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 supported, but voice playback cannot be interrupted during recognition.

- **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**.
  – If **Response 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 **Response 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 chatbot goes to the next diagram element when the timeout period ends.
  – If **Response Mode** is set to **Playback only; no recognition or key presses**, 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 **Response 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 completes 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.

- **Extended Parameter**: Enter data required by the IVR, for example, the provider information. The value is sent back to the IVR using the **vendor** parameter of the dialog interface. This interface is available only to the **Response** 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 **Response Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.

- **Digit collection timeout**: 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 **Response 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 **Response Mode** is set to **Interruption by key presses**, **Recognition and key presses**, or **No interruption after digit collection**.
- **TTS Advanced Settings**: The options are **Enable** and **Disable**. The default value is **Disable**.
- **Voice**: The options are **Male**, **Female**, and **Custom Sound Effect**. The default value is **Female**. This parameter is configurable when **TTS Advanced Settings** is set to **Enable**.
- **Voice Speed**: The options are **Slow**, **Medium**, **Fast**, and **Custom Speed**. The default value is **Slow**. This parameter is configurable when **TTS Advanced Settings** is set to **Enable**.
- **Default Values for Extended TTS Parameters.**: The options are **Enable** and **Disable**. The default value is **Disable**.
- **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.

  Extended parameter of the TTS server. Set this parameter based on the requirements of the TTS server vendor. The values of **speed**, **pitch**, **volume**, and **voice_name** can be **GLOBAL** and **FLOW** variables of the character type or any character string. If the value of a variable is not within the standard range, the default value is used. The values of **speed** and **pitch** range from –500 to 500, and their default values are **0**. The value of **volume** ranges from 0 to 100, and the default value is **50**. The default value of **voicename** is **cn_kefuman_common**. The default values and format requirements are as follows:

  ```
  speed=GLOBAL.ttsSpeed;pitch=GLOBAL.ttspitch;volume=GLOBAL.ttsVolume;voice_name=GLOBAL.voiceName;
  ```

- **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 milliseconds. The value ranges from 0 to 65535. This parameter is configurable when **ASR Advanced Settings** is set to **Enable**.
- **Recognition Timeout Interval**: The default value is **200**, in milliseconds. The value ranges from 0 to 65535. 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 0 to 65535. 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.

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 response template that you has maintained in the **Service Parameter** area.
- The **Response** diagram element is used by the chatbot in the email channel to automatically reply to customers' emails. In this case, configure the diagram element as follows:
  - Set **Response Type** to **TTS**.
  - Set **Response Source** to **Response Variable**.
  - Set **Response Variable** to a global variable or a flow variable. The value of the variable must be in the following format (use a comma as the separator):
    ```
    Auto reply email template ID,Personal email address
    ```
    The auto reply email template ID can be created in **Configuring Notification Templates as an Administrator**.
  - Set **Response Mode** as required.

Typical Application Scenario

The following describes how to use the **Response** diagram element to play a welcome tone to customers.

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 Management** > **Flow Orchestration** and click **Add** 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 2-109 Adding a flow variable

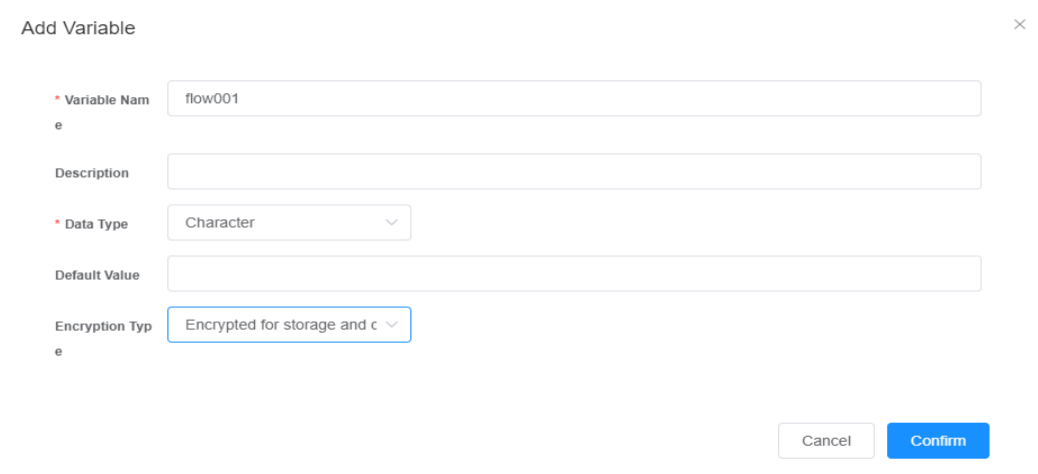
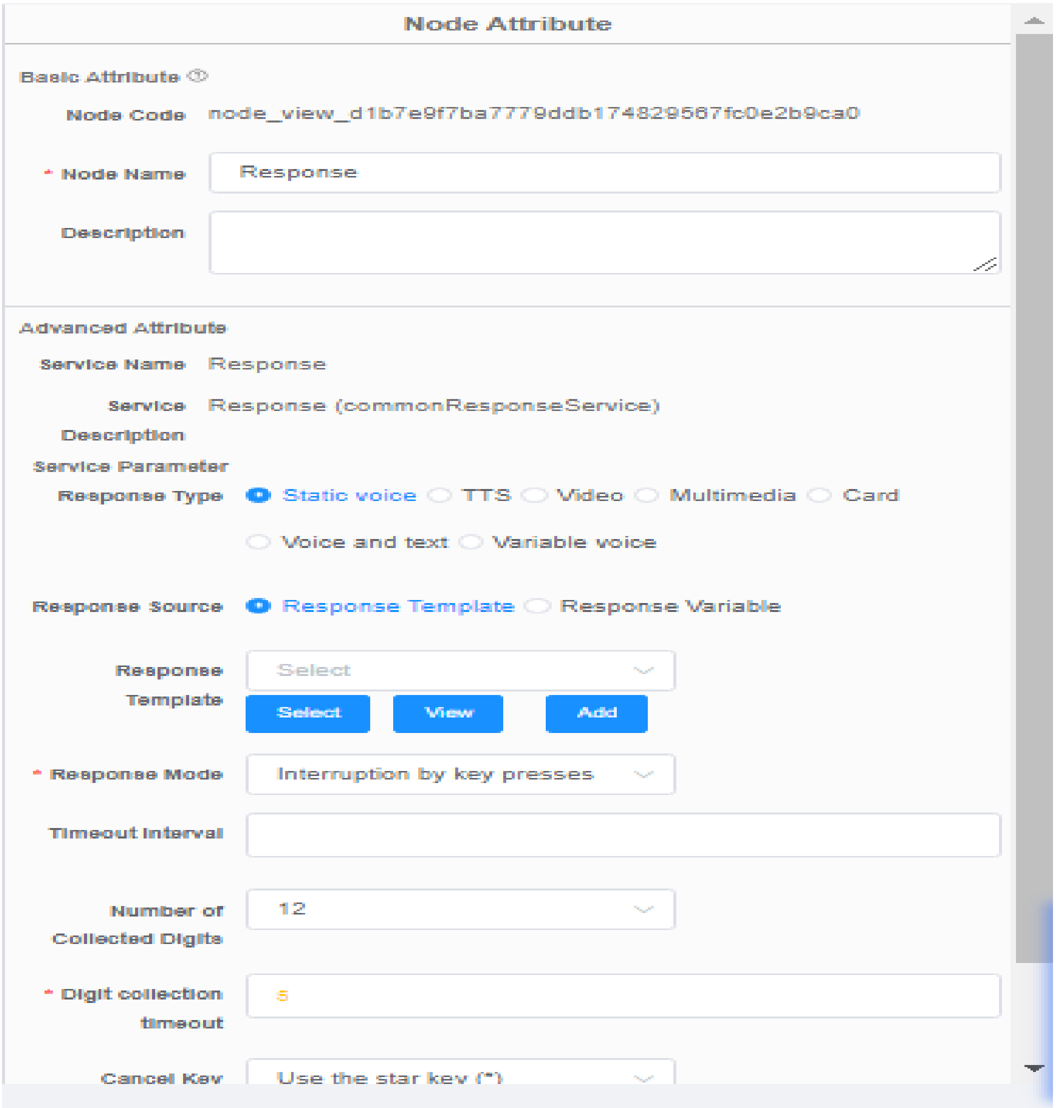


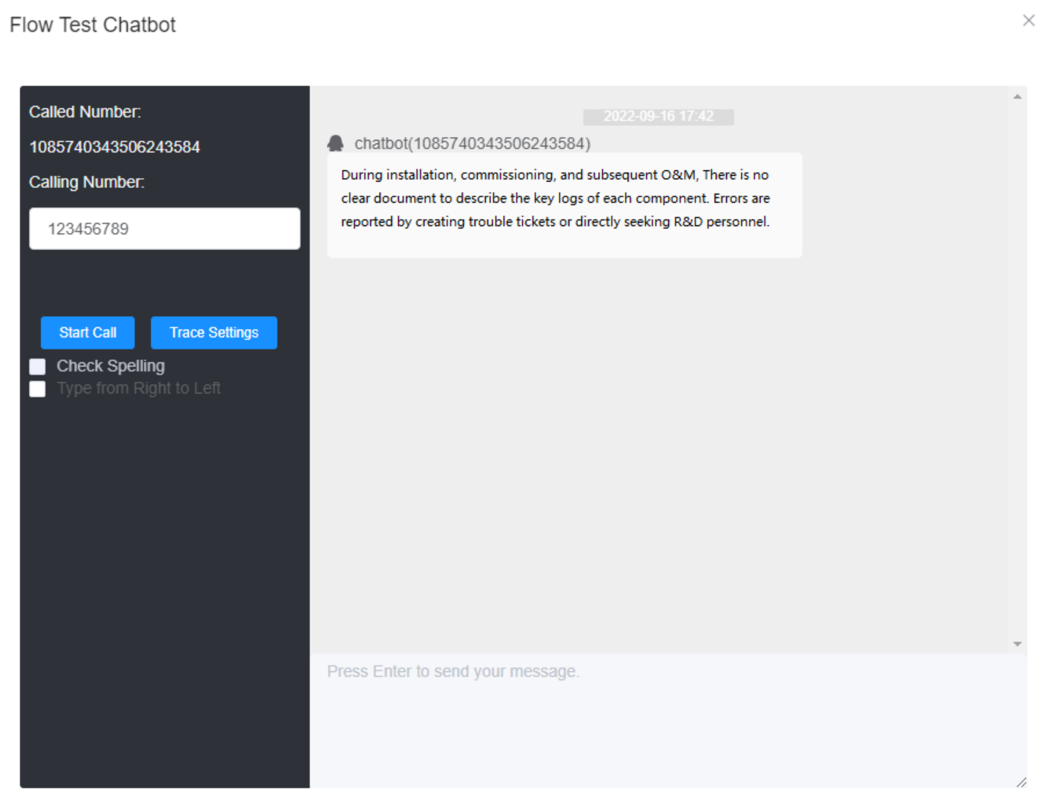
Figure 2-110 Flow orchestration example



3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot automatically answers the variable value in the flow orchestration, the configuration is successful.

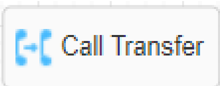


----End

2.6.5.1.5 Call Transfer

The **Call Transfer** diagram element transfers a call to an IVR flow (an existing key pressing flow) or an agent.

Appearance



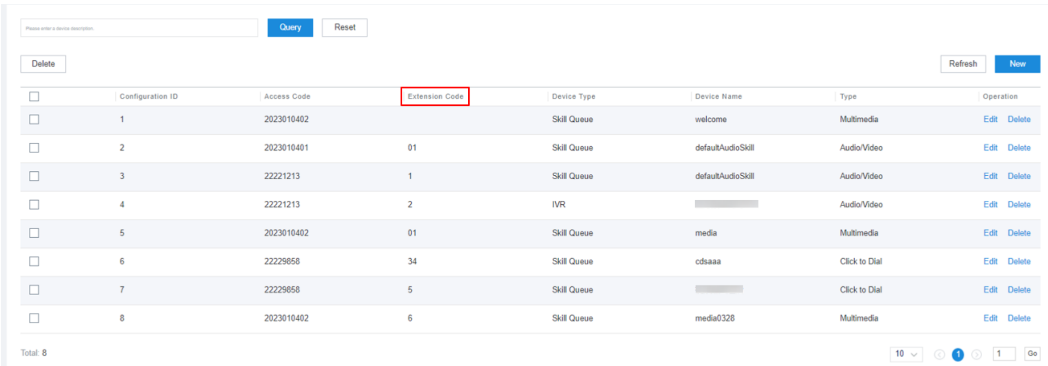
Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Call Transfer Type**: The options are as follows:
  - **1**: transfer to the manual service (to a skill queue by routing code)
  - **2**: transfer to an IVR
  - **3**: transfer to the manual service (to a skill queue by skill name)

- **4**: transfer to the manual service (to an agent by ID)
- **5**: transfer to a third-party number
- **6**: online digital assistant
- **7**: transfer to the manual service (to the last agent, only multimedia is supported currently)
- **8**: transfer to the manual service (to the skill queue to which an agent belongs, only multimedia is supported currently)
- **31**: transfer to a multimedia message (to the last agent)
- **32**: transfer to a multimedia message (to a skill queue)
- **33**: transfer to a multimedia message (to an agent)

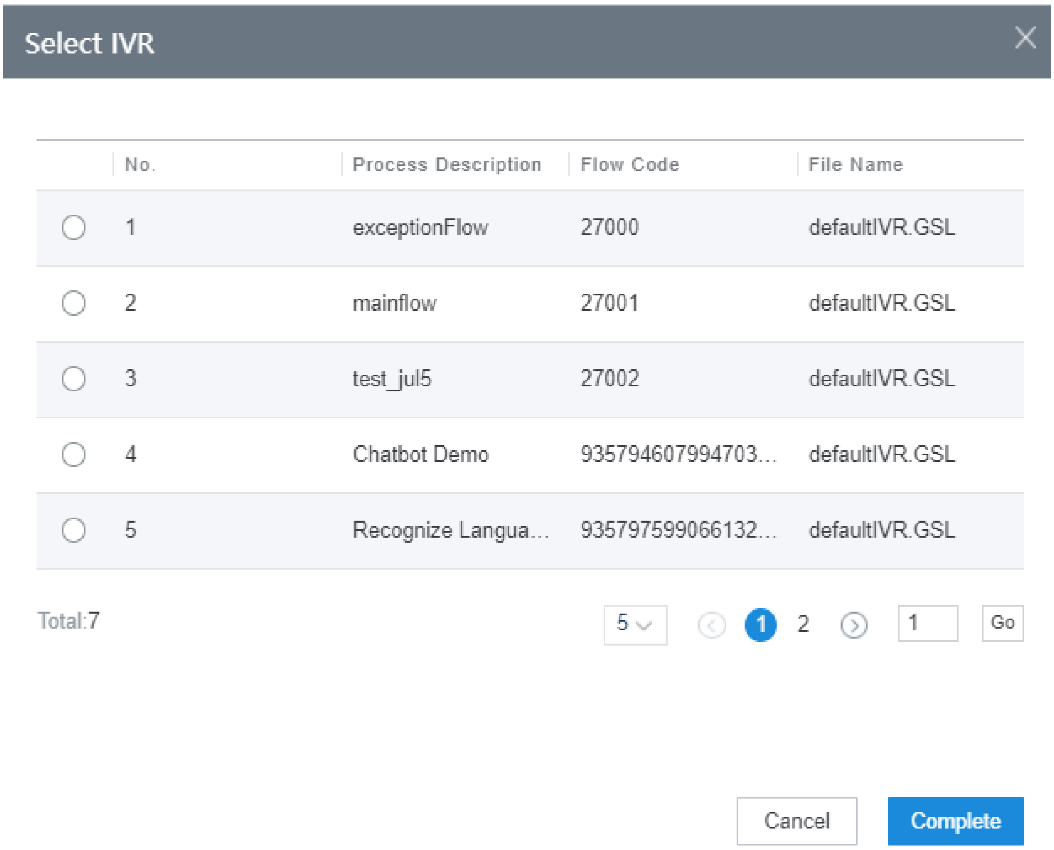
- **Call Transfer Route Value**: Select a value from the drop-down list box.
  - If **Call Transfer Type** is set to **1** (transfer to the manual service (to a skill queue by routing code)), set this parameter to the extension code for transferring to a skill queue. For this configuration, you need 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 Route** page.

Figure 2-111 Extension Code



  - If **Call Transfer Type** is set to **2** (transfer to an IVR), set this parameter to the IVR flow access code.

    The following figure shows the IVR flow access code in the AICC integration deployment mode.



- If **Call Transfer Type** is set to **3** (transfer to the manual service (to a skill queue by skill name)), set this parameter to the name of the skill queue where the agent to whom the call is transferred resides, for example, **Agent Group 1**.
- If **Call Transfer Type** is set to **4** (transfer to the manual service (to an agent by ID)), set this parameter to the platform employee ID of the agent to whom the call is transferred.
- If **Call Transfer Type** is set to **5** (transfer to a third-party number), set this parameter to the third-party number.
- If **Call Transfer Type** is set to **6** (online digital assistant), set this parameter to the flow route code agreed with the third-party intelligent system.
- If **Call Transfer Type** is set to **7** (transfer to the manual service (to the last agent, only multimedia is supported currently)), you do not need to set this parameter.
- If **Call Transfer Type** is set to **8** (transfer to the manual service (to the skill queue to which an agent belongs, only multimedia is supported currently)), set this parameter to the platform employee ID or variable corresponding to the agent to whom the call is transferred.
- If **Call Transfer Type** is set to **31** (transfer to a multimedia message (to the last agent)), you do not need to set this parameter.
- If **Call Transfer Type** is set to **32** (transfer to a multimedia message (to a skill queue)), set this parameter to the name or access code of the skill queue where the agent to whom the call is transferred resides.

– If **Call Transfer Type** is set to **33** (transfer to a multimedia message (to an agent)), set this parameter to the platform employee ID or variable corresponding to the agent to whom the call is transferred.

- **Associated Data**: Generally, call-associated data is used when a call is transferred to the manual service or an IVR. If a call is transferred to a third-party number, call-associated data cannot be transferred. It can be in JSON format (flow variables and global variables are supported).
  – The format of call-associated data is as follows (customize the italic part):
```
{"xx": "aaa" , "yy":"bbb"}
```
  – If **Call Transfer Type** is set to **3** (transfer to the manual service (to a skill queue by skill name)), the format of call-associated data is as follows (customize the italic part and retain other parts):
```
{
  "wait": "Y",
  "data": {
    "xx": "aaa",
    "yy": "bbb"
  }
}
```
  – If **Call Transfer Type** is set to **7** (transfer to the manual service (to the last agent, only multimedia is supported currently)), the format of call-associated data is as follows (customize the italic part and retain other parts):
```
{
  "wait": "Y",
  "data": {
    "xx": "aaa",
    "yy": "bbb"
  },
  "isSpecifyAccessCode": "true",
  "type": "1",
  "time": "30",
  "starttime": ""
}
```
  – If **Call Transfer Type** is set to **32** (transfer to a multimedia message (to a skill queue)), call-associated data can be configured, which must be in JSON format.

    A JSON format example is as follows:

    {"wait":"Y"}

    wait can be set to **Y** (uppercase) or others.

    The value **Y** (uppercase) indicates that when an offline message in a multimedia channel is transferred to a skill queue in the intelligent IVR, if all agents in the skill queue are busy, the message can wait in the skill queue until the session times out.

    Other values indicate that when an offline message in a multimedia channel is transferred to a skill queue in the intelligent IVR, if all agents in the skill queue are busy, the message cannot wait in the skill queue.

  The parameters are described as follows:

  – **wait**: whether to enable call queuing in a skill queue during routing. The default value is **N**. The value **Y** indicates that the call is queuing upon a transfer failure, and the current flow ends after the transfer is successful. The value **N** indicates that the call is directly disconnected when all agents are busy.

- **data**: call-associated data carried during call transfer from an intelligent IVR to the manual service
- **isSpecifyAccessCode**: This parameter is valid only in last agent mode. In this mode, set this parameter to **true**, indicating that the call is transferred to the current channel.
- **type**: last agent type for query. This parameter is valid only in last agent mode. The options are **1** (agents within the specified minutes), **2** (agents within the specified time range), and **3** (agents on the current day).
- **time**: duration, in minutes. This parameter is valid only in last agent mode and when **type** is set to **1**.
- **starttime**: start time for querying the last agent. This parameter is valid only in last agent mode and when **type** is set to **2**. The format is *yyyy-MM-dd HH:mm:ss*.

To obtain the customer type field, set the transferred parameter to **customerEntityName** and set the parameter value to **account** or **contact**.

- **Calling Number**: When **Call Transfer Type** is set to **5** (transfer to a third-party number), the value of this parameter is used as the calling number.
- **Recording**: This check box is displayed only when **Call Transfer Type** is set to **5** (transfer to a third-party number). 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 **Customer Contact History** > **Process Transfer Record** page.

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 **Call Transfer Type** and **Call Transfer Route Value** as prompted.

Typical Application Scenario

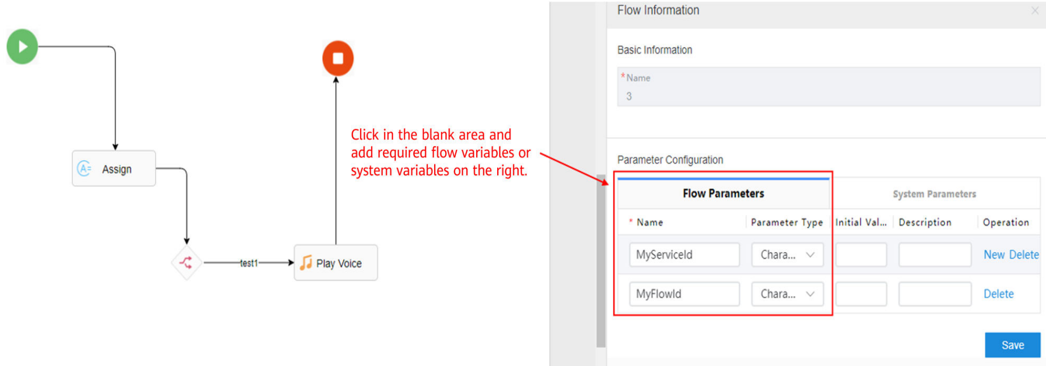
The following describes how to use the **Call Transfer** diagram element to transfer a call from an intelligent IVR flow to a common IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC.

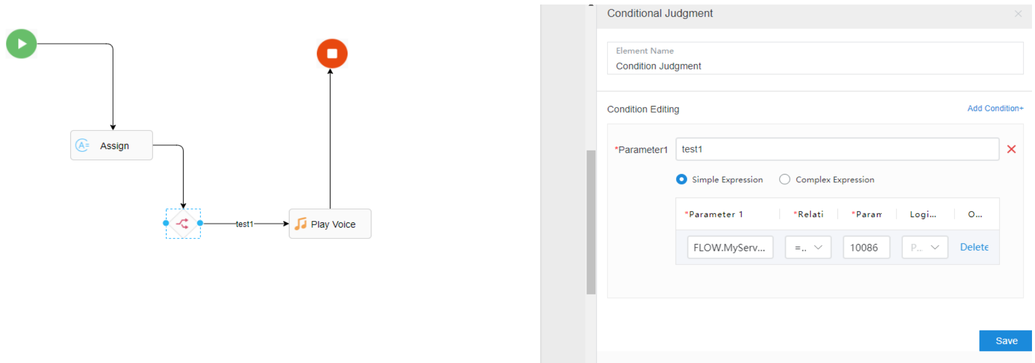
Step 2 Configure a common IVR flow.

1. Choose **IVR Management** > **Flow Management** and add a common IVR flow.

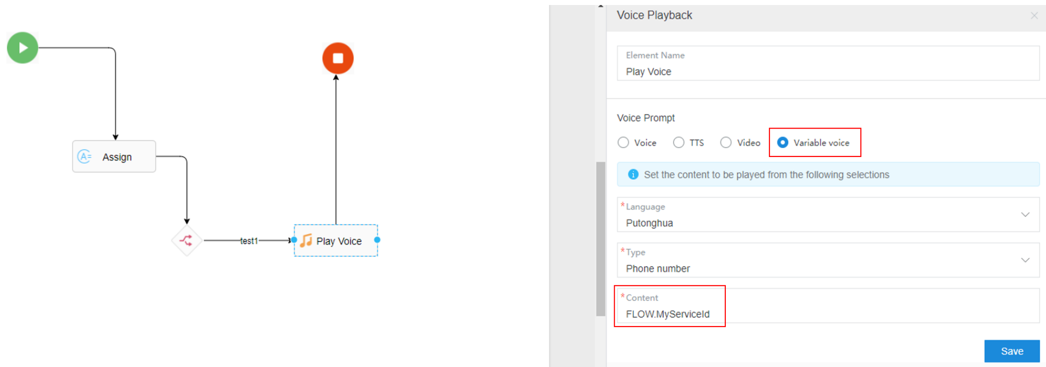
2. Add flow variables, as shown in the following figure, and configure an **Assign** diagram element.



3. Configure a **Condition Judgement** diagram element for conditional judgment based on the call-associated data.



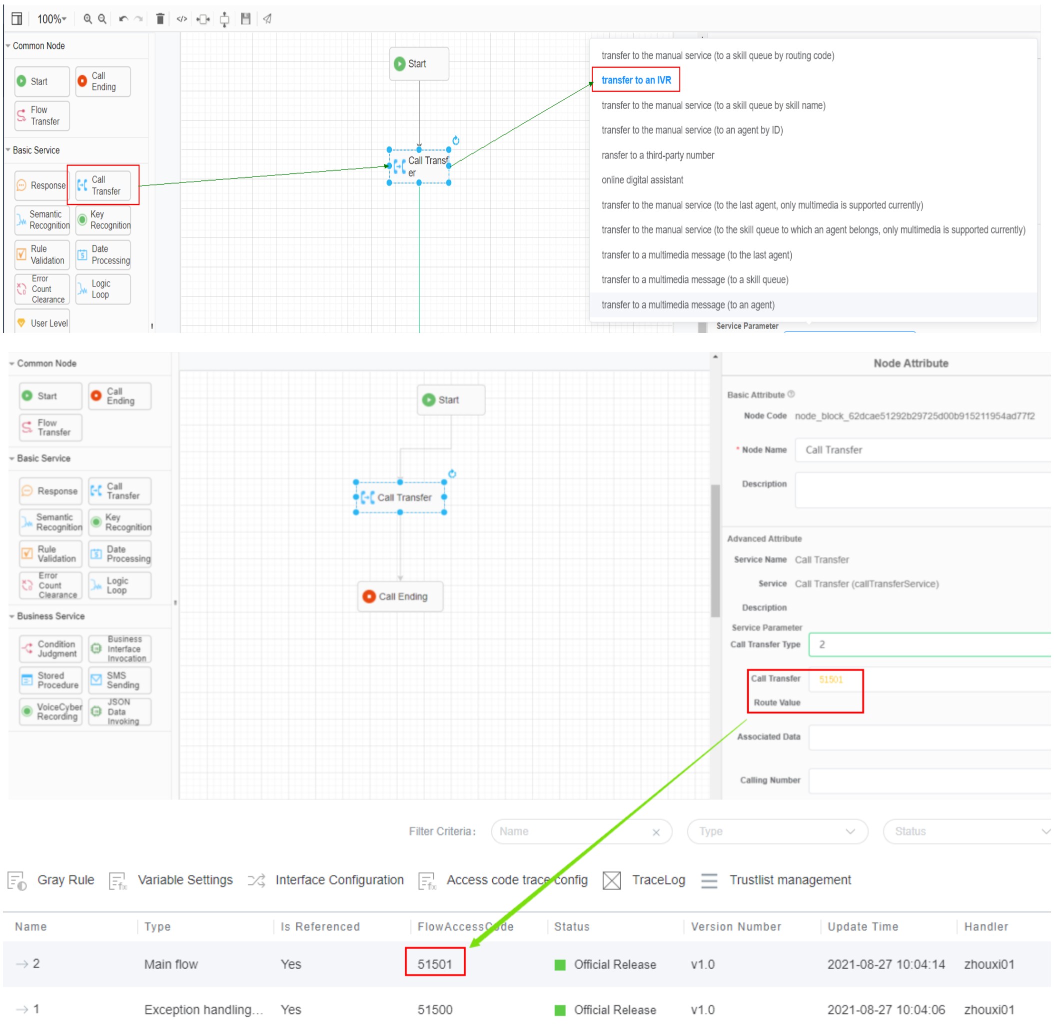
4. Configure a **Play Voice** diagram element for playing a variable voice.



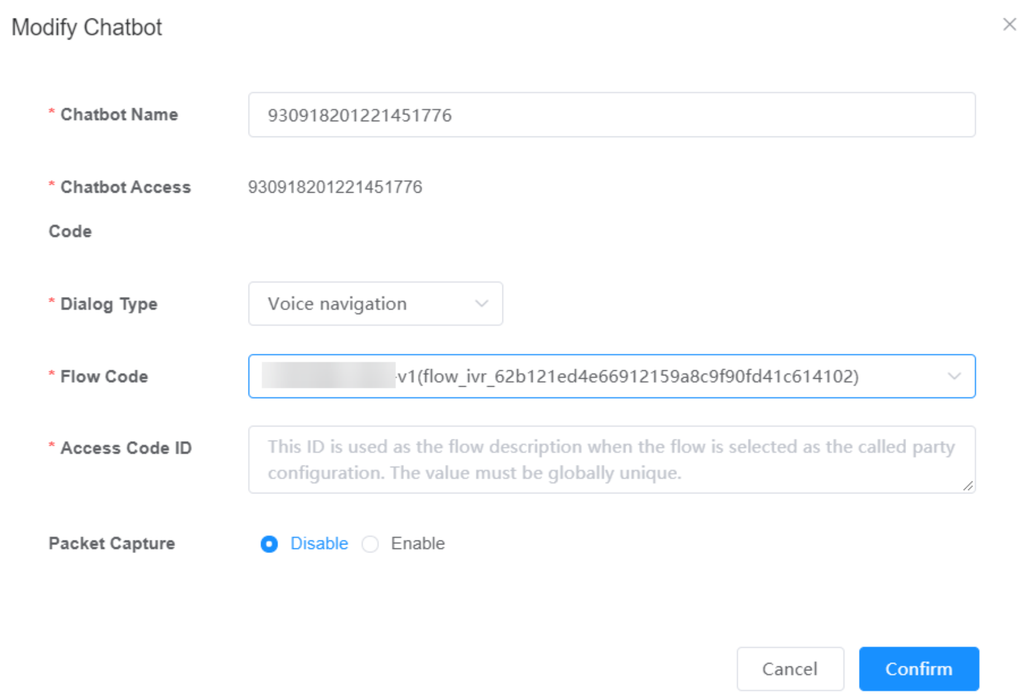
5. Save and release the flow.

Step 3 Configure an intelligent IVR flow.

1. Choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.
2. Choose **Flow Management** > **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.



3. Save and release the flow.
4. Choose **Chatbot Management** and bind the flow to a chatbot.



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Route** and add a called route. Set the IVR to the intelligent IVR added in **Step 3**.

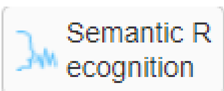
Step 5 Log in to the OpenEye and dial the access code added on the **Called Route** page. If "10086" is heard, the call-associated data (**service_id**: **10086**) transferred by the intelligent IVR is successfully obtained.

----End

2.6.5.1.6 Semantic Recognition

The **Semantic Recognition** diagram element submits customer voices to the TUC dialog engine for intention matching.

Appearance



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Context**: used to filter intention templates to be matched to improve the matching speed.
- **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 template 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 intention templates can be returned. The value needs to be a positive integer.
- **Confidence Interval**: maximum execution 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.

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

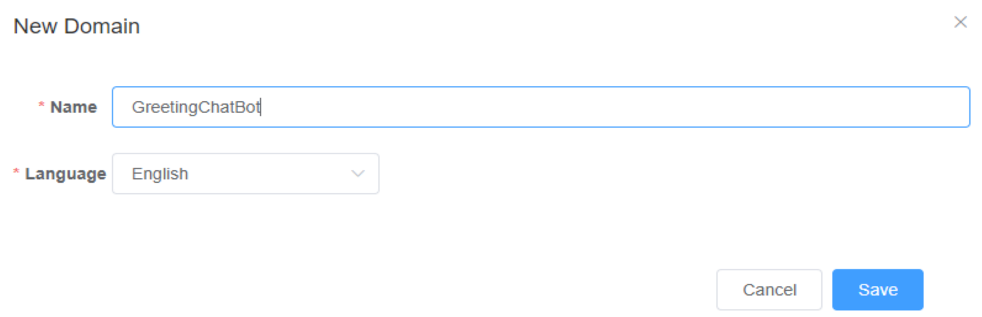
The following describes how to use the **Semantic Recognition** diagram element to interact with a chatbot.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure a domain and an intention.

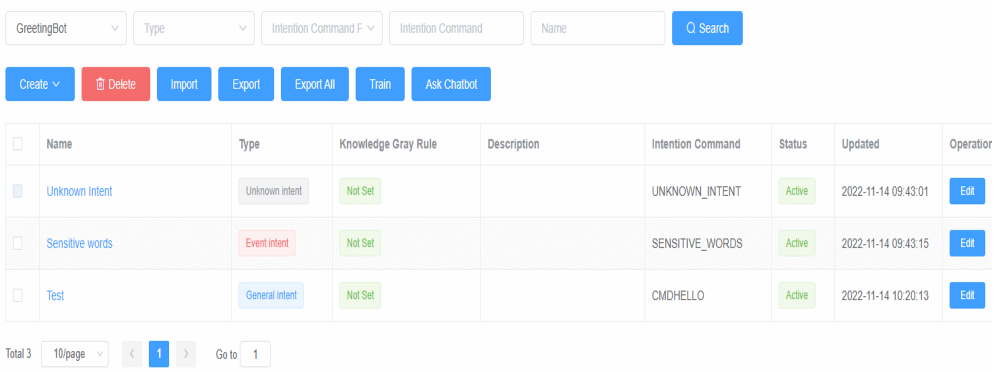
1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

Figure 2-112 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 2-113 Creating an intention



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 chatbot, the customer hears that the chatbot says "Hello". After the customer says "Hello", the chatbot recognizes the customer voice and says "Hello" again.

1. Choose **Flow Management** > **Flow Orchestration** and click **Add** 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. 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, **Intent not identified**) when the semantics are not identified.

Figure 2-114 Adding a flow variable

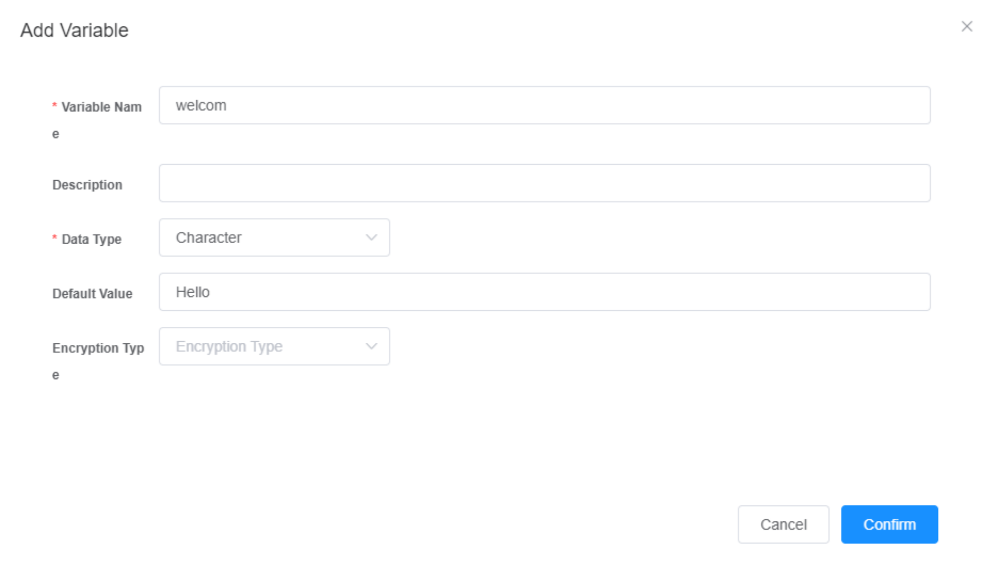
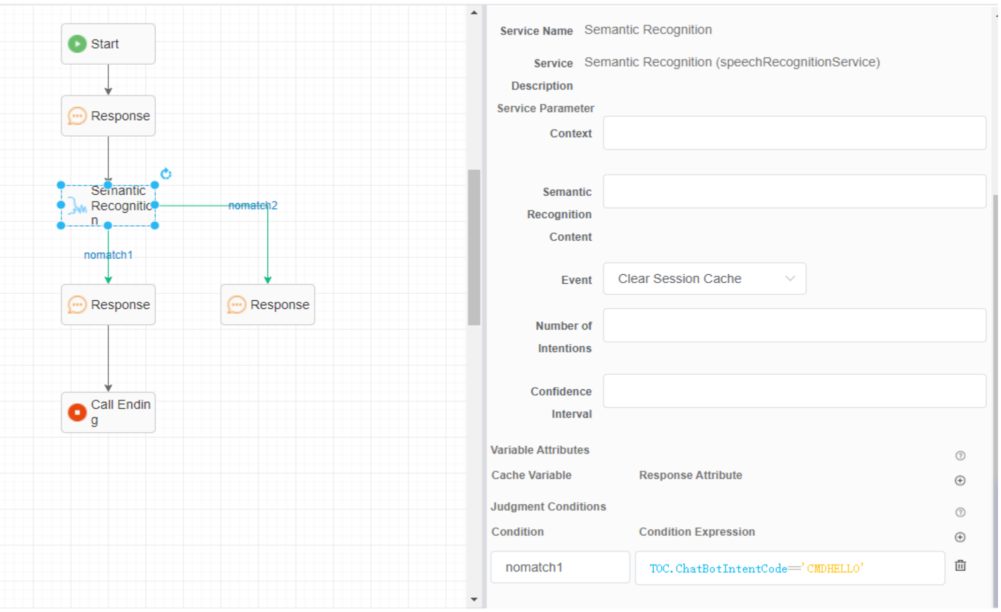


Figure 2-115 Flow orchestration example



- Use the response variable **FLOW.ChatBotRespContent** for the **Response** diagram element below the **Semantic Recognition** diagram element to reply "Hello" to the customer after the customer says "Hello".
- Use the response variable **default** for the **Response** diagram element on the right of **Semantic Recognition** diagram element to reply "Intent not identified" when no "Hello" said by the customer is matched.

3. Save and release the flow.

Step 4 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 5 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **More** and choose **Bind Domain** to bind an active domain.

Step 6 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. Enter "Hello". If the chatbot replies "Hello", semantic recognition is successful.

----End

2.6.5.1.7 Key Recognition

The **Key Recognition** diagram element recognizes keys pressed by customers. For example, a customer uses this diagram element when entering a password for identity verification.

Appearance

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, you can select **Validate month input** to verify whether the entered month is in the *yyyyMM* format.
  - **Validate mobile number format (with # and *)**
    i. * — MAIN branch
    ii. # — CURRENT branch
    iii. 11-digit mobile 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 mobile number ending with a number sign (#) and starting with 1340 to 1348 — ValueCheck branch
  - **Validate mobile number format (without # or *)**
    i. 11-digit mobile 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 mobile 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 phone number — ValueCheck branch

– **Validate mobile number (with *)**

i. * — MAIN branch
ii. 11-digit phone 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 the *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 intention templates 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 **Response** diagram element (when **Response 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.

Typical Application Scenario

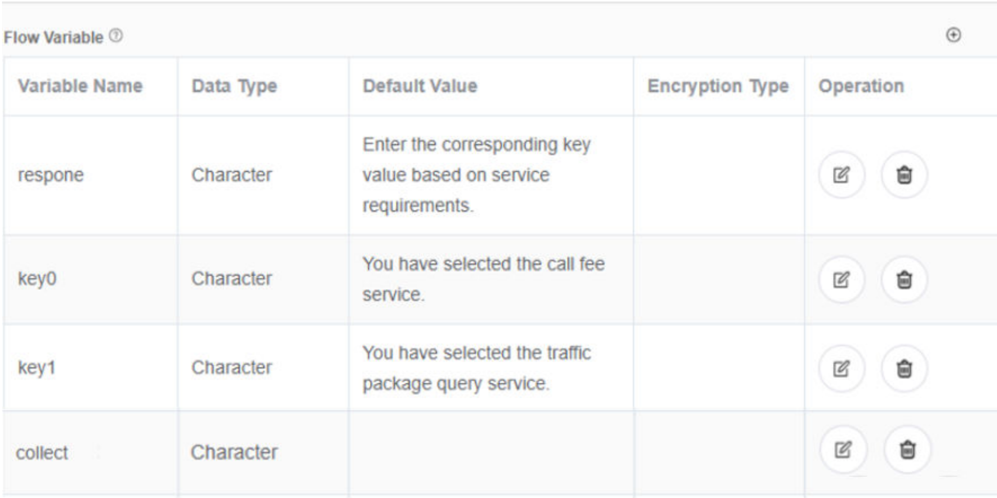
The following describes how to use the **Key Recognition** diagram element to enable customers to select a business to be handled by pressing a key.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **Flow Orchestration** and click **Add** 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 2-116 Flow variables to be added



Flow Variable

Variable Name	Data Type	Default Value	Encryption Type	Operation
respone	Character	Enter the corresponding key value based on service requirements.		
key0	Character	You have selected the call fee service.		
key1	Character	You have selected the traffic package query service.		
collect	Character			

Figure 2-117 Flow orchestration example (Key Recognition diagram element)

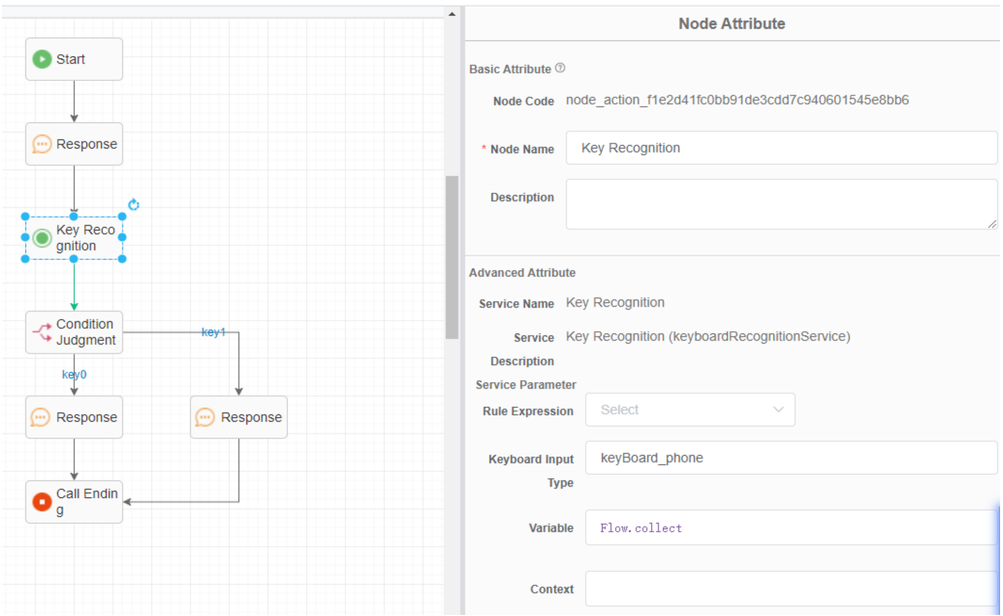
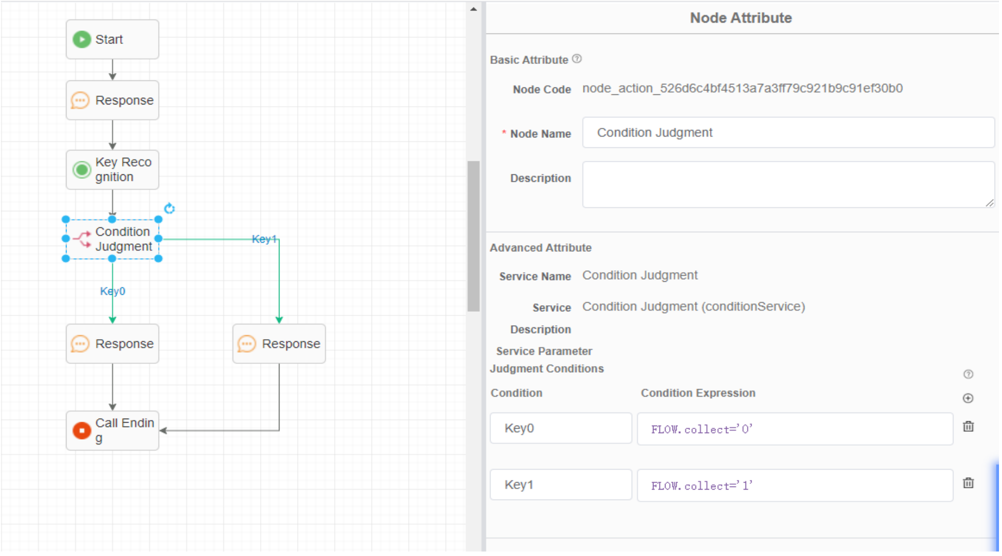


Figure 2-118 Flow orchestration example (Condition Judgment diagram element)



– 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.

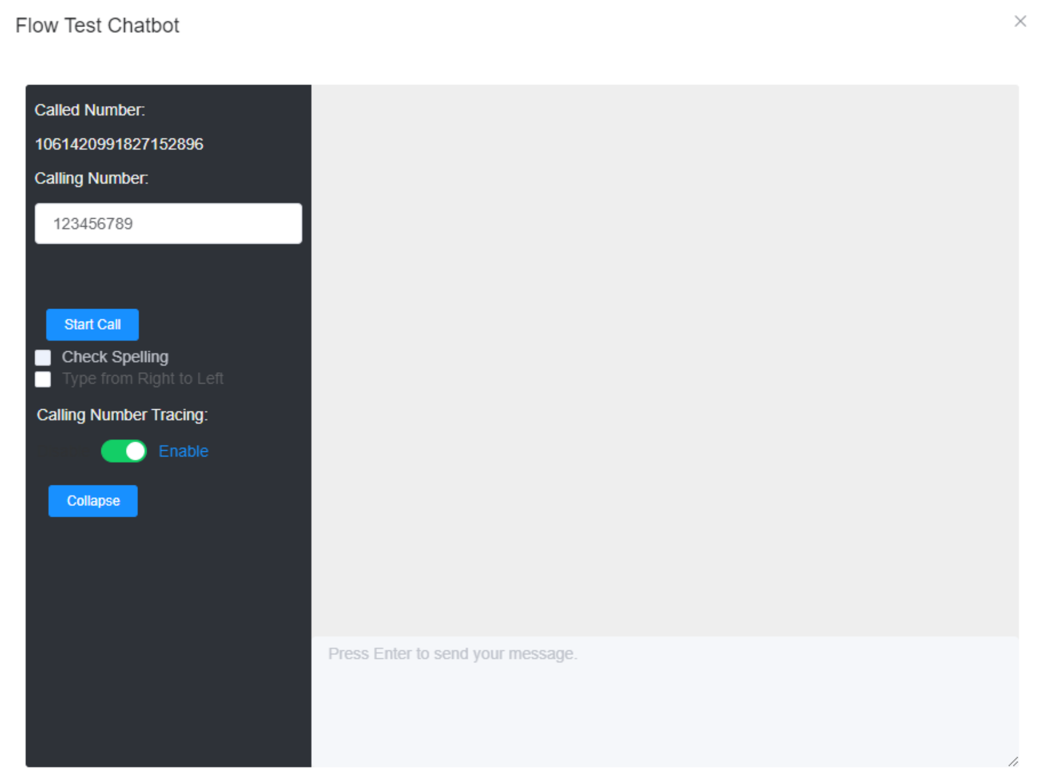
– Use the response variable **FLOW.key1** for the **Response** diagram element of the **Key1** condition branch to reply to the customer that the data package business is selected.

3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot answers different businesses based on different keys pressed by the customer, the configuration is successful.

Figure 2-119 Testing the chatbot

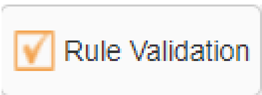


----End

2.6.5.1.8 Rule Validation

The **Rule Validation** diagram element verifies the customer input or output based on rules.

Appearance



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, you can select **Validate month input** to verify whether the entered month is in the *yyyyMM* format.
- **Validate mobile number format (with # and *)**

a. * — true branch
b. # — true branch
c. 11-digit mobile 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 mobile number ending with a number sign (#) and starting with 1340 to 1348 — true branch

- **Validate mobile number format (without # or *)**
  a. 11-digit mobile 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 mobile 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
  b. # — true branch
  c. 11-digit phone 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 the *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 intention templates 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 **Rule Validation** 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

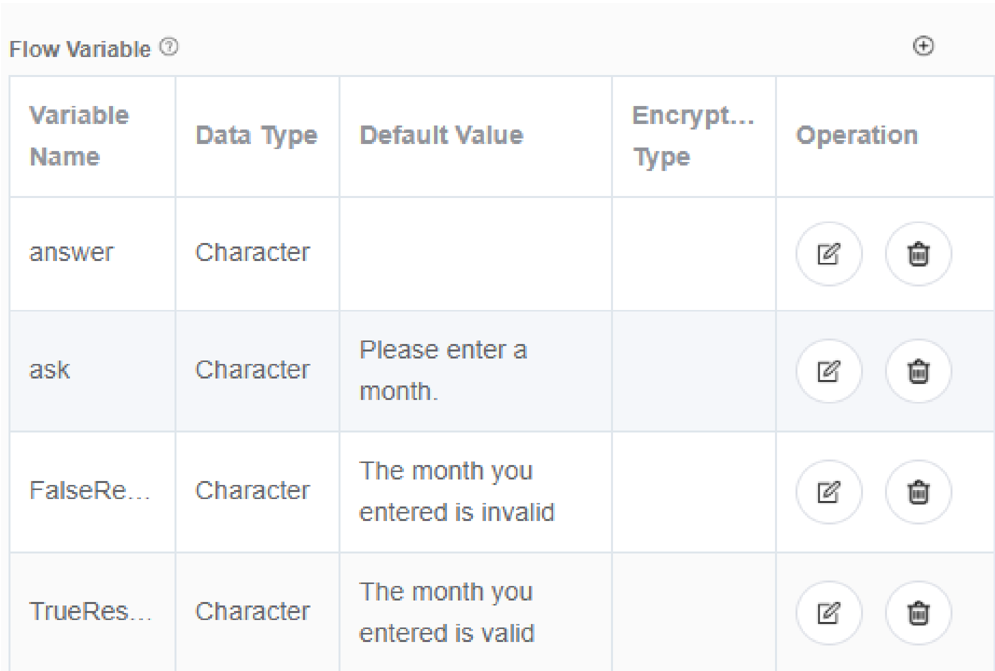
The following describes how to use the **Rule Validation** diagram element to verify whether the customer input is a valid month.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

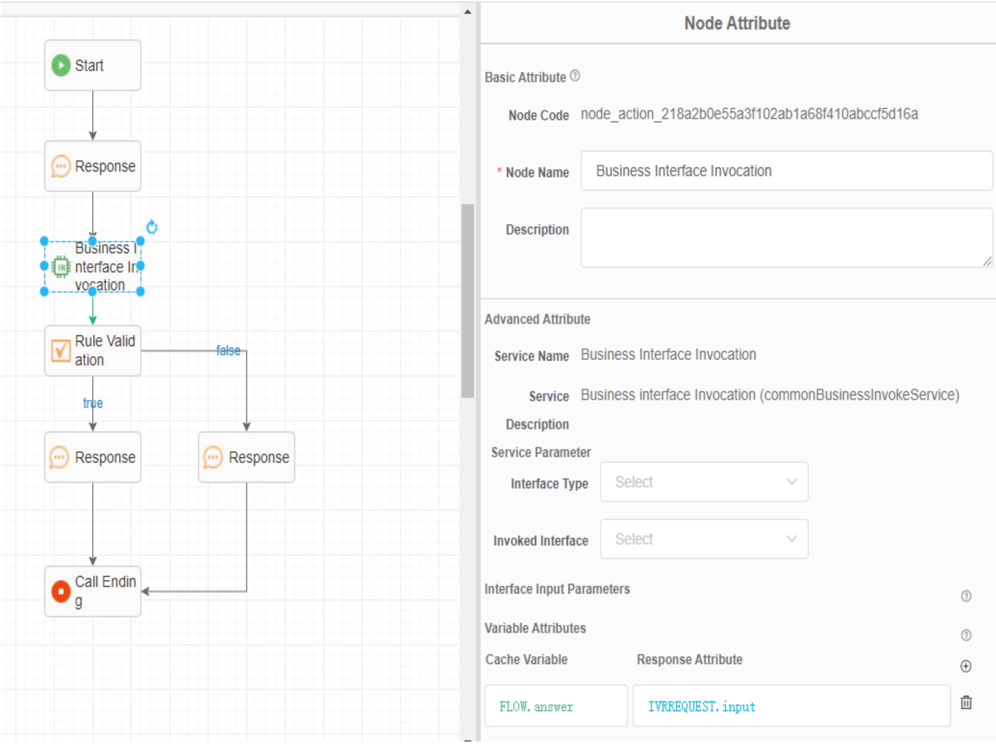
1. Choose **Flow Management** > **Flow Orchestration** and click **Add** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-120 Flow variables to be added


Flow Variable

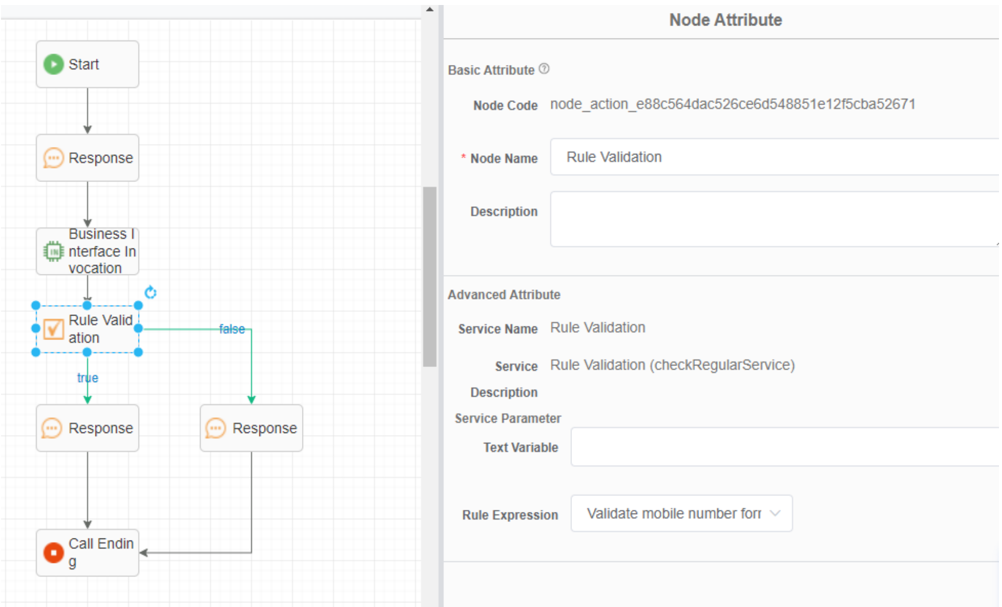
Variable Name	Data Type	Default Value	Encrypt... Type	Operation
answer	Character			
ask	Character	Please enter a month.		
FalseRe...	Character	The month you entered is invalid		
TrueRes...	Character	The month you entered is valid		

Figure 2-121 Flow orchestration example (Business Interface Invocation diagram element)



In this example, the **Business Interface Invocation** diagram element does not invoke an interface. Instead, it is used to assign values to parameters.

Figure 2-122 Flow orchestration example (Rule Validation diagram element)



– For the **false** condition branch of the **Response** diagram element, set **Response Variable** to **FLOW.FalseResponse** to reply to the customer with "The month you entered is invalid".

– For the **true** condition branch of the **Response** diagram element, set **Response Variable** to **FLOW.TrueResponse** to reply to the customer with "The month you entered is valid".

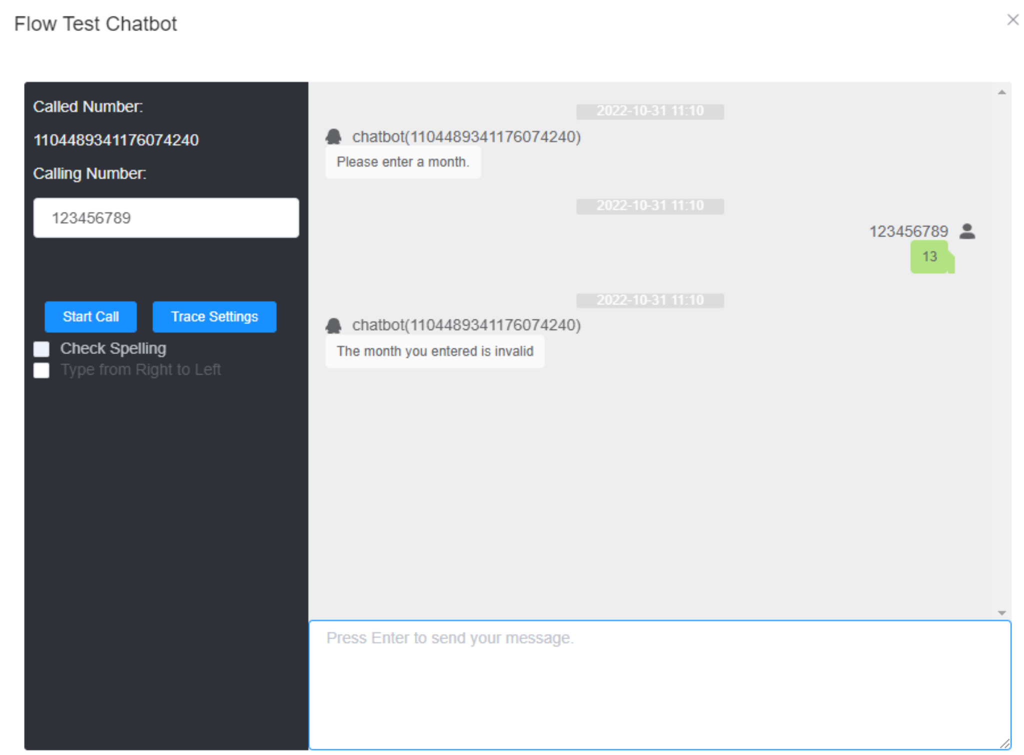
3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot answers that the month is valid or invalid based on the month entered by the customer, the configuration is successful.

Figure 2-123 Testing the chatbot



----End

2.6.5.1.9 Date Processing

The **Date Processing** diagram element offsets 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".

Appearance

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

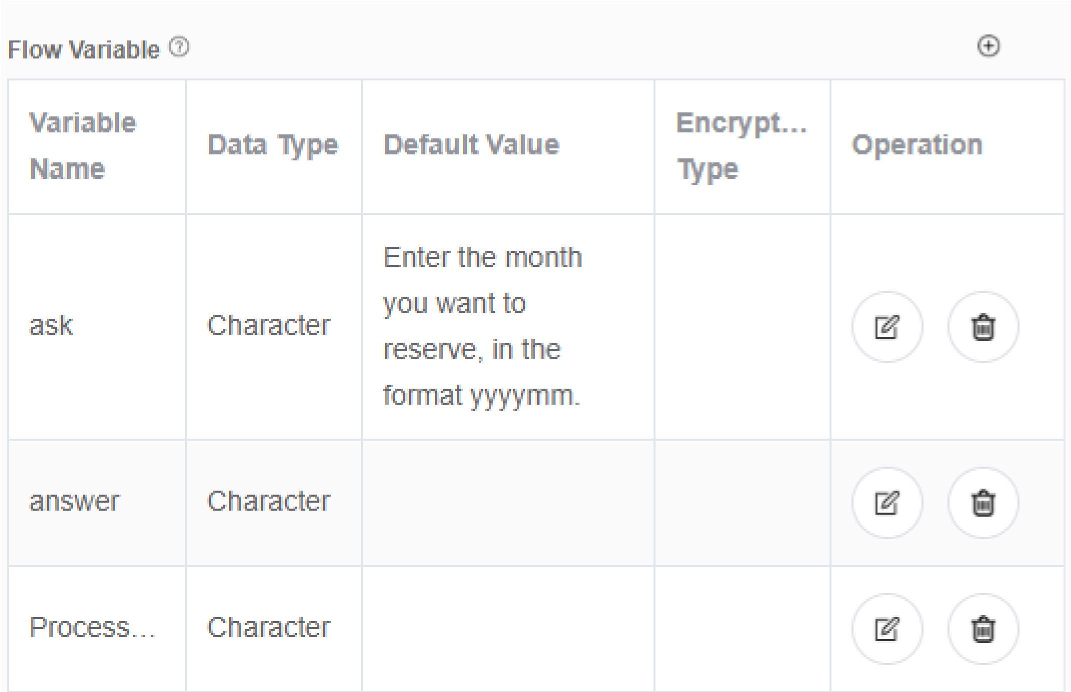
The following describes how to use the **Date Processing** diagram element to offset the month said by a customer backward by one month.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

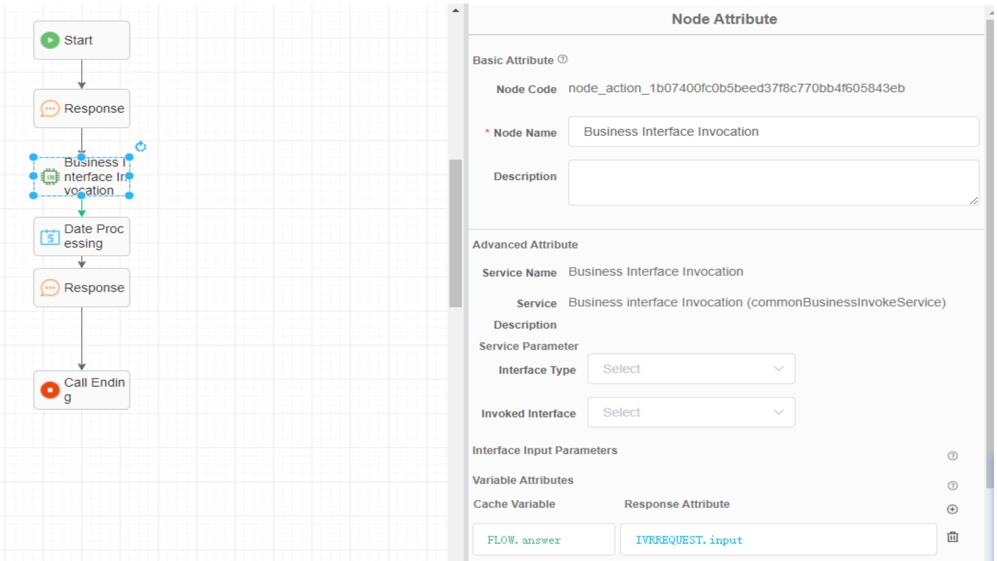
1. Choose **Flow Management** > **Flow Orchestration** and click **Add** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type. The default value of the variable will be played to the customer.

Figure 2-124 Flow variables to be added


Flow Variable

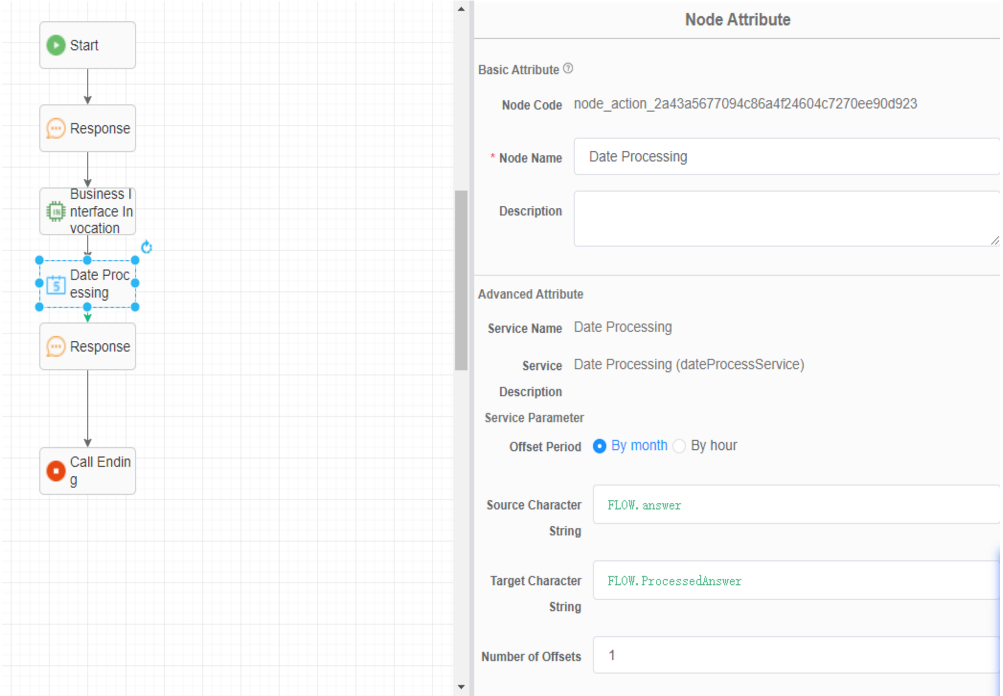
Variable Name	Data Type	Default Value	Encrypt... Type	Operation
ask	Character	Enter the month you want to reserve, in the format yyyymm.		
answer	Character			
Process...	Character			

Figure 2-125 Flow orchestration example (Business Interface Invocation diagram element)



In this example, the **Business Interface Invocation** diagram element does not invoke an interface. Instead, it is used to assign values to parameters.

Figure 2-126 Flow orchestration example (Date Processing diagram element)



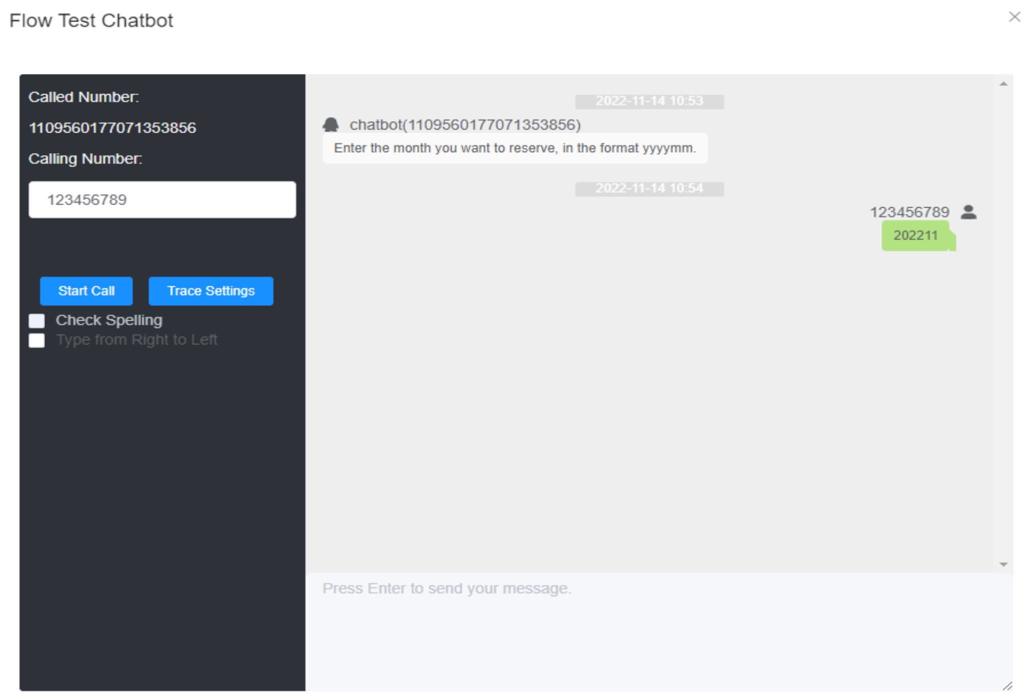
3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot offsets the month entered by the customer one month backward, the configuration is successful.

Figure 2-127 Testing the chatbot

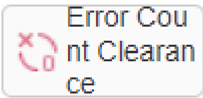


----End

2.6.5.1.10 Error Count Clearance

The **Error Count Clearance** diagram element clears previous error records when a customer needs to be transferred to another flow due to a number of intention matching errors.

Appearance



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.

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.

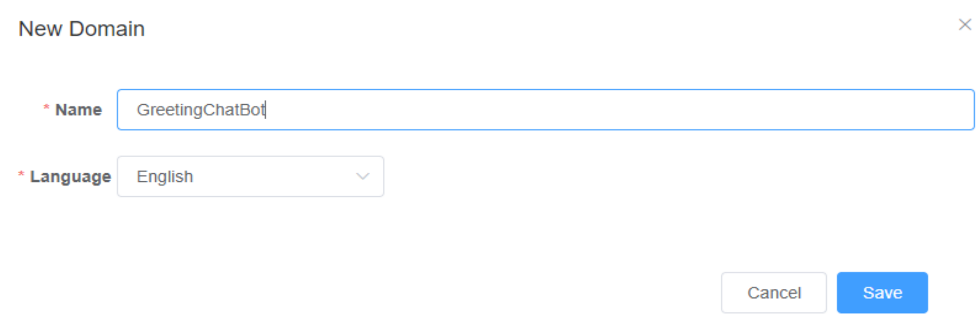
Typical Application Scenario

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure a domain and an intention.

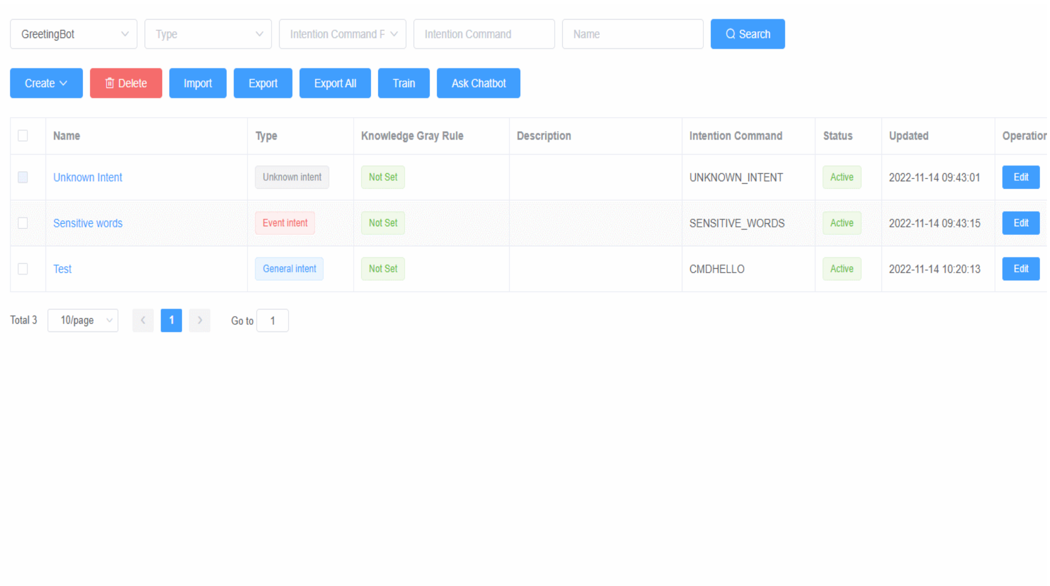
1. Choose **Knowledge Management** > **Domain Management**, click **Create** in the upper right corner, set **Name**, and click **Save**.

Figure 2-128 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 2-129 Creating an intention

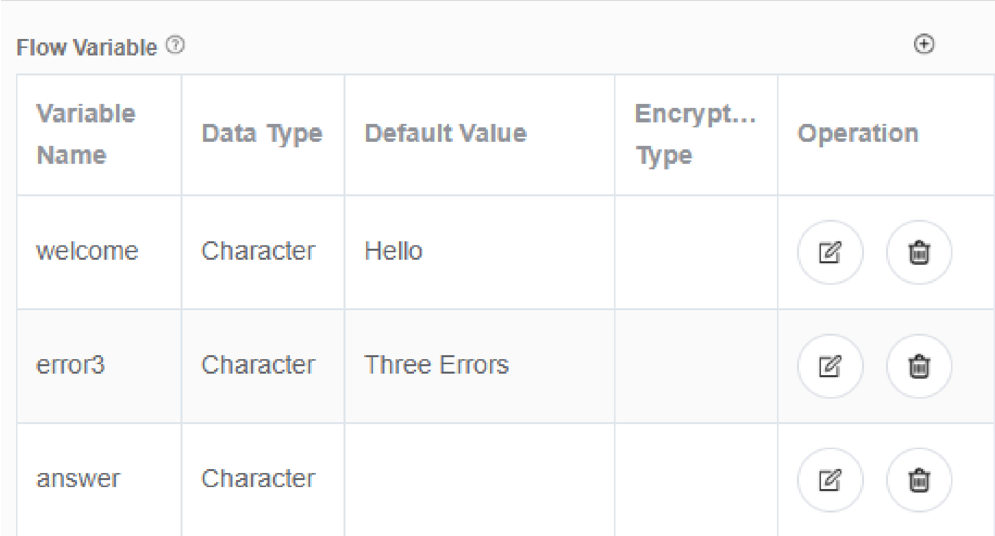


4. Select the new intention and click **Active** to activate the new intention.

Step 3 Configure an intelligent IVR flow.

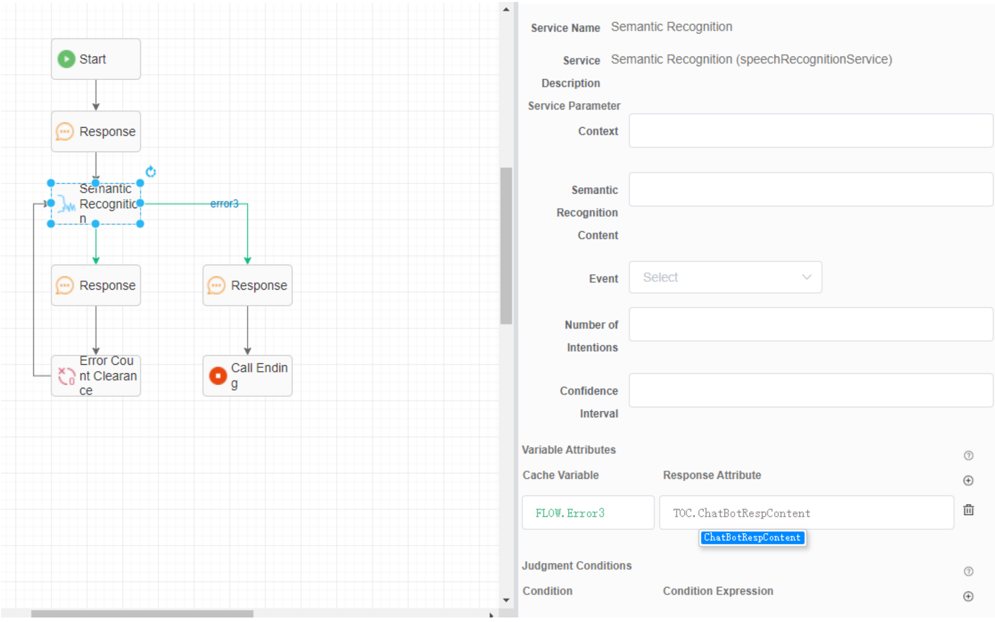
1. Choose **Flow Management** > **Flow Orchestration** and click **Add** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-130 Flow variables to be added


Flow Variable

Variable Name	Data Type	Default Value	Encrypt... Type	Operation
welcome	Character	Hello		
error3	Character	Three Errors		
answer	Character			

Figure 2-131 Flow orchestration example (Semantic Recognition diagram element)



– Use the response variable **FLOW.answer** for the **Response** diagram element below the **Semantic Recognition** diagram element to send the reply to the matched intention.

– Use the response variable **FLOW.error3** for the **Response** diagram element of the **error3** condition branch of the **Semantic Recognition** diagram element to send the reply "Three Errors" for three semantic recognition errors.

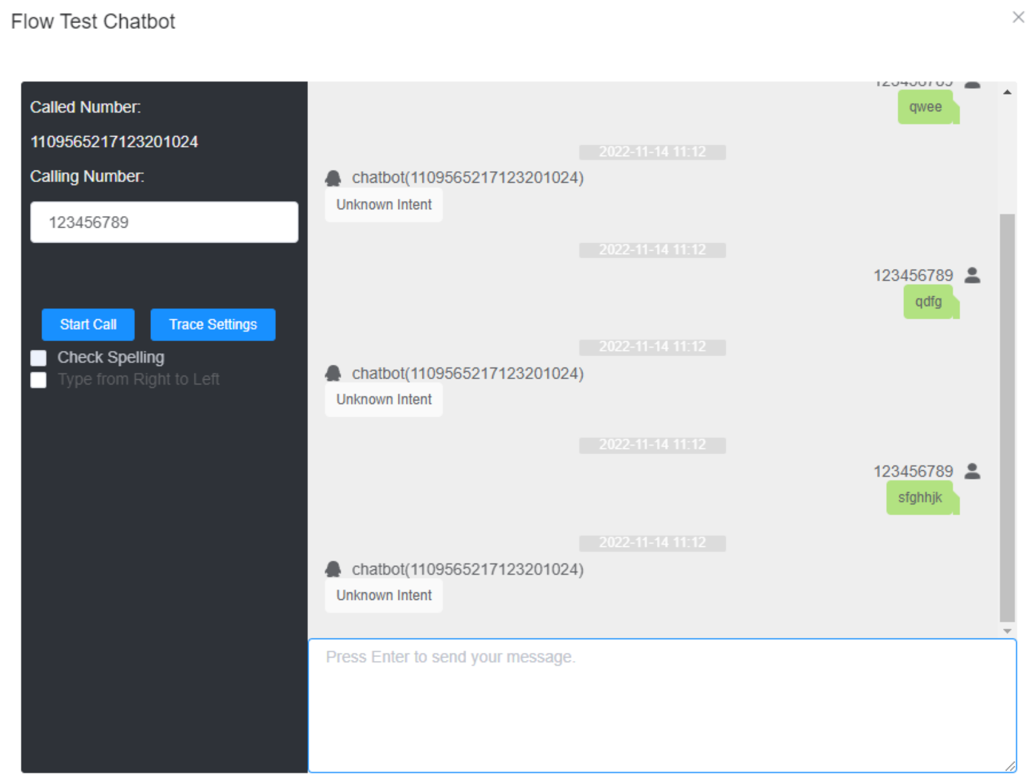
3. Save and release the flow.

Step 4 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 5 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. Enter incorrect corpuses continuously. If the chatbot keeps replying "Unknown intent" and does not reply "Three Errors " for more than three semantic recognition errors, the **Error Count Clearance** diagram element takes effect in the flow.

Figure 2-132 Testing the chatbot

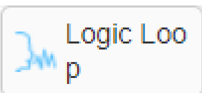


----End

2.6.5.1.11 Logic Loop

The **Logic Loop** diagram element performs an operation on an object repeatedly until a certain condition is met.

Appearance



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.

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

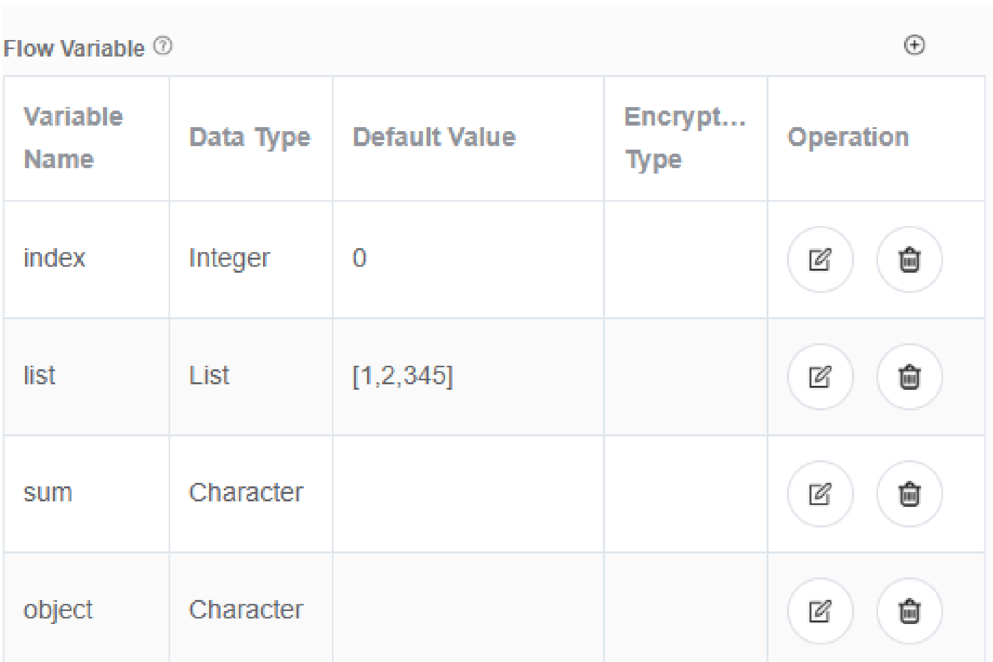
The following describes how to use the **Logic Loop** diagram element to combine strings using a loop.

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 Management** > **Flow Orchestration** and click **Add** 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.

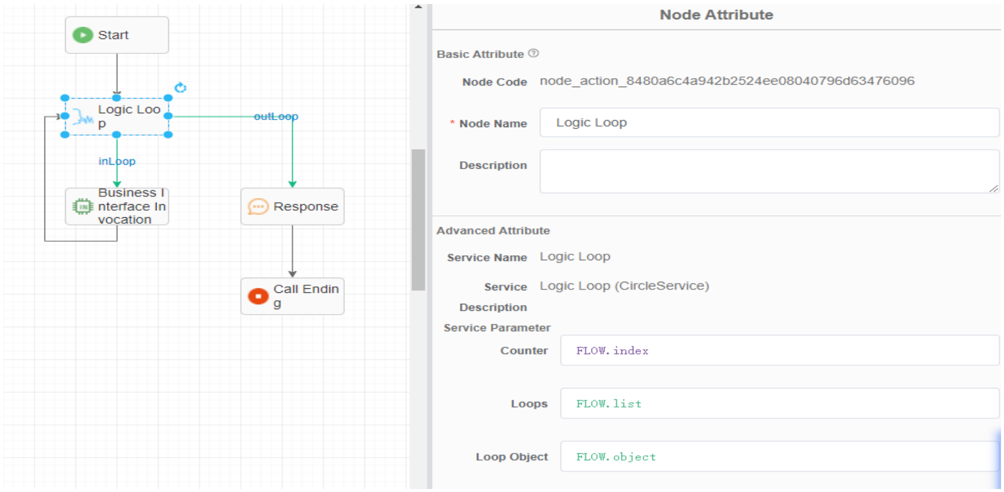
Figure 2-133 Flow variables to be added



Flow Variable

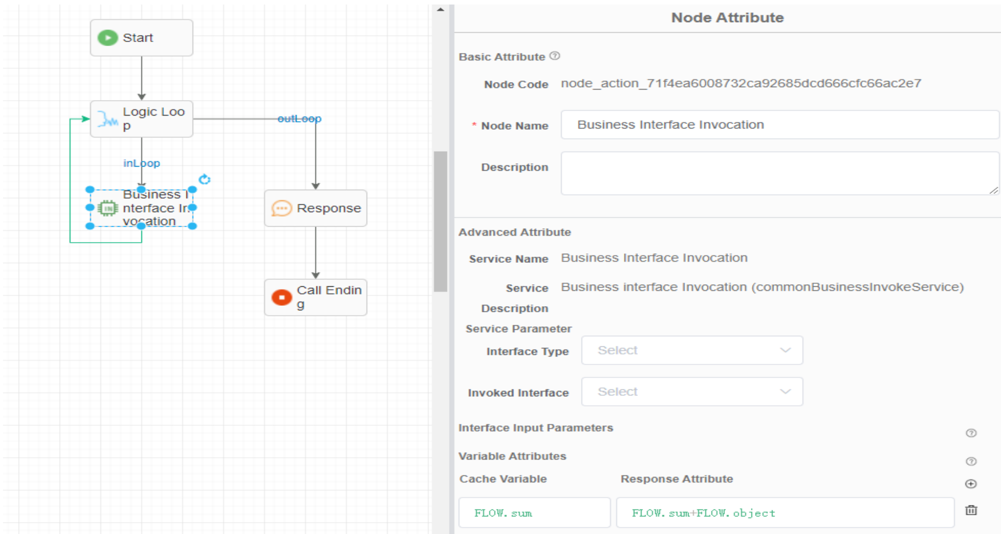
Variable Name	Data Type	Default Value	Encrypt... Type	Operation
index	Integer	0		
list	List	[1,2,345]		
sum	Character			
object	Character			

Figure 2-134 Flow orchestration example (Logic Loop diagram element)



- The **Business Interface Invocation** diagram element of the **inLoop** condition branch combines strings and assigns the value to **FLOW.sum**.
- Use the response variable **FLOW.sum** for the **Response** diagram element of the **outLoop** condition branch to send the combined string after the loop is complete to the customer.

Figure 2-135 Flow orchestration example (Business Interface Invocation diagram element)



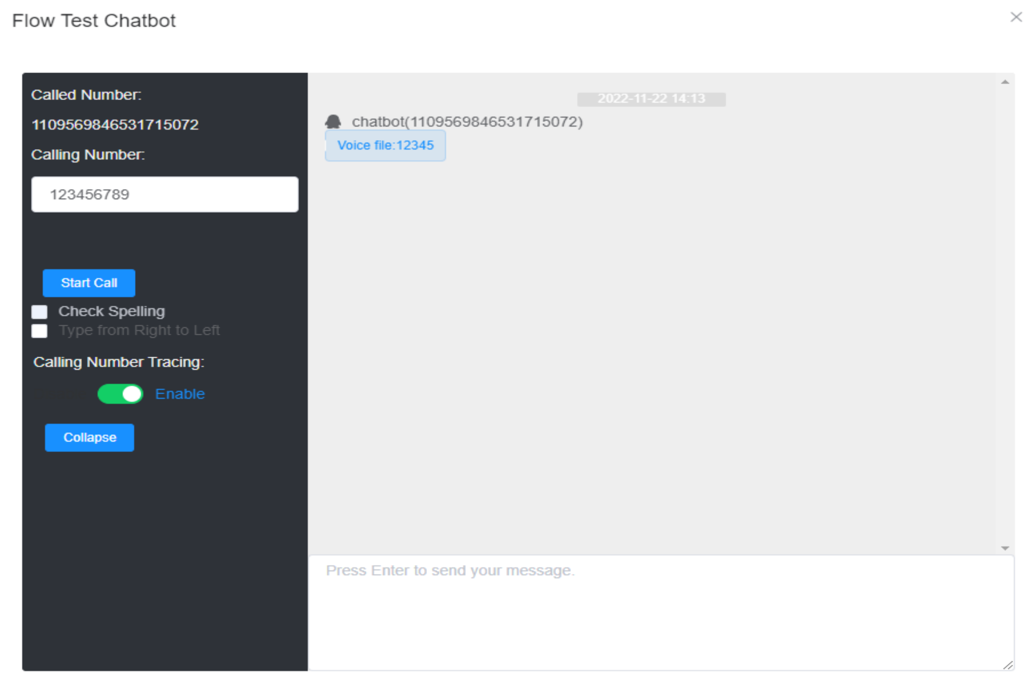
3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot outputs the combined string after the strings in the list are combined, the configuration is successful.

Figure 2-136 Testing the chatbot

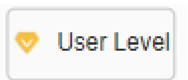


----End

2.6.5.1.12 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.

Appearance



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.

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** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **Flow Orchestration** and click **Add** 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 2-137 Flow variables to be added

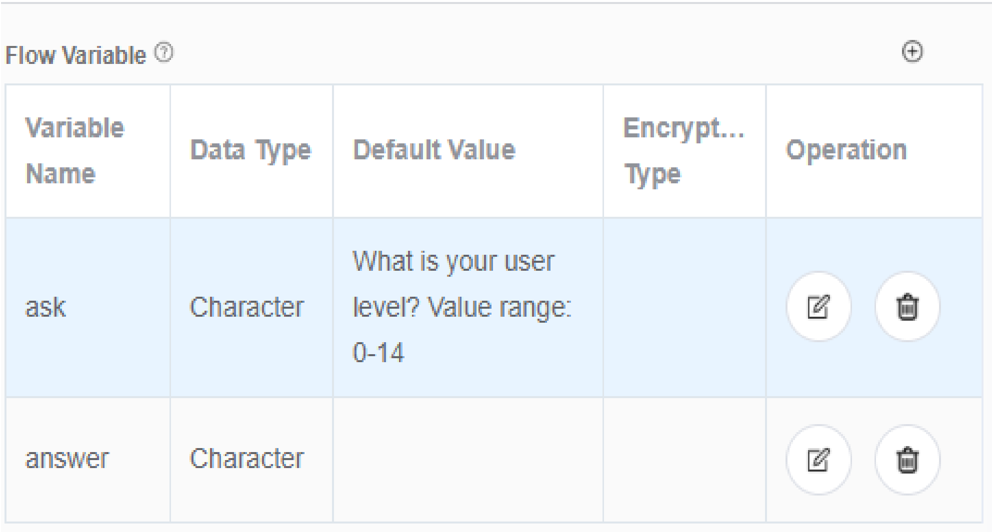


Figure 2-138 Flow orchestration example (User Level diagram element)

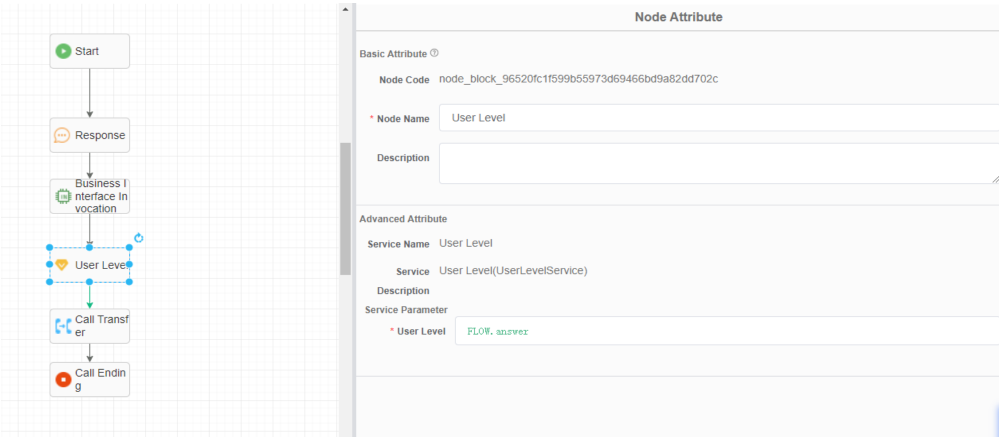
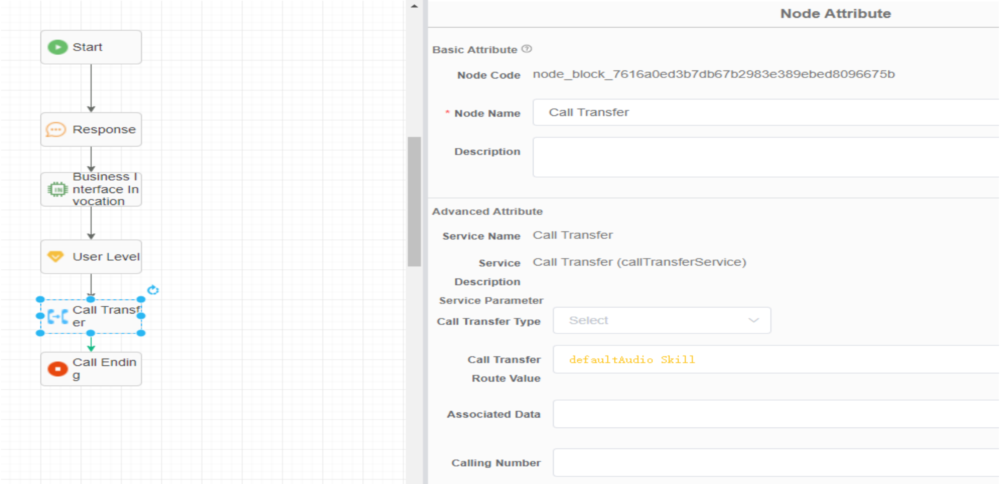


Figure 2-139 Flow orchestration example (Call Transfer diagram element)



3. Save and release the flow.
4. Choose **Chatbot Management** and bind the flow to a chatbot.

Step 3 Choose  > **Call Center Configuration** > **Called Route** 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 Route** 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

2.6.5.1.13 Condition Judgment

The **Condition Judgment** diagram element judges conditions.

Appearance

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Condition** and **Condition Expression**: branches of the exit of the current diagram element.

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 **+** on the right of the **Judgement Conditions** to add a condition expression.

Typical Application Scenario

For details about how to use the **Condition Judgment** diagram element, see **Typical Application Scenario**. The typical application scenario of the **Key Recognition** diagram element involves the **Condition Judgment** diagram element.

2.6.5.1.14 Business Interface Invocation

The **Business Interface Invocation** 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.

Appearance

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**. Currently, there is only one built-in interface **Record Q&A**, which is used to record the survey ID, question title, user reply intention, original user reply, and other information.
- **Invoked Interface**: interface to be invoked. Select an interface added on the **Resource Management** > **Business Interface** page.
- **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.
- **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. Different subsequent flows can be specified for each branch.
- **Method Invocation**: Built-in functions described in **2.6.5.4 Built-in Functions** can be used if data processing, such as truncation, length obtaining, conversion, and check, is required by businesses.

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 Management** > **Business Interface** page in advance. 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

For details about how to use the **Business Interface Invocation** diagram element, see **Typical Application Scenario**. In the typical application scenario of the **Rule Validation** diagram element, the parameter value assignment function of the **Business Interface Invocation** diagram element is used.

2.6.5.1.15 SMS Sending

The **SMS Sending** diagram element invokes an interface for sending SMS messages to send an SMS message based on a template.

Appearance

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **SMS Template**: You can select the SMS template defined under **Resource Management** > **Resource Template**. This function is supported only in the OP independent deployment environment.
- **SMS Content**: If you do not need an SMS template for a simple content, you can enter the content here.

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.

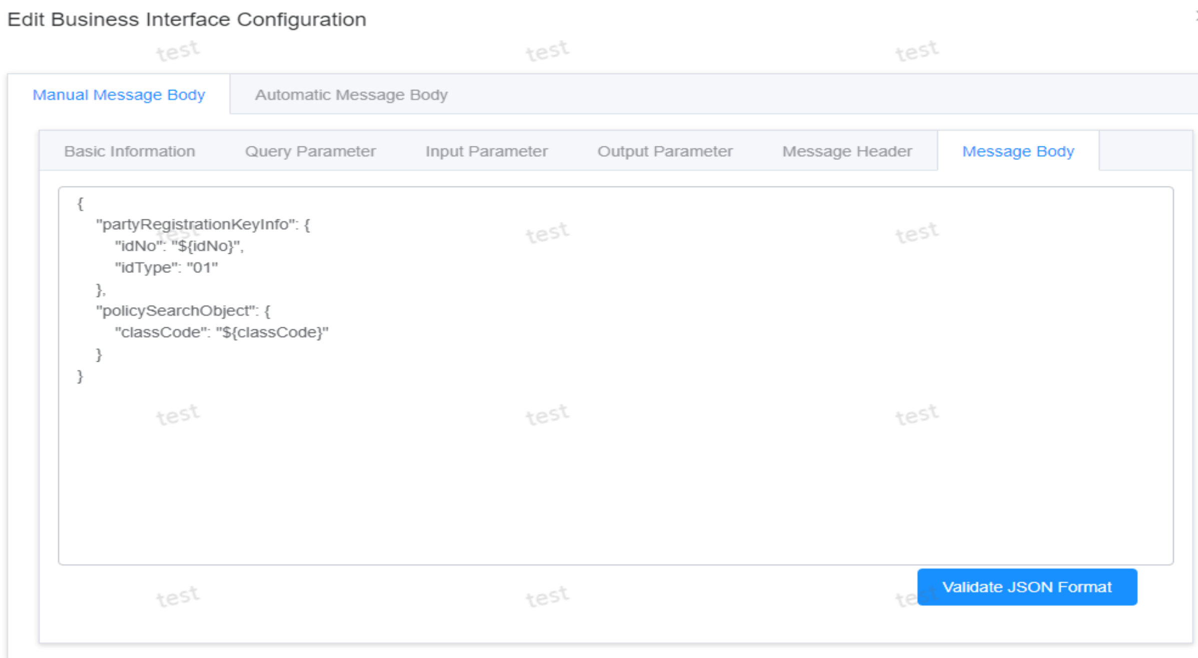
Typical Application Scenario

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.

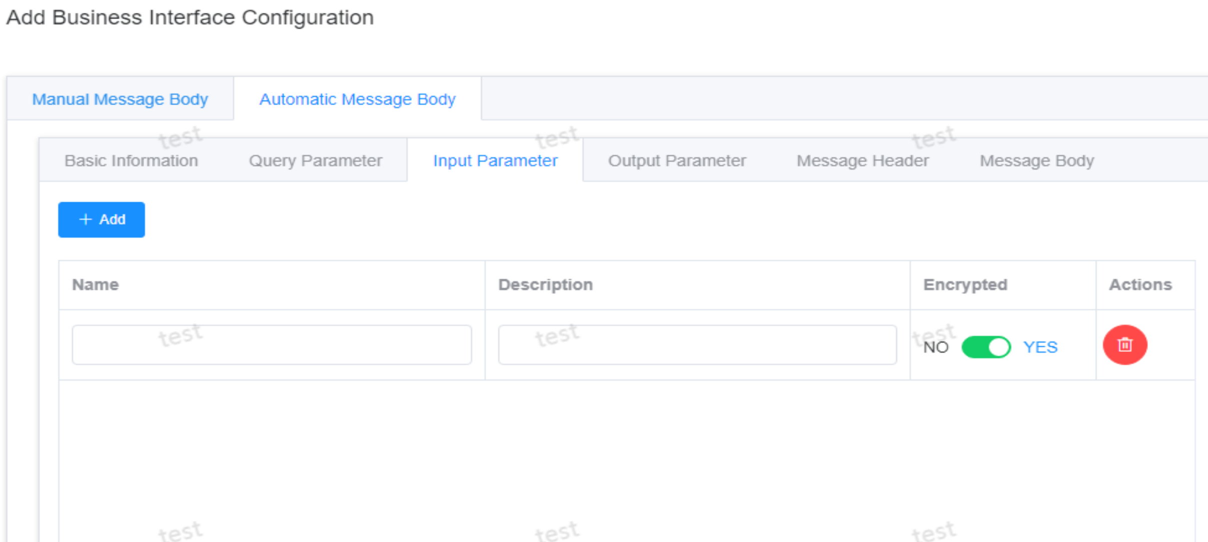
Step 1 Add an interface for sending SMS messages. For details, see **2.6.2.2 Adding Business Interfaces**.

The message body of the interface must contain the input parameters **smsContent** and **userMobile**. Set other parameters based on the actual situation.

Manually entering a message body to configure an interface:



Automatically generating a message body:

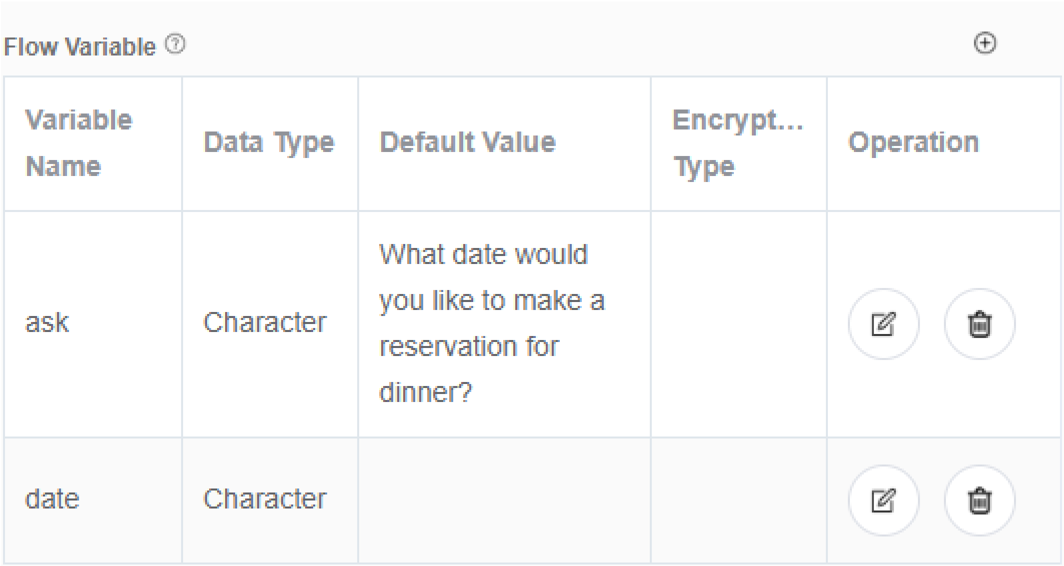


Step 2 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 3 Configure an intelligent IVR flow.

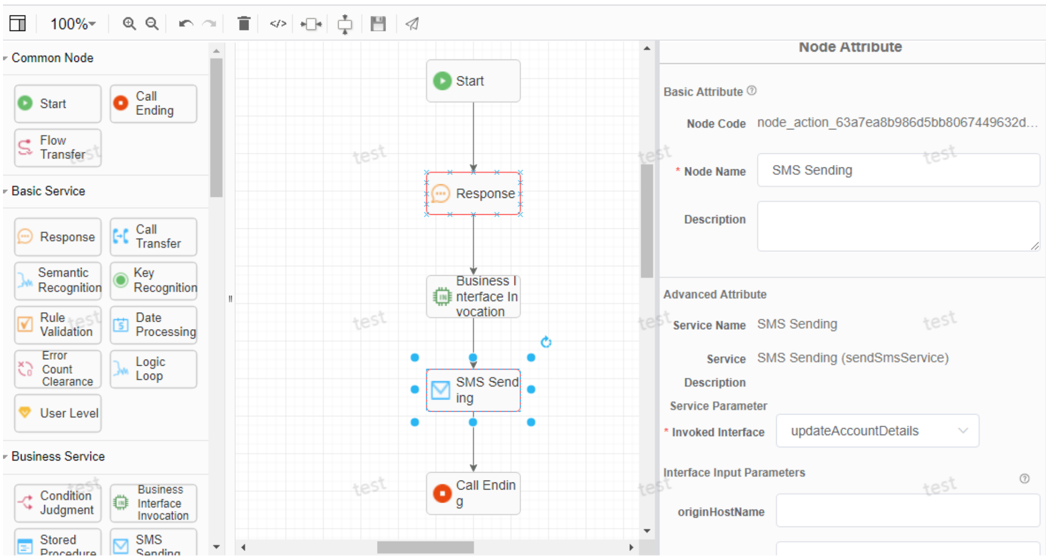
1. Choose **Flow Management** > **Flow Orchestration** and click **Add** to add a simple flow.
2. Click **+** in the **Flow Variable** area. In the dialog box that is displayed, set the variable name and data type.

Figure 2-140 Flow variables to be added


Flow Variable

Variable Name	Data Type	Default Value	Encrypt... Type	Operation
ask	Character	What date would you like to make a reservation for dinner?		
date	Character			

Figure 2-141 Flow orchestration example (SMS Sending diagram element)



- Use the response variable **FLOW.ask** for the **Response** diagram element to ask the customer about the dinner reservation date: **What date would you like to make a reservation for dinner?**
- You do not need to set the interface input parameters **smsContent** and **userMobile** of the **SMS Sending** diagram element. If you have set the parameters, their values are used preferentially.
- You can select an SMS template (where variables are configurable) or customize the SMS message content.
- The configuration priority is as follows: **smsContent** > SMS template > customized SMS message content.
- The configuration priority is as follows: **userMobile** > user phone numbers obtained by the system.

3. Save and release the flow.

Step 4 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 5 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

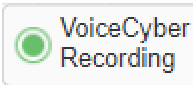
In the test dialog box that is displayed, click **Start Call** to test the chatbot.

----End

2.6.5.1.16 VoiceCyber Recording

The **VoiceCyber Recording** diagram element invokes the interface of VoiceCyber to start and stop audio and video recording.

Appearance



Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Operation Type**: indicates whether to enable recording.
- **Full Recording**: indicates whether to enable full-process recording.
- **Recording Type**: Select **Audio only** or **Audio and video** from the drop-down list box.
- **Recording Mode**: Select **Record only subscriber**, **Record only IVR**, or **Record subscriber and IVR** from the drop-down list box.

Using the Diagram Element

The **VoiceCyber Recording** diagram element is used to use VoiceCyber voice and video recording.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

Typical Application Scenario

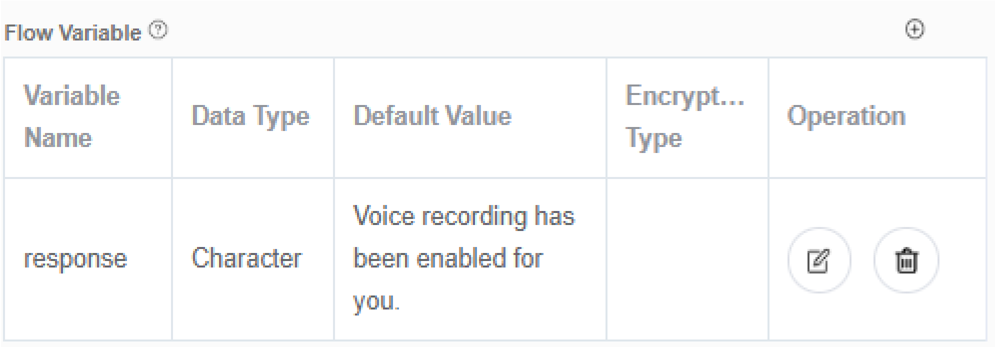
The following describes how to use the **VoiceCyber Recording** diagram element to record the entire process of a voice call between a customer and the IVR.

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 Management** > **Flow Orchestration** and click **Add** 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.

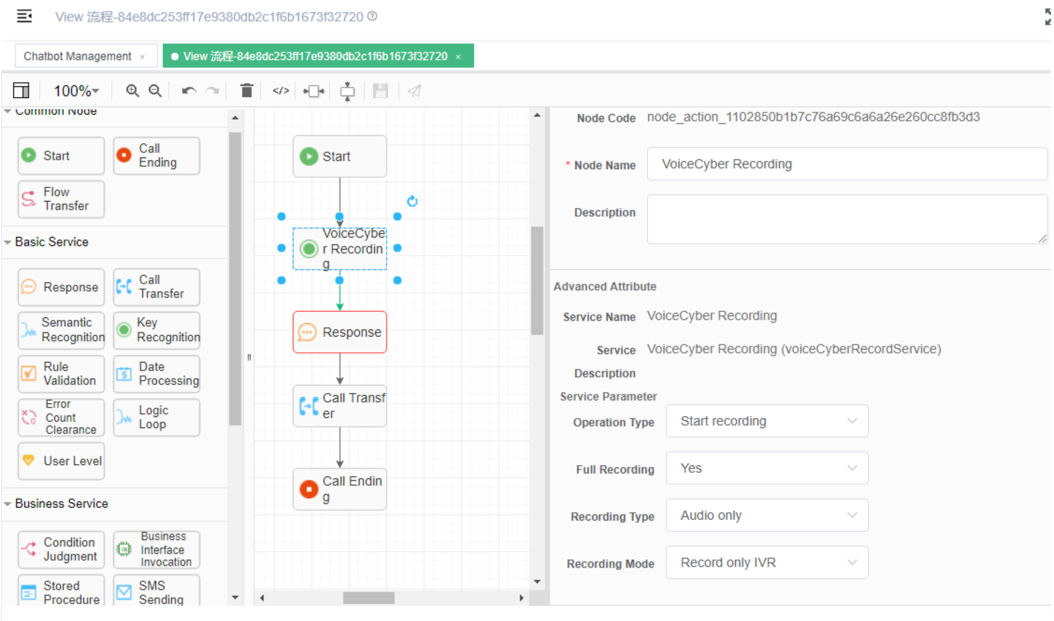
Figure 2-142 Flow variable to be added



Flow Variable

Variable Name	Data Type	Default Value	Encrypt... Type	Operation
response	Character	Voice recording has been enabled for you.		

Figure 2-143 Flow orchestration example (VoiceCyber Recording diagram element)

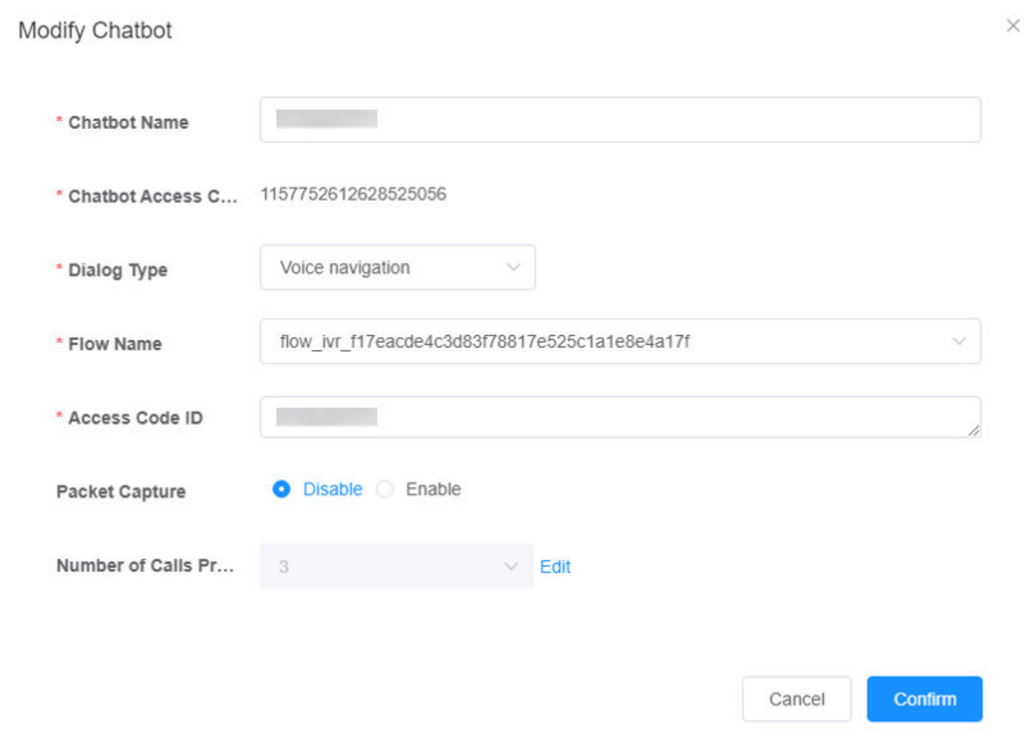


- For the **Response** diagram element, set **Response Variable** to **FLOW.response** to notify the customer that "Voice recording has been enabled for you."
- For the **Call Transfer** diagram element, set **Call Transfer Type** to **3** (transfer to the manual service (to a skill queue by skill name)) and **Call Transfer Route Value** to a voice skill queue name, for example, **defaultAudioSkill**.

3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot. You must enable the packet capture and recording service so that the system can automatically deliver an instruction to VoiceCyber to enable the packet capture session service when receiving an inbound call. Otherwise, VoiceCyber recording cannot be triggered by the **VoiceCyber Recording** diagram element.

Figure 2-144 Enabling or disabling the packet capture and recording service



Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Route** and add a called route. Set the IVR to the intelligent IVR added in **Step 2**.

Step 5 Log in to the OpenEye and dial the access code added on the **Called Route** page. If you can hear the tone played by the chatbot, the call can be completed normally, and the recording file can be obtained from the storage device of the VoiceCyber server, the configuration is successful.

NOTE

Path for storing recording files on the VoiceCyber server: *recordPath***/** *Tenant ID***/yugao/** *Date***/**

In the path, *recordPath* indicates the recording file path, which is obtained as follows:

1. In the SaaS scenario, if the URL of the AICC API for obtaining the recording file path (configuration item **oifde.recordfilepath.url**) is configured, the AICC API is invoked to obtain the recording file path.
2. In other scenarios (OP scenario or scenario where **oifde.recordfilepath.url** is not configured):

The URL for storing VoiceCyber voice and video recording files (configuration item **oifde.yugao.recordPath**) is preferentially used. If the configuration item is not configured, the default value **Y:/record/** is used. For details about how to commission VoiceCyber voice and video recording, contact Huawei operations personnel via cecsupport@huawei.com or 02160386968.

----End

2.6.5.1.17 JSON Data Invoking

The **JSON Data Invoking** diagram element parses and assigns values to call-associated data in JSON format.

Appearance

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 call 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.

Typical Application Scenario

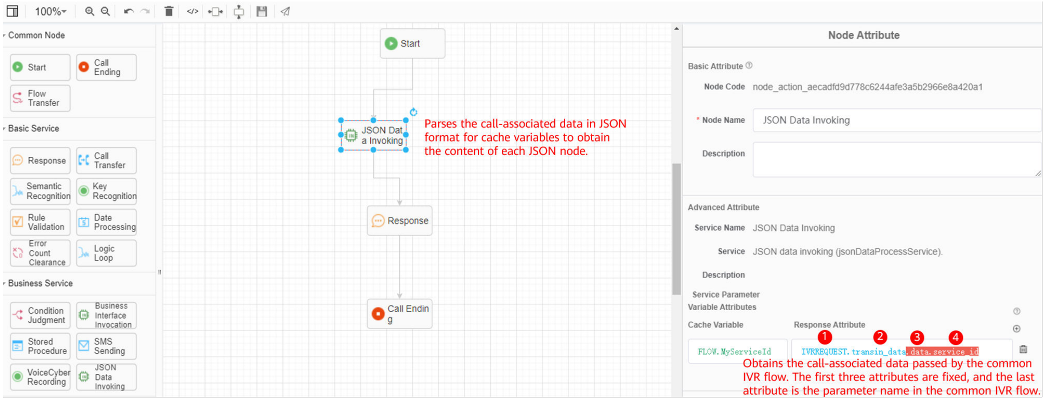
Scenario 1: Transfer a call from a common IVR flow to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **Flow Orchestration**, add an intelligent IVR flow, and set the 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 2-145 Flow orchestration example

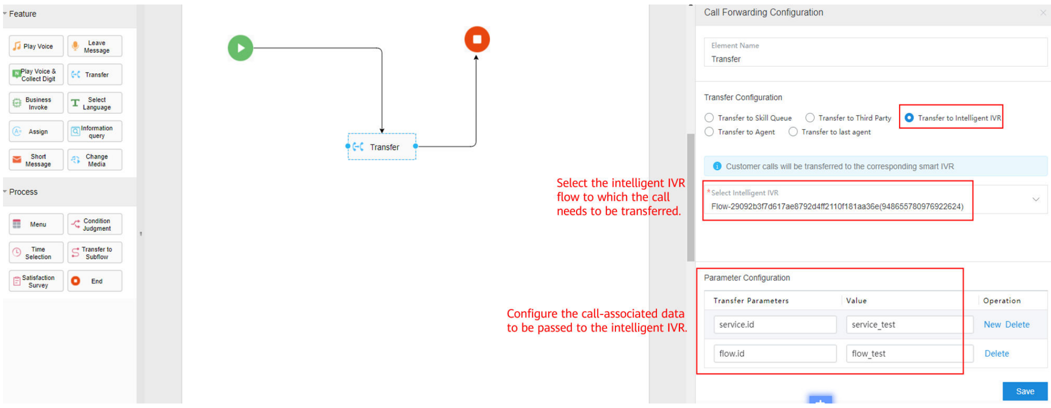


2. Save and release the flow.
3. Choose **Chatbot Management** and bind the flow to a chatbot.

Step 3 Configure a common IVR flow.

1. Choose **Configuration Center** > **Flow Configuration** > **Flow Management**, add a common IVR flow, and set the parameters as shown in the following figure.

Figure 2-146 Flow orchestration example



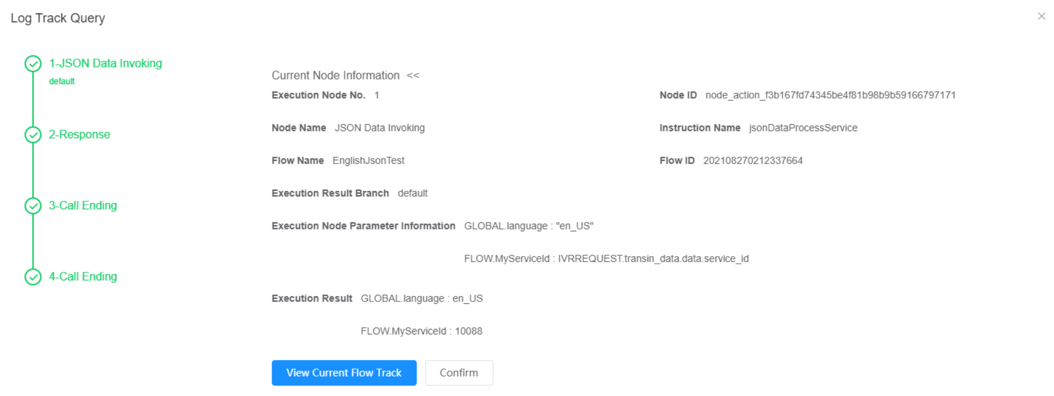
2. Save and release the flow.

Step 4 Choose **Configuration Center** > **Access Configuration** > **Called Route** 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 Route** page.

Step 6 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 (**service_id**) passed by the common IVR.

Figure 2-147 Flow track log page



----End

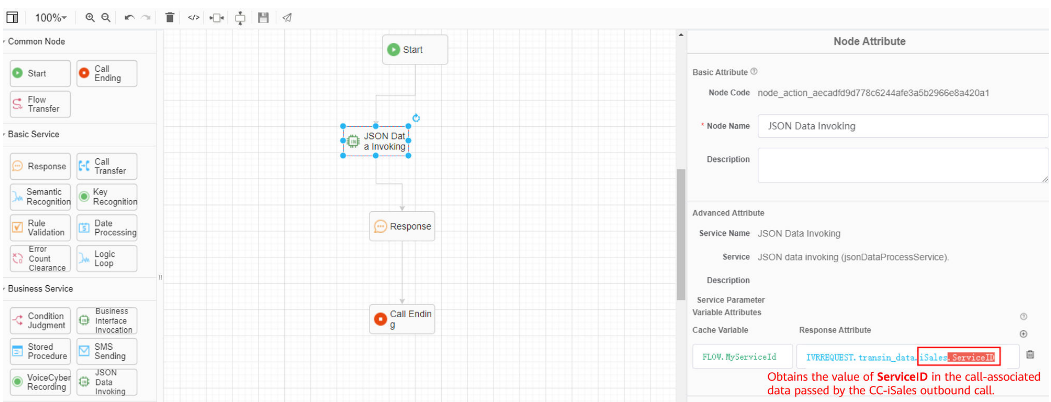
Scenario 2: Transfer a CC-iSales outbound call to an intelligent IVR flow when call-associated data in JSON format is carried.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **Flow Orchestration** and add an intelligent IVR flow whose **Scenario Type** is **Main flow**. Configure the **JSON Data Invoking** diagram element, as shown in the following figure. For the **Response** diagram element, set **Response Source** to **Response Variable** and **Response Variable** to **FLOW.response**.

Figure 2-148 Flow orchestration example

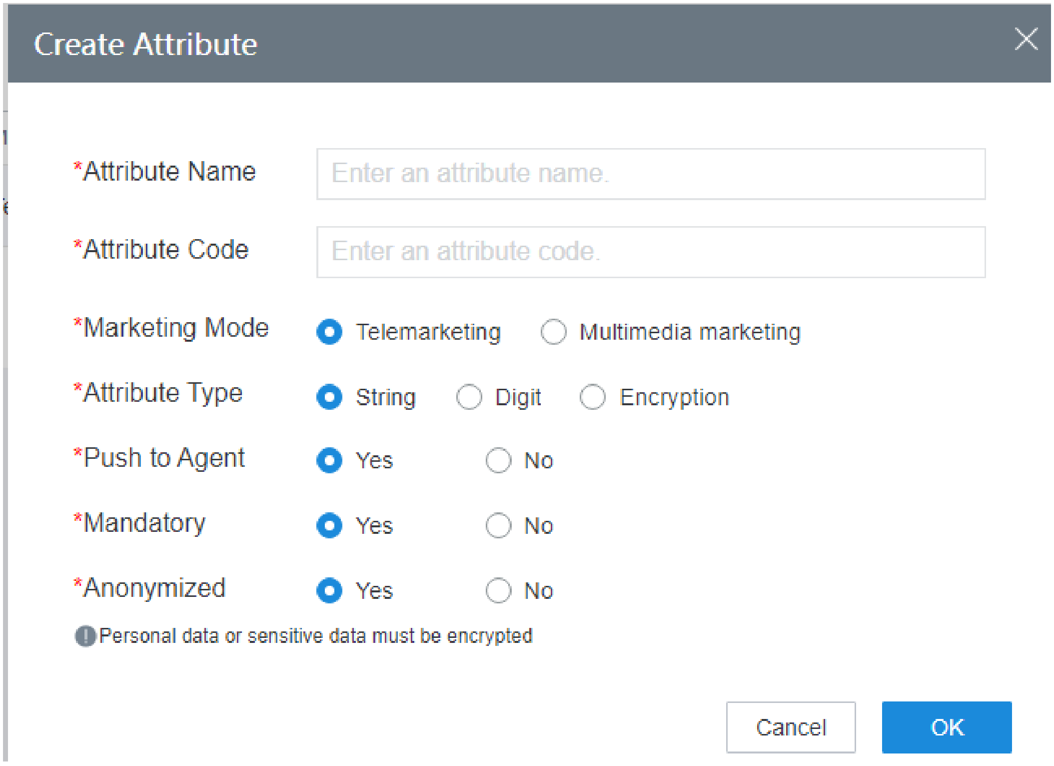


2. Save and release the flow.

Step 3 Configure an intelligent outbound call task in the CC-iSales.

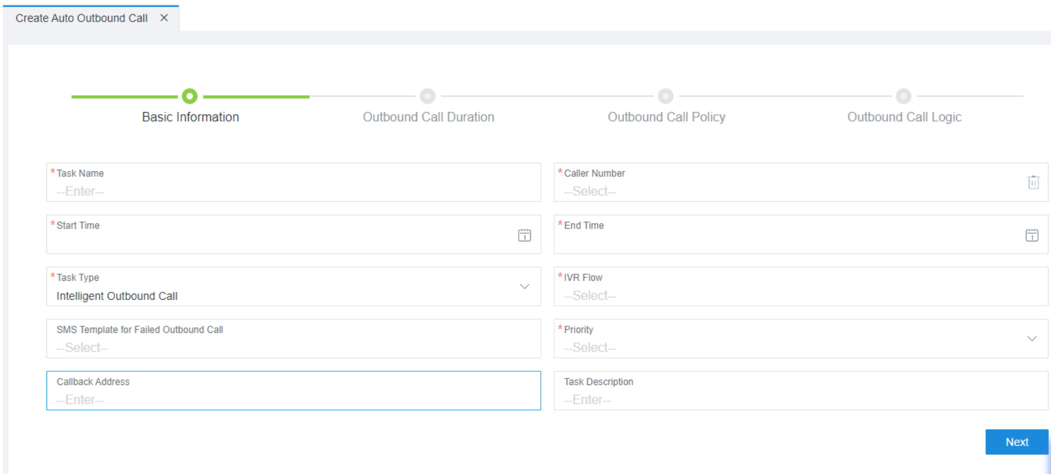
1. Choose **Configuration Center** > **Outbound Call Task** > **Call Data Attribute** and create attributes, as shown in the following figure. That is, create call-associated data fields used during outbound call creation. You can click **Outbound Call Data** corresponding to an outbound call task to bind the call-associated data fields added here. Release the attribute.

Figure 2-149 Create Attribute page



2. Choose **Outbound Call Task** > **Outbound Task Management** and click **Create Auto Outbound Call**.
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 2-150 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.

NOTE

To import outbound call data in batches, see **2.13.3.6.1 Configuring Outbound Call Data**.

Figure 2-151 Configuring outbound call data

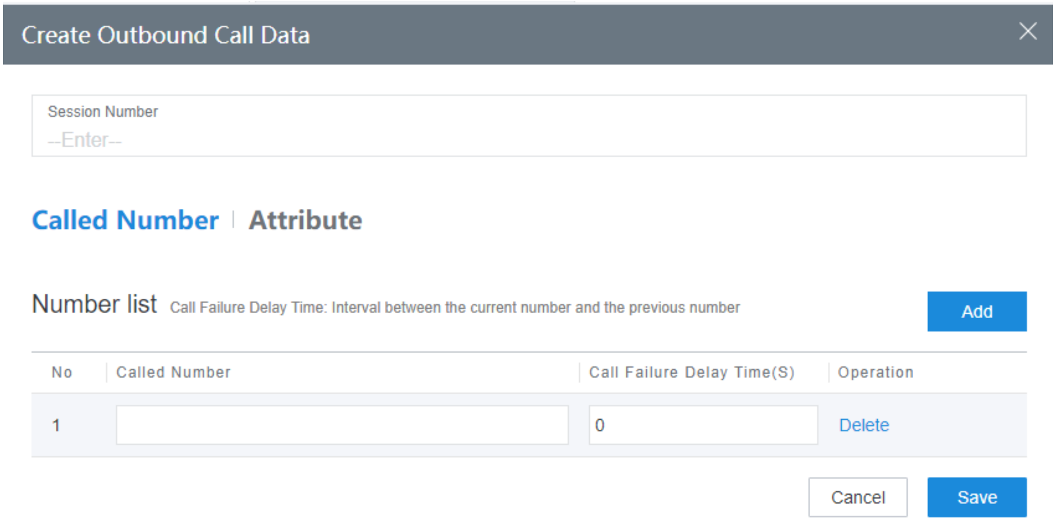
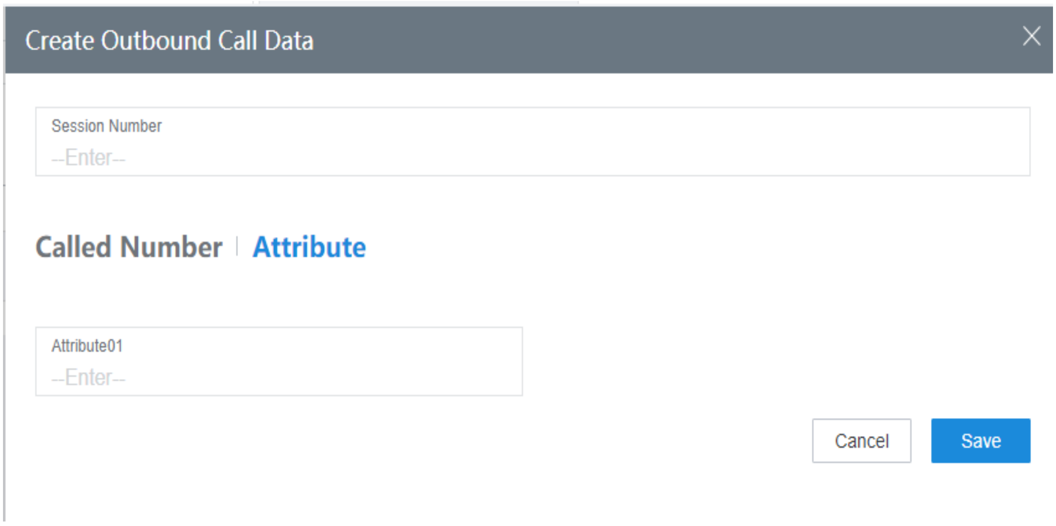


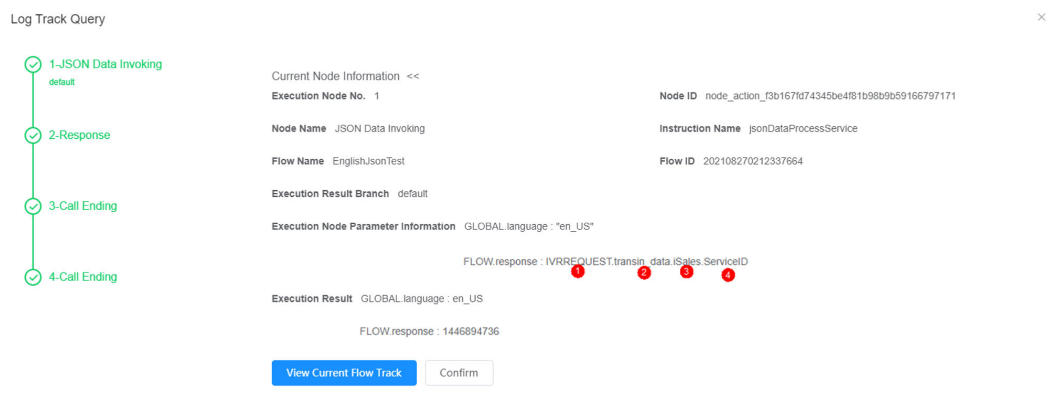
Figure 2-152 Configuring the call-associated data to be passed



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.

Figure 2-153 Flow track log page



----End

2.6.5.1.18 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 workdays.

Appearance

Parameter Description

- **Node Name**: name of a node.
- **Description**: details of a node.
- **Week Selection**: Select the weekdays for service.
- **Service Period**: Select the start time and end time of the service.
- **Specified Service Date**: One or more days are specified as the service days.
- **Specified Non-service Date**: One or more days are specified as non-service days.

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**.

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

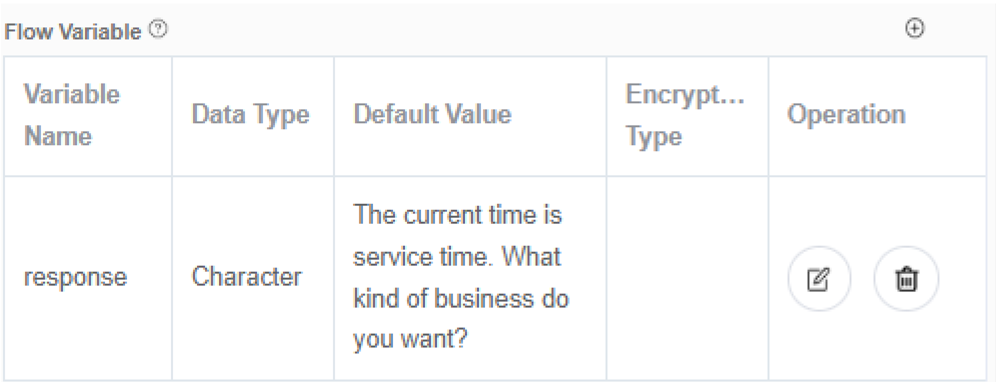
The following describes how to use the **Time Selection** diagram element to determine whether the current time is service time for subsequent business handling.

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 Management** > **Flow Orchestration** and click **Add** 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.

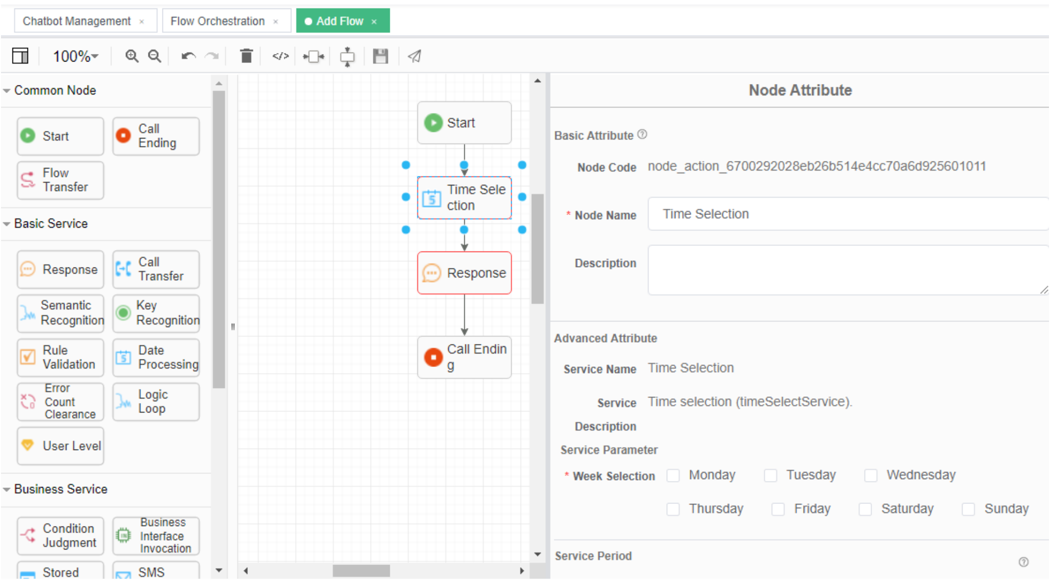
Figure 2-154 Flow variable to be added



Flow Variable

Variable Name	Data Type	Default Value	Encrypt... Type	Operation
response	Character	The current time is service time. What kind of business do you want?		

Figure 2-155 Flow orchestration example (Time Selection diagram element)



For the **Response** diagram element, set **Response Variable** to **FLOW.response** to reply to the customer with "The current time is service time. What kind of business do you want?" if the current time is service time.

3. Save and release the flow.

Step 3 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 4 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**.

In the test dialog box that is displayed, click **Start Call** to test the chatbot. If the chatbot replies based on whether the current time is service time, the configuration is successful.

----End

2.6.5.1.19 Information Query

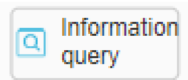
This diagram element is used to query the status of the current user in the queue. When all agents are busy, the system plays the call waiting announcement to the user through the IVR.

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 user is in the special list.

Appearance



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 user in the current skill queue, that is, the number of queuing users in front of the user. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a user belongs. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) 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**. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations. The estimated waiting time depends on the queue model. The result may be inaccurate. Therefore, use this parameter properly.

- 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.
  - **Query Result**
    - **Number of queues**: number of users in the current skill queue before a call is transferred to another skill queue. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.
    - **Number of online agents**: total number of online agents in the skill queue to which a call is transferred. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.
    - **Number of idle agents**: total number of online and idle agents in the skill queue to which a call is transferred. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) for subsequent operations.
    - **Estimated waiting time**: estimated time for connecting a call to an agent after the call is transferred to a skill queue. Use the global variable (**GLOBAL.***) or flow variable (**FLOW.***) 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 user is in the special list based on the user 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.

NOTE

If the preceding parameters support only flow variables (**FLOW.***XX*) and global variables (**GLOBAL.***XX*), a verification error message is displayed when the flow is saved. You need to return to the **Flow Orchestration** page, click **Modify**, and set **Set Validation Mode** to **Disable** to save the 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 user.

Click the diagram element or drag it to the canvas, and set parameters based on the parameter description.

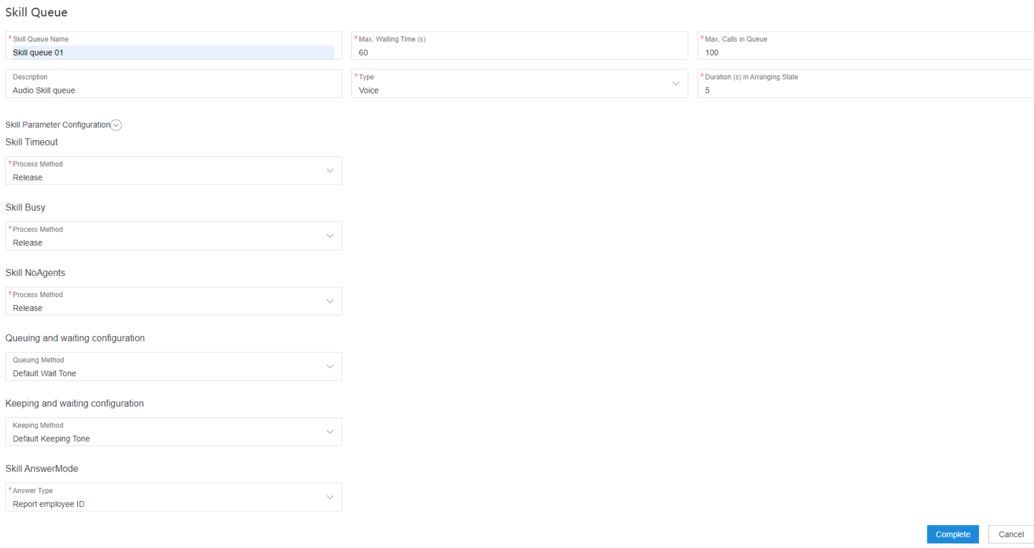
Typical Application Scenario

A user 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 the waiting tone played with an intelligent IVR flow is configured for the skill queue, the intelligent IVR flow can use this diagram element to obtain the current queuing status of the user and play the waiting tone to the user. Therefore, the user can determine whether to continue waiting based on the queuing status.

Scenario 1: Query queuing information.

Step 1 Choose **Configuration Center** > **Employee Center** > **Skill Queue**, click **Edit** corresponding to the skill queue, and set **Queuing Method** in the **Queuing and waiting configuration** area.

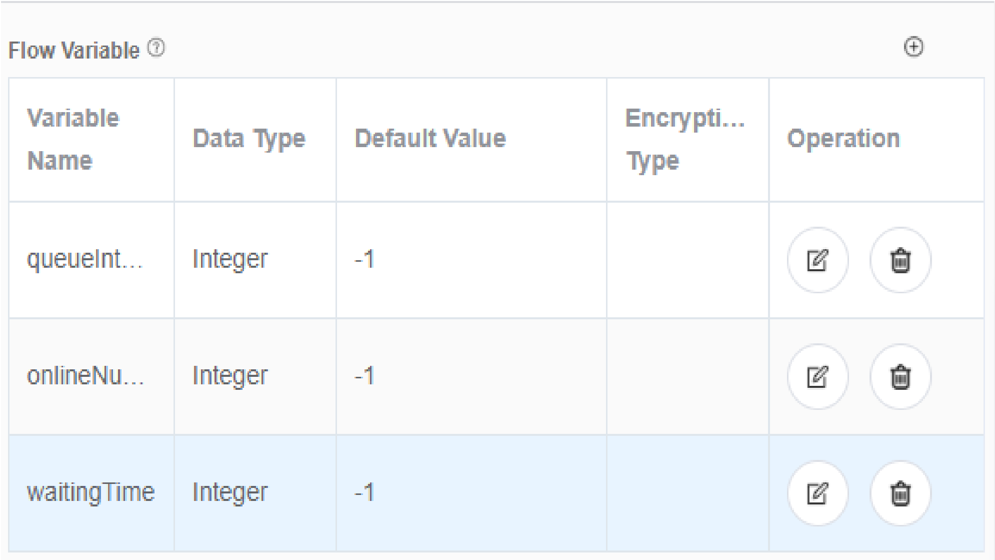
Figure 2-156 Page for editing skill queue parameters



Step 2 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.

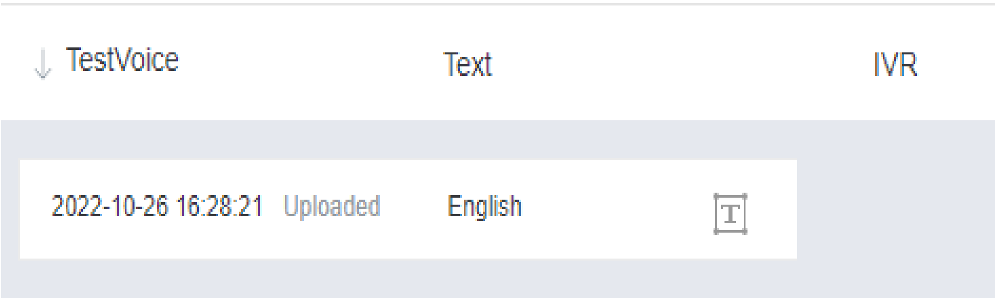
1. Create three flow variables to receive the query result.

Figure 2-157 Flow variables to be added



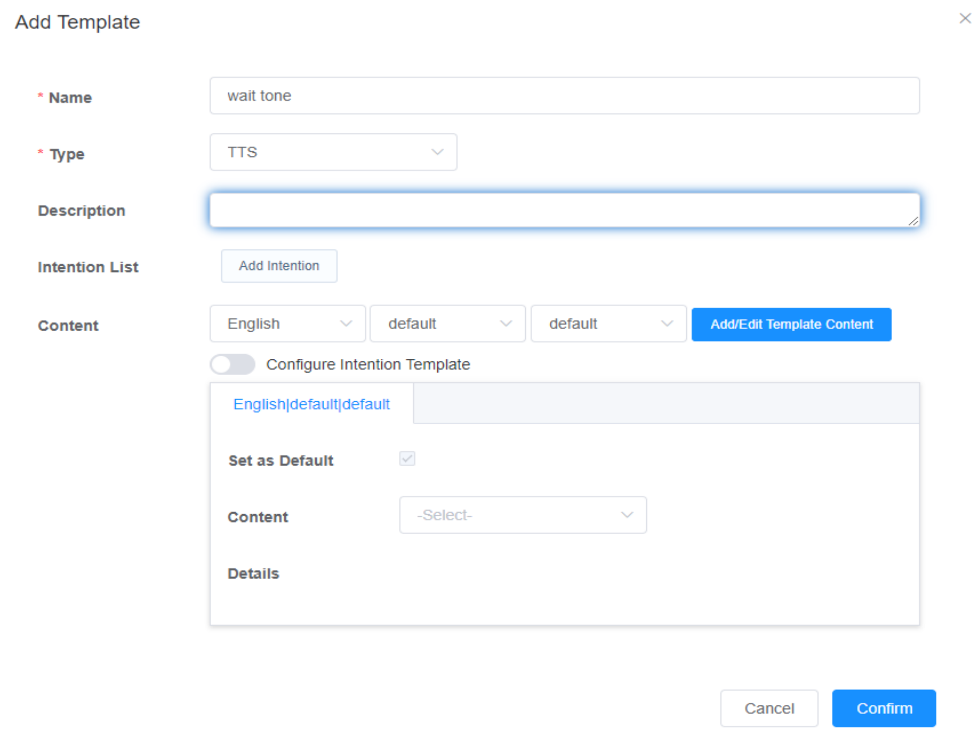
2. Configuring an IVR voice. Use the created flow variables in the IVR voice content.

Figure 2-158 Added IVR voice



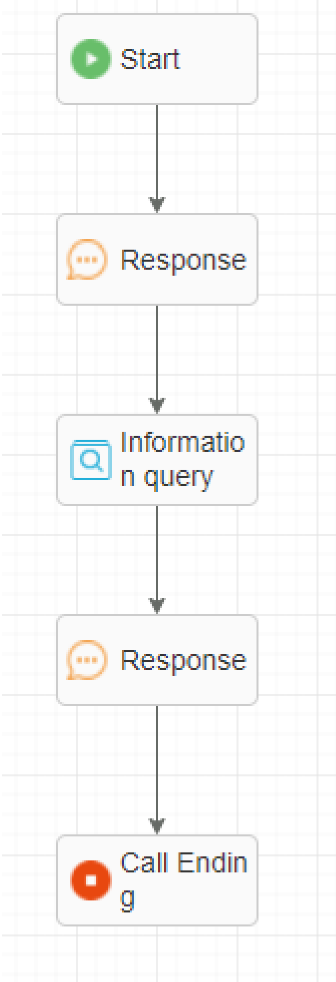
3. Configure a resource template.

Figure 2-159 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 **Response** diagram element to select the configured resource template.

Figure 2-160 Flow orchestration example



5. Configure an intelligent chatbot and set **Dialog Type** to **IVR flow**.

Step 3 Choose **Configuration Center** > **Access Configuration** > **Called Route** and add a called route. Set the IVR to the intelligent IVR 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 on the **Called Route** page. If the current queuing 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 2-161 Flow variables to be added

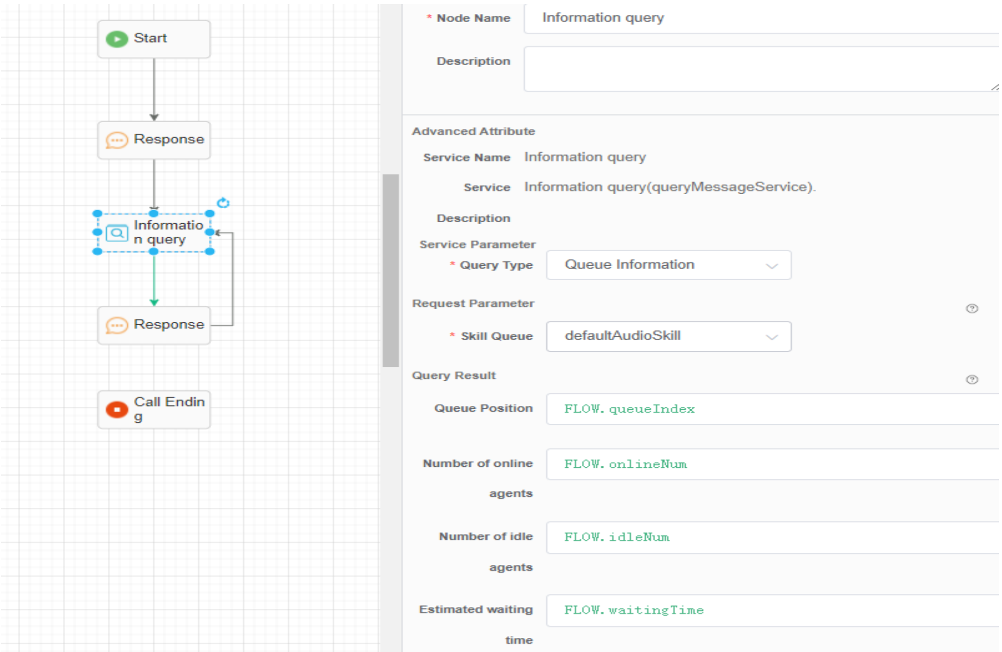
Flow Variable

Variable Name	Data Type	Default Value	Encryp... Type	Operation
queueIn...	Character	-1	No encryption	
onlineNum	Character	-1	No encryption	
waitingTi...	Character	-1	No encryption	
idleNum	Character		No encryption	

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.

Figure 2-162 Flow orchestration example



3. Configure an intelligent chatbot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Route** 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 Route** page. If the current queue information is heard, the configuration is successful.

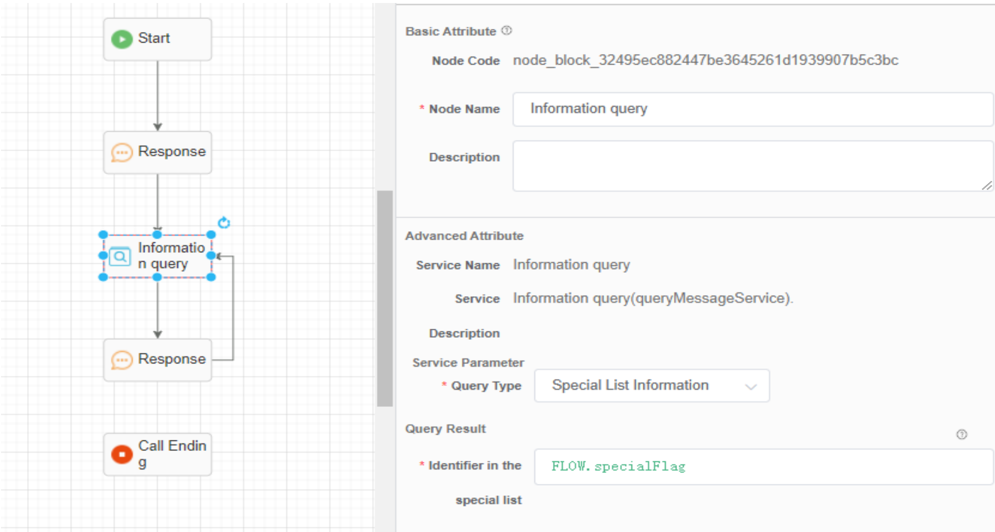
----End

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.

Figure 2-163 Flow orchestration example



3. Configure an intelligent chatbot and set **Dialog Type** to **IVR flow**.

Step 2 Choose **Configuration Center** > **Access Configuration** > **Called Route** and add a called route. Set the IVR to the added intelligent IVR.

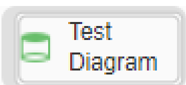
Step 3 Log in to the OpenEye using a softphone number to simulate a customer, and dial the access code added on the **Called Route** page. If the current special list information is heard, the configuration is successful.

----End

2.6.5.1.20 Composite

A composite diagram element is a combination of multiple diagram elements that an operator customizes for simplified operations.

Appearance



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 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 Management** > **Diagram Element** page.

Typical Application Scenario

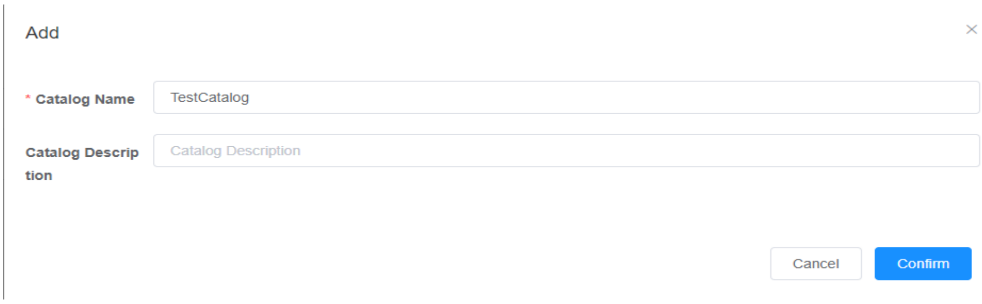
The following describes how to use a composite diagram element to greet and interact with the chatbot.

Step 1 Sign in to the AICC and choose **Configuration Center** > **Flow Configuration** > **Intelligent IVR**.

Step 2 Add a composite diagram element.

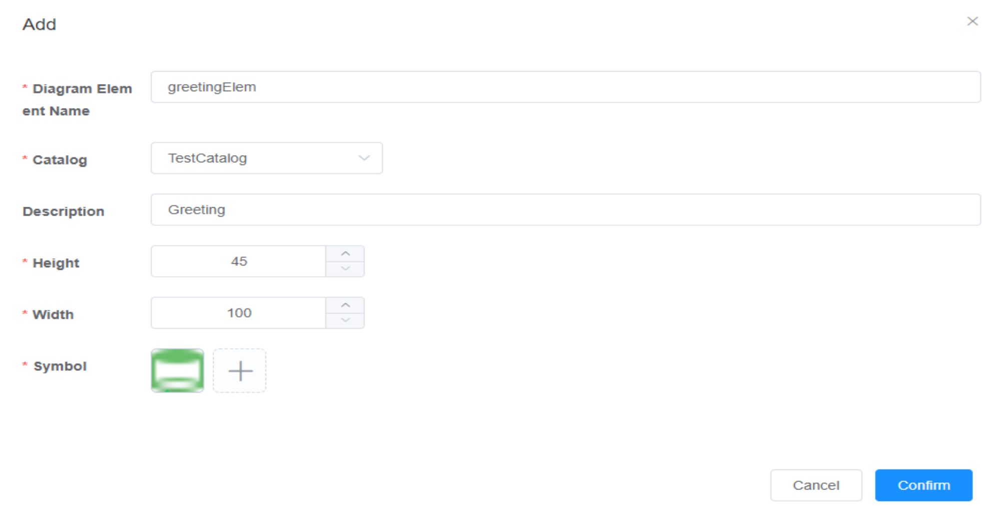
1. Choose **Resource Management** > **Diagram Element**, click the **Composite Diagram Element Catalog** tab, and click **Add**.

Figure 2-164 Page for adding a composite diagram element catalog



2. Click the **Composite Diagram Element** tab and click **Add**.

Figure 2-165 Page for adding a composite diagram element



3. Click **Edit Canvas** in the **Operation** column to orchestrate the composite diagram element.

Figure 2-166 Diagram element variables to be added

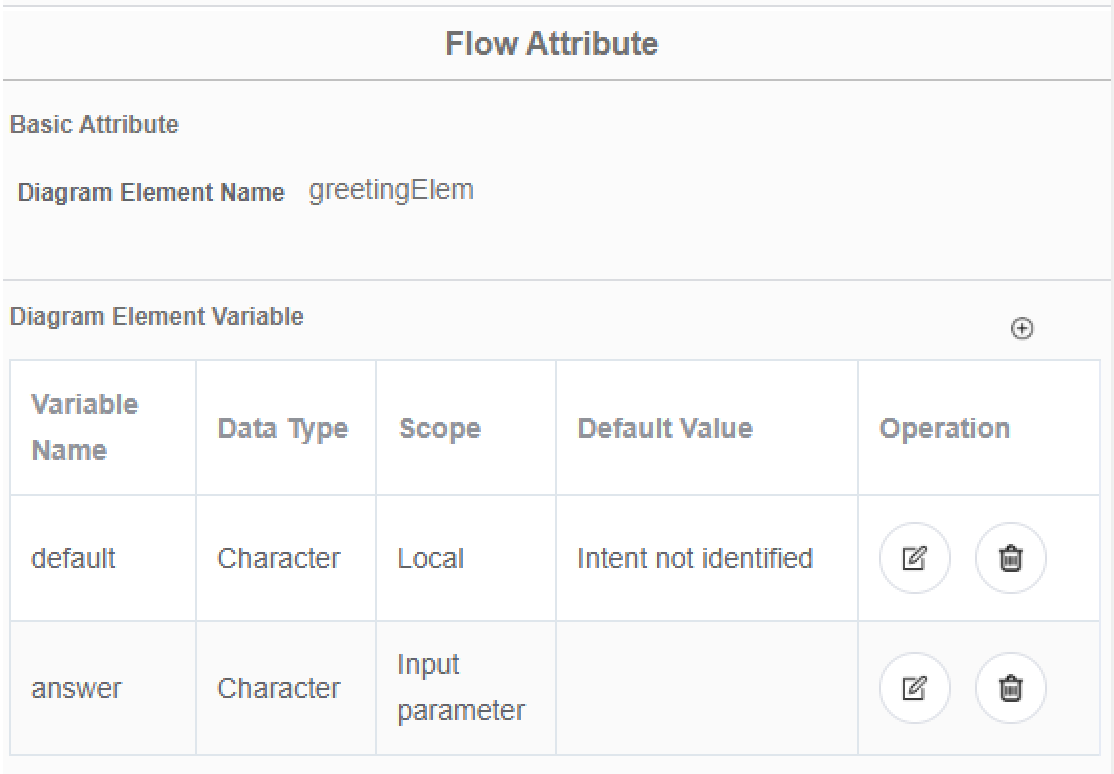
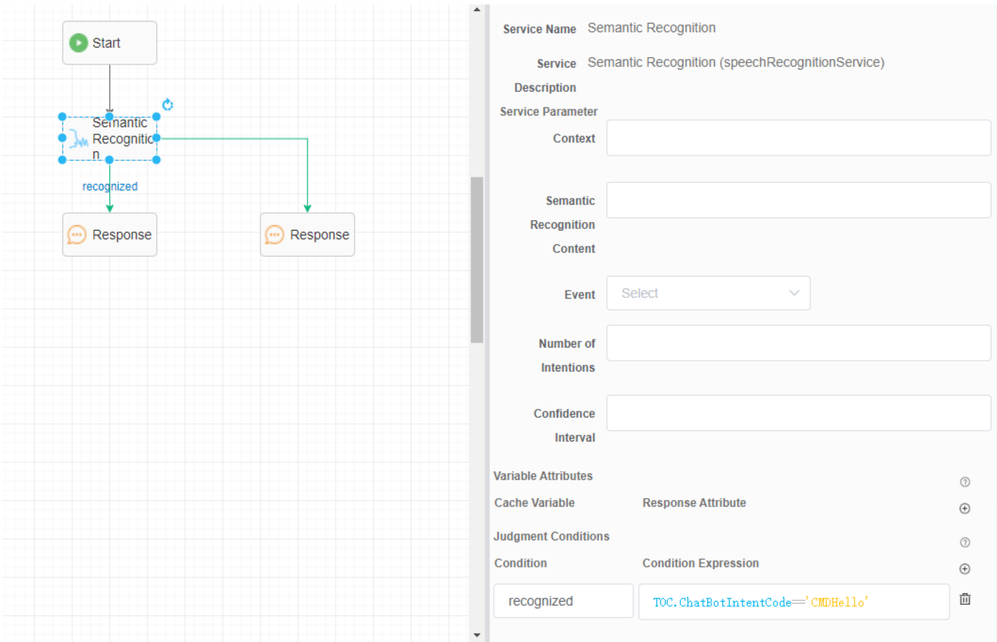


Figure 2-167 Flow orchestration example



Step 3 Configure an intelligent IVR flow.

1. Choose **Flow Management** > **Flow Orchestration** and click **Add** 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 2-168 Flow variables to be added

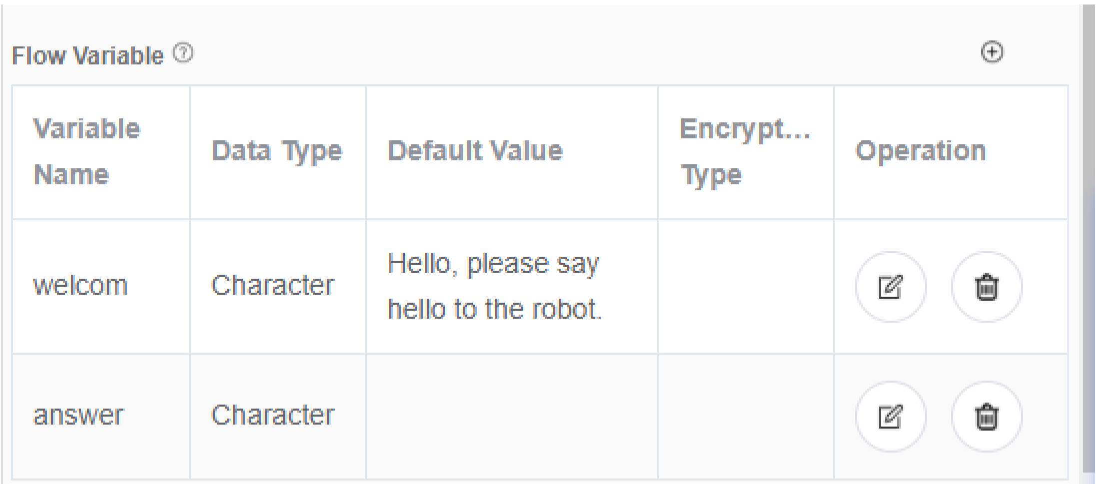
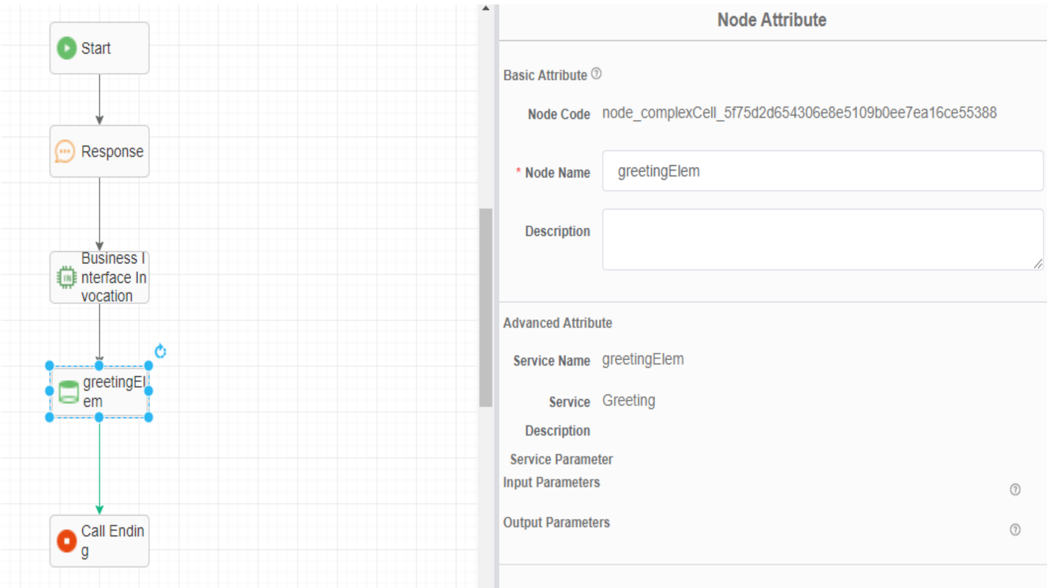


Figure 2-169 Flow orchestration example (composite diagram element)



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 release the flow.

Step 4 Choose **Chatbot Management** and bind the flow to a chatbot.

Step 5 Choose **Chatbot Management**. In the last column corresponding to the chatbot, click **Test Call**. In the test dialog box that is displayed, click **Start Call** to test the chatbot. Enter "Hello". If the chatbot replies "Hello", the composite diagram element is configured successfully.

----End

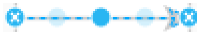
2.6.5.1.21 Connection Lines Between Diagram Elements

The connection line indicates the execution sequence of a flow with its arrow direction.

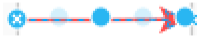
Appearance

- The following figure indicates that no node is selected.

- The following figure indicates that nodes are selected and the connection succeeds.

- The following figure indicates that nodes are selected but the connection fails.

  If the connection fails, a flow is not saved.

The following describes the meanings of line colors on the canvas:

- (purple connection line): A diagram element is successfully inserted into two diagram elements connected by the line.
- (blue connection line): The line is connecting diagram elements.
- (dotted connection line): The source diagram element cannot be connected to other diagram elements.
- (gray connection line): The line has connected diagram elements.
- (red connection line): The line rules are not configured or are incorrectly configured. For example, a diagram element has two branch lines, but the default branch conditions are not configured.
- (yellow auxiliary line): The line aligns with the horizontal or vertical center of the canvas.
- (blue auxiliary line): The line aligns with the horizontal or vertical center of the adjacent diagram element.

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.

Table 2-34 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.

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.
slientInsertReply	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

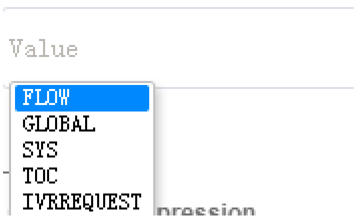
Each diagram element in a flow must be connected, except the **Call Ending** diagram element in special scenarios.

2.6.5.2 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 the intention template. System variables can be entered in the text box, and you need to add a specified prefix to slot variables in the 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.

– **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.

   If the input parameter is valid, it is displayed in green or blue.

NOTE

What do different colors of input parameters mean?

- Red (FLOW.param): The input format is incorrect. For example, a text box allows only string-type variables or constants, but integer-type variables are specified. Alternatively, the text box does not support variable expressions.

  After strict validation is disabled, some simple variable calculations can be performed based on the Java syntax. Even if an error is reported on the GUI, the variables can still be used as long as they can be saved. To disable strict validation, choose **Flow Management** > **Flow Orchestration**, click **Settings** in the upper right corner, and set **Strict validation** to **Disabled**.
- Blue (GLOBAL.language): The input parameter is a valid variable of other types.
- Green (FLOW.param): The input parameter is a valid flow variable.
- Yellow (service): The input parameter is a valid string constant. If the input variable is incomplete or the variable that is manually entered does not exist, the system identifies the variable as a string constant.
- Purple (100): The input parameter is a valid numeric constant.

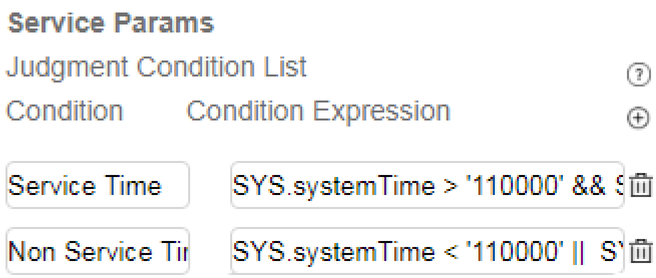
2.6.5.2.1 System Variable (SYS)

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**.

Parameter	Description
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 in the called route of the flow, that is, the hotline number dialed by the flow.
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.

Expressions that contain parameters comply with JavaScript syntax, and the result is of the boolean type. For example, in the **Condition Judgment** diagram element, you can determine whether the current time is within or beyond the service time using the following expressions:



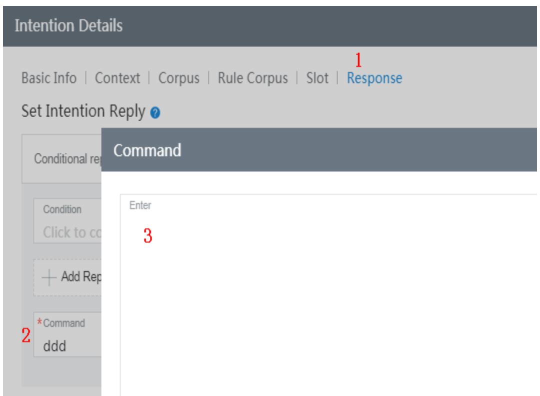
- **Service Time**: **(SYS.systemTime > '110000') && (SYS.systemTime < '220000')**
- **Non Service Time**: **(SYS.systemTime < '110000') || (SYS.systemTime > '220000')**

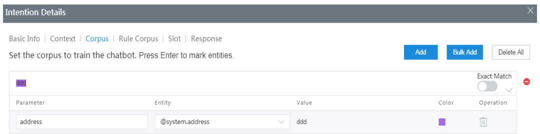
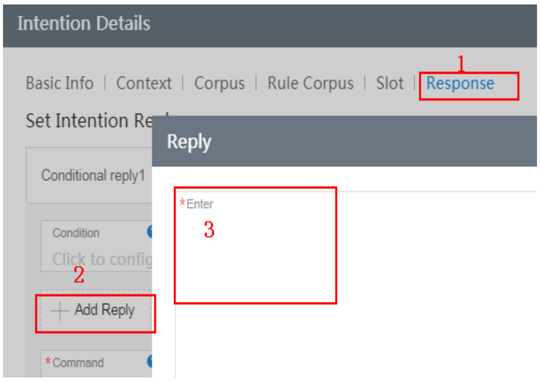
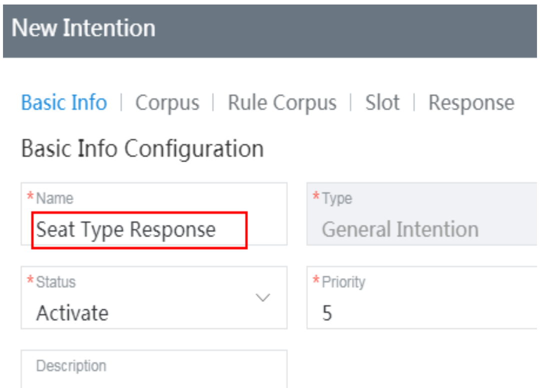
2.6.5.2.2 Intention Variable (TOC)

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.

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. 

Parameter	Description
ChatBotRespContent	Reply for the intention matched in semantic recognition, including the reply configured in the slot and response.  
TOC.ChatBotScenario-Name	Name of the intention template 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. 

Parameter	Description
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 template to view the slot parameters of the intention. Choose **TUC Management > Template Management > Intention Management**, select a domain from the first drop-down list, click the link, and then click the **Slot** and **Name** columns to view the slot variable names. For example, to obtain the slot value in the following intention, you can set it as follows: TOC.ChatBotsitType = "Suite" 
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**.

2.6.5.2.3 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 Management** > **Variable Management**.

The following variable data types are supported:

- Integer
- Character
- Long Integer
- Floating Number

You can use this variable in the flow variable definition area and **Semantic recognition**, **Business interface invoke** and **Response** diagram elements. The format is as follows:

GLOBAL.*Variable name*

Example: **GLOBAL.Param1**

NOTE

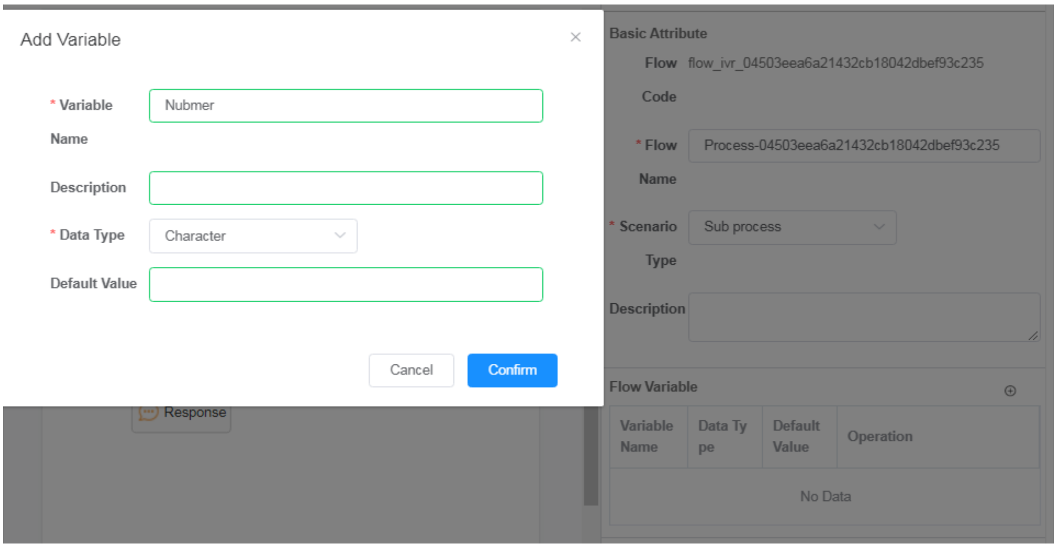
In the attribute names in the response, the data type of the value that you assign to the parameter must match the data type set in the **Variable Management**. If the value is of the character type, you need to add quotation marks.

2.6.5.2.4 Flow Variable (FLOW)

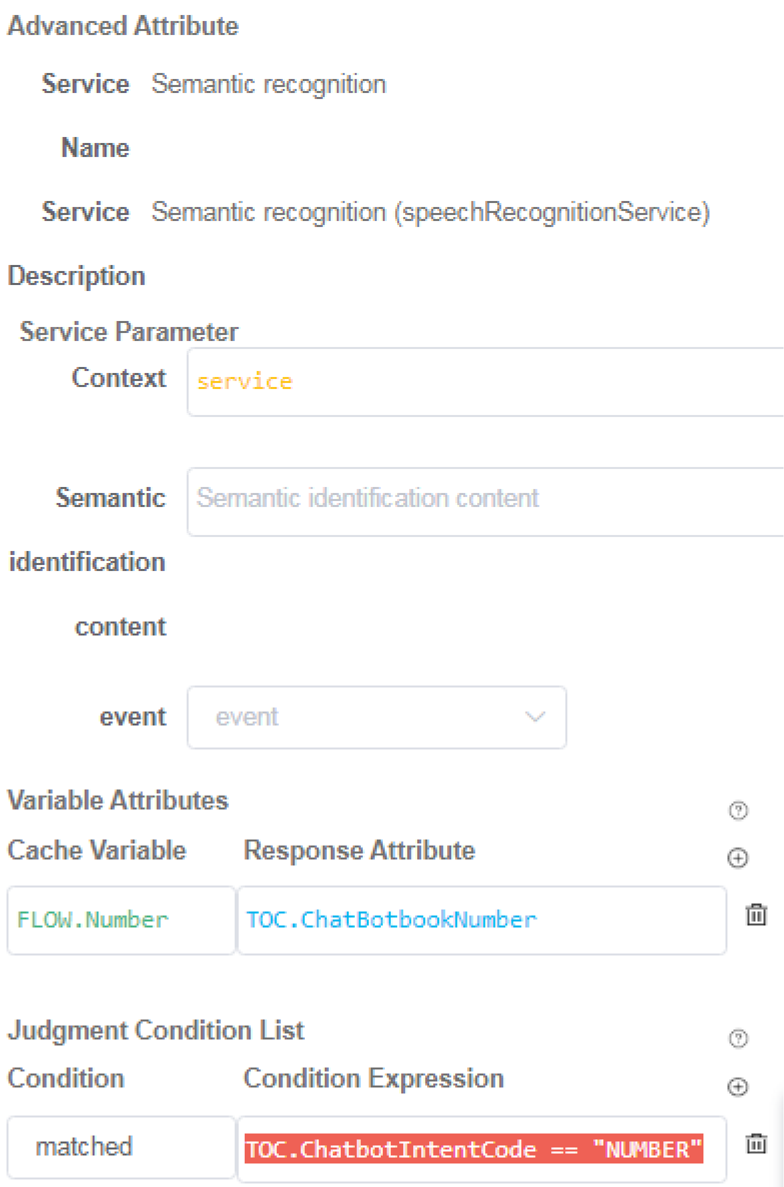
A cache variable that you add to a flow is called a flow variable. The variable can be used in the subsequent nodes of the flow.

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.

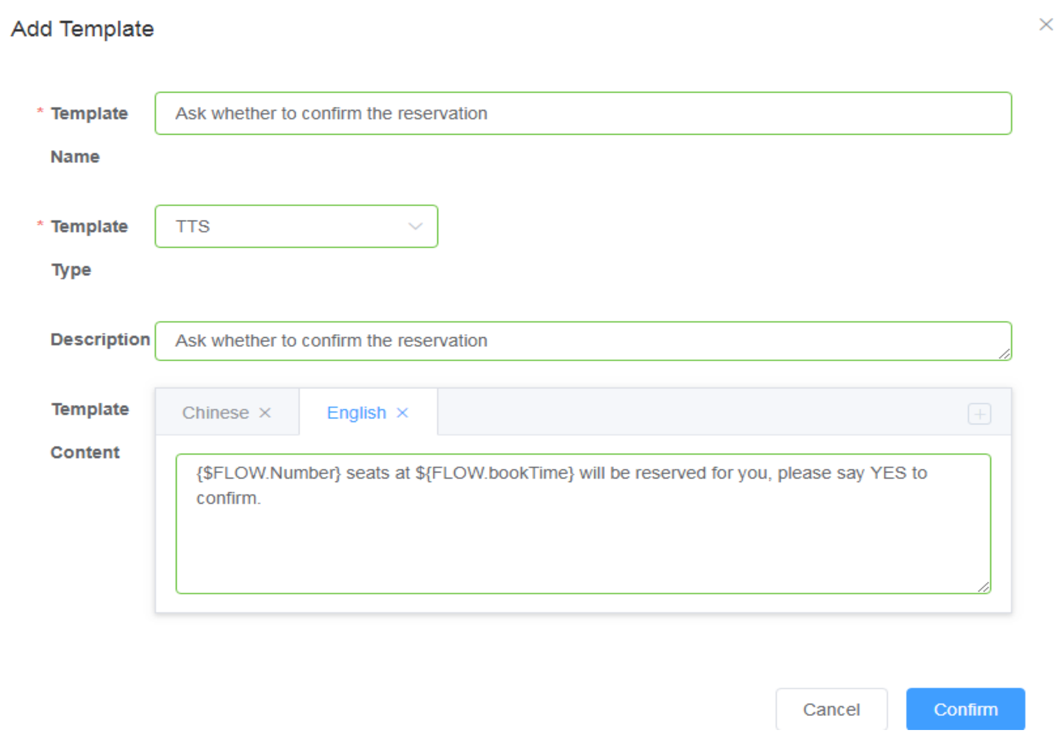
For example, you can define the following variables in a flow.



You can assign values to flow variables in the **Semantic recognition** diagram element.



The following figure shows the reply to a customer in the SMS template after the reservation is successful.



2.6.5.2.5 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.

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 playing completed ● **timeout**: timeout ● **nomatch**: identification 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**: subscriber ● 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.

Parameter	Description
IVRREQUEST.begin_play	Voice playing start time.
IVRREQUEST.end_play	Voice playing 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, such as web, WeChat, and Facebook.
IVRREQUEST.emailTitle	Subject of the email received during email channel access.

2.6.5.3 TUC Interfaces

This section describes the interfaces used by the TUC.

2.6.5.3.1 /chatbot/rest/tuc/v1/nlp/detectRegularEntity

Function

Rule (address) entity recognition interface.

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}"
}
```

2.6.5.3.2 /chatbot/rest/tuc/v1/nlp/identify

Function

Language identification interface.

Input Parameters

Table 2-35

Parameter	Type	Mandatory (Yes/No)	Description
text	String	Yes	Text information entered by a customer.

Output Parameters

Parameter	Type	Description
returnCode	String	Result code.
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** 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.

2.6.5.3.3 /chatbot/rest/tuc/v1/recommendFaq

Function

FAQ recommendation interface.

The recommended knowledge list is matched based on the text in the request.

Input Parameters

Table 2-36

Parameter	Type	Mandatory (Yes/No)	Description
user	String	Yes	ID of the user who initiates the question.

Parameter	Type	Mandatory (Yes/No)	Description
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.

Parameter	Type	Description
faqGroupId	Integer	FAQ group ID.
faqGroupName	String	FAQ group name.
faqId	Integer	FAQ ID.
question	String	Question.

Parameter	Type	Description
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}
}
```

2.6.5.3.4 /chatbot/rest/tuc/v1/qualityInspection/qiOnline/recognize

Function

Online inspection interface.

Input Parameters

Table 2-37

Parameter	Type	Mandatory (Yes/No)	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	int	Yes	Description.
language	int	Yes	Language. The options are **zh_CN** and **en_US**.

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	int	Score.
emotionType	String	The value can be **positive** or **negative**.

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	int	Minimum number of dialog logics. The value ranges from 1 to 100.
score	int	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.

SilenceRules is described as follows.

Parameter	Type	Description
id	String	Rule ID.
name	String	Rule name.
score	int	Score. The value ranges from 0 to 100.
silenceSeconds	int	Silence duration. The value range is [1, -].
silenceTimes	int	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	int	Minimum speed. The value ranges from 1 to 220.
maxSpeed	int	Maximum speed. The value range is [1, -].
score	int	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.

Parameter	Type	Description
score	int	Rule score. The value ranges from –100 to 0.
interposalTimes	int	Interruption times. The value ranges from 1 to 10000.
interposalSeconds	int	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}"
}
```

2.6.5.3.5 /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.

Parameter	Type	Description
errorMsg	String	Error information.

Request Example

```
{
    "accessCode": "${accessCode}",
    "callId": "${callId}",
    "interactId": "${interactId}",
    "satisfaction": "${satisfaction}",
    "reason": "${reason}"
}
```

2.6.5.3.6 /chatbot/rest/tuc/v1/nlp/textClassify

Function

Text classification interface.

Input Parameters

Table 2-38 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 2-39**.

Table 2-39 TextLabel description

Parameter	Type	Description
label	String	Label.
probability	Double	Confidence.

Request Example

```
{
    "language": "${language}",
    "text": "${text}"
}
```

2.6.5.3.7 /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 2-40**.
count	Integer	Number of identified entities.

Table 2-40 EntityMsgV2 description

Parameter	Type	Description
FORMAT_RAW	String	Format.
id	Integer	ID.

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}"
}
```

2.6.5.3.8 /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 2-41 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**.

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 2-42 Parameters in the response body

Parameter	Type	Description
examResponse	ExamResponse	Training scoring result, which is returned during training scoring.

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 2-43 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 2-44 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 2-45 Description of the **sensitiveWordRules** field

Parameter	Type	Description
id	String	Sensitive word ID.

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

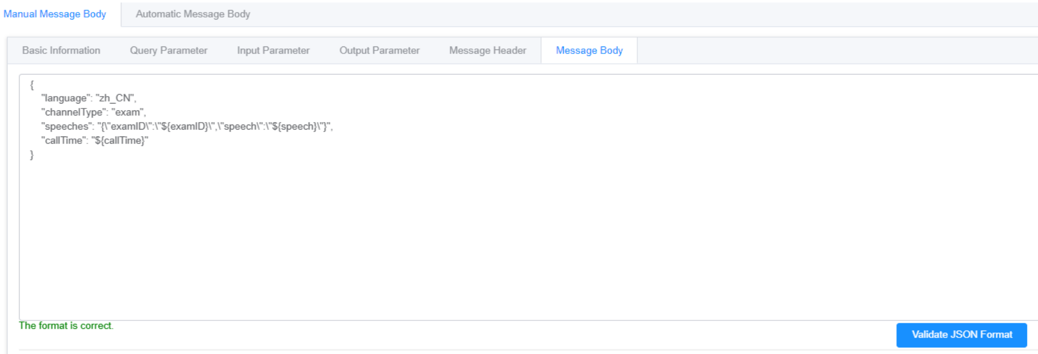
```
{
    "language": "zh_CN",
    "channelType": "exam",
    "speeches": "{\"examID\":\"${examID}\",\"speech\":\"${speech}\"}",
    "callTime": "${callTime}"
}
```

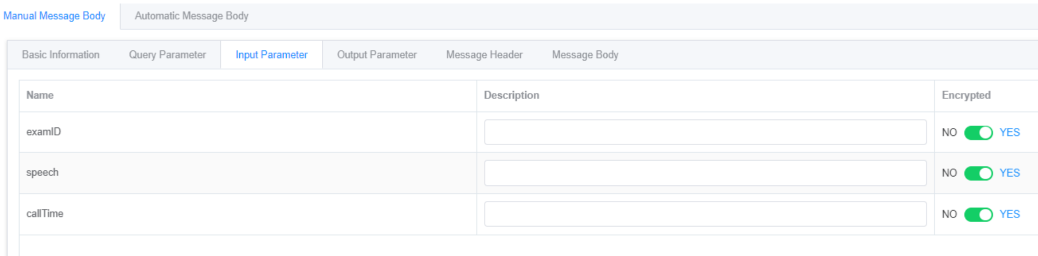
Response Example

```
{
    "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

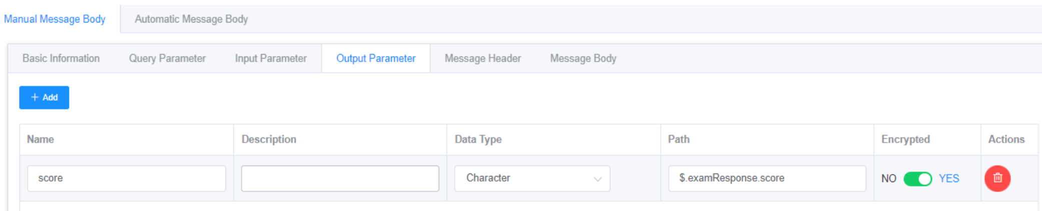
In the manually entered message body, enter a request example. The **${***Variable name***}** variable is automatically displayed on the **Input Parameter** tab page.





Output Parameter Configuration Example

Parameter	Path	Description
score	$.examResponse.score	Exam score (excluding sensitive words). This parameter is returned during training scoring.



2.6.5.4 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).

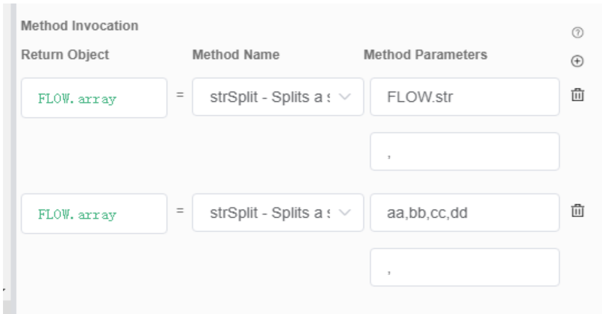
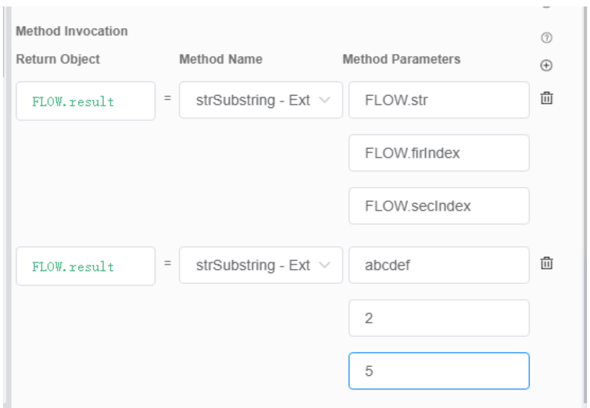
Table 2-46 Built-in functions

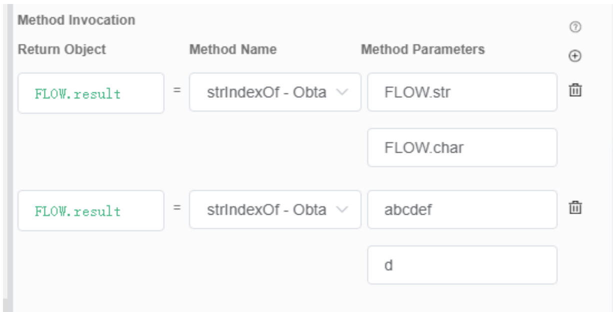
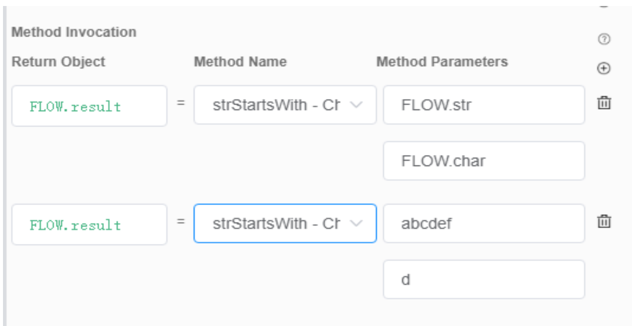
Function	Description
length()	Obtains the length of a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.length()** expression to obtain the string length of the flow variable **Answer**. The result is **5**.
size()	Obtains 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 number of elements 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.

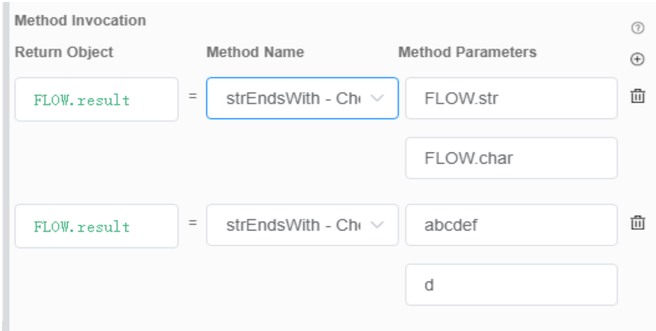
Function	Description
startsWith("xxx")	Checks whether a variable starts with a string. Example: If there is a flow variable **Answer** and the value of **FLOW.Answer** is **abcde**, you can use the **FLOW.Answer.startsWith("a")** expression to check whether the value starts with **a**. The result is **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.

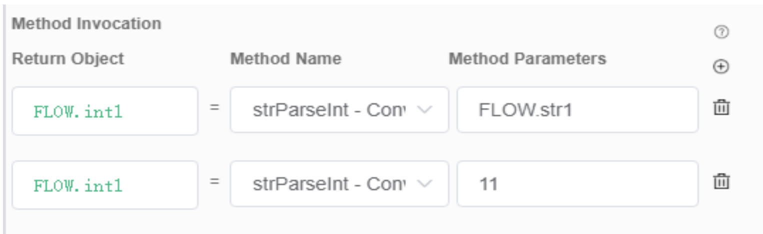
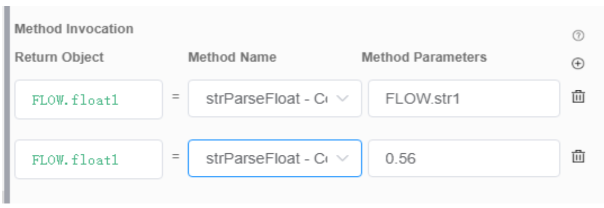
Function	Description
put()	Adds an attribute to an object. Example: If a flow variable **FLOW.person** is of the object type and the value is **{"name":"Jack"}**, you can use **FLOW.person.put("age","18")** in the cache variable area to add the **age** attribute to **FLOW.person**. You can cache the 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.

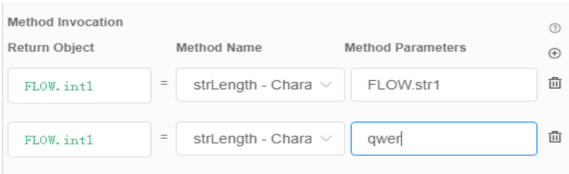
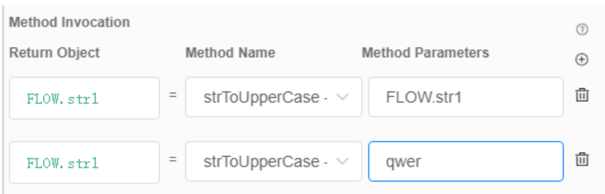
Table 2-47 String operation methods

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**. 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 values to the method parameters using variables or manually. You do not need to add quotation marks when entering values for the method parameters (the same below). 
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 values to the method parameters using variables or manually. 

Function	Description
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 values to the method parameters using variables or manually. 
strStartsWit h()	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 values to the method parameters using variables or manually. 

Function	Description
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 values to the method parameters using variables or manually. 
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. You can cache the result to any variable (**FLOW.obj1**) of the object type. You can assign a value to the method parameter using a variable or manually. 

Function	Description
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. 
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. 

Function	Description
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. 
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. 

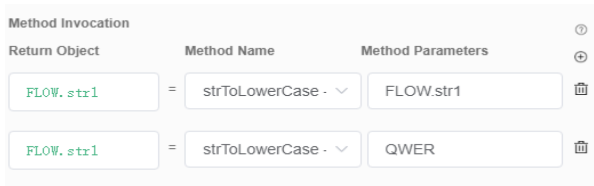
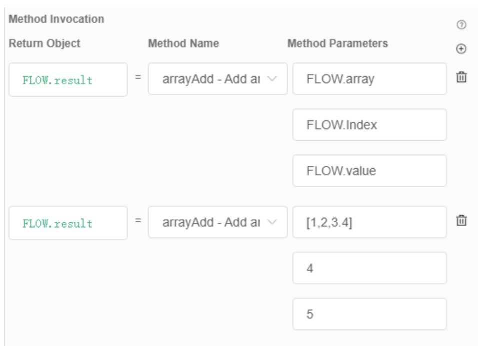
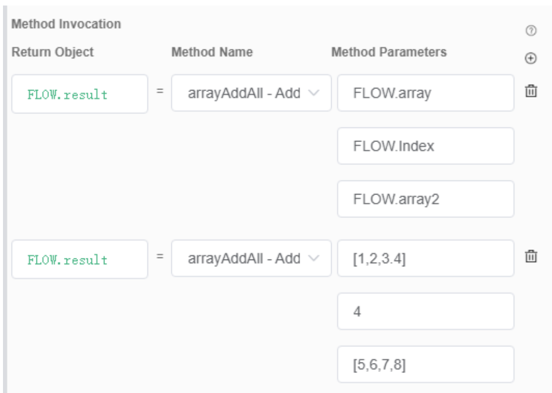
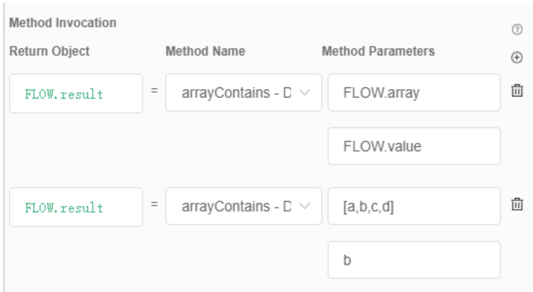
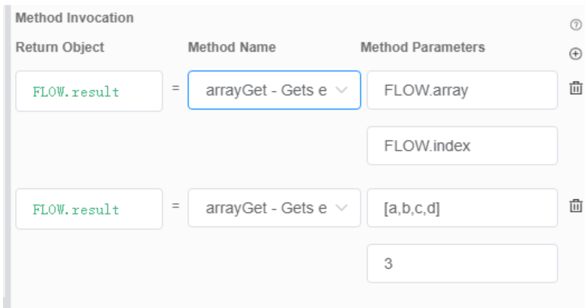
Function	Description
strToLowerCase()	Converts uppercase in a string to lowercase. The return object is the string generated after conversion. There is one parameter: **String to be converted**. Example: If a flow variable **FLOW.str1** is of the string type and the value is **"QWER"**, you can invoke 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. 

Table 2-48 Array operation methods

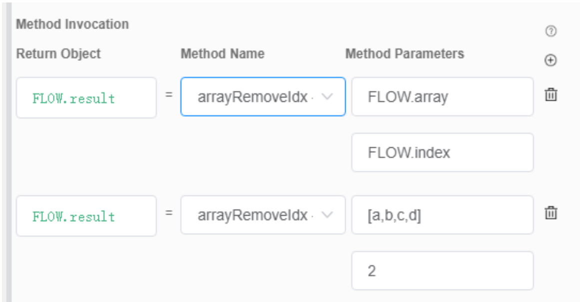
Function	Description
arrayAdd()	Adds an element to an array. The return object is the addition result. The value is **1** (addition successful) or **0** (addition failed). There are three parameters: **Array to be modified**, **Position of the addition (By default, the element is added at the end.)**, 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 values to the method parameters using variables or manually. 

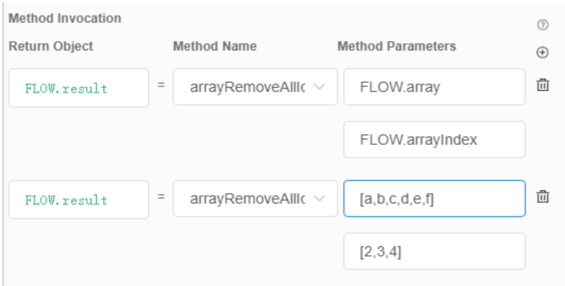
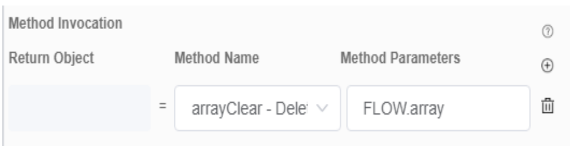
Function	Description
arrayAddAll()	Adds all elements in another set to an array. The return object is the addition result. The value is **1** (addition successful) or **0** (addition failed). There are three parameters: **Array to be modified**, **Position of the addition (By default, the elements are added at the end.)**, and **Elements 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 values to the method parameters using variables or manually. 

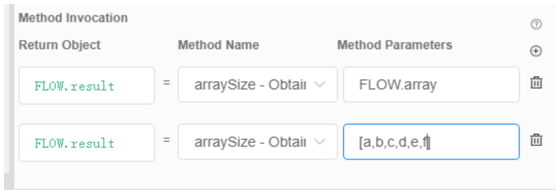
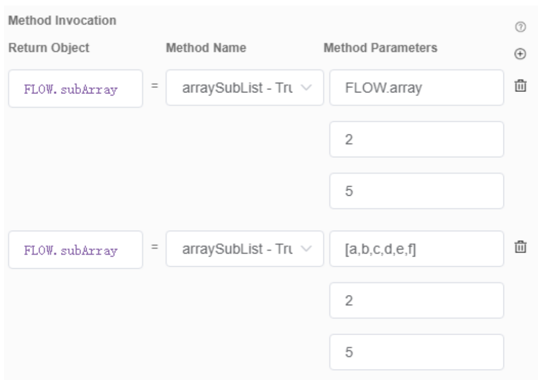
<table>
<tr><th>Function</th><th>Description</th></tr>
<tr><td>arrayContains()</td><td>
Checks whether an element is in an array.
The return object is the check result. The value is 0 or 1. There are two parameters: Array to be checked and Element.
Example:
If a flow variable FLOW.array is of the list 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 values to the method parameters using variables or manually.


</td></tr>
<tr><td>arrayGet()</td><td>
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 values to the method parameters using variables or manually.


</td></tr>
</table>

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 values to the method parameters using variables or manually. 

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 values to the method parameters using variables 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. 

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. 
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 values to the method parameters using variables or manually. 

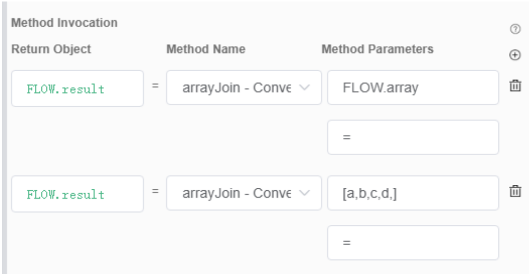
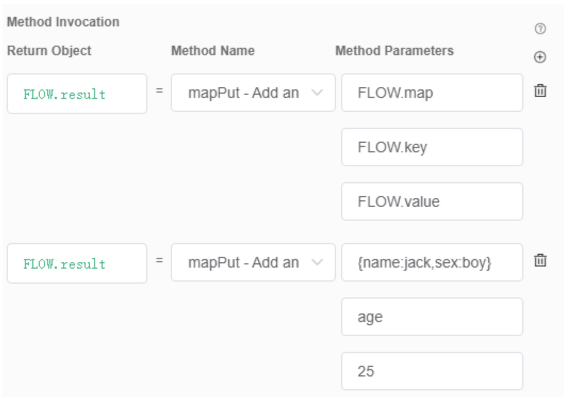
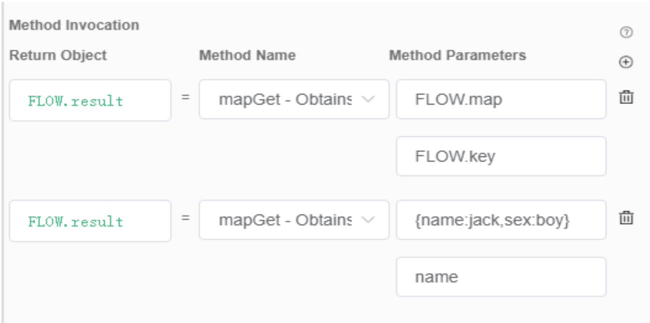
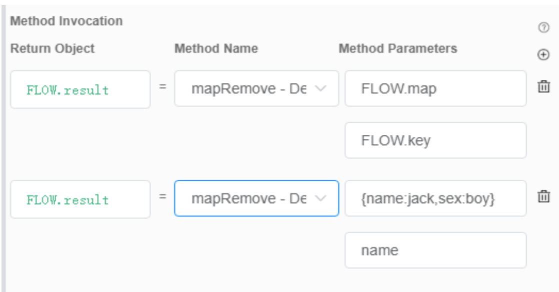
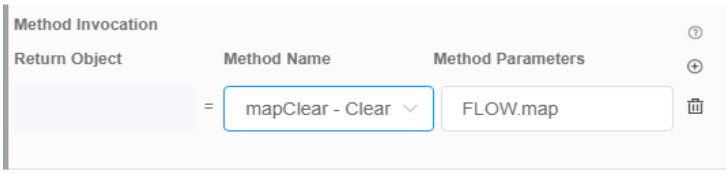
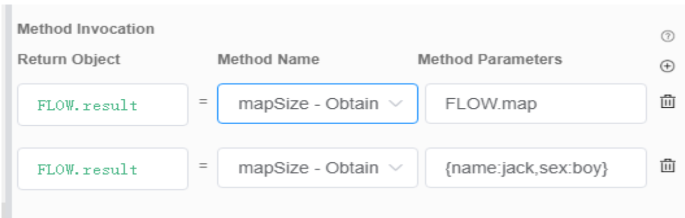
Function	Description
arrayJoin()	Converts an array to a string. The return object is the string generated after conversion. There are two parameters: **Array to be converted** and **Connection string**. Example: If a flow variable **FLOW.array** is of the list type and the value is **[a,b,c,d]**, you 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 values to the method parameters using variables or manually. 

Table 2-49 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 values to the method parameters using variables or manually.  **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.

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 values to the method parameters using variables 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 values to the method parameters using variables or manually. 

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. 

2.6.6 FAQs

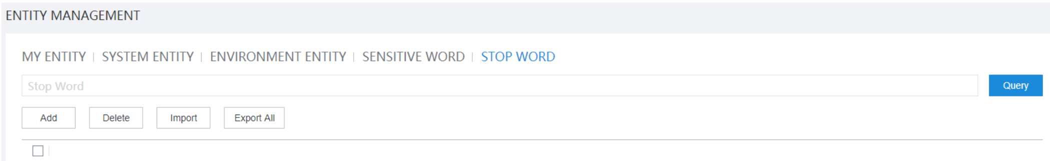
2.6.6.1 Why Do I Need to Configure Stop Words?

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 2-170 Stop word list



2.6.6.2 Why Are Some Intentions Matched Despite Low Matching Rates?

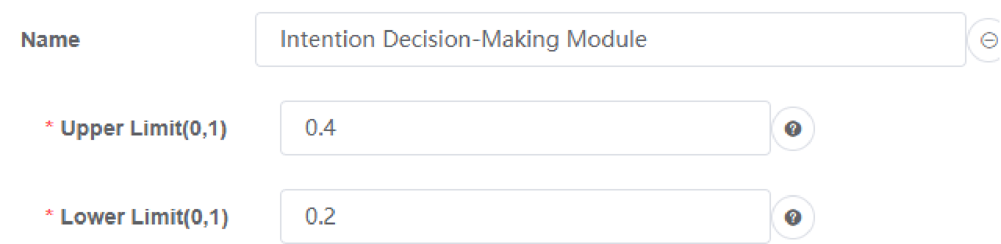
After the information entered by the user is parsed by the TUC, a matching rate is generated. The matching rate is compared with the matching rate threshold defined in the system to determine whether the intention is matched or not.

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 matched intentions. That is, in the configuration, as long as the intention matching rate is greater than 20%, the intention is matched.

2.6.6.3 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().

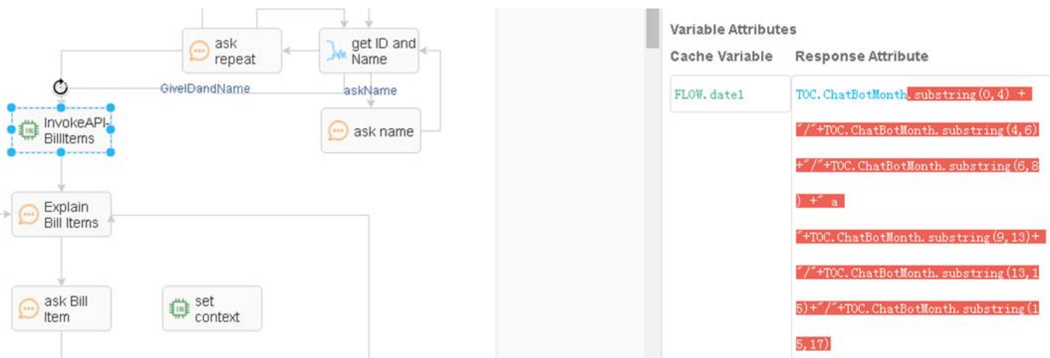
Specific parameter value:

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 **2.6.5.2 Parameters**.



2.6.6.4 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.

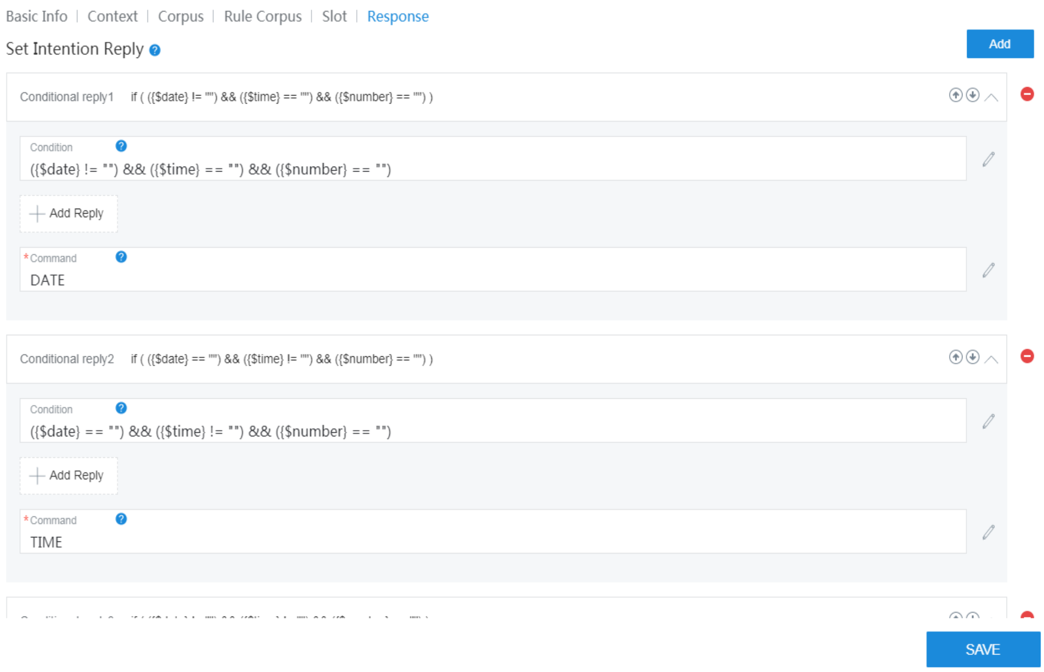
The existing processing mode of the ODFS has the following problem: If the system uses mandatory slot information verification of the intention template, the slot information that needs to be updated cannot be updated immediately. If the system clears the context to fill in the slots again, the slots 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:

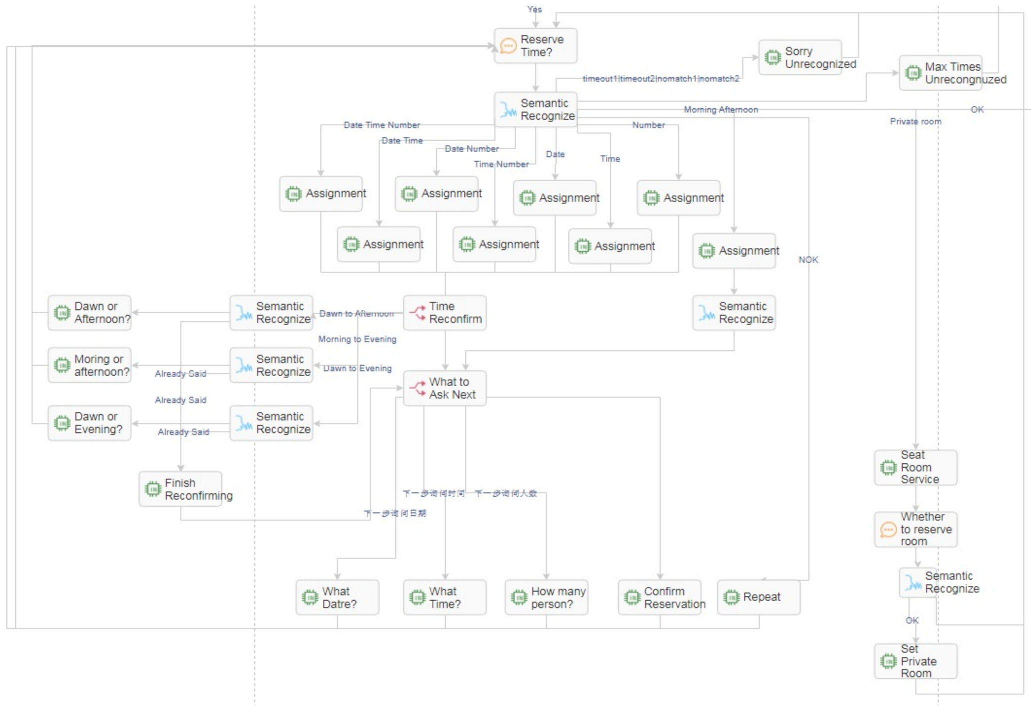
Step 1 During intention template configuration, all slots are made optional slots. In this way, the TUC does not cache the filled slots in an intention. Wait for the next interaction to obtain the information about the next slot. In this way, the problem of failing to update filled slots is avoided.

Step 2 Add the judgment logic for returning different command words based on slot information on the **Response** tab page.



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

2.6.6.5 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 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:

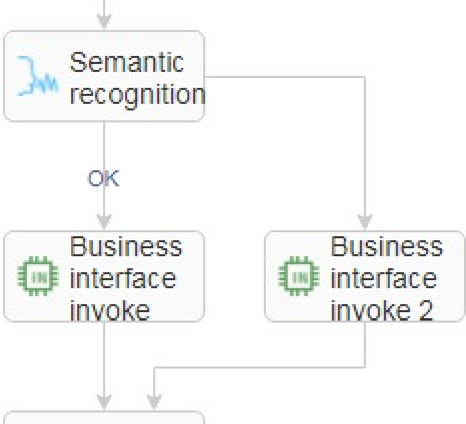
- The sys_err intention is not configured or identified.
- No abnormal condition branch is configured in the dialog flow.

Solution

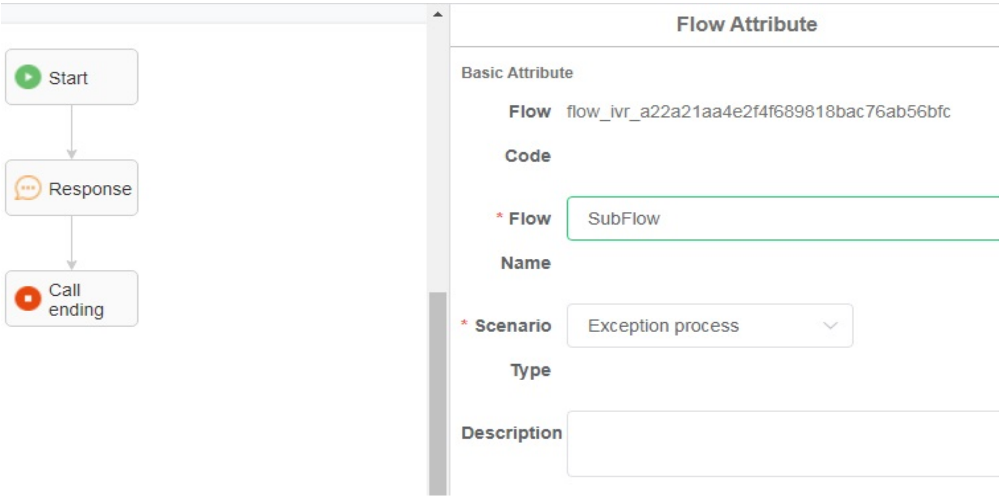
Check the intention templates and dialog flows as follows:

- 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.



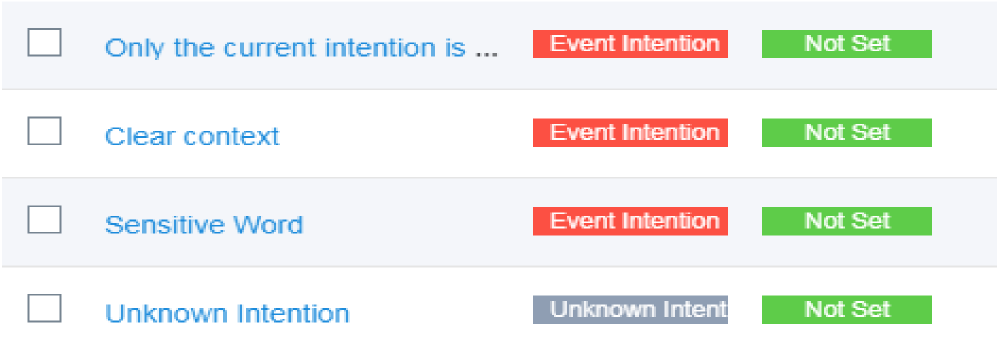
2. An exception subflow needs to be created in the dialog flow. In the subflow, a system exception voice can be simply played. The system only needs to support voice playback and does not need to support key pressing and identification. After the voice is played, the flow ends directly.



- 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** tab page of the unknown intention is set to **UNKNOWN_INTENT**, as shown in **Figure 2-171**.

  Figure 2-171 Unknown intention configuration page

2.6.6.6 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.

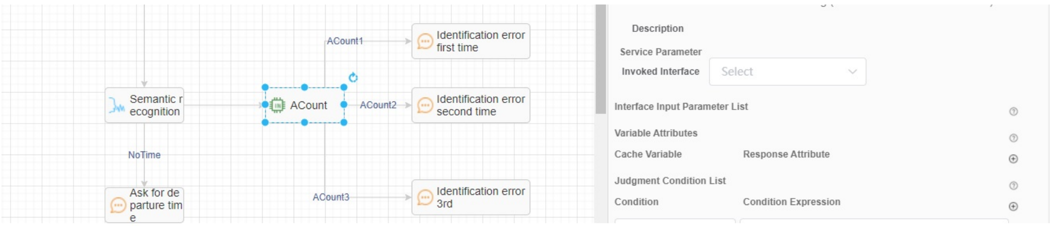
The preceding fixed rules apply only to the same identification scenario. The stop condition is that the total number of timeout errors and rejection errors reaches three.

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.



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.

2.6.6.7 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.

2.6.6.8 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.

2.6.6.9 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 subscriber hangs up the call. In this case, the reason code is **2**.
- 2. The call is disconnected when the flow ends normally. In this case, the reason code is **0**.
- 3. The call is disconnected when the flow ends abnormally. In this case, 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.

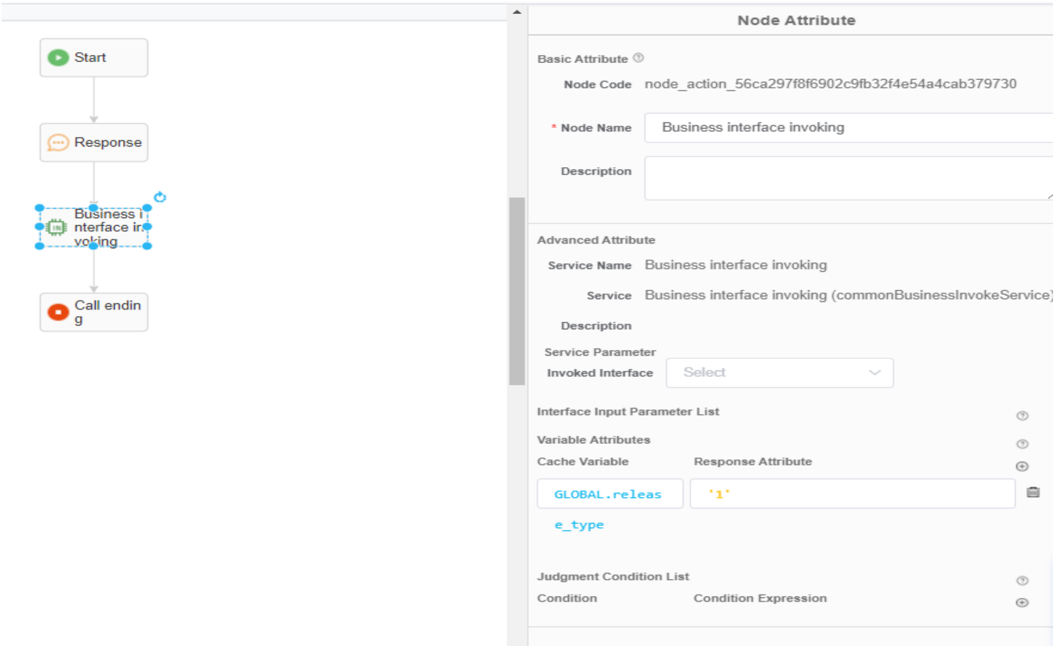
Step 1 Define a global variable to identify the disconnection reason.

When adding a global variable, specify the default value, which must be the reason code for the call disconnected by the subscriber. 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.

Step 2 Add an exception flow and set the reason code for abnormal disconnection.

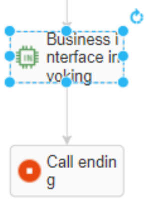
Create a flow by referring to **2.6.2.5 Adding Flows** and set **Scenario Type** to **Exception Flow**. Generally, a **Response** diagram element is required in an exception flow to play etiquette expressions about causing the inconvenience, for example, "Sorry, we are facing some technical issues. Please try after some time. Thank you."

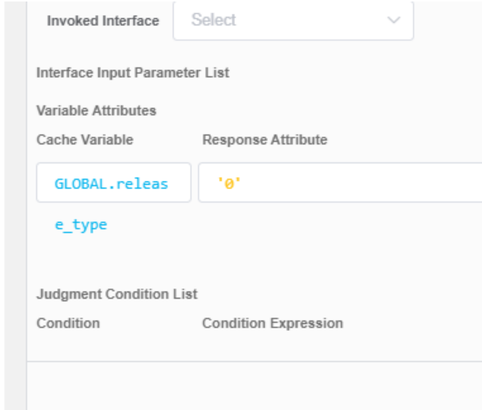
Use the **Business Interface Invoke** diagram element to assign a value to the global variable, indicating the reason code of abnormal disconnection in the flow. In this example, set the global variable to **1**. Use the **Call ending** diagram element to end the call in an exception flow.



Step 3 Set the reason code of normal disconnection in front of the **Call ending** diagram element in a normal flow.

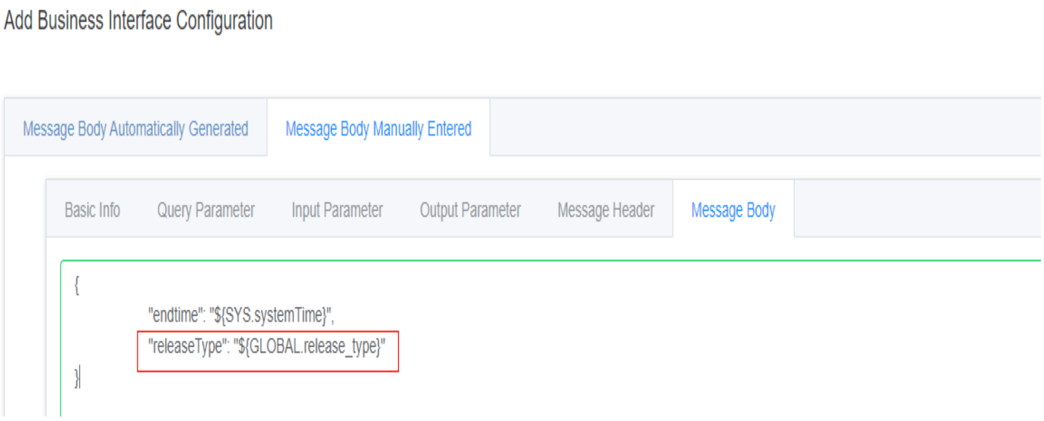
You do not need to change the logic of the current normal flow. You only need to add a **Business Interface Invoke** diagram element in front of the **Call ending** diagram element in a normal flow and assign a value to the global variable, indicating the reason code of normal disconnection in the flow. In this example, set the global variable to **0**. The following is an example.





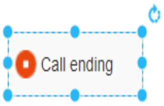
Step 4 Set the parameters for the specified interface.

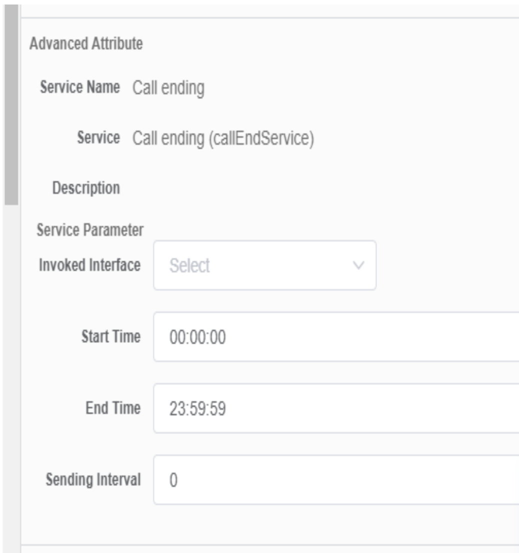
Add a business interface based on the interface information provided by the business side by referring to section 4.1.1. However, set the preceding variable that indicates the disconnection reason code to the input parameter of the message body in the interface, as shown in the following figure.



Step 5 Invoke the specified interface for the **Call ending** diagram element in the main flow.

By referring to **2.6.5.1.2 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.





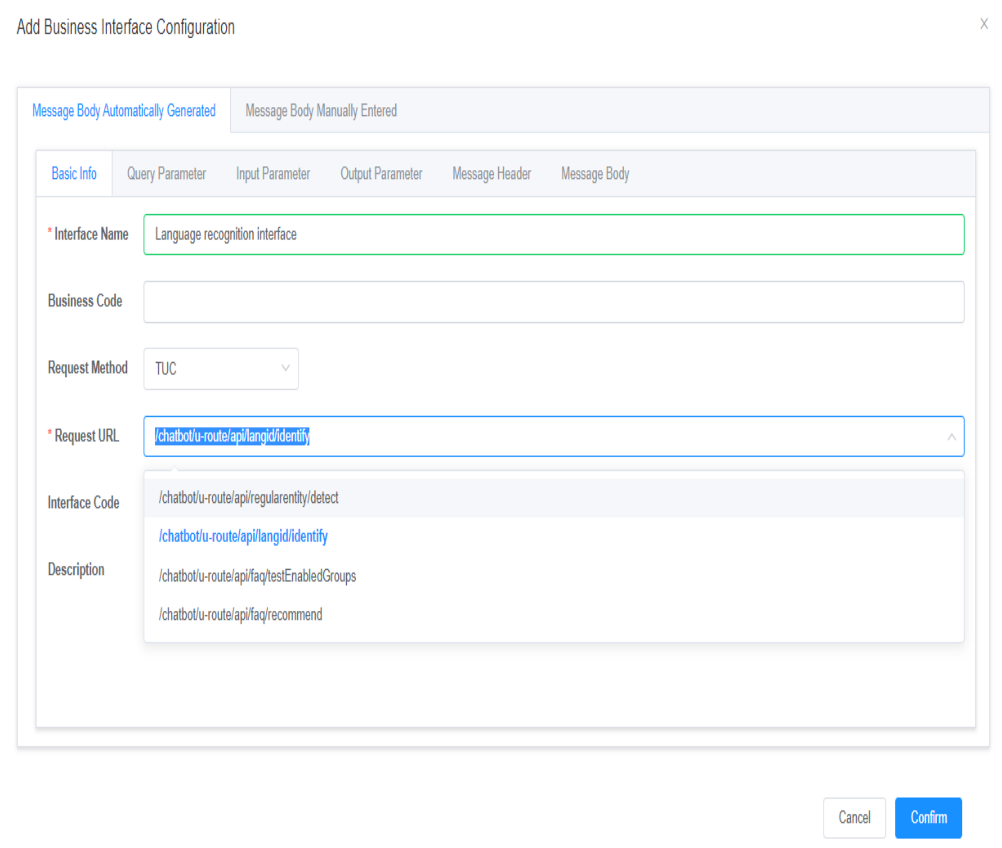
----End

2.6.6.10 How Do I Configure the Language Recognition Interface?

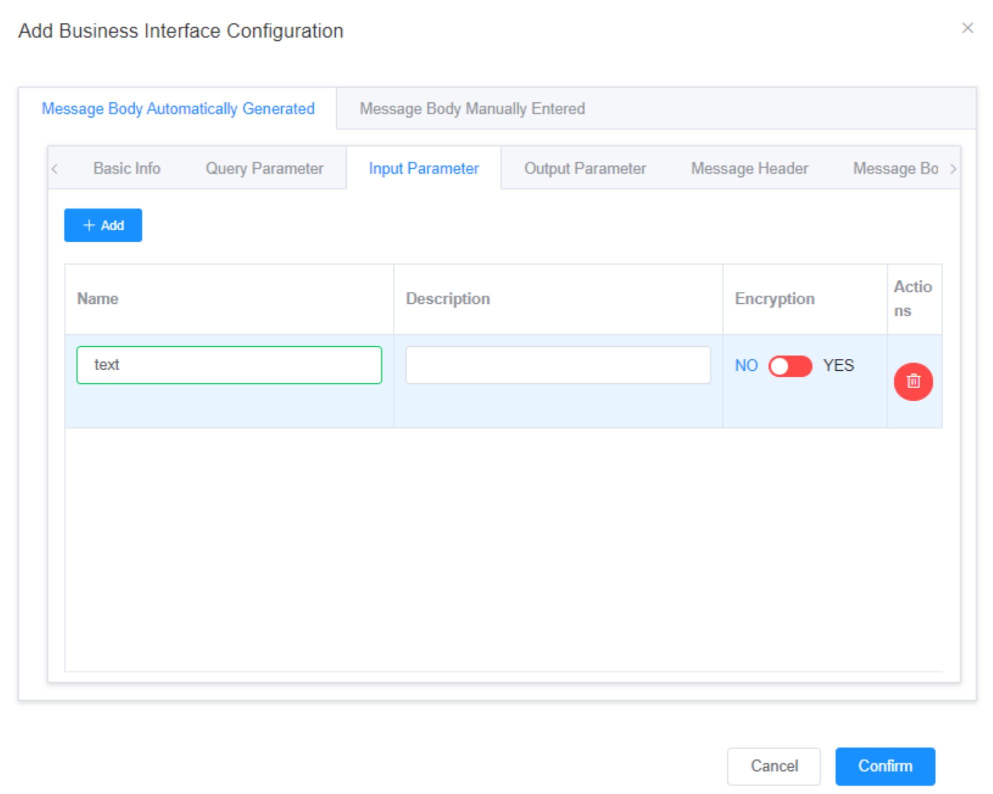
The OIAP provides the language recognition interface. You can invoke the interface by configuring the **Business interface invoking** diagram element in a flow. The interface supports Chinese, English, Arabic, and Spanish. When you configure an OIAP multi-language flow, the configuration of the language recognition interface is mandatory.

Step 1 Add the language recognition interface to the **Business interface invoking** diagram element.

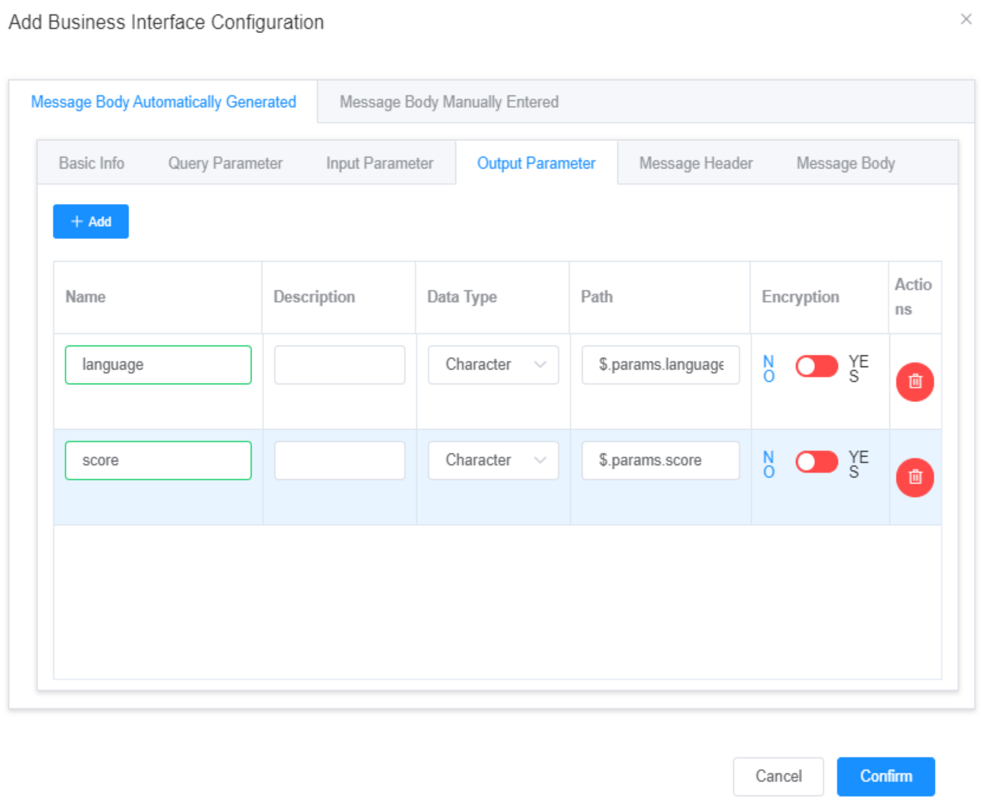
1. Choose **Resource Management** > **Business Interface** to add an interface. Select **Message Body Automatically Generated**, set **Interface Name**, **Request Method**, and **Interface Code** to **Language recognition interface**, **TUC**, and **/chatbot/u-route/api/langid/identify**, respectively.



2. Enter input parameters, as shown in the following figure.

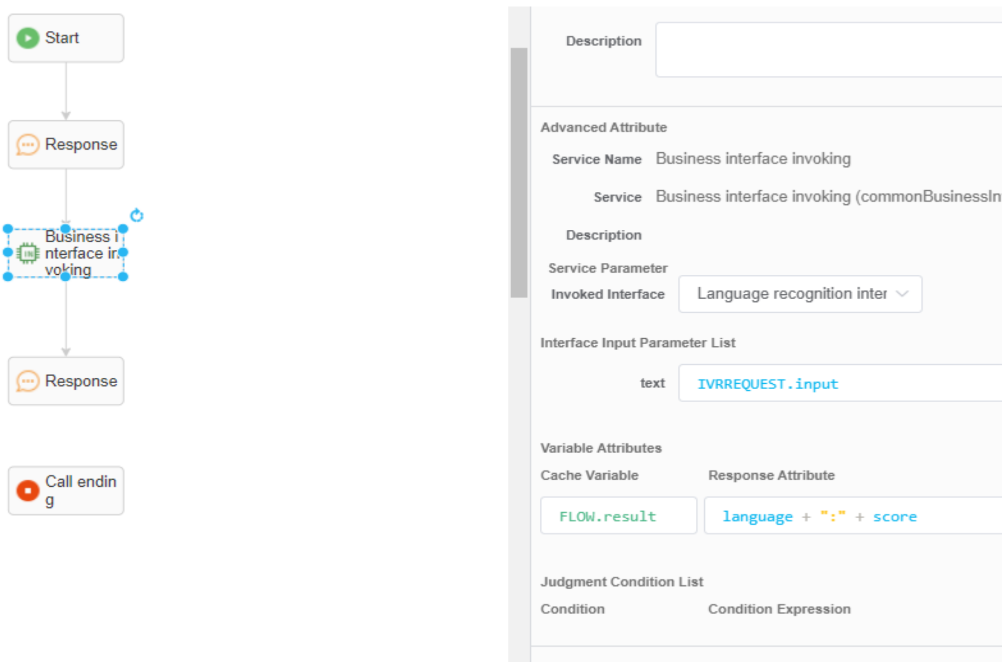


3. Enter output parameters, as shown in the following figure.



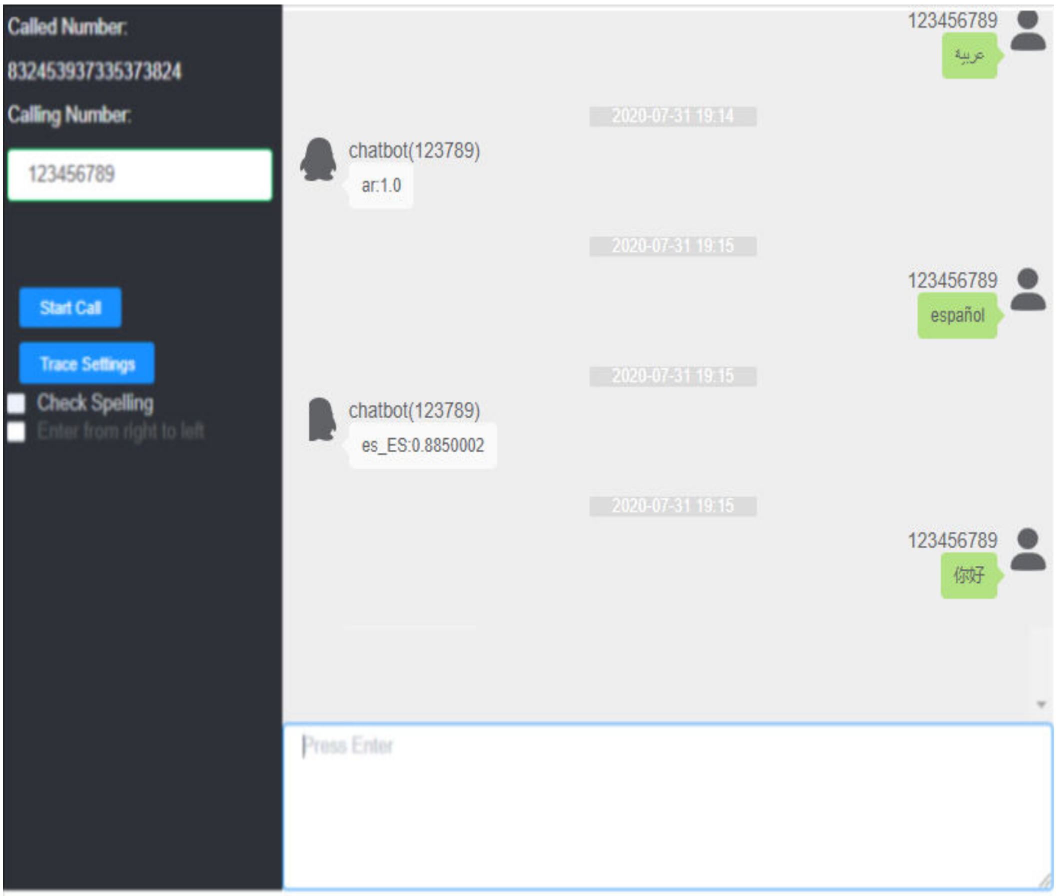
Step 2 Use the language recognition interface in a flow.

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.

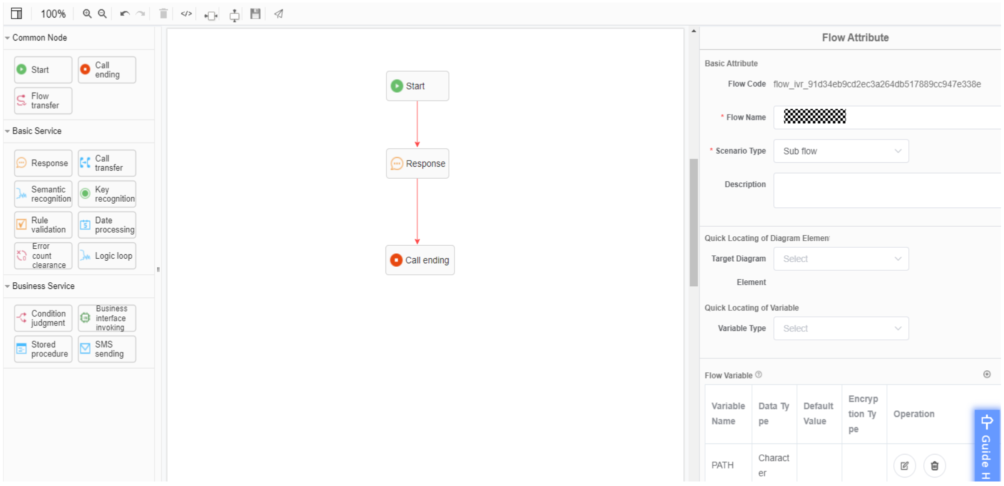


----End

2.6.6.11 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.

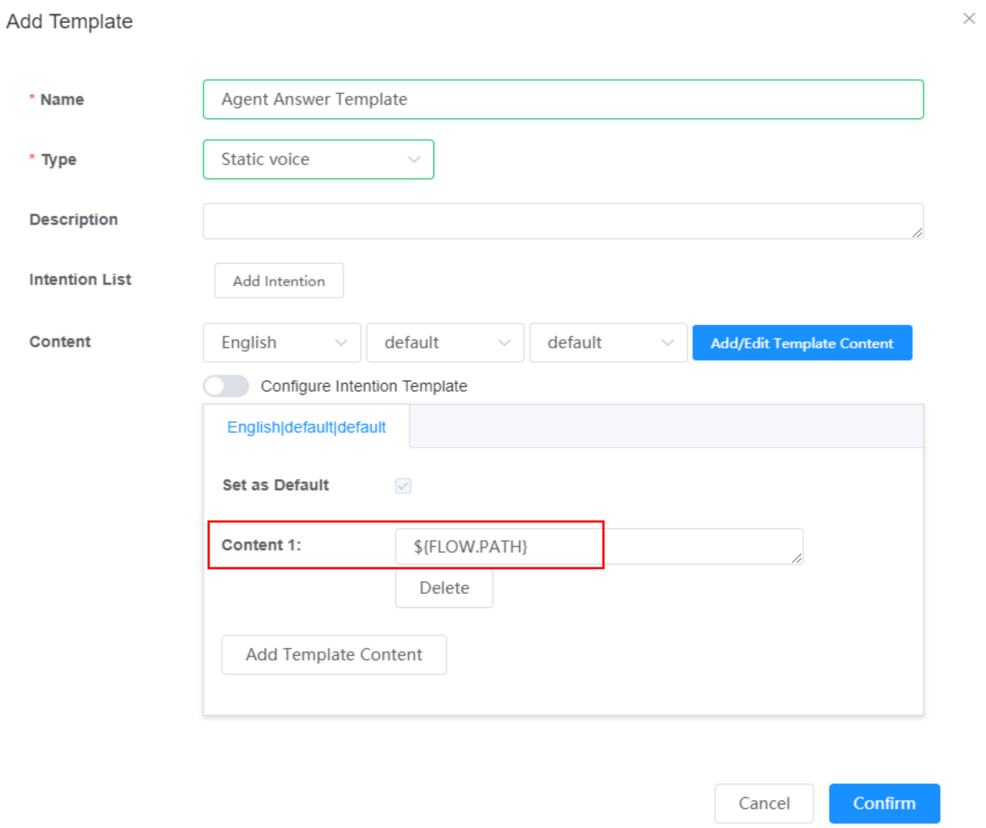
1. Choose **Flow Management > Flow Orchestration** and click **Add** to create a flow. Click ⊕ in the lower right corner, create a flow variable, and click **Confirm**.



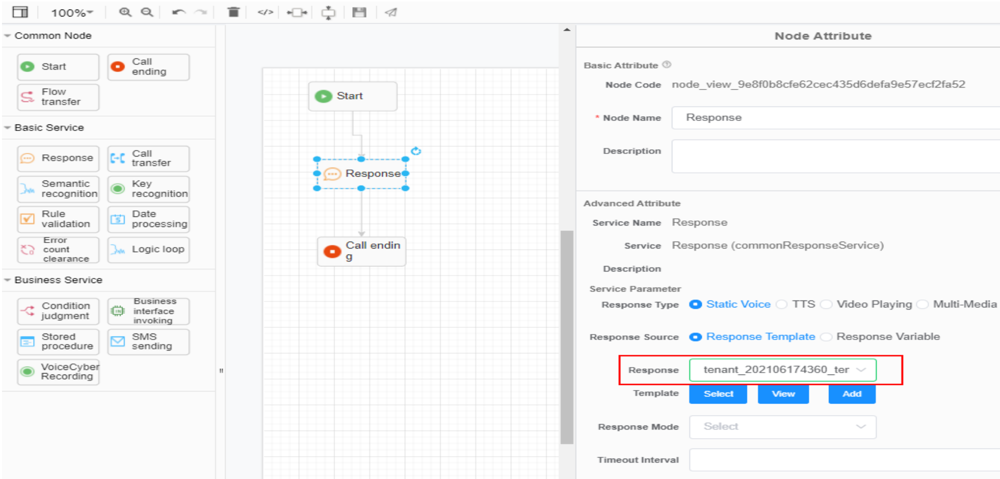
2. Choose **Resource Management > Resource Template** and click **Add** to create a resource template. Enable the **Enable dynamic settings for flow variables** function, enter the flow variable created in the previous step in **Content 1** in the **Template Content** area in the format of *${FLOW. Flow 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.



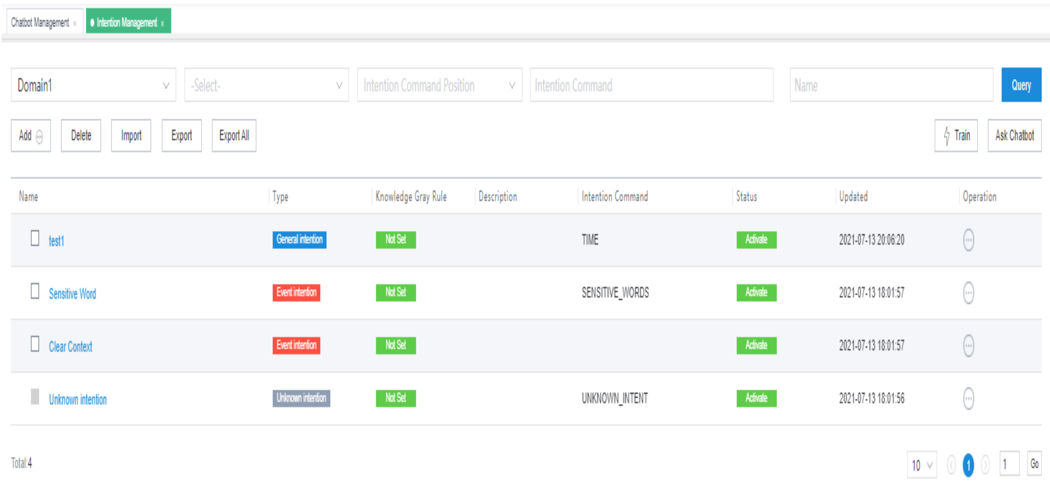
2.6.6.12 How Do I Use a Rule Corpus?

As a supplement to common corpuses, rule corpuses are used to identify users' intents based on rules. They have the following features:

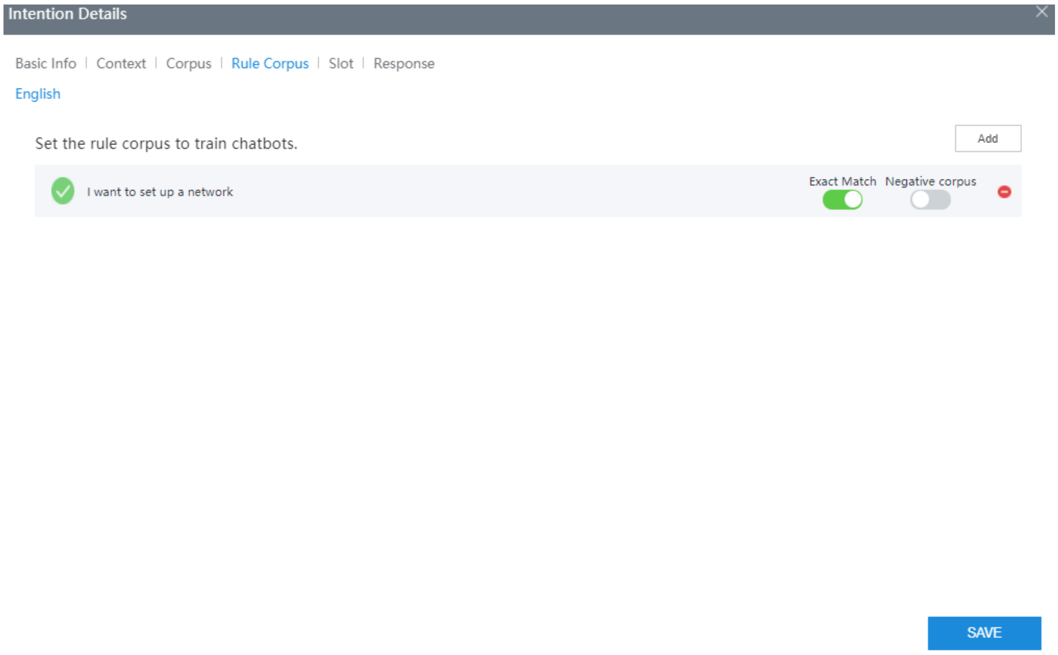
- The configuration is simple, explicit, and flexible, which greatly reduces the threshold for configuring corpuses.
- When there are a large number of intents, misidentification can be effectively prevented.

Procedure

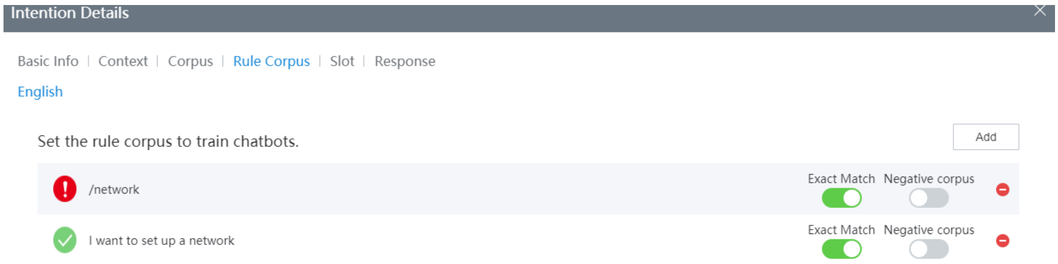
Step 1 The intent management page is displayed.



Step 2 Create an intent or open an existing intent, click the **Rule Corpus** tab, and click **Add** to add a rule corpus.



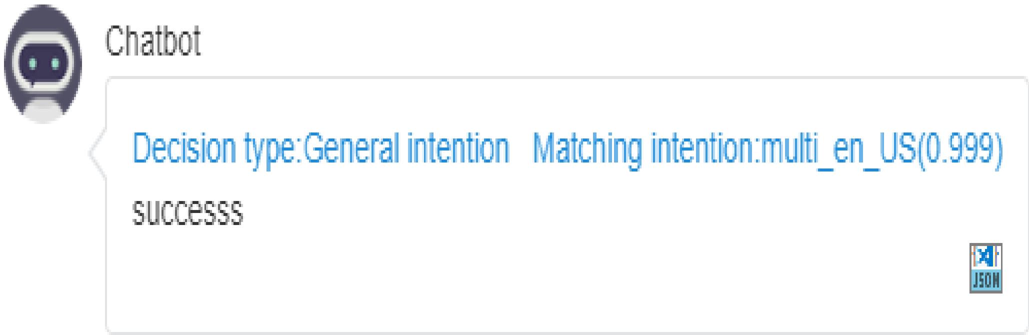
Step 3 The tag on the left of the corpus indicates whether the rule format is correct. If the rule format is incorrect, an error message is displayed.



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**.



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

2.7 Configuring a Mobile Agent

A tenant administrator can configure the mobile customer service to forward inbound calls to specified skill queues or numbers.

2.7.1 (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.

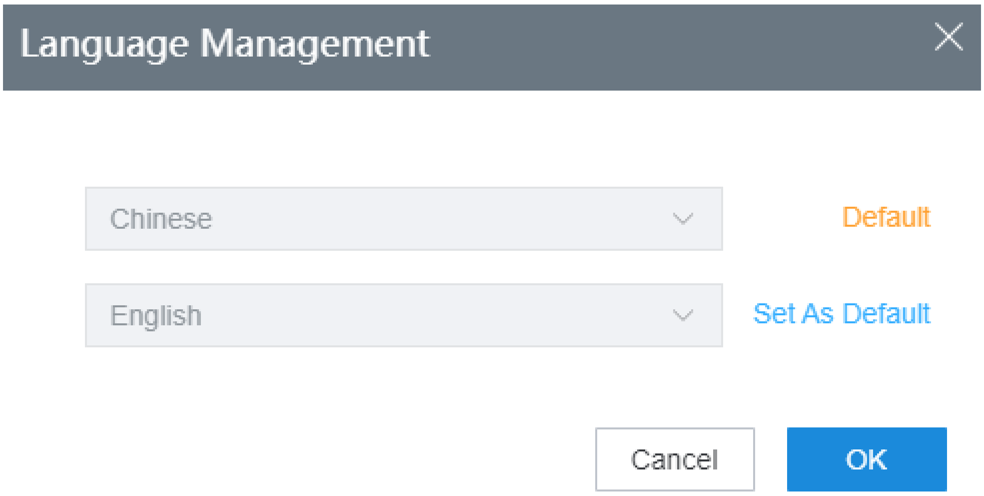
Context

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

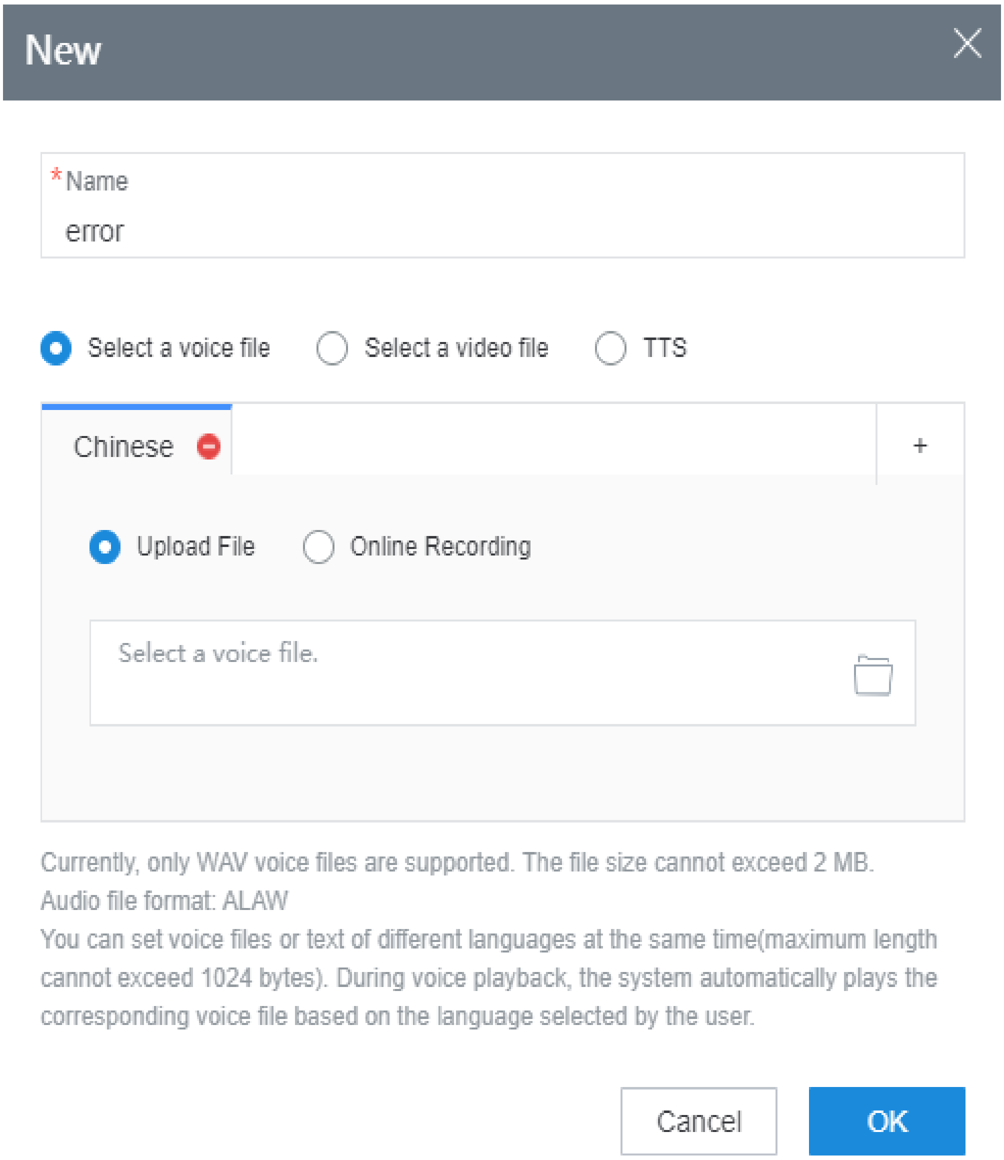
Step 1 Add a voice file, which is used as a voice prompt for an error flow.

1. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Audio and Video Resource Management**.
2. Click **Language** to view the language configuration. Select the language to be set as the default language, click **Set As Default**, and click **OK**.



3. Click **New** in the upper right corner. The page for adding a voice file is displayed.
4. Set voice prompt parameters.
   - **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, click **OK**. If you do not have a voice file, click **Online Recording**.

Figure 2-172 Adding a voice file



5. Return to the voice list page, select the voice file that is successfully uploaded, and 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 code cannot be found).

1. Choose **Configuration Center** > **Flow Configuration** > **Flow Management**.
2. Click **New**. The page for adding a flow is displayed.
3. Set flow parameters. Enter a flow name, set **Type** to **Exception Handling Flow**, set **Is Referenced** to **Yes**, and click **Complete**.
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  to save the flow.

6. Expand the new error flow, click **Release**, select **Official Release**, and click **OK**. The new flow is successfully released.

Step 3 Add the whitelist and two interfaces.

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** > **Flow Configuration** > **Flow Management**.
3. Choose **Interface Configuration**.
4. Click **New**. Set interface parameters by referring to **Figure 2** to **Figure 5**.

   Figure 2-173 and **Figure 2-174** indicate the input and output parameters of the getCalledInfo interface. **Figure 2-175** and **Figure 2-176** 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 has historical call records. If historical call records are available, the called numbers are found.

Figure 2-173 Input parameter header and output parameters of the getCalledInfo interface

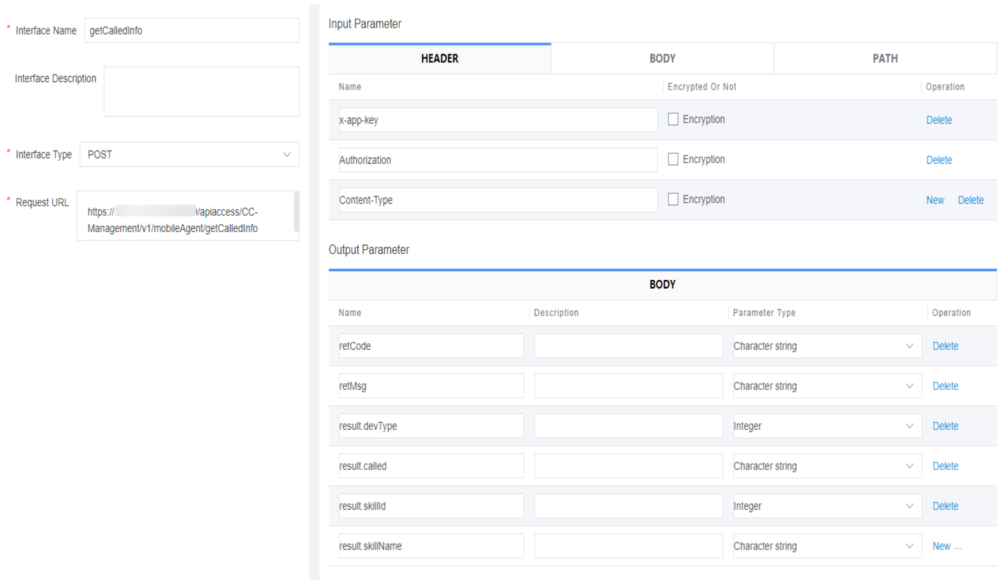


Figure 2-174 Input parameter body of the getCalledInfo interface

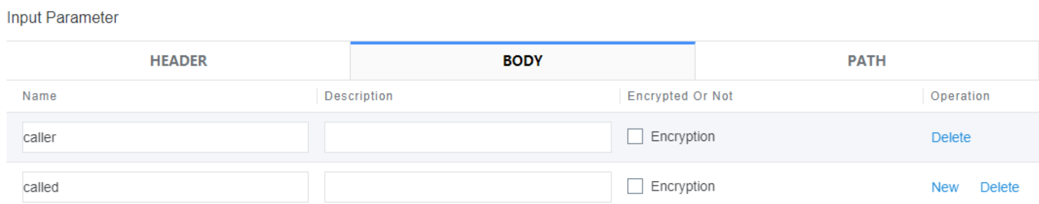


Figure 2-175 Input parameter header and output parameter of the token interface

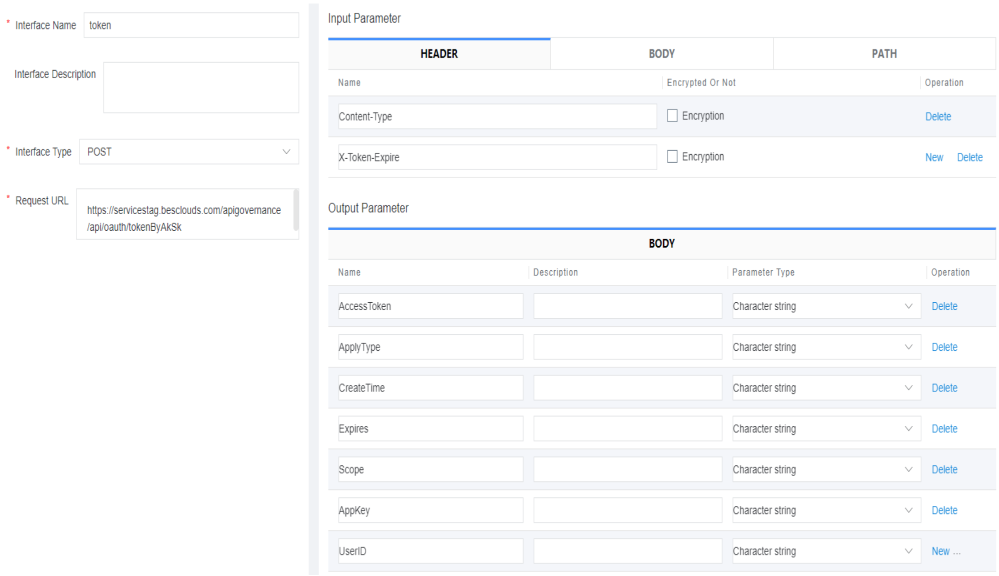
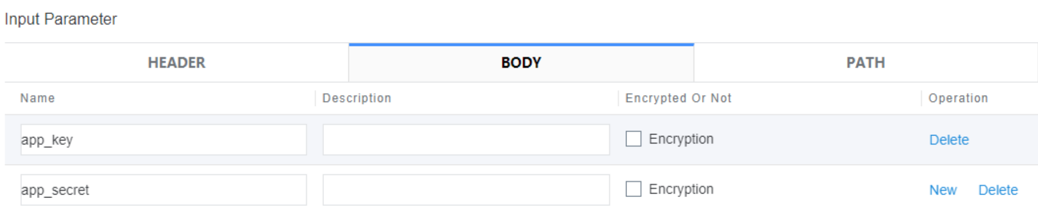


Figure 2-176 Input parameter body of the token interface

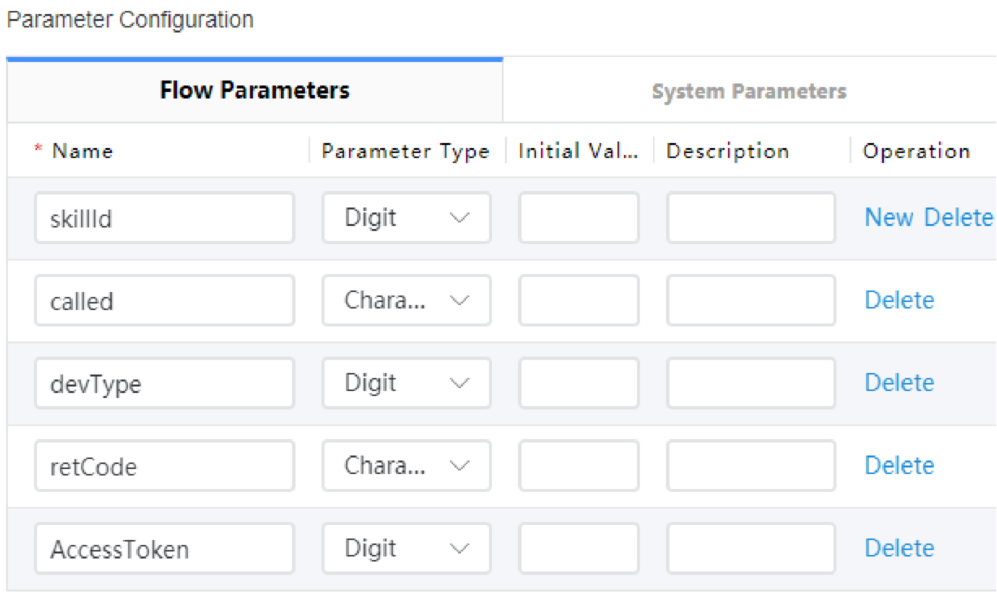


Step 4 Add an inbound call flow.

1. Choose **Configuration Center** > **Flow Configuration** > **Flow Management**.
2. Click **New**.
3. Configure flow information. Enter a flow name, set **Type** to **Subflow**, set **Is Referenced** to **Yes**, and click **Complete** to save the flow information.
4. Click the flow to expand it and click **Edit**. The flow editing page is displayed.
5. Click a blank area in the canvas and add the following flow variables on the right.

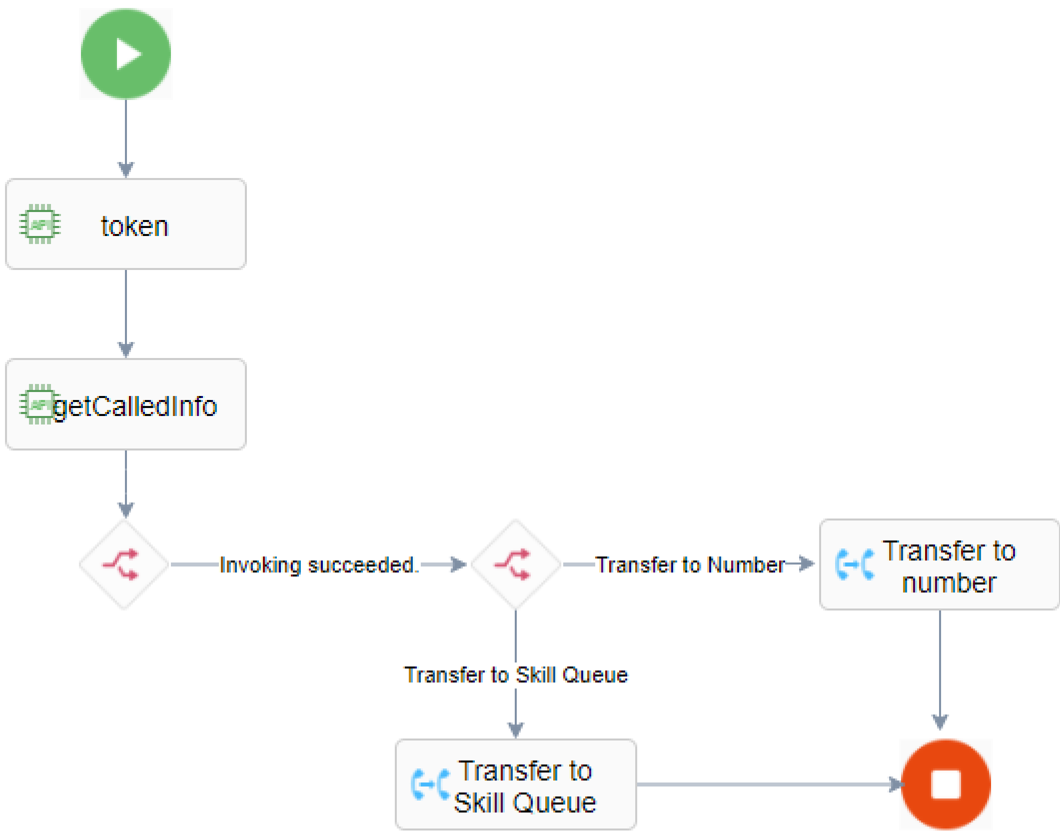
   These variables are used to store the data returned by the interface in the flow.

Figure 2-177 Configuring parameters



6. Drag diagram elements to the canvas and draw the flow as shown in the following figure.

Figure 2-178 Drawing a flow



7. Configure nodes.

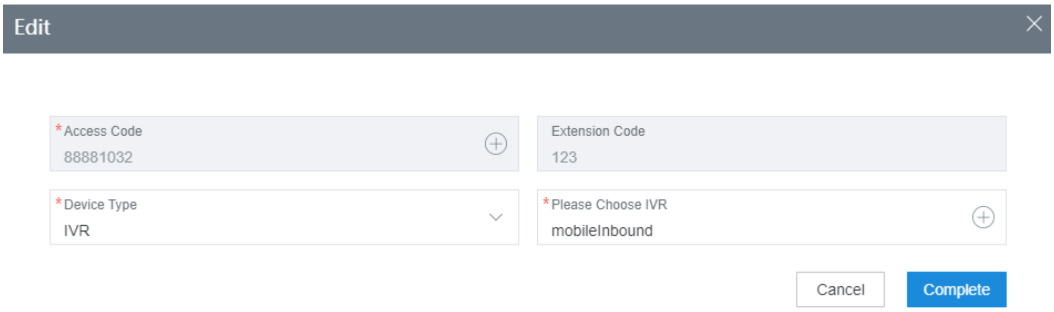
Node	Configuration
token	Interface invocation diagram element, which references the token interface added in **Step 3**. Input parameter header: – Set **Content-Type** to **application/json**. – Set **X-Token-Expire** to **6000**. Input parameter body: – Set **app_key** to the value of **AK**. – Set **app_secret** to the value of **SK**. Output parameter: – **AccessToken**: **FLOW.AccessToken**
getCalledInfo	Interface invocation diagram element, which references the getCalledInfo interface added in **Step 3**. Input parameter header: – Set **x-app-key** to the value of **AK**. – Set **Authorization** to **Bearer ${FLOW.AccessToken}**. – Set **Content-Type** to **application/json**. Input parameter body: – Set **caller** to **${SYS.callingNumber}**. – Set **called** to the system access code provided by the mobile agent. Output parameter: – **retCode**: **FLOW.retCode** – **result.devType**: **FLOW.devType** – **result.called**: **FLOW.called** – **result.skillId**: **FLOW.skillId**
Condition Judgment (left)	Condition 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.
Condition Judgment (right)	Condition 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.

Node	Configuration
Transfer to number	Transfer diagram element, which is used to transfer a call to a third-party number. Select **Transfer to Third Party** and set the transferred number to **${FLOW.called}**.
Transfer to Skill Queue	Transfer diagram element, which indicates that a call is transferred to a manual skill queue. Select **Transfer to Agent** and select 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 **OK**.

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 Route**.
2. Click **New** to add a called route.
3. Click , select a system access code of the **Audio/Video** type, add an extension code, set **Device Type** to **IVR**, and select the flow configured in **Step 4**.



4. Click **Complete**.

----End

2.7.2 Configuring a Mobile Agent in the AICC

After a user dials the tenant access code, the call is connected to a skill queue or a specified number based on the configuration.

Prerequisites

After the system administrator enables the mobile agent feature for a tenant space, the tenant administrator can configure mobile agents.

Procedure

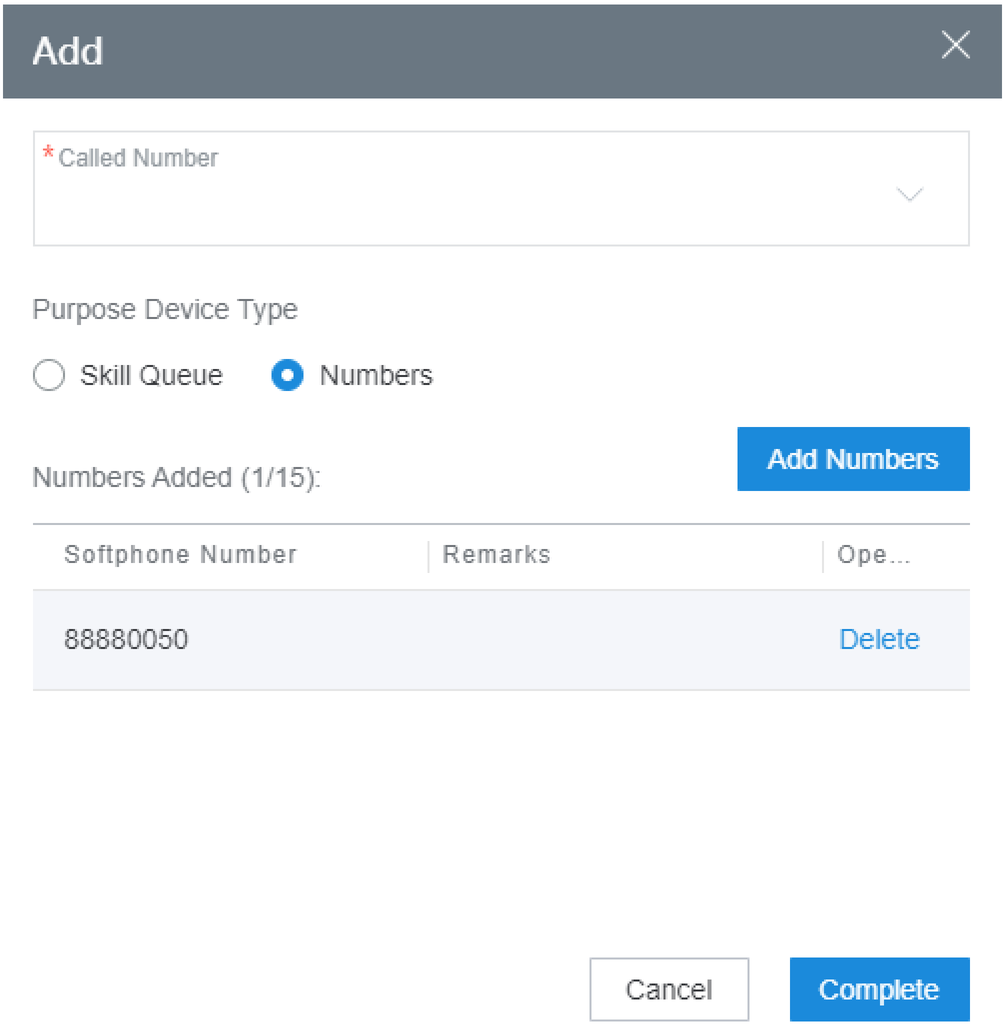
Step 1 Sign in to the AICC as a tenant administrator. Choose **Configuration Center** > **Access Configuration** > **Mobile Agent**.

Step 2 Click **Add**.

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 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 2-179 Adding a mobile agent



The parameters are described as follows:

- **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 Route** page. For details, see the called route configuration in "(Optional) Configuring an Inbound Call Flow."
- **Purpose Device Type**: Type of the device that an agent can connect to when connecting to a call from a customer. The options are **Skill Queue** and **Numbers**.
  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 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.

b. **Numbers**: Click **Add Numbers** 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 VDN, click **Complete**.

----End

2.8 Configuring Channels

The tenant administrator can configure access channels to implement online text chats between customers and agents.

Prerequisites

- Agents are available in a multimedia skill queue.
- A called route has been configured.

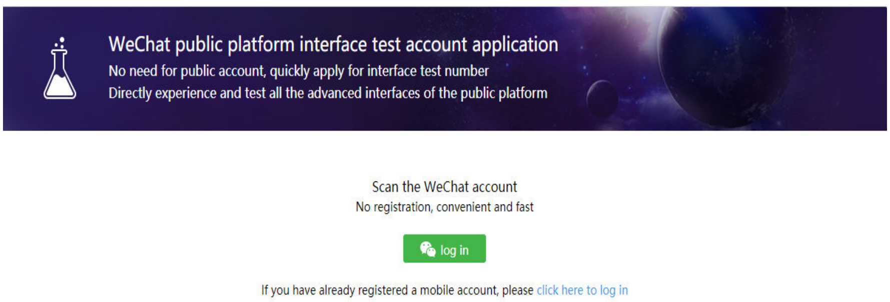
2.8.1 Configuring the WeChat Channel

A tenant administrator can configure the WeChat channel for customers to access.

Prerequisites

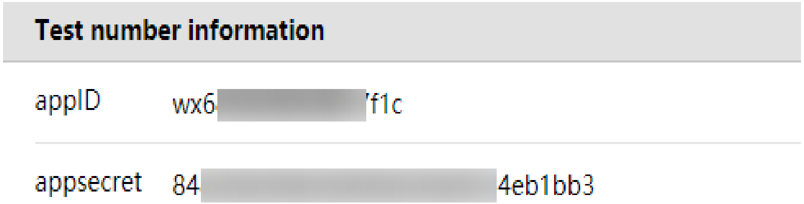
- Prerequisites for key-based hosting
  - The system administrator has uploaded the WeChat authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
  - You have added the external IP address of the AICC to the trustlist on the **WeChat Official Accounts Platform** > **Develop** > **Basic Settings** page.
  - You have logged in to the WeChat Official Accounts Platform and applied for an access ID and secret in advance.
    i. Visit **https://mp.weixin.qq.com/debug/cgi-bin/sandboxinfo?action=showinfo&t=sandbox/index** and scan the WeChat QR code to log in.

Figure 2-180 WeChat Official Accounts Platform



ii. Obtain information about the test account.

Figure 2-181 Test account information



- Prerequisites for QR code–based hosting

  The enterprise official account has passed WeChat authentication.

Context

- If the app ID and app secret provided by WeChat are changed, you need to modify the involved WeChat channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Modify** in the **Operation** column corresponding to the involved channel, and update the values of **AppId** and **AppSecret**.
- 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 Official Accounts Platform: Log in using a developer account, choose **WeChat Official Accounts Platform** > **Develop** > **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 **Modify** in the **Operation** column corresponding to the involved channel, and update the value of **encodingAESKey**.

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 **Social Media Enabling Configuration** page is displayed.

On the **Select access channel** page, set **Channel Access Code**, select **WECHAT**, and click **Next**.

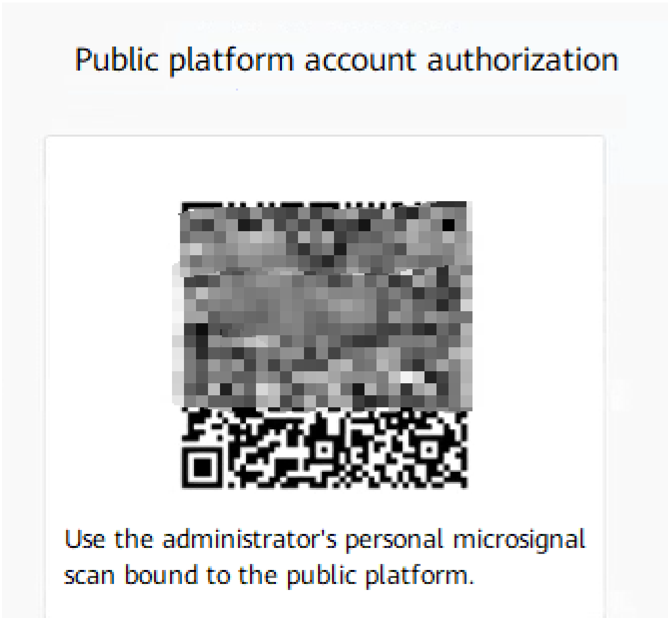
NOTE

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 Configure personalized information.

- **Hosting Method**: Key-based hosting and QR code–based hosting are supported. The following describes the operations in the two modes. Select a hosting mode based on site requirements.

- **Key** (key-based hosting): Set **AppId** and **AppSecret** to the app ID and app secret obtained from the WeChat Official Accounts Platform. To obtain the app ID and app secret, see **Applying for an Access ID and Secret**.
- **QR code** (QR code–based hosting)
  i. 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.

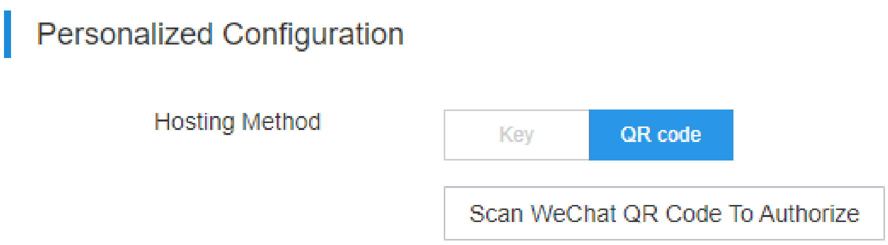


  ii. Use a WeChat account to log in to WeChat and scan the QR code. The system displays a message indicating that the scanning is successful. Authorize the account on your mobile phone.

NOTE

An official account or mini program account can be bound to only one open platform account.

  iii. 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.



- **WeChat message encryption switch**: After enabling this function, set **encodingAESKey** to the value on the WeChat Official Accounts Platform.

CAUTION

QR code–based hosting does not support WeChat message encryption.

Disabling message encryption may cause security risks. The setting must be consistent with that on the WeChat Official Accounts Platform.

- **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.

Step 4 Configure common information. After the configuration is complete, click **Save And Proceed To The Next Step**.

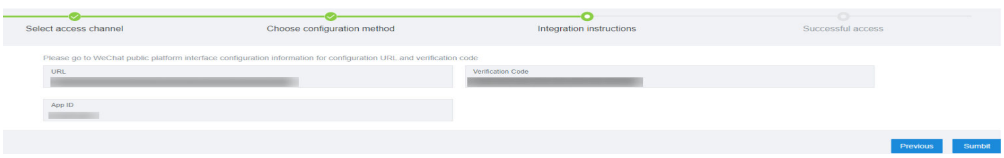
Table 2-50 WeChat channel parameters

Parameter	Description
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: • **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. • **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the WeChat client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.
Dialog End Method	This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, set the following parameters: • **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. • **Conclusion**: The system sends this end reminder after the session is disconnected.

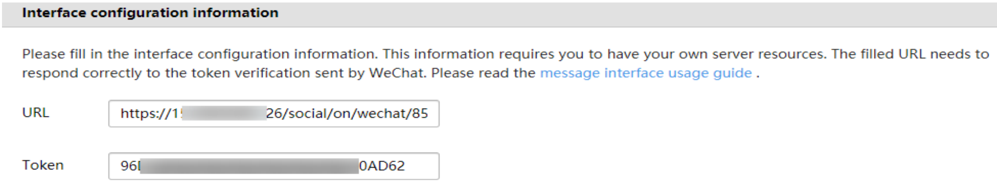
Parameter	Description
Agent Work Time	● **Workday**: A maximum of four working time segments (from 00:00 to 24:00). By default, a time segment is displayed. You can click **New** to add a time segment. ● **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00). By default, a time segment is displayed. You can click **New** to add a time segment. ● **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.
Chatbot Configuration	This function is disabled by default. If it is enabled, customers are preferentially connected to the chatbot. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 5 (Optional) On the **Integration instructions** page, set parameters. This step is required only in key-based hosting mode.

1. View the **Integration instructions** page.



2. Go to the test page of the WeChat Official Accounts Platform and enter the values of **URL** and **Verification Code** in the API configuration. Click **Submit** to perform token authentication.



Step 6 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

Follow-up Procedure

To set up a connection with an agent, scan the QR code of the official account and send a message to its backend.

2.8.2 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 page through JavaScript or API integration.
- The tenant administrator has a multimedia agent that has been bound to the tenant administrator's business account.
- The message push address (*{baseUrl}*/webhooks/v1/messages) and key have been prepared. An application has been submitted to the system administrator and approved to add the message push address to the address trustlist.

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 **Social Media Enabling Configuration** 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 On the **Choose configuration method** page, set web channel parameters.

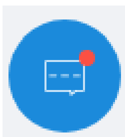
Table 2-51 Web channel parameters

Parameter	Description
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: • **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. • **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the HTML5 client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter. • **CTD Called Party Configuration**: The options are all voice and video agents and IVR flows of the current tenant space. • **Click-to-Call Skill Queue**: If **CTD Called Party Configuration** is set to **Audio and video agent**, you need to configure the skill queue. • **Click to obtain the IVR access code.**: If **CTD Called Party Configuration** is set to **IVR**, you need to configure the IVR access code.
Dialog End Method	This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, set the following parameters: • **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. • **Conclusion**: The system sends this end reminder after the session is disconnected.
Third-party authentication key	This function is disabled by default. If it is enabled, set **secretKey**. For details, see **2.8.12.6 How Do I Set the Third-Party Authentication Key?**.
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00). 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). By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-Working Time Notification**: Notification displayed when a customer calls in non-working time.

Parameter	Description
Queue reminder	Set the following parameters: ● **Queue reminder interval (seconds)**: This parameter is mandatory. The default value is **10**. ● **Queue reminder content**: Notification displayed if a customer is in a queue after accessing the system.
Chatbot Configuration	This function is disabled by default. If it is enabled, customers are preferentially connected to the chatbot. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.

Step 5 (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 chatbot through the current channel.

1. Click **Try**, and click  in the lower right corner of the page that is displayed. The **Online Customer Service** dialog box is displayed.

   If **Connect to Chatbot** is enabled, the customer is connected to the chatbot 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 chatbot or agent.

If the chat content entered by the customer contains keywords configured for the chatbot or agent, the chatbot or agent identifies the keyword and replies to the customer. If the keyword cannot be identified, the chatbot or agent replies, for example, "Sorry, I cannot understand."

NOTE

When communicating with the chatbot, the customer can click **Transfer to Agent** or enter contents set in the text box **Keyword for Transfer to Agent** to switch from the chatbot to an agent. However, the customer cannot switch to the chatbot 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 6 Return to the web channel access configuration page and click **Close**.

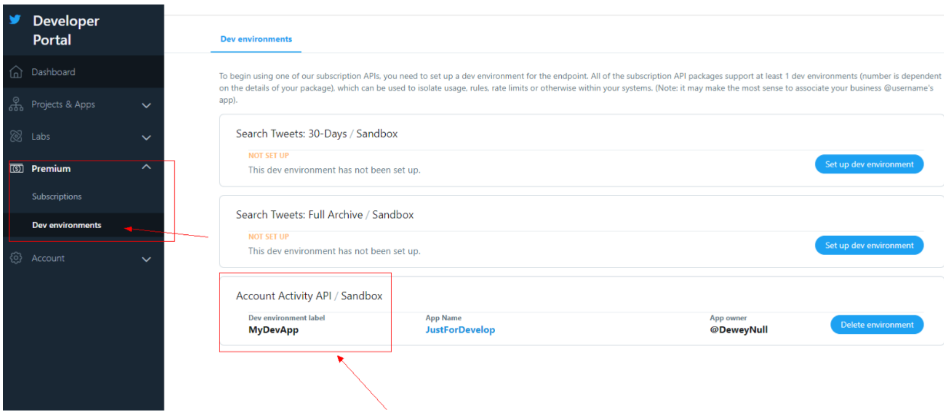
----End

2.8.3 Configuring the Twitter Channel

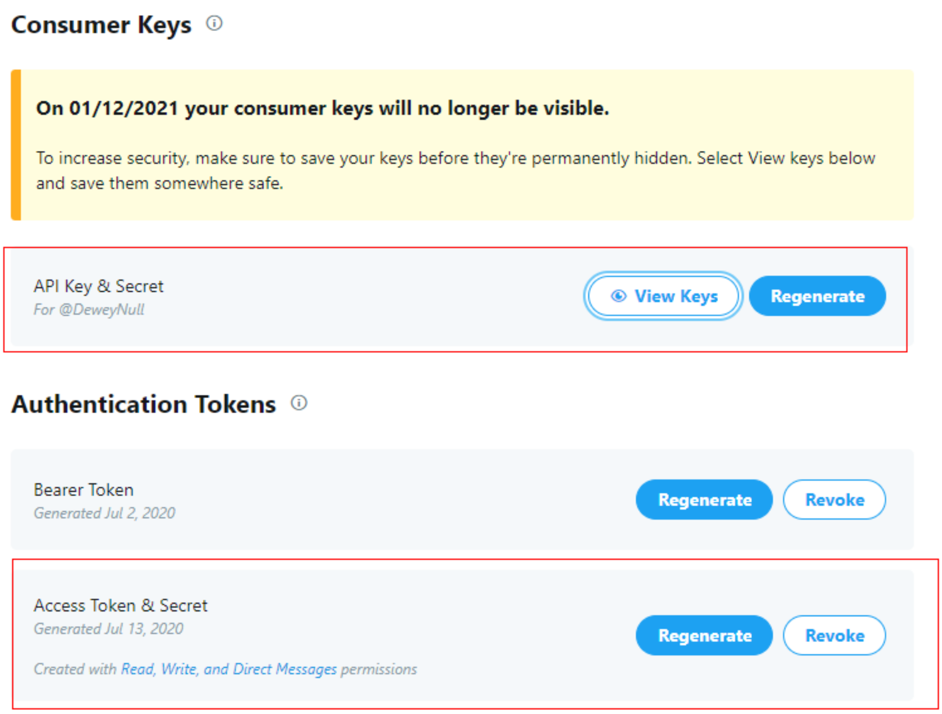
A tenant administrator can configure the Twitter channel for customers to access.

Prerequisites

- The system administrator has uploaded the Twitter authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have obtained developer information from the Twitter Developer Platform.
  a. Visit the 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.



  b. View the **API Key & Secret** and **Access Token & Secret** parameters.



Context

- Twitter allows a project to connect to multiple systems, but the AICC requires that one 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 Twitter are changed on Twitter, you need to modify the involved Twitter channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Modify** 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**.

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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **TWITTER**, 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 (_).

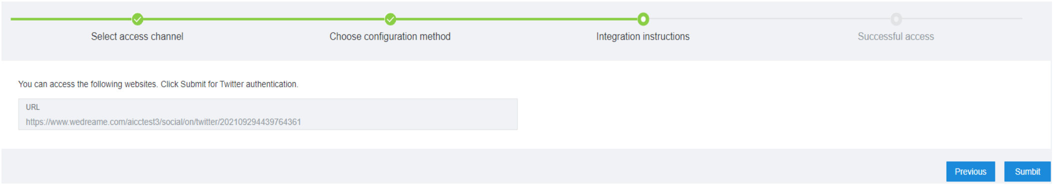
Step 3 On the **Choose configuration method** page, set Twitter channel parameters.

Table 2-52 Twitter channel parameters

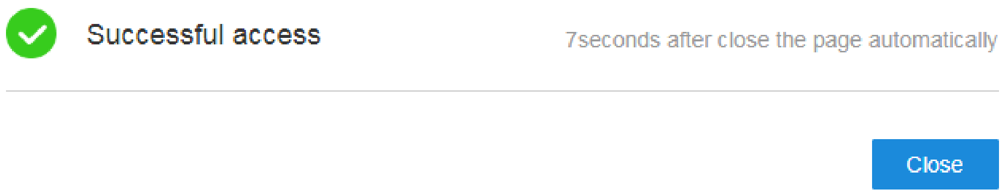
Parameter	Description
Personalized Configuration	
• API key • API key secret • Access Token • Access Token Secret	Enter the information obtained from the Twitter Developer Platform.
Dev environment label	Value of **Dev environment label** of the Twitter developer account. This parameter is mandatory.
Select an Encryption Algorithm	Encryption algorithm used for 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.
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: • **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. • **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the Twitter client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.

Parameter	Description
Dialog End Method	This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, you need to configure the following: ● **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. ● **Conclusion**: The system sends this end reminder after the session is disconnected.
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 Time Notification**: Notification displayed when a customer calls in non-working time.
Chatbot Configuration	This function is disabled by default. If it is enabled, customers are preferentially connected to the chatbot. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.



Step 5 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

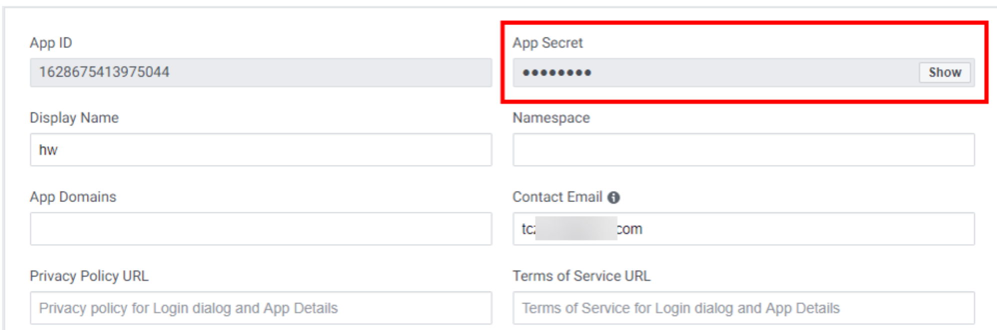
2.8.4 Configuring the Facebook Channel

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.



Context

- Facebook allows a project to connect to multiple systems, but the AICC requires that one Facebook project 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 **Modify** 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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **FACEBOOK**, 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 On the **Choose configuration method** page, set Facebook channel parameters.

Table 2-53 Facebook channel parameters

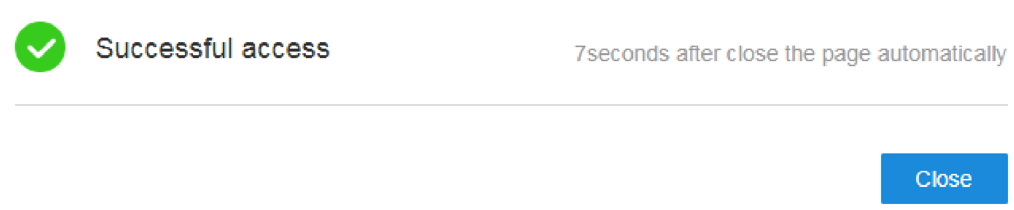
Parameter	Description
Personalized Configuration	
App Secret	App secret on Meta for Developers.
Select an Encryption Algorithm	Encryption algorithm used for Facebook interconnection. The options are as follows: • **SHA-1** • **SHA-256** **NOTE** SHA-1 is not strong enough, which poses security risks. If the platform supports SHA-256, you are advised to use this algorithm, which is stronger.
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.

Parameter	Description
Info Configuration	Set the following parameters: ● **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. ● **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the Facebook client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.
Dialog End Method	Customized timeout period for no customer reply and session end message. This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, you need to configure the following: ● **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. The default value is **20**. ● **Conclusion**: The system sends this end reminder after the session is disconnected.
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 Time Notification**: Notification displayed when a customer calls in non-working time.

Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step** and go to Meta for Developers to configure the URL and verification code.

Step 5 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

The Facebook channel supports multiple Facebook home pages, and each Facebook home page can be configured only for one Facebook channel.

Step 1 Click **Configuration** to configure multiple home pages for the Facebook channel so that multiple Facebook home pages can be connected to the agent.

- **Page ID**: home page ID on Meta for Developers
- **TokenSecret**: token secret on Meta for Developers

Step 2 Click **Finish**.

----End

2.8.5 Configuring the 5G Message Channel

A tenant administrator can configure the 5G message channel for customers to access.

Prerequisites

- You have obtained the authentication certificate provided by the 5G service and uploaded it in **2.17.6 Managing a Certificate**.
- 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 the 5G service are changed, you need to modify the involved 5G channel as follows: Sign in as a tenant administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Modify** 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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **5G**, 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 On the **Choose configuration method** page, set 5G message channel parameters.

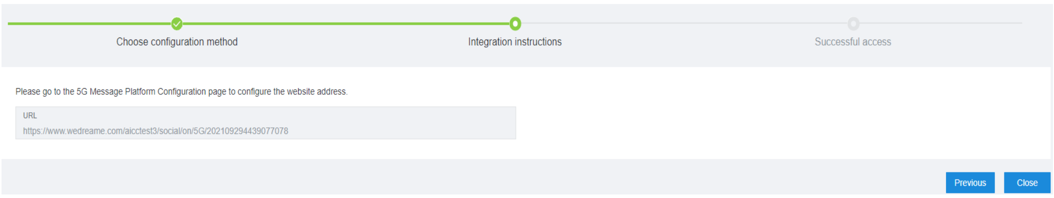
Table 2-54 5G message channel parameters

Parameter	Description
Personalized Configuration	

Parameter	Description
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.
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: ● **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. ● **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.
Dialog End Method	Customized timeout period for no customer reply and session end message. This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, you need to configure the following: ● **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. The default value is **20**. ● **Conclusion**: The system sends this end reminder after the session is disconnected.
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 Time Notification**: Notification displayed when a customer calls in non-working time.

Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step** and go to the 5G message platform configuration page to configure the URL.



----End

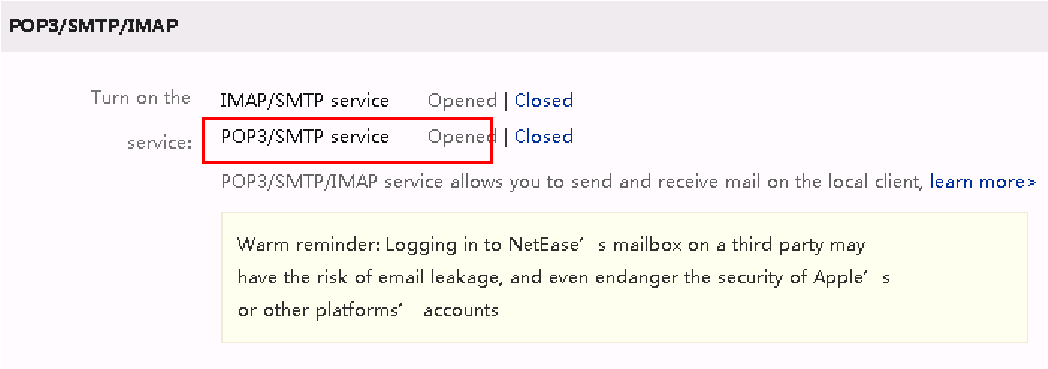
2.8.6 Configuring the Email Channel

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.



Procedure

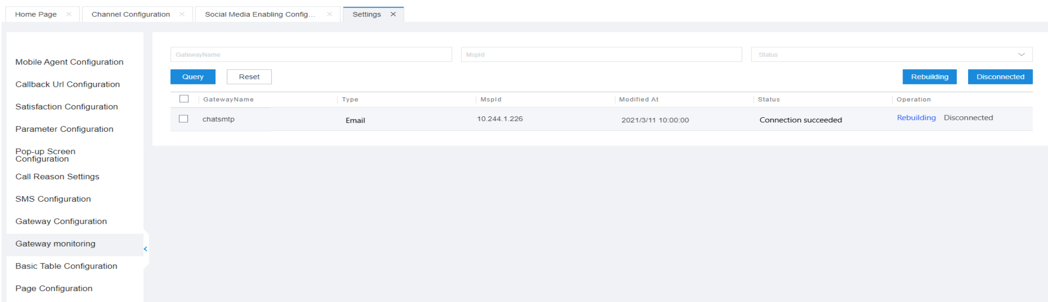
Step 1 (Optional) Obtain the certificate file of the email server and upload the certificate.

Dedicated email service providers support the secure SMTP for email sending and POP3 for email 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 **2.17.6 Managing a Certificate**. 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.

Set **Protocol Type** to **POP3** for the email receiving gateway and **SMTP** for the email sending gateway.



Step 3 Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**.

Step 4 Click **New**. The **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **EMAIL**, 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 5 On the **Choose configuration method** page, set email channel parameters.

Table 2-55 Email channel parameters

Parameter	Description
Personalized Configuration	
Email receiving gateway	Click ⊕ to select a configured email receiving gateway. For details about how to configure a gateway, see **2.11.3.2 Configuring Email Gateways**.
Email sending gateway	Click ⊕ to select a configured email sending gateway. For details about how to configure a gateway, see **2.11.3.2 Configuring Email Gateways**.
Maximum number of recipient email addresses	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.
Maximum number of CC email addresses	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**.
Maximum number of BCC email addresses	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 how to configure an email signature, see **2.17.10 Managing Email Signatures**.
Common Configuration	
Channel access code	The channel access code set in **Step 4** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.

Parameter	Description
Last Agent Mode	This function is disabled by default. For details about how to enable the last agent mode, see **2.8.12.2 How Do I Enable the Last Agent Mode?**
Dialog End Method	Timeout period for no customer reply. If this function is disabled, the default timeout period is 60 minutes. For details about how to set the dialog end method, see **2.8.12.3 How Do I Set the Dialog End Method?**
Agent Timeout Transfer	Timeout period for no agent reply. This function is disabled by default. For details about how to set agent timeout transfer, see **2.8.12.4 How Do I Set Agent Timeout Transfer?**
Session Transfer	Whether to display only skill queues of the corresponding channel type when an agent transfers a session. For details about how to set session transfer, see **2.8.12.5 How Do I Set Session Transfer?**
Offline Message	This function is disabled by default. For details about how to enable offline messages, see **2.8.12.7 How Do I Enable Offline Messages?**
Auto Reply	Reply content automatically sent when an agent is connected successfully. If this function is enabled, you need to select a configured email notification template. For details about how to configure an email notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.
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 Day Reply	This function is disabled by default. If it is enabled, you need to select a configured email notification template. For details about how to configure an email notification template, see **2.11.5 Configuring Notification Templates as an Administrator**.

Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR in **2.6.2.8 Configuring an Access Code**.

Step 6 Click **Save And Proceed To The Next Step**. A message is displayed, indicating that the saving is successful.

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.

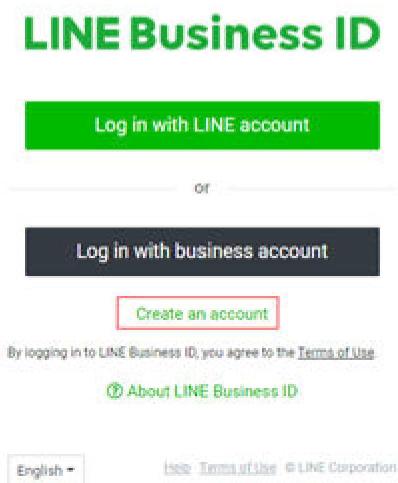
----End

2.8.7 Configuring the LINE Channel

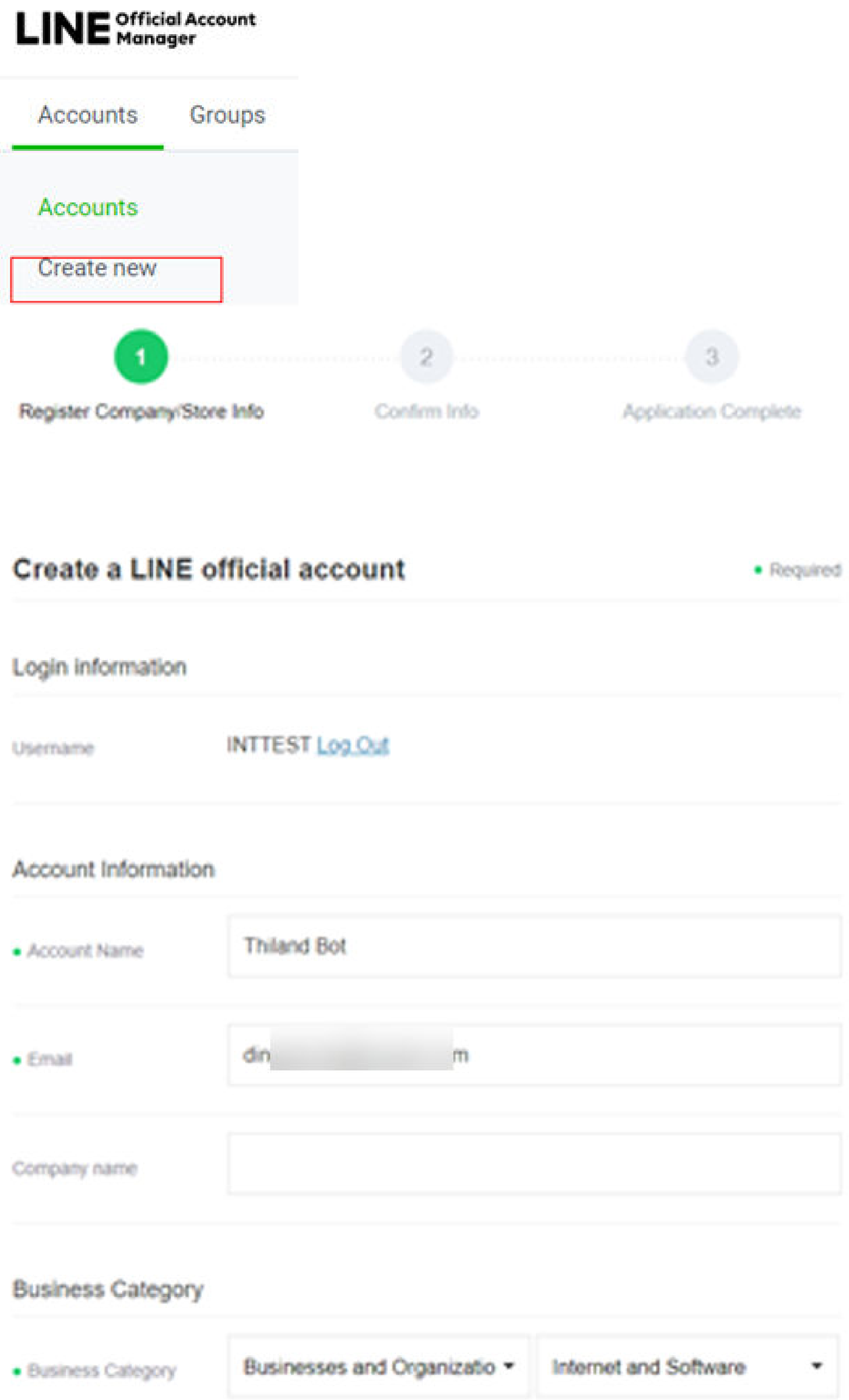
A tenant administrator can configure the LINE channel for customers to access.

Prerequisites

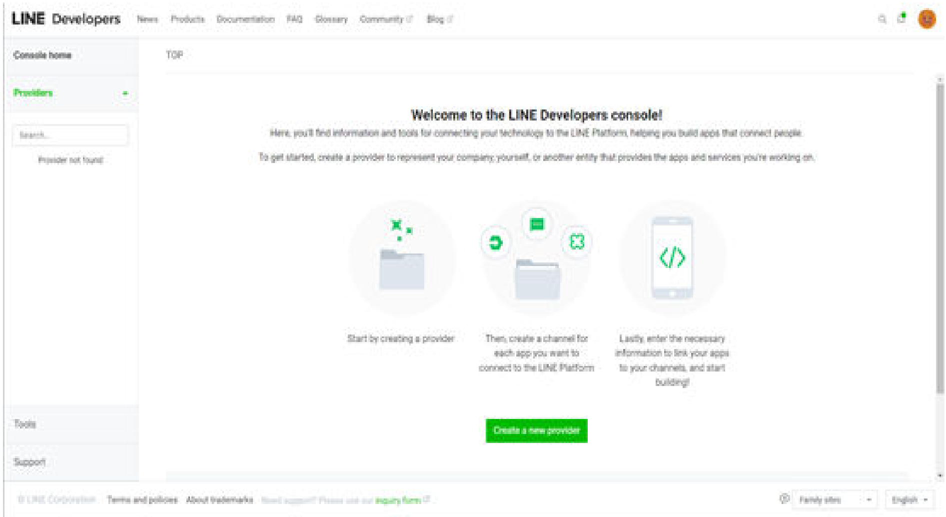
- The system administrator has uploaded the LINE authentication certificate on the **Configuration Center** > **System Management** > **Certificate** page.
- You have applied for a LINE account (used to bind a payment method for package purchase).
  a. Access the LINE Official Account Manager (**https://manager.line.biz/**) and register a LINE business account.



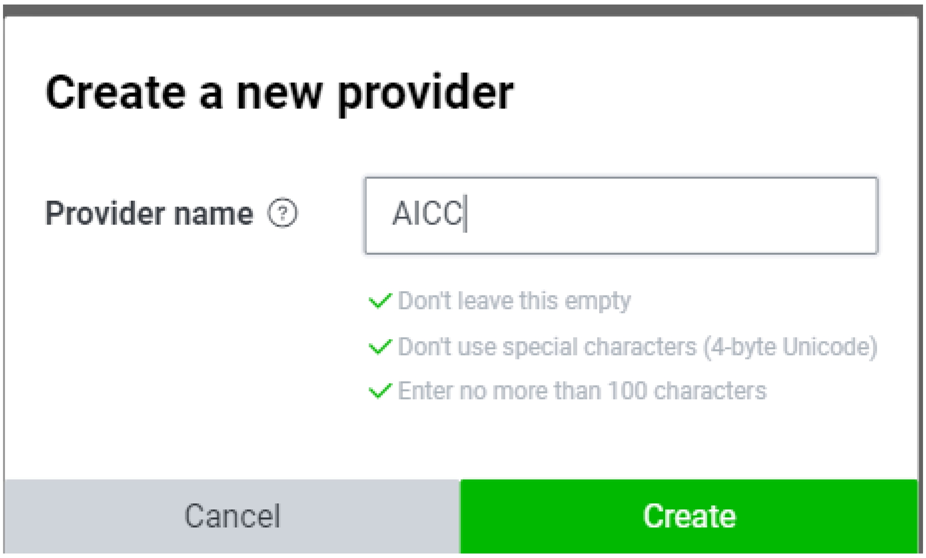
b. Create an official account in the LINE Official Account Manager (**https://manager.line.biz/**).



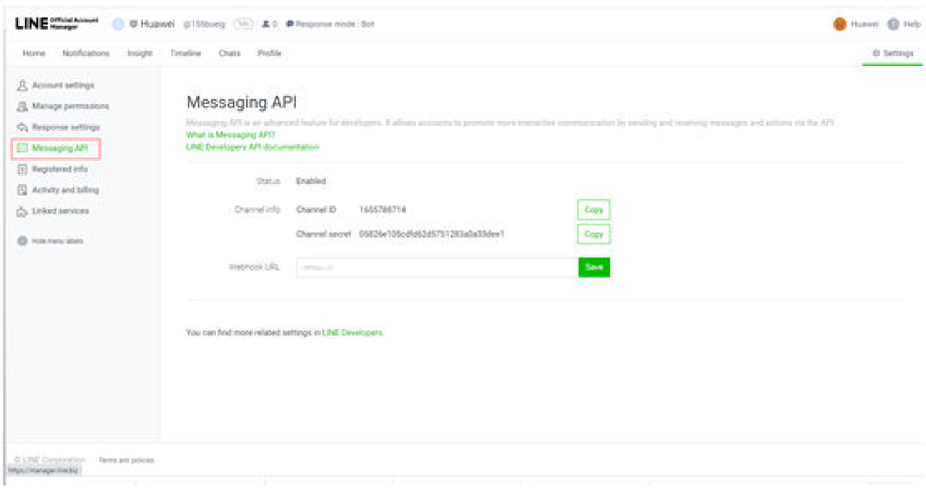
c. Use the LINE business account to log in to the LINE Developers console (**https://developers.line.biz/console/**) to create a provider.



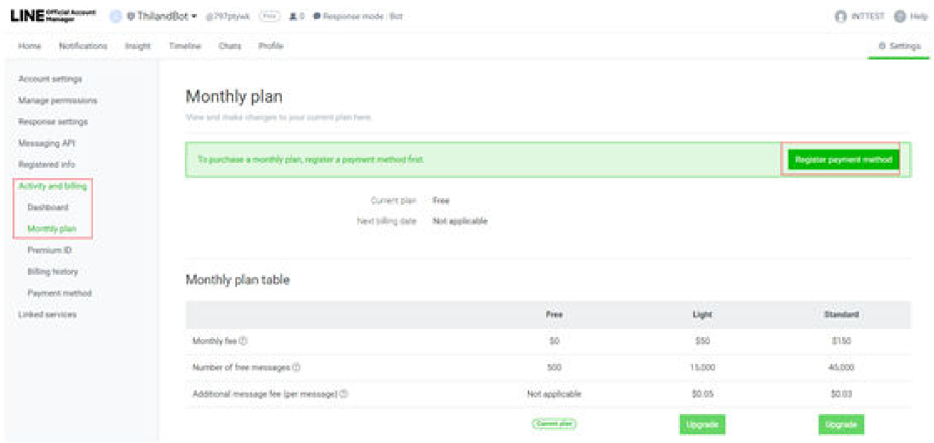
d. Click **Create a new provider** to create a provider.



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.



f. In the LINE Official Account Manager (**https://manager.line.biz/**), bind a payment method and purchase a package.

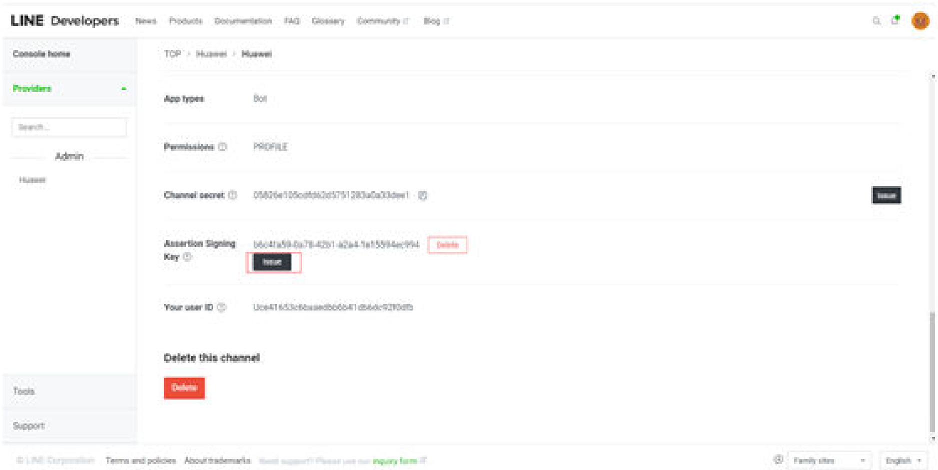


g. On the LINE Developers console (**https://developers.line.biz/en/docs/messaging-api/generate-json-web-token/#create-an-assertion-signing-key**), generate **private.key** and **public.key** by referring to "Generate using browser" and save them to the local PC.

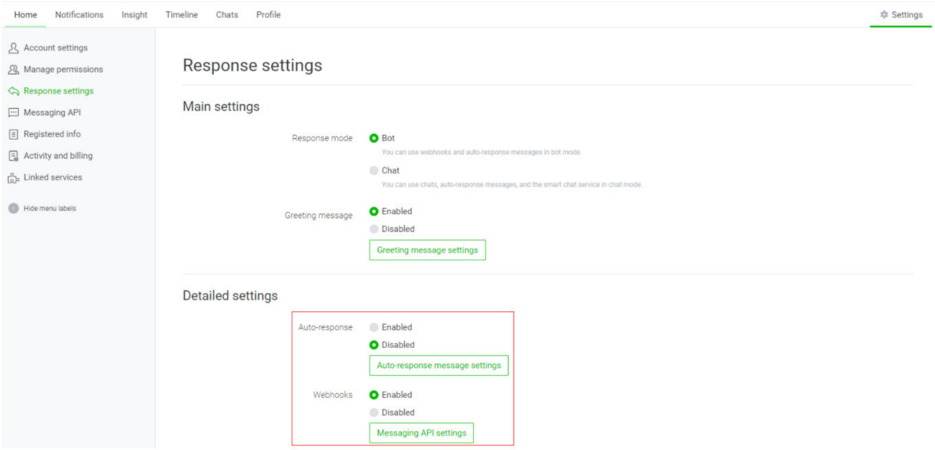
h. On the LINE Developers console (**https://developers.line.biz/console/**), click **Register a public key** and enter the **public.key** value generated in the previous step to generate a key ID.

Place the generated **public.key** value in the JSON structure of the private key. The value will be used to set **Assertion Signing Key** when the LINE channel is created in the AICC.

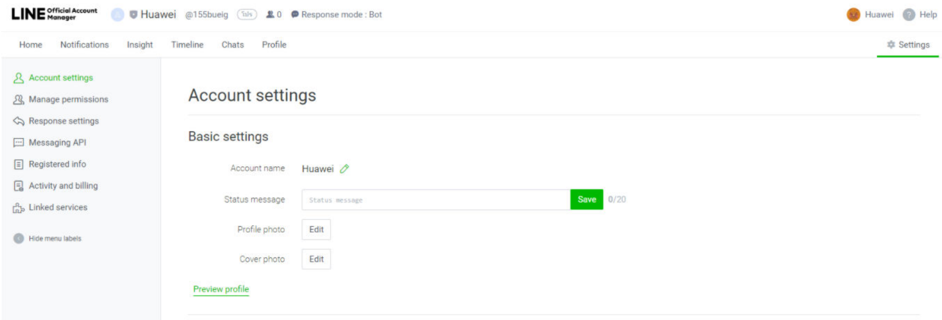
Record the values of **Channel ID**, **Channel Secret**, and **Assertion Signing Key** for channel configuration in the AICC.

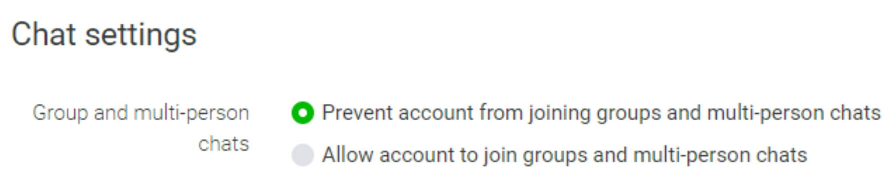


i. In the LINE Official Account Manager, disable **Auto-response** and enable **Webhooks**.

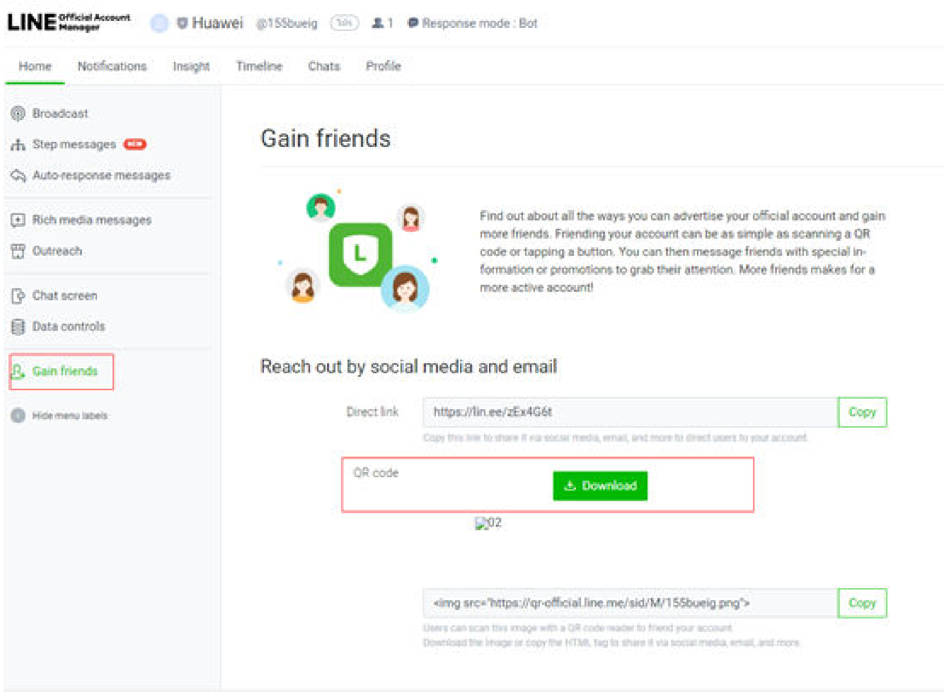


j. In the LINE Official Account Manager, disable **Group and multi-person chats**.





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.



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 **Modify** 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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **LINE**, 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 On the **Choose configuration method** page, set LINE channel parameters.

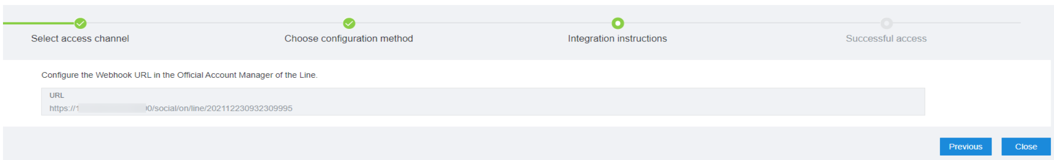
Table 2-56 LINE channel parameters

Parameter	Description
Personalized Configuration	
Channel ID	Enter the ID obtained from LINE.

Parameter	Description
• Channel secret • Assertion Signing Key	Enter the values obtained from LINE.
Select an 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.
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.
Info Configuration	Set the following parameters: • **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. • **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the LINE client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.
Dialog End Method	Customized timeout period for no customer reply and session end message. This function is disabled by default. If it is disabled, the default timeout period is 20 minutes. If it is enabled, you need to configure the following: • **Prompt Interval for No Reply (min)**: If a customer does not reply on the client within this period, the session is disconnected. The default value is **20**. • **Conclusion**: The system sends this end reminder after the session is disconnected.

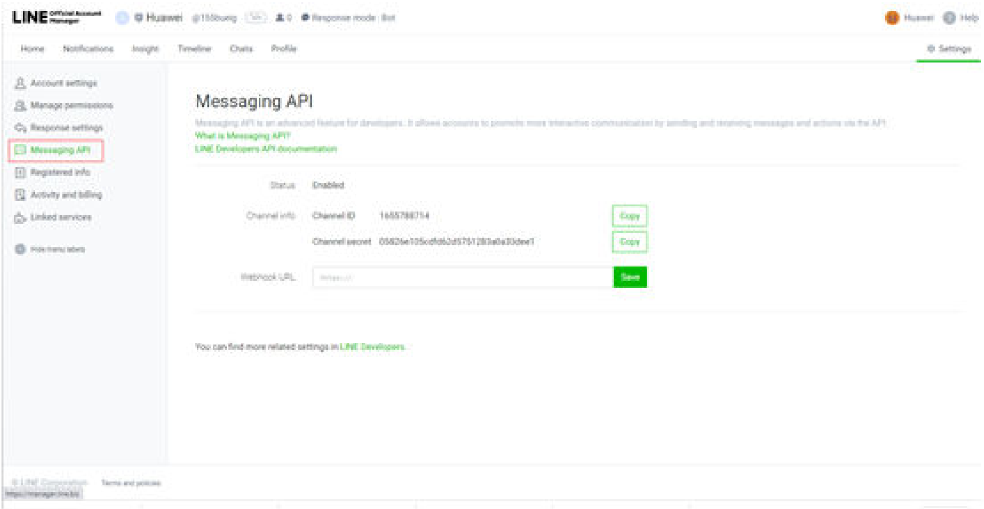
Parameter	Description
Agent Work Time	• **Workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-workday**: A maximum of four working time segments (from 00:00 to 24:00) can be configured. By default, a time segment is displayed. You can click **New** to add a time segment. • **Non-Working Time Notification**: Notification displayed when a customer calls in non-working time.
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: • **Change Avatar**: Chatbot avatar. • **Name**: Chatbot name. • **Gender**: Chatbot gender. • **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. • **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. • **Timeout reply**: Customized reply displayed when the session with a customer times out. • **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. • **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. • **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.



Step 5 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, select **Messaging API** from the navigation pane, and set **Webhook URL**.



----End

2.8.8 Configuring the WhatsApp Channel

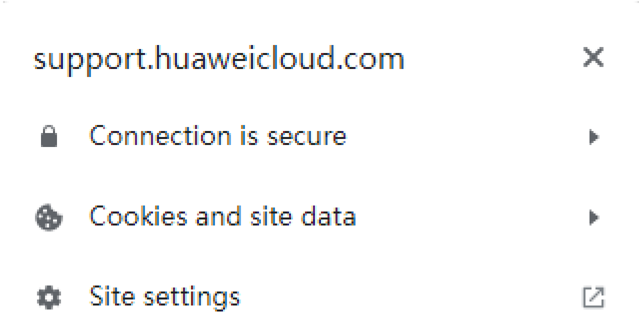
A tenant administrator can configure the WhatsApp channel for customers to access.

Prerequisites

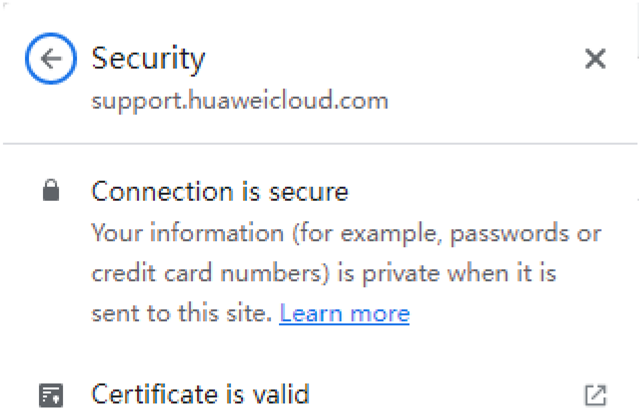
You have obtained the following information from the WhatsApp service path supplier:

- **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
  - URL prefix of the API 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.
  - 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 **https://api.infobip.com/**.
    ii. Export the browser certificate.

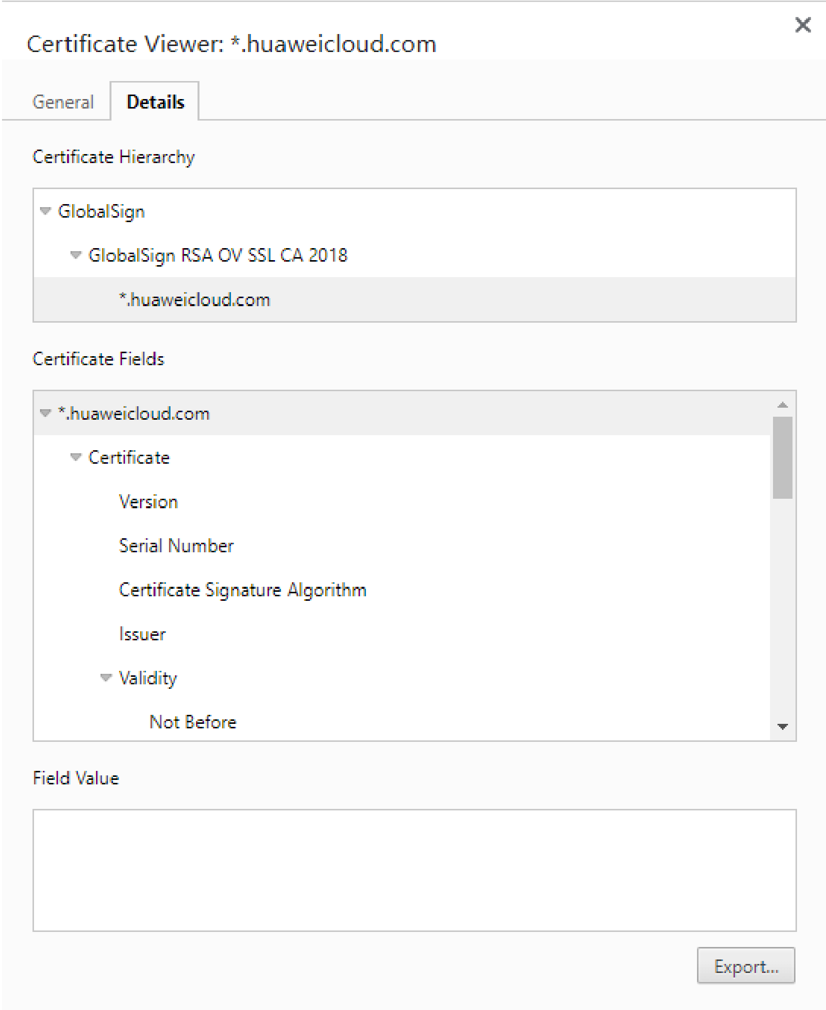
1) Click in the address box. The following information is displayed.



2) Choose **Connection is secure** > **Certificate is valid** to view the certificate information.



3) Click **Export** and select a local path to save the certificate. Retain the default certificate name and format.



iii. Upload the authentication certificate by referring to **2.17.6 Managing a Certificate**.

- **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 Management** > **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 Management** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret in the **Password** text box.

  - URL prefix of the API provided by the WhatsApp service path provider

    When **Verification Method** is set to **oAuth**, the URL prefix must be **https://***IP:PORT***/apiaccess/rest/ccmessaging**, where *IP:PORT* indicates the IP address and port number for logging in to the AICC frontend 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 a Certificate**.
  - Identity certificate of the current system. You have uploaded it by referring to **2.17.6 Managing a Certificate**.

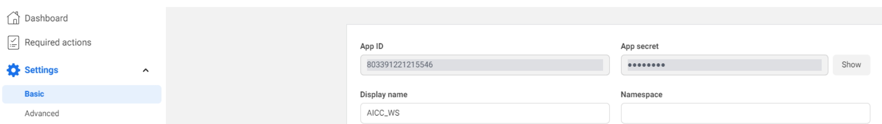
    This item is not required when **Verification Method** is set to **oAuth**.

- **cloud-api**: Currently, this function can only be demonstrated and cannot be put into commercial use.
  - Information about the app created on Meta for Developers
    1. 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.

    2. 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.

       Figure 2-182 Obtaining app information

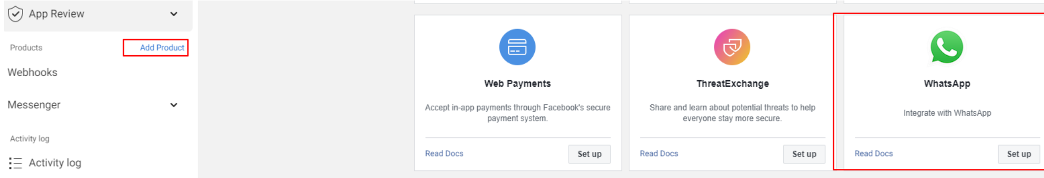
       

       The app ID corresponds to the value of **APP Key** in the channel configuration in the AICC.

       The app secret corresponds to the value of **APP Secret** in the channel configuration in the AICC.

    3. Add the WhatsApp product to the app.

Figure 2-183 Adding the product



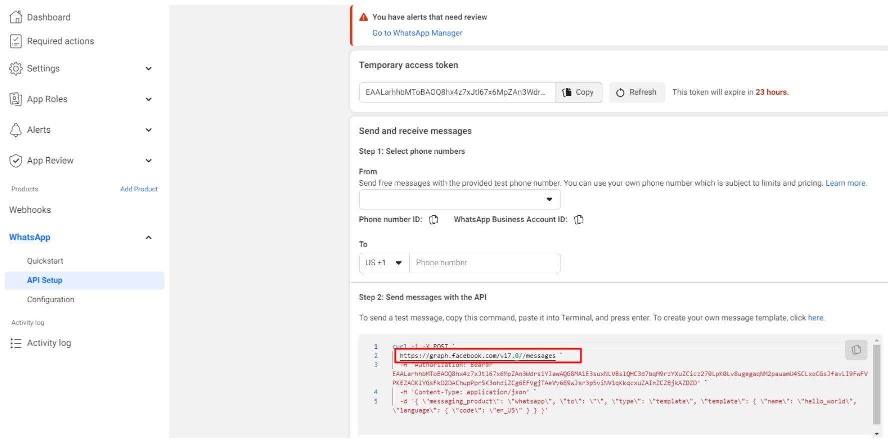
iv. Choose **WhatsApp** > **Quickstart** to configure the quick start.

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.

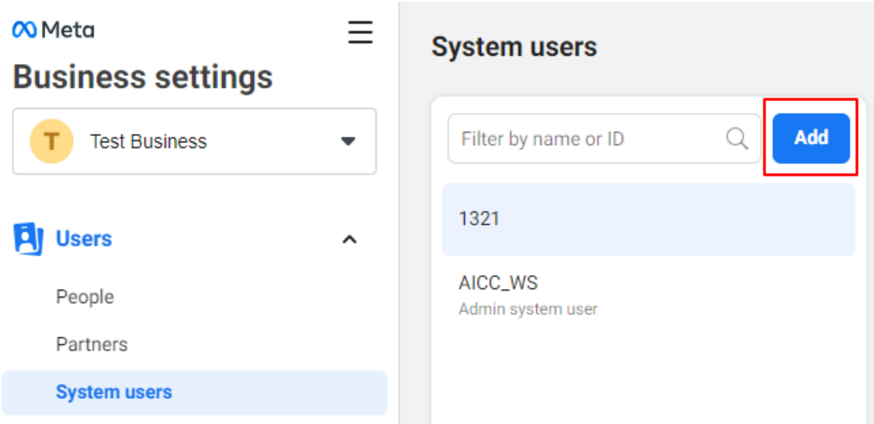
Figure 2-184 Obtaining the phone number and base URL



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 2-185 Adding an administrator



vii. Add assets and generate a new token.

Figure 2-186 Adding assets

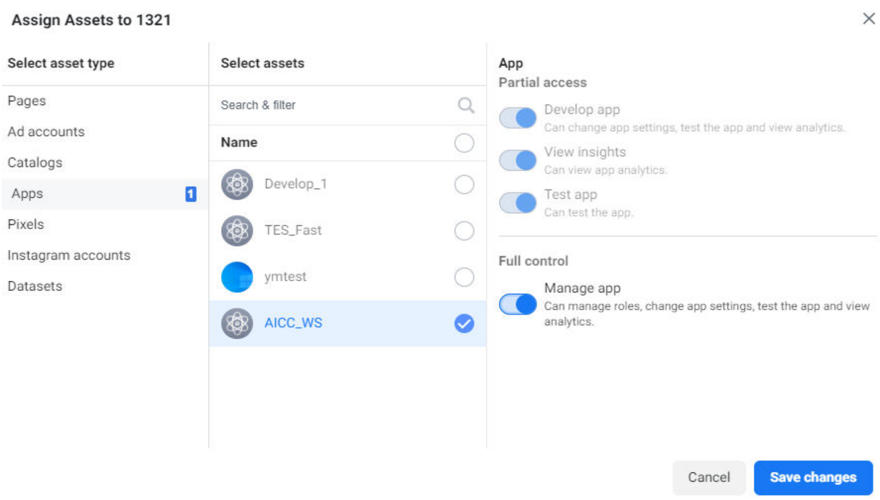
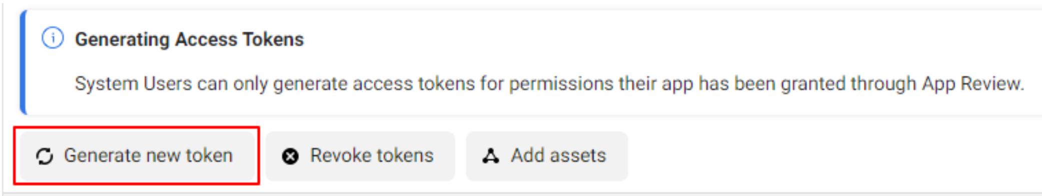


Figure 2-187 Generating a new token



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 a Certificate**.

- 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 a Certificate**.

Access the current system and export the certificate using a browser.

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 administrator, choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Modify** 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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **WHATSAPP**, and click **Next**. The page for configuring the WhatsApp channel is displayed.

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 On the **Choose configuration method** page, set WhatsApp channel parameters.

Table 2-57 WhatsApp channel parameters

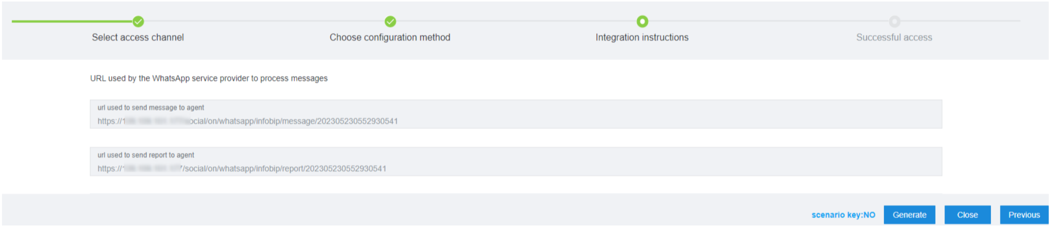
Parameter	Description
Personalized Configuration	
Set the parameters based on the information obtained in **Prerequisites**.	
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Info Configuration</td><td>Set the following parameters:
Skill Queue: The options are all multimedia called routes of the current tenant space. Select an option as required.
Keyword for Transfer to Agent: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the WhatsApp client, chatbot service is switched to manual service.
NOTE
If the intelligent chatbot is disabled, you do not need to set this parameter.</td></tr>
<tr><td>Last Agent Mode</td><td>If this function is enabled, you need to set the following parameters:
Selection Mode: Mode of selecting the last agent. The options are Time range and Current day.
Time Range (hour): This parameter is mandatory if Selection Mode is set to Time range.</td></tr>
<tr><td>Dialog End Method</td><td>Customized timeout period for no customer reply and session end message. This function is disabled by default. If it is disabled, the default timeout period is 3 minutes. If it is enabled, you need to configure the following:
Prompt Interval for No Reply (min): If a customer does not reply on the client within this period, the session is disconnected. The default value is 3.
Conclusion: The system sends this end reminder after the session is disconnected.</td></tr>
<tr><td>Agent Timeout Transfer</td><td>Customized timeout period for session transfer due to no agent reply and prompt message for agent reassignment.
If this function is enabled, you need to set the following parameters:
Timeout Interval for No Agent Reply (min)
Prompt for Reassigning Agent</td></tr>
<tr><td>Session Transfer</td><td>Whether to display only skill queues of the corresponding channel type when an agent transfers a session.</td></tr>
<tr><td>Offline Message</td><td>For details about how to enable offline messages, see 2.8.12.7 How Do I Enable Offline Messages?.</td></tr>
</table>

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 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.
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

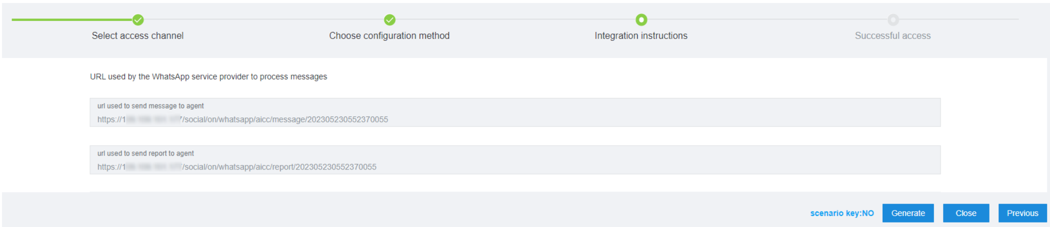
Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.

- If the WhatsApp service provider is **infobip**, the following page is displayed.



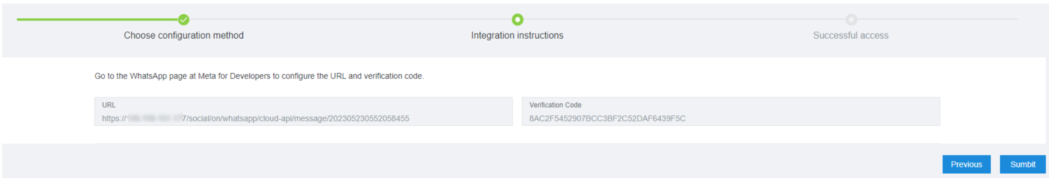
The MO message URL and report message sending URL generated on the **Integration instructions** page need to be notified to Infobip offline.

- If the WhatsApp service provider is **other**, the following page is displayed.



The MO message URL and report message sending URL generated on the **Integration instructions** page need to be notified to the WhatsApp service provider offline.

- If the WhatsApp service provider is **cloud-api**, the following page is displayed.



Configure the generated URL and verification code in https://developers.facebook.com/apps/*App ID*/webhooks.

----End

2.8.9 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 **2.11.3.1 Configuring SMS Gateways**.

Procedure

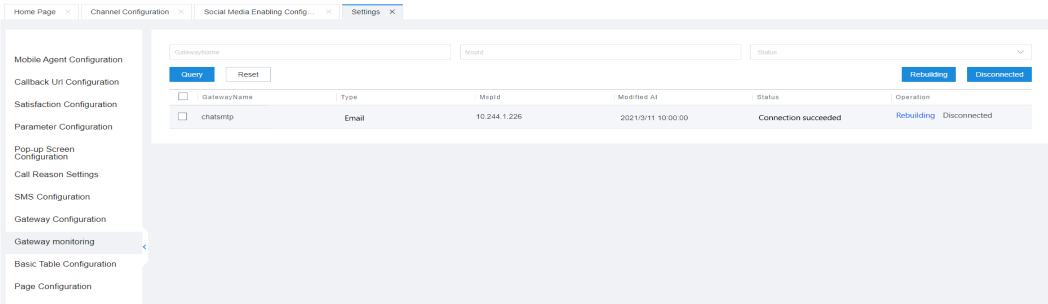
Step 1 (Optional) Obtain the certificate file of the SMS server and upload the certificate.

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 **2.17.6 Managing a Certificate**. 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 **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **SMS**, 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 5 On the **Choose configuration method** page, set SMS channel parameters.

Table 2-58 SMS channel parameters

Parameter	Description
Personalized Configuration	
SMS Gateway	Click to select a configured SMS receiving gateway. For details about how to configure a gateway, see **2.11.3.1 Configuring SMS Gateways**.
Common Configuration	
Channel access code	The channel access code set in **Step 4** is displayed and can be modified.
OU Configuration	Select an OU created in **Configuring an OU** to assign it to channel resources.

Parameter	Description
Info Configuration	Set the following parameters: ● **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. ● **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the client, chatbot service is switched to manual service. NOTE If the intelligent chatbot is disabled, you do not need to set this parameter.
Last Agent Mode	This function is disabled by default. For details about how to enable the last agent mode, see **2.8.12.2 How Do I Enable the Last Agent Mode?**
Dialog End Method	Timeout period for no customer reply. If this function is disabled, the default timeout period is 60 minutes. For details about how to set the dialog end method, see **2.8.12.3 How Do I Set the Dialog End Method?**
Agent Timeout Transfer	Timeout period for no agent reply. This function is disabled by default. For details about how to set agent timeout transfer, see **2.8.12.4 How Do I Set Agent Timeout Transfer?**
Session Transfer	Whether to display only skill queues of the corresponding channel type when an agent transfers a session. For details about how to set session transfer, see **2.8.12.5 How Do I Set Session Transfer?**
Offline Message	This function is disabled by default. For details about how to enable offline messages, see **2.8.12.7 How Do I Enable Offline Messages?**
Auto Reply	Reply content automatically sent when an agent is connected successfully. If this function is enabled, you need to select a configured SMS notification template. For details about how to configure an SMS notification template, see **Creating an SMS Notification Template**.
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 Day Reply	This function is disabled by default. If it is enabled, you need to select a configured SMS notification template. For details about how to configure an SMS notification template, see **Creating an SMS Notification Template**.

Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR in **2.6.2.8 Configuring an Access Code**.

Step 6 Click **Save And Proceed To The Next Step**. 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

2.8.10 Configuring the Instagram Channel

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 Management** > **API Management** > **APP Service** > **APP Management** page.
- You have contacted the system administrator to set **ApiFabric interface Address** to the IP address and port number of the API Fabric under **Configuration Center** > **System Management** > **System Parameter Configuration** > **System parameters** > **Service Channels** > **Common**. The format must be *IP address*:*Port number*.
- You have submitted an application to the system administrator to add the IP address and port number for logging in to the system frontend to the address trustlist. The value must start with **https://**, for example, **https://***.*.*.**:28090**. A domain name is not supported for this channel.
- 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 a Certificate**. 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:28090 </dev/null 2>/dev/null|openssl x509 -outform
PEM >mycertfile.pem
```

Set *IP* 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
```

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 **Modify** 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 **New**. The **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **INSTAGRAM**, 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 On the **Choose configuration method** page, set Instagram channel parameters.

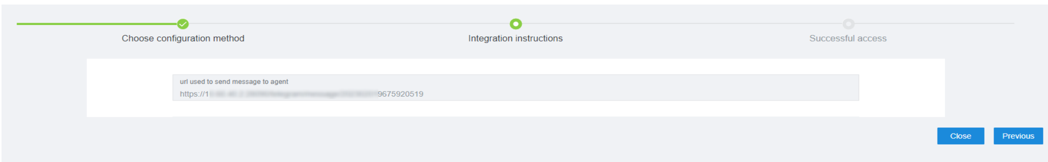
Table 2-59 Instagram channel parameters

Parameter	Description
Personalized Configuration	
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.
BaseUrl	IP address and port number for logging in to the system frontend. The value must start with **https://**, for example, **https://*.*.*.*:28090**. A domain name is not supported.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing a Certificate**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **2.17.6 Managing a Certificate**.

Parameter	Description
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.
Info Configuration	Set the following parameters: ● **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. ● **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the Instagram client, chatbot service is switched to manual service. **NOTE** If the intelligent chatbot is disabled, you do not need to set this parameter.
Last Agent Mode	This function is disabled by default. For details about how to enable the last agent mode, see **2.8.12.2 How Do I Enable the Last Agent Mode?**
Dialog End Method	Timeout period for no customer reply. If this function is disabled, the default timeout period is 3 minutes. For details about how to set the dialog end method, see **2.8.12.3 How Do I Set the Dialog End Method?**
Agent Timeout Transfer	Timeout period for no agent reply. This function is disabled by default. For details about how to set agent timeout transfer, see **2.8.12.4 How Do I Set Agent Timeout Transfer?**
Session Transfer	Whether to display only skill queues of the corresponding channel type when an agent transfers a session. For details about how to set session transfer, see **2.8.12.5 How Do I Set Session Transfer?**
Offline Message	This function is disabled by default. For details about how to enable offline messages, see **2.8.12.7 How Do I Enable Offline Messages?**
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 Time Notification**: Notification displayed when a customer calls in non-working time.

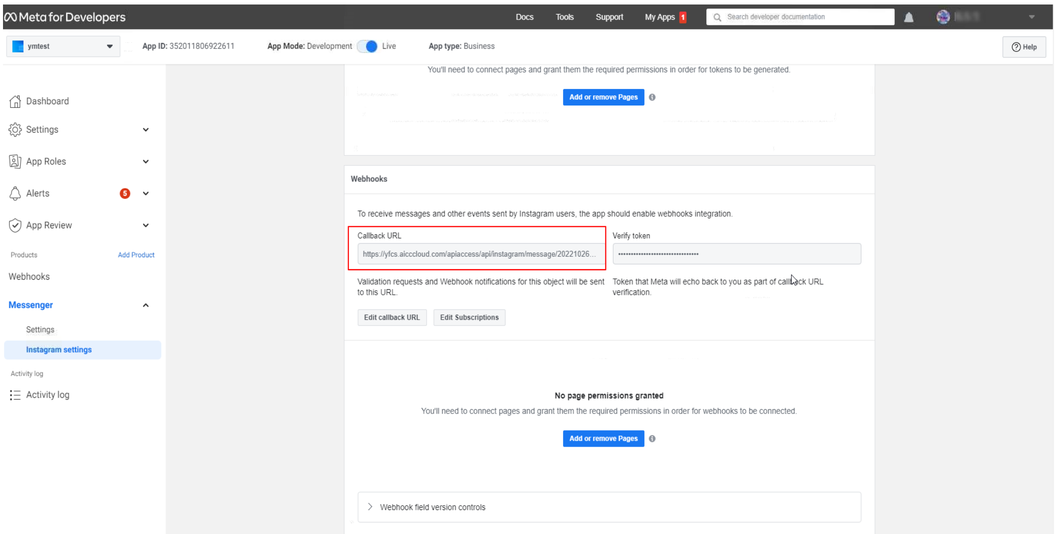
Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.



Step 5 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

2.8.11 Configuring the Telegram Channel

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 Management** > **API Management** > **APP Service** > **APP Management** page.
- You have contacted the system administrator to set **ApiFabric interface Address** to the IP address and port number of the API Fabric under **Configuration Center** > **System Management** > **System Parameter Configuration** > **System parameters** > **Service Channels** > **Common**. The format must be *IP address*:*Port number*.
- You have submitted an application to the system administrator to add the IP address and port number for logging in to the system frontend to the address trustlist. The value must start with **https://**, for example, **https://**.*.*.**:28090**. A domain name is not supported for this channel.
- 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 a Certificate**. 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:28090 </dev/null 2>/dev/null|openssl x509 -outform PEM >mycertfile.pem
```
     Set *IP* 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 **Modify** 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 **New**. The **Social Media Enabling Configuration** page is displayed.

Set **Channel Access Code**, select **TELEGRAM**, 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 On the **Choose configuration method** page, set Telegram channel parameters.

Table 2-60 Telegram channel parameters

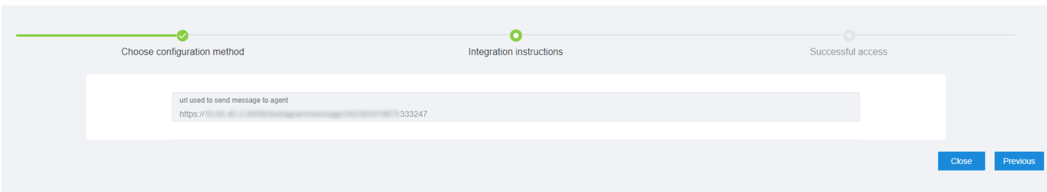
Parameter	Description
Personalized Configuration	
APP Key	App ID information obtained from the API Fabric, which is the AK.
APP Secret	App secret information obtained from the API Fabric, which is the SK.
BaseUrl	IP address and port number for logging in to the system frontend. The value must start with **https://**, for example, **https://*.*.*.*:28090**. A domain name is not supported.
Trust certificate	Authentication certificate of the API Fabric, which has been uploaded in **2.17.6 Managing a Certificate**.
Identity certificate	Identity certificate of the current system, which has been uploaded in **2.17.6 Managing a Certificate**.
Common Configuration	
Channel access code	The channel access code set in **Step 2** is displayed and can be modified.

Parameter	Description
Info Configuration	Set the following parameters: ● **Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required. ● **Keyword for Transfer to Agent**: Keywords for switching from chatbot service to manual service. After a customer enters any of the keywords on the Telegram client, chatbot service is switched to manual service. NOTE If the intelligent chatbot is disabled, you do not need to set this parameter.
Last Agent Mode	This function is disabled by default. For details about how to enable the last agent mode, see **2.8.12.2 How Do I Enable the Last Agent Mode?**
Dialog End Method	Timeout period for no customer reply. If this function is disabled, the default timeout period is 3 minutes. For details about how to set the dialog end method, see **2.8.12.3 How Do I Set the Dialog End Method?**
Agent Timeout Transfer	Timeout period for no agent reply. This function is disabled by default. For details about how to set agent timeout transfer, see **2.8.12.4 How Do I Set Agent Timeout Transfer?**
Session Transfer	Whether to display only skill queues of the corresponding channel type when an agent transfers a session. For details about how to set session transfer, see **2.8.12.5 How Do I Set Session Transfer?**
Offline Message	This function is disabled by default. For details about how to enable offline messages, see **2.8.12.7 How Do I Enable Offline Messages?**
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 Time Notification**: Notification displayed when a customer calls in non-working time.

Parameter	Description
Chatbot Configuration	This function is disabled by default, indicating that sessions are directly connected to agents. If it is enabled, you need to configure chatbot information as required. Set the following parameters: ● **Change Avatar**: Chatbot avatar. ● **Name**: Chatbot name. ● **Gender**: Chatbot gender. ● **Chatbot Access Code**: Chatbot access code configured in the intelligent IVR. ● **Default reply**: Customized reply displayed when the chatbot cannot recognize the intent of a customer. ● **Timeout reply**: Customized reply displayed when the session with a customer times out. ● **Prompt for transfer to agent**: Customized prompt message indicating that chatbot service is switched to manual service. ● **Silent Agent Skill Queue**: The options are all multimedia called routes of the current tenant space. Select an option as required.
Robot Assistant Configuration	This function is disabled by default. If it is enabled, the chatbot assistant is enabled on the agent side. ● **Assistant Access Code**: Chatbot assistant access code configured in the intelligent IVR.

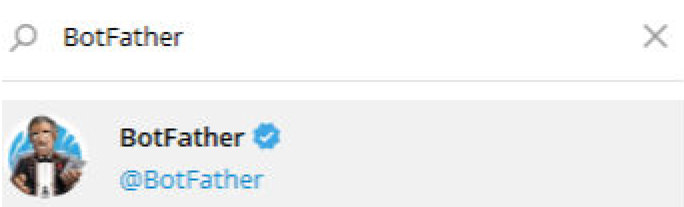
Step 4 Click **Save And Proceed To The Next Step**. The **Integration instructions** page is displayed.

View the value of **url used to send message to agent**.



Step 5 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.

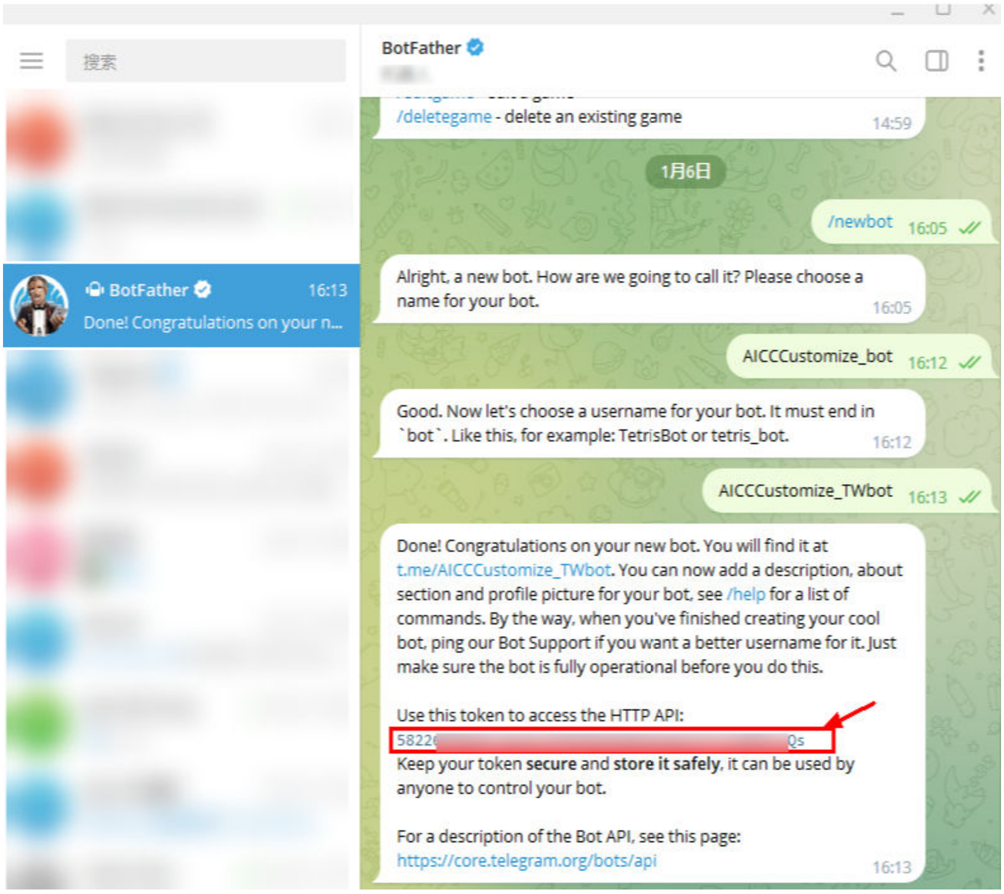


3. Send the **/newbot** command.

4. Send the chatbot name **AICCCustomize_TWbot**.

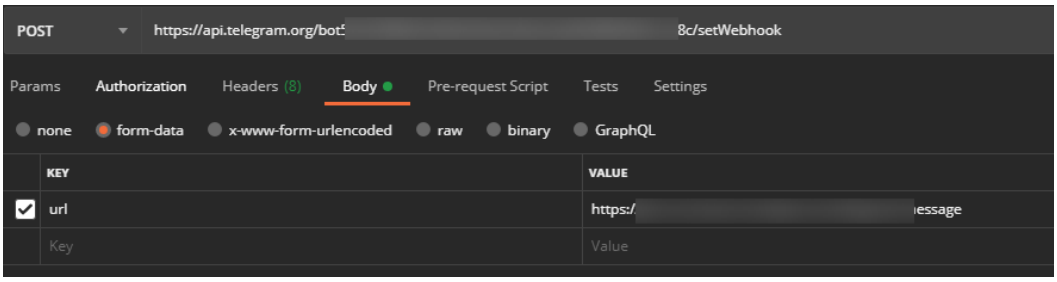
   The value must end with **bot**.

5. Save the generated token.



Step 6 Set the callback URL for message forwarding.

Invoke the https://api.telegram.org/bot*Token*/setWebhook API.



Token: Enter the token generated in **Step 5**.

Request parameter: Enter the value of **url used to send message to agent** obtained in **Step 4**.

----End

2.8.12 FAQ

This section describes the common problems that may occur during channel configuration.

2.8.12.1 How Do I Set the Click-to-Dial Called Route?

Prerequisites

The called route of the click-to-dial type has been configured.

Procedure

Step 1 Click **CTD Called Route** and select the configured called route.

- Voice and video agent
- IVR

Step 2 Select the configured called route.

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.2 How Do I Enable the Last Agent Mode?

Context

Toggle on **Last Agent Mode**. After this toggle is enabled, when a customer is connected to an agent through a channel, the call is preferentially allocated to the agent who has answered the last call.

Procedure

Step 1 Click to turn on the switch.

Step 2 Select a mode for filtering last agents and set the corresponding parameters.

- **Time Range (hour)**: a positive integer ranging from 1 to 168
- **Current day**: 00:00 on the current day to the current time

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.3 How Do I Set the Dialog End Method?

Context

Customize the timeout period for no customer reply and session end message.

You do not need to set the session end message for the email channel.

Procedure

Step 1 Click to enable **Dialog End Method**.

Step 2 Set **Prompt Interval for No Reply (min)** and **Conclusion**.

- **Prompt Interval for No Reply (min)**: The value is an integer ranging from 2 to 5.

  For the email channel, the default value is **60**.

  NOTE

  The period specified by **Prompt Interval for No Reply (min)** 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 **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.4 How Do I Set Agent Timeout Transfer?

Procedure

Step 1 Click to enable **Agent Timeout Transfer**.

Step 2 Set **Timeout Interval for No Agent Reply (min)** and **Prompt for Reassigning Agent**.

- **Timeout Interval for No Agent Reply (min)**: The value is an integer ranging from 1 to 5 and must be less than or equal to that of **Prompt Interval for No Reply (min)**. The default value is **3**.
- **Prompt for Reassigning Agent**: The value can contain a maximum of 256 characters.

  NOTE

  You do not need to set **Prompt for Reassigning Agent** for the email channel.

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.5 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 turn on the switch.

- : 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 **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.6 How Do I Set the Third-Party Authentication Key?

Context

- Only the web channel is supported.
- 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.

Procedure

Step 1 Click to enable **Third-party authentication key**.

Step 2 Set **secretKey**.

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.7 How Do I Enable Offline Messages?

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 **2.8.12.10 How Do I Enable Message Push?**.
- Only the web, 5G, email, WhatsApp, SMS, Instagram, and Telegram channels support offline messages.

Procedure

Step 1 Click to enable **Offline Message**.

Step 2 Customize **Offline Message Prompt**.

The value can contain a maximum of 256 characters and cannot contain the following special characters: '"/<>\;

Only the email and SMS channels are not involved.

Step 3 Set **Reassignment Interval (min)**.

The value is an integer ranging from 1 to 60. The default value is **30**.

Step 4 Set **Reply Timeout Interval (min)**.

The value is an integer less than or equal 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 **Agent Waiting Timeout Interval (min)**.

The value is an integer ranging from 1 to 5 and must be less than that of **Prompt Interval for No Reply (min)**. The default value is **3**.

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 **2.8.12.2 How Do I Enable the Last Agent Mode?**

If you select **Connect to Chatbot**, set the chatbot access code. For details, see **2.6 Configuring Intelligent IVR**.

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 **2.8.12.11 How Do I Enable the Auto Reply and Non-Workday Reply Functions?**

Only the email channel is involved.

Step 8 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.8 How Do I Set the Agent Work Time?

Procedure

Step 1 Set the working time of an agent, including workdays and non-workdays.

Default working time on workdays: 8:00–12:00

Default woking time on non-workdays: 8:00–12:00

- Hour: 00-24, default value: 8
- Minute: 00-60, default value: 00

Step 2 Click **New** to add a time segment.

A maximum of four time segments can be added.

Step 3 Sert **Non-Working Time Notification**.

String length ≤ 80

Step 4 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.9 How Do I Set the Queue Reminder?

Context

Only the web and WhatsApp channels are supported.

Procedure

Step 1 Set **Queue reminder interval (seconds)**.

Range: 10-99, default value: 10

Step 2 Set **Queue reminder content**.

String length ≤ 40

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.10 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 **2.8.12.10.1 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.

If two-way authentication is enabled for the message push address, you also need to prepare the identity certificate of the current system.

Context

- Only the web and WhatsApp channels support message push.
- 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 code 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 **Complete**.

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.

1. (Optional) Click **Trust certificate** and select the certificate uploaded in **Step 1**.
2. (Optional) Click **Identity certificate** and select the certificate uploaded in **Step 1**.

Step 6 Enter the message push key provided by the message pusher. The key is a string of 43 characters, including only letters and digits.

Step 7 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.10.1 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 2-61 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 2-62 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.

Table 2-63 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.

No.	Name	Type	Mandatory or Not	Description
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.
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).

No.	Name	Type	Mandatory or Not	Description
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

Table 2-64 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
{
        "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."
}
```


2.8.12.11 How Do I Enable the Auto Reply and Non-Workday Reply Functions?

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 **Creating an Email Notification Template**.

For the SMS channel, you have created an auto reply SMS template and non-workday reply SMS template of the **SMS Gateway** type. For details about how to create the templates, see **Creating an SMS Template**.

Context

Only the email and SMS channels support the auto reply and non-workday reply functions.

Procedure

Step 1 Enable the auto reply function.

1. Click to enable **Auto Reply**.
2. Click to select a configured auto reply template.
   For the email channel, select an email template.
   For the SMS channel, select an SMS template of the **SMS Gateway** type.

Step 2 Enable the non-workday reply function.

1. Click to enable **Non-Working Day Reply**.
2. Click to select a configured non-workday auto reply template.
   For the email channel, select an email template.
   For the SMS channel, select an SMS template of the **SMS Gateway** type.

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.12 How Do I Set a Chatbot?

Context

After you configure a chatbot, the customer communicates with the chatbot after accessing a channel.

Procedure

Step 1 Click to enable the chatbot access function.

Step 2 Set a profile picture. You can click **Change Avatar** to change a profile picture. Seven system profile pictures are available.

Step 3 Set the chatbot name and gender.

Step 4 Select a chatbot. The chatbot is configured in the intelligent IVR. For details, see **2.6 Configuring Intelligent IVR**.

> 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 chatbot encounters a problem that cannot be resolved during the conversation with a customer, the chatbot can seek help from an agent in the skill queue.

Step 7 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.8.12.13 How Do I Configure the Chatbot Assistant?

Context

Only the email and SMS channels do not support the chatbot assistant.

Procedure

Step 1 Click to enable **Connect to Assistant**.

Step 2 Select a chatbot assistant. The chatbot assistant is configured in the intelligent IVR. For details, see **2.6 Configuring Intelligent IVR**.

Step 3 Click **Save And Proceed To The Next Step** to complete the configuration.

----End

2.9 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

2.10 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.

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 reconsideration.
- Inspector: listens to call recordings and evaluates the service process manually.
- Agent supervisor: reviews the appeal application 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 file an appeal.

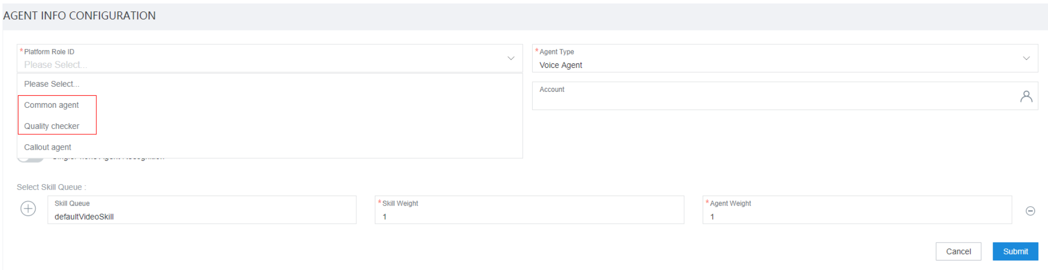
2.10.2 Typical Scenario: Configuring Manual Inspection Tasks

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

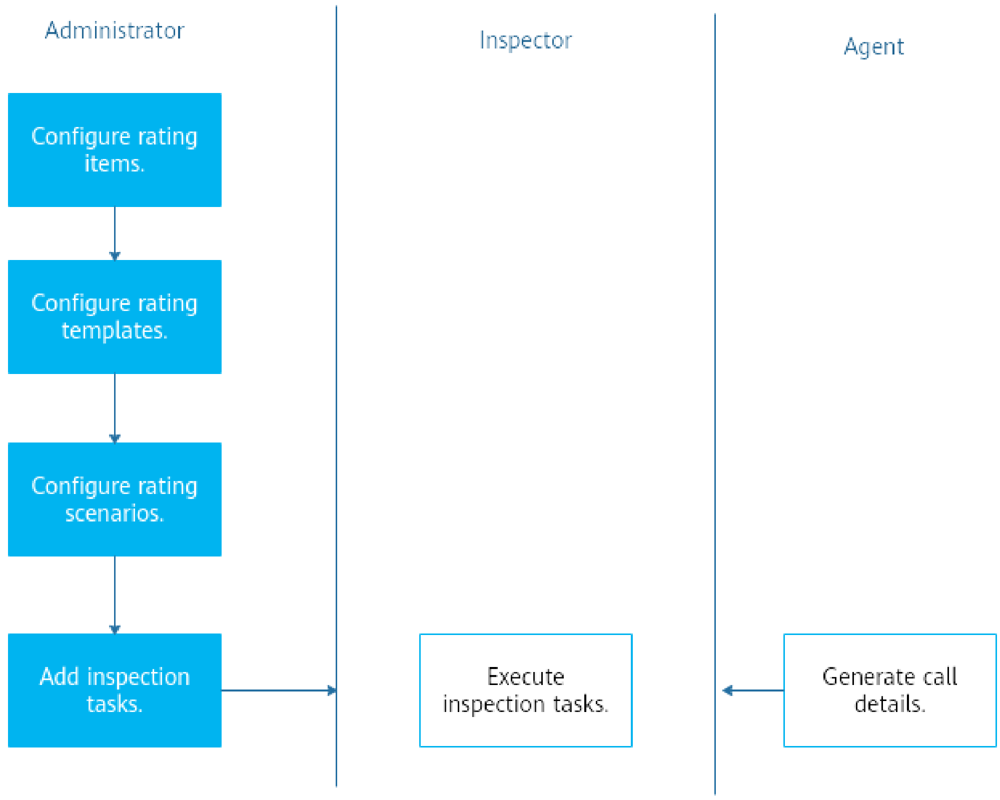
You have configured **Platform Role ID** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.



Context

After the tenant space is enabled, the administrator needs to configure the following items for inspectors in the tenant space to execute inspection tasks.

Figure 2-188 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**
  - 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 the audio 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

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.

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 2-189 Basic information in the Add Rating Item dialog box

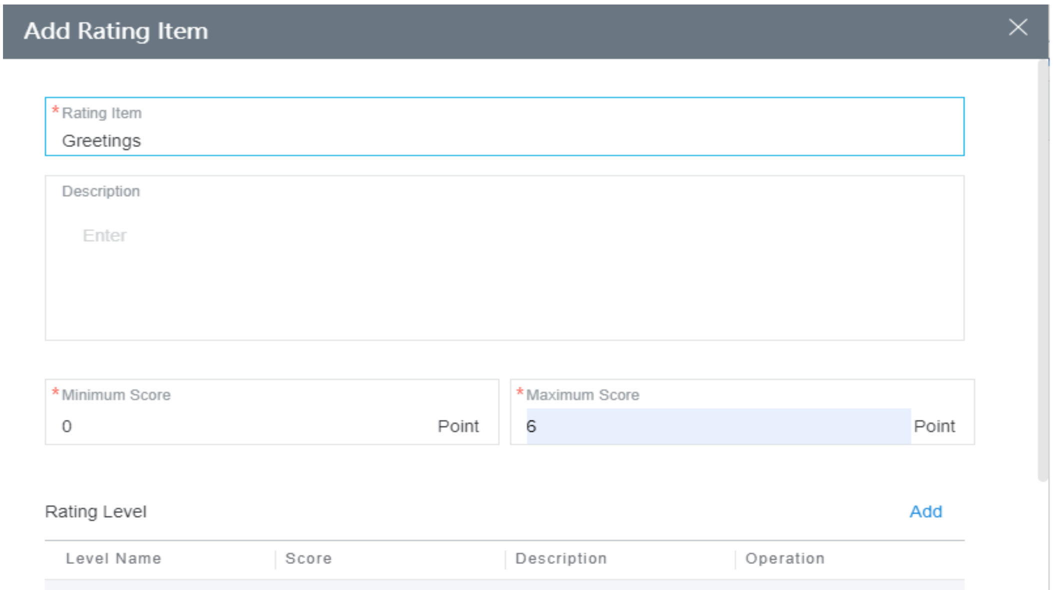
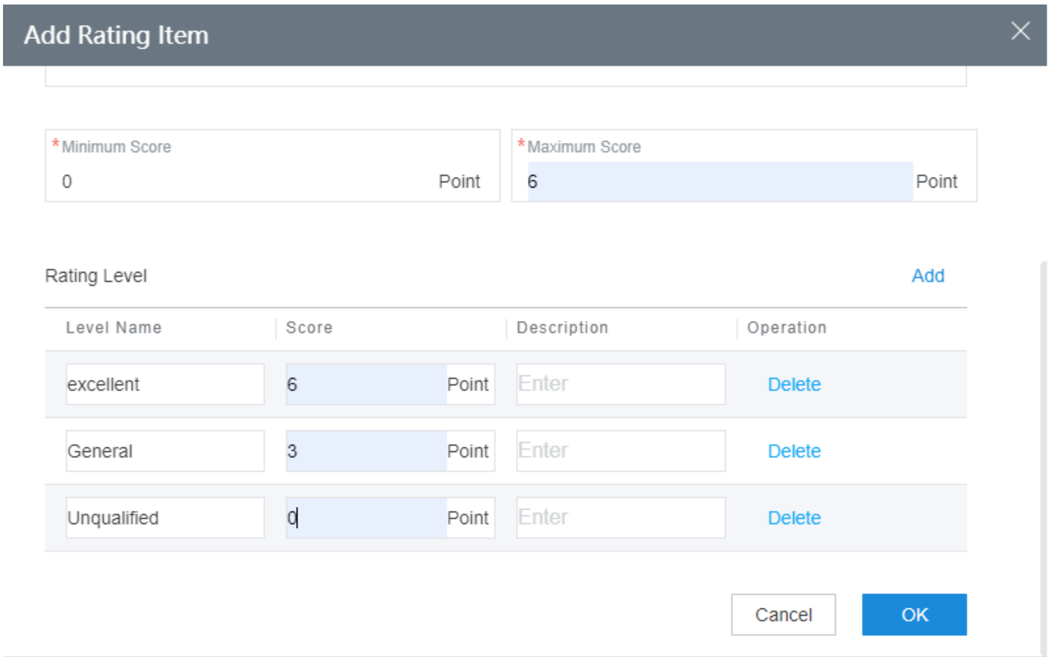


Figure 2-190 Rating Level area in the Add Rating Item dialog box



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

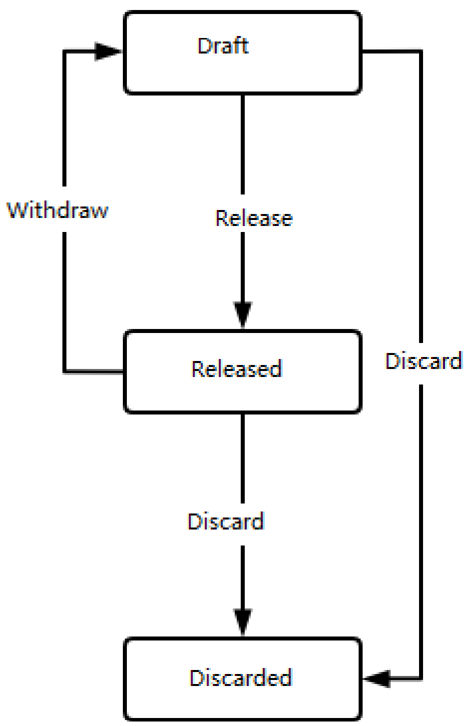
A rating template contains rating items and their display sequence. When creating an inspection task, you need to associate it with a rating template.

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.

Figure 2-191 Life cycle of a rating template



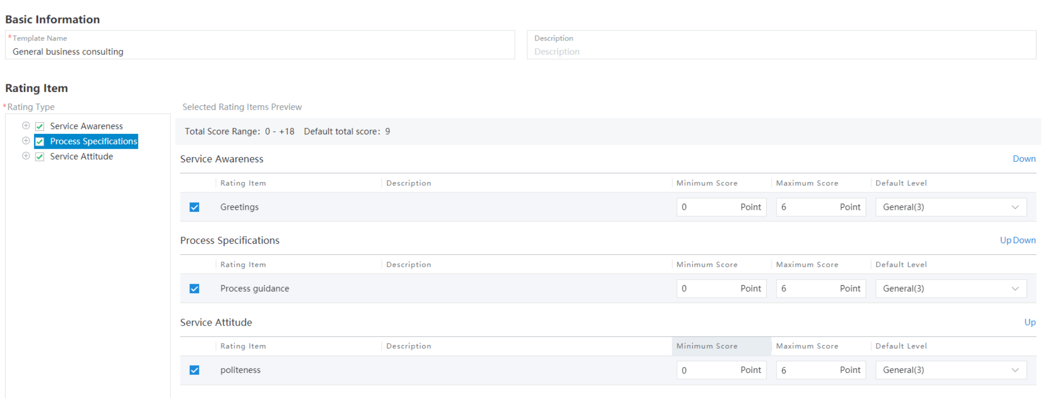
Only a template in **Released** state can be associated with an inspection task. After a task in **Released** or **Draft** state is deleted, the template enters the **Discarded** state.

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 2-192 Create Rating Template page



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

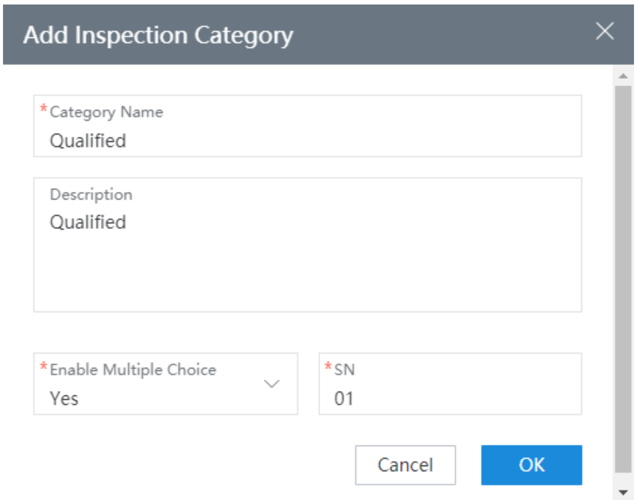
You can define inspection category items from different dimensions to categorize inspection results. For example, you can define inspection category items from the rating level and business type dimensions. If you associate the defined inspection category with the inspection object type and inspection task, you can select the rating level and business type when rating the records related to an inspection task.

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 2-193 Add Inspection Category dialog box



Set the following parameters:

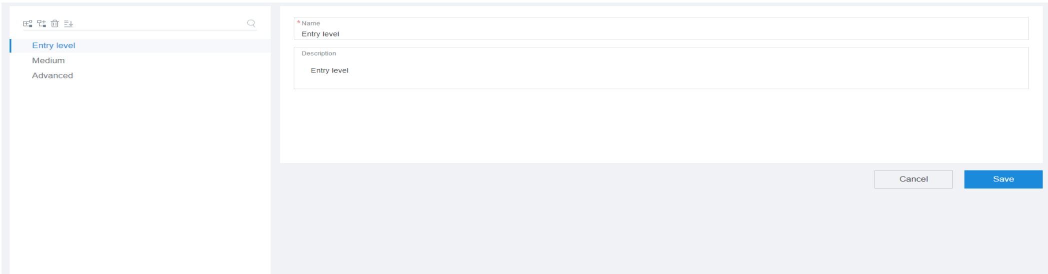
- **Category Name**: Customized name, which is mandatory. The value can contain a maximum of 1024 characters.
- **Description**: Category description, which is optional.

- **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 2-194 Modify Inspection Category Item page



Step 5 Click to add a category item and set category item parameters.

- **Name**: Name of a category item.
- **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

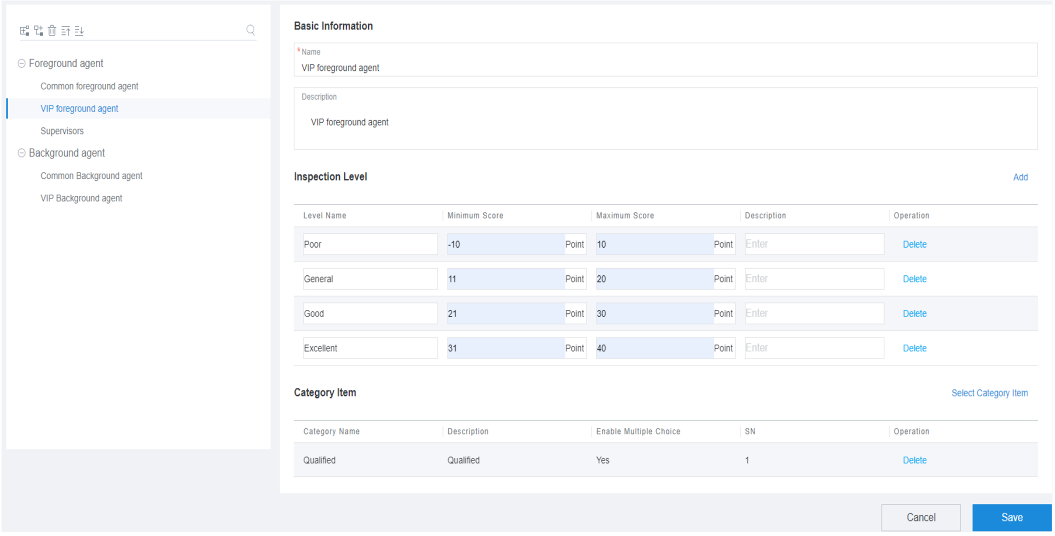
You can define different object types based on agent capabilities or businesses. For example, you can define common and VIP frontend and backend agents, and define different inspection levels and categories for different object types.

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 2-195 Page for creating an inspection object type



Step 3 Set inspection object parameters.

1. Set **Name** and **Description**.
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.

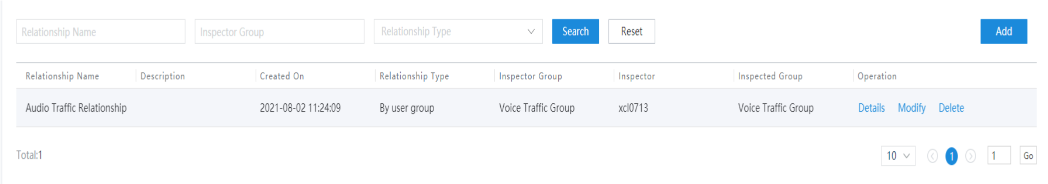
Context

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

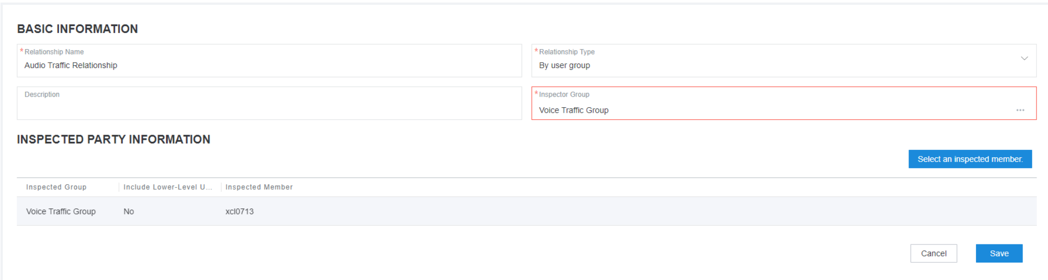
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Inspection Relationship**.

Figure 2-196 Page for managing inspection relationships



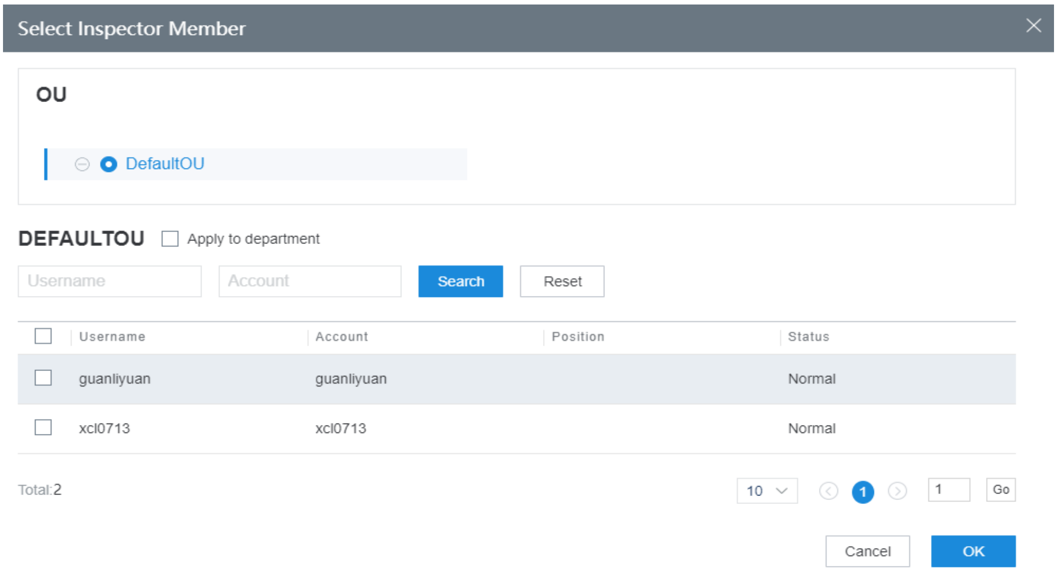
Step 2 Click **Add** and set the name, description, and relationship type as prompted.

Figure 2-197 Page for creating an inspection relationship



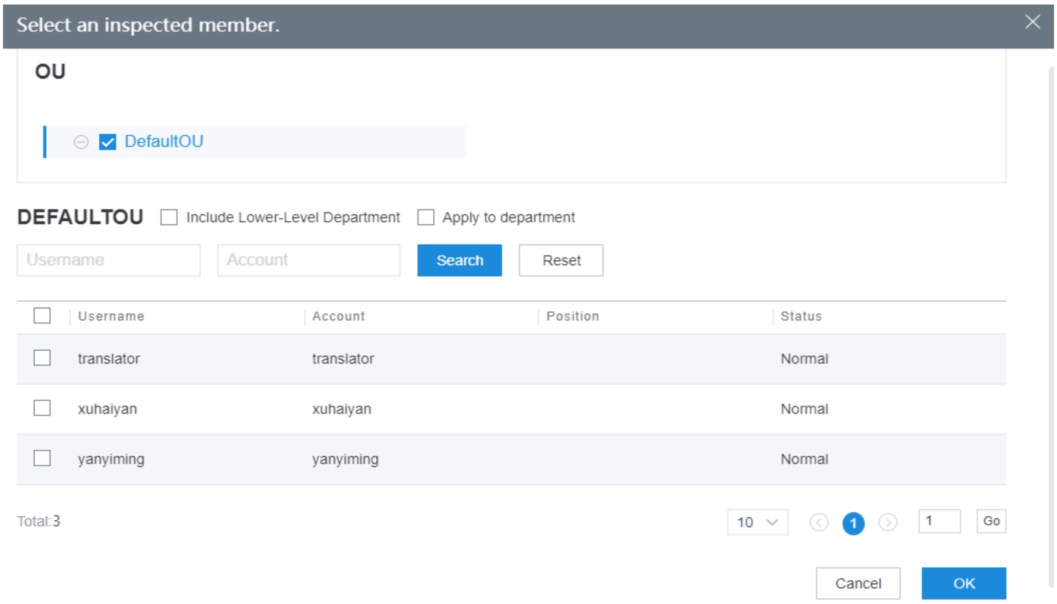
Step 3 Click on the right of the **Inspector Group** text box to select an inspector group and inspectors.

Figure 2-198 Dialog box for selecting inspector members



Step 4 Click **Select an inspected member.** and select an inspected member.

Figure 2-199 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.

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.

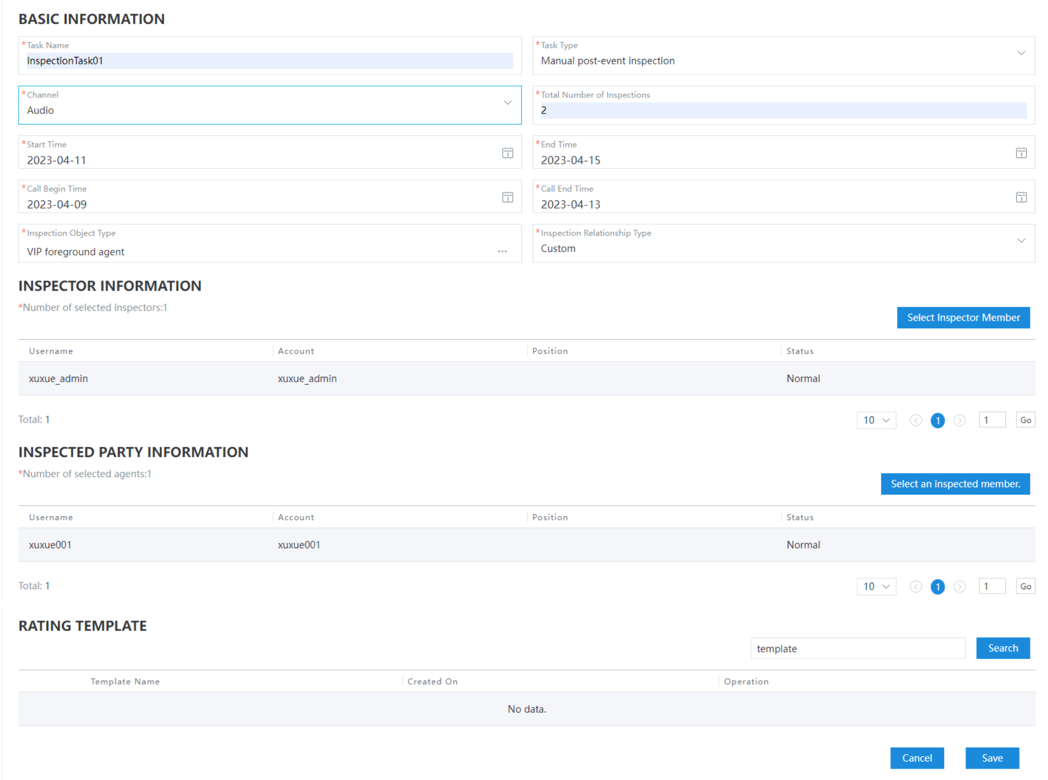
You can view the task details and results of released manual inspection tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Inspection Task Management**.

Step 2 Click **Add**. The **Create Inspection Task** page is displayed.

Figure 2-200 Create Inspection Task page



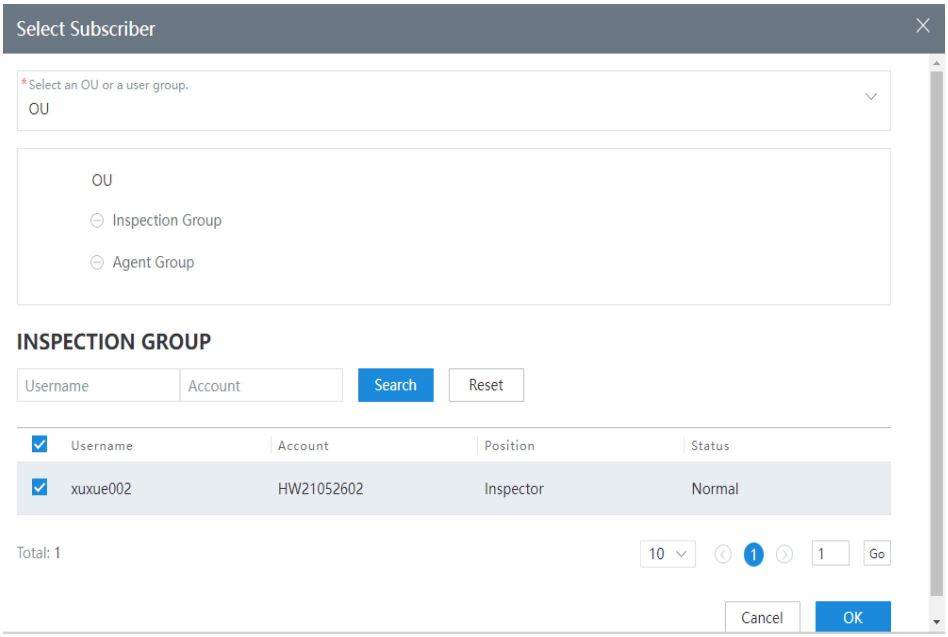
Step 3 Configure basic inspection task information.

- **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.
- **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**.

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 2-201 Page for selecting users



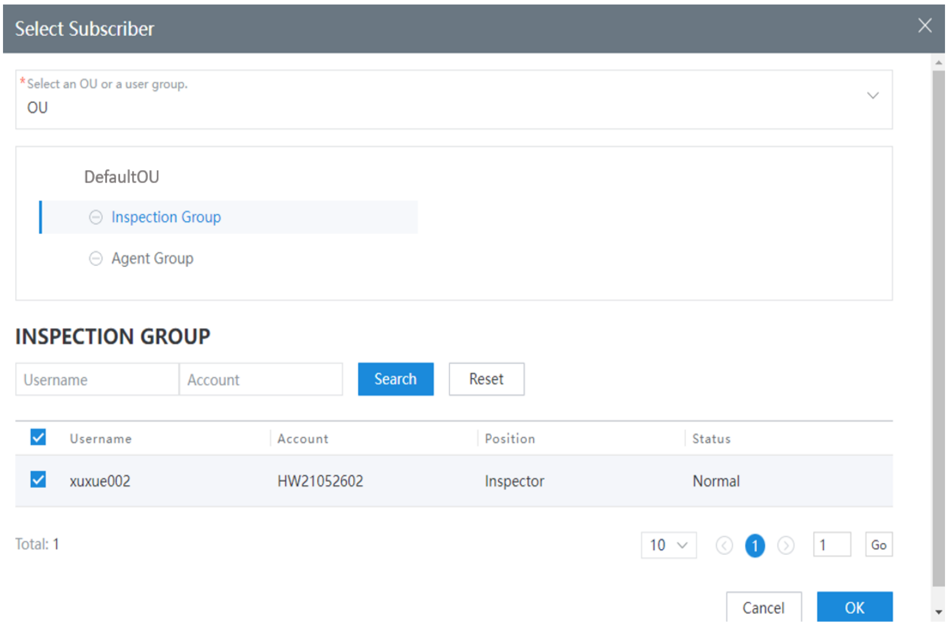
b. Set **Select an OU or a user group.** and select a specific group or OU.

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.

Figure 2-202 Page for selecting users



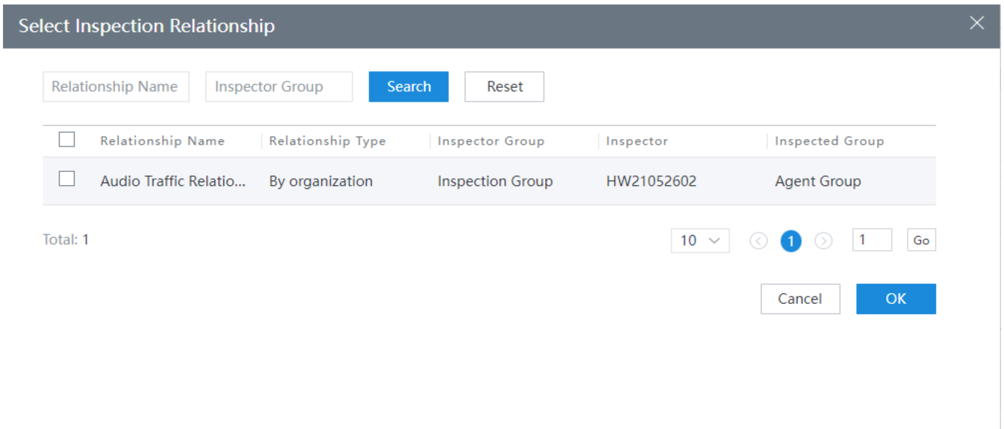
b. Set **Select an OU or a user group.** and select a specific group or OU.

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 2-203 Page for select inspection relationships

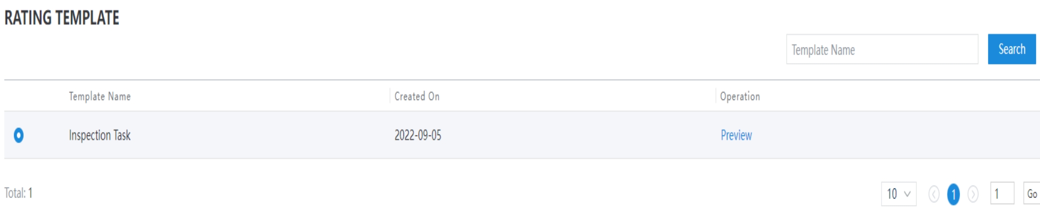


2. Select inspection relationships. For details about how to configure inspection relationships, see **2.10.3.5 Managing Inspection Relationships**.
3. Click **OK** to save the selected inspected relationships.

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 2-204 Area for selecting a rating template



Step 7 (Optional) Choose **Quality Inspection** > **Inspection Task Management**, query inspection tasks, and click **Download The Inspection Result** to export the inspection results of the inspection tasks to a file.

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.

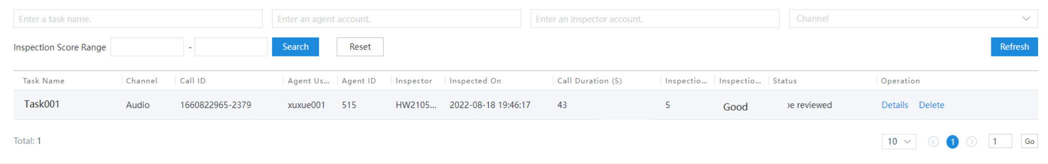
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Quality Inspection** > **Inspection Results**.

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 2-205 Page for searching for inspection results



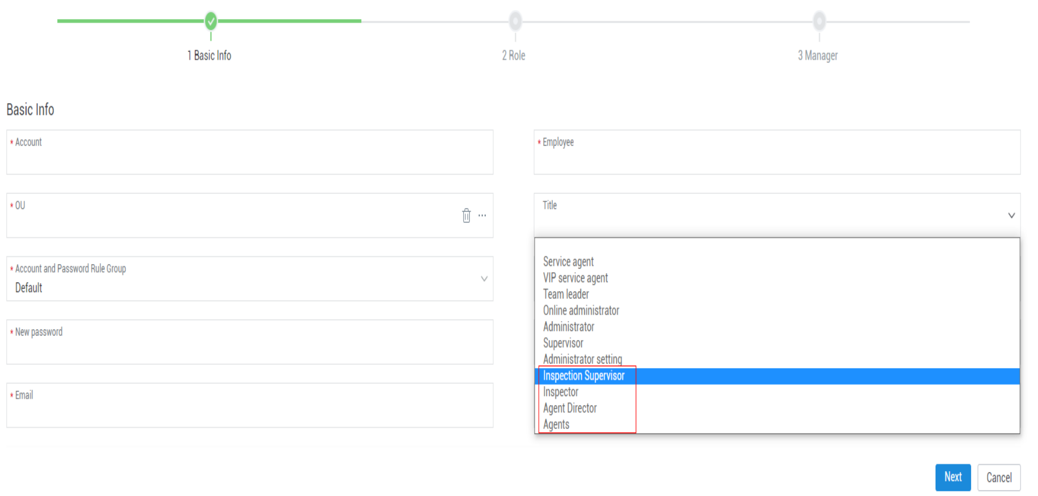
----End

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.



The titles and corresponding operations are as follows:

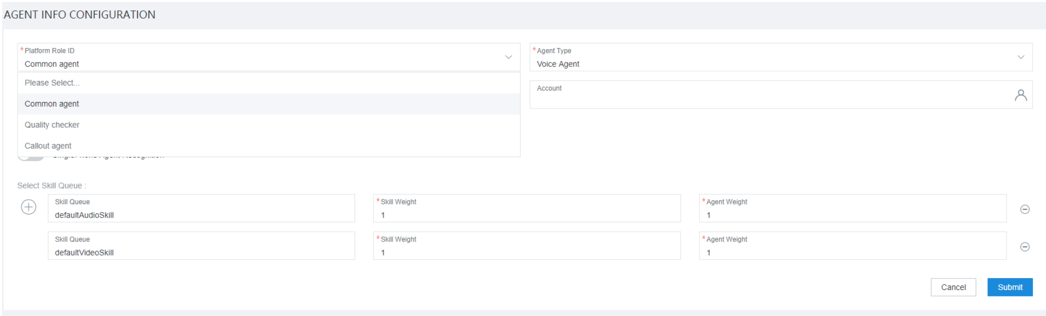
  - **Inspection Supervisor**: allocates an agent appeal application to an inspector.
  - **Inspector**: performs the second inspection based on the AI inspection result.
  - **Agent Director**: reviews the appeal application submitted by an agent.
  - **Agents**: provides call records for inspection and 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.

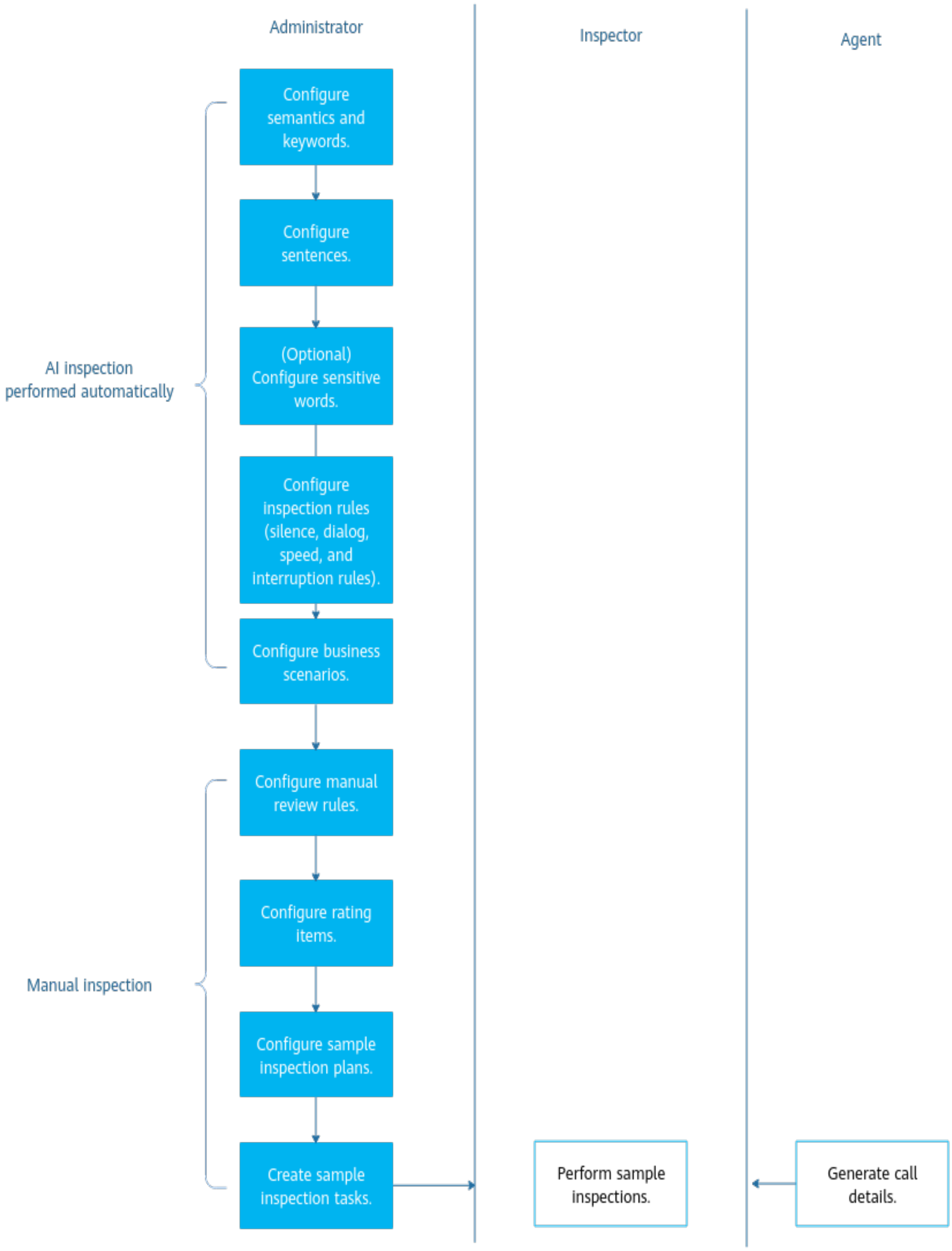
- You have configured **Platform Role ID** for the involved inspectors and agents on the **Configuration Center** > **Employee Center** > **Agent Management** page.



Context

After the tenant space is enabled, the administrator needs to configure the following items for the AICC to execute AI inspection tasks.

Figure 2-206 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".

- 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 2-65 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.

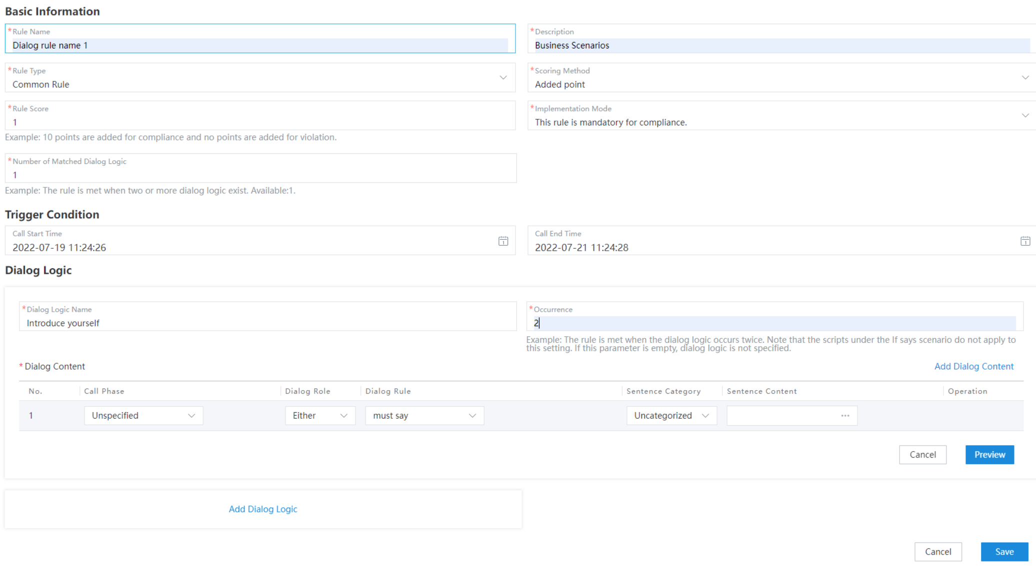
1. Choose **Configuration Center** > **Quality Management** > **Sentence**.
2. Click **Create Sentence** in the upper right corner to add a sentence for each of the three tags in the previous step. For details, see **2.10.5.1 Managing Sentences**.
3. Click **Training Quality Inspection Model** in the 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.



During the configuration, pay attention to the following points:

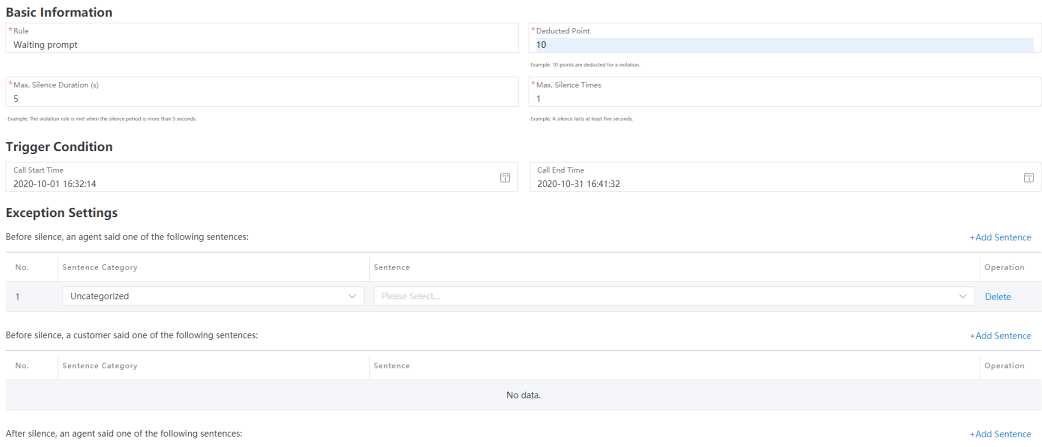
– **Scoring Method** and **Implementation Mode**: used to configure whether the rule is mandatory for compliance and whether the score is deducted when the rule logic is met.

  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.

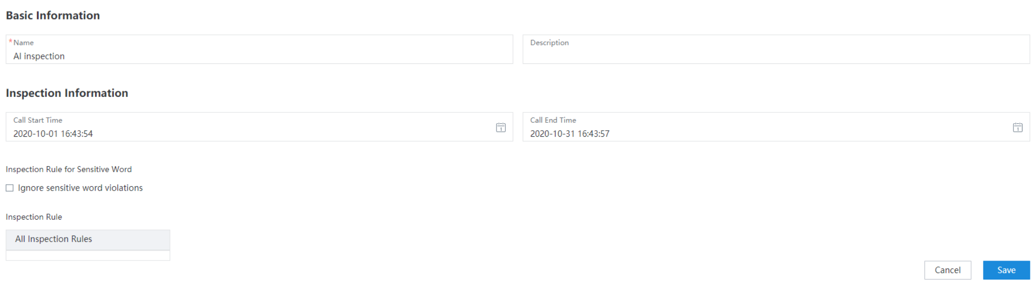
2. Add a silence rule by referring to **2.10.5.3.1 Configuring Silence Rules**, as shown in the following figure.



Step 4 Configure an inspection rating rule. For details, see **2.10.5.4 Configuring Inspection Rating Rules**.

Step 5 Configure a business scenario.

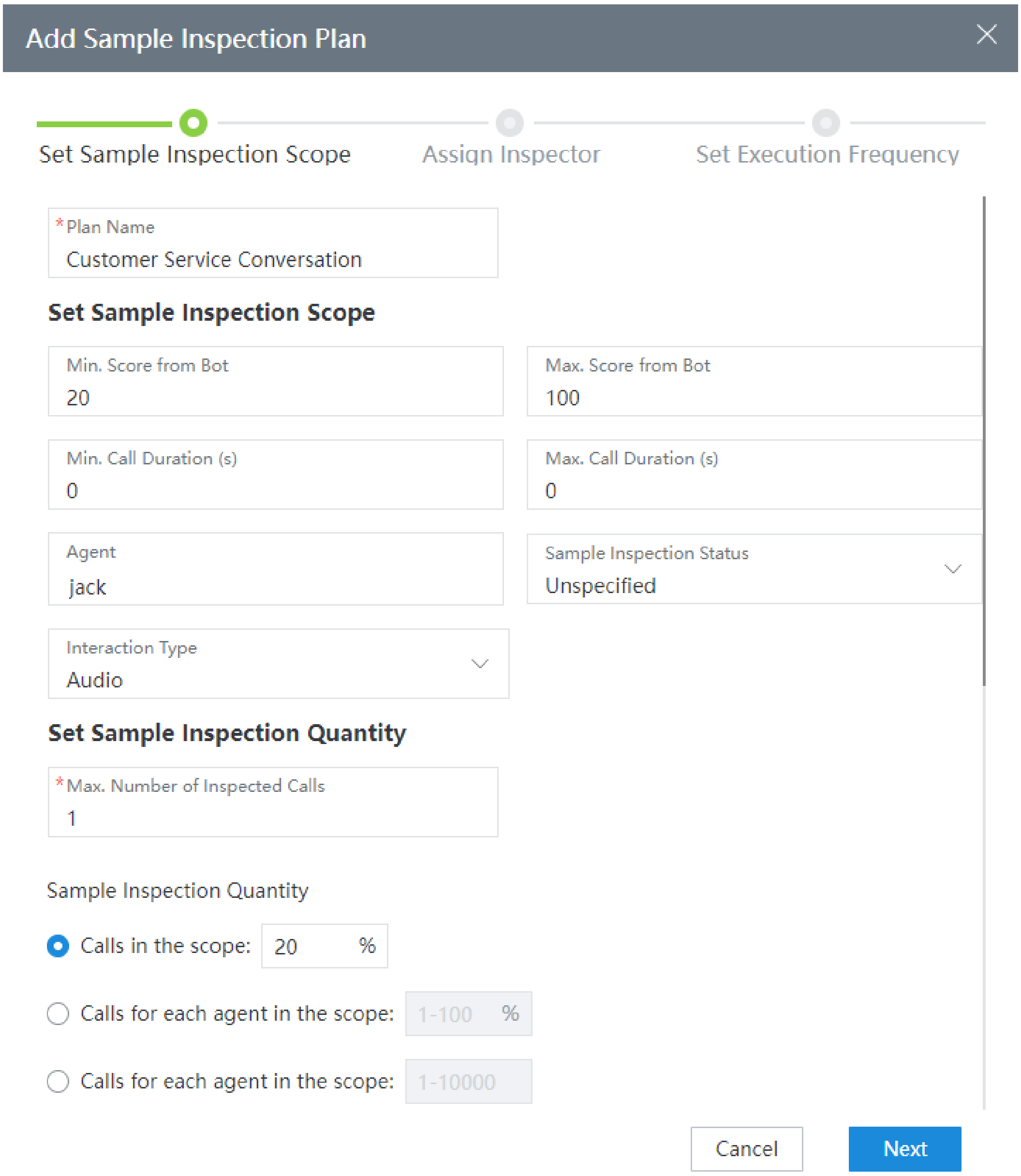
1. For details, see **2.10.5.5 Configuring Business Scenarios**.



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**.



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**.

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.

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 2-207 Adding a silence rule

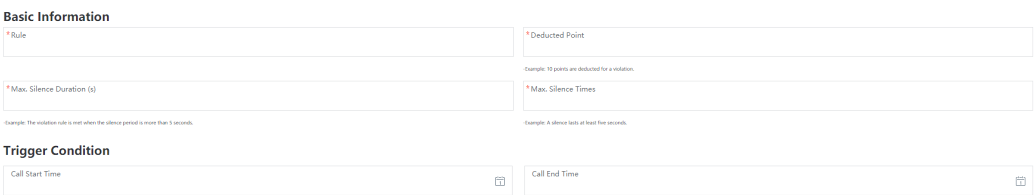
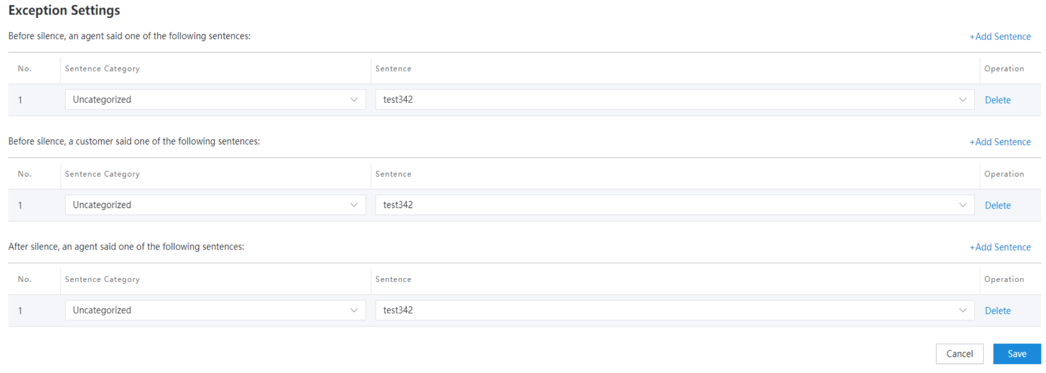


Figure 2-208 Exception settings



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.

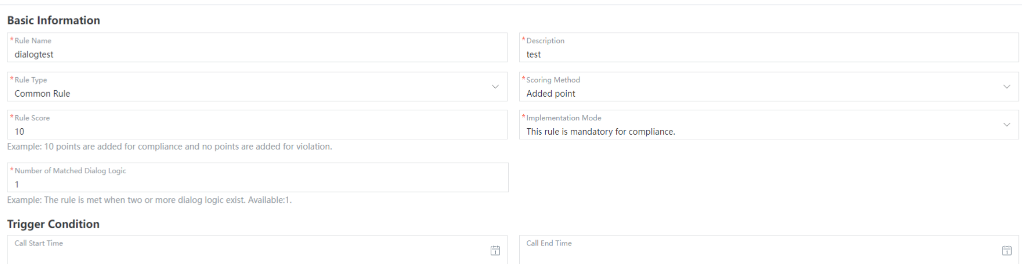
Dialog rules can be created on the GUI.

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 2-209 Creating a dialog rule



- **Basic Information** includes **Rule Name**, **Description**, **Rule Type**, **Scoring Method**, **Rule Score**, **Implementation Mode**, and **Number of Matched Dialog Logic**.

- **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 2-210 Adding and modifying a dialog logic

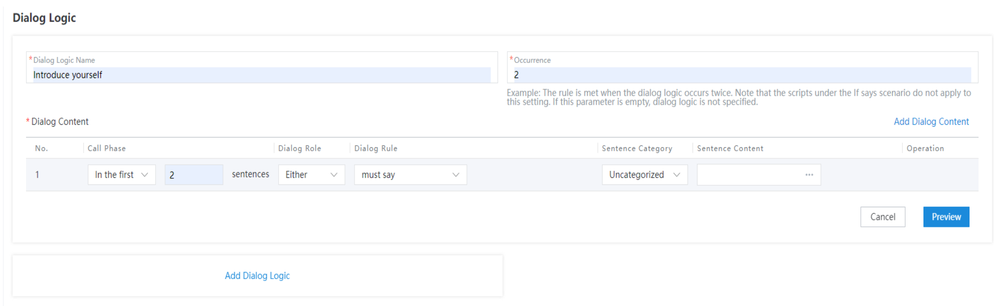
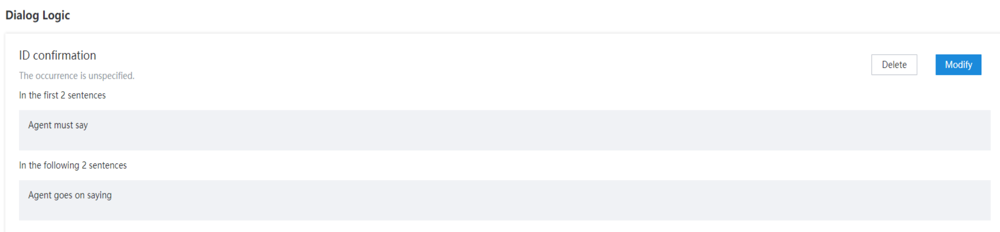


Figure 2-211 Previewing a dialog logic



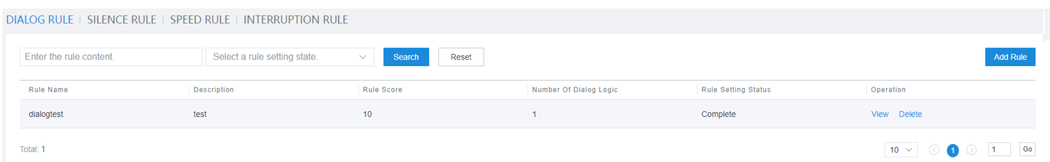
Step 4 Click **Save** to save the dialog rule and return to the **DIALOG RULE** page.

----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 2-212 DIALOG RULE page



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

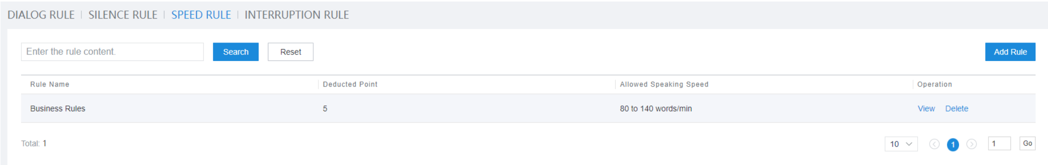
You can configure different speed rules to be referenced when business scenarios are configured.

Speed rules can be created on the GUI.

Procedure

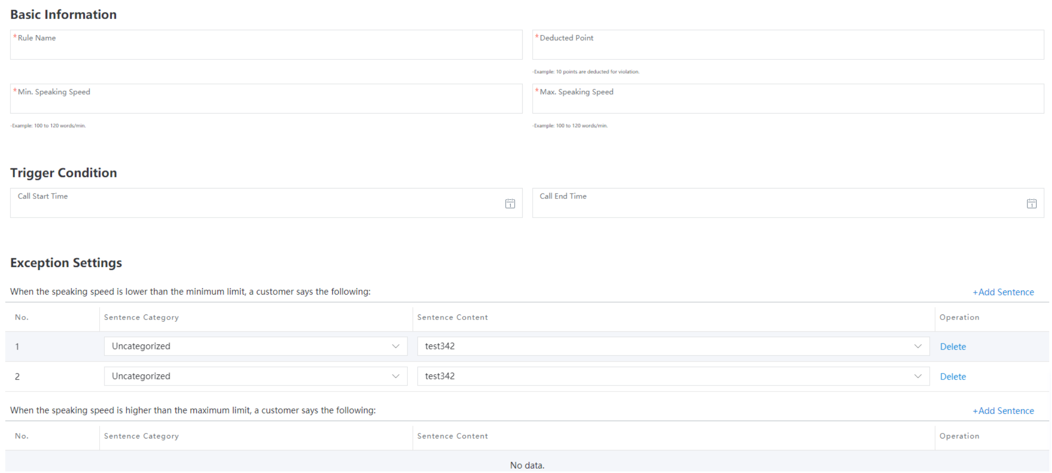
Step 1 Sign in to the AICC as a tenant administrator, choose **Configuration Center** > **Quality Management** > **Inspection Rule**, and click the **SPEED RULE** tab.

Figure 2-213 SPEED RULE page



Step 2 Click **Add Rule** and configure rule information.

Figure 2-214 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.

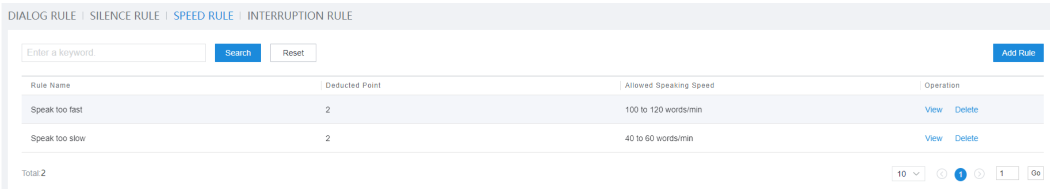
Step 4 Click **Save** to save the speed rule and return to the **SPEED RULE** page.

----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 2-215 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.

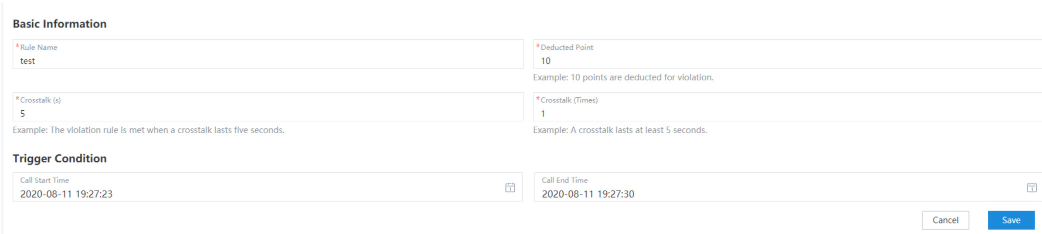
Interruption rules can be created on the GUI.

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 2-216 Creating or modifying an interruption rule



- **Basic information** includes **Rule Name**, **Deducted Point**, **Crosstalk (s)**, and **Crosstalk (Times)**.

- **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.

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**.

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 2-66 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.	-

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 2-67 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 2-68 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	-

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 2-69 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 2-70 sensitive-group-word sheet

Column	Description	Value Example
Sensitive Word Category Name	Sensitive word category name. This column is mandatory.	-

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 2-71 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

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 2-72 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

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 2-73 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.	-

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 (|).	-

Table 2-74 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

Table 2-75 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

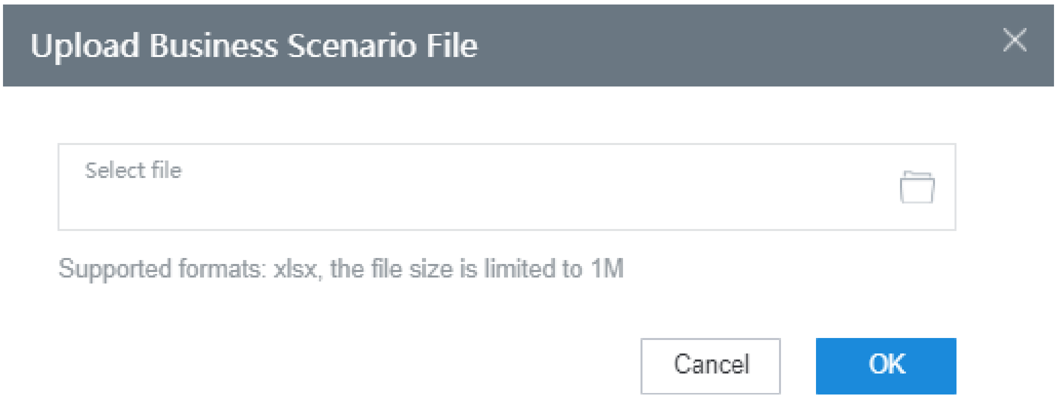
Table 2-76 interruption-rule sheet

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.

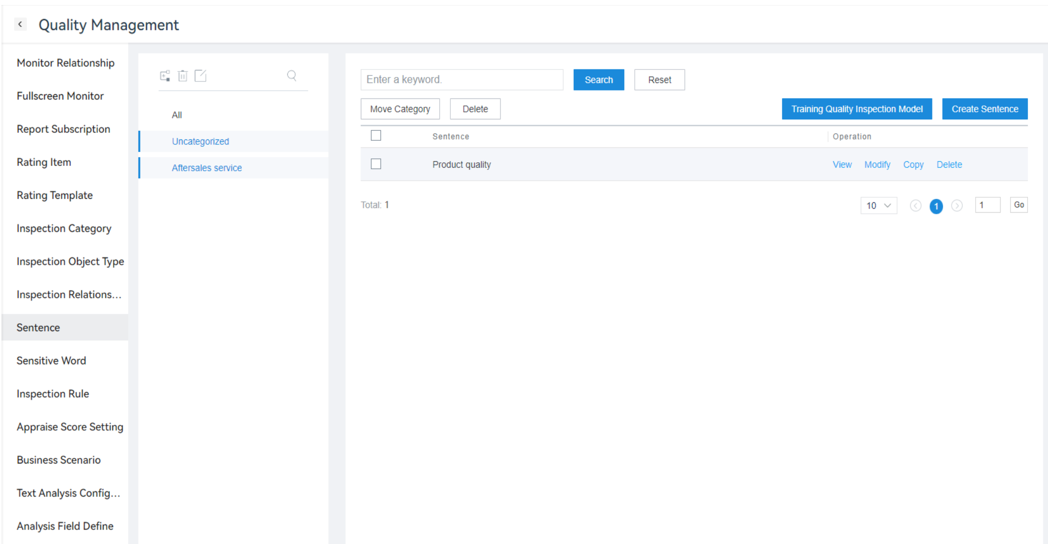


Step 5 Click **OK**. The task is successfully imported.

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.

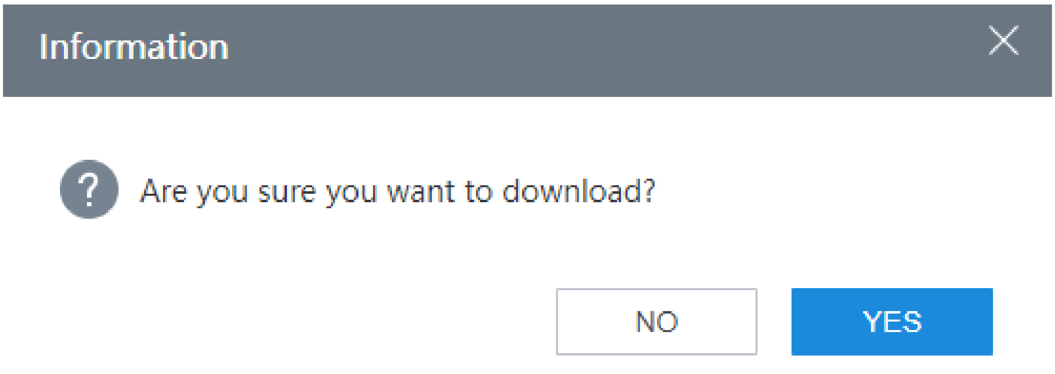
Figure 2-217 Uncategorized page



NOTE

A maximum of 100 records can be exported.

Figure 2-218 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.

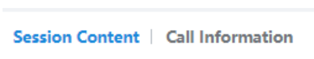
Step 2 Click **Upload Call** to upload the desired calls. Set **File Type** to **Audio** or **Text**, click to select a file from the local PC, set other information, and click **OK** to upload the file.

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 

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.

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.

Figure 2-219 Add Sample Inspection Plan page

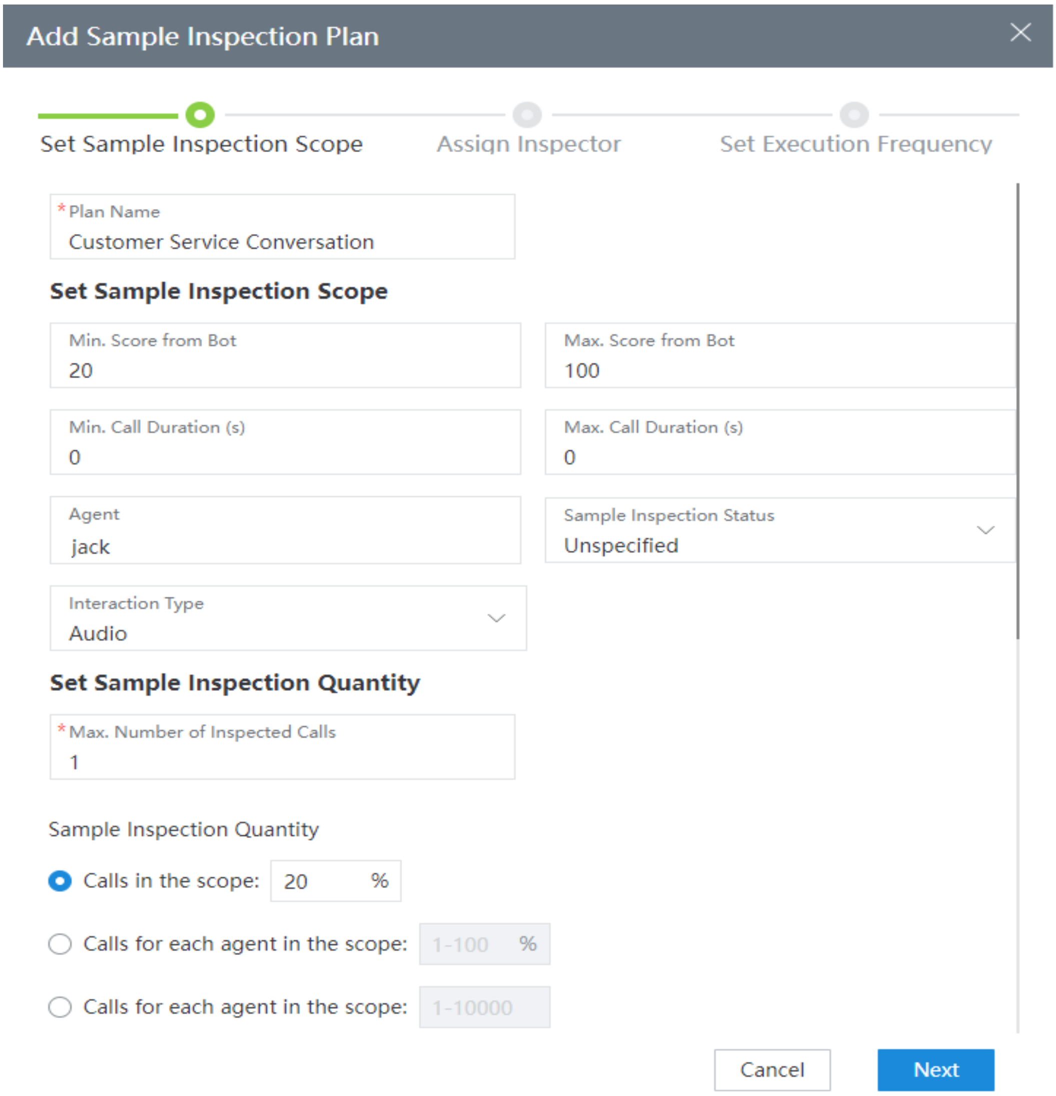


Figure 2-220 Assign Inspector page

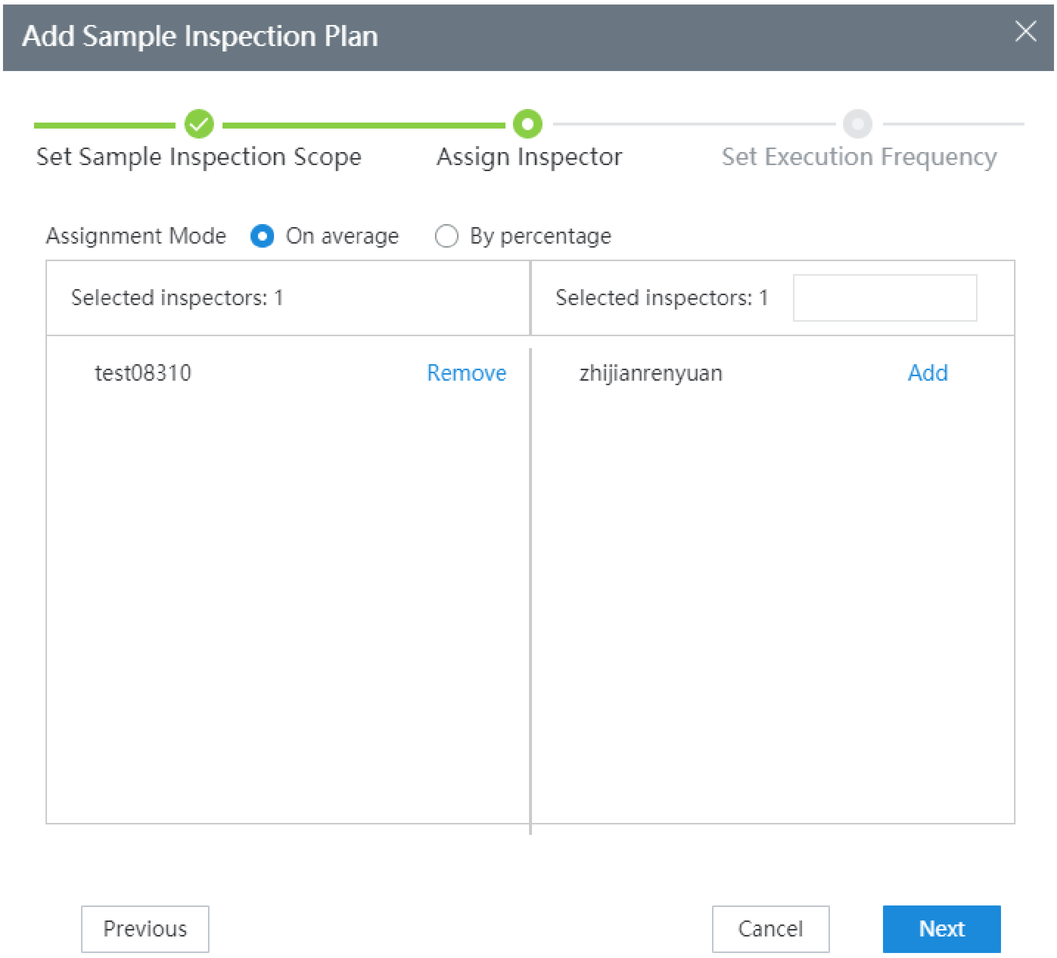
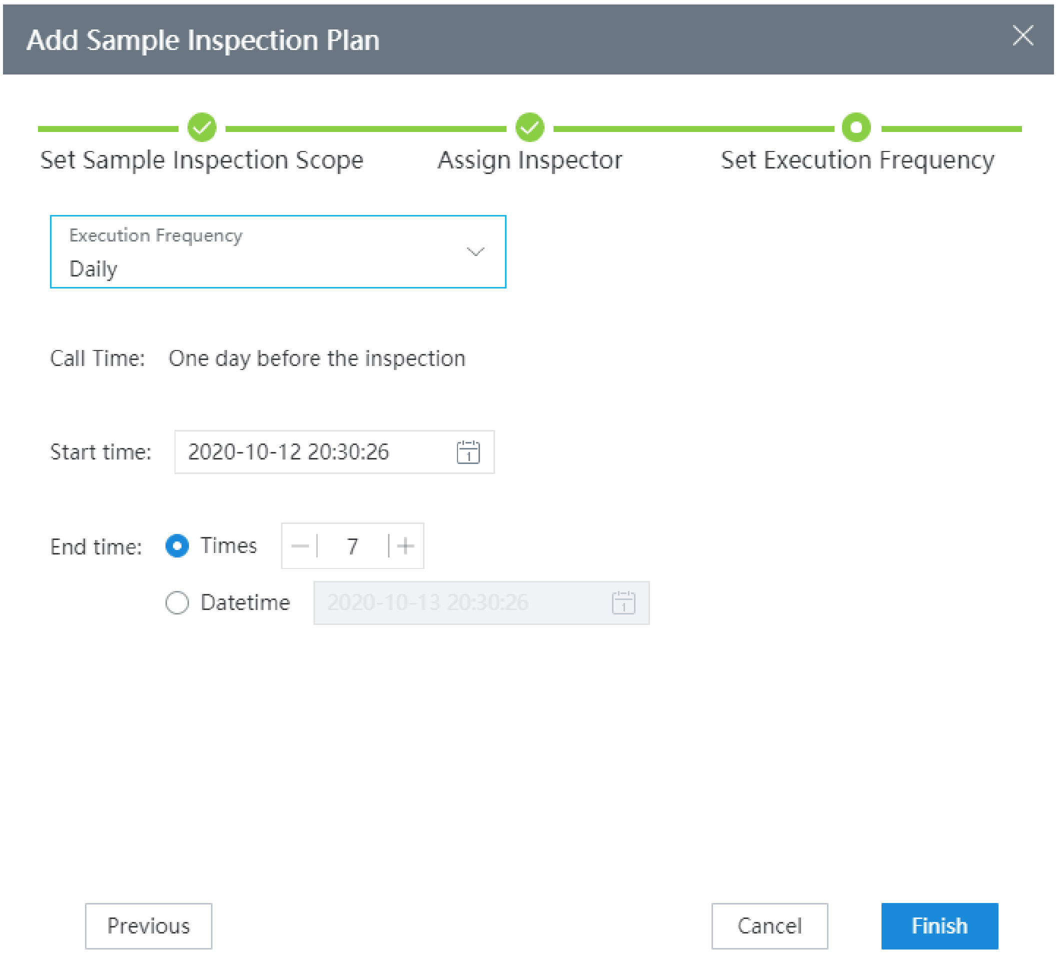


Figure 2-221 Set Execution Frequency page



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.

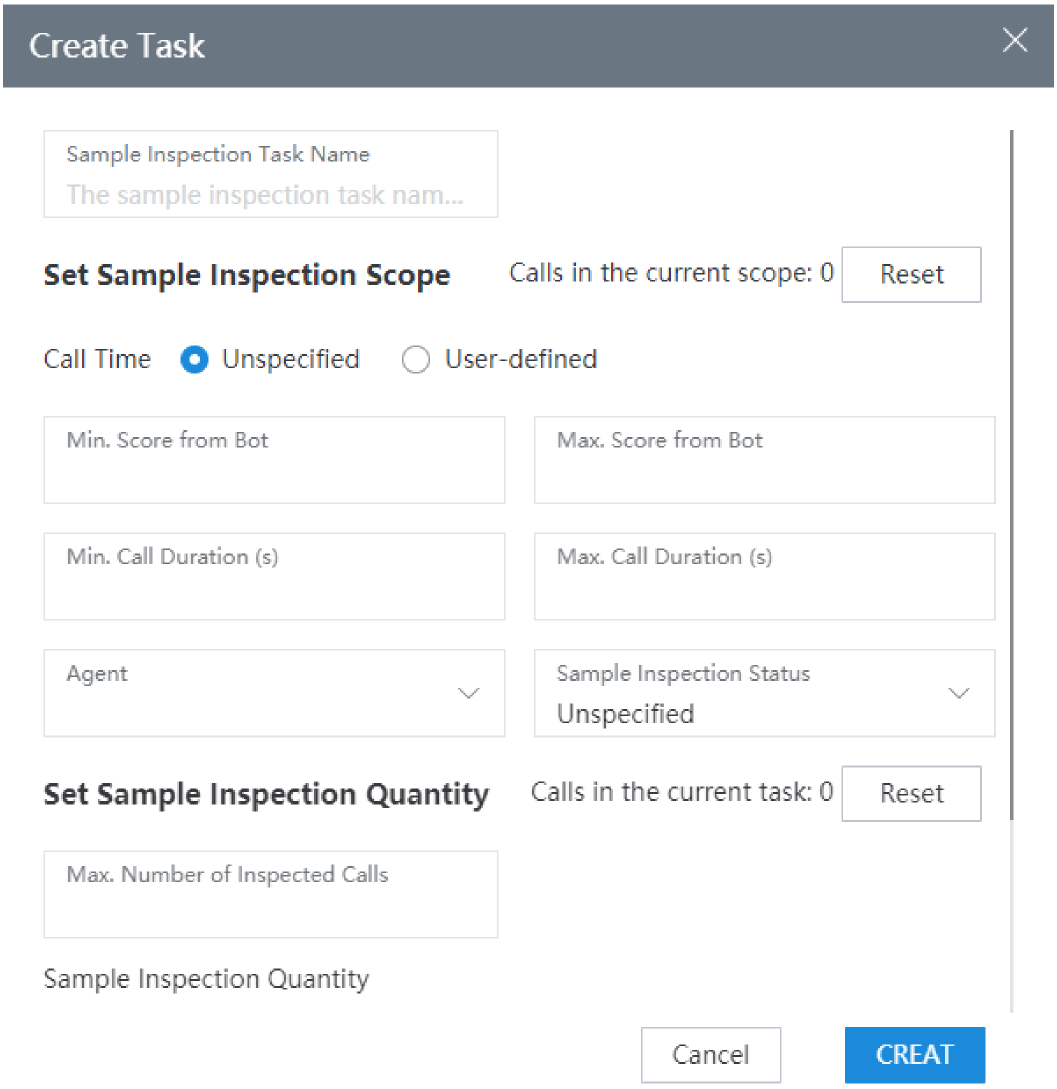
Procedure

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.

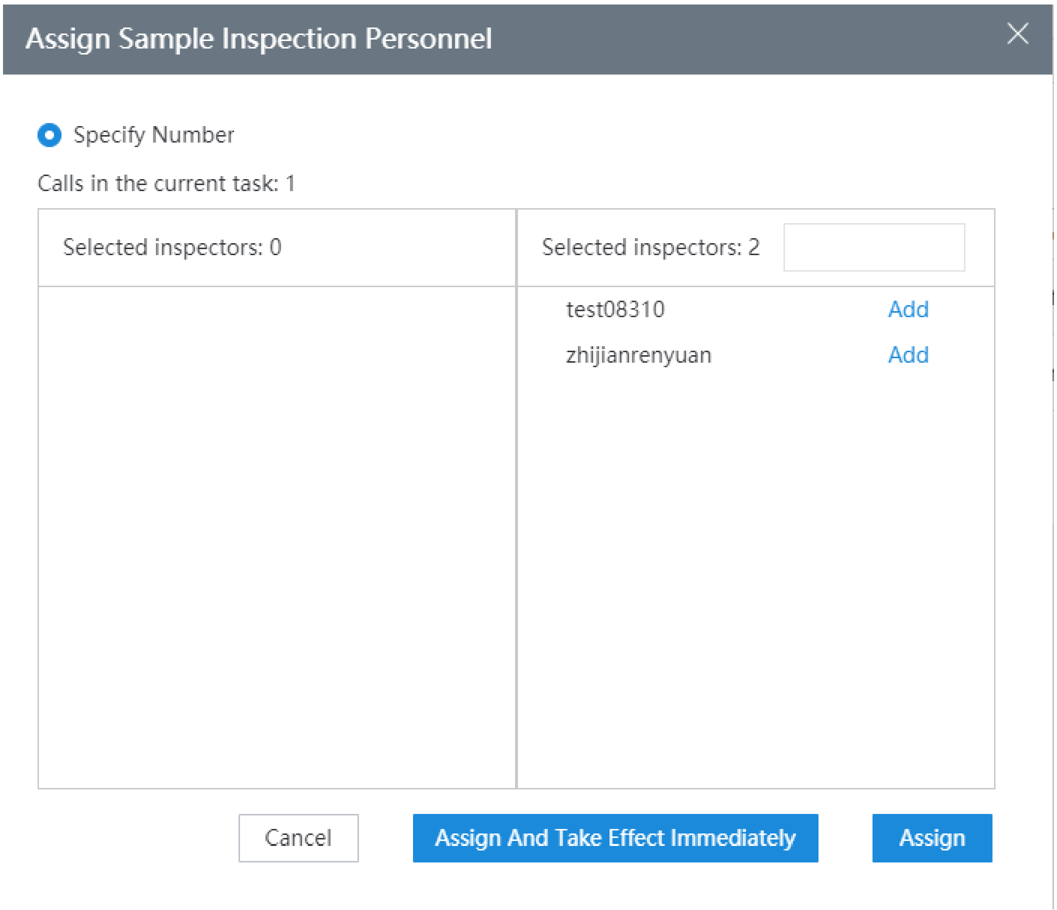
The new task can be created only when at least one call exists.

Figure 2-222 Creating a task



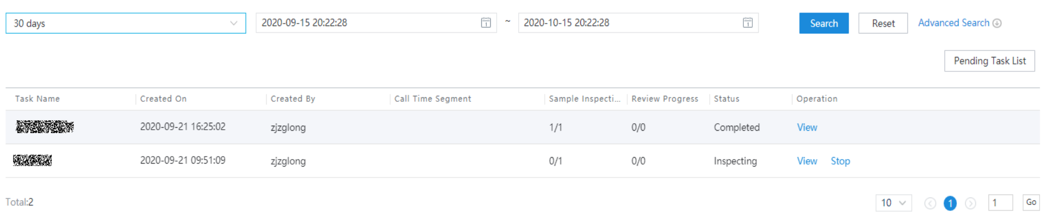
Step 3 Click **Back to My Sample Inspection** and select a created manual sampling inspection. Click **Assign** to assign an inspector to inspect the call.

Figure 2-223 Page for assigning inspectors



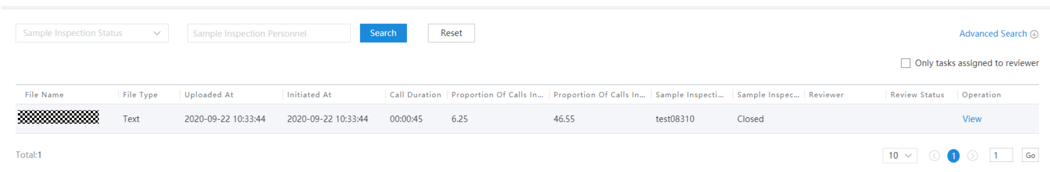
You can click **Reserve**, **Effective**, **Modify**, **Delete**, or **Stop** to perform the corresponding operation on an inspection task.

Figure 2-224 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 2-225 Task details page



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**.

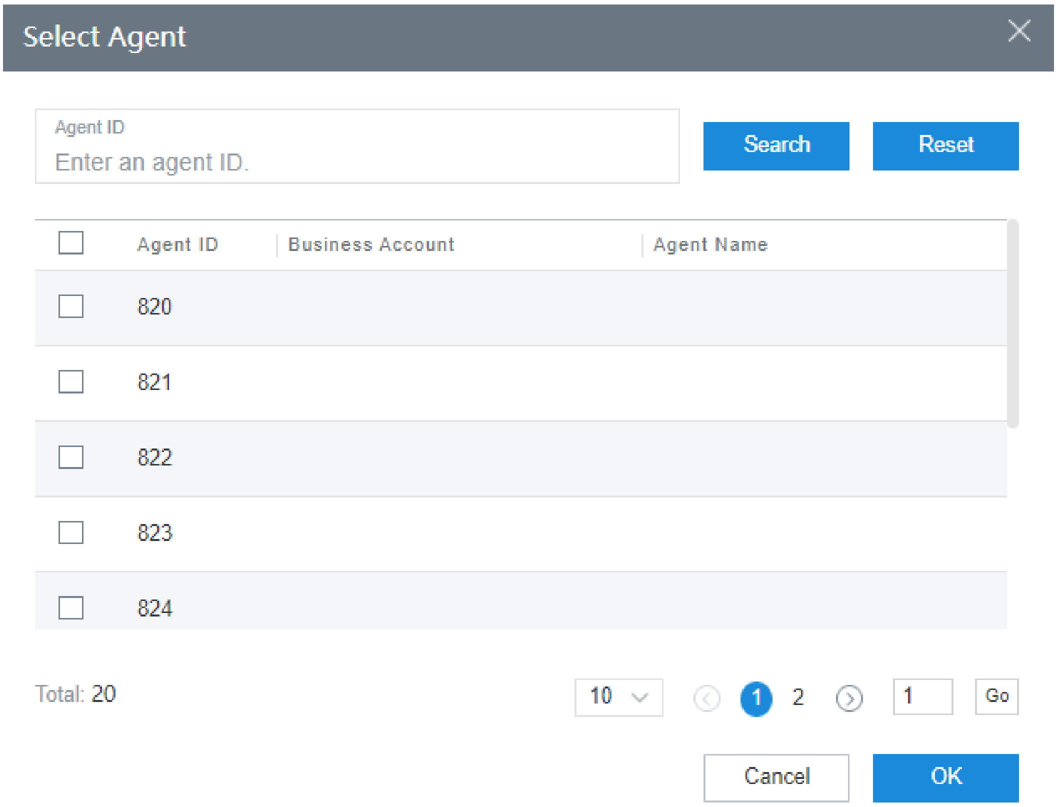
Figure 2-226 Text Analysis Configuration page

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.

Figure 2-227 Select Agent page



Step 5 Click **OK** to save the text analysis configuration.

----End

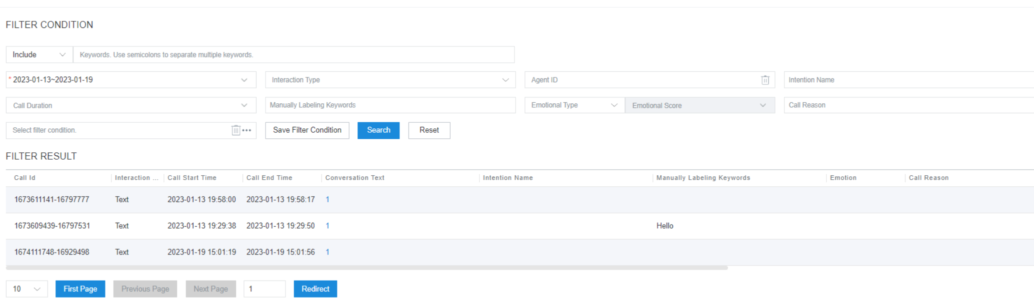
2.10.5.9.2 Searching for Inspection Results Based on Keywords

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 **Speech Text Analysis** > **Keyword Search**.

Figure 2-228 Keyword Search page

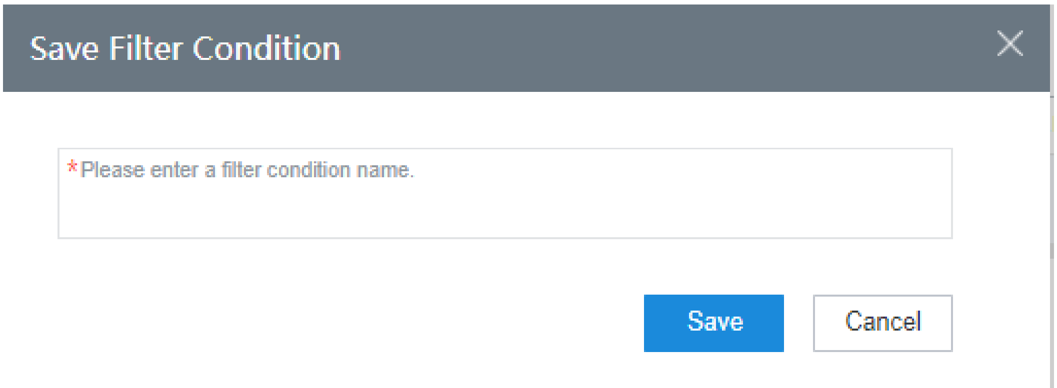


Step 2 Set the start time and end time, and click **Search**. The default time range is last 7 days.

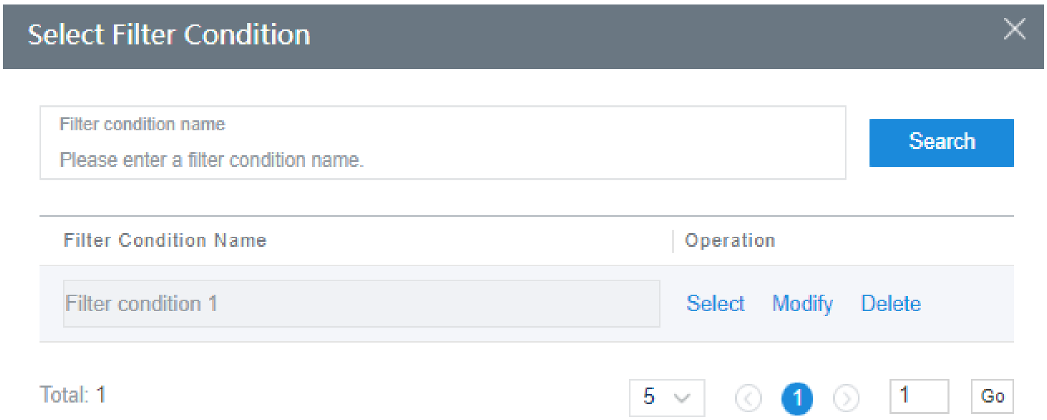
NOTE

The time range must be less than or equal to 31 days.

Step 3 Set other conditions. Click **Save Filter Condition** and set the filter condition name to save the combination of all the current filter conditions.



Step 4 Click **...** in the **Select filter condition.** selection box to select a saved filter condition.



----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.

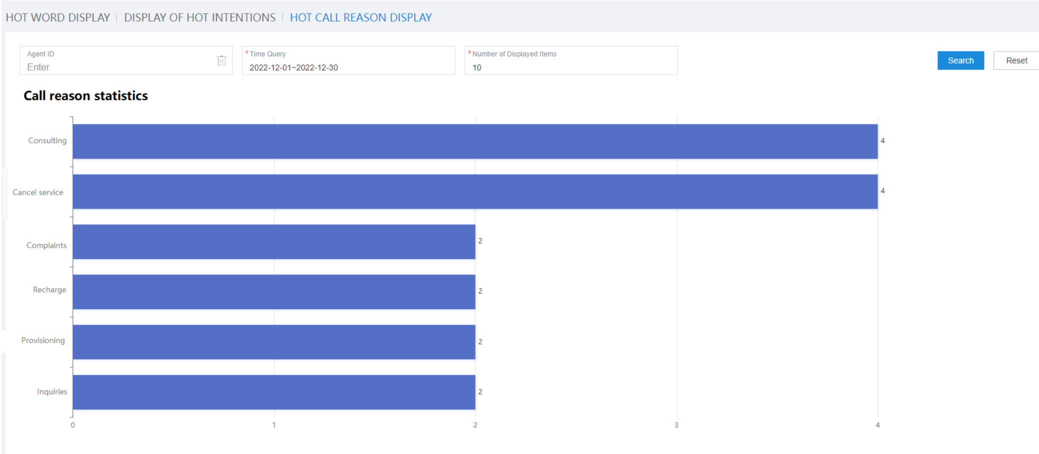
Figure 2-229 HOT WORD DISPLAY tab page

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 2-230 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 2-231 HOT CALL REASON DISPLAY tab page



----End

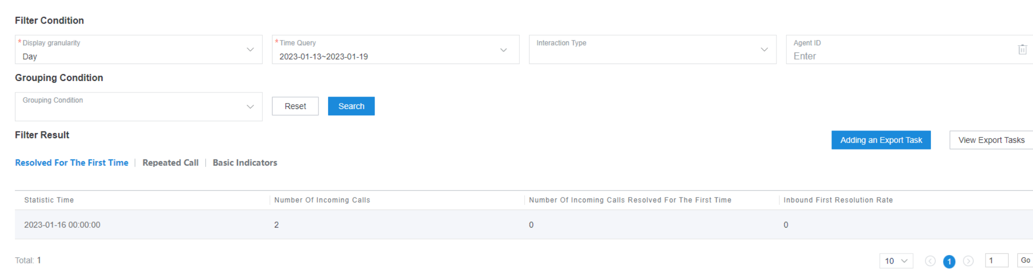
2.10.5.9.4 Collecting Text Analysis Indicator Statistics

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**.

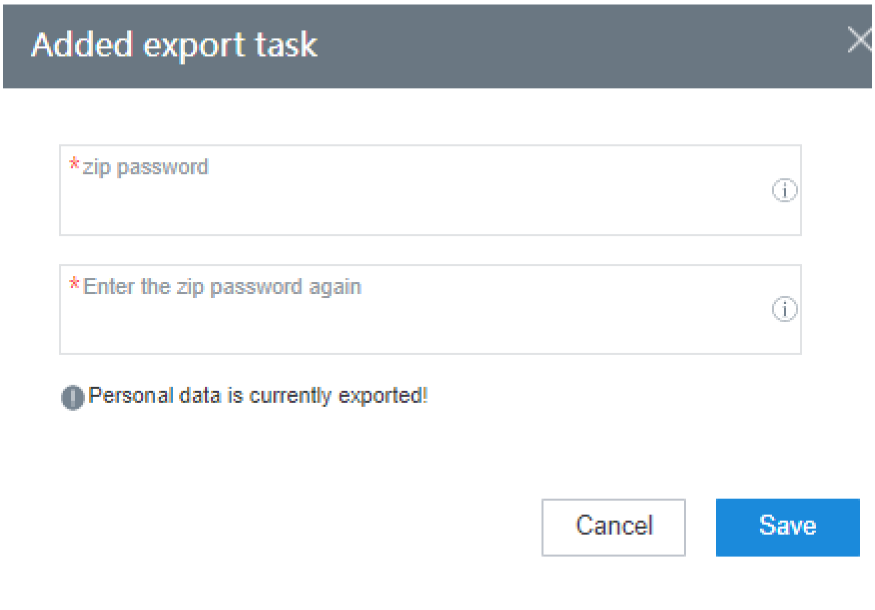
Figure 2-232 Text Analysis Indicator Statistics page



Step 2 Set **Display granularity**, **Time Query**, **Interaction Type**, **Agent ID**, and **Grouping Condition** to filter data based on criteria.

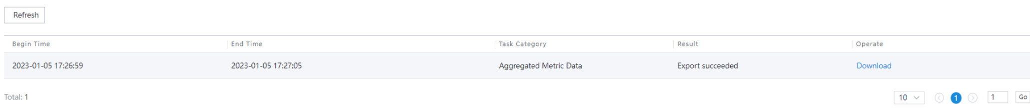
Step 3 Click **Adding an Export Task**. On the page that is displayed, set **zip password** and click **Save**.

Figure 2-233 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 2-234 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

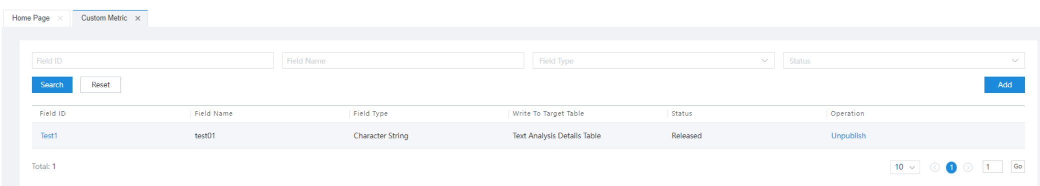
2.10.5.9.5 Configuring Custom Indicators

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 2-235 Custom Metric page

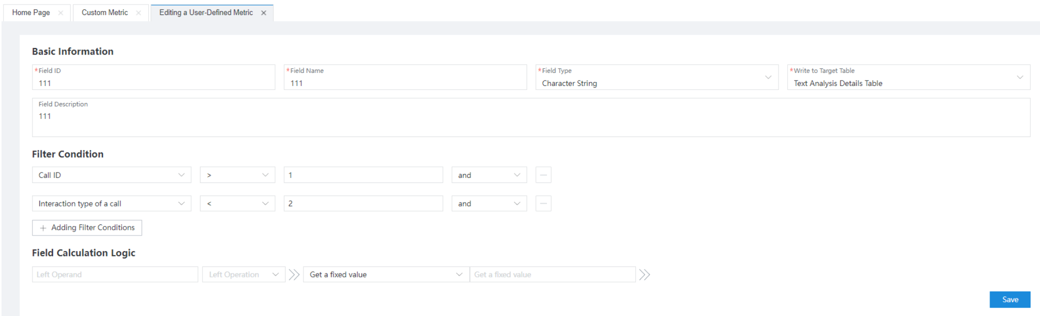


Step 2 Click **Search**. All custom indicators of the tenant are queried by default. You can query indicators based on the field ID, field name, field type, or status.

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 2-236 Editing a User-Defined Metric page

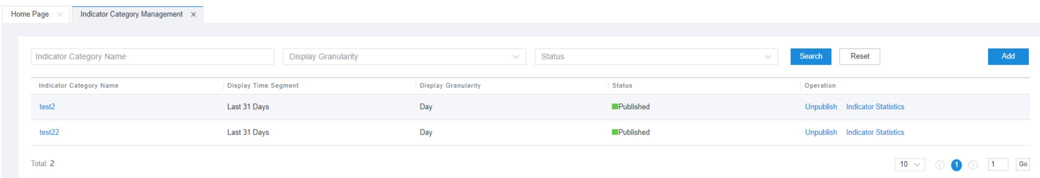


----End

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 2-237 Indicator Category Management page

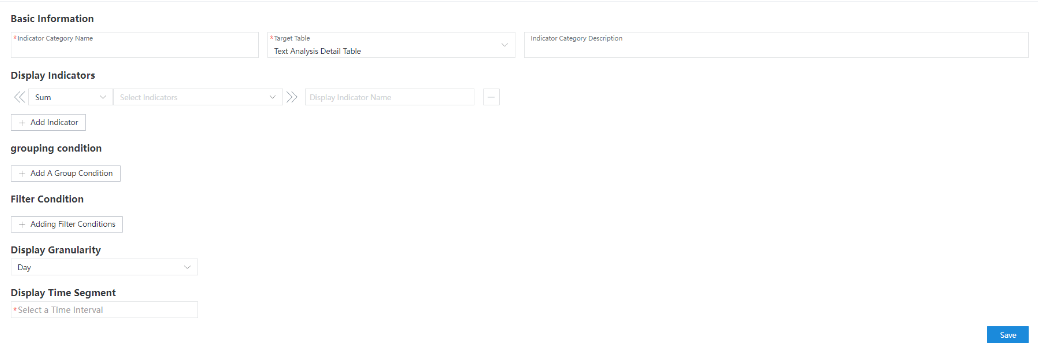


Step 2 Click **Search**. All indicator categories of the tenant are queried by default. You can query the indicator category based on the indicator category name, display granularity, and status.

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.

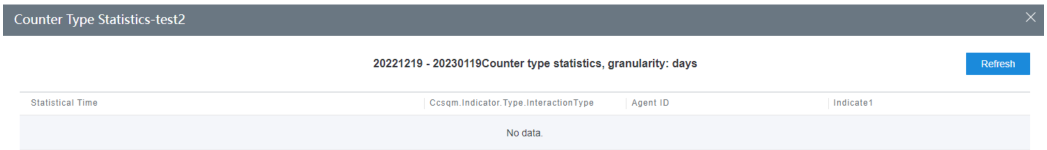
Step 4 Enter the basic information (**Indicator Category Name**, **Target Table**, and **Indicator Category Description**), set display indicator (**Add Basic Indicator** or **Add Custom Indicator**), grouping condition, filter condition (**Add Basic Filter Condition**, **Add Custom Filter Condition**, **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 2-238 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 2-239 Counter Type Statistics page



----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

Tenant administrators can configure bulletin types for recipients to distinguish bulletins.

Procedure

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

Step 2 Choose **Bulletin Type** and click **New**. The **Create Bulletin Type** dialog box is displayed.

Step 3 Set bulletin type parameters.

- **Bulletin Type Name**: Customize a name, which contains a maximum of 128 characters.
- **Default Expiration Day**: Set **Low**, **Medium**, **High**, and **Critical**.
- **Description**: Enter the description containing a maximum of 256 characters.

Step 4 Click **Complete**.

Step 5 (Optional) Click **Edit** in the **Operation** column to modify the name, default expiration time, and description of a bulletin type.

(Optional) Click **Delete** in the **Operation** column to delete a bulletin type.

----End

2.11.2 Configuring SMS Messages

A tenant 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 this function, you have enabled the Huawei Cloud SMS service at **https://support.huaweicloud.com/intl/en-us/msgsms/index.html**.

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 a tenant 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 CenterSystem ManagementCertificate** 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.
- **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 an SMS Message Sender Number

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

Step 2 Click the **SMS Number** tab.

Step 3 Click **Add**. On the **Add SMS Number** page that is displayed, add an SMS message sender number.

Step 4 Set **Sender Country Code** and **SMS Message Number**.

Step 5 Click **Complete**.

----End

2.11.3 Configuring Gateways

A tenant administrator can set SMS parameters to enable the AICC to send SMS messages and emails.

2.11.3.1 Configuring SMS Gateways

A tenant administrator can configure SMS gateways to send and receive SMS messages.

Context

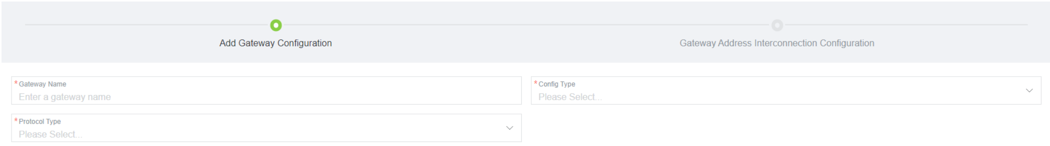
If the user password for connecting to the SMS gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Message protocol parameters** tab, and enter the new login password.

Procedure

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

Step 2 Click **New**. On the **Add Gateway Configuration** page that is displayed, set gateway parameters.

Figure 2-240 Setting gateway parameters



- **Gateway Name**: Gateway name, which is customized.
- **Config Type**: Set this parameter to **SMS**.
- **Protocol Type**: Set this parameter to **smpp**.

Step 3 Click **Next**. On the **Gateway Address Interconnection Configuration** page,

set gateway address interconnection parameters, including parameters in the **Basic Configuration** and **Advanced Settings** area. Parameters in the **Basic Configuration** area need to be manually set, and parameters in the **Advanced Configuration** area are set by default. You can set additional configuration items as required.

- The configuration items that needed to set are displayed in the **Basic Configuration** area.

Figure 2-241 Setting gateway address interconnection parameters

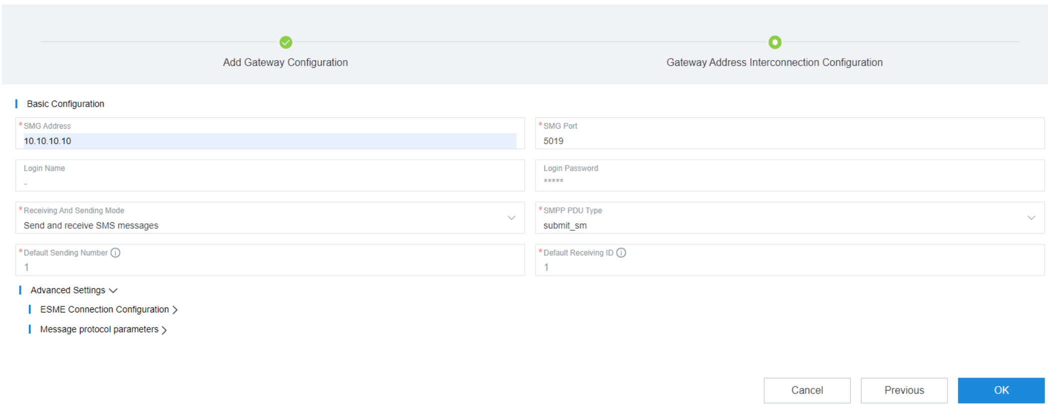


Table 2-77 Parameters in the Basic Configuration area

Parameter	Description
SMG Address	This parameter is mandatory. IP address of the SMS gateway. Example: **10.10.10.10**
SMG Port	This parameter is mandatory. Port number of the SMS gateway.
Login Name	Account for logging in to the gateway. This parameter is optional when the gateway simulator is used.
Login Password	Password for logging in to the gateway. This parameter is optional when the gateway simulator is used.

Parameter	Description
Receiving And Sending Mode	This parameter is mandatory. Whether a protocol device is used to send or receive SMS messages. Default value: **Send and receive SMS messages**. Value range: – **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	This parameter is mandatory. Type of the SMPP PDU used for sending SMS messages. Default value: **submit_sm**. Value range: – **submit_sm** – **data_sm**
Default Sending Number	This parameter is mandatory. Number segment configured on the gateway for which SMS messages can be sent. Value range: – Letters – Digits – Special characters: plus signs (+) and hyphens (-) For example, if this parameter is set to **130**, only the numbers starting with 130 can be used to send messages. Use semicolons (;) to separate multiple numbers.
Default Receiving ID	This parameter is mandatory. Number segment configured on the gateway for which SMS messages can be received. Value range: – Letters – Digits – Special characters: plus signs (+) and hyphens (-) For example, if this parameter is set to **130**, only the numbers starting with 130 can be used to receive messages. Use semicolons (;) to separate multiple numbers.

- The **Advanced Settings** area includes **ESME Connection Configuration** and **Message protocol parameters**, as shown in **Figure 2-242**. Parameters in this area are set by default and can be modified as required. Click **OK**.

Figure 2-242 Advanced Settings under Gateway Address Interconnection Configuration

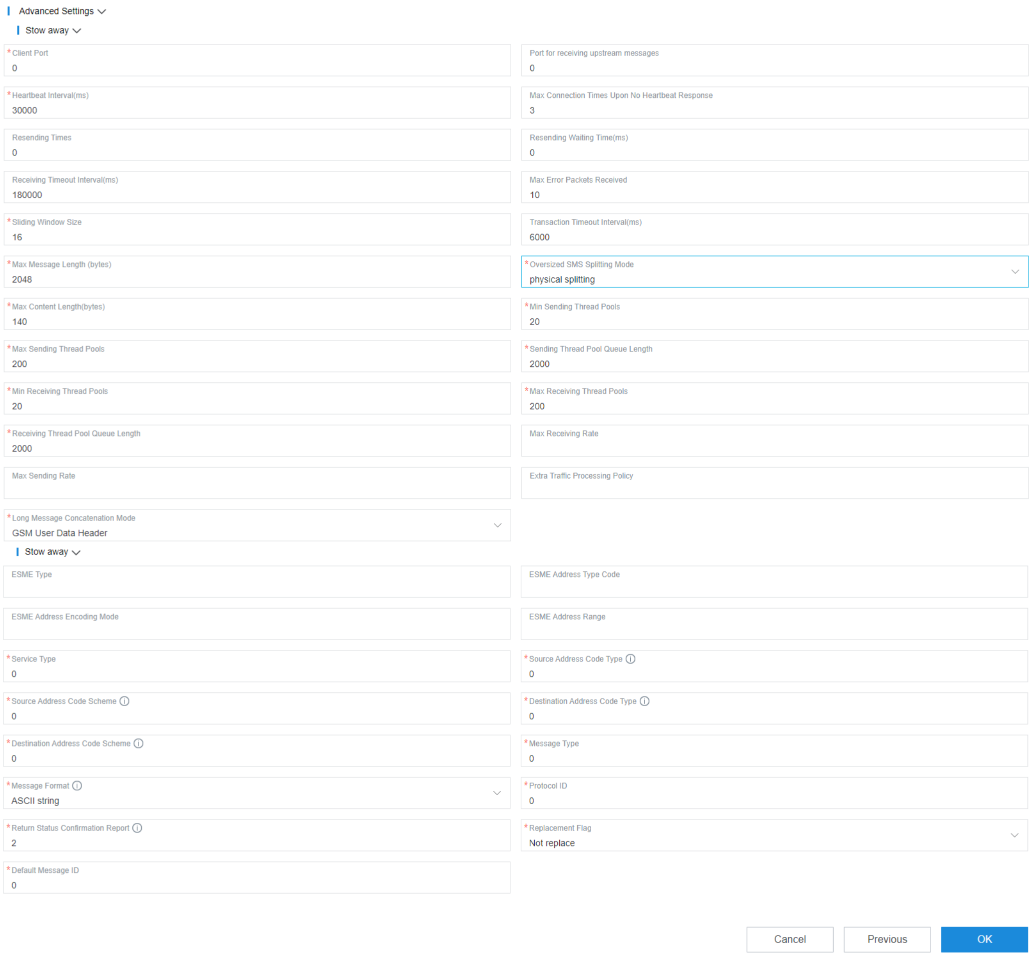


Table 2-78 Parameters in the Advanced Settings area

Parameter	Description
ESME Connection Configuration	
Client Port	This parameter is 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 default value is **0**, indicating that the CC-Notification randomly allocates a port number. The value ranges from 0 to 65535.

Parameter	Description
Port for receiving upstream messages	Port number for receiving MO messages. The default value is **0**, indicating that the value is automatically allocated by the CC-Notification. The value ranges from 0 to 65535.
Heartbeat Interval(ms)	Text box Interval for sending heartbeat messages to the SMS gateway to maintain the long connection between the CC-Notification and SMS gateway. This parameter specifies the interval for sending heartbeat messages. The default value is **30000**, in milliseconds. The value is a number of 1 to 10 digits. The value must be greater than the value of **Transaction Timeout Interval(ms)** and less than the value of **Receiving Timeout Interval(ms)**.
Max Connection Times Upon No Heartbeat Response	Text box 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. Enter The default value is **3**.
Resending Times	Maximum number of resending times. The default value is **0**. The value is a number of 0 to 10 digits. If the CC-Notification does not receive any heartbeat responses after sending a heartbeat message, the CC-Notification waits for a period of time (that is, the value of **Resending Waiting Time(ms)**) and then resends a heartbeat message.
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 default value is **0**. The value is a number of 0 to 10 digits.

Parameter	Description
Receiving Timeout Interval(ms)	This parameter is 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 default value is **180000**. The value is a number of 1 to 10 digits and must be greater than the values of **Heartbeat Interval(ms)** and **Transaction Timeout Interval(ms)**. To prevent ineffective connections, do not set this parameter to **0**.
Max Error Packets Received	Number of error packets consecutively received by a device. The default value is **10**. The value is a number of 0 to 10 digits. If this value is reached, the link is faulty and will be disconnected.
Sliding Window Size	This parameter is mandatory. Instantaneous concurrent processing capability of the CC-Notification. The default value is **16**. Generally, set this parameter to a multiple of 16. The value is a number of 2 to 5 digits. 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.
Transaction Timeout Interval(ms)	Maximum duration for an SMS device to wait for a response from the peer device after sending a message. If the peer device does not respond within this duration, the SMS device does not wait any longer. The default value is **6000**, in milliseconds. The value is a number of 0 to 10 digits. The value must be smaller than the values of **Heartbeat Interval(ms)** and **Receiving Timeout Interval(ms)**.
Max Message Length (bytes)	This parameter is mandatory. Maximum message length specified by the protocol. The default value is **2048**, in bytes. The value is a number of 1 to 5 digits.

Parameter	Description
Oversized SMS Splitting Mode	This parameter is mandatory. Mode of splitting an SMS message when the message content length exceeds the value of **Max Content Length (bytes)**. The default value is **disabled**. Value range: – **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.
Max Content Length(bytes)	This parameter is mandatory. Maximum message content length specified by the protocol. A long SMS message is split based on the value of this parameter. The default value is **140**, in bytes. The value is a number of 1 to 5 digits.
Min Sending Thread Pools	This parameter is mandatory. Minimum number of threads that start in the thread pool when the protocol stack is used to send messages. The default value is **20**. The value is a number of 1 to 5 digits.
Max Sending Thread Pools	This parameter is mandatory. Maximum number of threads that start in the thread pool when the protocol stack is used to send messages. The default value is **200**. The value is a number of 1 to 5 digits.
Sending Thread Pool Queue Length	This parameter is mandatory. Length of the thread queue to be processed in the sending thread pool. The default value is **2000**. The value is a number of 1 to 5 digits.

Parameter	Description
Min Receiving Thread Pools	This parameter is 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 default value is **20**. The value is a number of 1 to 5 digits.
Max Receiving Thread Pools	This parameter is mandatory. Maximum number of state report receiving threads. The default value is **200**. The value is a number of 1 to 5 digits.
Receiving Thread Pool Queue Length	This parameter is mandatory. State report receiving thread queue length. The default value is **2000**. The value is a number of 1 to 5 digits.
Max Receiving Rate	Maximum rate at which messages are received using a protocol. Value range: – - – Positive integer If this parameter is empty, **Max Sending Rate** and **Extra Traffic Processing Policy** must be empty.
Max Sending Rate	Maximum rate at which messages are sent using a protocol. Value range: – - – Positive integer If this parameter is empty, **Max Receiving Rate** and **Extra Traffic Processing Policy** must be empty.
Extra Traffic Processing Policy	Policy for sending messages when the traffic exceeds the threshold. Value range: – - – Positive integer If this parameter is empty, **Max Receiving Rate** and **Max Sending Rate** must be empty.

Parameter	Description
Long Message Concatenation Mode	This parameter is mandatory. Mode of combining long SMS messages. The default value is **GSM User Data Header**. Value range: – **GSM User Data Header** – **SMPP parameters**
Message protocol parameters	
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 from 1 to 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 string 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 is a string of 1 to 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 is a string of 1 to 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	This parameter is mandatory. Type of the code in the source address in SMPP SubmitMessage. The default value is **0**. The value is a number of 1 to 10 digits. For details, see the description of the **source_addr_ton** field in the submit_sm/data_sm message of the SMPP protocol.

Parameter	Description
Source Address Code Scheme	This parameter is mandatory. Scheme of the code in the source address in SMPP SubmitMessage. The default value is **0**. The value is a number of 1 to 10 digits. 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	This parameter is mandatory. Type of the code in the destination address in SMPP SubmitMessage. The default value is **0**. The value is a number of 1 to 10 digits. 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	This parameter is mandatory. Scheme of the code in the destination address in SMPP SubmitMessage. The default value is **0**. The value is a number of 1 to 10 digits. For details, see the description of the **dest_addr_npi** field in the submit_sm/data_sm message of the SMPP protocol.
Message Type	This parameter is mandatory. Message type. The default value is **0**. The value is a number of 1 to 10 digits. For details, see the description of the **esm_class** field in the submit_sm/data_sm message of the SMPP protocol.
Message Format	This parameter is mandatory. SMS message encoding mode. The default value is **ASCII string**. Value range: – **ASCII string**: ASCII string in which one character occupies one byte – **binary information** – **UCS2 encoding**: UCS2 code (ISO/IEC-10646) in which one character occupies two bytes

Parameter	Description
Protocol ID	This parameter is mandatory. GSM protocol ID. The default value is **0**. The value is a number of 1 to 10 digits. For details, see the description of the **data_coding** field in the submit_sm message of the SMPP protocol.
Return Status Confirmation Report	This parameter is mandatory. State reports to be returned. The default value is **2**. Value range: – **0**: No status report is received. – **1**: Success and failure state reports are returned. – **2**: Failure state reports are returned.
Replacement Flag	This parameter is mandatory. Whether to replace the existing SMS messages whose source addresses and destination addresses are the same. The default value is **Not replace**. Value range: – **Not replace** – **Replace**
Default Message ID	This parameter is mandatory. ID of a predefined SMS message. It is the index of a predefined SM created by the administrator of the message center. The default value is **0**. The value can contain a maximum of 500 characters. For details, see the description of the **sm_default_msg_id** field in the submit_sm message of the SMPP protocol.

Step 4 Click **OK** to complete the SMS gateway configuration.

----End

Follow-up Procedure

- Re-create 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**.

2.11.3.2 Configuring Email Gateways

A tenant administrator can configure gateways to enable the AICC to send and receive emails.

Context

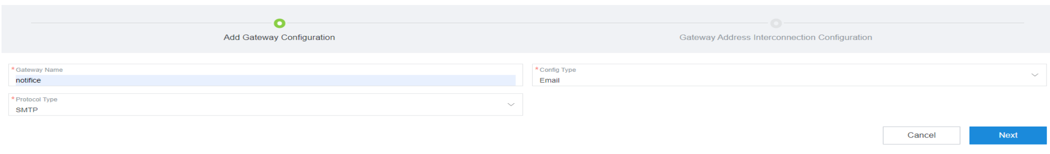
If the user password for connecting to the email gateway is changed, you need to modify the configuration in the AICC as follows: Choose **Configuration Center** > **Access Configuration** > **Gateway Configuration**, click **Edit** in the **Operation** column corresponding to the gateway to be modified, click the **Gateway Address Interconnection Configuration** tab, and enter the new user password.

Procedure

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

Step 2 Choose **New**. On the **Add Gateway Configuration** page that is displayed, add a gateway configuration.

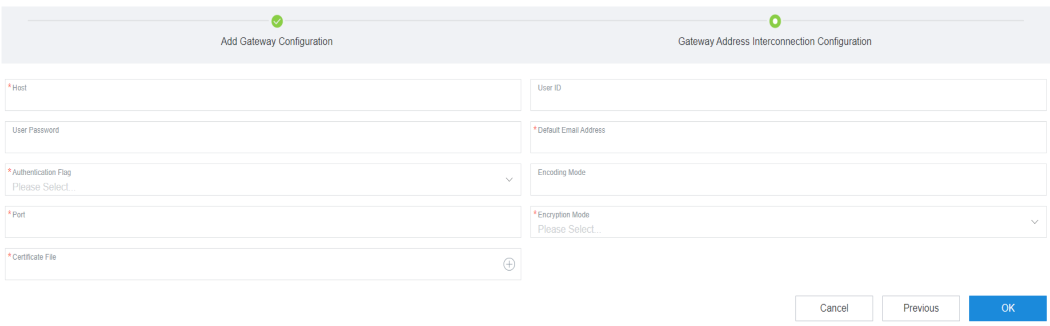
Figure 2-243 Setting gateway parameters



- **Gateway Name**: Gateway name, which is customized.
- **Config Type**: Set this parameter to **Email**.
- **Protocol Type**
  - **SMTP**: used to send emails.
  - **POP3**: used to receive emails.
  - **IMAP**: used to receive emails.

Step 3 Click **Next**. On the **Gateway Address Interconnection Configuration** page that is displayed, set gateway address interconnection parameters.

Figure 2-244 Setting gateway address interconnection parameters



NOTE

- The **Authentication Flag** parameter is described as follows:
  false may cause security risks. **true** is recommended to enable password authentication.
- The **Encryption Mode** parameter is described as follows:
  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.

----End

Follow-up Procedure

- Re-create 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**.

2.11.3.3 Monitoring Gateways

A tenant administrator can view the gateway status on the **Gateway monitoring** page and perform operations such as reconnection and disconnection.

Procedure

Step 1 Re-create a gateway.

1. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
2. Click **Rebuilding**.

Step 2 Disconnect a gateway that fails to be connected.

1. Choose **Configuration Center** > **System Management** > **Gateway Monitoring**.
2. Click **Disconnected**.

----End

2.11.3.4 Setting Notification Configuration

On the **Set Notification Configuration** page, a tenant administrator sets the country code, SMS message number, and gateway data threshold to control the data.

Procedure

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

Step 2 Choose **Set**. On the **Set Notification Configuration** page that is displayed, set parameters in the following figure based on **Table 2-79**.

Figure 2-245 Set Notification Configuration page

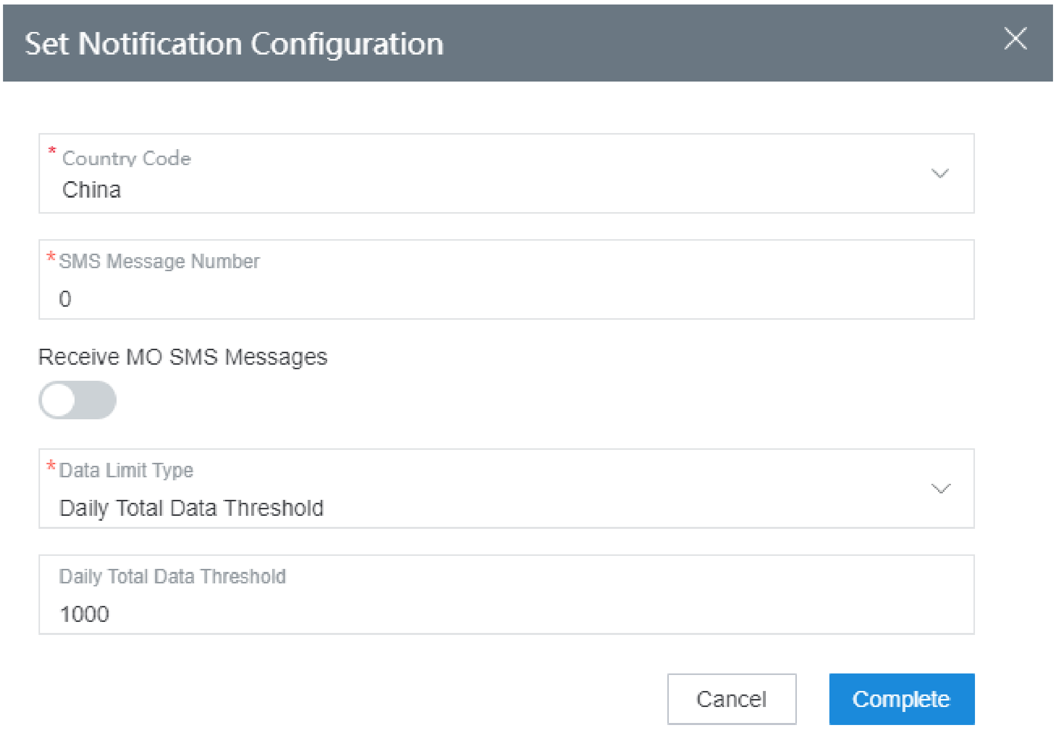


Table 2-79 Key parameters on the Set Notification Configuration page

Parameter	Description
Country Code	International area code of the country where the phone number is located.
SMS Message Number	Number used to send SMS messages.
Receive MO SMS Messages	Whether to enable the function of receiving upstream SMS messages through channels. By default, this function is disabled for channels such as HUAWEI CLOUD.

Parameter	Description
Data Limit Type	Data limit type. The options are as follows: **Daily Total Data Threshold** **Daily Monomedia Data Threshold**
Daily Total Data Threshold	Maximum number of SMS messages and emails that can be sent on a day.
Daily Data Threshold For SMS Messages	Maximum number of SMS messages that can be sent on a day.
Daily Data Threshold For Emails	Maximum number of emails that can be sent on a day.

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

----End

2.11.4 Configuring Variables

After a tenant administrator configures variables, these variables can be used for configuring a notification template, and can be applied when the notification template is used to send notifications.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Workbench Configuration** > **Notification Template Variable**.

Step 2 Click **New**.

Step 3 Set variable parameters.

- **Name**: Customize a variable name containing only letters, digits, underscores (_), and periods (.). A maximum of 100 characters are allowed. This parameter is mandatory.
- **Description**: Enter the variable description containing 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.
- **Template**: If **Type** is set to **Template variable**, set this parameter. Click and select a template. For details about how to configure a template, see 2.11.5 Configuring Notification Templates as an Administrator.
- **Variable Value**: Enter a default value, which can contain a maximum of 500 characters, including letters, digits, spaces, and the following special characters: -;@.

Step 4 Click **Complete**.

----End

2.11.5 Configuring Notification Templates as an Administrator

A tenant administrator can configure notification templates to reference when sending common notifications.

Context

- Variables can be inserted to notification templates. You can configure some variables in advance. For details about how to configure variables, see **2.11.4 Configuring Variables**.
- The configured notification template can be directly referenced by an administrator to send notifications.

Procedure

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

Step 2 Click **New**.

Step 3 Configure basic template information.

- **Template Name**: Template name, which is customized. The value can contain a maximum of 200 characters.
- **Notification Type**
  - Only **Internal Notification** is available for internal messages and emails.
  - Both **Internal Notification** and **External Notification** are available for SMS messages.
- **With an OU**: Select an OU created in **Configuring an OU**.

Step 4 Configure the template notification content.

- **INTERNAL MESSAGE**
  a. Click the **INTERNAL MESSAGE** tab.
  b. Click **Recipient** to select one or more recipients. You can search for a recipient based on the business account and name.
  c. Enter the title and notification content.
  d. (Optional) Click **Insert Variable** to insert configured variables. For details about how to configure variables, see **2.11.4 Configuring Variables**.
- **SMS**
  a. Click the **SMS** tab. The SMS notification supports external notification. If you select **External Notification** for **Notification Type**, the recipient can only be manually entered.
  b. Click **Recipient** to select one or more recipients. You can search for a recipient based on the business account and name.
  c. Set the notification template type.

- **HUAWEI CLOUD SMS**: The configured data must be the same as that of the Huawei Cloud SMS service.
  1) **HUAWEI CLOUD Template ID**: Enable and log in to Huawei Cloud, enable the SMS sending service, and obtain the template ID.
  2) **Signature Name**: Enable and log in to Huawei Cloud, enable the SMS sending service, and obtain the signature name.
  3) **Number of Variables**: Set this parameter to an integer not greater than 10.
  4) **Set Variable**: Click **Create**. The number of created variables is the same as the value of **Number of Variables**.

     Set **Type**, **Description**, and **Default Value**.

     When multiple variables are added, the variable types can be duplicate.
- **SMS Gateway**
  1) **SMS Template Content**: Enter the content containing a maximum of 4096 characters. This parameter is mandatory.
  2) **Insert Variable**: Click this button to select configured variables. For details about how to configure variables, see **2.11.4 Configuring Variables**.

- **EMAIL**
  a. Click the **EMAIL** tab.
  b. Click **Recipient** to select one or more recipients. You can search for a recipient based on the business account and name.
  c. (Optional) Click **Cc** to select one or more Cc recipients. You can search for a Cc recipient based on the business account and name.

     (Optional) Click **Bcc** to select one or more Bcc recipients. You can search for a Bcc recipient based on the business account and name.
  d. Enter the title and notification content.
  e. (Optional) Click , select a local file as the email attachment, and click **Upload**.

     The file format must be DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, or PPTX.

     The file size cannot exceed 10 MB. A maximum of 10 files can be uploaded.
  f. (Optional) Click **Insert Variable** to insert configured variables. For details about how to configure variables, see **2.11.4 Configuring Variables**.

Step 5 Click **Generate Template**.

----End

2.11.6 Configuring Message Receiving Routes

A tenant 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.

Procedure

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

Step 2 Click **New**.

Step 3 Create a route for receiving emails.

1. Set parameters.
   - **Media Type**: Select **Email**.
   - **Gateway**: Click to select a configured email gateway. For details about how to configure an email gateway, see **2.11.3.2 Configuring Email Gateways**.
   - **Implementation Method**: Select a value based on service requirements. The options are as follows:
     - **In-Box**: Emails are directly sent to the recipient's email address.
     - **Service Invoking**: Emails are forwarded to the case by invoking the case interface. Cases are generated automatically.
   - **Recipient**: Set this parameter when **Implementation Method** is set to **In-Box**. Click to select a recipient.

     NOTE

     A recipient is a user who can view the inbox.
   - **Service Name**: Set this parameter when **Implementation Method** is set to **Service Invoking**. The option is **Intelligent Case Creation**.
   - **Retry Times**: Set this parameter when **Implementation Method** is set to **Service Invoking**. The value ranges from 0 to 3.
2. Click **Complete**.

Step 4 Create a route for receiving SMS messages.

1. Set parameters.
   - **Media Type**: Select **SMS**.
   - **Recipient Address**
     - If the SMS message type is **SMS Number**, set the recipient address to a phone number. Multiple phone numbers can be entered and separated by commas (,). The value contains a maximum of 1024 characters.
     - If the SMS message type is **HUAWEI CLOUD SMS**, set the recipient address to the signature channel ID configured for the SMS. For details, see **Signature Channel ID**.
   - **Implementation Method**: Select a value based on service requirements. The options are as follows:

    - **In-Box**: SMS messages are directly sent to the recipient's address.
    - **Service Invoking**: The satisfaction survey interface is invoked to conduct satisfaction survey.
  - **Recipient**: Set this parameter when **Implementation Method** is set to **In-Box**. Click ⊕ to select a recipient.

    NOTE

    A recipient is a user who can view the inbox.
  - **Service Name**: Set this parameter when **Implementation Method** is set to **Service Invoking**. The option is **Satisfaction Survey**.
  - **Retry Times**: Set this parameter when **Implementation Method** is set to **Service Invoking**. The value ranges from 0 to 3.
2. Click **Complete**.

----End

2.11.7 Sending Notifications as an Administrator

A tenant administrator sends an internal notification.

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 **2.11.5 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 **2.11.3.1 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 **2.11.3.2 Configuring Email Gateways**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and click in the upper right corner. On the page for viewing notifications, click . The page for sending notifications is displayed.

Step 2 Send a bulletin.

1. Click the **BULLETIN** tab.
2. Click **Recipient**. In the recipient list that is displayed, select accounts, and click **OK**.
3. Click **Recipient Group**. In the recipient group list that is displayed, select groups and click **OK**.
4. Set **Title**.
5. Click **Bulletin Type**. In the bulletin type list that is displayed, select a bulletin type and click **OK**.
6. Set **Priority**. The options are as follows: **Low**, **Medium**, **High**, and **Critical**.
7. Set **release time**, that is, the time when the bulletin is sent as scheduled. The value ranges from the current time to January 18, 2038.
8. (Optional) If you select **periodically send**, set **sending frequency** to **every day**, **weekly**, or **per month**. If you select **weekly** or **per month**, select a day in a week and a day in a month.
9. Set **Expired On**.
10. Enter the bulletin content.
11. (Optional) Click **Save** to save the internal message to the draft box.
12. Check the information and click **Send**.

Step 3 Send an internal message.

1. Click the **INTERNAL MESSAGE** tab.
2. Click **Recipient**. In the recipient list that is displayed, select accounts, and click **OK**.
3. Set **Title**.
4. (Optional) Click **Reference Template**. In the template list that is displayed, select a configured internal message template and click **Complete**.

   NOTE

   After a template is referenced, you can modify the recipient and variable value, but cannot modify the content.
5. Enter the content of the internal message.
6. (Optional) Click **Save** to save the internal message to the draft box.
7. (Optional) Click **Scheduled Notification** and set the time for automatic sending.

8. Check the information and click **Send**.

Step 4 Send an SMS message.

1. Click the **SMS** tab.
2. Select **Huawei SMS** to send a Huawei Cloud SMS message.
   a. Click **Recipient**. In the recipient list that is displayed, select accounts, and click **OK**.
   b. Click **Reference Template**. In the template list that is displayed, select a configured Huawei Cloud SMS template and click **Complete**.
   c. (Optional) Click **Scheduled Notification** and set the time for automatic sending.
   d. Check the information and click **Send**.
3. Select **Gateway SMS** to send an SMS message using a gateway.
   a. Click **Sender number**, select a sender number, and click **OK**.

      The sender number is added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
   b. Click **Recipient**. In the recipient list that is displayed, select accounts and click **OK**.
   c. (Optional) Click **Reference Template**. In the template list that is displayed, select a configured Huawei Cloud SMS template and click **Complete**.

      NOTE

      After a template is referenced, you can modify the sender number, recipient, and variable value, but cannot modify the content.
   d. Enter the SMS message content.
   e. (Optional) Click **Scheduled Notification** and set the time for automatic sending.
   f. Check the information and click **Send**.

Step 5 Send an email.

1. Select **EMAIL**.
2. Set **Outbox** to the default email address configured on the **Gateway Configuration** page.
3. Click **Recipient**. In the recipient list that is displayed, select accounts and click **OK**.
4. (Optional) Click **Cc**. In the Cc recipient list that is displayed, select accounts and click **OK**.
5. (Optional) Click **Bcc**. In the Bcc recipient list that is displayed, select accounts and click **OK**.
6. Set **Title**.
7. (Optional) Click , select a local file as the email attachment, and click **Upload**.

   The file format must be DOC, DOCX, XLS, XLSX, TXT, PNG, JPG, XML, JSON, CSV, BMP, ZIP, PPT, or PPTX.

The file size cannot exceed 10 MB. A maximum of 10 files can be uploaded.

8. (Optional) Click **Reference Template**. In the template list that is displayed, select a configured email template and click **Complete**.

   NOTE

   After a template is referenced, you can modify the outbox, recipient, and variable value, but cannot modify the content.

9. Enter the email content.
10. (Optional) Click **Scheduled Notification** and set the time for automatic sending.
11. Check the information and click **Send**.

----End

NOTE

- A tenant administrator sends an internal notification to an employee who has been bound to an agent.
- The Cc and Bcc recipients are optional. If the Cc or Bcc recipient does not exist, the email can still be sent successfully. However, the system displays a message indicating that the Cc or Bcc recipient does not exist.

2.11.8 Sending Notifications as an Agent

An employee of the agent role can send internal notifications to other employees of the same tenant.

Prerequisites

An agent can send notifications only after the following permissions are assigned to the agent. For details, see **Configuring a Role**.

- To enable an agent to send notifications, the **Menu permissions** > **Channel Configuration** > **Notification Center** > **Agent Send Notification** permission has been assigned to the agent.
- The **Agent Send Notification** permission enables agents to send only internal messages in internal notifications. To enable an agent to send bulletins, the **Operation permissions** > **Notification Center** > **Sending a Bulletin** permission has been assigned to the agent.

Procedure

Step 1 Sign in to the AICC as an attendant and click in the upper right corner. On the page for viewing notifications, click . The page for sending notifications is displayed.

Step 2 Configure notification information.

- **Recipient**: Notifications can be sent by account. Click **Recipient** to select one or more recipients.
- (Optional) **Recipient Group**: Notifications can be sent in batches by group. Click **Recipient Group** and select a notification group.

- **Title**: Customize the notification title.
- **Priority**: Select **Low**, **Medium**, **High**, or **Critical**.
- **Content**: Enter the notification content.

Step 3 Click **Send**.

----End

2.11.9 Viewing Notifications

A tenant 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 **2.11.6 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 **2.11.6 Configuring Message Receiving Routes**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and click the bell icon in the upper right corner. The page for viewing notifications is displayed.

Step 2 View notifications by type. The number of unread messages is displayed in red. The types are as follows:

- **System Bulletin**
- **Internal Bulletin**
- **Outbox**
- **Inbox**

NOTE

Go to the email menu in the outbox or inbox, click an email to view the email details, and click the name of an attachment to download the attachment.

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

- **Callback Record**
- **Sending Record**
- **Draft Box**

Step 3 Perform the following operations on the notifications:

- Click the send icon to go to the **Send notification** page.
- Click the search icon to search for notifications by title. Fuzzy search is supported.

- Click  to refresh the notification list.
- Click  to mark unread messages as read.
- Click  to delete all read notifications.
- Click  to delete selected notifications.
- Click  to filter notifications to be displayed by status.

----End

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 agent has the permission on the **Customer Center Management** menu.

By default, a tenant administrator has the permission on this menu.

Procedure

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

Step 2 Set search criteria to search for customer information based on the criteria.

Table 2-80 GUI elements on the Customer Center Management page

Element	Type	Description
Search for name/phone/email	Text box	Enter the name, mobile number, or email address for searching for customer information. The value is a string of 0 to 255 characters.
	Button	Refresh the page.
	Button	Import user information.
BatchDelete	Button	Select names and delete them.
Create	Button	Add customer information.
Name	Label	Customer name.

Element	Type	Description
Phone	Label	Customer mobile number.
Email	Label	Customer email address.
Remark	Label	Customer information description.
CreateTime	Label	Time when customer information is created.
UpdateTime	Label	Time when customer information is updated.
Operation	Button group	Operations that can be performed. ● **View**: View customer information and customer contact records. ● **Delete**

Step 3 Add a customer.

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.

Table 2-81 GUI elements on the Add Customer page

Element	Type	Description
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**

Element	Type	Description
Phone	Text box	Customer mobile number. Click ⊕ Add on the right to add a mobile number. A maximum of three mobile numbers can be configured. The value is a string of 0 to 20 characters.
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 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.
address Detail	Text box	Detailed contact address of a customer. The value is a string of 0 to 80 characters.
Channel	Drop-down list + text box	Channel information. ▪ **Web Page** ▪ **whatsapp** Enter a customer login channel account in the text box, for example, a WeChat account. Click ⊕ Add on the right to add a channel. A maximum of two channels can be configured. The value is a string of 0 to 255 characters.
Remark	Text box	Customer information description. The value is a string of 0 to 80 characters.

c. Click **Save**.

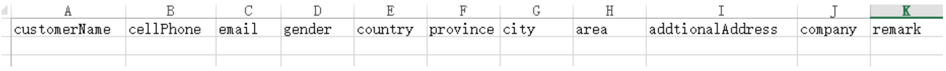
- Importing customers in batches

a. Click .

b. Click **Customer Information Import Template** to obtain the import template.

c. Open the downloaded template and configure the data to be imported by referring to **Figure 2-410**.

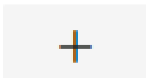
Figure 2-246 Adding data



A	B	C	D	E	F	G	H	I	J	K
customerName	cellPhone	email	gender	country	province	city	area	addtionalAddress	company	remark

- **customerName**: This field is mandatory. Other fields are optional.
- **customerName**, **addtionalAddress**, **company**, and **remark**: It is recommended that the values contain a maximum of 80 characters.
- **cellPhone**: It is recommended that the value contain a maximum of 20 characters.
- **email**: It is recommended that the value contain a maximum of 128 characters.
- **gender**: The value can only be **male**, **female**, or **unKnownSex**.
- **country**, **province**, **city**, and **area**: The values are address names preset in address data. Invalid address data is not imported.

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 five types of outbound call tasks.

Table 2-82 Outbound call task types

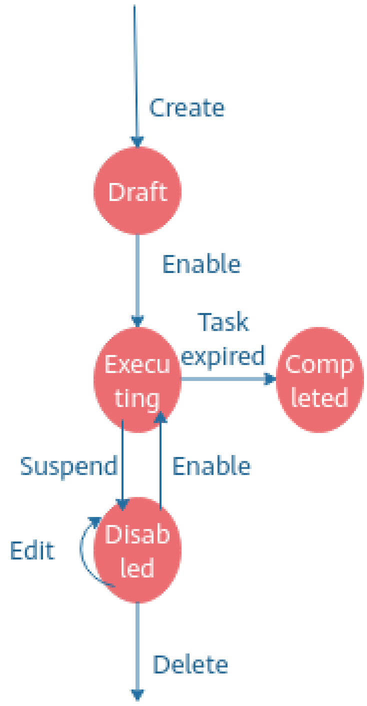
Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Button robot outbound call (key chatbot outbound call task)	No	Return visit, survey, standardized information collection, or other scenarios with standard script processes	IVR channel	● This method is cost-effective, because agent participation is not required. ● IVR flows are used to interact with customers by playing voices, collecting digits, and routing calls.
Predicted Outbound Call (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 allocates calls based on factors such as the call completion rate and rejection rate.
Intelligent robot outbound call (intelligent chatbot outbound call task)	No	Return visit, 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.

Task Type	Agent Participation (Yes/No)	Application Scenario	Required Resource	Advantage
Agent Outbound Call (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.
Preview Outbound Call (previewed outbound call task)	Yes	Customer background information is obtained in advance, for example, the collection service.	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 (preempted outbound call task)	Yes	Agents are preoccupied. After a subscriber is connected, the call is directly connected to an agent, reducing the subscriber's waiting time.	Skill queue	● This method is more friendly due to agent participation. ● This method reduces the probability of subscriber hangup due to the waiting duration. After a subscriber accesses the system, the subscriber can be connected to the preoccupied agent immediately.

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 2-247 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.

Context

You can set special dates in any of the following ways:

- Specify one or more days in a week, usually weekends or workdays.
- Specify a date or time period. Generally, usually holidays or workdays temporarily adjusted.
- Specify one or more days in a year, usually public holidays.

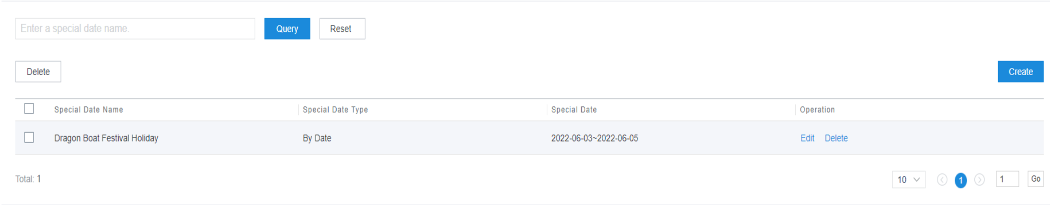
Business Scenario

In a call center, Saturday and Sunday are special days, and no agent needs to be on duty.

Procedure

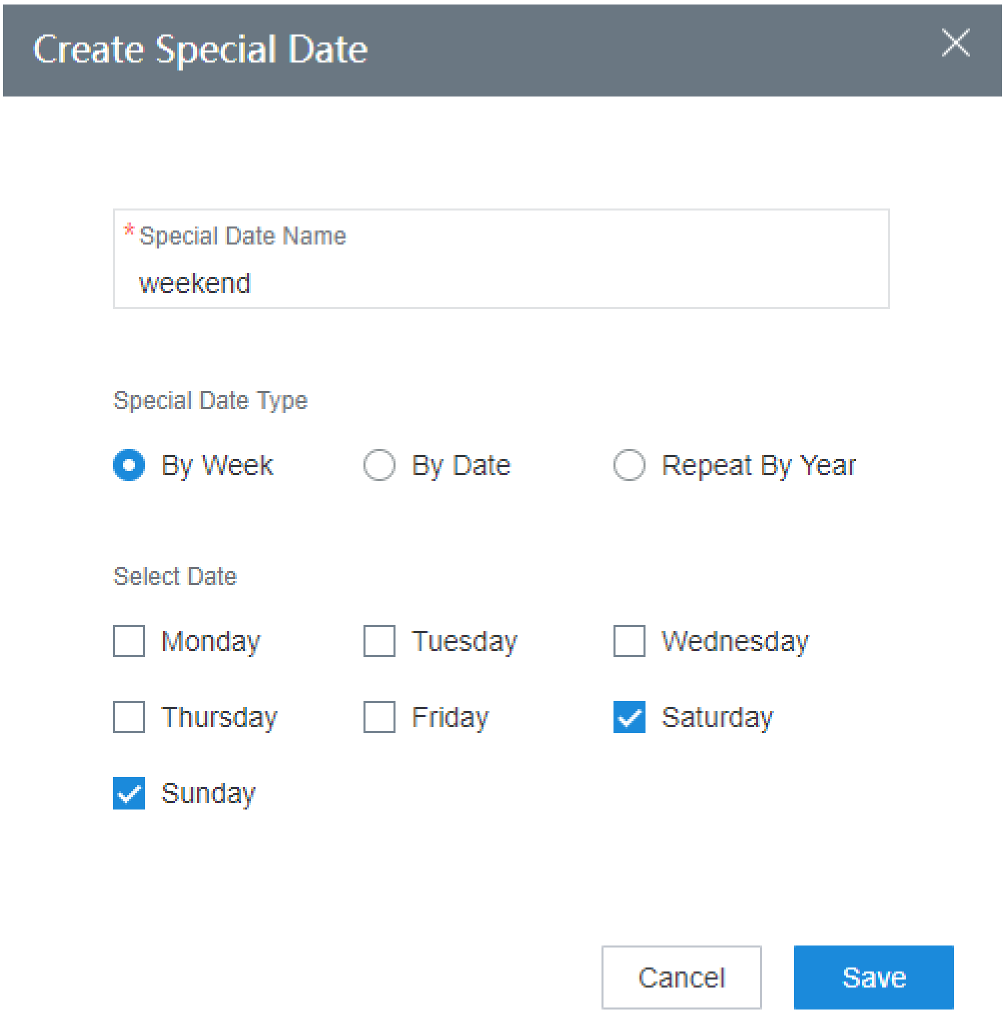
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Holiday Management**.

Figure 2-248 Holiday Management



Step 2 Click **Create** to create a special date.

Figure 2-249 Create Special Date



Step 3 Set **Special Date Type** to **By Week**, and select **Saturday** and **Sunday**.

The following table describes the parameters on the page.

Table 2-83 Parameters on the Create Special Date page (By Week)

Parameter	Description
Special Date Name	Enter a special date name.
Special Date Type	Set this parameter to **By Week**.
Select Date	Select **Saturday** and **Sunday**. Multiple values can be selected.

Table 2-84 Parameters on the Create Special Date page (By Date)

Parameter	Description
Special Date Name	Enter a special date name.
Special Date 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 2-85 Parameters on the Create Special Date page (Repeat By Year)

Parameter	Description
Special Date Name	Enter a special date name.
Special Date 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 **Save**.

----End

2.13.2.2 Managing Blocklisted Outbound Numbers

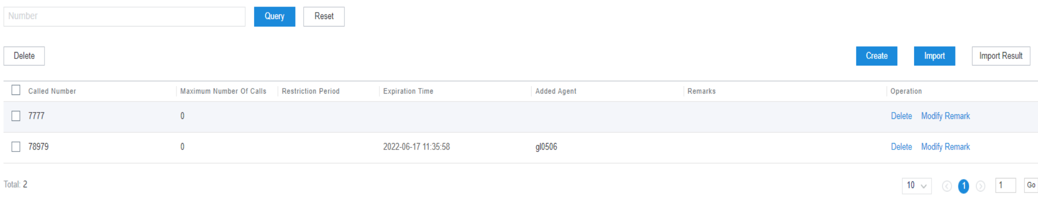
You can blocklist the numbers of unfriendly customers or known numbers that cannot be called. These blocklisted numbers will not be called in outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Call Blocklist**.

By default, the outbound number blocklist displays the blocklisted numbers of the tenant space.

Figure 2-250 Outbound Black List Management



Step 2 Configure the outbound number blocklist data.

- Adding numbers one by one

  a. Click **Create**. The **Add Number to Blocklist** dialog box is displayed.

Figure 2-251 Add Number to Blocklist

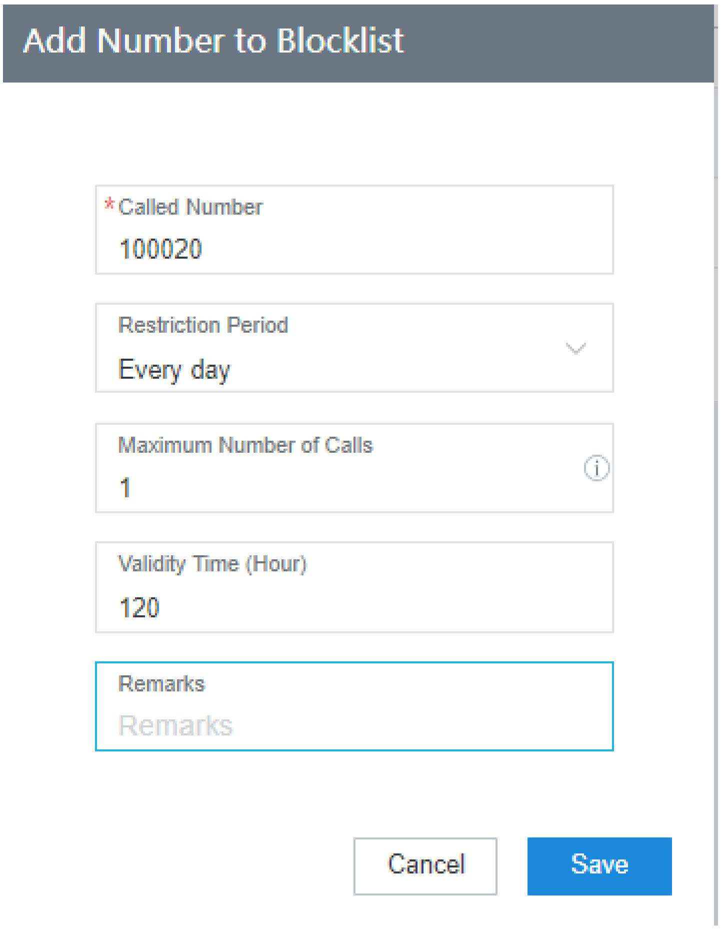


Table 2-86 GUI elements on the Add Number to Blocklist page

Element/Component	Description
Called Number	Blocklisted number.

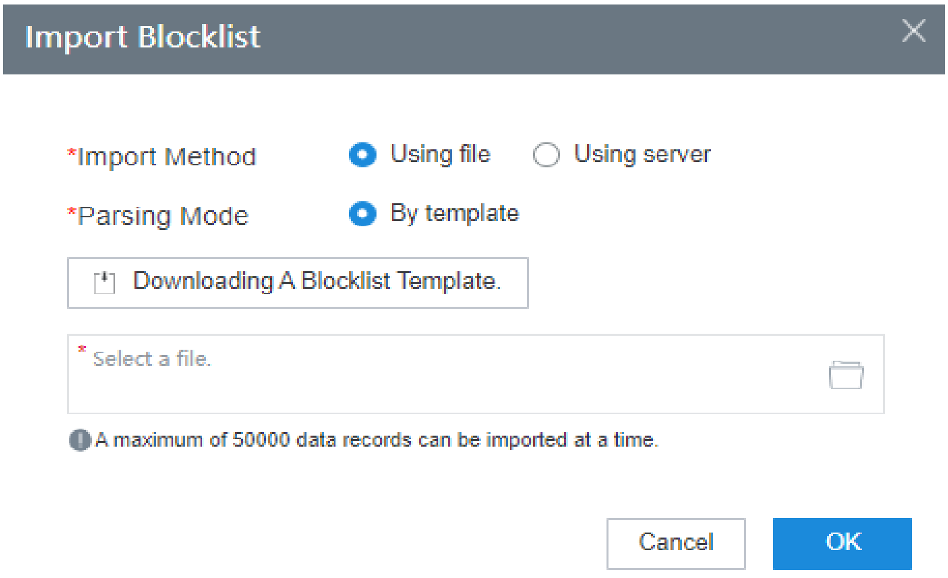
Element/Component	Description
Restriction Period	Used together with **Maximum Number of Calls** to specify the maximum number of outbound calls that can be made by a blocklisted number in the period specified by this parameter. The options are **Every day** and **Every hour**.
Maximum Number of Calls	Maximum number of outbound calls that can be made every day or hour within the validity time. The value ranges from 1 to 100.
Validity Time (Hour)	Validity period of a blocklisted number, in hours. The value ranges from 1 to 120. For example, if you enter **1**, the blocklisted number becomes invalid one hour after it is created.
Remarks	Remarks of a blocklisted number.

b. Enter information as prompted and click **Save**. The number is added to the blocklist.

- Importing numbers in batches

a. Click **Import**. The **Import Blocklist** dialog box is displayed.

Figure 2-252 Import Blocklist



b. Set the file upload parameters.

Table 2-87 File upload parameters

Parameter	Description
Import Method	The options are as follows: ▪ **Using file**: A maximum of 10,000 records can be imported at a time. ▪ **Using server**: A maximum of 500,000 data records can be imported at a time.
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 address of the blocklist file. 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**.
Parsing Mode	The option is as follows: ▪ **By template**: Click  to download the import file template.
Select a file.	Upload a local file. This parameter is available when **Import Method** is set to **Using file**.

c. Click **OK** to import the outbound number blocklist data.

d. On the **Outbound Black List Management** page, click **Import Result** to view the imported data.

Step 3 On the **Outbound Black List Management** page, enter the blocklisted number to be queried in the **Number** text box and click **Query** to query the information about the blocklisted number.

----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.

Context

For outbound calls, tenant A has the following business results:

1: success

2: failure

3: uncertain

Two business states are available in the case of failure:

1: The customer does not want to purchase the product.

2: The customer has purchased the product.

Two business states are also available in the case of an uncertain business result:

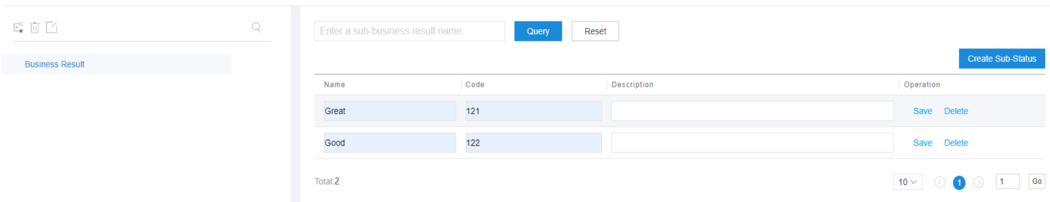
1: The call is not answered by the customer.

2: The call is interrupted.

Procedure

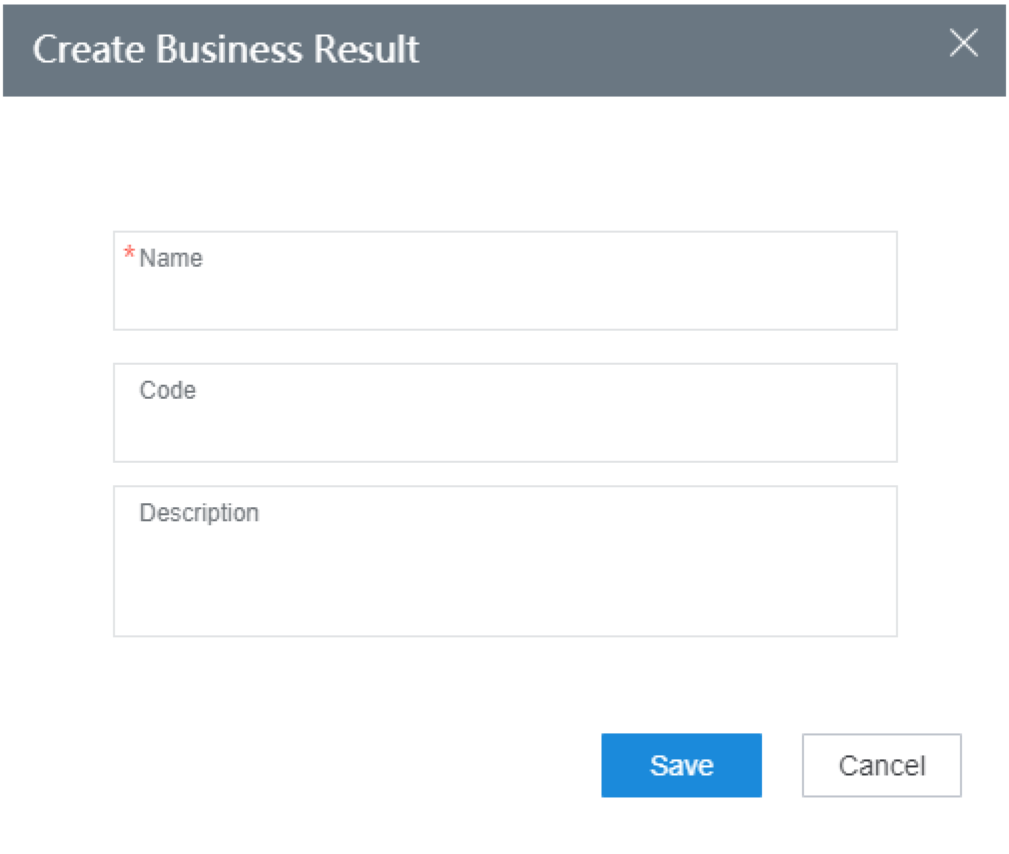
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Business Result Define**.

Figure 2-253 Business Result Define page



Step 2 Click  . On the **Create Business Result** page, enter related information.

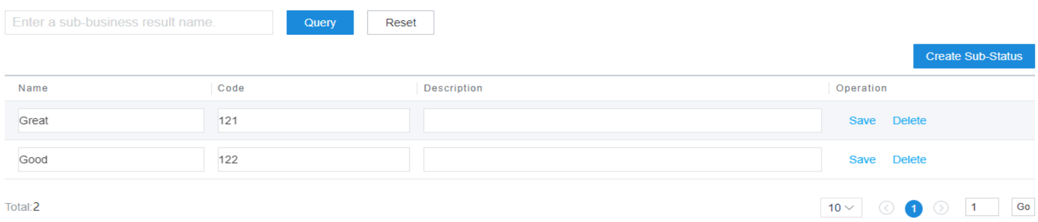
Figure 2-254 Create Business Result page



Step 3 Click **Save**.

Step 4 Select the created business result and click **Create Sub-Status**.

Figure 2-255 Page for adding a substatus



Step 5 Configure the substatus content and click **Save**.

Step 6 (Optional) Click **Edit** to modify the name and description of the substatus.

----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.

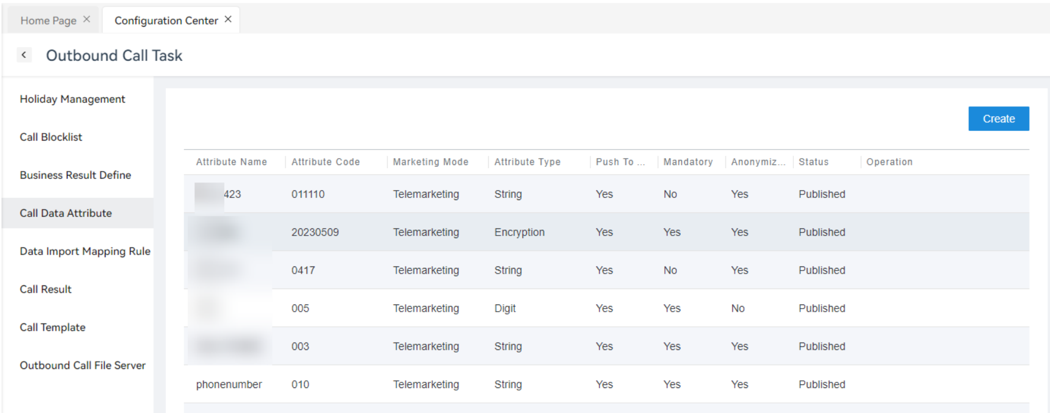
Context

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** > **Outbound Call Task** > **Call Data Attribute**.

Figure 2-256 Call Data Attribute page



Step 2 Click **Create** and configure attribute parameters.

Figure 2-257 Create Attribute page

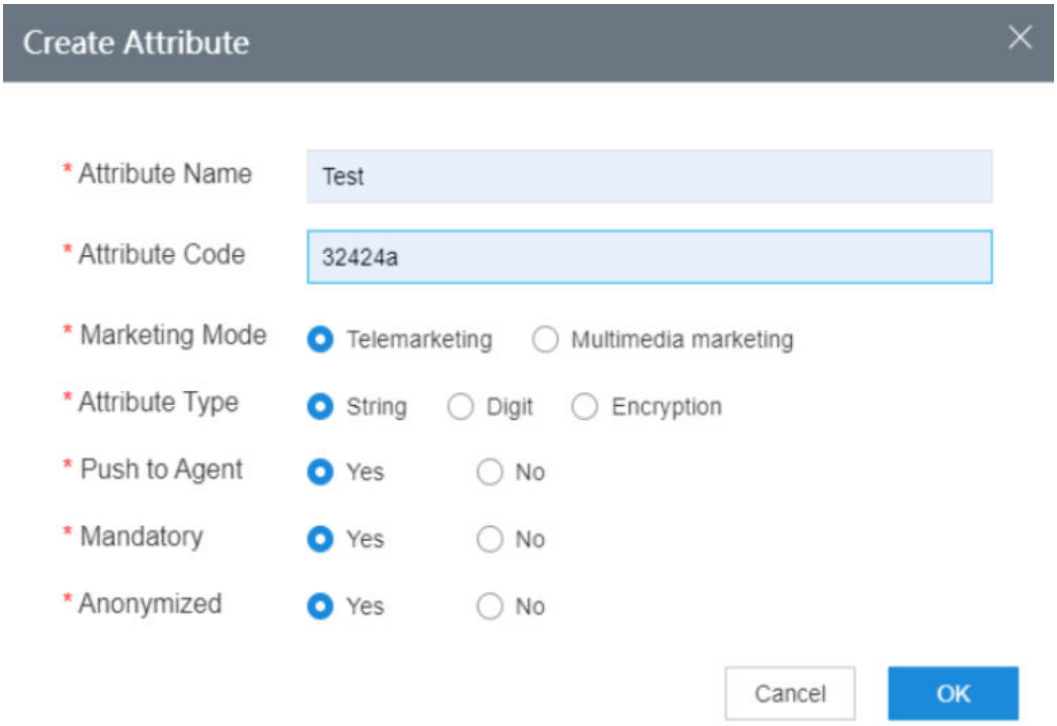


Table 2-88 Parameters on the Create Attribute page

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.
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: • **Yes**: The attribute is displayed on the outbound call workbench. • **No**
Mandatory	The options are as follows: • **Yes** • **No**
Anonymized	The options are as follows: • **Yes** • **No** NOTE For security purposes, set **Anonymized** to **Yes** if the attribute contains personal data, such as the customer ID card number.

Step 3 Click **OK**. The attribute is successfully created and is in unpublished state.

Step 4 (Optional) If the new data attribute is incorrect, click **Edit** in the **Operation** column to modify it.

(Optional) If the data attribute is no longer needed, click **Delete** in the **Operation** column to delete it.

Step 5 Select the new data attribute and click **Publish** in the **Operation** column to publish it.

NOTE

Published data attributes cannot be modified or deleted. Exercise caution when publishing an attribute.

----End

2.13.2.5 Defining Outbound Call Results

Outbound call results can be defined to identify the cause of failed outbound call tasks.

Context

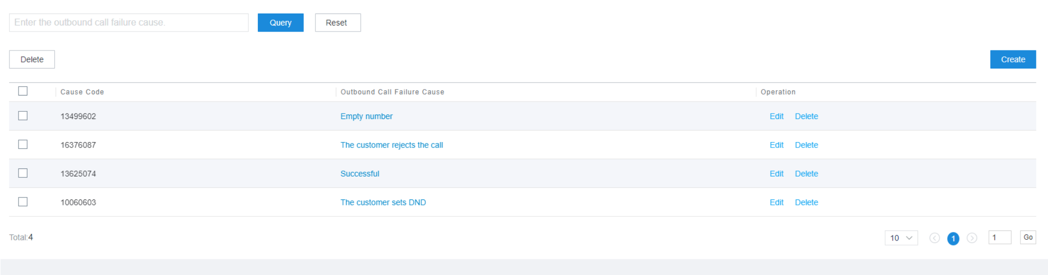
For failed calls, the outbound call system records cause codes based on the failed process nodes and communication signaling. Cause codes can be configured in sequence based on service scenarios. Multiple cause codes can be aggregated into one outbound call failure cause, based on which outbound call results are pushed back.

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

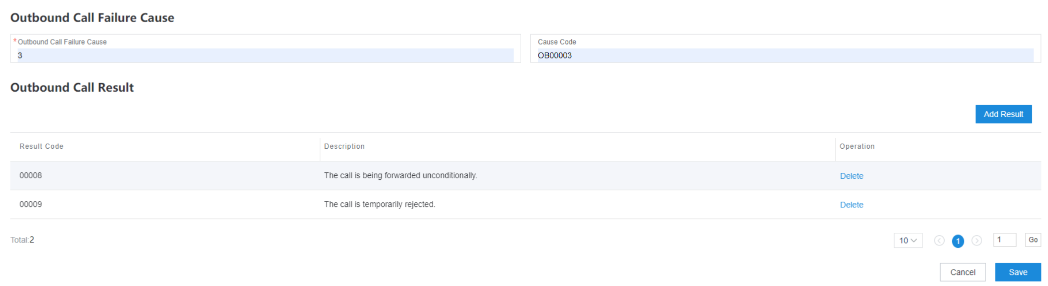
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Call Result**.

Figure 2-258 Call Result page



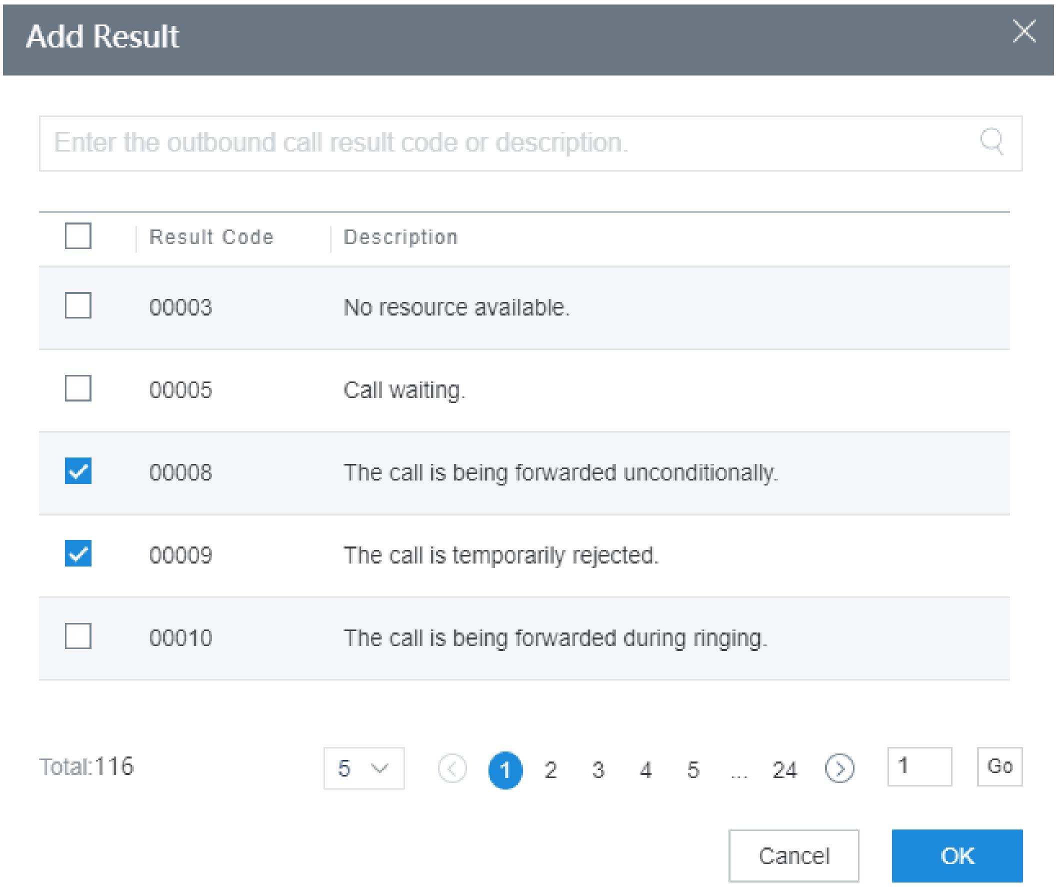
Step 2 Click **Create** to create an outbound call result.

Figure 2-259 Create Outbound Call Failure Cause page



Step 3 Configure the outbound call failure cause and click **Add Result** to add the outbound call result.

Figure 2-260 Add Result page



Step 4 Select one or more outbound call results and click **OK**.

Step 5 Click **Save** to complete the definition of the outbound call result.

----End

2.13.2.6 Creating Outbound Call Templates

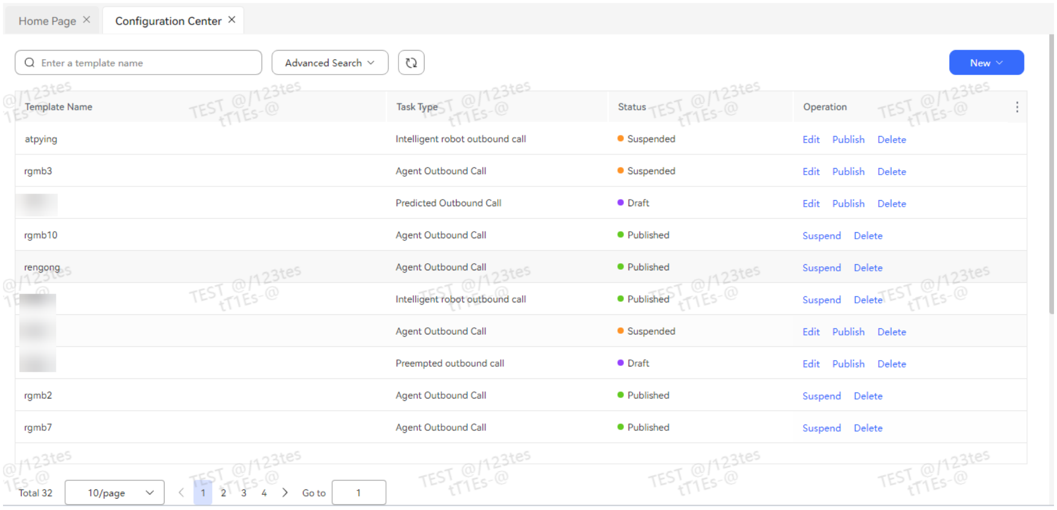
The use of outbound call templates facilitates creation of outbound call tasks. Many outbound call tasks use similar settings, except time and names. Therefore, using an existing outbound call template considerably shortens the time spent in creating outbound call tasks.

Procedure

Scenario 1: template for a key chatbot outbound call

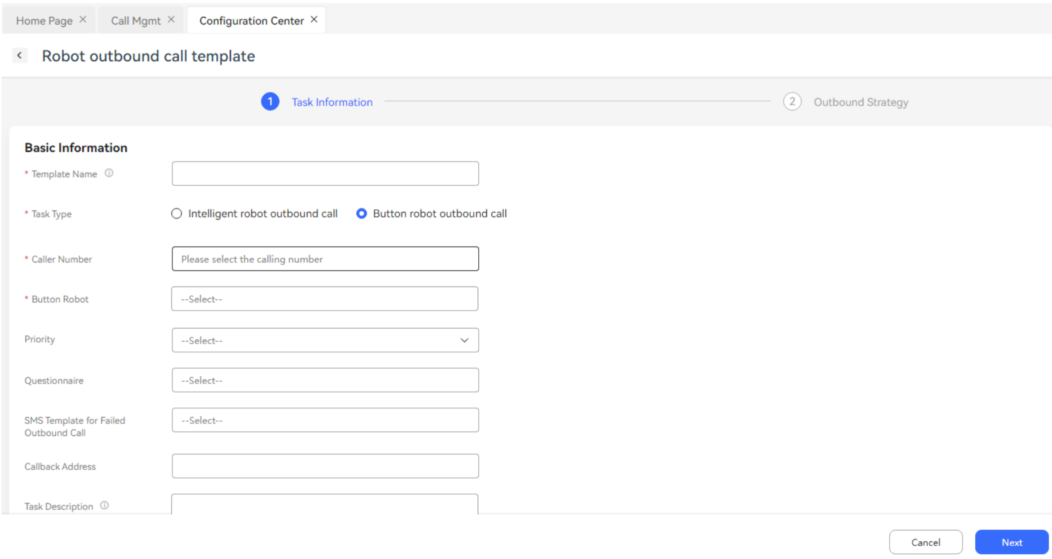
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Call Template**.

Figure 2-261 Call Template tab page



Step 2 Choose **New** > **Robot outbound call template**.

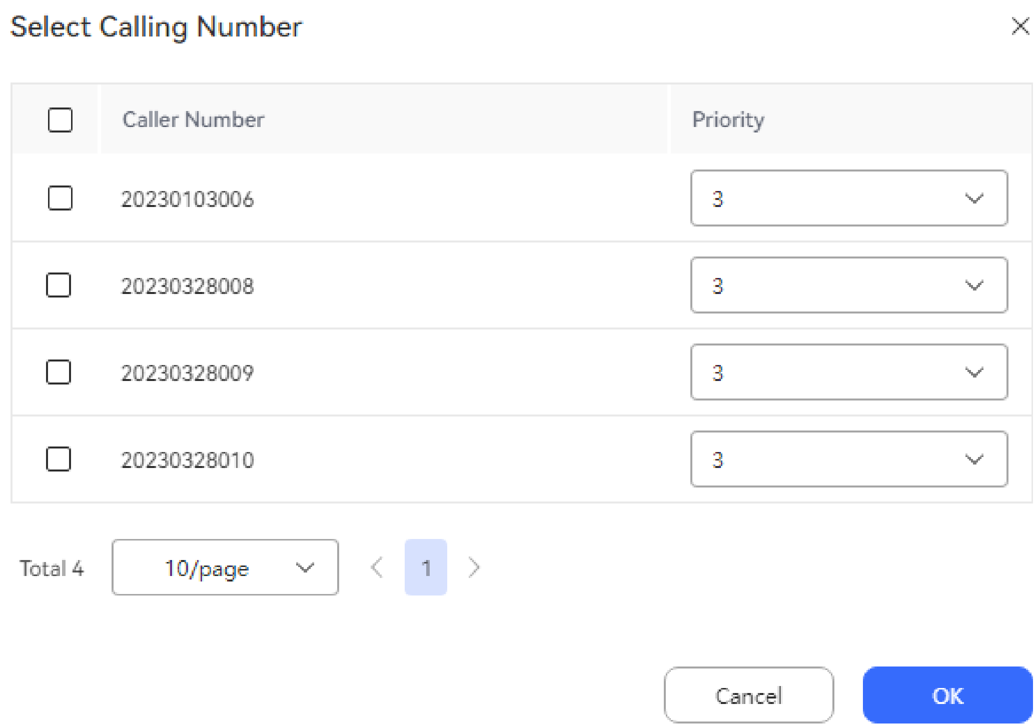
Figure 2-262 Page for adding a key chatbot outbound call template



Step 3 Configure basic template information.

1. Click the **Caller Number** selection box. The **Select Calling Number** page is displayed. The default value of **Priority** is **3**. You can select a value from the drop-down list.

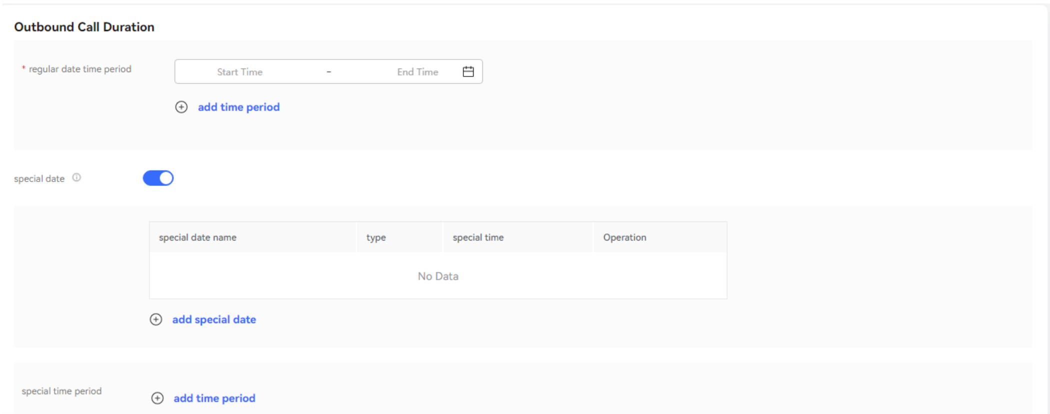
Figure 2-263 Select Calling Number page



2. Select calling numbers and click **OK**.

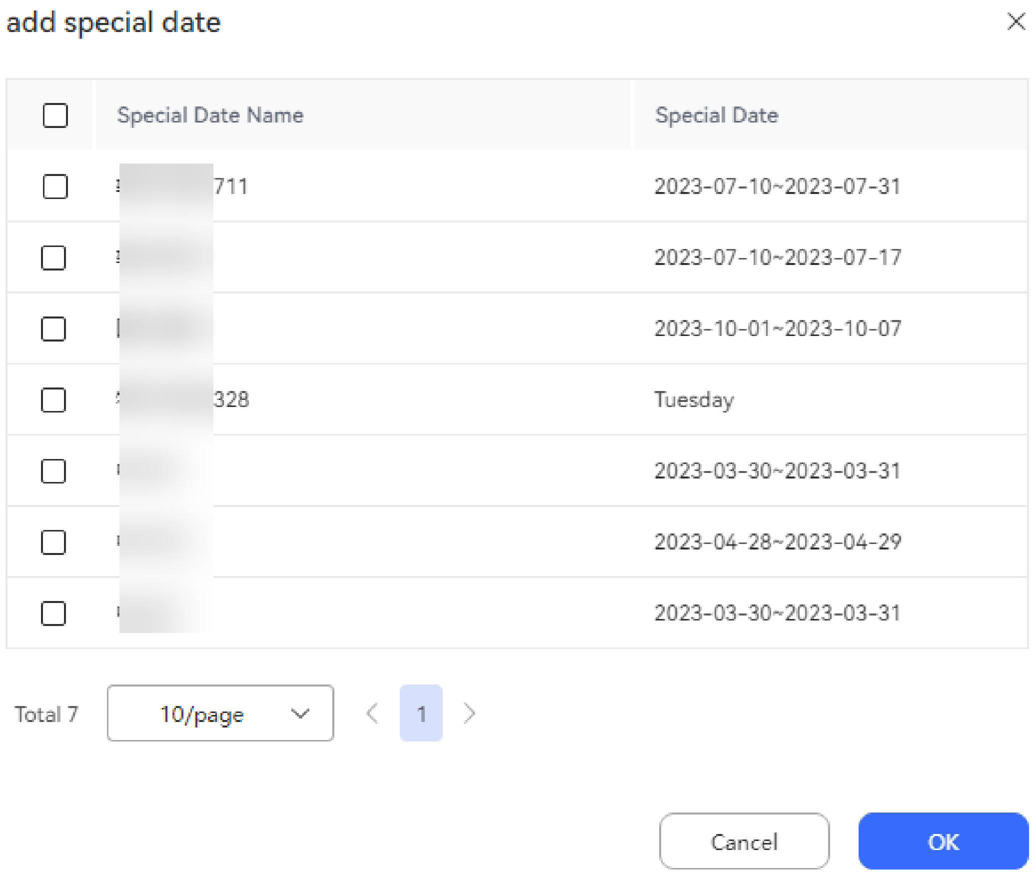
Step 4 Set the outbound call duration.

Figure 2-264 Outbound Call Duration



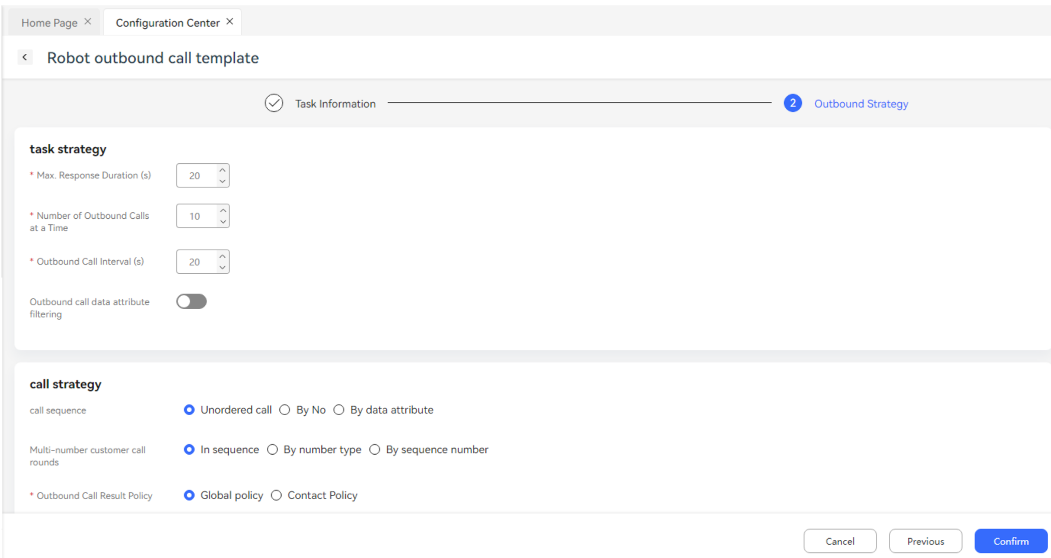
- **regular date time period**: Mandatory. Set at least one outbound call time segment.
- **special time period**: Optional. If special dates are configured, set at least one outbound call time segment for the special dates.
- **special date**: Optional. Click Add Special Date, select special dates on the **add special date** page that is displayed, and click **OK**. The **Outbound Call Duration** page is displayed. For details about how to configure special dates, see **2.13.2.1 Managing Special Dates**.

Figure 2-265 Page for adding a special date



Step 5 Click **Next**.

Figure 2-266 Outbound Strategy page



Step 6 Click **Confirm**. The key chatbot outbound call template is created successfully.

Step 7 Return to the **Call Template** page. The new template is in **Draft** state. Select the new outbound call template and click **Publish**. 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**.

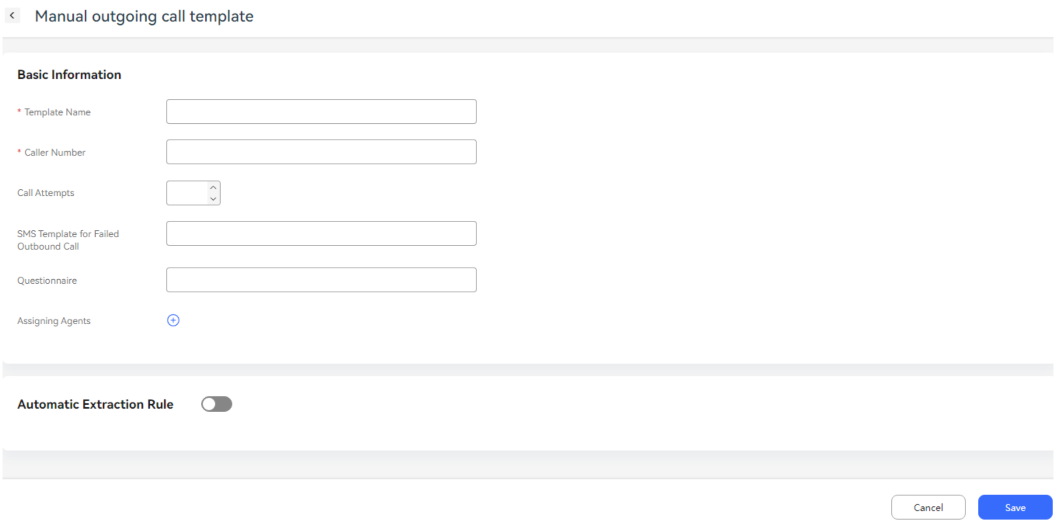
----End

Scenario 2: Creating a manual outbound call template (template creation is not supported in independent deployment mode)

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Call Template**.

Step 2 Choose **New** > **Manual outgoing call template**.

Figure 2-267 Page for adding a manual outbound call template



Step 3 Enter basic information as required and click **Save**. The manual outbound call template is successfully created.

----End

2.13.2.7 Managing the Special List

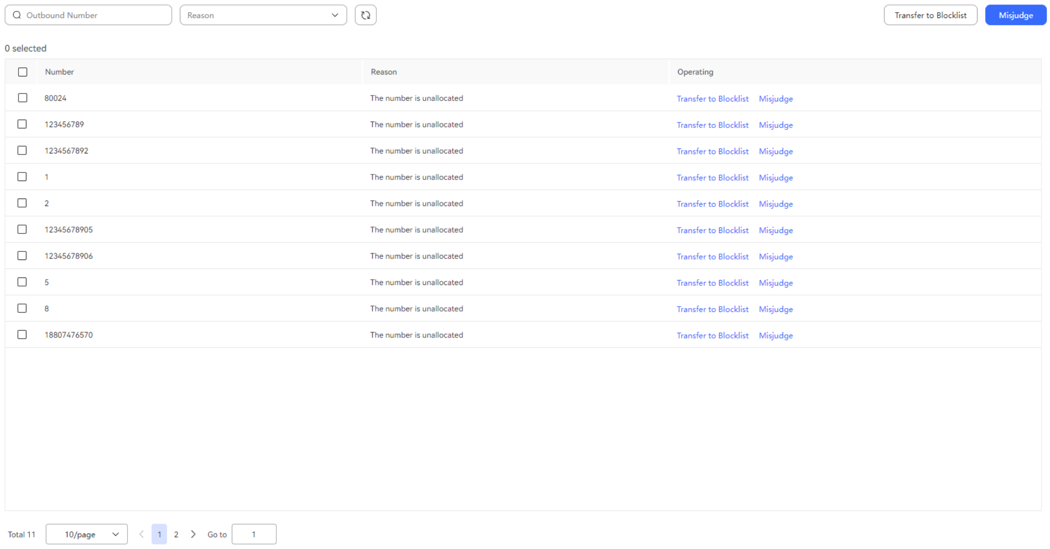
Invalid numbers can be automatically filtered. The invalid numbers or system prompt tones identified by outbound call tasks can be added to the special list. The tenant administrator determines whether to transfer these numbers to the blocklist or ignore them.

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 2-268 Special List page



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.

Context

When configuring outbound call data import in an outbound call task, you can choose to 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.

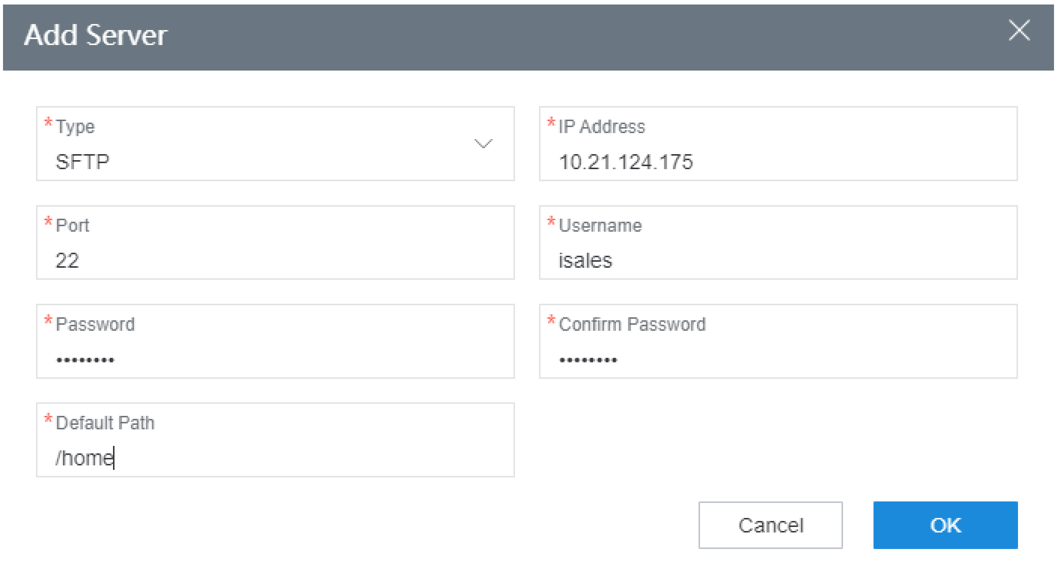
Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Outbound Call Task** > **Outbound Call File Server**.

Step 2 Click **Add** to add an outbound call file server.

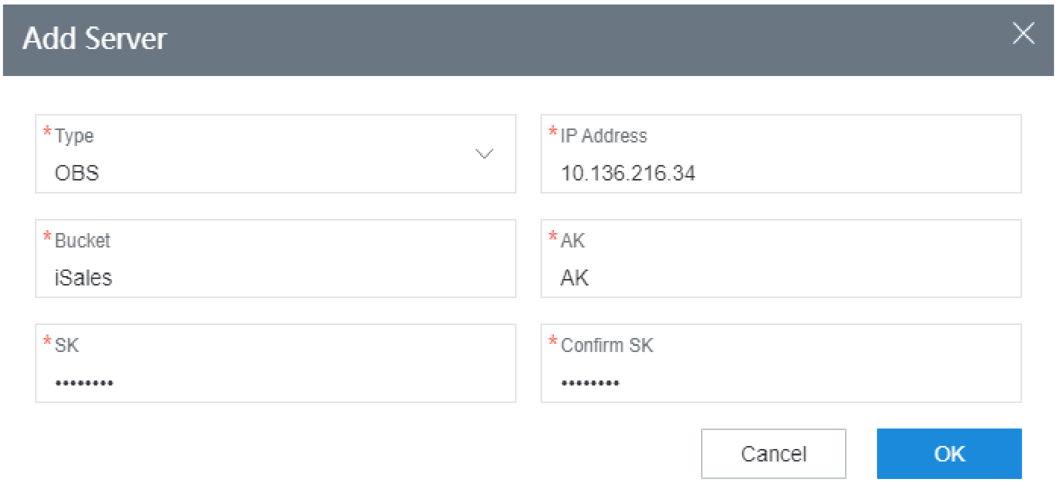
The file server type can be SFTP or OBS. You can add either as required.

Figure 2-269 Page for adding an SFTP file server



- **Type**: Set this parameter to **SFTP**.
- **IP Address**: IP address of the file server for storing outbound call data.
- **Port**: Port number of the server.
- **Username**: Username for logging in to the server. The value can contain a maximum of 30 characters.
- **Password** and **Confirm Password**: Password for connecting to the server.
- **Default Path**: Path for storing outbound call data. The value must start with **/**.

Figure 2-270 Page for adding an OBS file server



- **Type**: Set this parameter to **OBS**.
- **IP Address**: IP address for storing outbound call data files.
- **Bucket**: Container for storing objects in OBS.
- **AK** and **SK**: Access key of the OBS server, which is used for authentication. The AK and SK are obtained after OBS is purchased.

Step 3 Click **OK** to save the outbound call file server configuration.

----End

2.13.2.9 Importing Mapping Rules

A tenant administrator can specify the mapping between outbound call data import files and data import rules.

Context

When configuring outbound call data under outbound call tasks, 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** > **Outbound Call Task** > **Data Import Mapping Rule**.

Step 2 Click **Add** and create the mapping rule between the outbound call data field and the column number of the field in the imported file.

Figure 2-271 Add Rule page

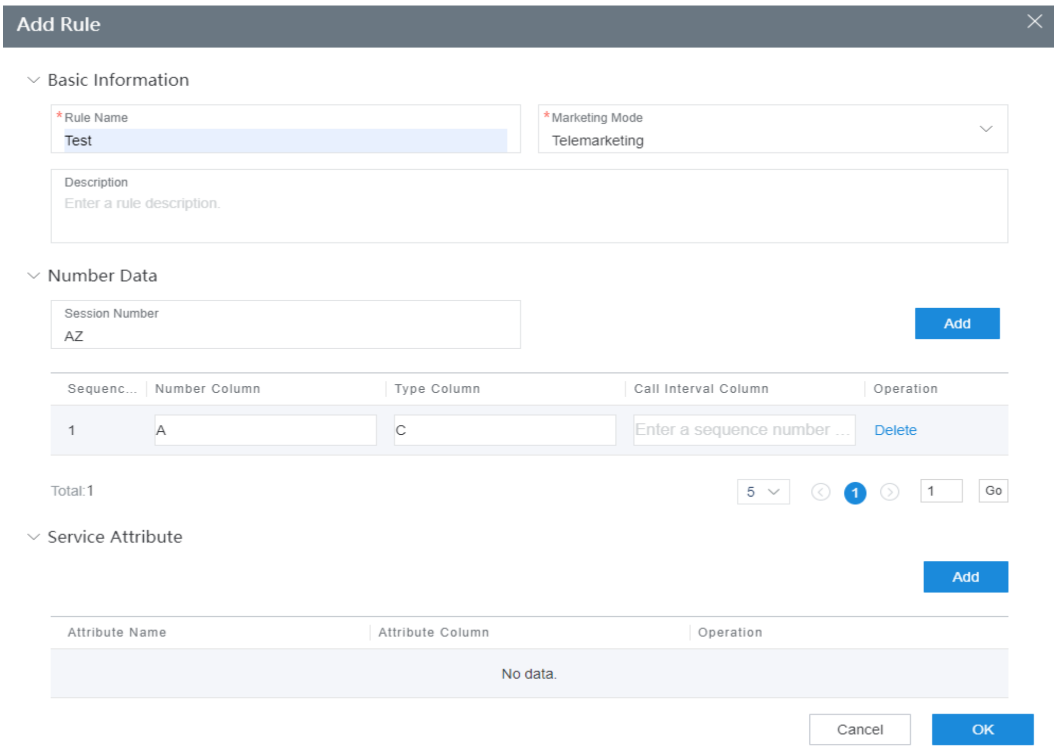


Table 2-89 GUI elements on the Add Rule page

Element/ Component	Description
Basic Information: mapping rule information.	
Rule Name	User-defined rule name.
Marketing Mode	● **Telemarketing** ● **Multimedia marketing**
Description	Description of a mapping rule.
Number Data: mapping rule between the outbound call data field and the column number of the field in the imported file.	
Session Number	Number of the column where the field is located in the imported file.
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 the outbound call data attribute field and the column number of the field in the imported file.	
Attribute Name	Configured attribute.
Attribute Column	Column number of an attribute in the imported file.
Operation	The deletion operation is supported.

Step 3 Click **OK**.

----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.

2.13.3.1 Creating a Key Chatbot Outbound Call Task or Intelligent Outbound Call Task

This section describes how to create a key chatbot outbound call task and an intelligent outbound call task.

Prerequisites

- In the key chatbot outbound call task, configure and release an IVR main process in advance. For details, see section "Configuring the IVR Process" in the Operation Guide. In the intelligent outbound call task, configure and release an intelligent IVR main process in advance. For details, see the Operation Guide. Configuring the Intelligent IVR.

  NOTE

  In independent deployment mode, you have configured the IVR flow on the WAS.
- 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 SMS template on the **Configuration Center** > **Workbench Configuration** > **Notification Template** page. For details about the configuration, see **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 a key chatbot outbound call task, the system automatically calls a customer number. After being connected, the call is transferred to the specified IVR flow. The IVR flow then plays voice and collects digits from the customer.

A key chatbot outbound call task can be created directly or by using a template.

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 the 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 voice. 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.

Procedure

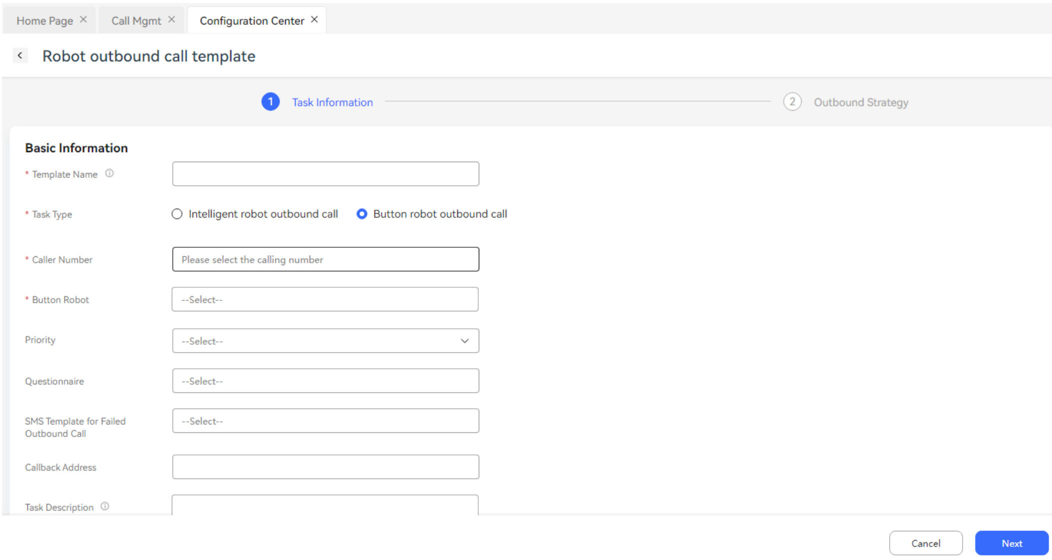
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create Auto Outbound Call** and select a creation mode from the drop-down list to create a key chatbot outbound call task.

You can select either of the following modes:

- **Create Directly**: Click **Create Directly** and set basic outbound call task information.

Figure 2-272 Page for creating a key chatbot outbound call task (Basic Information)



Step 3 Configure basic information.

- **Task Name**: Enter a user-defined task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.
- **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 **Intelligent robot outbound call** or **Button robot 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.
- **IVR Flow**: Select an IVR flow that has been configured and released.
- **Questionnaire**: Select a survey based on the version number.
- **SMS Template for Failed Outbound Call**: Select a configured SMS notification template. For details, see **Configuring Notification Templates as an Administrator**.
- **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.
- **Callback Address**: Enter the address for callback upon call connection or release on the customer side.

NOTE

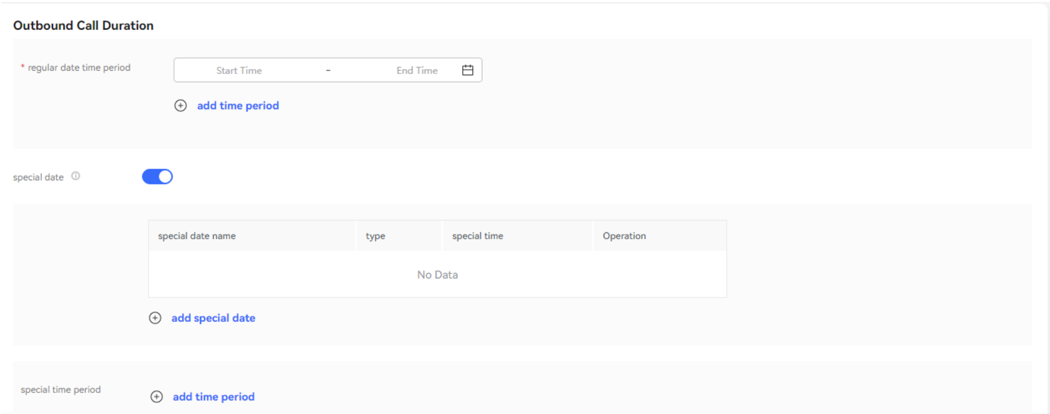
The callback address is a third-party address and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback address can be configured only in the outbound call task.

After the configuration is complete, click **Next**.

Step 4 Set the outbound call time.

Figure 2-273 Outbound Call Duration



1. In the **Set Outbound Call Time** area, set the start time and end time of working hours. The examples are as follows:

   9:00–11:30

   14:00–18:00

2. Click **Add Special Date** in the lower right part to specify weekends as special dates.
3. In the **Set Special Date Outbound Call Time** area, set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. After the configuration is complete, click **Next**.

Step 5 Set an outbound call policy.

Figure 2-274 Outbound Call Policy

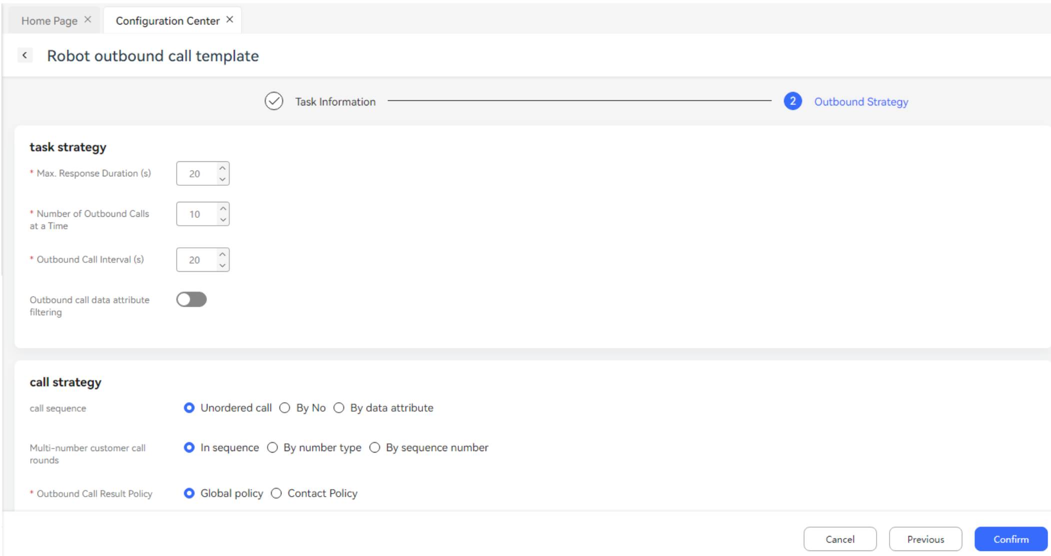


Table 2-90 Parameters on the Outbound Call Policy page

Parameter	Description
Max. Response Duration (s)	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 (s)	Interval for starting an outbound call. The value ranges from 1 to 9999. The default value is **10**, and the recommended value is **3**.
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 outbound call interval is longer than three seconds, the number of outbound calls initiated by the system is as follows: number of outbound calls each time/outbound call interval x 3.

NOTE

Outbound Call Interval (s) 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 one minute, you are advised to set both **Outbound Call Interval (s)** and **Number of Outbound Calls at a Time** to **3** instead of **60**.

When the outbound call is a key chatbot outbound call or intelligent outbound call, the number of outbound calls is calculated as follows: (Number of outbound calls each time/ Outgoing call interval) x 3 (The outbound call is made only when the number is greater than 1.) If the outgoing call interval is greater than 3, the detection period is 3 seconds. If the outgoing call interval is less than 3, the actual detection period is used.

- Q1: How to understand that if the outbound call interval is greater than 3s, 3s is used as the actual interval. If the outbound call interval is less than 3s, the actual interval is used.

  A1: If the interval is greater than 3s, the OBS still uses 3s as the call interval. If this parameter is set to a value less than 3s, the actual call interval is used.
- Q2: If **Outbound Call Interval (s)** is set to **10** and **Number of Outbound Calls at a Time** is set to **100**, is 100 or 30 outbound calls made every 10 seconds?

  A2: If the value of **Outbound Call Interval (s)** is greater than 3, it is used to calculate the number of calls each time but not the actual call interval. Even the outbound call interval is set to **10**, the actual interval is 3s. According to (**Number of Outbound Calls at a Time**/**Outbound Call Interval (s)**) x 3, the calculation result is 30. Therefore, the final execution is 30 outbound calls every 3s.
- Q3: If **Outbound Call Interval (s)** is **1** and **Number of Outbound Calls at a Time** is **10**, will 30 outbound calls be made every second?

  A3: In this case, 10 calls are made at an interval of 1s.
- Q4: What 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.

After the configuration is complete, click **Next**.

Step 6 Configure the outbound call logic, that is, the call policy and outbound call result policy.

1. **CALL POLICY**: Customize the pre-called customer numbers. You can configure **Call Mode**, **Call Filtering**, and **Call Sorting** based on **Table 2-91**.

Figure 2-275 Outbound Call Logic

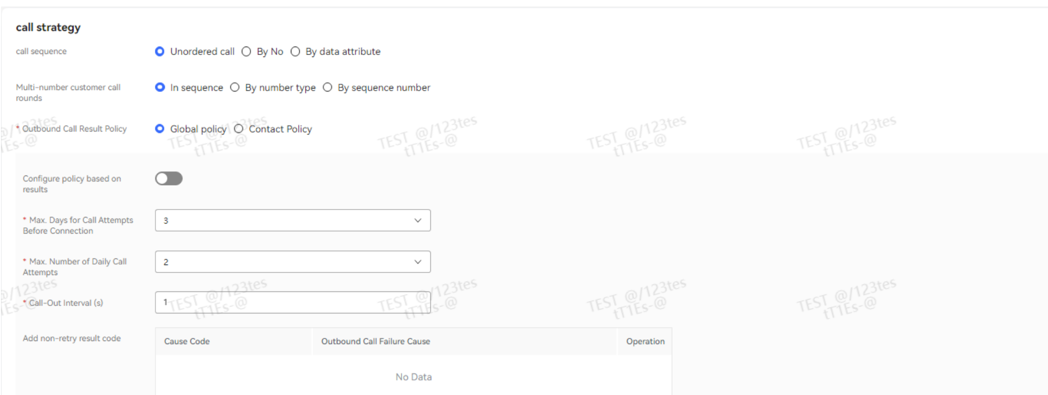
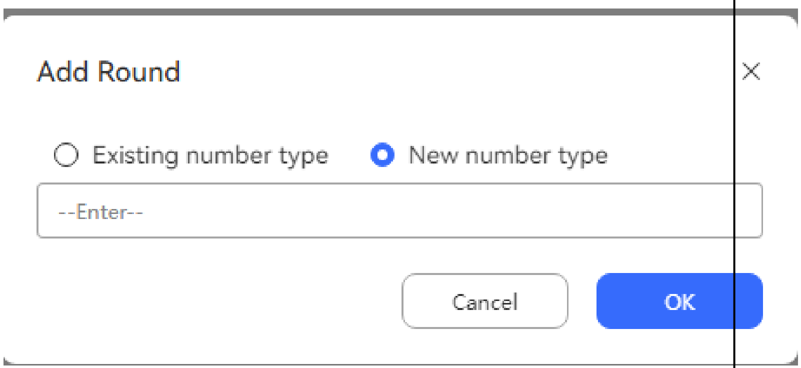
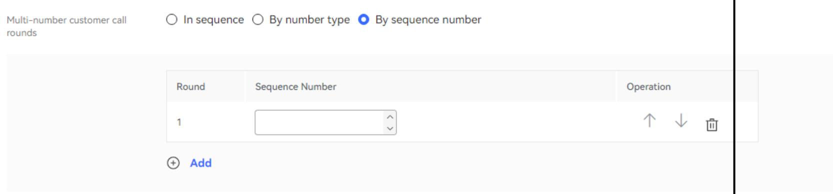
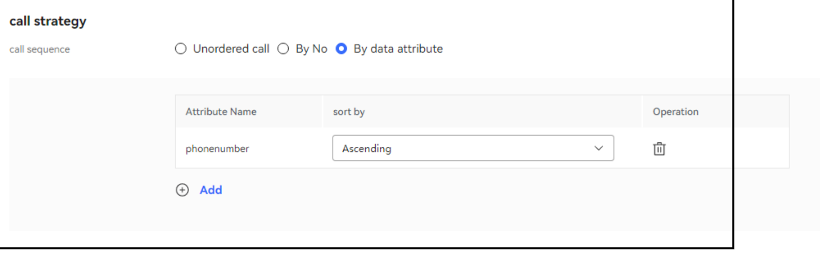


Table 2-91 Parameters on the Outbound Call Logic page

Parameter	Description
Call Mode: 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. 
Call Filtering: Customize filter conditions. The system initiates an outbound call only when the pre-called customer number meets the conditions. Encrypted attributes cannot be used as filter criteria.	
	Add attributes. You can select attributes and set their quantities.
Add Subcondition	Add a subcondition as an additional filter condition.
Call Sorting: Customize the call sequence of pre-called customer numbers.	

Parameter	Description
Add Attribute	Click **Add Attribute**, select attributes, and set **Order Type**. You can adjust the attribute sequence after adding the attributes. 

2. **OUTBOUND CALL RESULT POLICY**: Response method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy** for **PolicyType**.

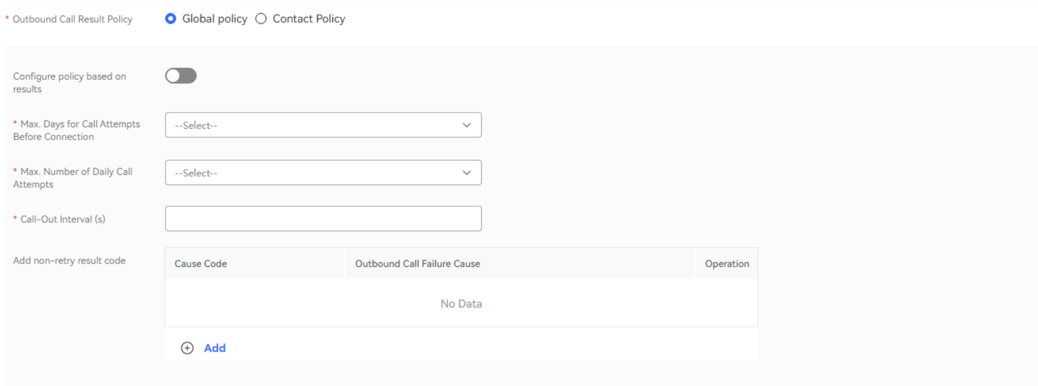
   – **Global policy**

   ■ Disable **Configure policy based on results**.

   Set **Max. Days for Call Attempts Before Connection**, **Max. Number of Daily Call Attempts**, and **Call-Out Interval (s)**.

   Click and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

   Figure 2-276 Disabling Configure policy based on results

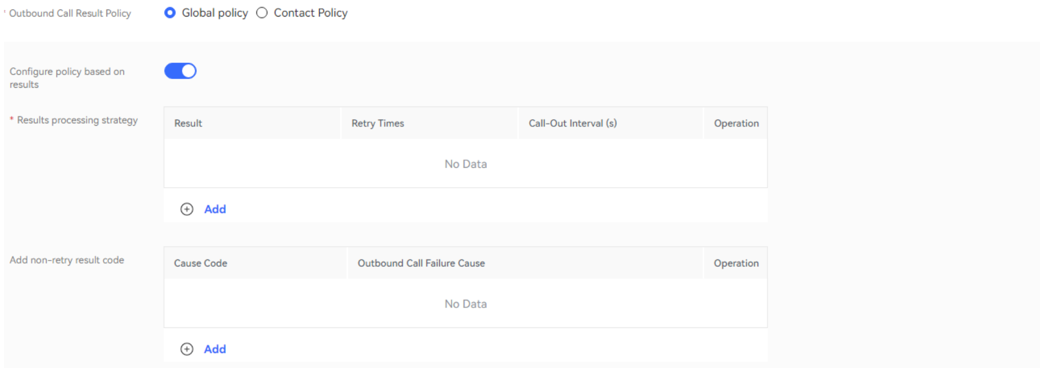


   ■ Enable **Configure policy based on results**.

   Click **Add Policy** and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

   Click and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

Figure 2-277 Enabling Configure policy based on results



NOTE

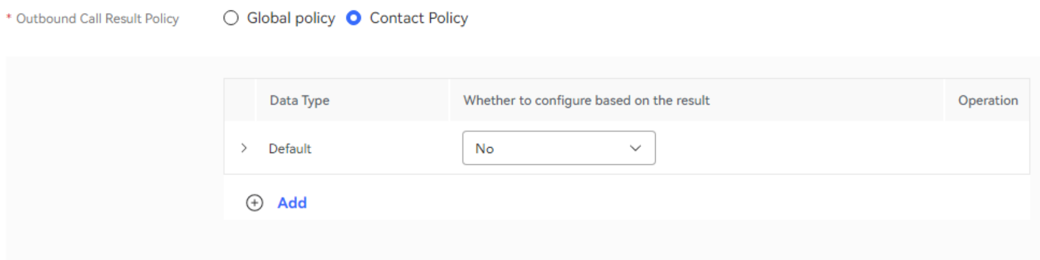
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- Default contact number: Set **Whether to configure based on the result** to configure the policy.

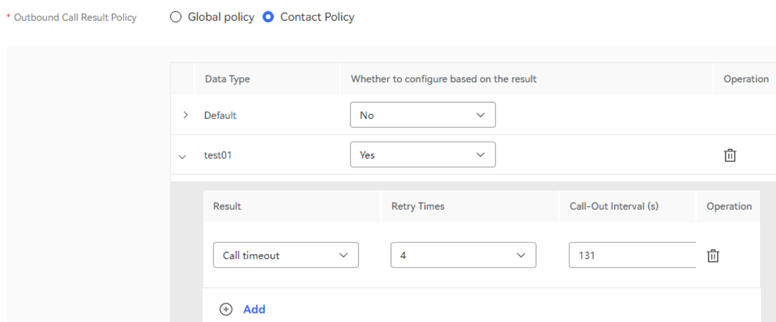
  If it is set to **No**, you can set **Max. Days for Call Attempts Before Connection** and **Max. Number of Daily Call Attempts**.

  Figure 2-278 Setting Whether to configure based on the result to No



  If it is set to **Yes**, you can set **Result**, **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 **Result** cannot be added.

  Figure 2-279 Setting Whether to configure based on the result to Yes

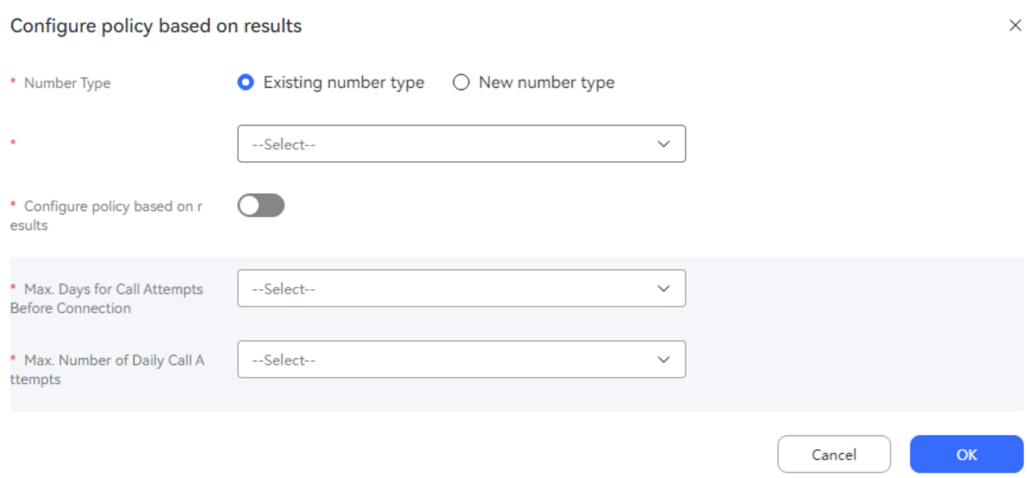


- Adding a contact number: Click **Add Contact Policy**. The **Add Result Policy** page is displayed. You must set **Add DataType** first regardless

of whether **Configure policy based on results** is enabled, and then set other parameters.

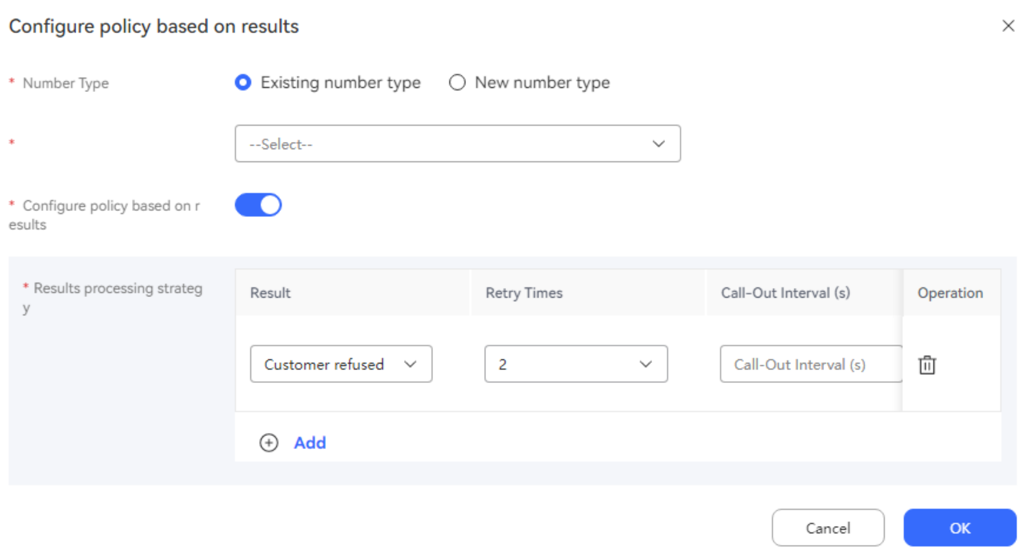
If **Configure policy based on results** is disabled, enable **Add DataType** and set **Add DataType**, **Max. Days for Call Attempts Before Connection**, and **Max. Number of Daily Call Attempts**.

Figure 2-280 Disabling Configure policy based on results



If **Configure policy based on results** is enabled, enable **Add DataType**, set **Add DataType**, click **Add Result Policy**, and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Result Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

Figure 2-281 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 **OK** to save the current configuration as an outbound call template.

Step 8 Click **Save**. The key chatbot outbound call task is created successfully.

Step 9 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Outbound Call Data** to add outbound call data for the outbound call task. For details, see 2.13.3.6.1 Configuring Outbound Call Data.

Step 10 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Start** to start the outbound call task.

----End

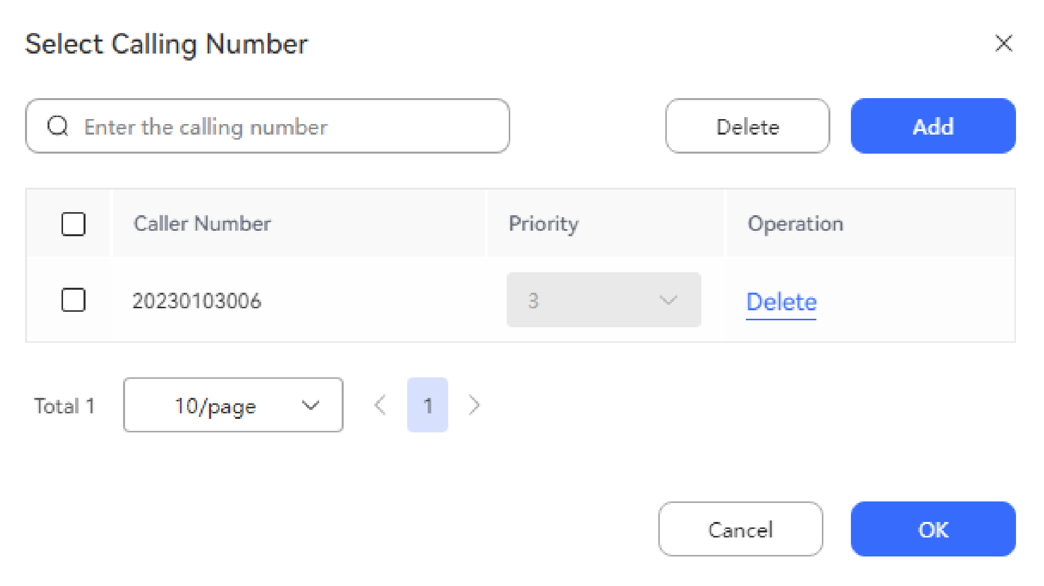
Follow-up Procedure

You can click **Suspend** to modify an outbound call task.

After the task is suspended, you can click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

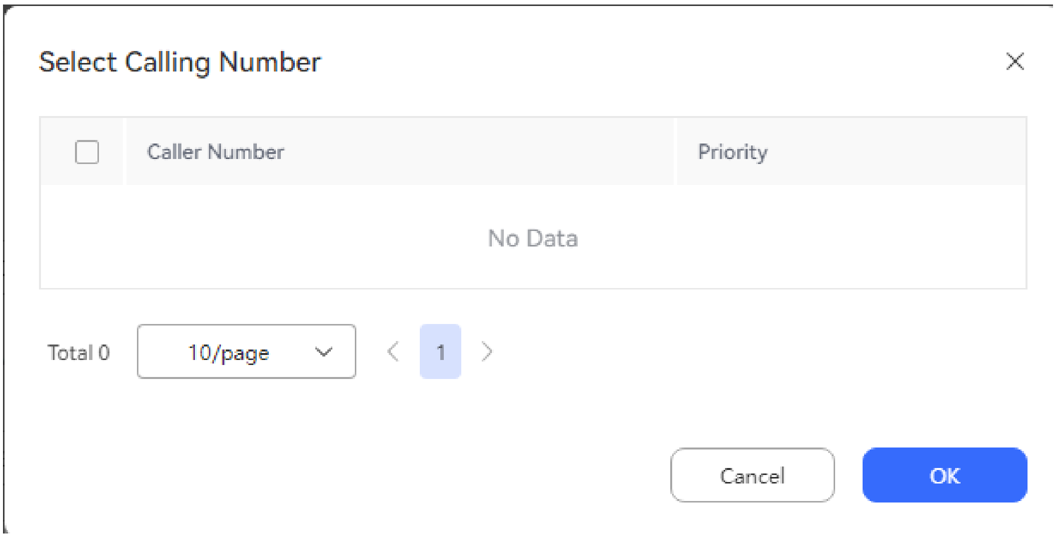
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-282 Select Calling Number



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 2-283 Adding Calling Numbers



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.

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 allocates the calls to agents according to multiple algorithms. This task is time-effective for the agents.

Prerequisites

- 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 exists. For details about the configuration method, see **Maintaining a Tenant Space Skill Queue**. The skill queue has been associated with the agent who needs to make an outbound call. For details about the association method, see **Associating an Allocated Employee 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 the configuration, see **Configuring Notification Templates as an Administrator**.
- To configure a callback address, an application has been submitted to the system administrator and approved to add the callback address to the address trustlist.

Context

A predicted outbound call depends on algorithms. The system provides the following algorithms for a call center to automatically calculate the number of calls to be allocated 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 allocated to each agent by controlling the agent usage and call loss rate.
- **Algorithm for Outbound Call Connection Rate**: dynamically adjusts the number of calls allocated to each agent by controlling the call loss rate, user 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 change.

Procedure

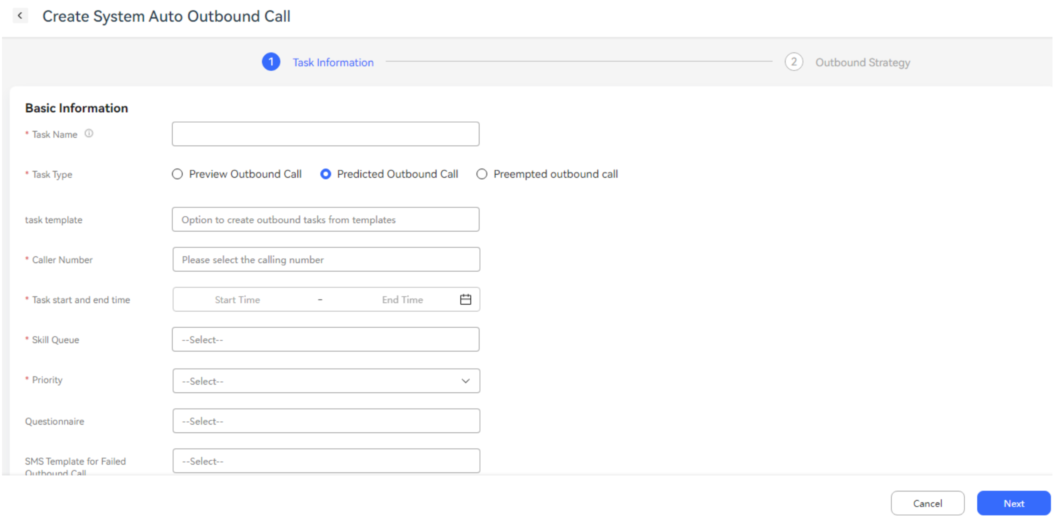
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **New** and choose **Robot outbound call template** and select a creation mode. The page for creating a key chatbot outbound call task is displayed.

You can select either of the following modes:

- **Create Directly**: Click **Create Directly**. The **Basic Information** tab page is displayed.

Figure 2-284 Page for creating a predicted outbound call task (Basic Information)



Step 3 Configure basic information.

- **Task Name**: Enter a user-defined task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.
- **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 **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.
- **Skill Queue**: Select an existing skill queue. For details about how to configure a skill queue, see **Maintaining a Tenant Space Skill Queue**.
- **Questionnaire**: Select a released manual survey. You can select a survey based on the version number.
- **SMS Template for Failed Outbound Call**: Select a configured SMS notification template. For details, see **Configuring Notification Templates as an Administrator**.
- **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.
- **Callback Address**: Enter the address for callback upon call connection or release on the customer side.

NOTE

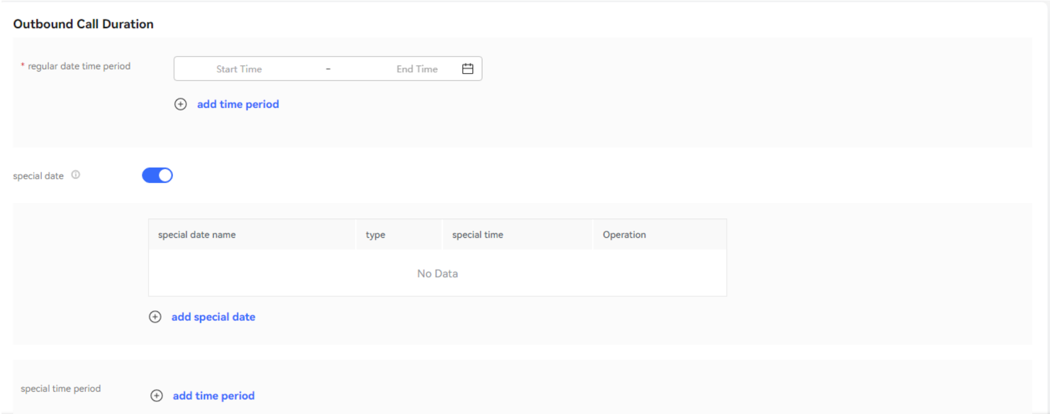
The callback address is a third-party address and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback address can be configured only in the outbound call task.

After the configuration is complete, click **Next**.

Step 4 Set the outbound call time.

Figure 2-285 Outbound Call Duration



1. In the **Set Outbound Call Time** area, set the start time and end time of working hours. The examples are as follows:

   9:00–11:30

   14:00–18:00
2. Click **Add Special Date** in the lower right part to specify weekends as special dates.
3. In the **Set Special Date Outbound Call Time** area, set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. After the configuration is complete, click **Next**.

Step 5 Configure the outbound call policy based on **Table 2-92**. The following table describes the key parameters for each algorithm and their descriptions.

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 2-286 Outbound Call Policy

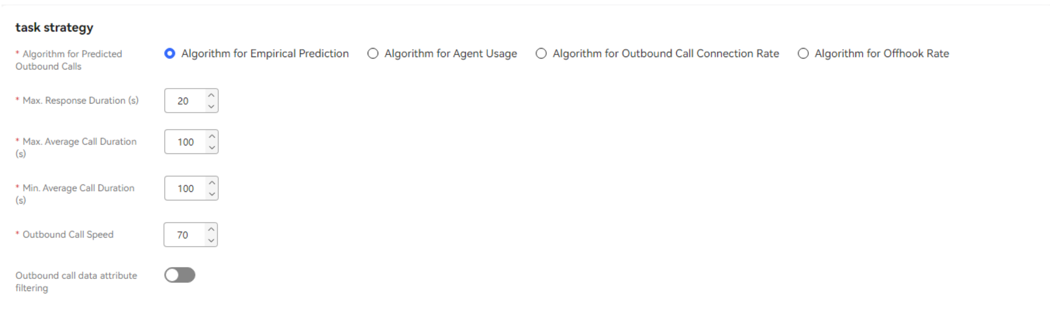


Table 2-92 Predicted outbound call policy

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 exceeds the value of this parameter, the system reduces the calls allocated to the current 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 allocated to the current 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 allocated to the current 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 allocated to the agent.

Algorithm Type	Parameter	Description
	Called Party's Waiting Time	Maximum user waiting time, in seconds. If the waiting time exceeds the value of this parameter, the system reduces the calls allocated to the agent to prevent users 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 allocates calls to the agent with a high off-hook rate.

After the configuration is complete, click **Next**.

Step 6 Configure **Outbound Call Logic**, including the call policy, outbound call result policy, and business result policy.

1. **CALL POLICY**: Customize the pre-called customer numbers. You can configure **Call Mode**, **Call Filtering**, and **Call Sorting** based on **Table 2-93**.

Figure 2-287 Outbound Call Logic

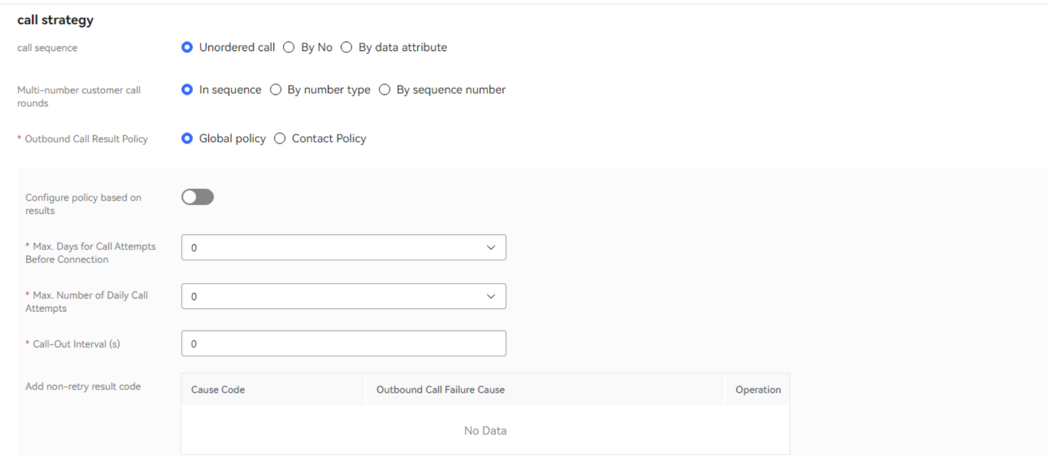
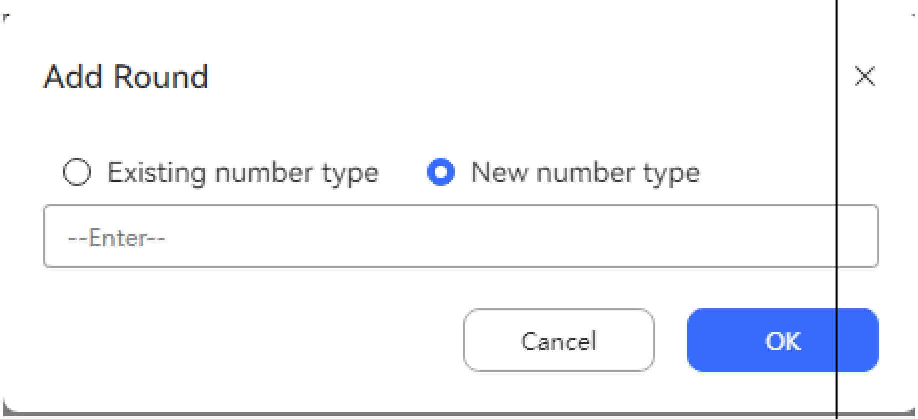
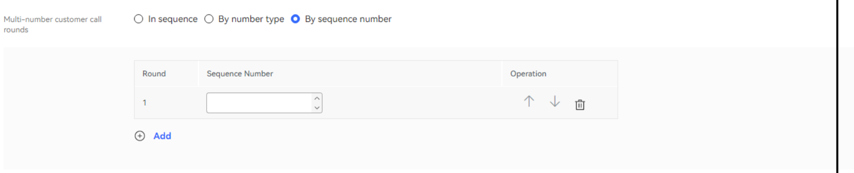
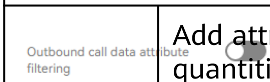
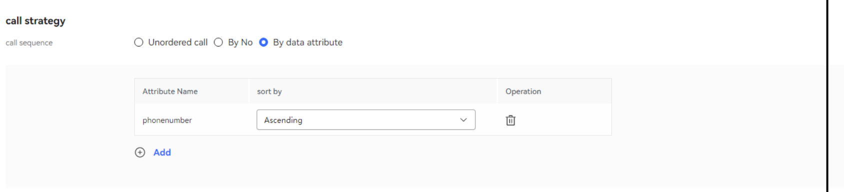


Table 2-93 Parameters on the Outbound Call Logic page

Parameter	Description
Call Mode: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By round	Call multiple numbers of a customer in rounds. The options are **By number type** and **By number sequence**.

Parameter	Description
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. **New number type** can be selected for all outbound call tasks. Only one number category can be added at a time. If there are multiple number categories, you need to add them multiple times. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 
Call Filtering: Customize filter conditions. The system initiates an outbound call only when the pre-called customer number meets the conditions. Encrypted attributes cannot be used as filter criteria.	
	Add attributes. You can select attributes and set their quantities.
Add Subcondition	Add a subcondition as an additional filter condition.
Call Sorting: Customize the call sequence of pre-called customer numbers.	

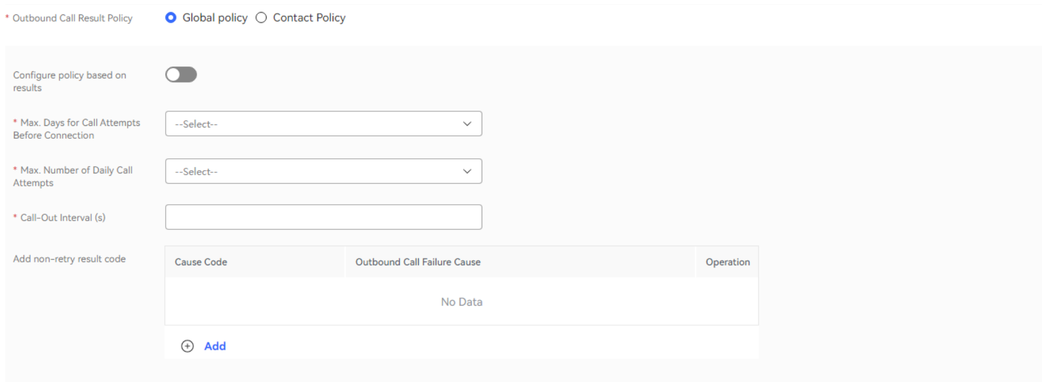
Parameter	Description
Add Attribute	Click **Add Attribute**, select attributes, and set **Order Type**. You can adjust the attribute sequence after adding the attributes. 

2. **OUTBOUND CALL RESULT POLICY**: Response method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy** for **PolicyType**.
   - **Global policy**
     - Disable **Configure policy based on results**.

       Set **Max. Days for Call Attempts Before Connection**, **Max. Number of Daily Call Attempts**, and **Call-Out Interval (s)**.

       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

       Figure 2-288 Disabling Configure policy based on results

     - Enable **Configure policy based on results**.

       Click **Add Policy** and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

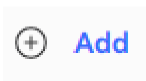
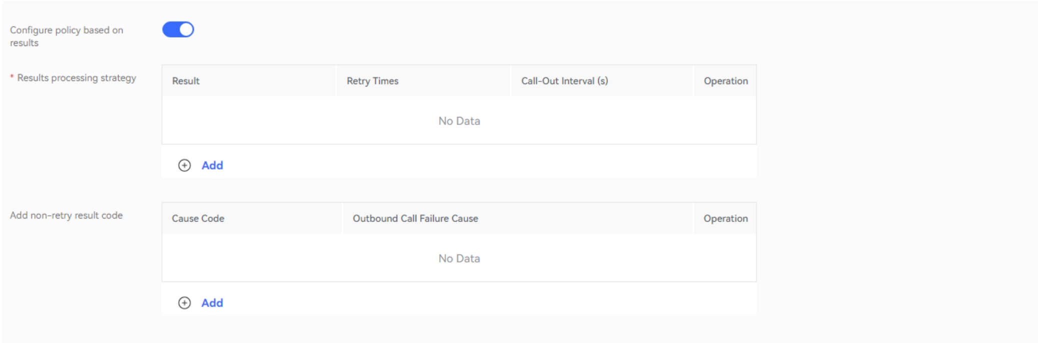
       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

Figure 2-289 Enabling Configure policy based on results



NOTE

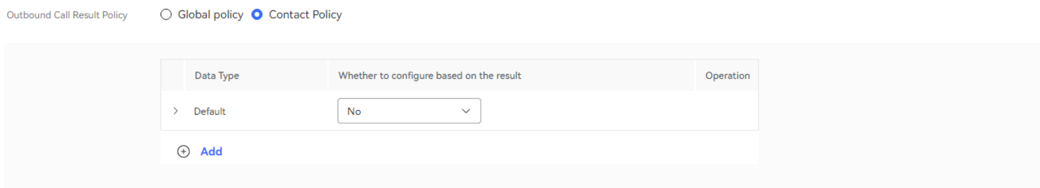
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- Default contact number: Set **Whether to configure based on the result** to configure the policy.

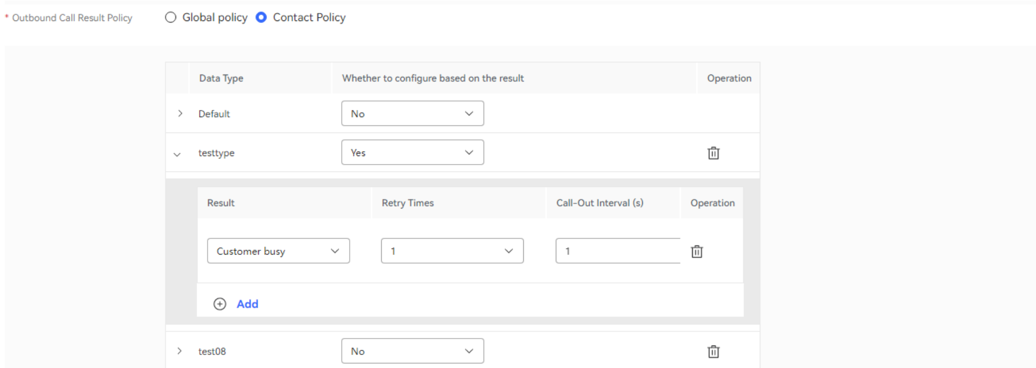
  If it is set to **No**, you can set **Max. Days for Call Attempts Before Connection** and **Max. Number of Daily Call Attempts**.

  Figure 2-290 Setting Whether to configure based on the result to No

  If it is set to **Yes**, you can set **Result**, **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 **Result** cannot be added.

  Figure 2-291 Setting Whether to configure based on the result to Yes

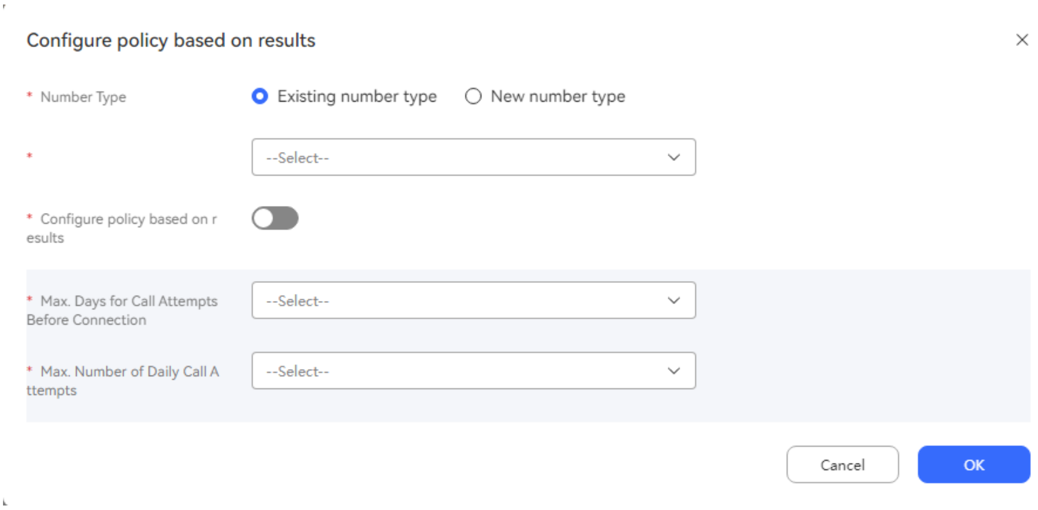
  

- Adding a contact number: Click **Add Contact Policy**. The **Add Result Policy** page is displayed. You must set **Add DataType** first regardless

of whether **Configure policy based on results** is enabled, and then set other parameters.

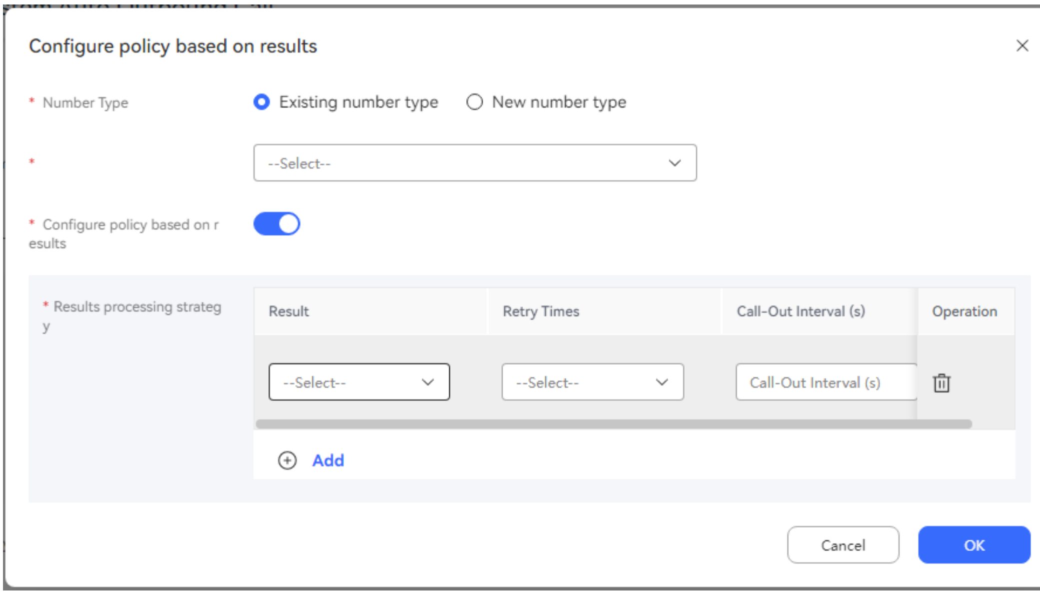
If **Configure policy based on results** is disabled, enable **Add DataType** and set **Add DataType**, **Max. Days for Call Attempts Before Connection**, and **Max. Number of Daily Call Attempts**.

Figure 2-292 Disabling Configure policy based on results



If **Configure policy based on results** is enabled, enable **Add DataType**, set **Add DataType**, click **Add Result Policy**, and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Result Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

Figure 2-293 Enabling Configure policy based on results



3. **BUSINESS RESULT POLICY**: Configure the call policy for the business result returned by the system when an outbound call is made.

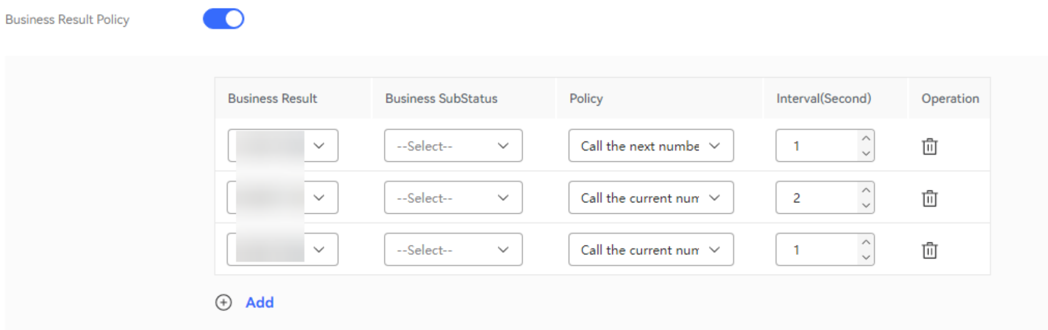
a. Click to enable the business result policy.

b. Click **Add Business Result Policy**.

c. Set **Business Result**, **Substate**, **Policy**, and **Interval(Second)**, and click **Save**.

d. Click **Add Business Result Policy** for multiple times to add multiple business policies one by one.

Figure 2-294 Business result policy



After the configuration is complete, click **Next**.

Step 7 (Optional) Click **Save As Template**. In the dialog box that is displayed, enter a template name and click **OK** to save the current configuration as an outbound call template.

Step 8 Click **Save**. The predicted outbound call task is created successfully.

Step 9 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Outbound Call Data** to add outbound call data for the outbound call task. For details, see **2.13.3.6.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Start** to start the outbound call task.

----End

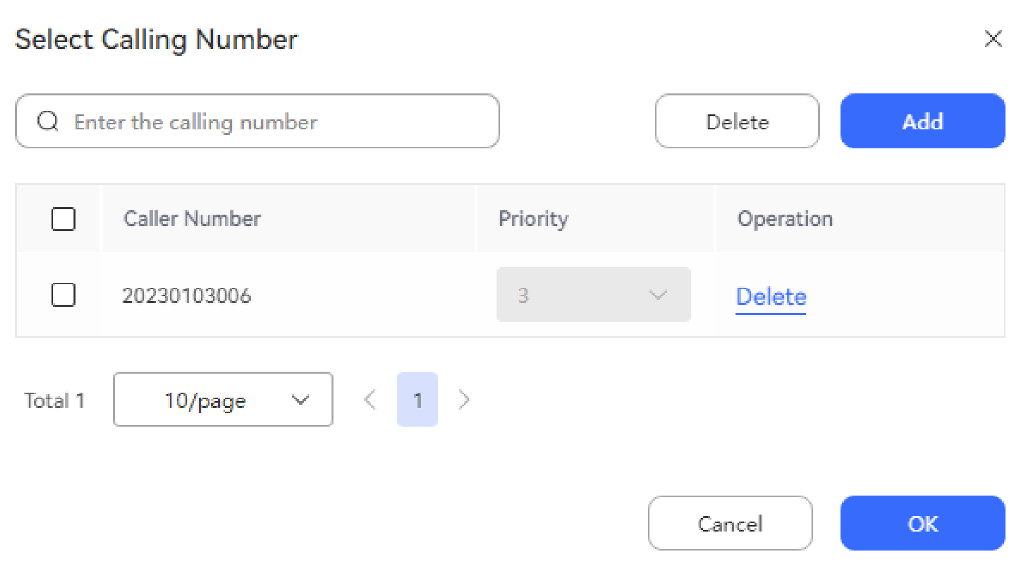
Follow-up Procedure

You can click **Suspend** to modify an outbound call task.

After the task is suspended, you can click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

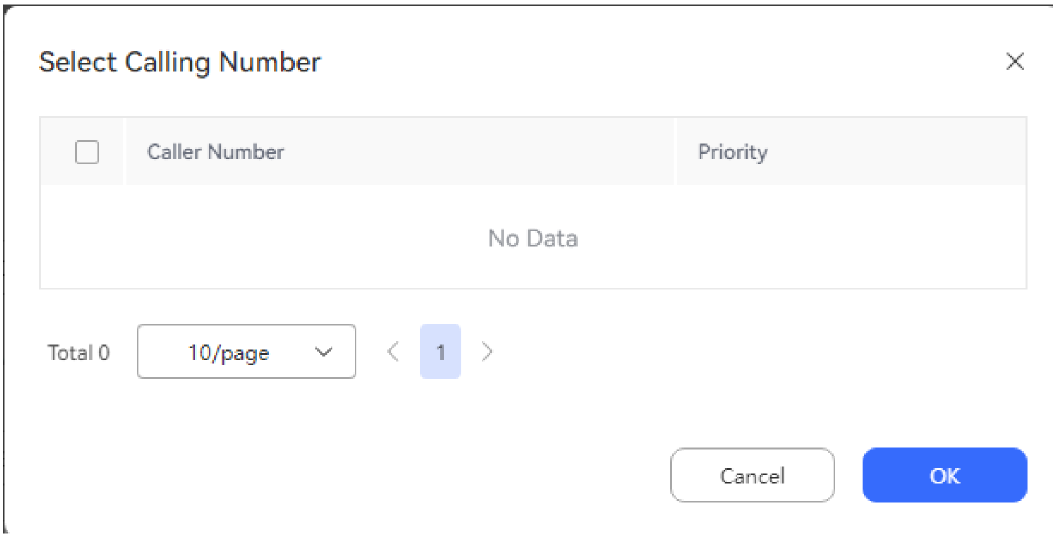
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-295 Select Calling Number



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 2-296 Adding Calling Numbers



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.

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 Previewed Outbound Call Tasks

In a previewed 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

- 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 is available and has been associated with the agent for making outbound calls.
- 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.
- To configure a callback address, an application has been submitted to the system administrator and approved to add the callback address 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 previewed 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.

Procedure

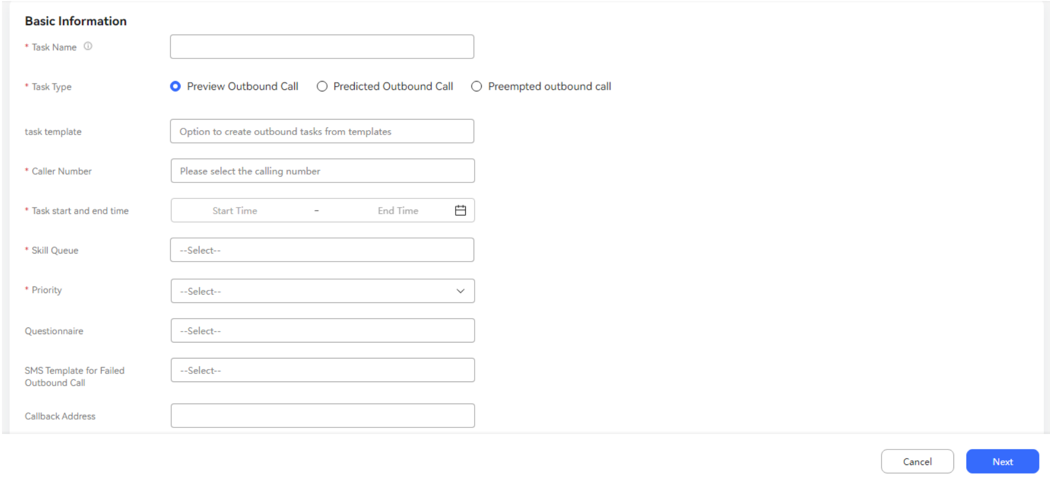
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **to create a push-button chatbot outbound call** and select a creation mode. The page for creating a key chatbot outbound call task is displayed.

You can select either of the following modes:

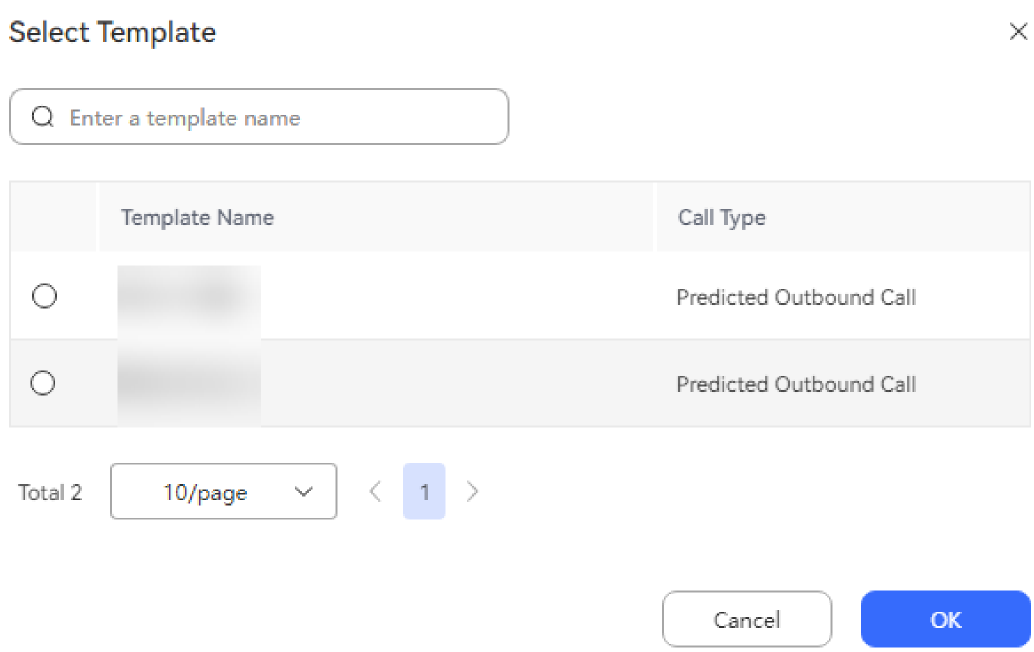
- **Create Directly**: Click **Create Directly**. The **Basic Information** tab page is displayed.

Figure 2-297 Page for creating a previewed outbound call task (Basic Information)



- **Create Using Template**: Click **Create Using Template**. In the **Select Template** dialog box, select the required template and click **OK**. The **Basic Information** tab page is displayed.

Figure 2-298 Page for selecting a previewed outbound call template



Step 3 Configure basic information.

- **Task Name**: Enter a user-defined task name.
- **Caller Number**: Select an existing calling number of the current tenant space. A maximum of 100 calling numbers can be added.

- **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.
- **Questionnaire**: Select a released manual survey. You can select a survey based on the version number.
- **SMS Template for Failed Outbound Call**: Select a configured SMS notification template. For details, see **Configuring Notification Templates as an Administrator**.
- **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.
- **Callback Address**: Enter the address for callback upon call connection or release on the customer side.

NOTE

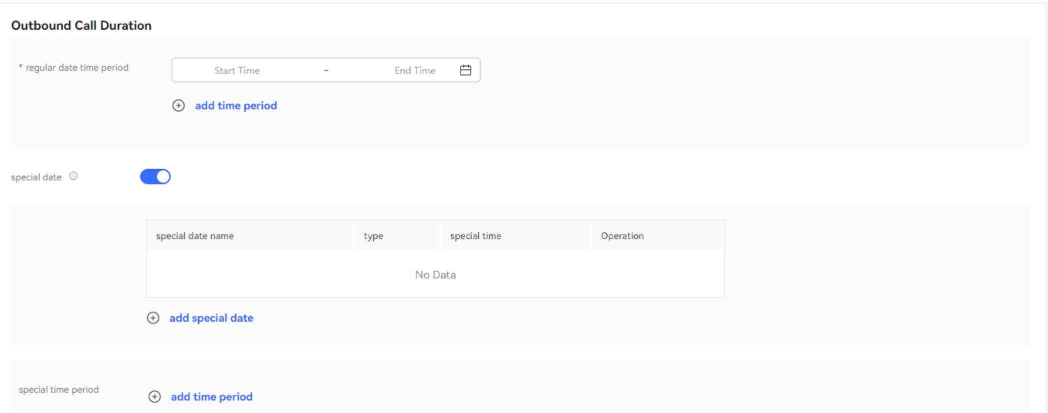
The callback address is a third-party address and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

In the integrated environment, the callback address can be configured only in the outbound call task.

After the configuration is complete, click **Next**.

Step 4 Set the outbound call time.

Figure 2-299 Outbound Call Duration



1. In the **Set Outbound Call Time** area, set the start time and end time of working hours. The examples are as follows:

   9:00–11:30

   14:00–18:00

2. Click **Add Special Date** in the lower right part to specify weekends as special dates.
3. In the **Set Special Date Outbound Call Time** area, set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.

4. After the configuration is complete, click **Next**.

Step 5 Set an outbound call policy. Enter the call interval, number of calls made each time, preview timeout interval, and automatic call duration, and click **Next**.

Step 6 Configure **Outbound Call Logic**, including the call policy, outbound call result policy, and business result policy.

1. **CALL POLICY**: Customize the pre-called customer numbers. You can configure **Call Mode**, **Call Filtering**, and **Call Sorting** based on **Table 2-94**.

Figure 2-300 Outbound Call Logic

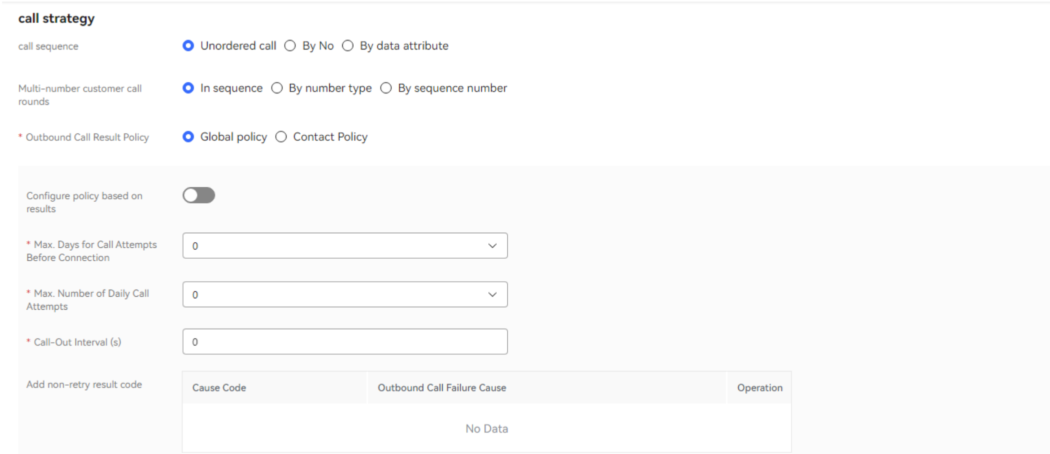
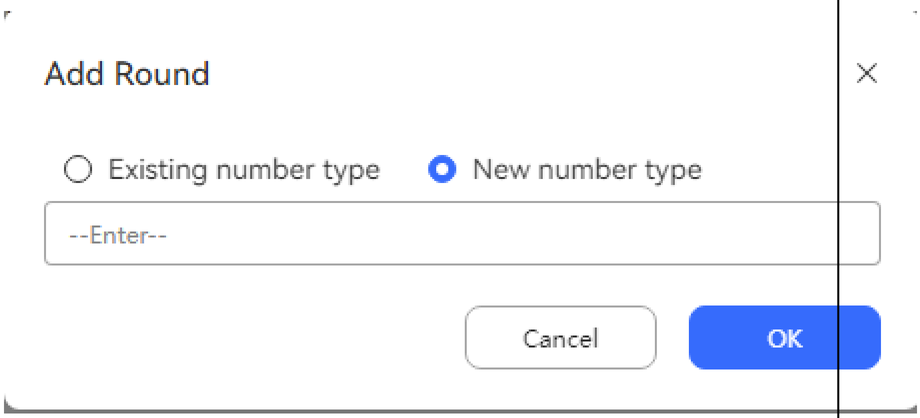
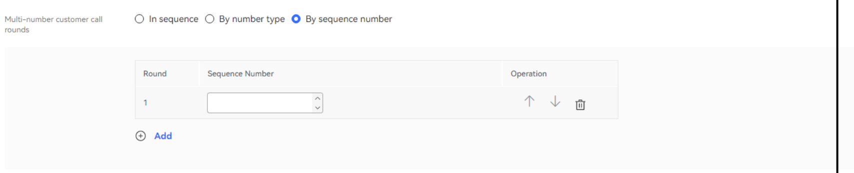
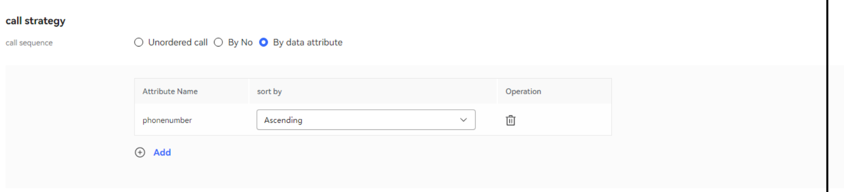


Table 2-94 Parameters on the Outbound Call Logic page

Parameter	Description
Call Mode: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By round	Call multiple numbers of a customer in rounds. The options are **By number type** and **By number sequence**.

Parameter	Description
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. **New number type** can be selected for all outbound call tasks. Only one number category can be added at a time. If there are multiple number categories, you need to add them multiple times. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 
Call Filtering: Customize filter conditions. The system initiates an outbound call only when the pre-called customer number meets the conditions. Encrypted attributes cannot be used as filter criteria.	
	Add attributes. You can select attributes and set their quantities.
Add Subcondition	Add a subcondition as an additional filter condition.
Call Sorting: Customize the call sequence of pre-called customer numbers.	

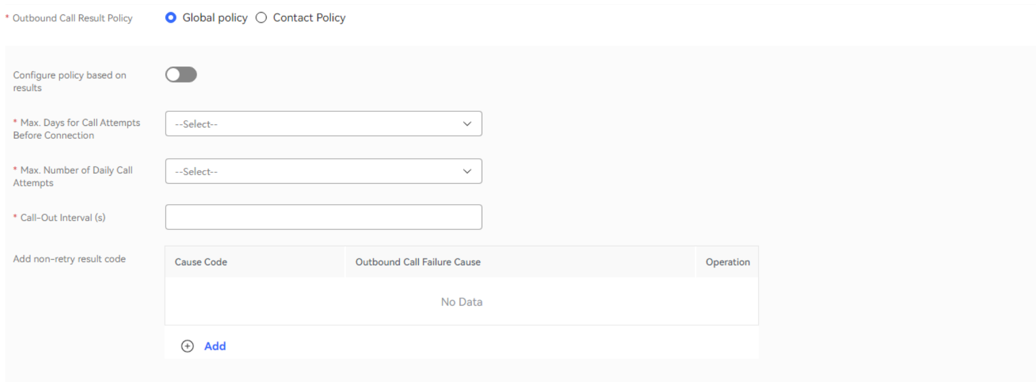
Parameter	Description
Add Attribute	Click **Add Attribute**, select attributes, and set **Order Type**. You can adjust the attribute sequence after adding the attributes. 

2. **OUTBOUND CALL RESULT POLICY**: Response method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy** for **PolicyType**.
   - **Global policy**
     - Disable **Configure policy based on results**.

       Set **Max. Days for Call Attempts Before Connection**, **Max. Number of Daily Call Attempts**, and **Call-Out Interval (s)**.

       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

       Figure 2-301 Disabling Configure policy based on results

     - Enable **Configure policy based on results**.

       Click **Add Policy** and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

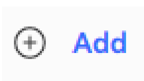
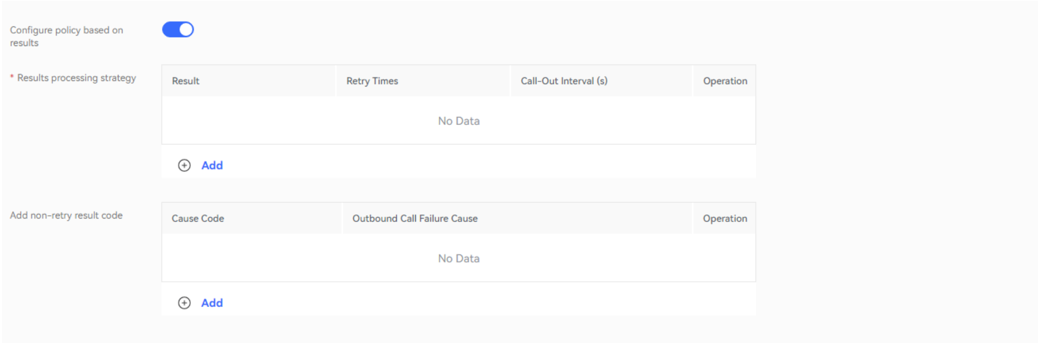
       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

Figure 2-302 Enabling Configure policy based on results



NOTE

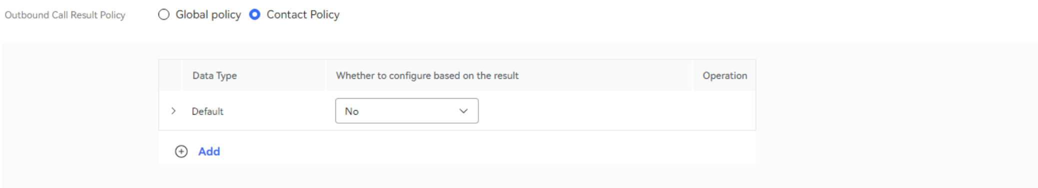
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- Default contact number: Set **Whether to configure based on the result** to configure the policy.

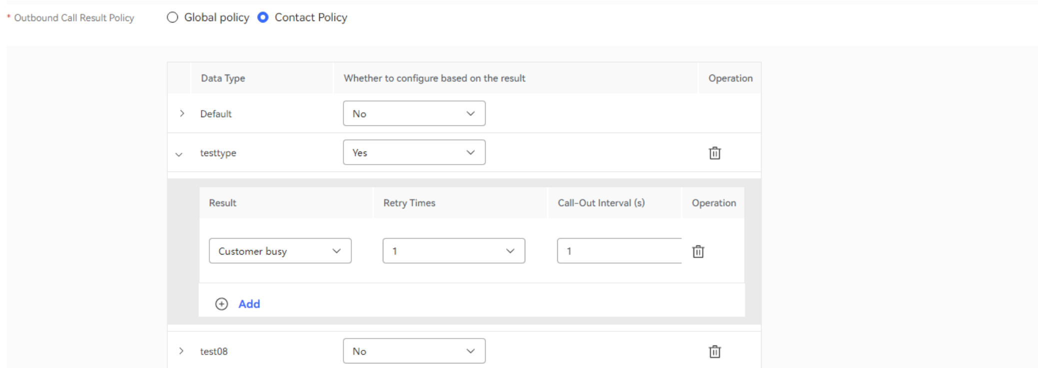
  If it is set to **No**, you can set **Max. Days for Call Attempts Before Connection** and **Max. Number of Daily Call Attempts**.

  Figure 2-303 Setting Whether to configure based on the result to No

  If it is set to **Yes**, you can set **Result**, **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 **Result** cannot be added.

  Figure 2-304 Setting Whether to configure based on the result to Yes

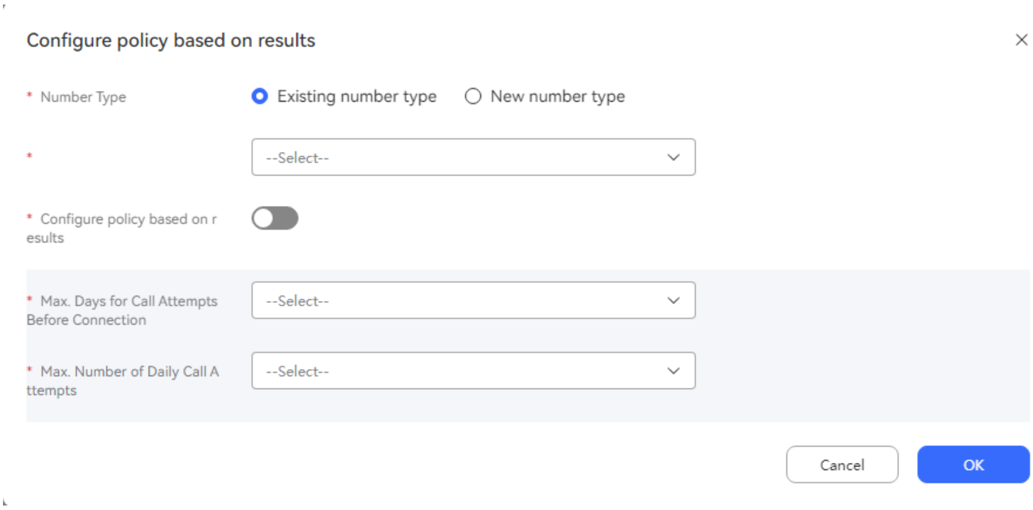
  

- Adding a contact number: Click **Add Contact Policy**. The **Add Result Policy** page is displayed. You must set **Add DataType** first regardless

of whether **Configure policy based on results** is enabled, and then set other parameters.

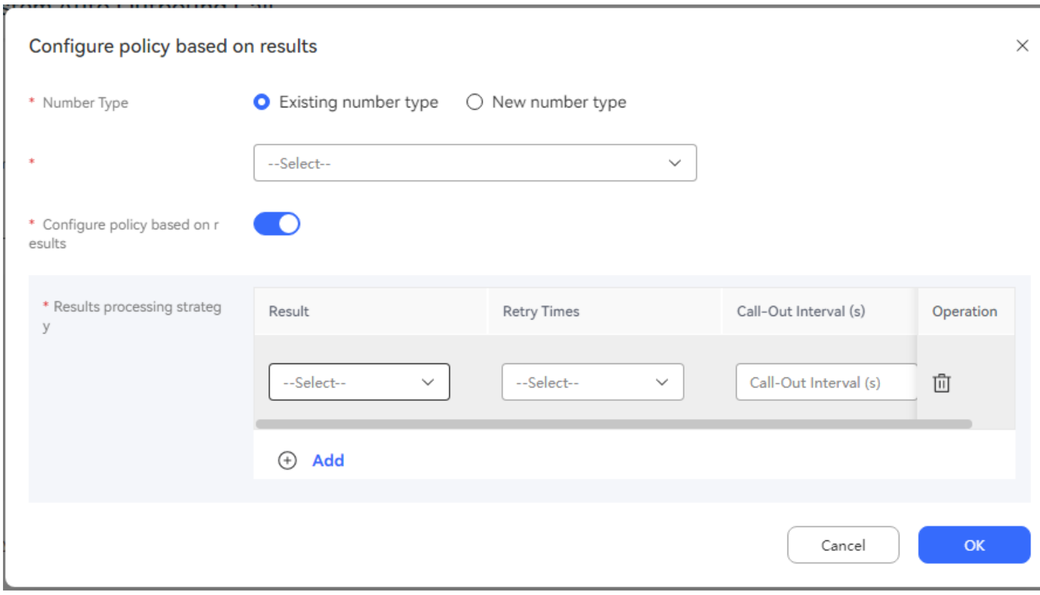
If **Configure policy based on results** is disabled, enable **Add DataType** and set **Add DataType**, **Max. Days for Call Attempts Before Connection**, and **Max. Number of Daily Call Attempts**.

Figure 2-305 Disabling Configure policy based on results



If **Configure policy based on results** is enabled, enable **Add DataType**, set **Add DataType**, click **Add Result Policy**, and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Result Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

Figure 2-306 Enabling Configure policy based on results



3. **BUSINESS RESULT POLICY**: Configure the call policy for the business result returned by the system when an outbound call is made.

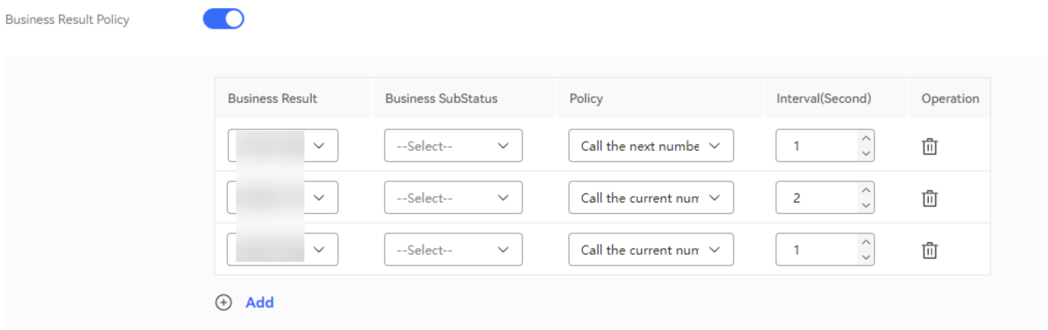
a. Click to enable the business result policy.

b. Click **Add Business Result Policy**.

c. Set **Business Result**, **Substate**, **Policy**, and **Interval(Second)**, and click **Save**.

d. Click **Add Business Result Policy** for multiple times to add multiple business policies one by one.

Figure 2-307 Business result policy



After the configuration is complete, click **Next**.

Step 7 (Optional) Click **Save As Template**. In the dialog box that is displayed, enter a template name and click **OK** to save the current configuration as an outbound call template.

Step 8 Click **Save**. The previewed outbound call task is created successfully.

Step 9 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Outbound Call Data** to add outbound call data for the outbound call task. For details, see **2.13.3.6.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Start** to start the outbound call task.

----End

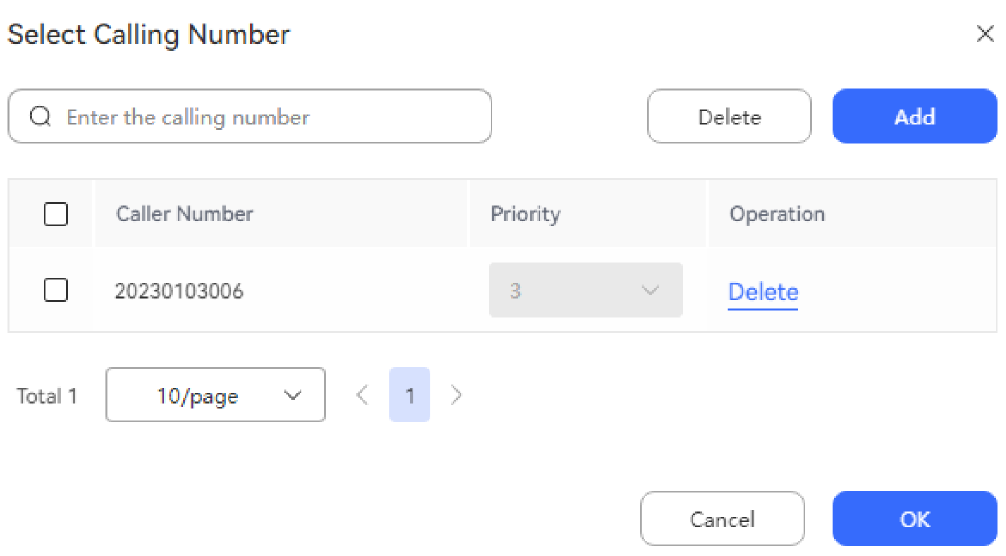
Follow-up Procedure

You can click **Suspend** to modify an outbound call task.

After the task is suspended, you can click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

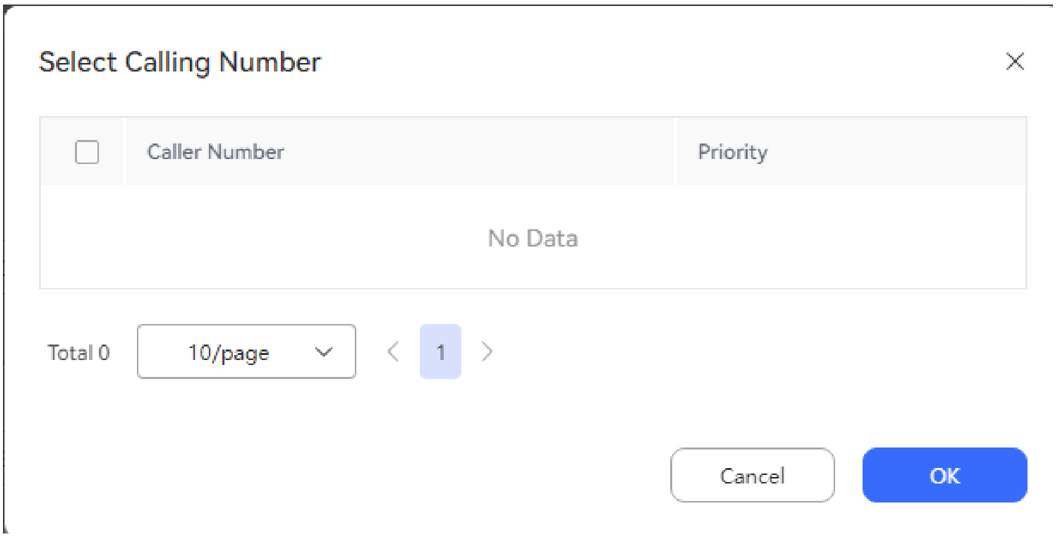
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-308 Select Calling Number



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 2-309 Adding Calling Numbers



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.

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 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

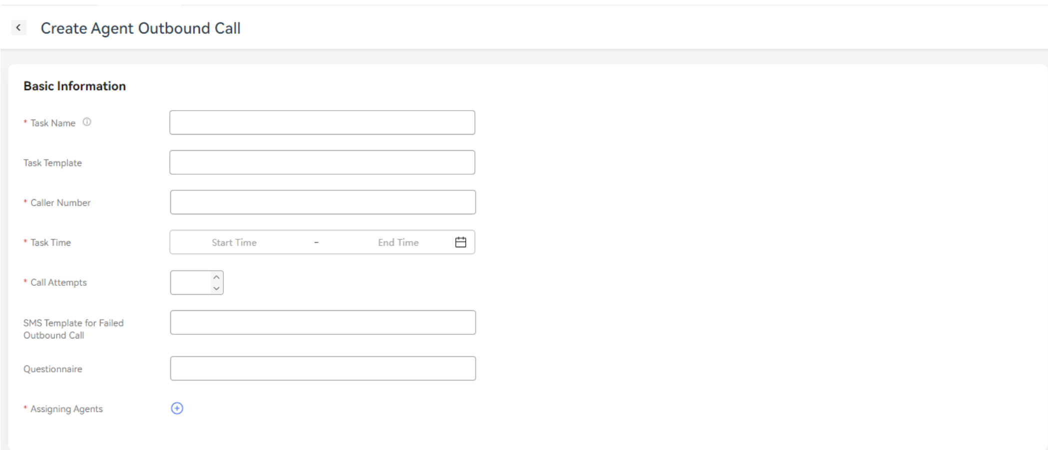
- To create an outbound call task, you have completed the operations in **2.13.2 Preparations for Creating Outbound Call Tasks**.
- At least one voice skill queue is available and has been associated with the agent for making outbound calls.
- If the tenant space is in trial commercial use, you have 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.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **Create** and select **Agent Outbound Call**.

Figure 2-310 Create Agent Outbound Call page

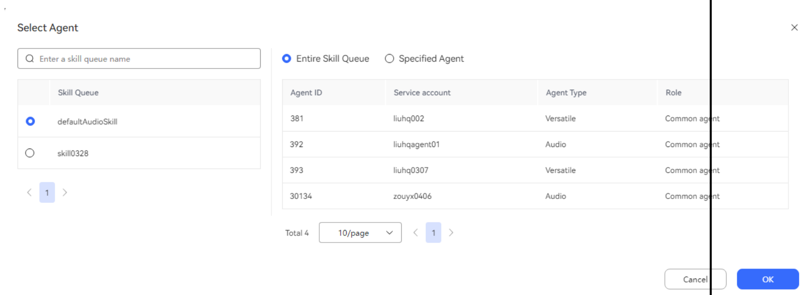


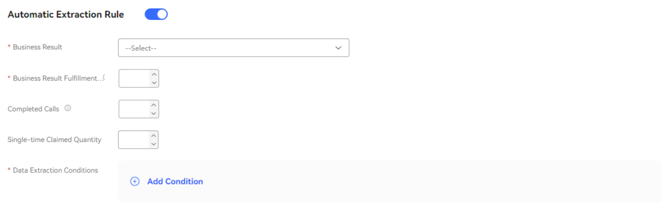
NOTE

- 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 Set manual outbound call task information.

Table 2-95 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.
Caller Number	Calling number of the outbound call task. This parameter is mandatory. Multiple calling numbers can be selected. The options are all access codes of the tenant space.
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 ranges from 1 to 6.
SMS Template for Failed Outbound Call	Content of the SMS notification sent when the outbound call task fails. This parameter is optional.
Selected Agents	Click ⊕ to select agents in an associated voice skill queue to execute the outbound call task. If you select **Specified Agent**, you can specify one or more agents. Otherwise, all agents in the skill queue are selected. 
AUTOMATIC EXTRACTION RULE	

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	Select a configured business result.
Business Result Achievement	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 20.
Amount of data that can be claimed by an agent at a time	Number of outbound call records extracted each time before the outbound call task is complete. The value is a positive integer.
Conditions	
Add Condition	Select **And** or **Or**. ● **And**: All conditions must be met. ● **Or**: Any one of the conditions is met.
Add Attribute	Add attributes. Select a configured outbound call data attribute.
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 **OK** to save the current configuration as an outbound call template.

Step 5 Click **Save**.

Step 6 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Outbound Call Data** to add outbound call data for the outbound call task. For details, see **2.13.3.6.1 Configuring Outbound Call Data**.

Step 7 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Start** to start the outbound call task.

----End

Follow-up Procedure

You can click **Suspend** to modify an outbound call task.

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 click the outbound call result on the outbound call task details page to view the outbound call result for each customer.

On the outbound call result page, you can:

- Click **Details** to view all outbound call results of all called numbers under the customer.
- Click **Business Result** to set the business results for the called outbound numbers and remark the results.
- Click **Export** 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.

2.13.3.5 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

- 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 is available and has been associated with the agent for making outbound calls.
- 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.
- To configure a callback address, an application has been submitted to the system administrator and approved to add the callback address to the address trustlist.

Procedure

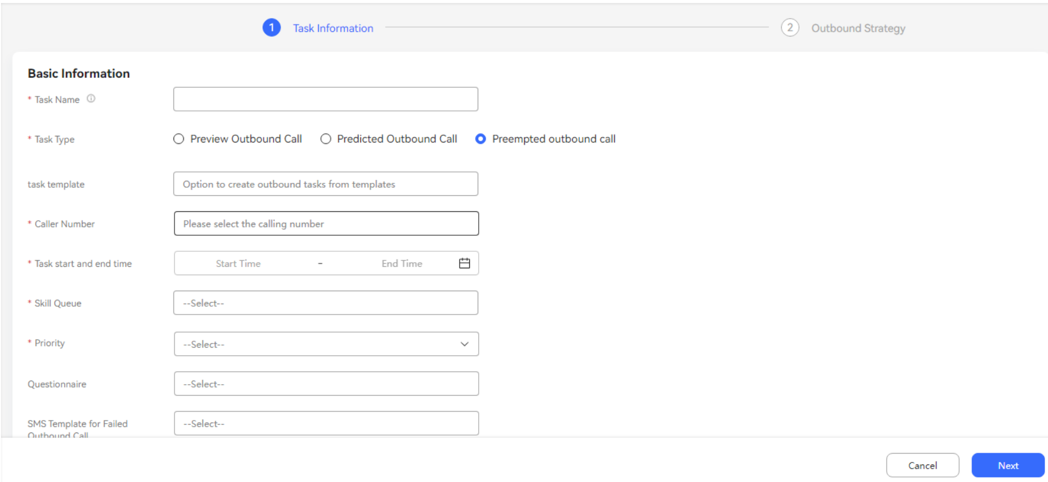
Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Click **to create a push-button chatbot outbound call** and select a creation mode. The page for creating a key chatbot outbound call task is displayed.

You can select either of the following modes:

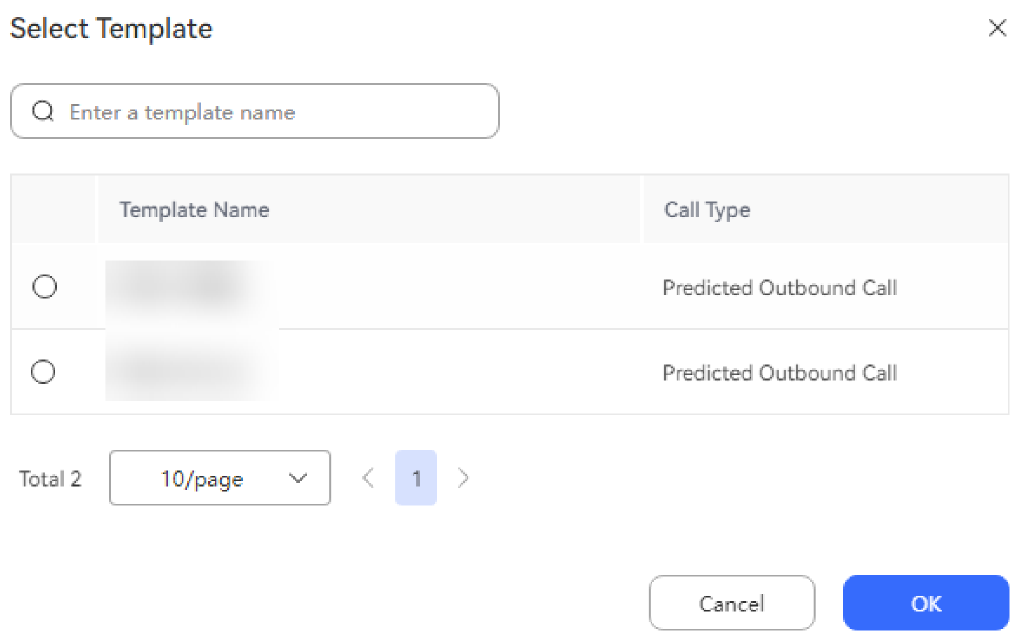
- **Create Directly**: Click **Create Directly**. The **Basic Information** tab page is displayed.

Figure 2-311 Page for creating a preempted outbound call task (Basic Information)



- **Create Using Template**: Click **Create Using Template**. In the **Select Template** dialog box, select the required template and click **OK**. The **Basic Information** tab page is displayed.

Figure 2-312 Page for selecting a preempted outbound call template



Step 3 Configure basic information.

- **Task Name**: Enter a user-defined task name.
- **Caller Number**: Select an existing calling number of the current tenant space.
- **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 **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.
- **Skill Queue**: Select an existing skill queue.
- **Questionnaire**: Select a released manual survey. You can select a survey based on the version number.
- **SMS Template for Failed Outbound Call**: Select a configured SMS notification template.
- **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.
- **Callback Address**: Enter the address for callback upon call connection or release on the customer side.

  NOTE

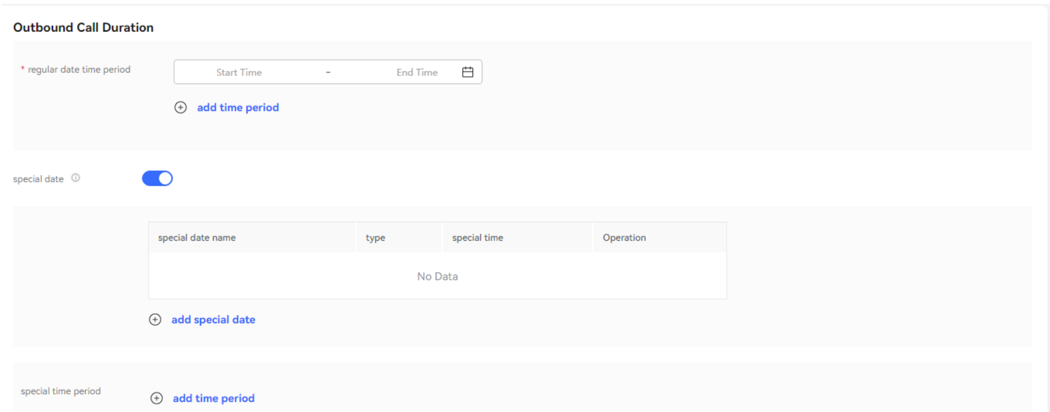
  The callback address is a third-party address and can carry data. The carried parameters include **dataId**, **taskId**, **sessionId**, **calledNo**, **beginTime**, **vdnId**, **failCode**, **callId**, **filePath**, and **customFiled**.

  In the integrated environment, the callback address can be configured only in the outbound call task.

After the configuration is complete, click **Next**.

Step 4 Set the outbound call time.

Figure 2-313 Outbound Call Duration



1. In the **Set Outbound Call Time** area, set the start time and end time of working hours. The examples are as follows:

   9:00–11:30

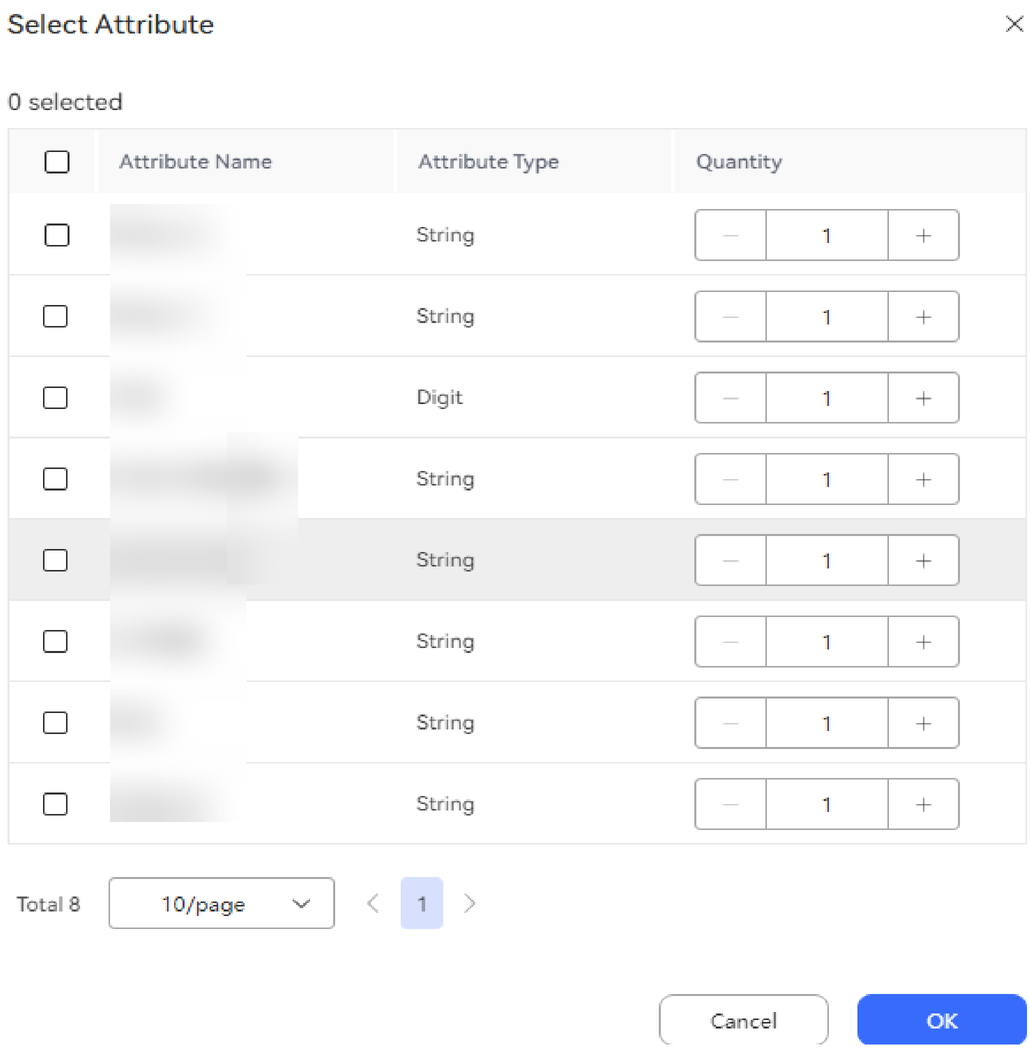
   14:00–18:00

2. Click **Add Special Date** in the lower right part to specify weekends as special dates.
3. In the **Set Special Date Outbound Call Time** area, set **Start Time** and **End Time** to **00:00** and **23:59**, respectively.
4. After the configuration is complete, click **Next**.

Step 5 Set an outbound call policy. Set **Max. Response Duration (s)** and click **Next**. The outbound call data attribute filtering button is enabled, and the corresponding attribute can be selected.

Figure 2-314 Outbound Call Policy

Figure 2-315 Select Attribute page



Step 6 Configure **Outbound Call Logic**, including the call policy, outbound call result policy, and business result policy.

1. **CALL POLICY**: Customize the pre-called customer numbers. You can configure **Call Mode**, **Call Filtering**, and **Call Sorting** based on **Table 2-96**.

Figure 2-316 Outbound Call Logic

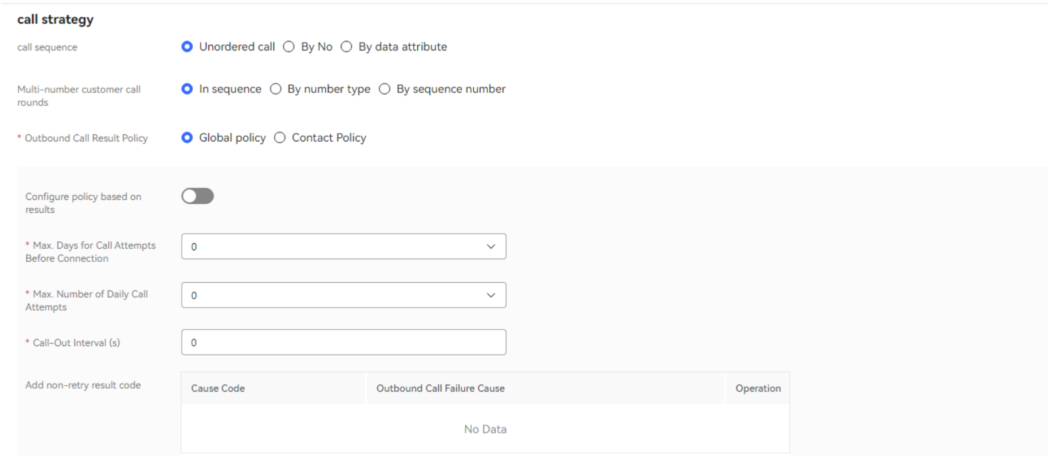
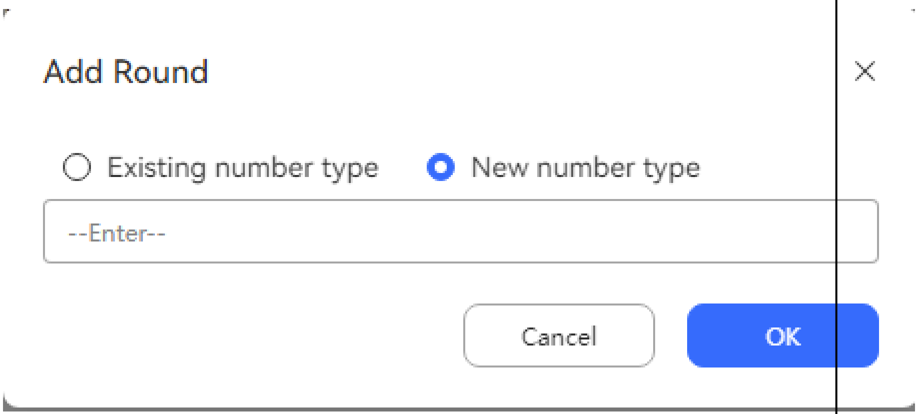
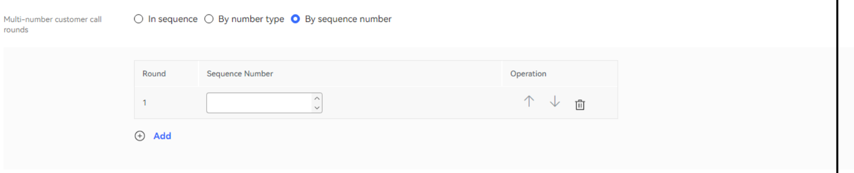
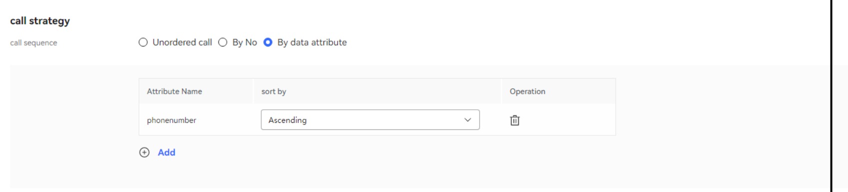


Table 2-96 Parameters on the Outbound Call Logic page

Parameter	Description
Call Mode: Mode for calling multiple numbers of a customer.	
In sequence	Call multiple numbers of a customer in sequence.
By round	Call multiple numbers of a customer in rounds. The options are **By number type** and **By number sequence**.

Parameter	Description
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. **New number type** can be selected for all outbound call tasks. Only one number category can be added at a time. If there are multiple number categories, you need to add them multiple times. 
By sequence number	You can enter the sequence numbers of numbers. After the configuration, the number with a smaller sequence number is called first. 
Call Filtering: Customize filter conditions. The system initiates an outbound call only when the pre-called customer number meets the conditions. Encrypted attributes cannot be used as filter criteria.	
	Add attributes. You can select attributes and set their quantities.
Add Subcondition	Add a subcondition as an additional filter condition.
Call Sorting: Customize the call sequence of pre-called customer numbers.	

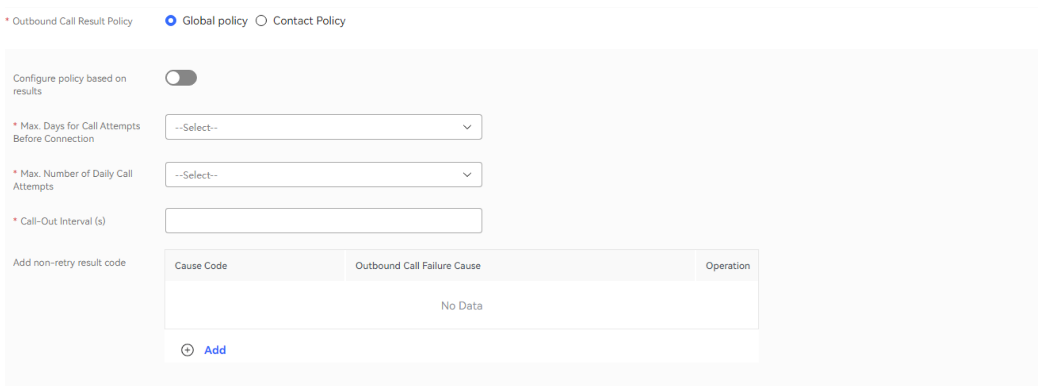
Parameter	Description
Add Attribute	Click **Add Attribute**, select attributes, and set **Order Type**. You can adjust the attribute sequence after adding the attributes. 

2. **OUTBOUND CALL RESULT POLICY**: Response method when an outbound call is not connected due to an unallocated number, busy line, or other exceptions. Select **Global policy** or **Contact Policy** for **PolicyType**.
   - **Global policy**
     - Disable **Configure policy based on results**.

       Set **Max. Days for Call Attempts Before Connection**, **Max. Number of Daily Call Attempts**, and **Call-Out Interval (s)**.

       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

       Figure 2-317 Disabling Configure policy based on results

     - Enable **Configure policy based on results**.

       Click **Add Policy** and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

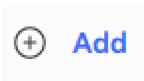
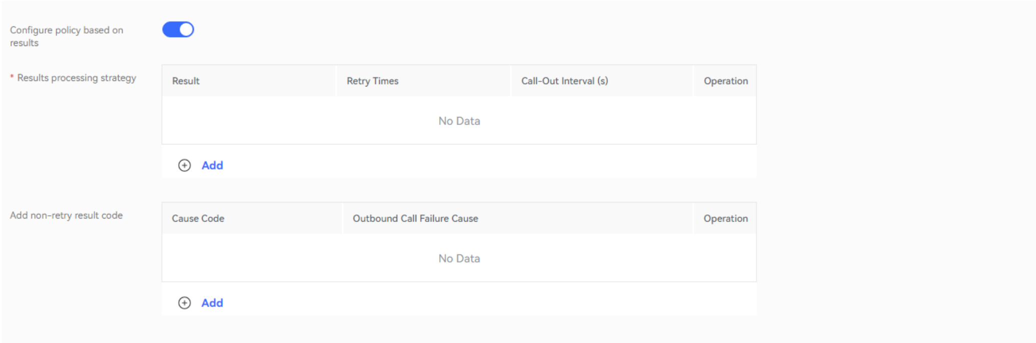
       Click  and set **Add non-retry result code**. If the result of an outbound call to a customer matches the value of **Add non-retry result code**, the retry calling to the customer is stopped.

Figure 2-318 Enabling Configure policy based on results



NOTE

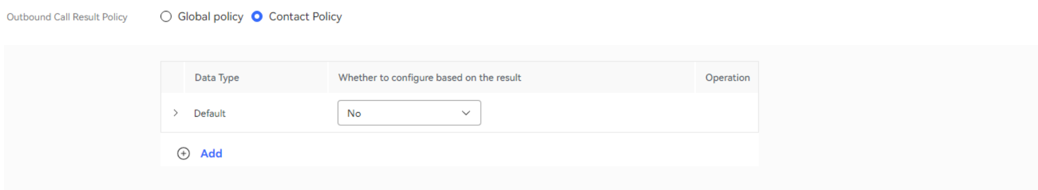
If the outbound call interval is set to a large value, outbound call operations indicators, such as the call connection rate, may be affected. You are advised to use the default value.

– **Contact Policy**

- Default contact number: Set **Whether to configure based on the result** to configure the policy.

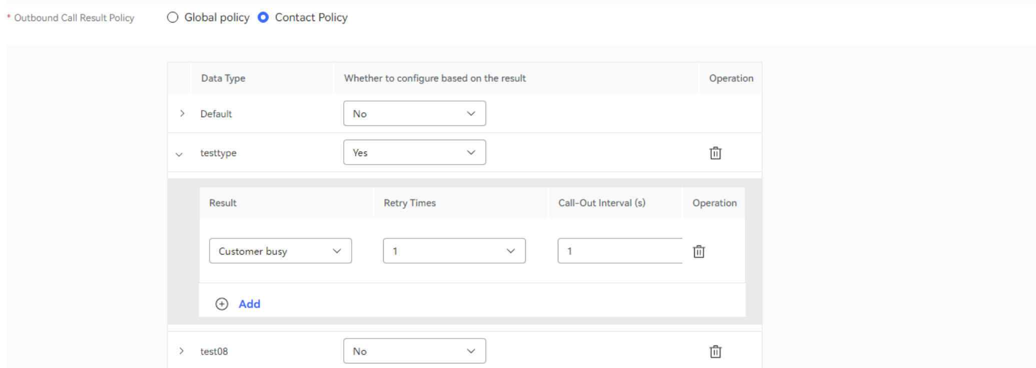
  If it is set to **No**, you can set **Max. Days for Call Attempts Before Connection** and **Max. Number of Daily Call Attempts**.

  Figure 2-319 Setting Whether to configure based on the result to No



  If it is set to **Yes**, you can set **Result**, **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 **Result** cannot be added.

  Figure 2-320 Setting Whether to configure based on the result to Yes

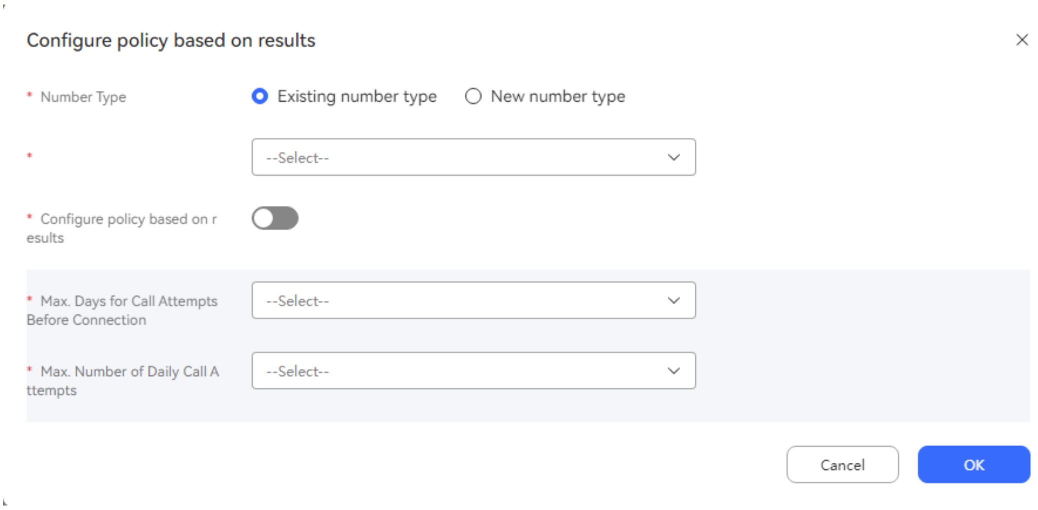


- Adding a contact number: Click **Add Contact Policy**. The **Add Result Policy** page is displayed. You must set **Add DataType** first regardless

of whether **Configure policy based on results** is enabled, and then set other parameters.

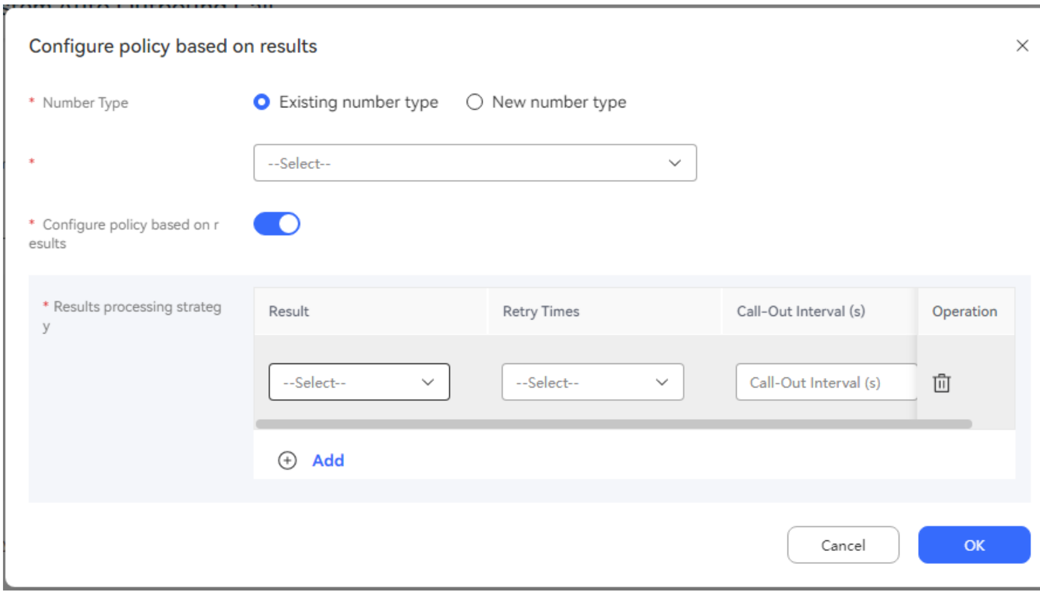
If **Configure policy based on results** is disabled, enable **Add DataType** and set **Add DataType**, **Max. Days for Call Attempts Before Connection**, and **Max. Number of Daily Call Attempts**.

Figure 2-321 Disabling Configure policy based on results



If **Configure policy based on results** is enabled, enable **Add DataType**, set **Add DataType**, click **Add Result Policy**, and set **Result**, **Retry Times**, and **Call-Out Interval (s)**. Click **Add Result Policy** for multiple times to add multiple policies one by one. Policies with the same values of **Result** cannot be added.

Figure 2-322 Enabling Configure policy based on results



3. **BUSINESS RESULT POLICY**: Configure the call policy for the business result returned by the system when an outbound call is made.

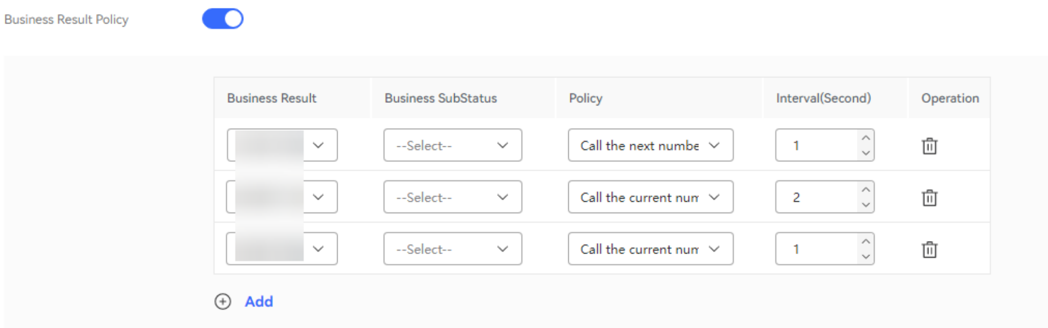
a. Click to enable the business result policy.

b. Click **Add Business Result Policy**.

c. Set **Business Result**, **Substate**, **Policy**, and **Interval(Second)**, and click **Save**.

d. Click **Add Business Result Policy** for multiple times to add multiple business policies one by one.

Figure 2-323 Business result policy



After the configuration is complete, click **Next**.

Step 7 (Optional) Click **Save As Template**. In the dialog box that is displayed, enter a template name and click **OK** to save the current configuration as an outbound call template.

Step 8 Click **Save**. The preempted outbound call task is created successfully.

Step 9 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Outbound Call Data** to add outbound call data for the outbound call task. For details, see **2.13.3.6.1 Configuring Outbound Call Data**.

Step 10 Return to the **Call Mgmt** tab page, select the new outbound call task, and click **Start** to start the outbound call task.

----End

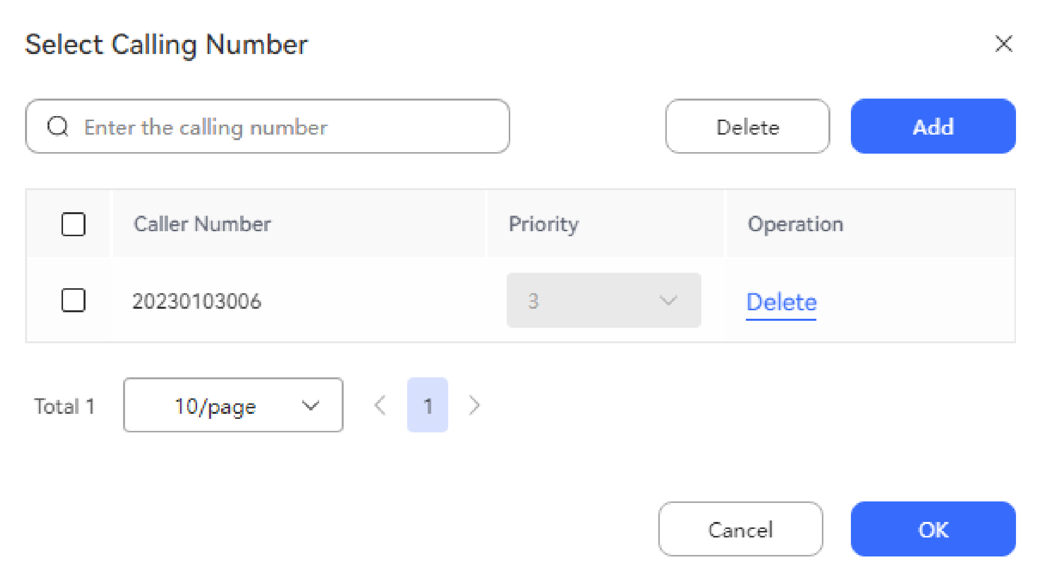
Follow-up Procedure

You can click **Suspend** to modify an outbound call task.

After the task is suspended, you can click **Edit** to modify the outbound call task. The procedure for changing the calling number is as follows:

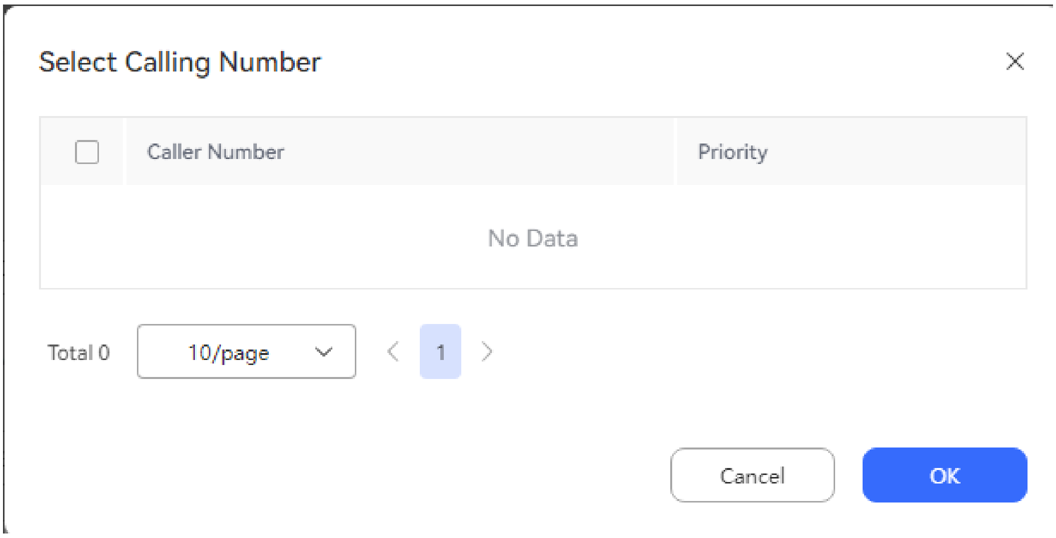
1. Click **Caller Number**. The page for selecting a calling number is displayed. The selected calling number is displayed by default.

Figure 2-324 Select Calling Number



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 2-325 Adding Calling Numbers



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.

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 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.

2.13.3.6.1 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 Select an unreleased outbound call task and click **Outbound Call Data**. The page for configuring outbound call data is displayed.

Table 2-97 Parameters for configuring an outbound call data attribute

Parameter	Description
Session Number	Unique ID of a customer. If multiple **Available Calls** options are configured for a single **Session Number**, the call is considered complete as long as the call to any number is successful. In this case, the system does not call other numbers under the current **Session Number**.
Service Number	Service Number
Available Calls	Number of called numbers under the same ID.
Operation	Operations that can be performed. • Details • **Modify** • **Delete**

Step 3 (Optional) Click **Configure Attribute** and configure attributes by referring to **Configuring Outbound Call Data Attributes**.

Step 4 Configure outbound call data.

You can configure outbound call data by referring to **Adding Outbound Call Data Records One by One**, **Importing Outbound Call Data**, or **Adding Outbound Call Data Through Scheduled Import**. Select a data configuration mode as required.

Step 5 (Optional) Select the configured outbound call data and click **Details** to view details about the outbound call data. Click **Modify** to modify configuration items other than **Session Number**. Click **Delete** to delete outbound call data records one by one. Select multiple outbound call data records and click **Delete** on the top to delete them in batches.

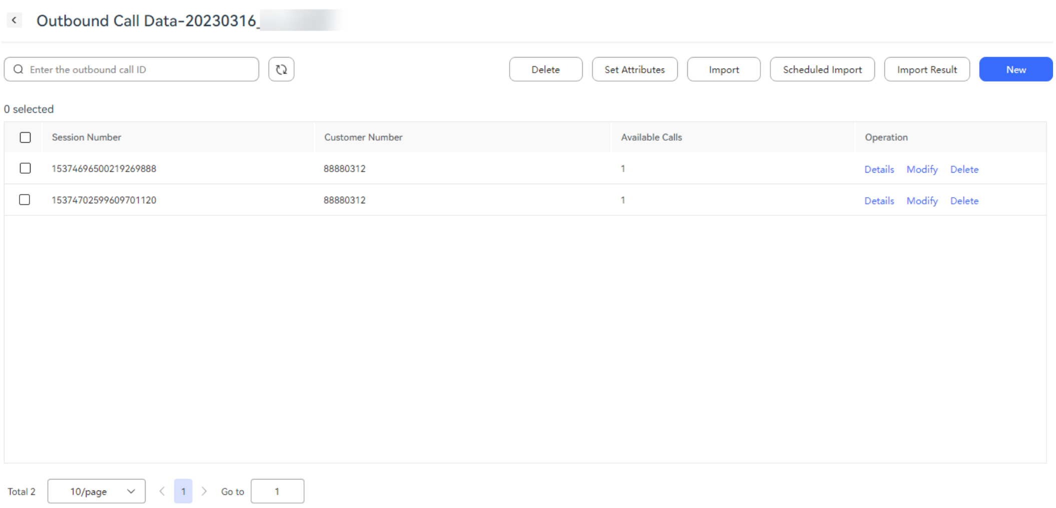
----End

Configuring Outbound Call Data Attributes

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Select an unreleased outbound call task and click **Outbound Call Data**. The page for configuring outbound call data is displayed.

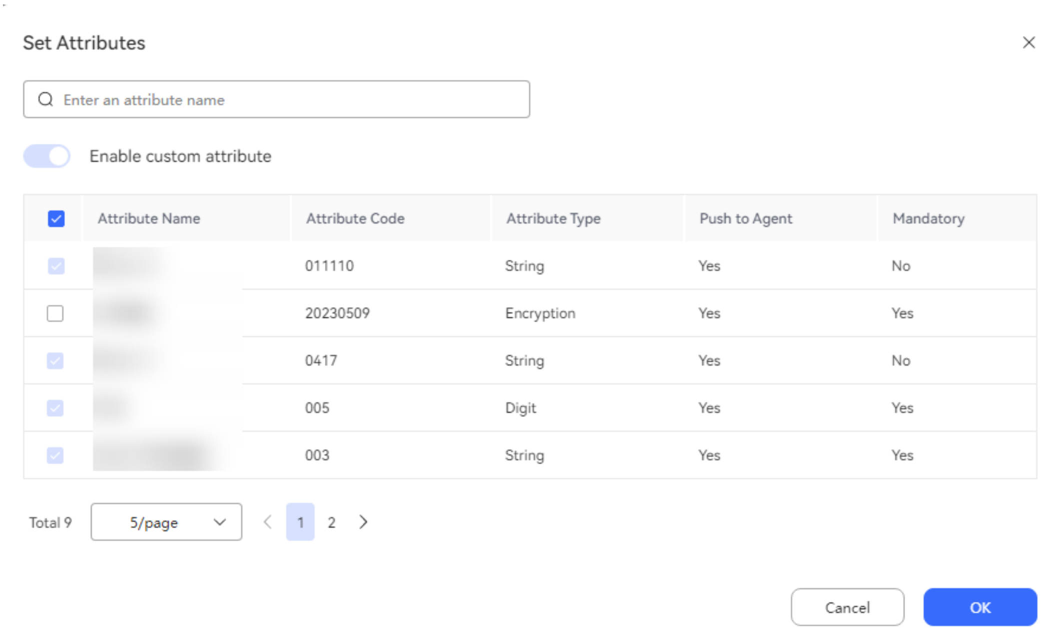
Figure 2-326 Outbound Call Data



Step 3 Click **Configure Attribute**.

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 **Enable custom attribute**.
3. Select the attributes to be configured as required.

Figure 2-327 Configure Attribute



NOTE

- If **Enable custom attribute** is disabled, attributes do not need to be set for the outbound call data.
- If **Enable custom attribute** is enabled but no attribute is selected, attributes whose **Mandatory** is **Yes** need to be set for the outbound call data.
- If **Enable custom attribute** is enabled and attributes are selected, the selected attributes need to be set for the outbound call data.

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.

Importing Outbound Call Data

Step 1 Choose **Outbound Call** > **Call Mgmt**.

Step 2 Select an unreleased outbound call task and click **Outbound Call Data**. The page for configuring outbound call data is displayed.

Step 3 Click **Import** and set import parameters.

Figure 2-328 Import

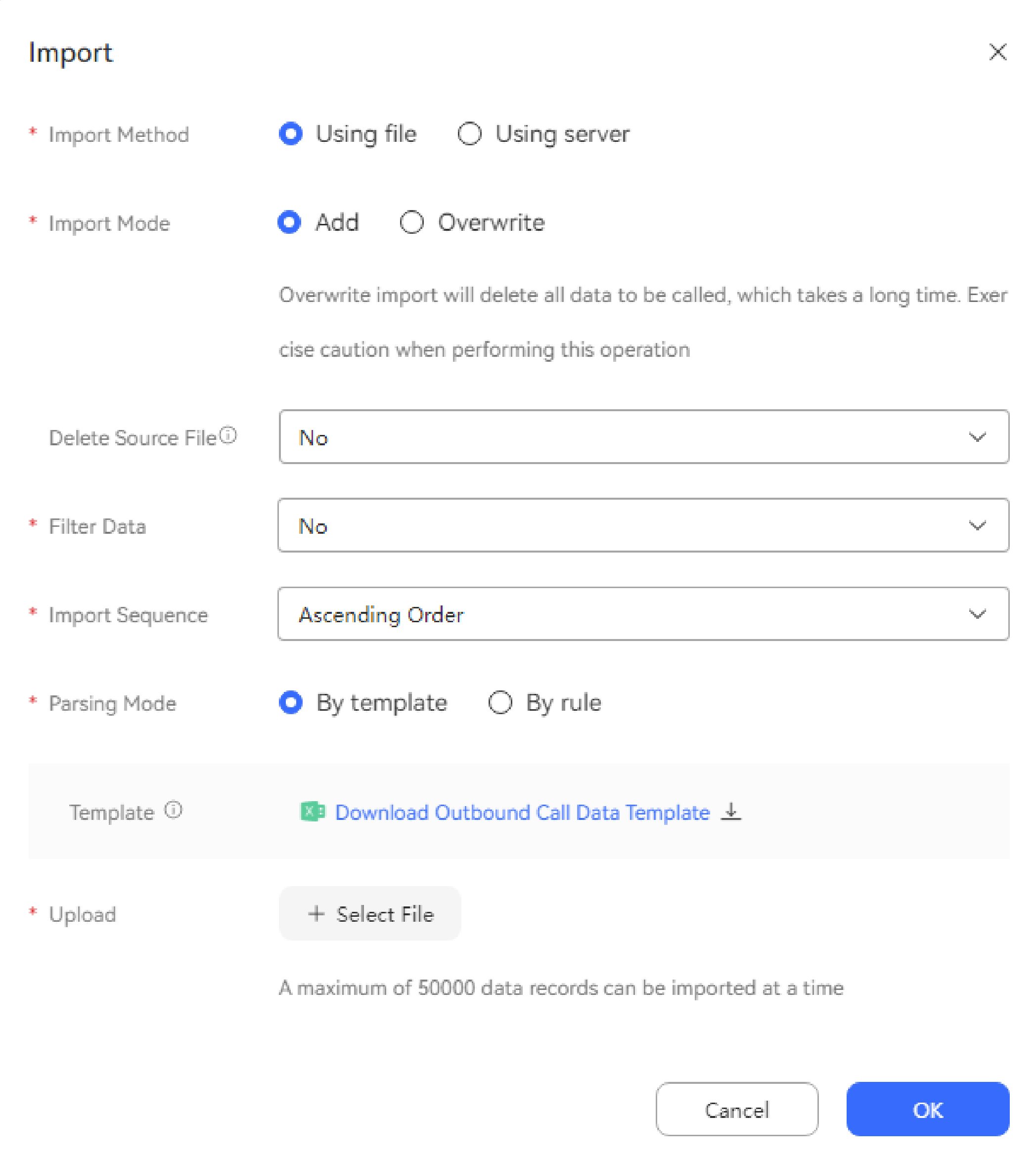


Table 2-98 Parameters for importing outbound call data

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.

<table>
<tr><th>Parameter</th><th>Description</th></tr>
<tr><td>Import Mode</td><td>Data processing mode when outbound call data with the same file name is imported.
The options are as follows:
Add: The original file is not deleted, and the new data is added.
Overwrite: The original data is overwritten, and the new data is uploaded.</td></tr>
<tr><td>Filter Data</td><td>Whether to filter outbound call data before uploading it.
The options are as follows:
No: This is the default value.
Yes For details about how to configure filter rules, see (Optional) Configuring Filter Rules.</td></tr>
<tr><td>Data Import Sequence</td><td>The options are as follows:
Ascending Order
Descending Order</td></tr>
<tr><td>Parsing Mode</td><td>Data parsing mode.
The options are as follows:
By template
By rule</td></tr>
<tr><td>Download Outbound Call Data Template</td><td>Download the template when Parsing Mode is set to By template.
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 2-329 Import template for the global policy<table><tr><td>Session Number</td><td>First Called Number</td><td>First Called Number Interval</td><td>Second Called Number</td><td>Second Called Number Interval</td></tr><tr><td>123456789</td><td>123456789</td><td>0</td><td>456789123</td><td>1</td></tr></table>
Figure 2-330 Import template for the contact policy<table><tr><td>Session Number</td><td>First Called Number</td><td>First Called Number Category</td><td>First Called Number Interval</td><td>Second Called Number</td><td>Second Called Number Category</td><td>Second Called Number Interval</td></tr><tr><td>123456789</td><td>123456789</td><td>TM</td><td>0</td><td>456789123</td><td>TO</td><td>1</td></tr></table></td></tr>
<tr><td>Mapping Rule</td><td>Select a configured mapping rule when Parsing Mode is set to By rule. For details about how to configure rules, see 2.13.2.9 Importing Mapping Rules.</td></tr>
<tr><td>Select a file.</td><td>Click and select a local file. The file storage period is seven days.</td></tr>
</table>

Parameter	Description
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 outbound call data file on the server 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 imported file 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 500,000 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.

Step 4 In the **Import Outbound Call Data** dialog box, set the required parameters, select the file generated 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 the value in the **Number of Failed Records** column to download and view failed outbound call data, and click the value in the **Number of Duplicate Records** column to download and view duplicate outbound call data.

Possible causes of import failures: number of numbers exceeding the maximum, incorrect separator, empty called number, empty interval, interval exceeding the range, empty number type, nonexistent number type, and blocklisted number.

NOTE

Import files in server mode. After the import is complete (successful or failed), the original files are moved to a new directory. The directory is created by date (the date directory is created in the default path of the outbound call file server), for example, 20230714.

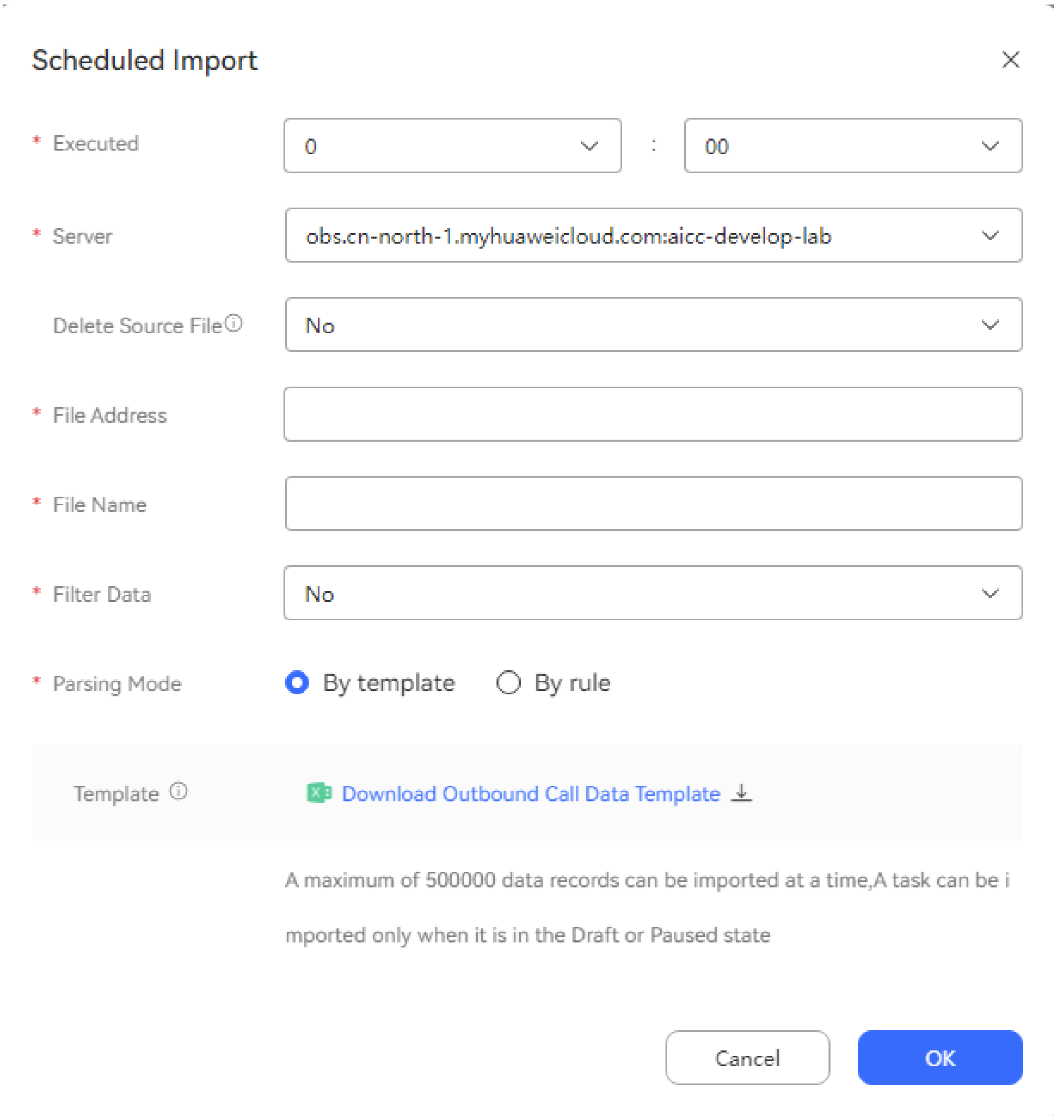
Pay attention to the disk space of the server in a timely manner to prevent import failures caused by full disk space.

----End

Adding Outbound Call Data Through Scheduled Import

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Outbound Call Data**. Click **Scheduled Import**.

Figure 2-331 Configure Scheduled Import



Step 2 Click **OK**.

NOTE

Scheduled import. After the import is complete (successful or failed), the original file is moved to a new directory. The directory is created by date (the date directory is created in the default path of the outbound call file server), for example, 20230714.

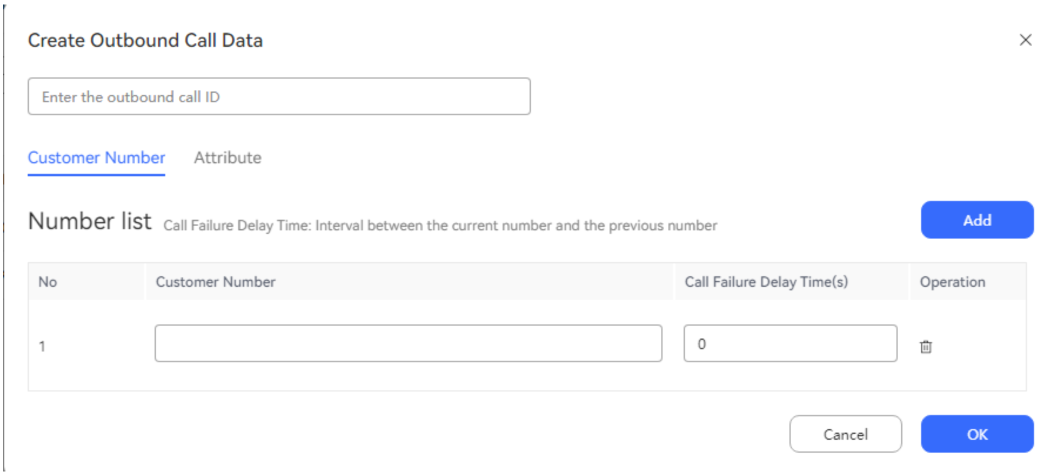
Pay attention to the disk space of the server in a timely manner to prevent import failures caused by full disk space.

----End

Adding Outbound Call Data Records One by One

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Outbound Call Data** in the **Operation** column. Click **New**. The following table describes the parameters for configuring outbound call data.

Figure 2-332 Create Outbound Call Data



For details about how to configure the attribute content, see **2.13.2.4 Defining Outbound Call Data Attributes**.

Step 2 Click **Save**. The message "The current number sequence is the call sequence. Please check the data again" is displayed. Click **Yes**.

----End

(Optional) Configuring Filter Rules

Step 1 Choose **Outbound Call** > **Call Mgmt** and click **Outbound Call Data** in the **Operation** column.

Step 2 Click **Import**. On the **Import Outbound Call Data** page, set **Filter Data** to **Yes**, and click **Configure Filter Rule**.

Figure 2-333 Import Outbound Call Data

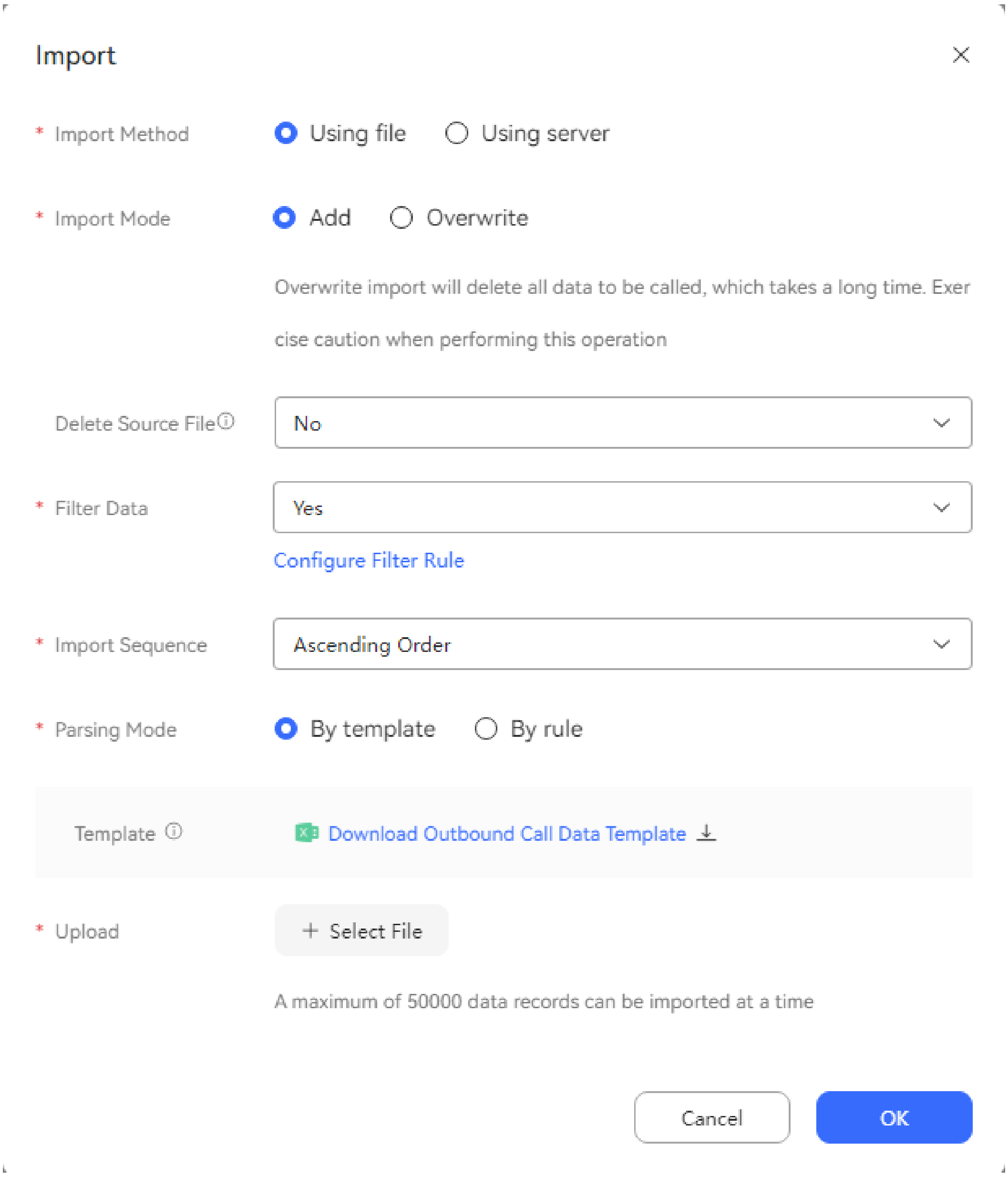
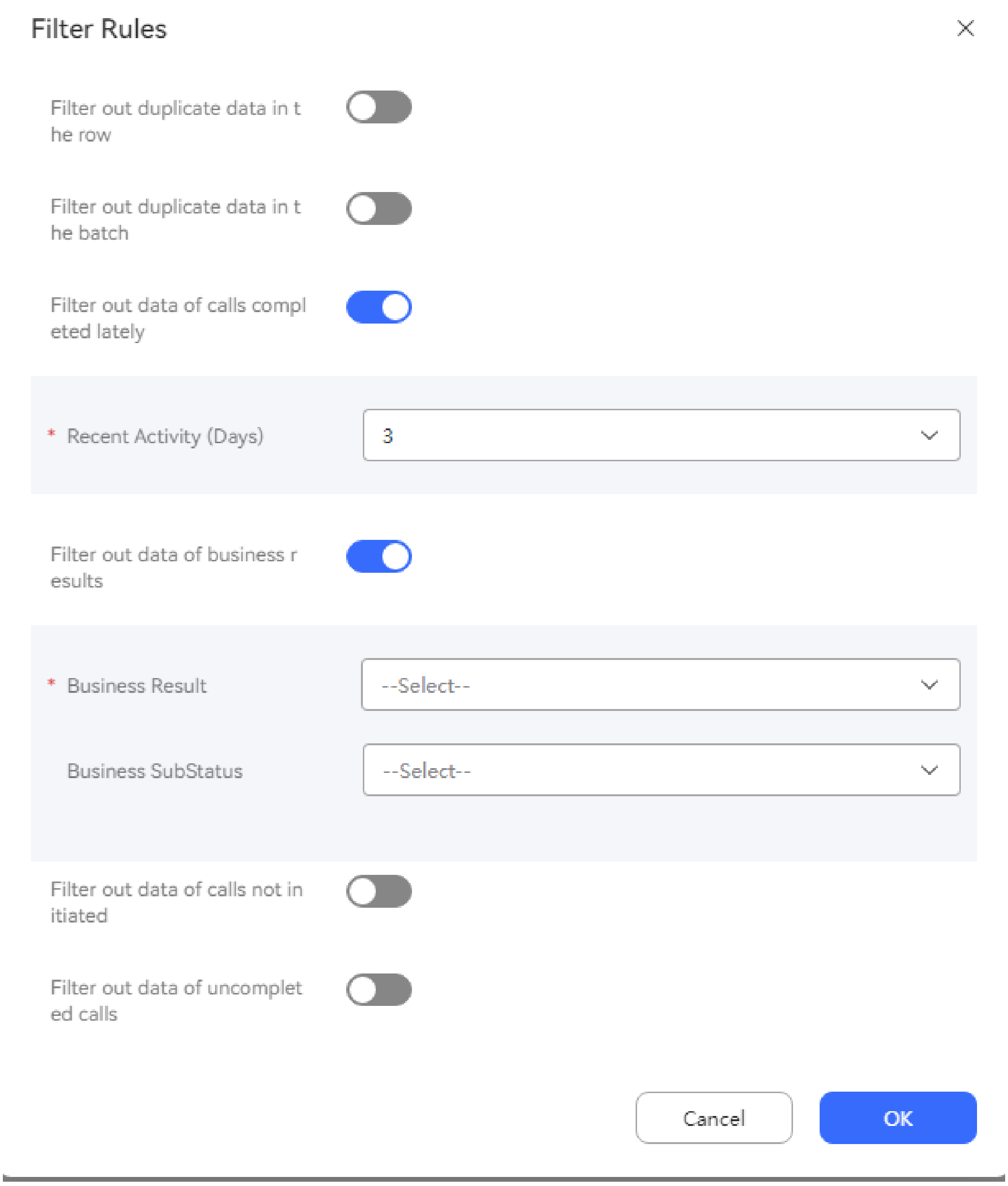


Figure 2-334 Filter Rules



Step 3 Enable required filtering rules and click **OK**.

----End

(Optional) Adding Watermarks

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant Parameter** from the navigation pane. On the **Tenant Parameter** page, choose **Tenant parameters** > **Unified Public Configuration**, the common configuration items are displayed.

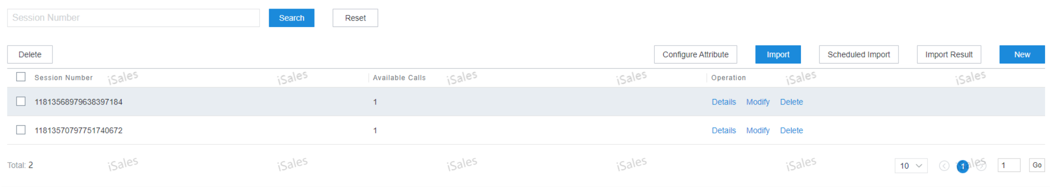
Step 3 Set watermark parameters.

- **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**, select an outbound call task, and click **Outbound Call Data** to go to the outbound call data management page to view the watermark effect.

Figure 2-335 Outbound call data



----End

2.13.3.6.2 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 Details**. View the list of reserved outbound calls associated with the current outbound call task. The following table describes the parameters in the list.

Table 2-99 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Number used for a reserved call.
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

Parameter	Description
Result	Call result. ● Failed ● Successful ● Reject
Failure Cause	Cause of a call failure.
Business Result	Business result of the call.
Substate	Sub-status of the business result.
Business Description	Description of the business result.
Operation	● Modify ● Adjustment Record ● Play

Step 3 Click **Query** to query desired outbound calls.

Table 2-100 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
Task Name	Name of the associated outbound call task. Fuzzy query is supported.
Start Time/End Time	Start time/End time.
Query Archived Data	Determines whether to query the archived reserved outbound call data of the outbound call task.
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

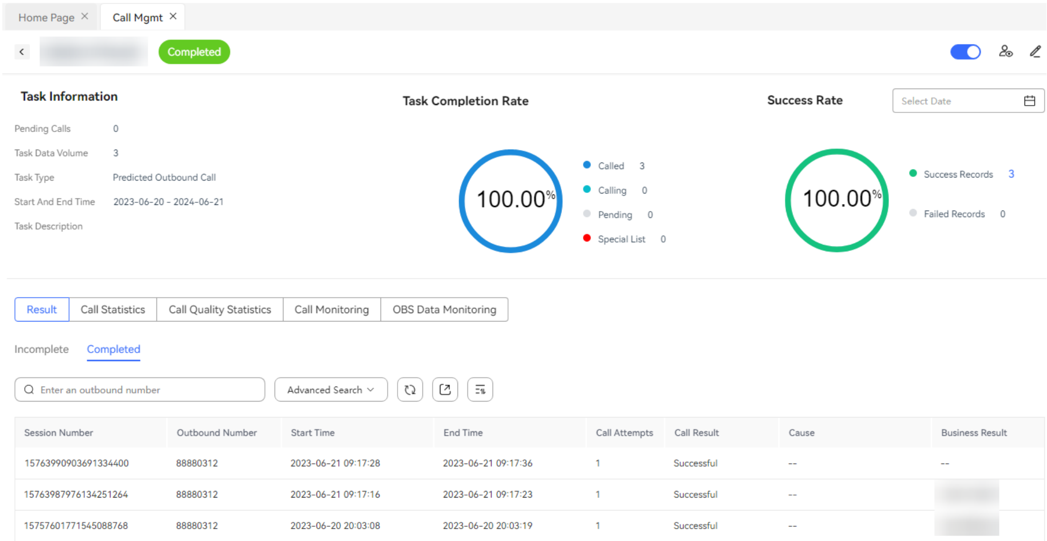
2.13.3.6.3 Viewing Outbound Call Results

Tenant administrators can view the execution results of all outbound call tasks.

Procedure

Step 1 Choose **outbound call task** > **outbound call task management**, and click a **task**. On the outbound call task details page, click the outbound call result to view the outbound call result of each customer.

Figure 2-336 Outbound Call Details Page - >Outbound Call Result



Step 2 Click **Details** to view the call details of the called number. The following table lists the details.

Table 2-101 Parameters in the outbound call result details list

Parameter	Description
Outbound Number	Number.
Status	Status of a call. ● **Executing** ● **Completed**
Start Time	Time when a call starts.
End Time	Time when a call ends.
Call Result	Call result. ● **Failed** ● **Successful** ● **Reject**
Business Result	Business result of a call.
Business SubStatus	Substatus of a business result.

Parameter	Description
Operation	Operations on a single outbound call result. ● **Business result** ● **Business result log**

NOTE

The outbound call data attributes configured in the **Configuring Outbound Call Data Attributes** are displayed next to the Operation column.

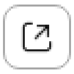
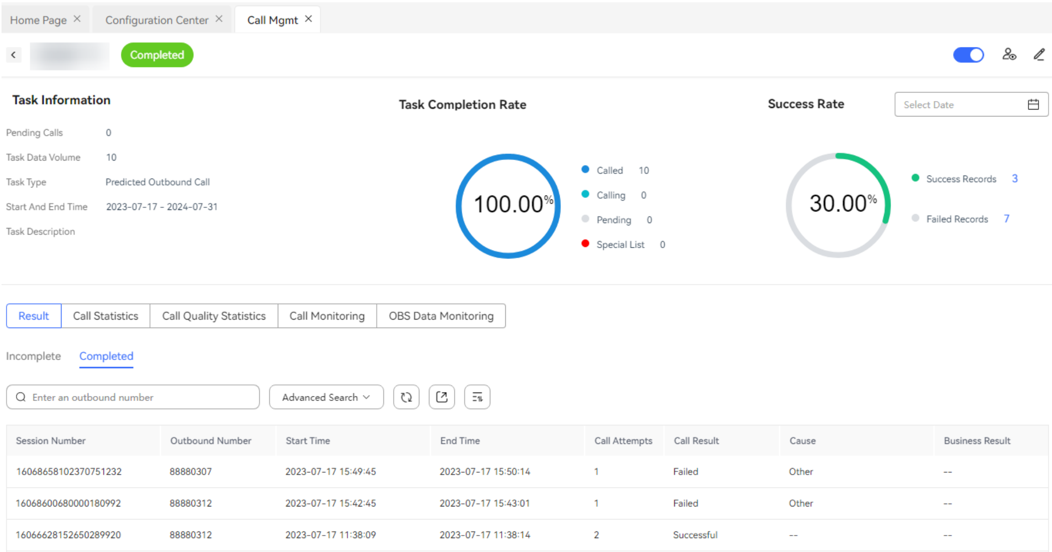
Step 3 The administrator can click a task line to access the outbound call result page and click  to export the task result.

Figure 2-337 Exporting Outbound Call Results



NOTE

If the outbound call type is **Intelligent Outbound Call** and intelligent Q&A intentions are set, a ZIP package password must be set during call record export.

----End

Follow-up Procedure

Watermarks can be displayed on the outbound call task result page.

Step 1 Choose **Call Center Configuration** > **Settings**.

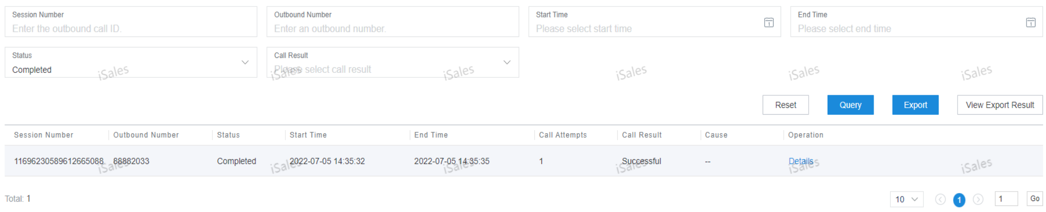
Step 2 Choose **Tenant Parameter** from the navigation pane. On the **Tenant Parameter** page, choose **Tenant parameters** > **Unified Public Configuration**, the common configuration items are displayed.

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**, select an outbound call task, and click **Task Result** to go to the outbound call task result page to view the watermark effect.

Figure 2-338 Outbound call results



----End

2.13.3.6.4 Viewing Survey Statistics

Tenant administrators can view survey answer statistics.

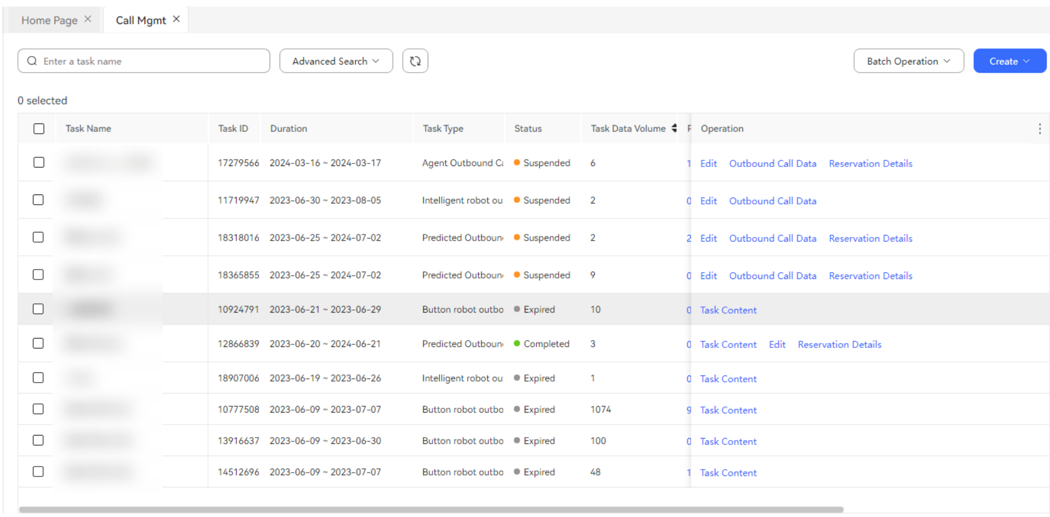
Prerequisites

- A survey has been configured for an outbound call task.
- The outbound call task is being executed or has been completed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Figure 2-339 Task management page



Step 2 Select an outbound call task that is being executed or has been completed, and click **Respondent Statistics**.

----End

2.13.3.7 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.

2.13.4 Querying Intelligent Outbound Call Records

Tenant administrators can view call records of outbound call tasks.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Call Mgmt**.

Step 2 Find the outbound call task that is not in the draft state and click the task to go to the outbound call task details page.

Step 3 On the outbound call task details page, click the outbound call result, select Completed, and view the outbound call result.

Step 4 Click a call record in the outbound call result to view the call record.

Step 5 Click **Export** to export call records.

NOTE

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

Step 6 Click **to view the export result**, select the successfully exported records, and click **to download the** file.

----End

Follow-up Procedure

Watermarks can be displayed on the exported outbound call result file.

Step 1 Choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Step 2 Choose **Tenant Parameter** from the navigation pane. On the **Tenant Parameter** page, choose **Tenant parameters** > **Unified Public Configuration**, the common configuration items are displayed.

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**.

----End

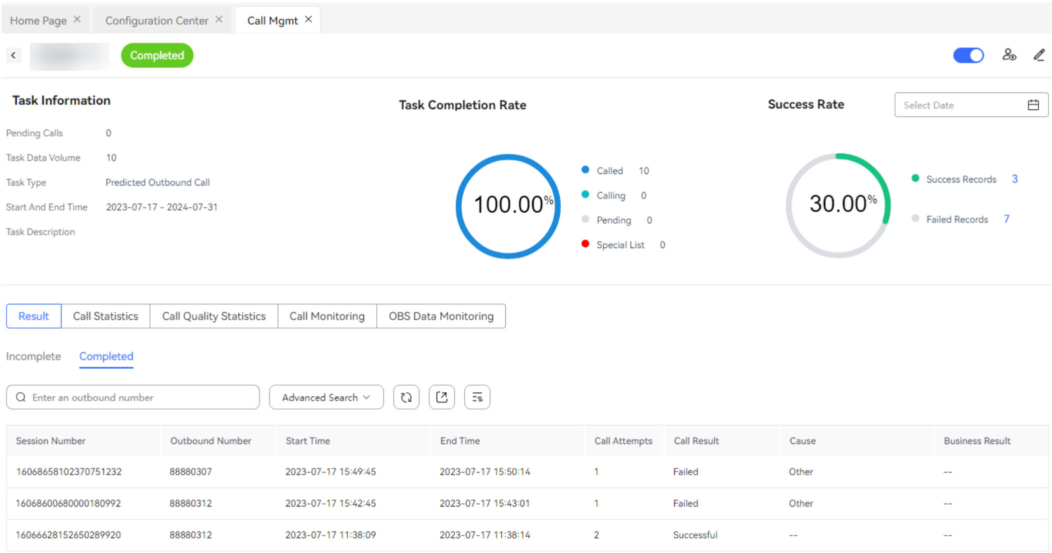
2.13.5 Monitoring Outbound Call Tasks

Tenant administrators can monitor outbound call tasks. They can select and click an outbound call task to go to the outbound call task details page. The basic information about the outbound call task is displayed on the left, the task completion rate is displayed in the middle, and the task success rate and feedback rate are displayed on the right, the lower part displays the call statistics, call quality statistics, call monitoring, and OBS data monitoring information.

Procedure

Step 1 Log in to the AICC as a tenant administrator, choose **Outbound Call Task > Outbound Call Task Management**, and click an outbound call task to access the outbound call task details page.

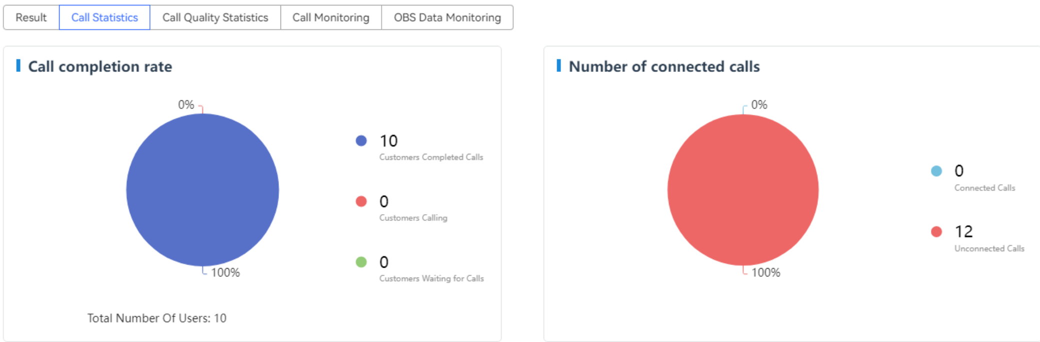
Figure 2-340 Outbound call task details page



- Task completion rate: View the execution status of the outbound call task, including the number of samples that have been called, the number of samples that are being called, the number of samples that have not been called, the number of special list samples, and the completion rate (number of called samples/total number).
- **Success Rate**: statistics on successful and failed outbound calls.
  - If the number of successful records is not 0 and is clicked, a dialog box is displayed, showing the business result and quantity in a bar chart.
  - If the number of failed records is not 0 and is clicked, a dialog box is displayed, showing the external outbound call failure cause and the number of failed calls. For details about external outbound call failure causes, see **2.13.2.5 Defining Outbound Call Results**.
  - Select Date: daily statistics. By default, this check box is not selected, that is, all the outbound call results in the task are displayed. If you select it, you can specify a statistics date.
- **Feedback Rate**: collects statistics on the number of valid answered calls and the number of successful calls. Click the drop-down arrow to switch to the feedback rate (available only for intelligent outbound calls).
  - Select Date: daily statistics. By default, this check box is not selected, that is, all the feedback statistics in the task are displayed. If you select it, you can specify a statistics date.

Step 2 View call statistics. Click Call Statistics in the lower part. (This parameter is available only for predicted, previewed, and preempted outbound calls.)

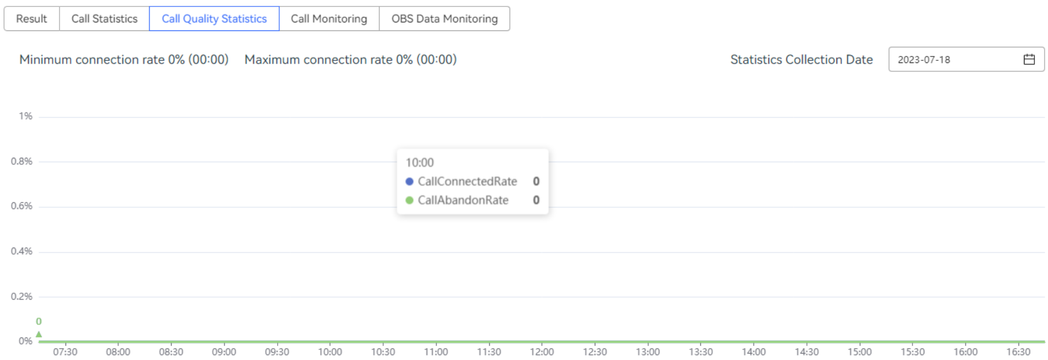
Figure 2-341 View call statistics.



- The outbound call task progress is displayed, including the total number of users (text), call completion rate (pie chart), number of connected users/ number of unconnected users (pie chart), contact rate (ring chart), call completion rate (ring chart), and call abandonment rate (ring chart).

Step 3 View call quality statistics. Click Call Quality Statistics in the lower part. (This parameter is available only for predicted, previewed, and preempted outbound calls.)

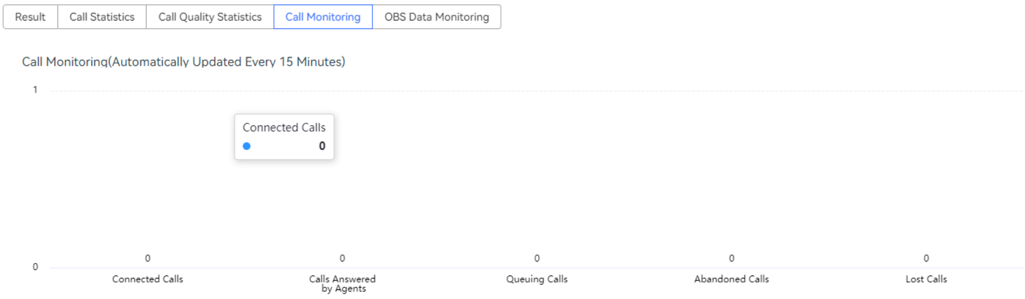
Figure 2-342 Call Quality Statistics



- Displays the user connection rate and user abandonment rate, including the user connection rate and user abandonment rate (line chart). You can select a specific date but cannot select a time earlier than the task start time or later than the current day.

Step 4 View call monitoring information. Click Call Monitoring in the lower part. (This parameter is available only for predicted outbound calls.)

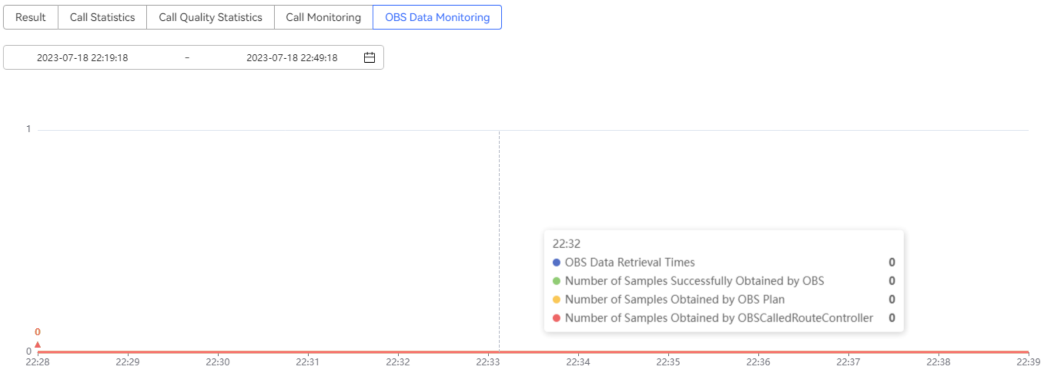
Figure 2-343 Call monitoring



- The monitoring graph of the task is displayed. The monitoring graph is refreshed every 15 minutes and displays the following information in a bar chart: number of connected calls, number of calls answered by agents, number of calls waiting in queues, number of abandoned calls, and number of lost calls.

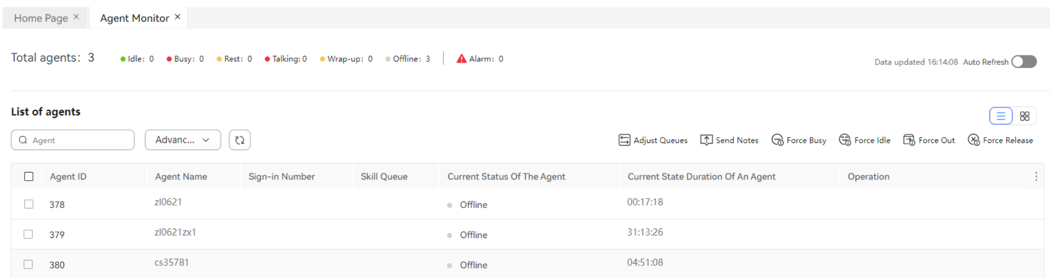
Step 5 View the OBS data monitoring. Click OBS Data Monitoring in the lower part. (This page is available only for forecast, preview, and preempted outbound calls.)

Figure 2-344 OBS Data Monitoring



Step 6 View agent monitoring information. Click the agent monitoring button in the upper right corner. The agent monitoring page is displayed.

Figure 2-345 Agent monitoring



----End

2.13.6 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 2-102 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.	This method is cost-effective, because agent participation is not required.

You can create and manage multimedia marketing tasks for target customers.

2.13.6.1 Configuring Multimedia Marketing Tasks

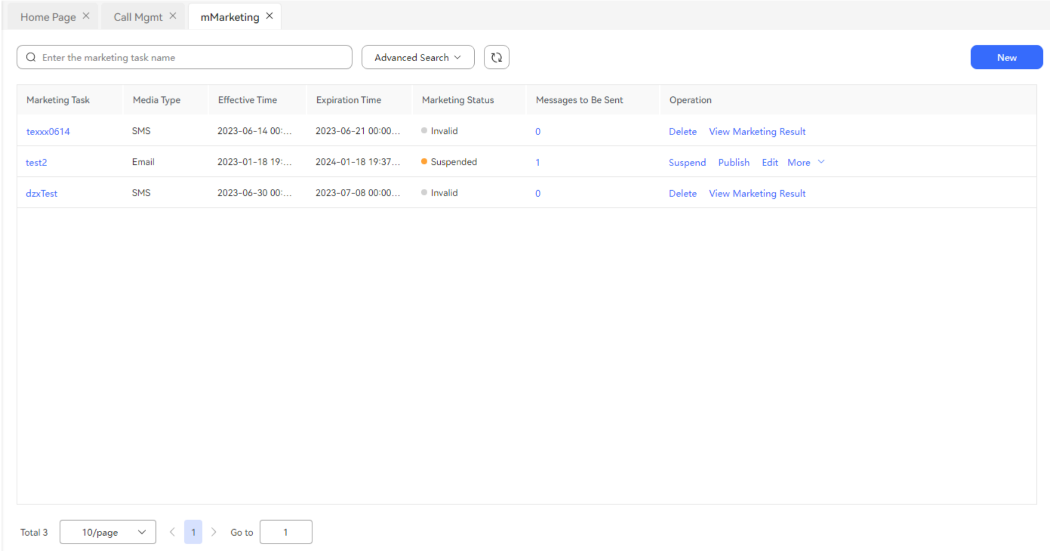
Multimedia marketing tasks support SMS marketing and email marketing. Tenant administrators can configure multimedia marketing tasks as required.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 View the created multimedia marketing tasks in the list.

Figure 2-346 Multimedia Marketing Management



Step 3 Click **New**. On the **Create Multimedia Marketing Task** page, configure marketing task information.

Figure 2-347 Basic information

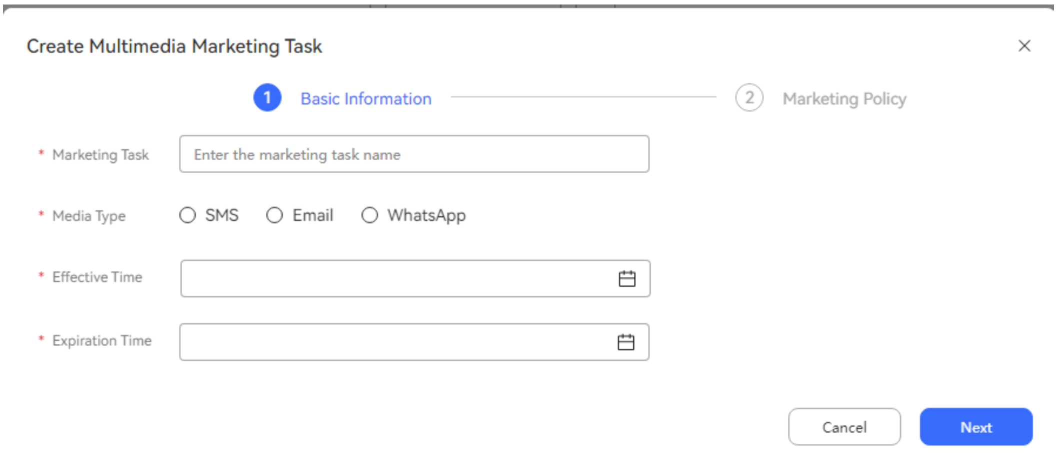
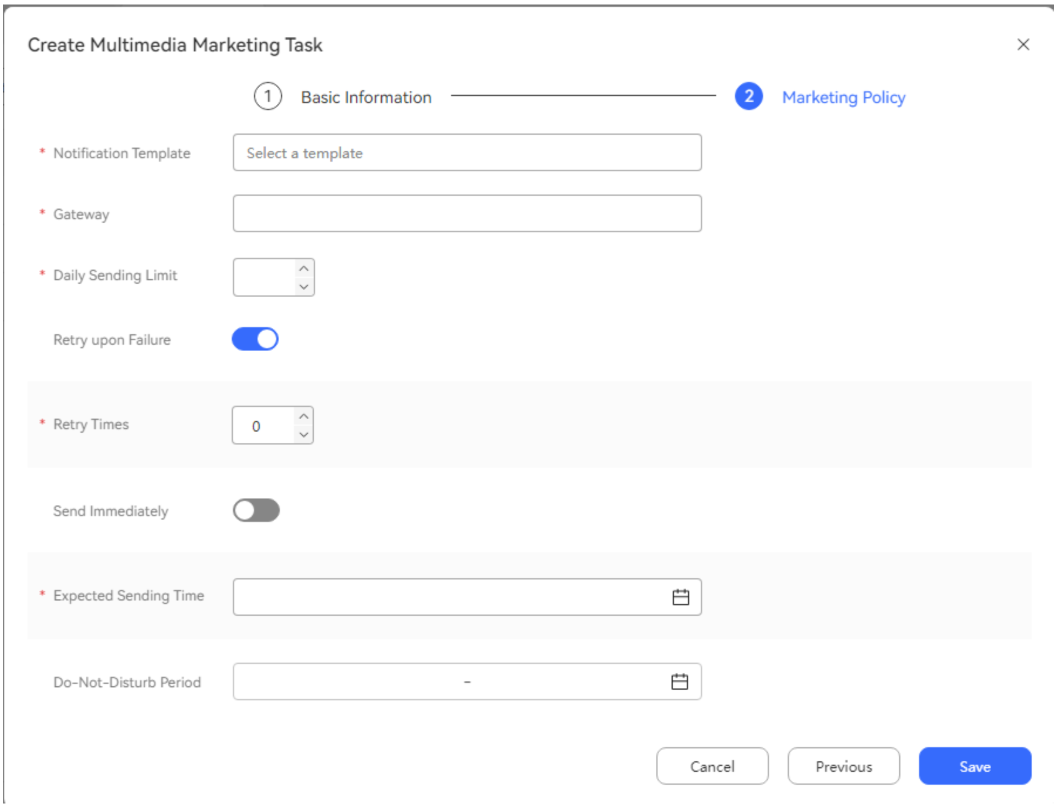


Figure 2-348 Marketing Policy



The supported media types of multimedia tasks are as follows:

- **SMS**: Marketing activities are carried out by SMS message. Huawei Cloud SMS and SMS gateway templates are supported.
  - For details about how to configure the marketing notification template, see **Configuring Notification Templates as an Administrator**.
  - You need to configure a gateway for the template type of the SMS gateway. For details about how to configure the gateway, see **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 the marketing notification template, see **Configuring Notification Templates as an Administrator**.
  - For details about how to configure the gateway, see **Configuring SMS Gateways**.
- **WhatsApp**
  - For details about how to configure the WhatsApp channel, see **Configuring the WhatsApp Channel**.
  - For details about how to configure WhatsApp template messages, see **Managing the Multimedia Library**.

Step 4 Click **Save**. The multimedia marketing task is created successfully.

Step 5 Return to the **mMarketing** tab page and click **Import Data** to import data.

Step 6 Return to the **Multimedia Marketing Management** tab page and click **Publish** to publish a marketing task.

----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.

2.13.6.2 Viewing Multimedia Marketing Results

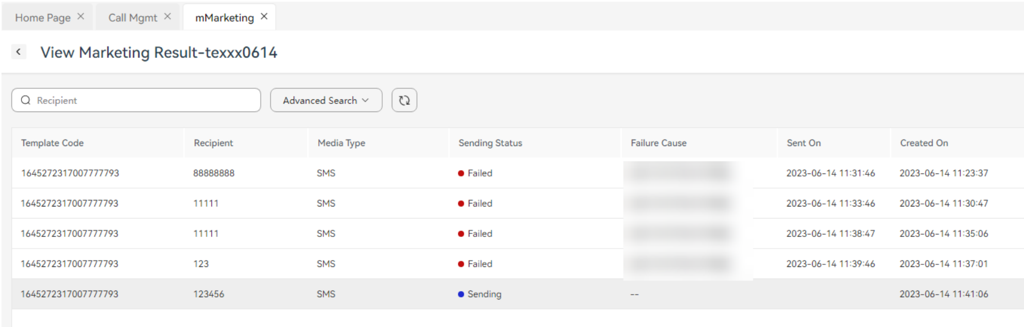
An agent can view the result of a single multimedia marketing task on the iSales task list page.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **mMarketing**.

Step 2 Click **View Marketing Result**.

Figure 2-349 Multimedia marketing result page



You can perform a query 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: Set the recipient number and email address, and press **Enter**.

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

2.13.6.3 Configuring Multimedia Marketing Data

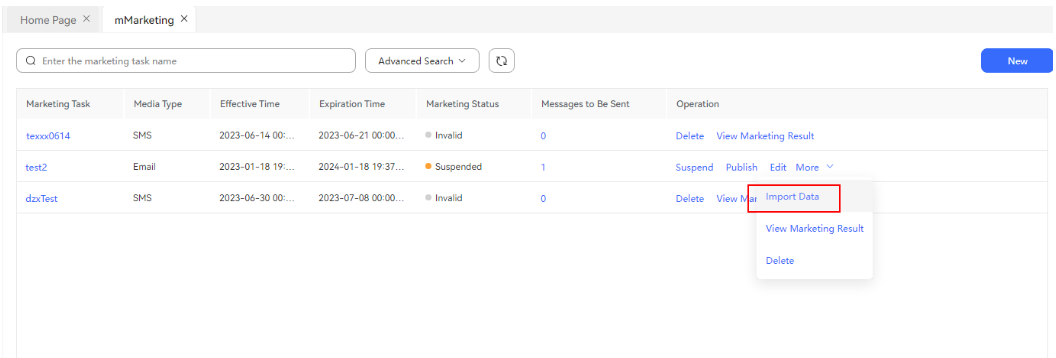
Marketing data of multimedia marketing tasks can be added one by one or imported in batches.

Import Marketing Data

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 2-350 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.

Figure 2-351 SMS import template

Recipient number	Name	Sex
123456789	123456	Male

Figure 2-352 Email import template

Email Address	Name
xxx@xxx.com	123456

NOTE

Set the cell format of the imported file to text. If you import data using a file, a maximum of 10000 records can be imported at a time. If you import data using a server, a maximum of 500000 records can be imported at a time. It is recommended that a maximum of 50000 records be imported at a time. Otherwise, the outbound call rate may be affected.

When the template selected for a marketing task has variables, the template to be imported has the corresponding variables.

Step 3 In the **Import Marketing Data** dialog box, set the required parameters, select the template created 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 **Number of Failure Records** to download and view the failed outbound call data, and click the **Number of Duplicate Records** to download and view the duplicate outbound call data.

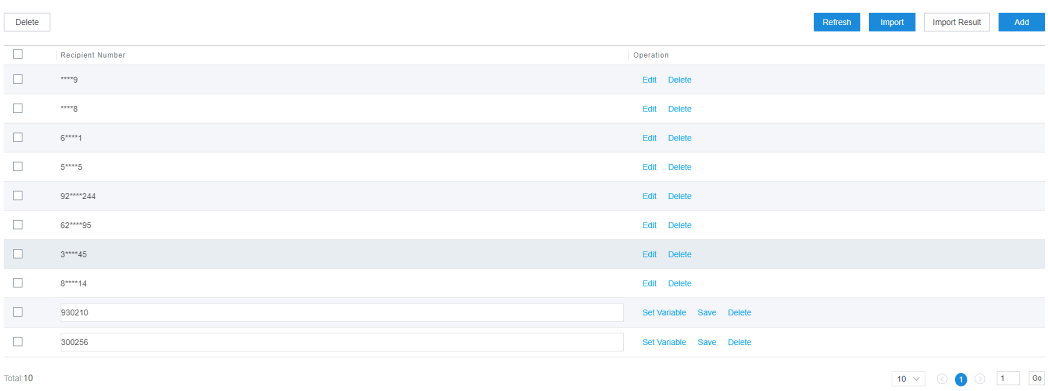
----End

Adding Marketing Data Records Individually

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.

Figure 2-353 Page for adding the multimedia 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

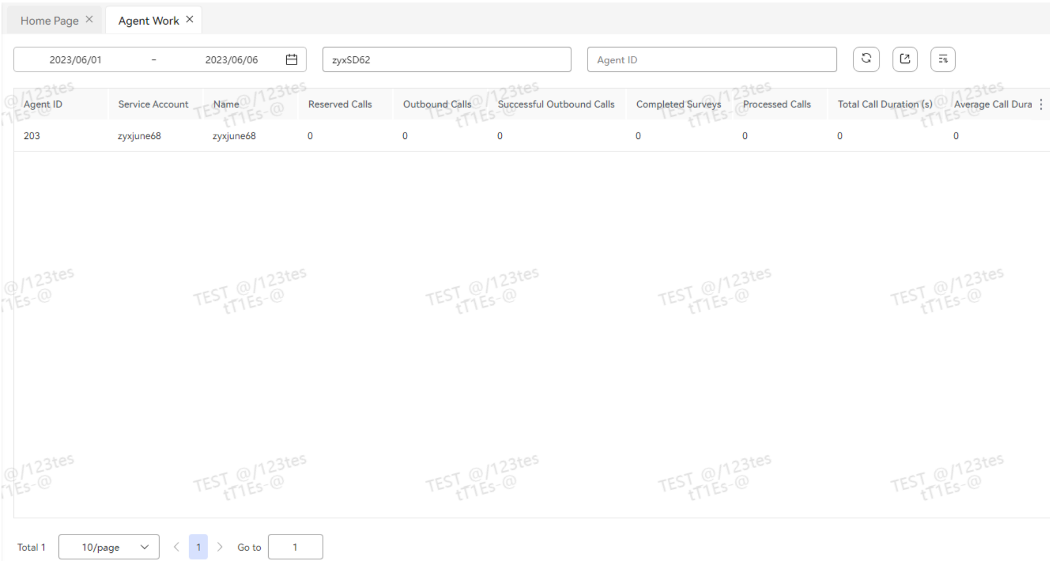
2.13.7 Agent Work Statistics

You can view agent work statistics by outbound call task or agent.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **Agent Work**.

Figure 2-354 Agent Work page



Step 2 Select a start time, an end time, and an outbound call task or agent whose statistics are to be collected.

NOTE

The time range is less than or equal to seven days.

Select at least one outbound call task or agent.

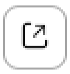
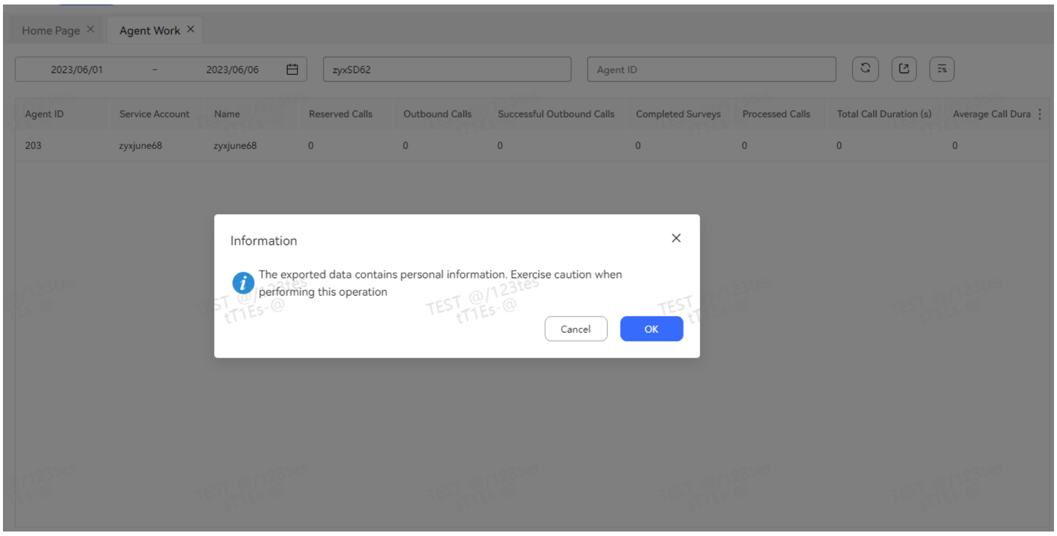
Step 3 If the query is successful, click . The message "The exported data contains personal information. Exercise caution when performing this operation" is displayed, as shown in **Figure 2-355**. After you click **OK**, the message "The export task list has been created. Do you want to view it in the export list?" is displayed.

Figure 2-355 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 CSV file.

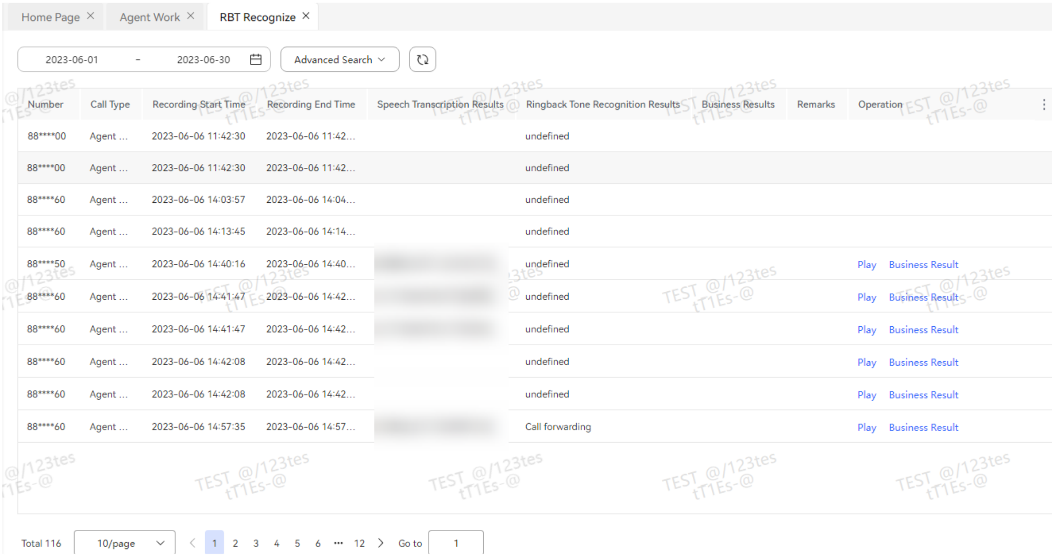
Figure 2-356 Exporting a CSV file

----End

2.13.8 Ringback Tone Recognition

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call** > **RBT Recognize**.

Figure 2-357 RBT Recognize page



- **Start Time**: Set the recording start time for query.
- **End Time**: Set the recording end time for query.
- Outbound number: Enter a 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 ringback tone recognition results. Click **Play** to play the record of a CDR.

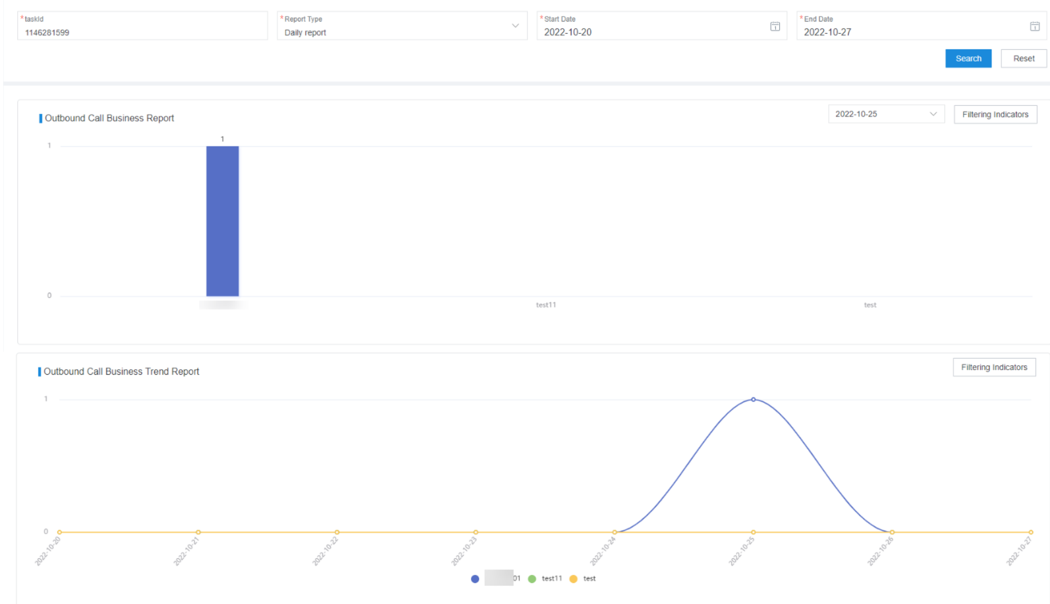
Step 5 Click **Business Result**. If the business result of the current data is edited, the updated business result is displayed in the list.

----End

2.13.9 Outbound Call Business Report

Step 1 Sign in to the AICC as a tenant administrator and choose **Outbound Call Task** > **Outbound Call Business Report**.

Figure 2-358 Outbound Call Business Report



- **Outbound Call Task**: name of an outbound call task.
- **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**: 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 to view the corresponding bar chart, and select a date, week, or month. Click **Filtering indicators** to view optional business results and select a maximum of eight business results.

Step 4 Select some business results to view the corresponding trend line chart. Click **Filtering indicators** to view optional business results and select a maximum of five business results.

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

2.14 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:

- Lightweight surveys can be used only by IVR flows. Only single-question surveys with a fixed number of options can be configured.
- Standard surveys can be used by intelligent outbound calls, IVR flows, and intelligent training businesses. Diversified surveys can be configured.

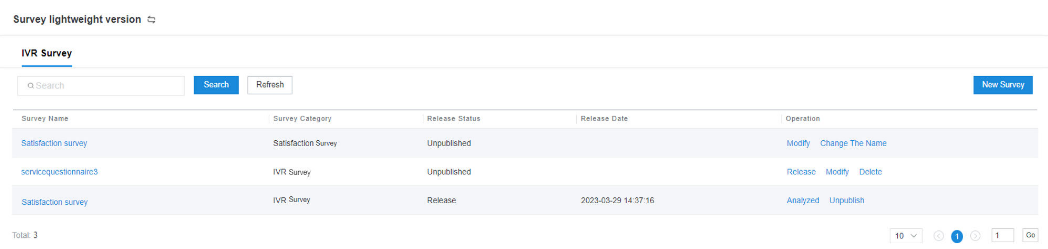
Prerequisites

To use the **Analyzed** function in the lightweight survey management, the commissioning in "Commissioning Guide > Commissioning Functions > Commissioning the Function of Pushing CDR Files and Satisfaction Results to Kafka and Elasticsearch" has been completed for the tenant space.

Configuring a Lightweight Survey

Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Survey Config**.

Figure 2-359 Lightweight survey management

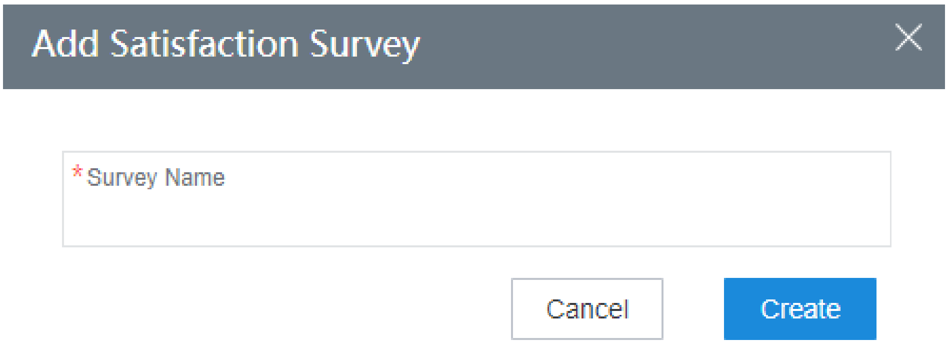


Step 2 (Optional) Click  to switch the survey edition as required.

Step 3 Click **New Survey**. The **Create Survey** page is displayed.

- **Satisfaction Survey**: Only one satisfaction survey can be created and cannot be deleted.
  a. Create a satisfaction survey. Configure the survey name.

Figure 2-360 Add Satisfaction Survey



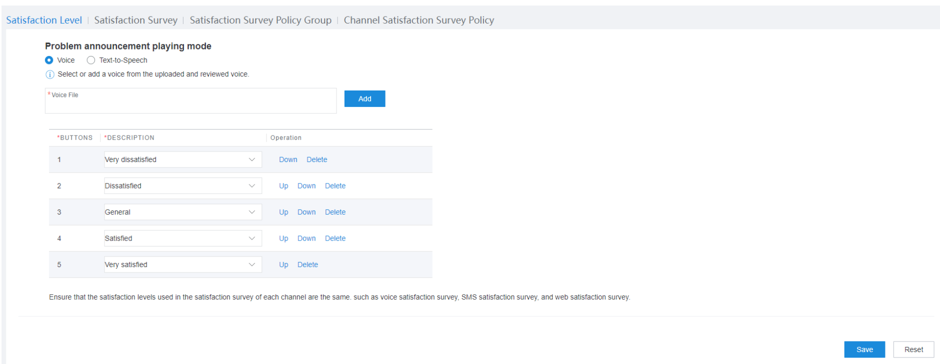
b. Click **Create** to save the survey information.

c. On the survey management page, click **Modify** corresponding to the new satisfaction survey, and configure the survey content.

d. Click the **Satisfaction Level** tab and configure satisfaction levels for the survey.

You need to configure the voice file of the IVR flow.

Figure 2-361 Satisfaction Level



- Click the **Voice File** selection box to select an uploaded and approved voice file.
- Click **Add** to upload a local voice file. After the system administrator approves the file, the file can be used.

e. For details about other configurations, see **2.4.3.2 Configuring Satisfaction Surveys**.

NOTICE

- After the satisfaction survey is released successfully, the settings on the **Configuration Center** > **Workbench Configuration** > **Satisfaction Survey** page cannot be modified. If the satisfaction survey is not created or released, the settings on the **Configuration Center** > **Workbench Configuration** > **Satisfaction Survey** page are not affected.
- If the satisfaction survey is not released and the settings are different from those on the **Satisfaction Survey** page, the settings of the satisfaction survey are used.

- **IVR Survey**

  a. Configure an IVR survey. For details, see **Table 2-103**.

Figure 2-362 Survey Content Configuration

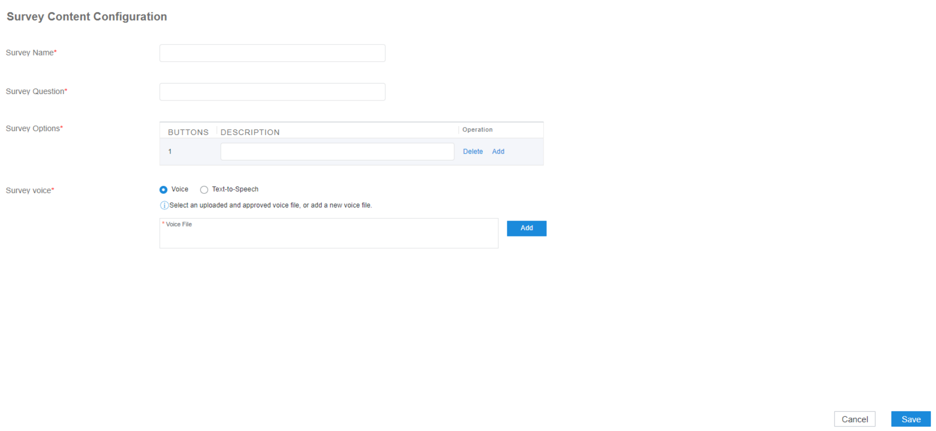


Table 2-103 GUI elements on the Survey Content Configuration page

Element	Description
Survey Name	The value can contain a maximum of 32 characters, including only letters and digits.
Survey Question	The value can contain a maximum of 256 characters.
Survey Options (A maximum of nine options can be added.)	
DESCRIPTION	The value can contain a maximum of 32 characters.
Operation	You can perform the following operations: ▪ **Add** ▪ **Delete**
Survey voice	

Element	Description
Voice type	Voice file type. The options are as follows: ▪ **Voice** ▪ **Text-to-Speech**
Voice File	Select a voice file that has been uploaded and approved in the IVR.
Add	Upload a new voice file. Only voice files whose **Usage Scenario** is **IVR** are supported. For details about how to configure a voice file, see **2.5.2 Configuring a Voice File**.

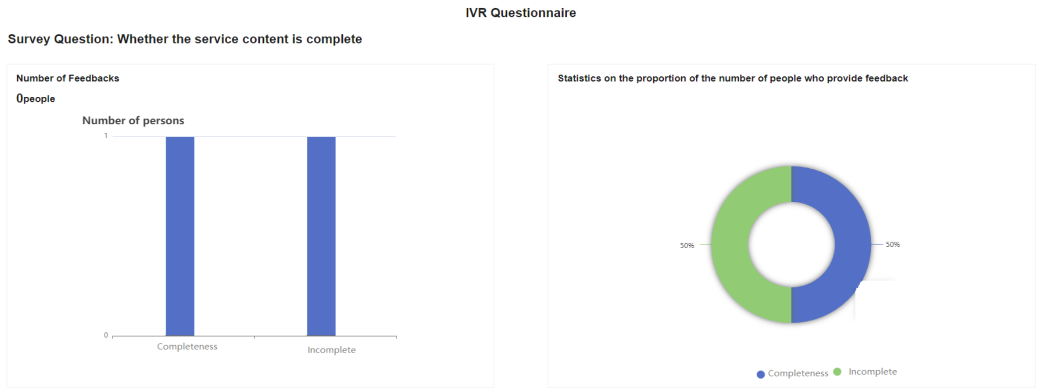
b. Click **Save**. The IVR survey is configured.

Step 4 Return to the survey management page and click **Release** corresponding to the new survey. After the survey is released, the IVR flow management side automatically creates and releases an IVR flow with the same name as the survey.

Step 5 (Optional) Click **Change The Name** corresponding to the satisfaction survey to change the survey name.

Step 6 Click **Analyzed** to view the usage of the survey in the IVR, including the respondent quantity statistics and respondent proportion statistics.

Figure 2-363 IVR survey statistics

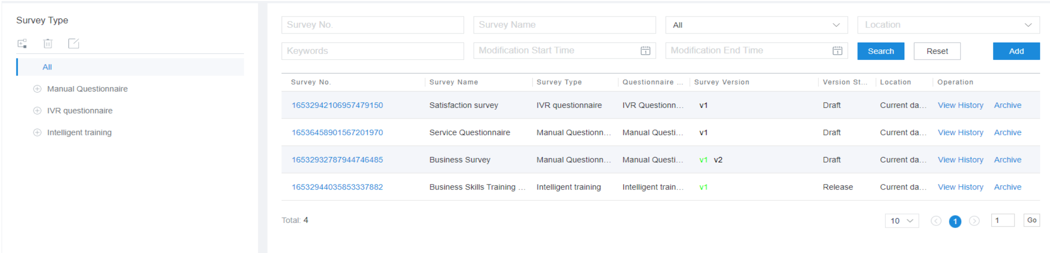


----End

Configuring a Standard Survey

Step 1 Sign in to the AICC as a tenant administrator and choose **Survey** > **Survey Config**.

Figure 2-364 Survey Config

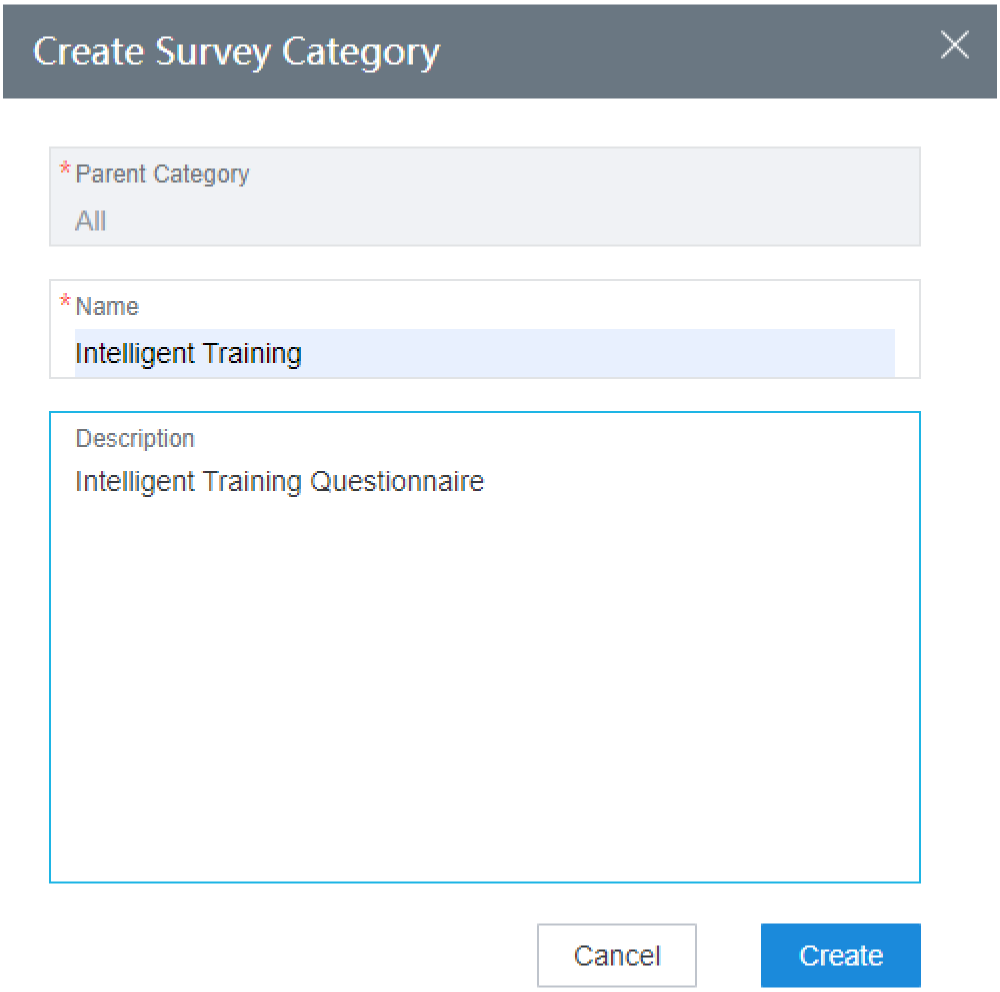


Step 2 (Optional) Click to switch the survey edition as required.

Step 3 Configure a survey category.

1. **All** is selected by default. Click . The **Create Survey Category** dialog box is displayed.
2. Configure the survey type.

Figure 2-365 Create Survey Category

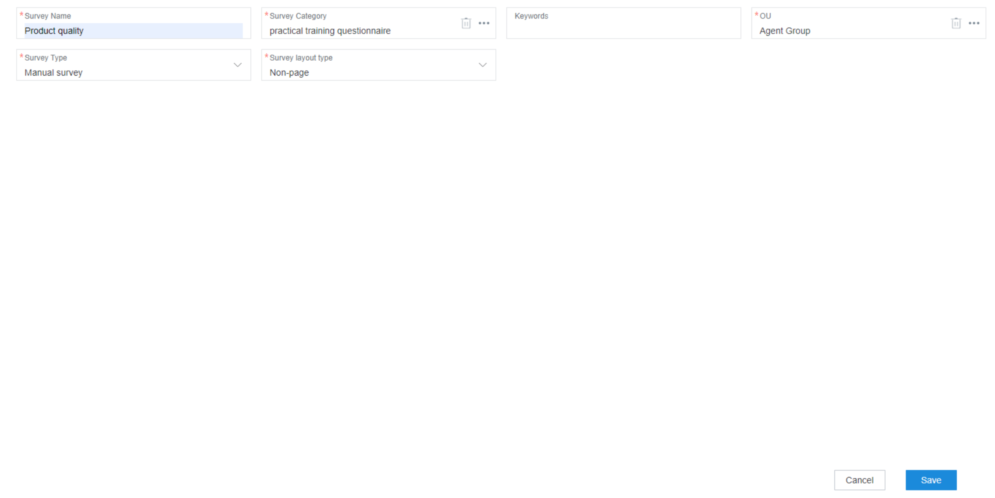


3. Click **Create**.

Step 4 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.

Figure 2-366 Create Survey



– **Survey Name**: (Mandatory) Survey name. Enter a value that contains a maximum of 32 characters.

– **Survey Category**: (Mandatory) Survey category. Select a created survey category.

– **Keywords**: Survey keywords.

– **OU**: (Mandatory) OU. Select a created OU. Surveys can be classified by OU.

– **Survey Type**: (Mandatory) Survey scenario. The options are **Manual survey**, **IVR Survey**, **Intelligent training**, and **Manual and IVR survey**.

– **Survey layout type**: (Mandatory) Survey layout. The options are **Non-page** and **Page**. Select a value based on **Survey Type**. The value can only be **Non-page** if **Survey Type** is set to **IVR Survey** or **Intelligent training**.

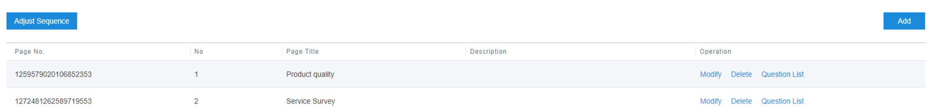
3. Choose **Save**.

Step 5 After the survey is added, go to the **Questionnaire Configuration** page.

- If **Survey layout type** is set to **Page**, you need to configure a page first.

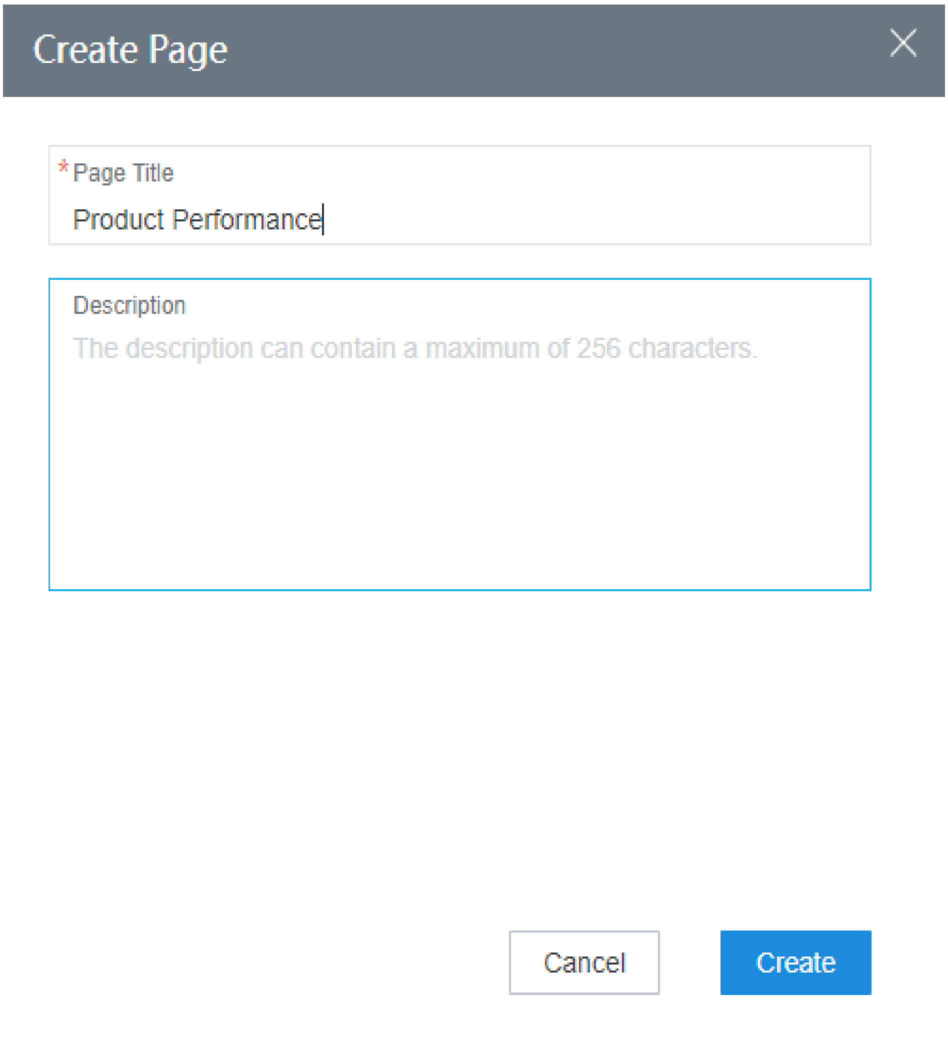
  a. Click **Page List**. The **Page Management** page is displayed.

  Figure 2-367 Page Management

  b. Click **Add**. In the **Create Page** dialog box, enter basic information.

Figure 2-368 Create Page



c. Click **Create**.

d. Click **Question List** corresponding to the new page and go to **Step 6** to configure questions.

- If **Survey layout type** is set to **Non-page**, go to the next step to configure questions.

Step 6 Click **Question List** and configure questions.

1. Click **Add**. The **Create Question** page is displayed.
2. Configure the question content.

Figure 2-369 Adding a question to a manual survey

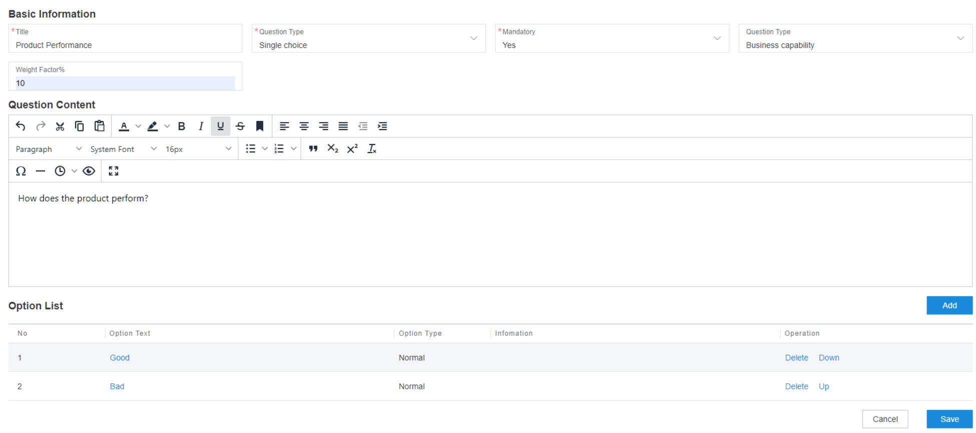


Figure 2-370 Adding a question to an IVR survey

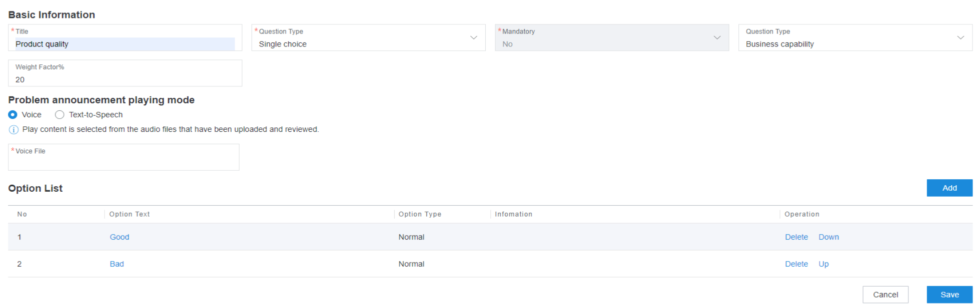
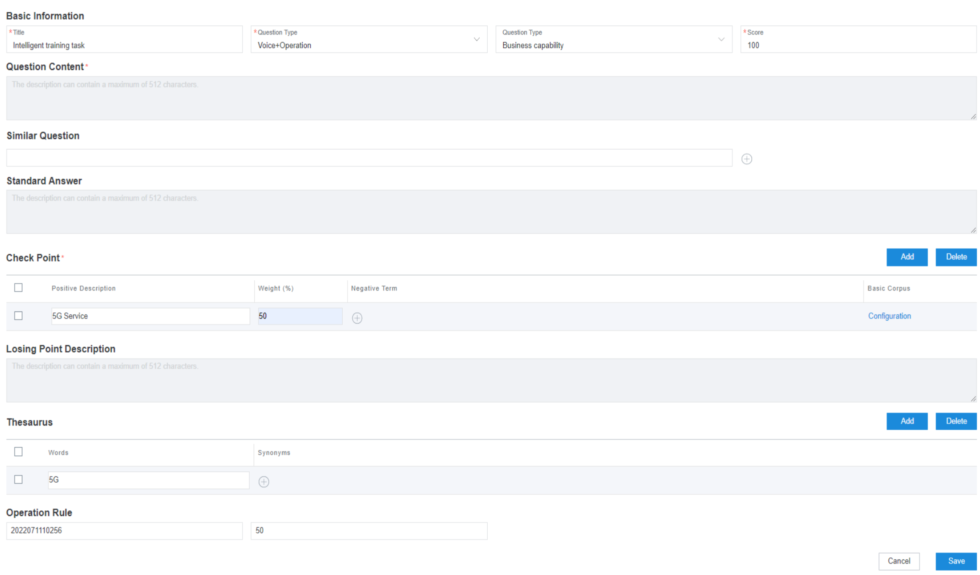


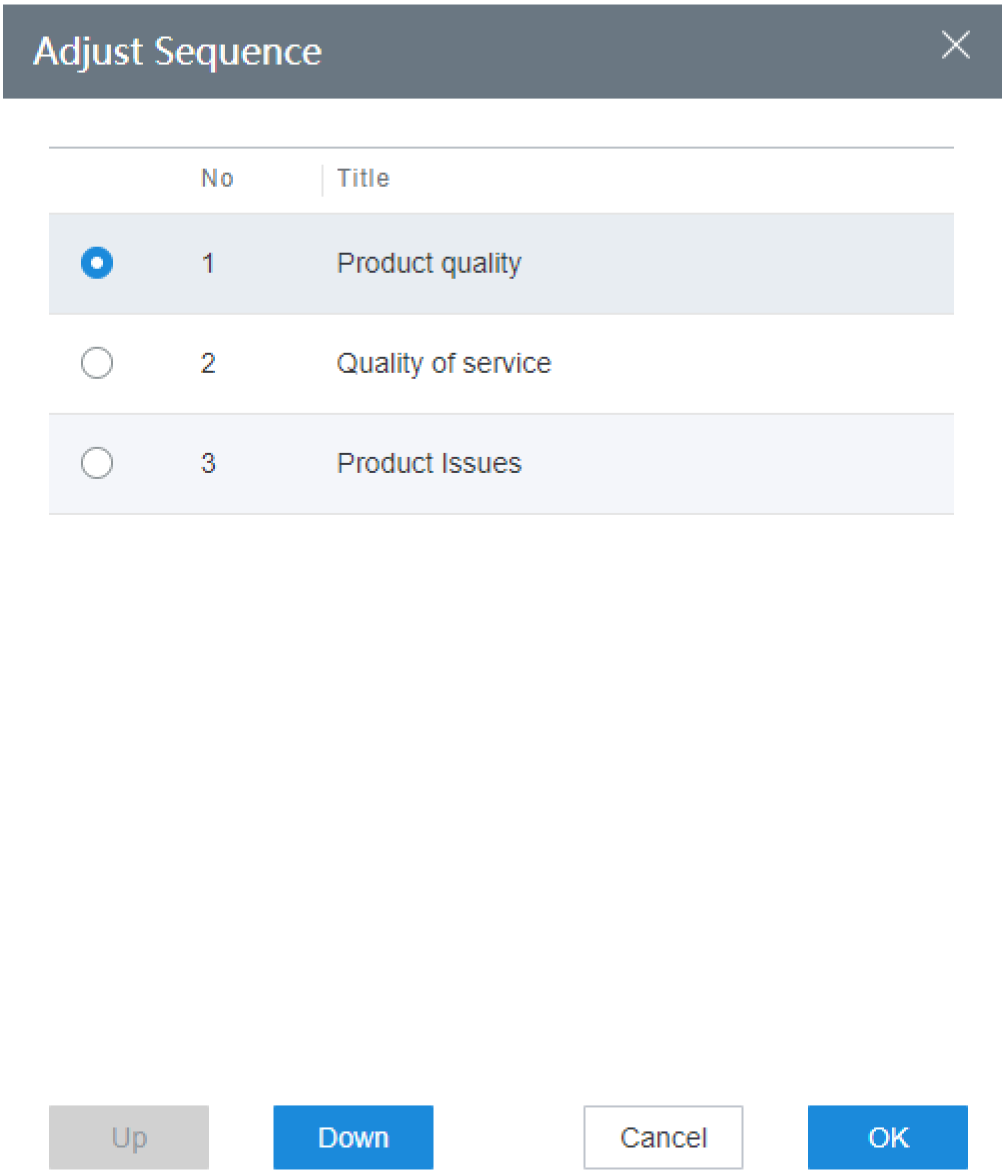
Figure 2-371 Adding a question to an intelligent training



3. Click **Save**. The question list page is displayed.

Step 7 (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**.

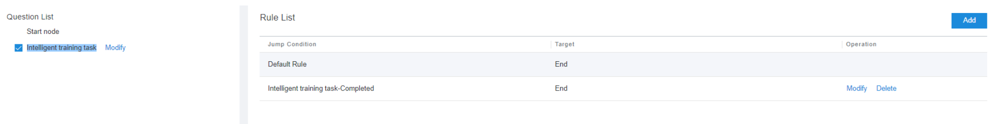
Figure 2-372 Adjust Sequence



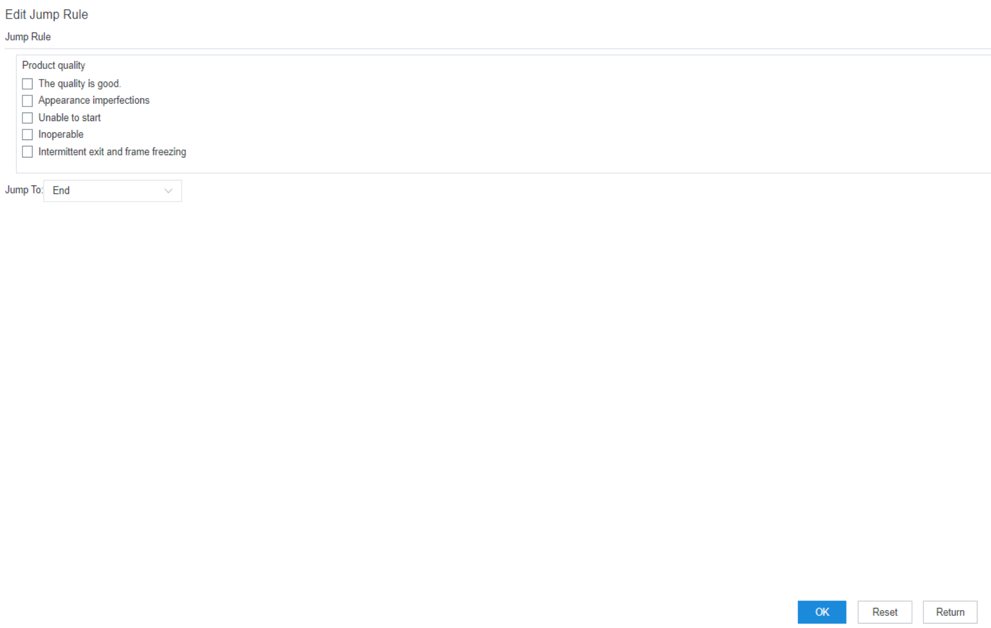
Step 8 Configure question execution rules.

1. Return to the question list page and click **Manage Question**. The **Manage Question** page is displayed.

Figure 2-373 Manage Question



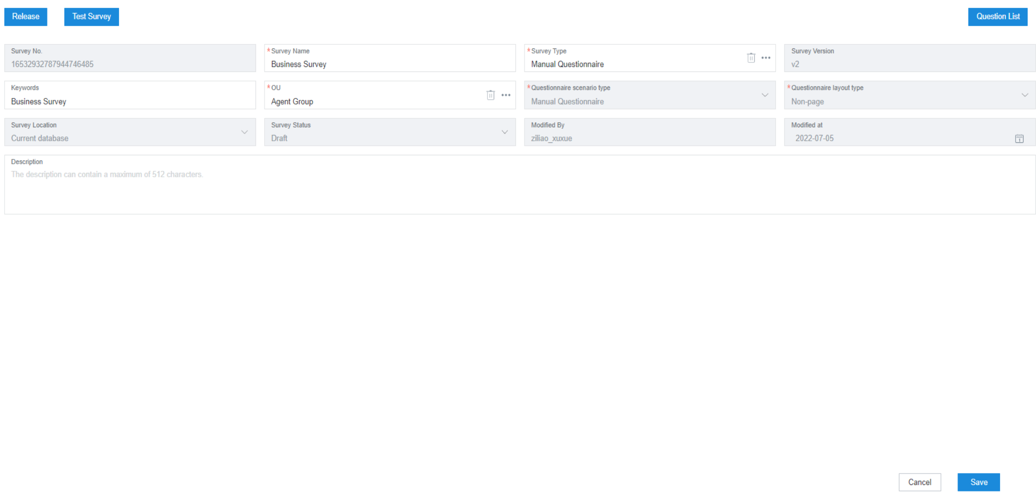
2. Each question has a default rule. Default rules cannot be modified or deleted. You can click **Add** to customize question execution rules as required. Customized rules cannot be modified or deleted.
3. Edit a rule, select question options, and set **Jump Rule**.



4. Click **OK**.

Step 9 (Optional) On the survey details page, click **Test Survey** to test the survey before the survey is officially released.

Figure 2-374 Survey details



Step 10 Click **Release** to officially release the survey.

----End

Follow-up Procedure

You can perform the following operations on a released 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.

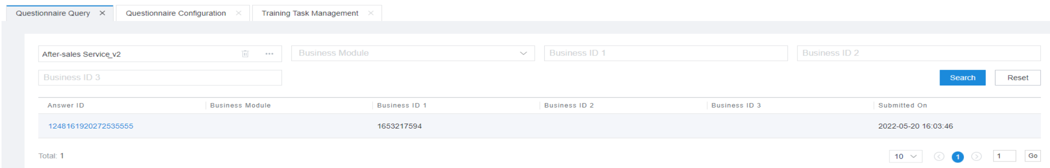
2.14.2 Querying Answers

Business scenarios associated with released surveys can be queried.

Procedure

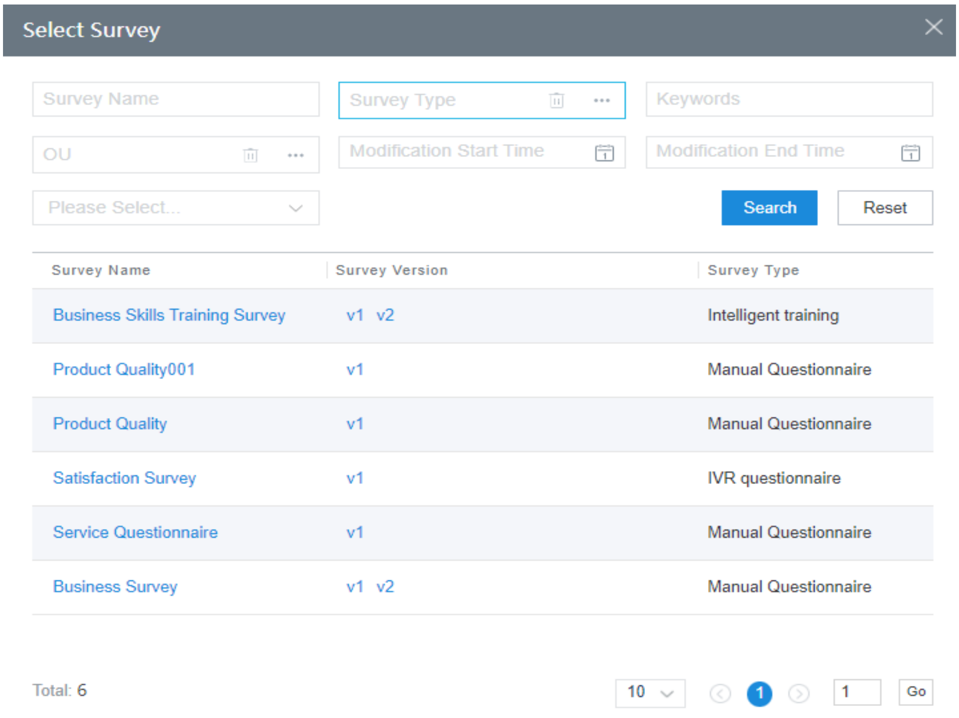
Step 1 Sign in to the AICC as a tenant administrator and choose **Questionnaire Survey** > **Questionnaire Query**.

Figure 2-375 Questionnaire Query



Step 2 Click *** in the **Survey** text box, and select the questionnaire to be queried.

Figure 2-376 Select Survey



NOTE

Click a survey version to query its details.

Step 3 Click **Search** to query the business scenarios associated with the survey.

Step 4 Click an answer ID to view details of the answer.

----End

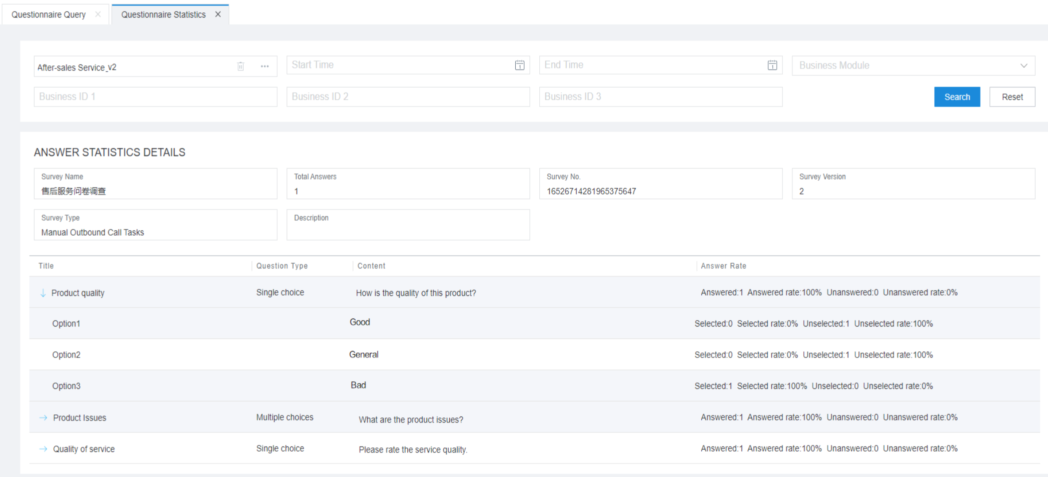
2.14.3 Querying Answer Statistics

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 2-377 Questionnaire Statistics



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.

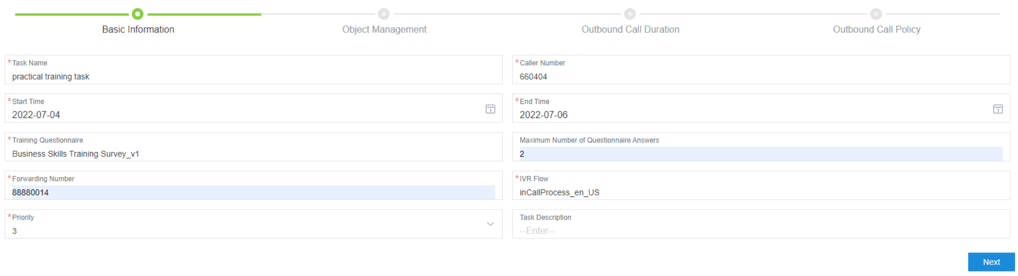
Procedure

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.

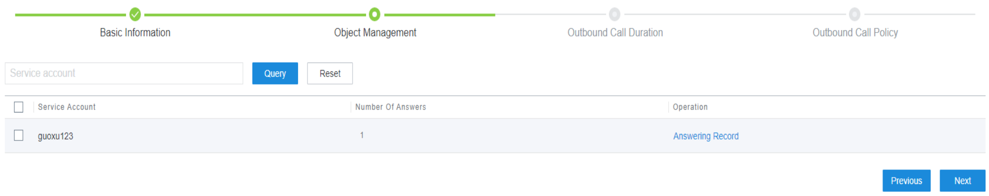
Figure 2-378 Basic Information



- **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 released intelligent training survey.
- **IVR Flow**: Select a released intelligent IVR flow.

Step 4 Click **Next**. The **Object Management** page is displayed.

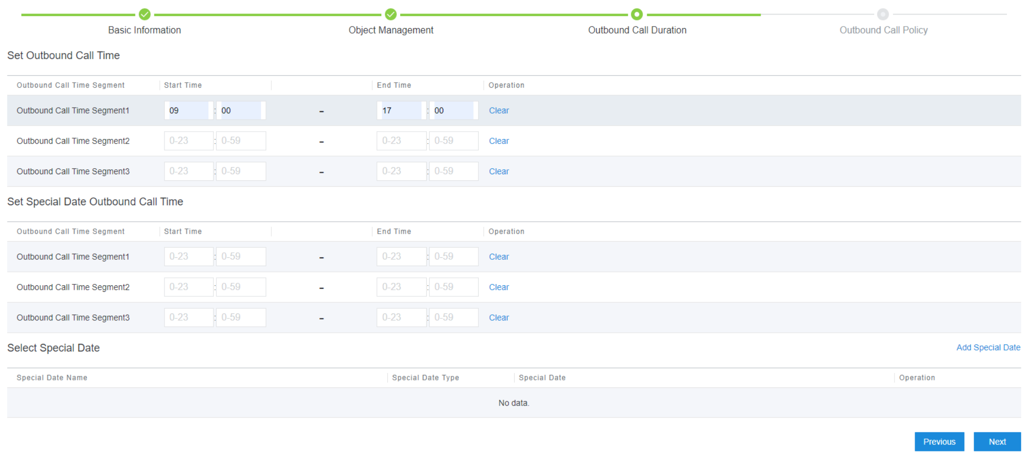
Figure 2-379 Object Management



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 2-380 Outbound Call Duration

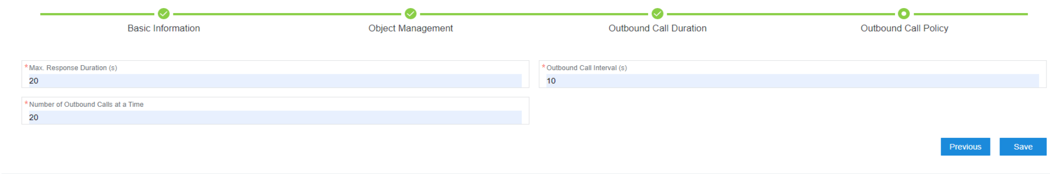


NOTE

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 2-381 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.

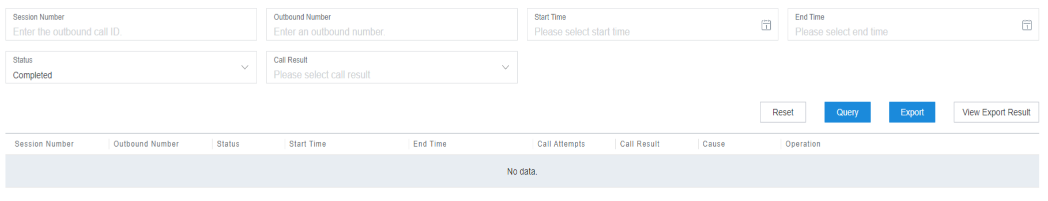
----End

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 2-382 Task result



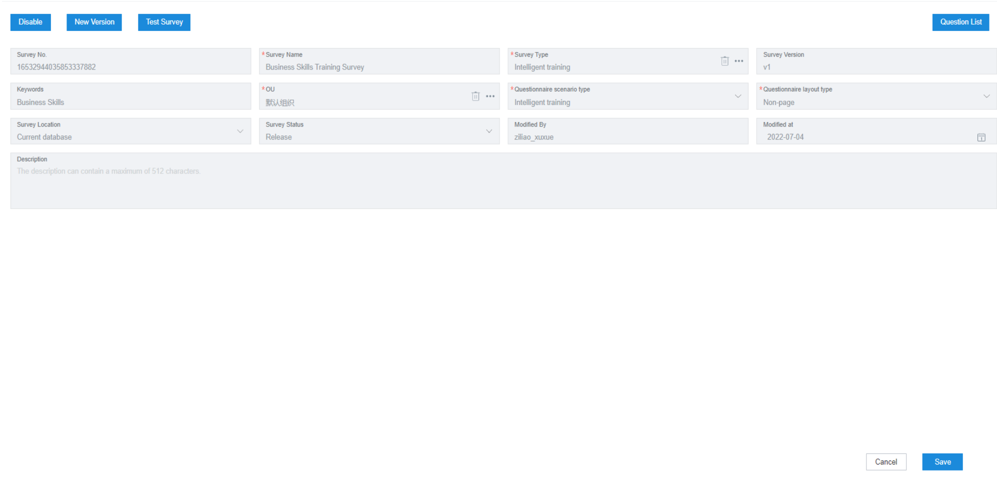
Click **Export** to create a task of exporting training task results. Click **View Export Result** and click **Download** corresponding to the export task whose **Result** is **Successful** to download the training task results to the local PC.

NOTE

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

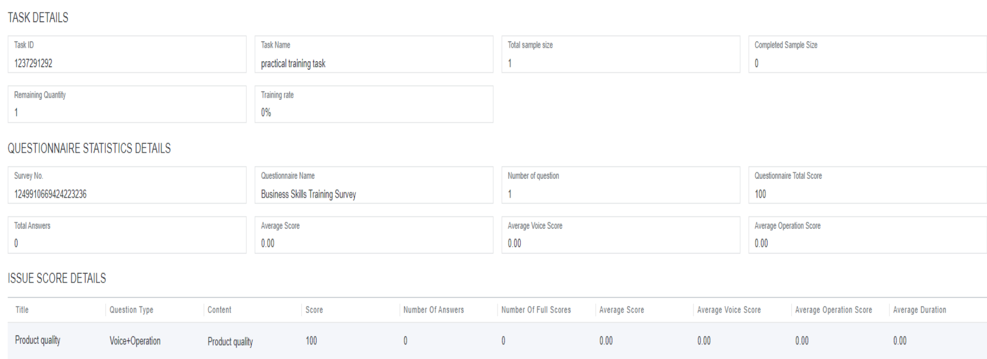
- Click **Associated Questionnaire** to view the survey details.

Figure 2-383 Associated survey



- Click **Result Analysis** to view the answer details.

Figure 2-384 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 Configuring Categories

A category is similar to a folder and is used to mount knowledge files. Only categories can be mounted to the root category. Subcategories or knowledge can be mounted to other categories.

Prerequisites

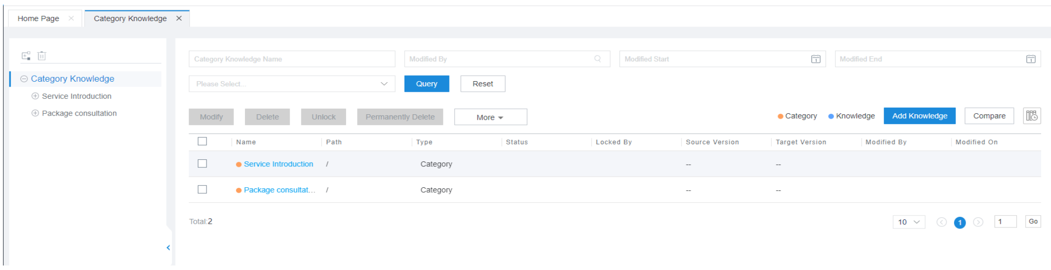
Extended attributes related to categories have been configured. For details, see **2.16.4 Managing Extended Attributes**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Knowledge Base** > **Knowl Categ**.

Step 2 In the navigation pane, choose **Category Knowledge**.

Figure 2-385 Category Knowledge page



Left pane: Category tree. Categories created by knowledge compilation personnel are displayed in the tree.

Upper right part: Catalog knowledge search criteria, which are used by knowledge compilation personnel to search for knowledge.

Lower right part: Query result. You can select the query results and click the buttons above to perform operations on the selected records.

Step 3 Click . The page for adding a category is displayed, as shown in **Figure 2-386**.

Figure 2-386 Adding a category

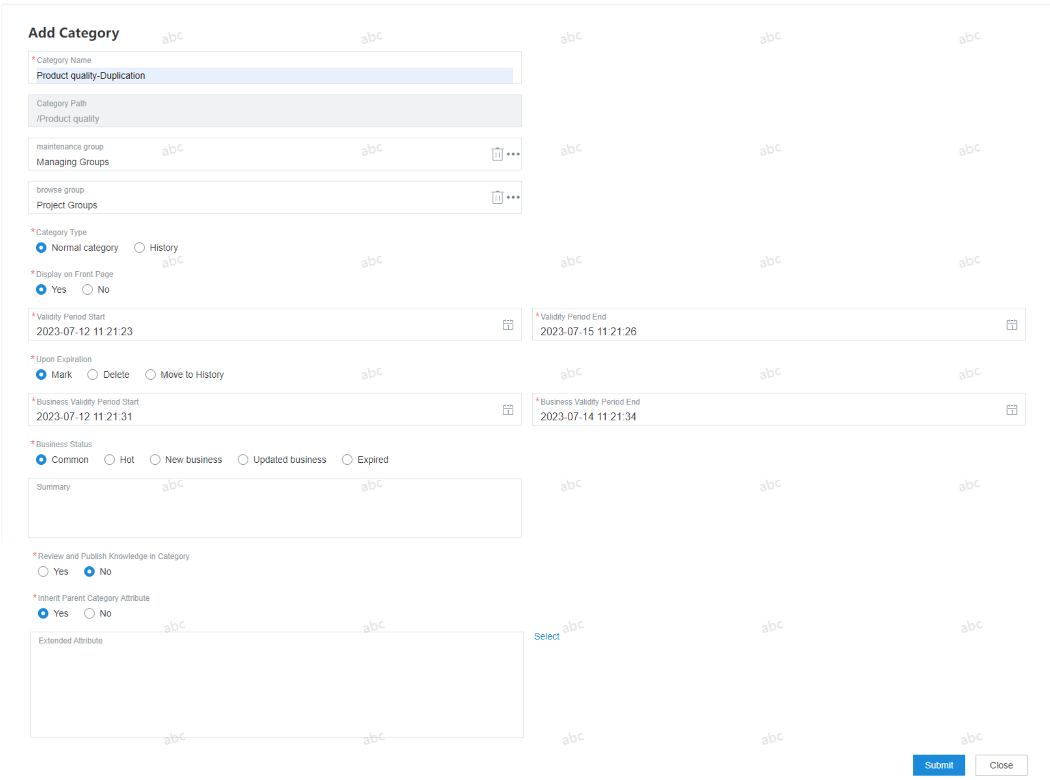


Table 2-104 GUI elements on the Add Category page

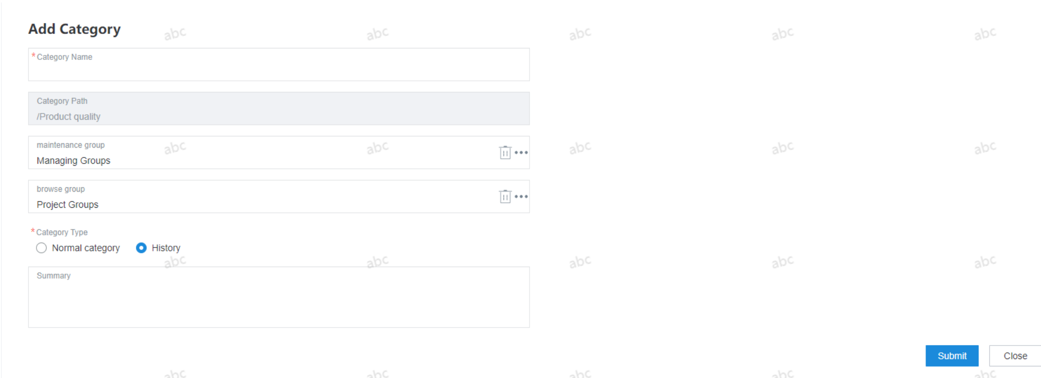
Element/ Component	Description
Category Name	Mandatory. The value contains a maximum of 80 characters.
Category Path	Path to which the current added or modified category belongs.
maintenance group	Select the group to which the maintenance personnel of the current category belong.
browse group	Select the group to which the users who can browse the current category belong.
Category Type	Category type. The options are as follows: ● **Normal category** ● **History**
Display on Front Page	Whether to display the category or knowledge on the knowledge home page after the category or knowledge is released. The options are as follows: ● **Yes** ● **No**
Validity Period Start/Validity Period End	Mandatory.
Upon Expiration	Mode of processing expired categories. The options are as follows: ● **Mark**: After the category expires, the category status is changed to **Expired**. **[Expired]** is automatically added to the category or knowledge name. ● **Delete**: Move the category or knowledge to the recycle bin. (When the category and knowledge/subcategory are deleted at the same time, only the parent category is moved to the recycle bin.) ● **Move to History**: Move the category or knowledge to the specified category.
Business Validity Period Start	Mandatory
Business Validity Period End	Mandatory

Element/ Component	Description
Business Status	Business status of a category. The options are as follows: ● **Common** ● **Hot** ● **New business** ● **Updated business** ● **Expired**
Summary	The value can contain a maximum of 256 characters.
Review and Publish Knowledge in Category	Whether knowledge added to the category needs to be reviewed and published.
Inherit Parent Category Attribute	Whether the current category inherits the attributes of the parent category.
Extended Attribute	Attribute information of the current category.
Select	Select extended attributes that have been configured and enabled in **2.16.4 Managing Extended Attributes**.

Step 4 Configure the category information as prompted.

- **Category Type**: If you select **Normal category**, the category attributes need to be configured. The configured category is displayed on the menu bar of the knowledge home page. If you select **History**, configure the category attributes by referring to **Figure 2-387**, and the new category is not displayed on the knowledge home page.

Figure 2-387 Adding a History category



- **Business Status**: This parameter specifies the business status of the category knowledge, which is used used to store data.
- **Inherit Parent Category Attribute**: This parameter specifies whether the new category inherits attributes from its parent category. If the parent category

has extended attributes and this parameter is set to **Yes**, the extended attributes of the parent category are automatically filled in.

Step 5 Verify that the information is correct and click **Submit**. The knowledge category is added.

Step 6 (Optional) If the category type is inappropriate, you can choose the parent category of the desired category. In the right pane, select the desired category, and click **Modify**, **Delete** or other buttons to configure the category.

----End

2.16.2 Compiling Knowledge

Prerequisites

The knowledge base function has been enabled for the tenant space. The operator has the permission on the **Knowledge Base** > **Category Knowledge** menu. Ensure there are existing categories under the current tenant. For details about the extended category attributes, see **2.16.4 Managing Extended Attributes**.

2.16.2.1 Compiling Common Knowledge

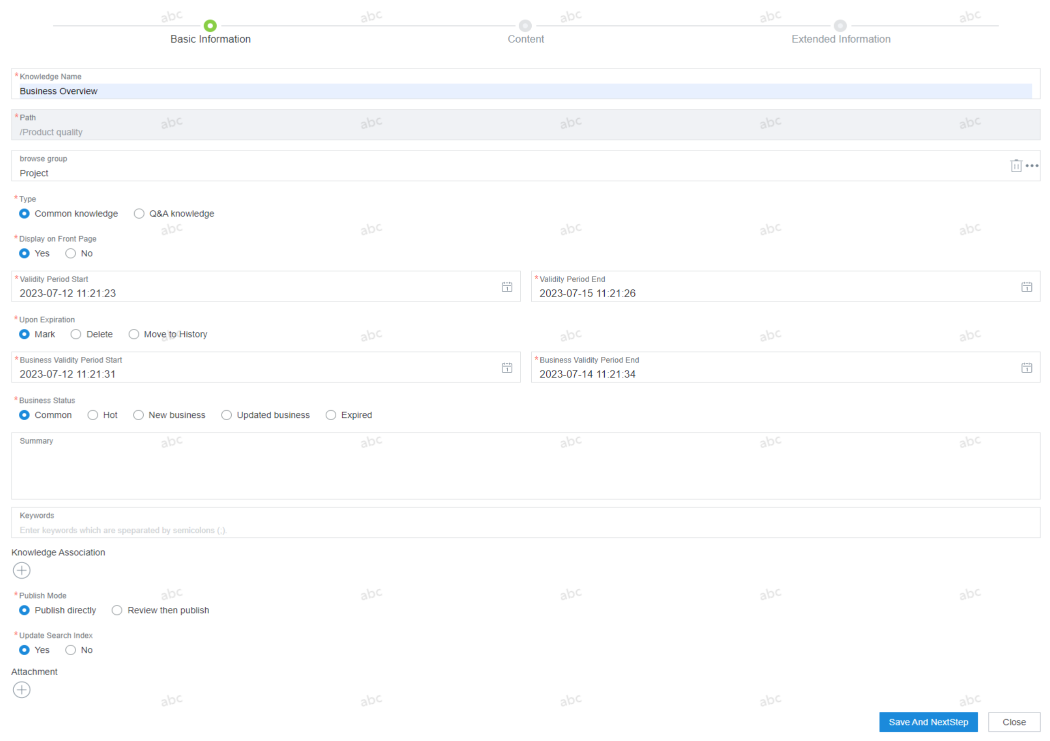
This section describes how to configure common knowledge.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Knowledge Base** > **Knowl Categ**.

Step 2 Click **Add Knowledge**.

Figure 2-388 Basic knowledge information



Step 3 Set **Type** to **Common knowledge**, and configure the basic information about the common knowledge as prompted.

- **browse group**: Select the group to which users who can browse the knowledge belong.
- **Business Status**: This parameter specifies the business status of the category knowledge, which is used to store data.
- **Update Search Index**: This parameter specifies whether to synchronize the knowledge to the search engine VSearch after the knowledge is released.
- (Optional) **Attachment**: In the **Upload Attachment** dialog box, click  to select the attachment to be uploaded. Then, click **Upload** to upload the selected attachment. If you do not want to upload the attachment, click **Close** to cancel the attachment upload.

  NOTE

  The attachment must be in DOC, DOCX, PPT, PPTX, XLS, XLSX, PDF, PNG, JPG, or GIF format and cannot exceed 10 MB.

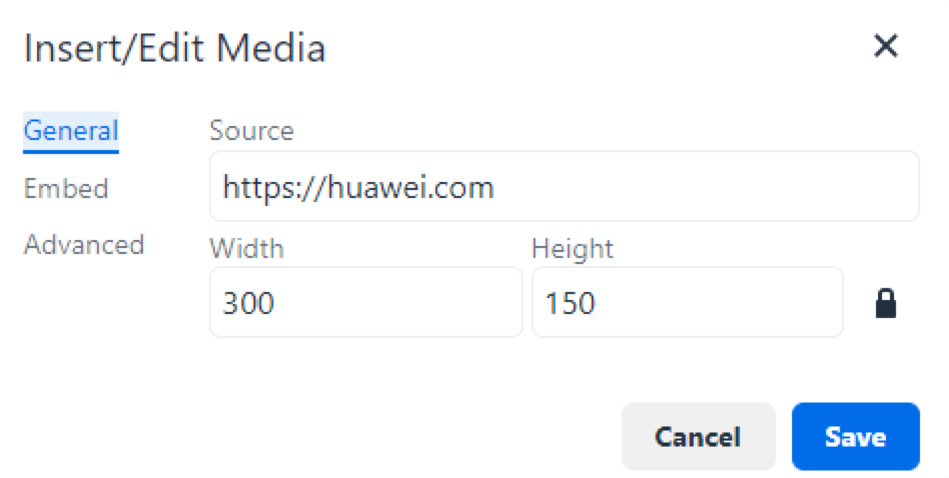
Step 4 Check that the knowledge information is correct and click **Save And NextStep**.

Step 5 In the dialog box that is displayed, click **OK**. The knowledge content configuration page is displayed.

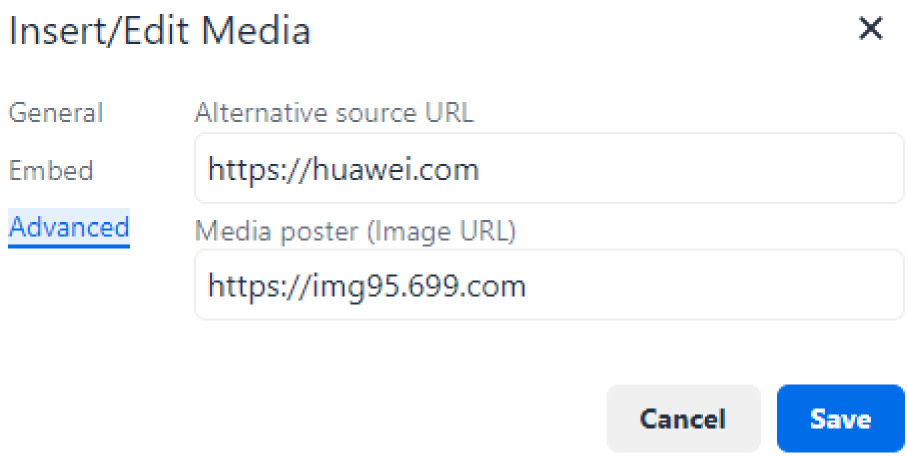
Step 6 Enter the knowledge content. You can configure the content format on the toolbar. For details, see **Figure 2-389**.

Figure 2-389 Common knowledge content

-  : Insert or edit a multimedia file. Local video upload is not supported.
  - **General**: Set the multimedia URL and set the width and height. The multimedia URL is the URL of a media resource that can be downloaded.



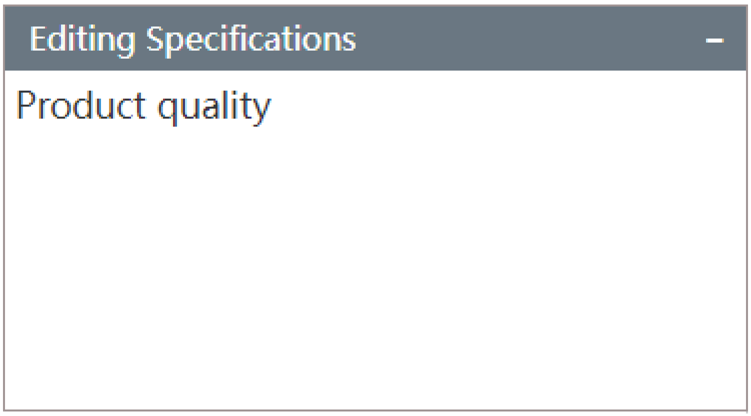
  - **Embed**: Paste the multimedia embedded code.
  - **Advanced**: Set the alternative multimedia URL and media poster (image URL). The alternative multimedia URL is the URL of a media resource that can be downloaded. The media poster is the URL of an image that can be previewed.



- Ω : Insert special characters, including currency, text, reference, math, Latin extension, symbol, and arrow symbols.
- : Preview the knowledge display effect when you edit the knowledge.
- : Reference a released content template.

  NOTE

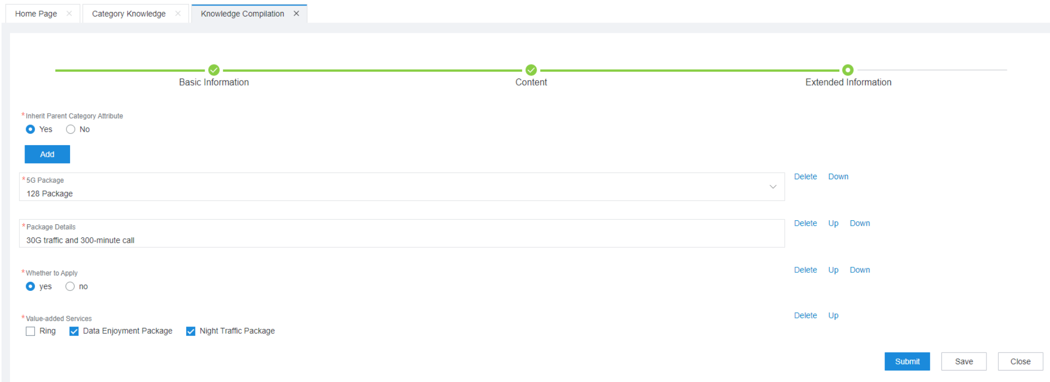
  - After a content template is used, the content that you edit will be overwritten. Exercise caution when performing this operation.
  - After a content template is used, the editing specifications related to the content template are displayed. The **Editing Specifications** dialog box can be moved and collapsed, but cannot be closed.



Step 7 Confirm the information and click **Save And NextStep**.

Step 8 In the dialog box that is displayed, click **OK**. The extended knowledge information page is displayed.

Figure 2-390 Extended Information page



Step 9 Configure extended knowledge information.

- On the **Extended Information** page, click **Save** to save the selected extended attributes, or click **Close** to cancel the selection. For selected extended attributes, click **Delete** to delete unnecessary ones, or click **Up** or **Down** to move the display position of an attribute.

Step 10 Verify that the information is correct and click **Submit**.

----End

2.16.2.2 Compiling Q&A Knowledge

This section describes how to configure Q&A knowledge.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Knowledge Base** > **Knowl Categ**.

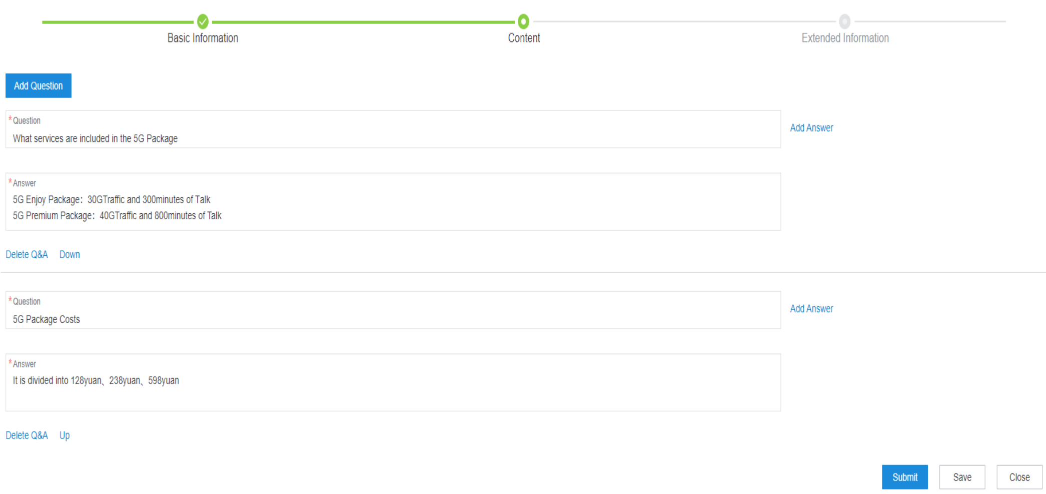
Step 2 Click **Add Knowledge**.

Step 3 Set **Type** to **Q&A knowledge**, and configure the basic information about the Q&A knowledge as prompted.

Step 4 The configuration rules are similar to those of common knowledge. For details, see **Step 3**.

Step 5 Click **Save** to save the basic knowledge information. The knowledge content configuration page is displayed.

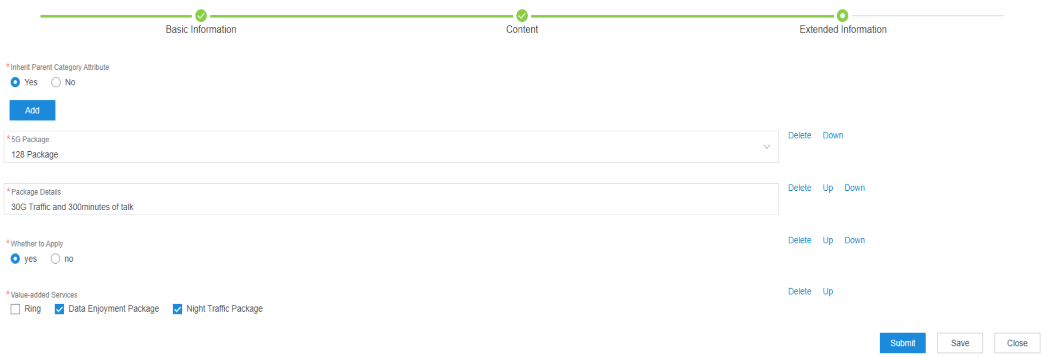
Figure 2-391 Q&A knowledge content



Step 6 Configure Q&A knowledge and click **Save and NextStep**.

Step 7 In the operation success dialog box, click **Confirm**. The extended knowledge information page is displayed.

Figure 2-392 Extended knowledge attributes



Step 8 Configure extended knowledge information.

- On the **Extended Information** page, click **Save** to save the selected extended attributes, or click **Close** to cancel the selection. For selected extended attributes, click **Delete** to delete unnecessary ones, or click **Up** or **Down** to move the display position of an attribute.

Step 9 Verify that all information is correct and click **Submit**.

----End

NOTE

The procedure for modifying a knowledge item is similar to the procedure for adding one. On the knowledge page, select a knowledge item and click **Modify**, and then repeat Steps 4–9. The knowledge type cannot be changed. Other basic information can be modified.

2.16.3 Reviewing Knowledge

After the knowledge content is configured, the knowledge content that needs to be reviewed by related personnel is used to instruct operators to review the knowledge.

Prerequisites

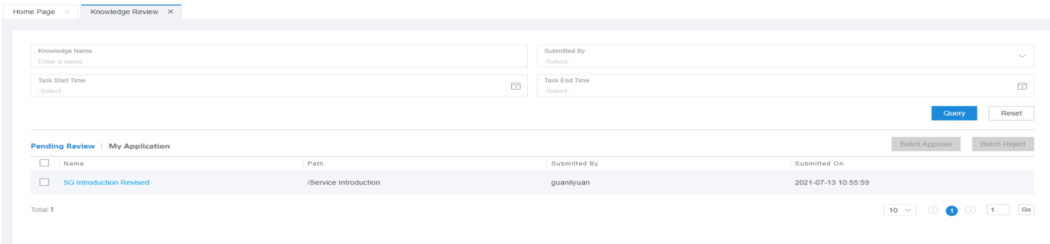
The knowledge base function has been enabled for the tenant space. The operator has the permission on the **Knowledge Review** menu. The current user has tasks to be reviewed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Knowledge Base** > **Knowledge Review**.

Step 2 Set the search criteria, such as **Knowledge Name**, **Submitted By**, **Task Start Time**, and **Task End Time**, to query knowledge items. By default, all knowledge items to be reviewed are displayed. You can also directly select the displayed knowledge items for review.

Figure 2-393 Reviewing knowledge



Step 3 Click a knowledge item name. On the review page, enter the review remarks and click **Approve** or **Reject** to confirm the review result.

Step 4 Select multiple knowledge items and click **Batch Approve** or **Batch Reject**.

Step 5 On the page that is displayed, enter the review remarks and click **OK**.

----End

2.16.4 Managing Extended Attributes

After signing in to the AICC and before adding a category or editing knowledge, knowledge compilation personnel can define attributes on the extended knowledge attribute page, and associate different extended attributes with category knowledge when adding or modifying category knowledge on the category knowledge management page.

Prerequisites

The knowledge base function has been enabled for the tenant space. The operator has the permission on the **Extended Knowledge Attribute** menu.

Procedure

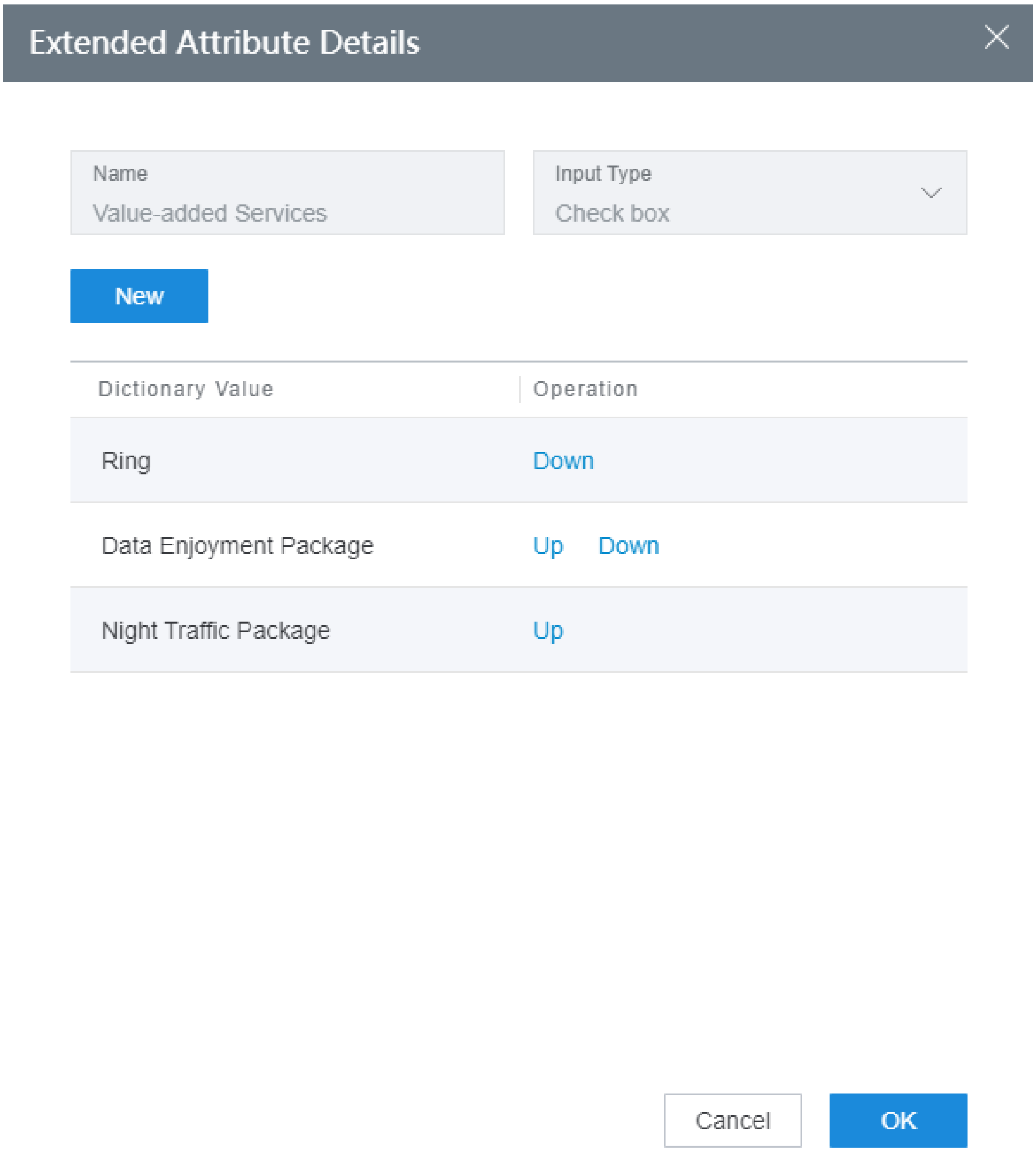
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base** > **Knowl Attribute**.

Step 2 Click **New**.

Step 3 Configure an extended attribute and click **OK**.

Step 4 The new extended attribute is in the **Draft** state. Click **Details** corresponding to an extended attribute whose **Input Type** is **Drop-down list** to configure the details.

Figure 2-394 Extended Attribute Details dialog box



Step 5 Configure the attribute dictionary value and click **Save**. The extended attribute details are configured.

Step 6 In the row that contains a configured extended attribute, click **Enable**.

NOTE

Extended attributes that are successfully enabled can only be disabled, but cannot be deleted or modified. Disabled extended attributes can be enabled again.

----End

Follow-up Procedure

- If **Input Type** is **Drop-down list**, **Radio box**, or **Check box**, repeat **Step 4** to configure extended attribute details.
- If **Input Type** is **Text input**, click **Enable**.

2.16.5 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.

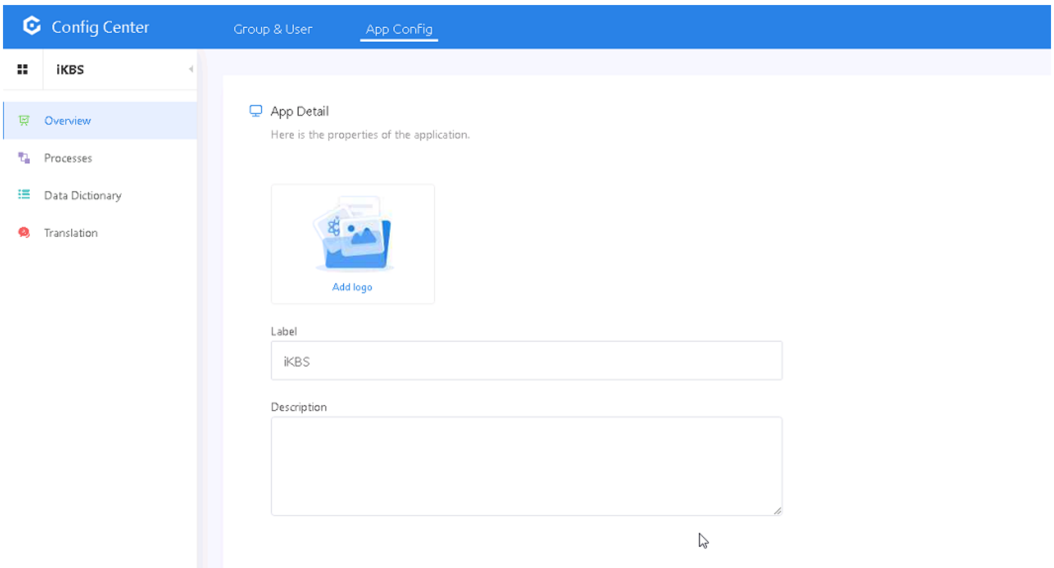
2.16.5.1 Managing Consultation Table Templates

Tenant administrators can create consultation table templates for consultation table creation and management.

Prerequisites

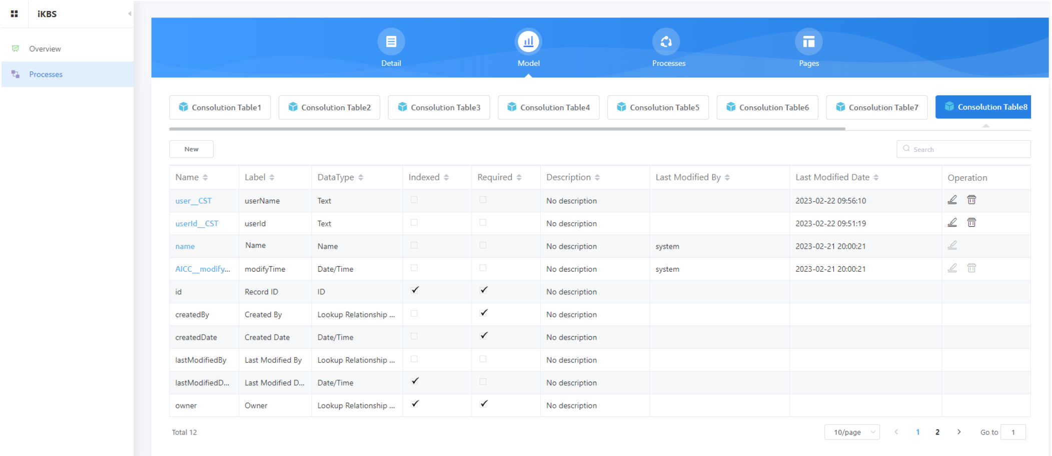
- The AppCube integration function has been commissioned.
- You have customized consultation table fields.
  a. Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Consultation Table Template**.
  b. Click **Configure** to access AppCube and configure consultation tables.

Figure 2-395 Config Center



c. Choose **Processes** > **Model**. The consultation table list page is displayed.

Figure 2-396 Model page



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.

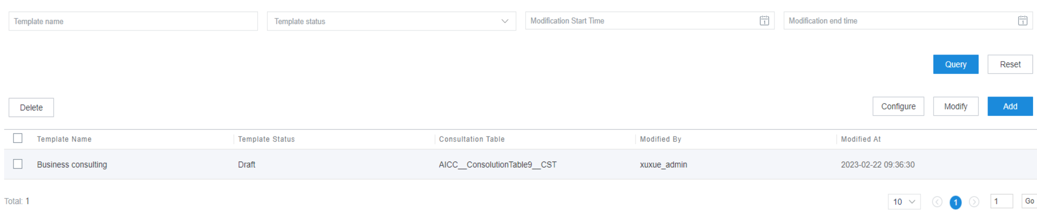
e. Select a field type and configure field details as prompted. The field name is automatically filled in based on the label and can be modified.

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**. The consultation table template management page is displayed.

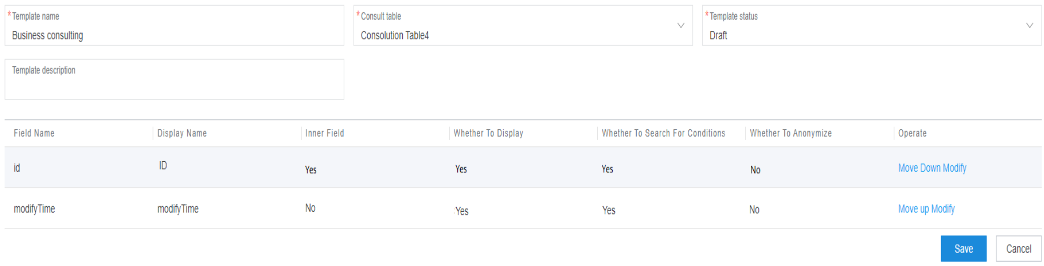
Figure 2-397 Consultation table template list



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.

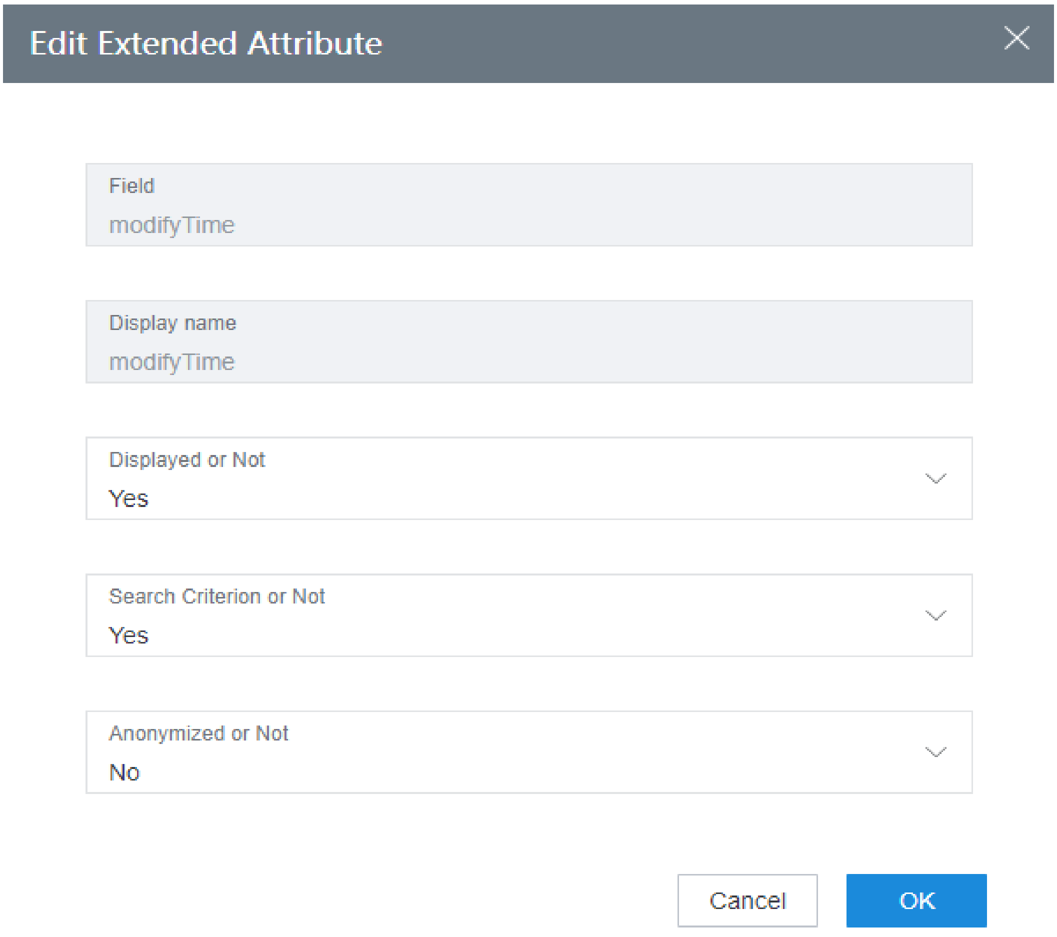
Figure 2-398 Adding a consultation table template



- **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.

Figure 2-399 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

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**.

2.16.5.2 Managing Consultation Table Data

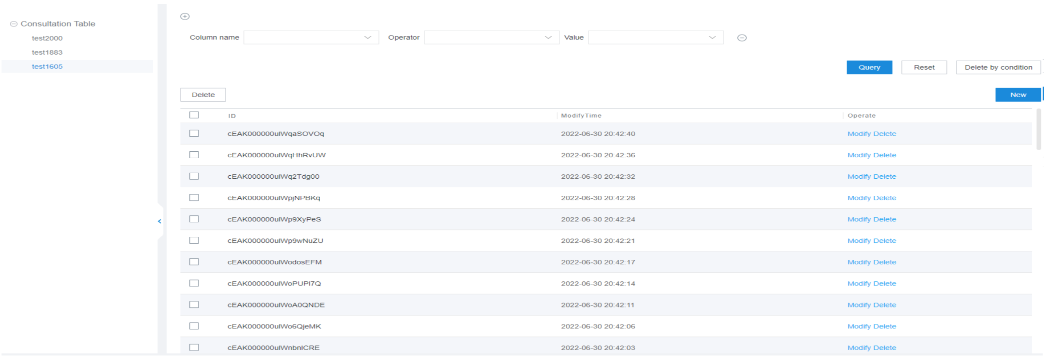
Tenant administrators can configure consultation table data.

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 2-400 Consultation table management

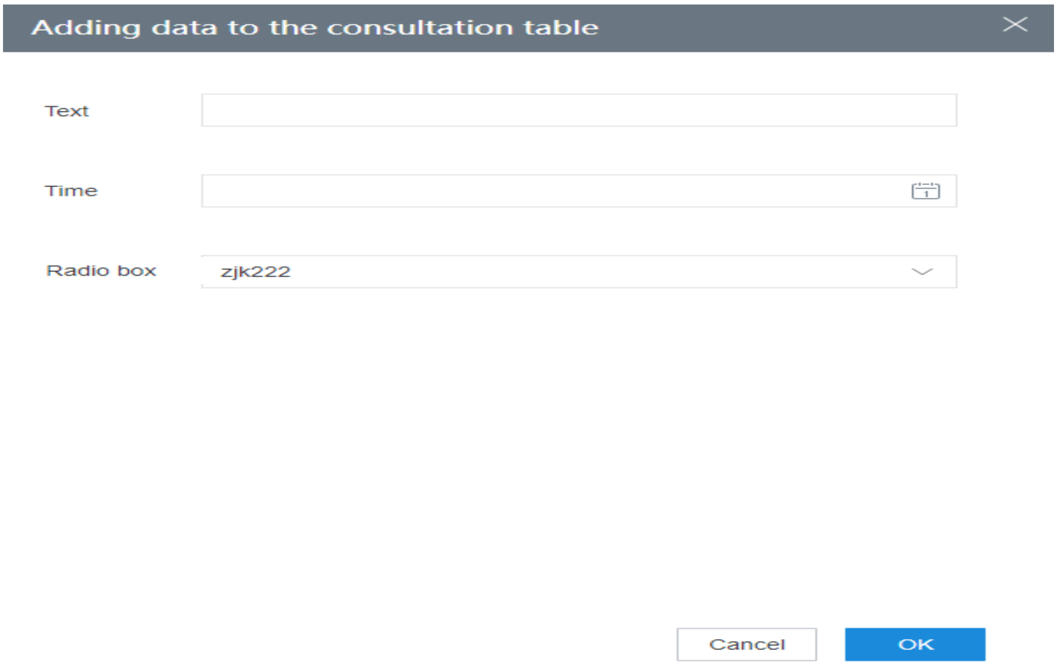


Step 2 Select the consultation table template to be configured and click 

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**.

Figure 2-401 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.

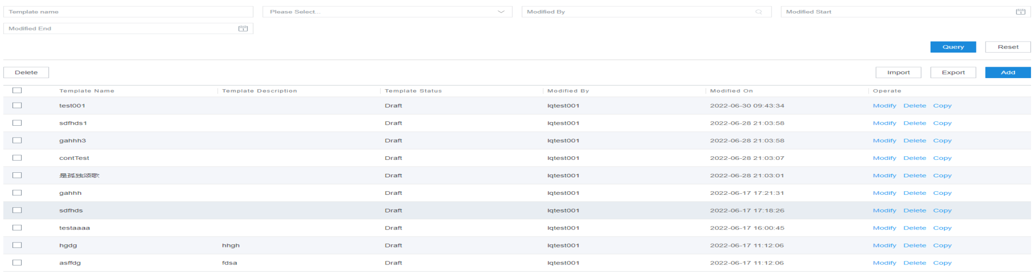
2.16.6 Managing Content Templates

A content template can be referenced during knowledge compilation, including the knowledge content and editing specifications.

Procedure

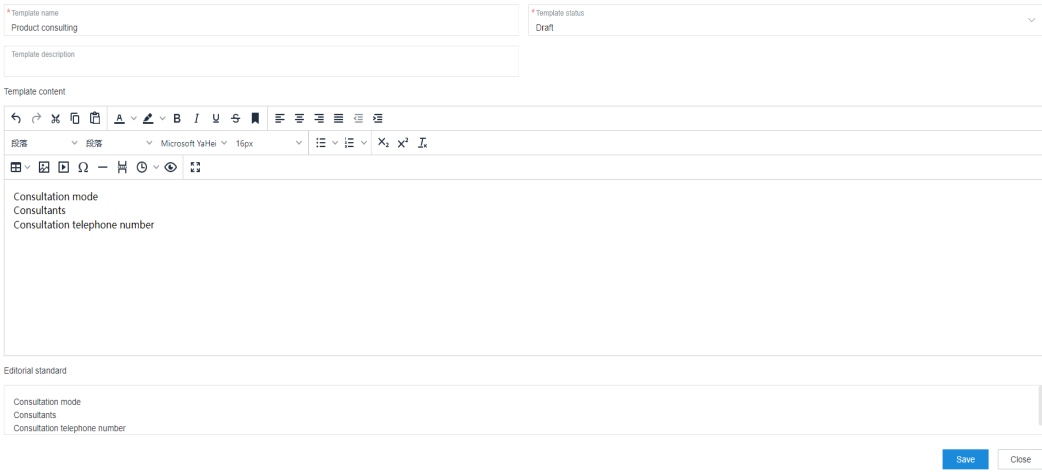
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Content Template**.

Figure 2-402 Content template management



Step 2 Click **Add**. On the page that is displayed, configure template information.

Figure 2-403 Adding a content template



Step 3 Click **Save**.

----End

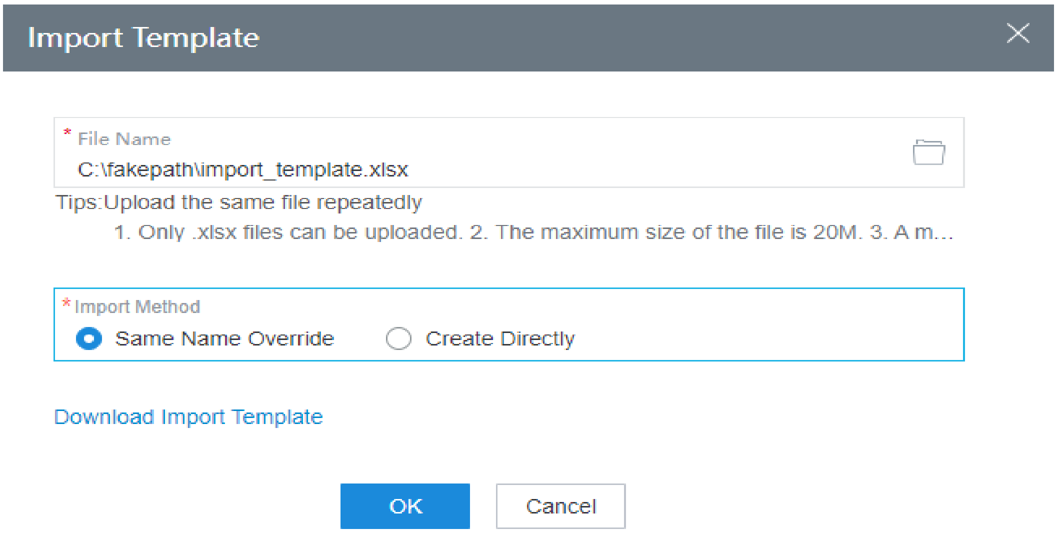
Follow-up Procedure

Content templates can be imported and exported. A maximum of 10 templates can be imported and exported at a time.

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Knowledge Base Management** > **Content Template**.

Step 2 Click **Import**. The dialog box for selecting a file is displayed.

Figure 2-404 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

2.16.7 Managing the Recycle Bin

The category and knowledge deleted from the **Category Knowledge** page are moved to the recycle bin. Knowledge compilation personnel can delete, restore, and clear items in the recycle bin.

Prerequisites

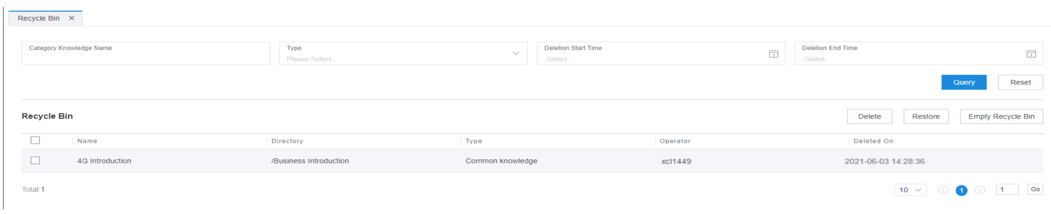
The knowledge base function has been enabled for the tenant space. The operator has the permission on the **Recycle Bin** menu.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Knowledge Base** > **Recycle Bin**.

Step 2 In the query result, select desired items, and click **Restore**.

Figure 2-405 Recycle bin



Step 3 In the **Confirm** dialog box, click **YES**.

NOTE

The procedure for deleting knowledge is similar to restoring knowledge. The only difference lies in the operation result. The deletion operation deletes the selected items and the corresponding category knowledge from the database. To empty the recycle bin, click **Empty Recycle Bin** and confirm the operation.

----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.

Prerequisites

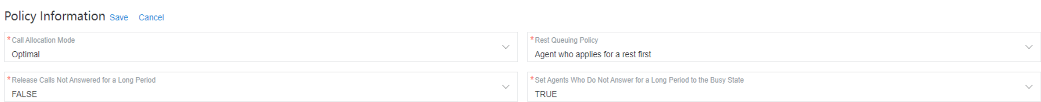
None

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 **Edit** to enter the editing mode.

Figure 2-406 Page for modifying policy information



Step 3 Modify policy information based on **Table 2-105**.

Table 2-105 Policy information parameters

Parameter	Description	Value Range
Call Allocation Mode	Call allocation mode.	• **Optimal** • **Average** • **Agent with most skills** Default value: **Optimal** **Table 2-106** describes the parameters.

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.	• **FALSE** • **TRUE** Default value: **FALSE**
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.	• **FALSE** • **TRUE** Default value: **TRUE**

Table 2-106 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 VDN 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

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.

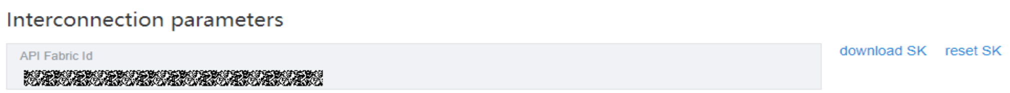
Prerequisites

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.

----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.

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 Configuring Parameters

A tenant administrator can configure tenant parameters to control the running mode and function rules of the system. For details about the parameters, see the **Description** column.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Tenant Parameter**.

Figure 2-407 Configuring parameters

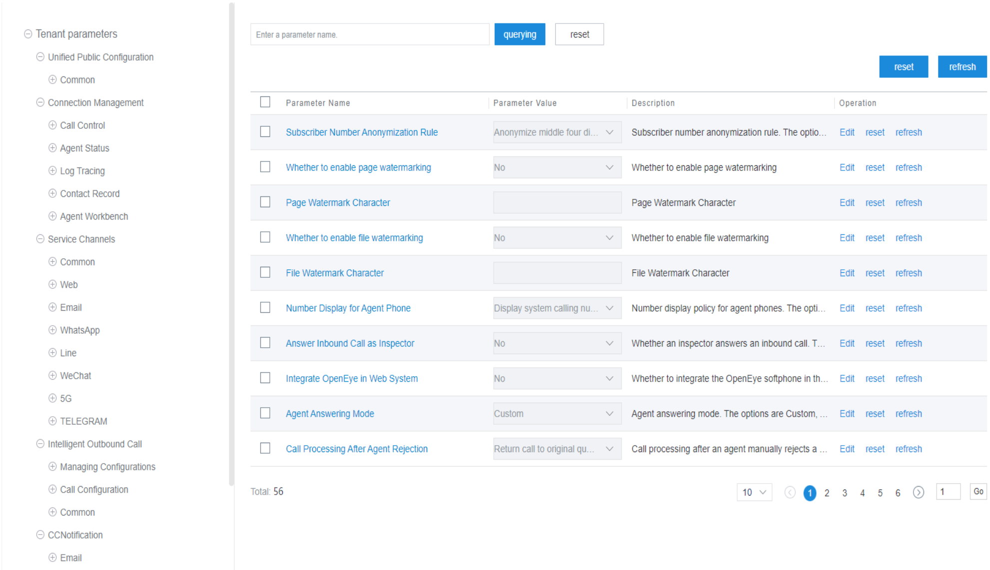


Table 2-107 Tenant parameters

Parameter			Description
Unified Public Configuration	Common	Whether to enable page watermarking	Whether to enable the page watermark function.
		Subscriber Number Anonymization Rule	User number anonymization rule. The options are **Anonymize middle four digits** and **Retain only last four digits**.
		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.

Parameter			Description
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**.
		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).

Parameter			Description
		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**.
	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.
		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.
	Log Tracing	Agent ID Requiring Log Generation	Agent ID for generating logs. Use commas to separate multiple IDs, for example, **101,102,103**.
		Agent Output Log Level	Level of generated agent connection operation logs.
	Contact Record	Time Span for Contact Record Query	Time span for querying contact records, in days. The default value is **7**.

Parameter			Description
	Agent Workbench	Display Associated Data	Whether to display call-associated data. The options are **No** and **Yes**.
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).
		Multimedia Sessions Concurrently Processed by Agent	Number of multimedia sessions that can be processed by an agent concurrently.
		Third-party interface invoking failure rate statistical period	Statistical period of the third-party interface invoking 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 invoking 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 period of the URL used by a customer to access a resource, in days. The value ranges from 0 to 7. The default value is **3**.
		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**.

Parameter			Description
		Maximum size of uploaded social media images	Maximum size of an uploaded social media image, 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**.
	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.
	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 4096 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**.

Parameter			Description
		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**.
	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 the Infobip. The value ranges from 7 to 365. The default value is **90**.
	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.
	5G	Map Type Used by Location Message Received Through 5G Channel	Type of the map used to display location messages received from the 5G channel on the agent workbench.
Intelligent Outbound Call	Common	Record outbound interface invoking logs	Whether to record outbound call interface invoking logs. If yes, invoking records of one month are stored by default. Invoking records of a maximum of three months can be stored.
	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.

Parameter			Description
	Call Configuration	Manual outgoing call automatic outgoing call switch	Whether to enable the automatic outbound call capability for manual outbound calls.
		Time limit for manual 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.
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 **No**, indicating that the emails are not deleted.

Parameter			Description
Operation Risk Control	Public Class	Mobile number area code	International area code of the tenant administrator's mobile number during SMS notification sending.
IVR process management	IVR flow resource configuration	Interval for prompting IVR flow orchestration	The value ranges from 1 to 30, in minutes. The default value is **5**. (This parameter is valid only when the scheduled IVR prompt is enabled.) **NOTE** During IVR flow editing, if the duration during which data is not saved exceeds the value of this parameter, the message "You have not saved it for a long time. Please save it in time." is displayed.
		IVR scheduled prompt switch	Whether to enable the scheduled IVR prompt. This function is disabled by default.

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 **reset** or **refresh** to reset or refresh the value in the **Parameter Value** column corresponding to a parameter.

----End

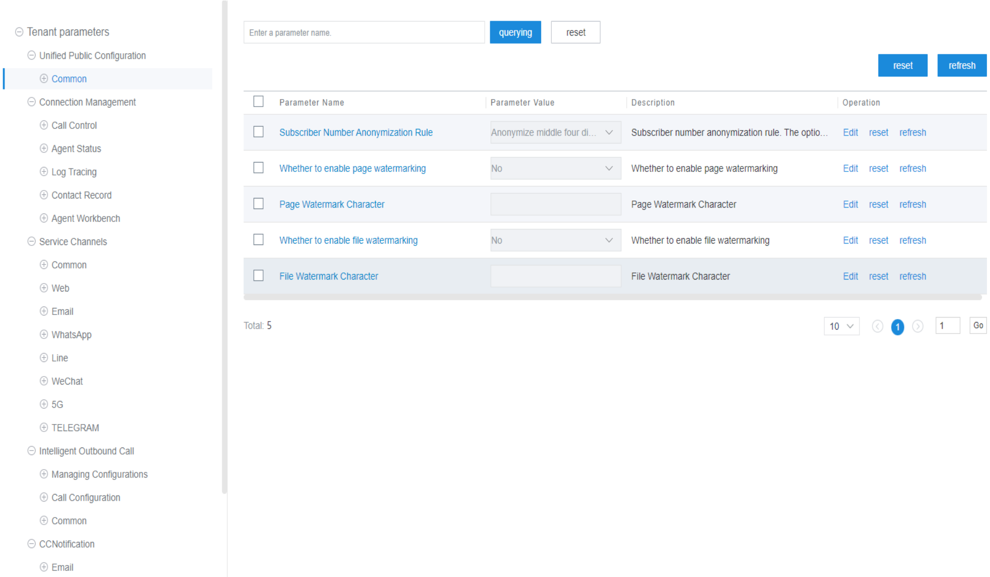
2.17.3.1 Configuring Watermarks

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 2-408 Watermark parameters

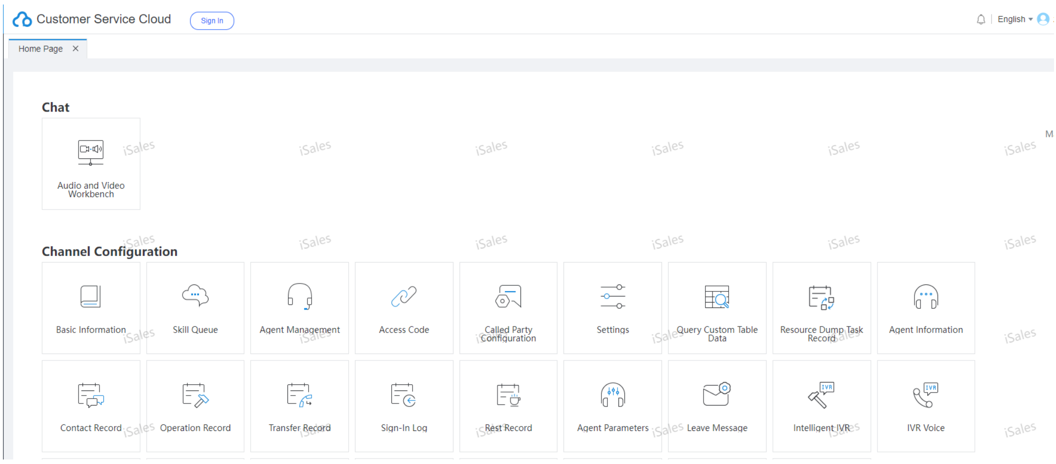


Step 3 Set parameters.

- **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.

Figure 2-409 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.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Resource Management** > **Special List**. On the page that is displayed, click the **SPECIAL LIST** tab.

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 0 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 **Add**.
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 in **LEVEL MANAGEMENT**.

– **Reminder Message**: The value can contain a maximum of 1024 characters.

Step 4 Add customer numbers to a special list.

You can add customer numbers one by one or import customer numbers in batches as required.

- Adding customer numbers one by one
  a. Click the **SPECIAL LIST** tab.
  b. Click **Add**.
  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 in **LEVEL MANAGEMENT**.
     - **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, **Expiration Time** is automatically set to the time that equals to **Effective Time** plus **Restriction Duration (hours)** configured in the level configuration. 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 **Finish** and save the customer number.
- Importing customer numbers in batches
  a. Click the **SPECIAL LIST** tab.
  b. Click **Import**.
  c. Select a special list to be imported.
     The options are **Black List** and **Red List**.
  d. Click **Downloading the Special List Import Template**.
     i. Open the downloaded template and configure the customer numbers to be imported by referring to **Figure 2-410**.

Figure 2-410 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**

- **Special list level**: Select a special list level that is enabled in **LEVEL MANAGEMENT**.
- **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 **Finish** and 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.

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.

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 Setting the Channel Special List

A tenant administrator can restrict specified or all channels by special list level.

Prerequisites

A special list level whose restriction mode is blocklist has been created based on **Step 2**.

Procedure

Step 1 Choose **Configuration Center** > **Resource Management** > **Channel Special List** and click **New**.

Step 2 Set the channel special list.

- **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 channel** or **SMS channel**.
- **Application Mode**: Select **All** or **Specified**.
- **Restricted Channel**: This parameter is mandatory when **Restricted Channel Type** is **Specified**. Select an existing channel.

  NOTE

  - Click to restrict multiple specified channels.
  - 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**, no more channel special list records can be added.

Step 3 Click **Finish**.

----End

2.17.6 Managing a Certificate

A tenant administrator can import certificates for management purposes.

Prerequisites

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:

echo -n | openssl s_client -starttls smtp -connect smtp.huawei.com:587 2>&1| sed -ne '/-BEGIN CERTIFICATE-/,/-END CERTIFICATE-/p' > smtp.pem

Or

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.

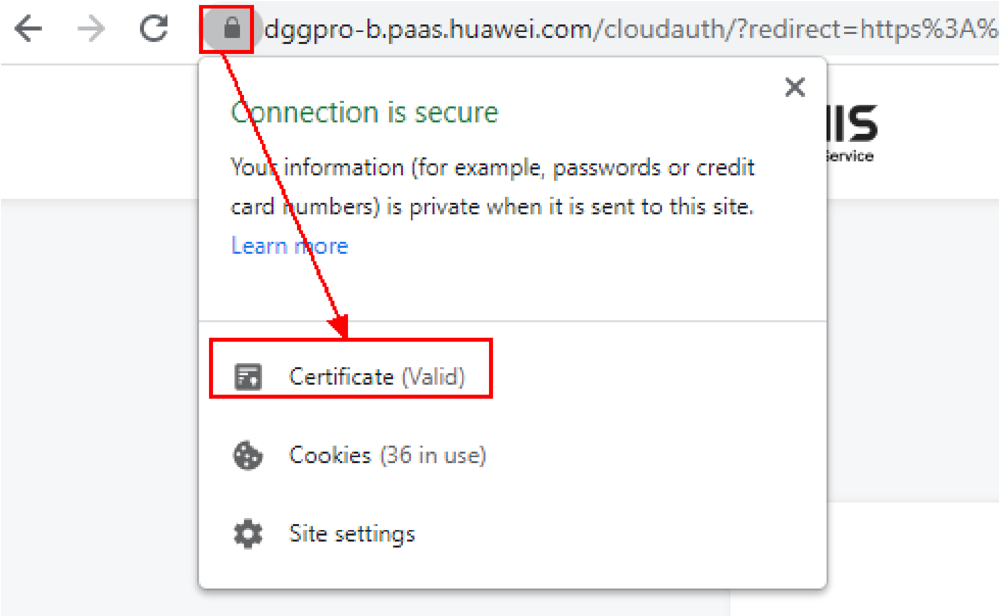
----End

- 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:

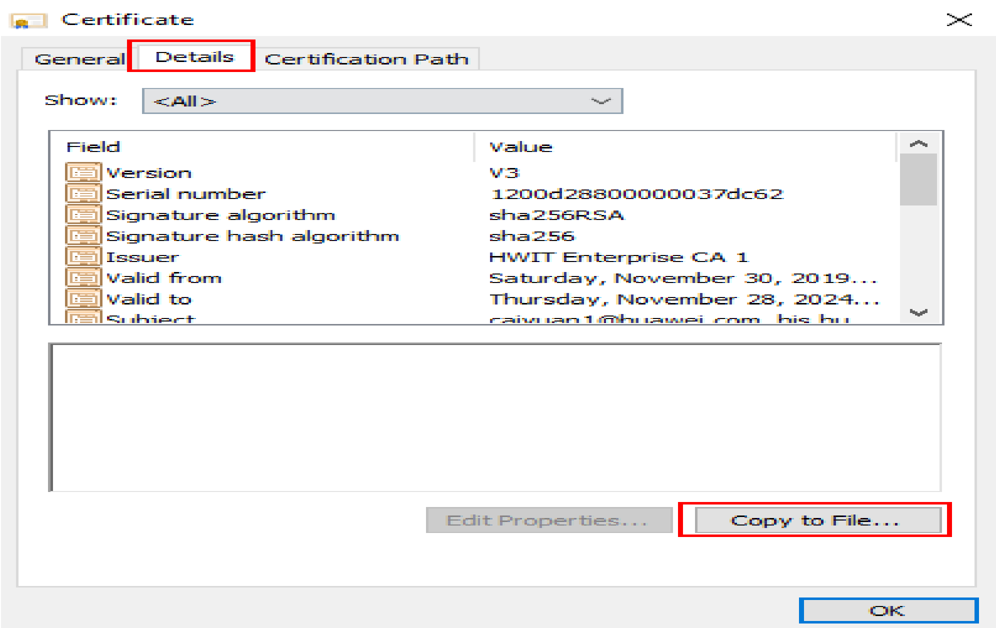
1. Open a browser, enter **https://dggpro-b.paas.huawei.com/cloudauth/?redirect=https%3A%2F%2Fcn02%2Eemail%2Ehuawei%2Ecom%3A%2Fowa** in the address box, and log in to the mailbox using a domain account.
2. After login, click **View site information** in front of the address, and then click **Certificate (Valid)**.



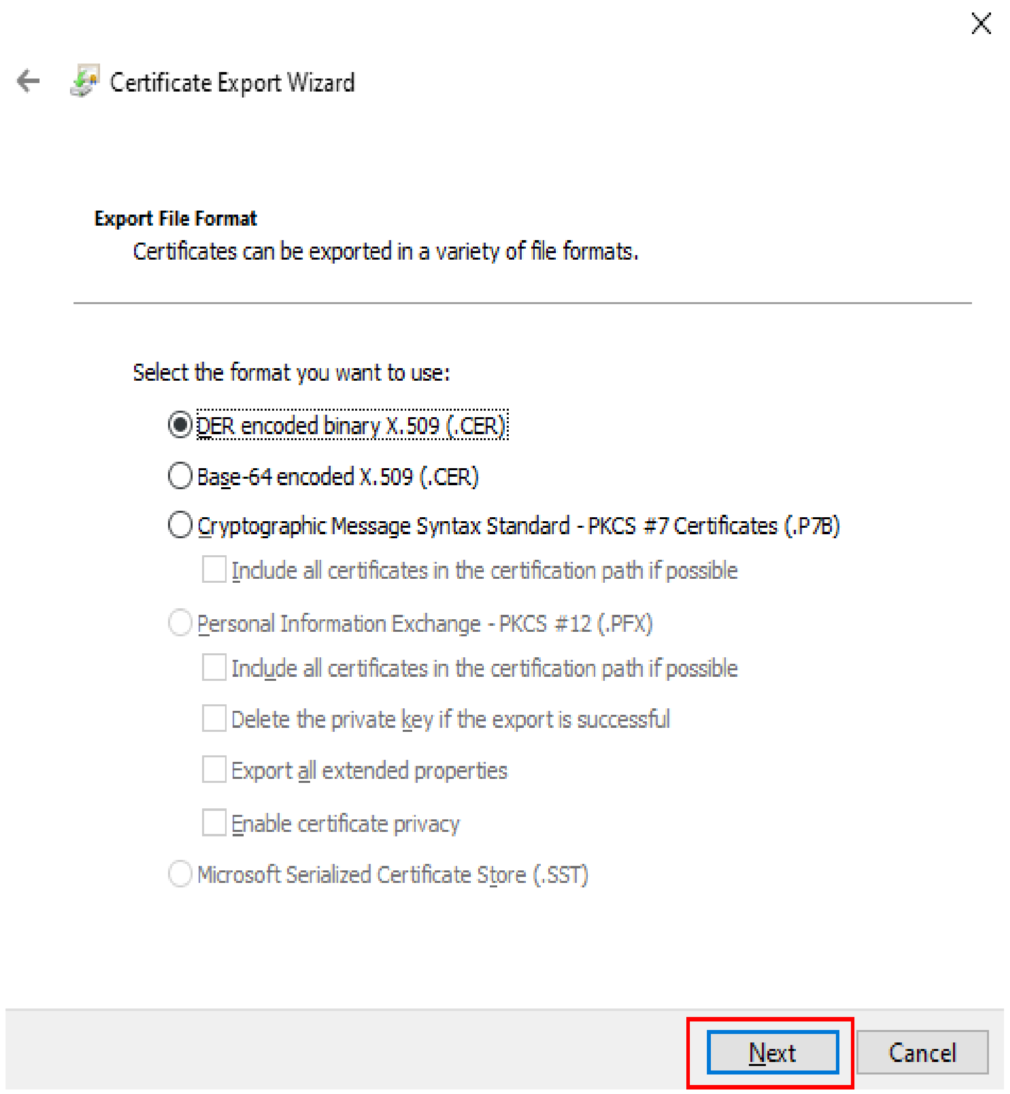
3. Click the **Certification Path** tab, select the root certificate, and click **View Certificate**.

   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.

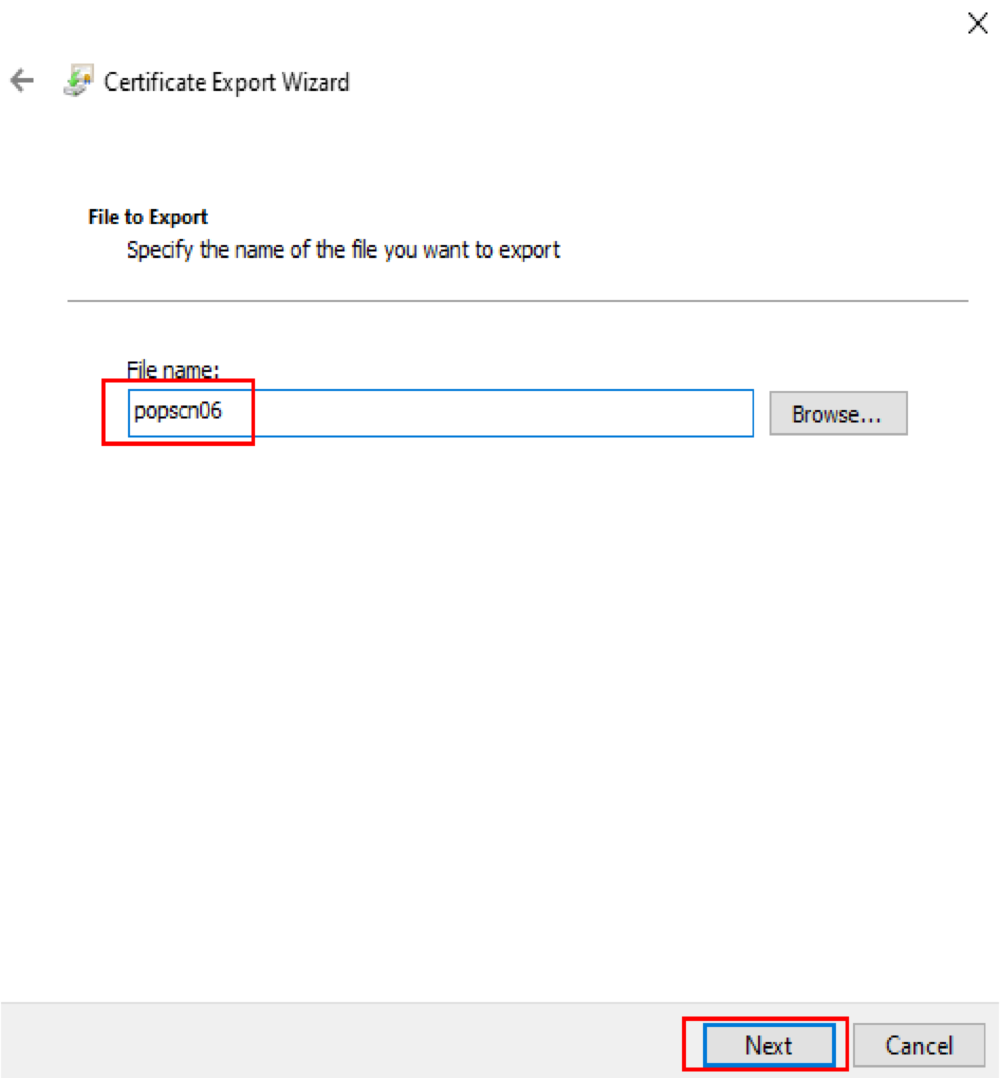
4. In the dialog box that is displayed, click the **Details** tab, click **Copy to File**, and click **Next**. (You can also click the **Certificate Path** tab to export the root certificate or level-2 certificate. The export method is similar.)



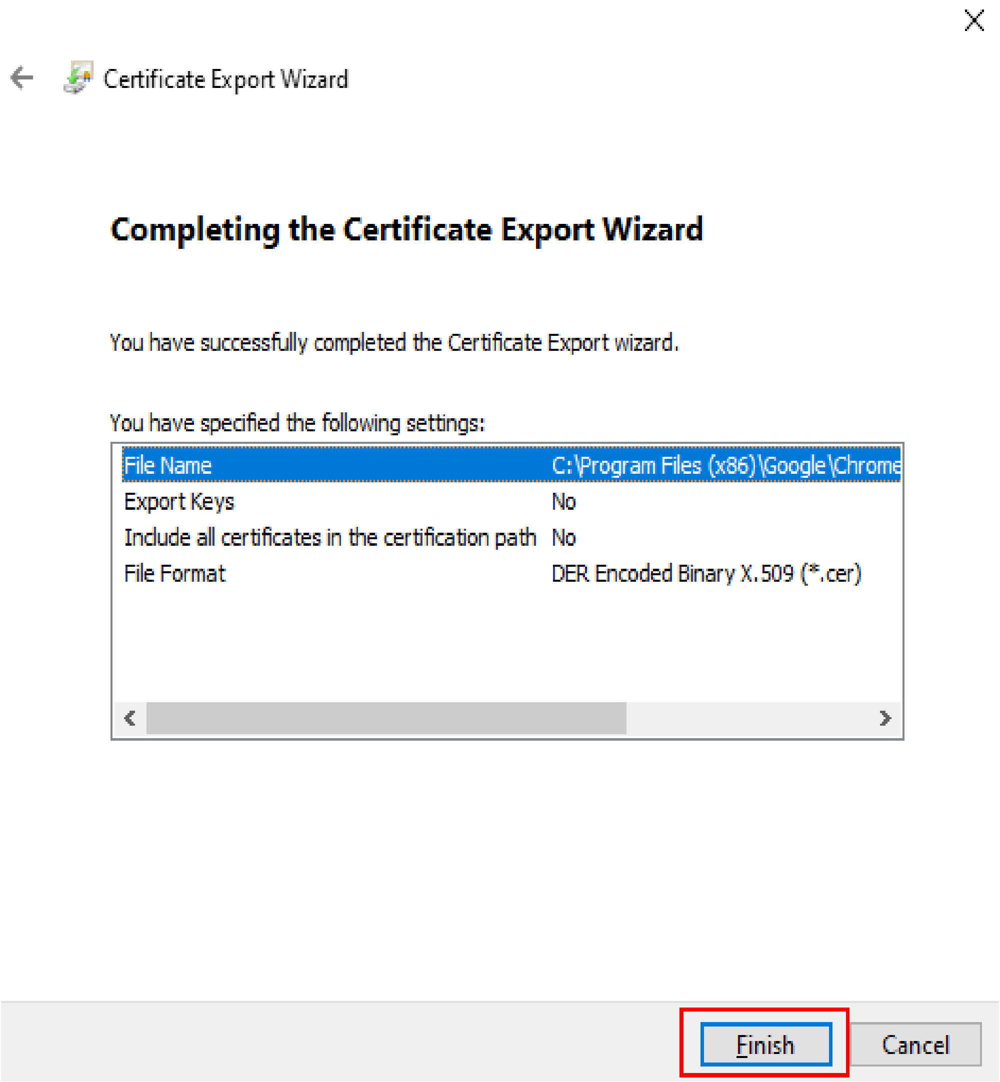
5. Select a certificate format and click **Next**.



6. Enter the name of the certificate file to be exported and click **Next**.



7. Click **Finish** to generate a certificate file. The file name is the complete path of the certificate file.



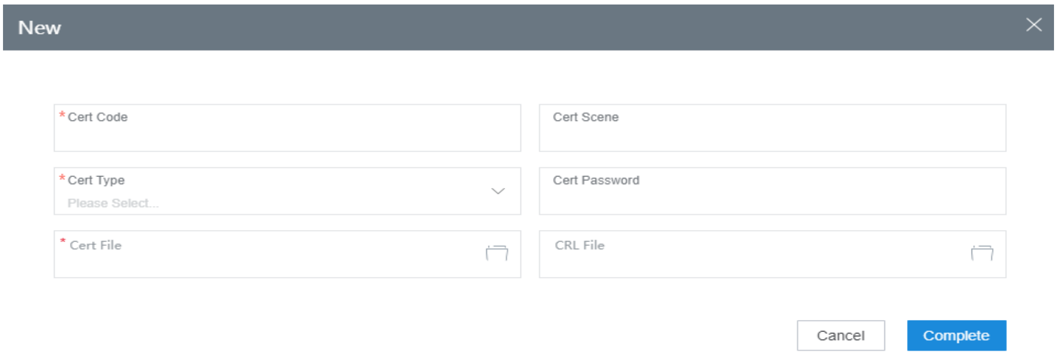
----End

Procedure

Step 1 Sign in to AICC as a tenant administrator and choose **Configuration Center** > **System Management** > **Certificate**.

Step 2 Click **New**.

For details about the parameters, see "Tenant Self-Operations > Managing a Certificate" in *AICC Feature Description*.



Step 3 Click **Complete**. The certificate is uploaded successfully and takes effect 10 minutes later.

----End

Follow-up Procedure

After the certificate is uploaded, click **Edit** in the **Operation** column to update it.

2.17.7 Configuring Email Agent Special List Rules

A tenant administrator configures the email agent 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 **2.8.6 Configuring the Email Channel**.

Procedure

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

Step 2 Click **New**. The dialog box for adding an email agent special list rule is displayed. Set rule parameters.

Figure 2-411 Adding an email special list rule

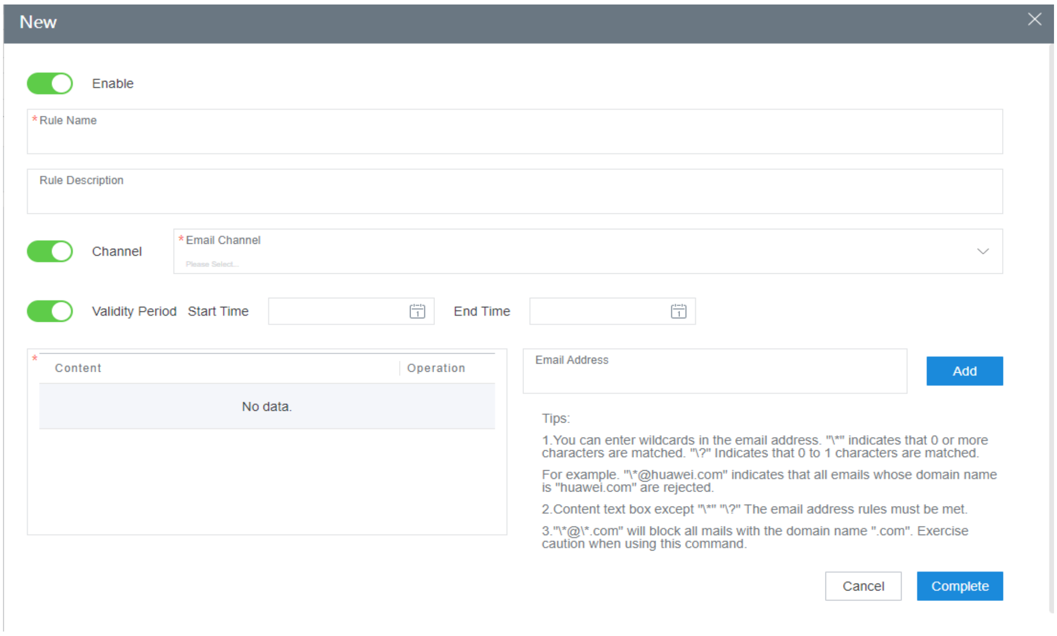


Table 2-108 GUI element on the page for adding an email special list rule

Element	Description
Enable	Whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Rule Name	Rule name, which is customized.
Rule Description	Description. This parameter is optional.
Channel	Email channel to which the rule is applied. • : The rule is applied to the selected email channel. • : The rule is applied to all email channels. This switch is turned on by default.

Element	Description
Validity Period	Validity period of the rule. • : The rule is valid within the specified period. – 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. • : 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. This switch is turned on by default.
Content	List of blocklisted email addresses that have been added. A maximum of 10 blocklisted email addresses can be added to a rule.
Delete	Delete a blocklisted email address that has been added.
Email Address	Blocklisted email address to be added.
Add	Add the content entered in the **Email Address** text box to the **Content** list.

Step 3 Click **Complete** to save the new email agent 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 **2.8.9 Configuring the SMS channel**.

Procedure

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

Step 2 Click **New**. In the dialog box for adding an SMS special list rule, set rule parameters.

Figure 2-412 Adding an SMS special list rule

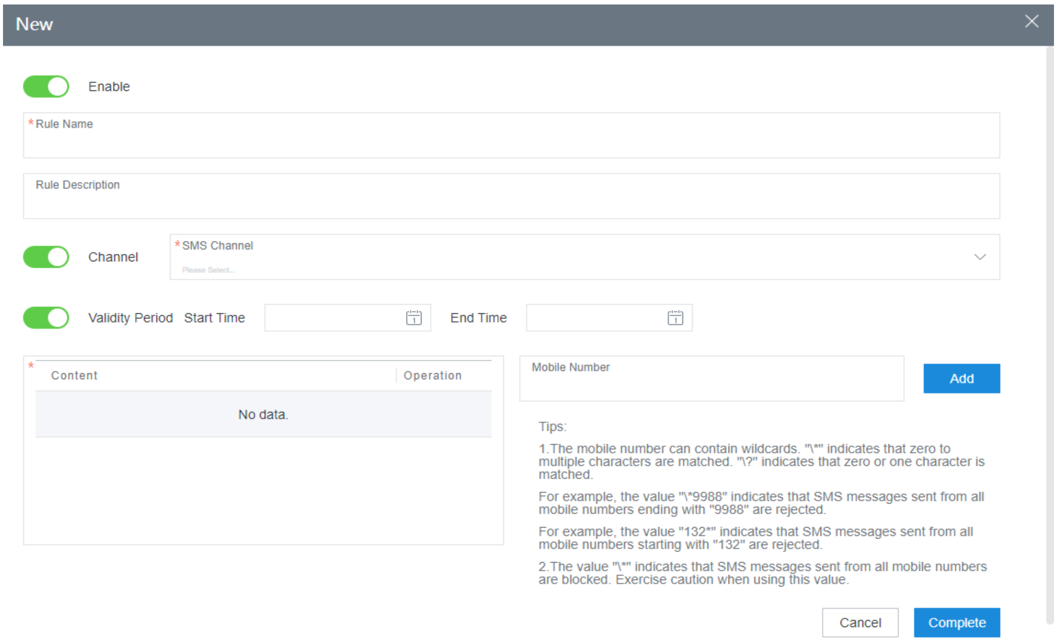


Table 2-109 GUI element on the page for adding an SMS special list rule

Element	Description
Enable	Whether to enable the rule after the configuration is complete. This switch is turned on by default. Retain the default setting.
Rule Name	Rule name, which is customized.
Rule Description	Description. This parameter is optional.
Channel	SMS channel to which the rule is applied. • : The rule is applied to the selected SMS channel. • : The rule is applied to all SMS channels. This switch is turned on by default.

Element	Description
Validity Period	Validity period of the rule. • : The rule is valid within the specified period. – 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. • : 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. This switch is turned on by default.
Content	List of blocklisted mobile numbers that have been added. A maximum of 10 blocklisted mobile numbers can be added to a rule.
Delete	Delete a blocklisted mobile number that has been added.
Mobile Number	Blocklisted mobile number to be added.
Add	Add the content entered in the **Mobile Number** text box to the **Content** list.

Step 3 Click **Complete** 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**.
- 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 a Certificate**.

- 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.

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 and set **Type** to **OBS server**.

   The server name must be unique.
4. Enter information about the purchased OBS, including the OBS address, data bucket, AK, and SK.
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. 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 and set **Type** to **CSS server**.

   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**.
3. (Optional) Set **Dump file retention period (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.
4. (Optional) Click to enable CSS.

   The keys for storing voice files in OBS are written to CSS.
5. Click **OK**.

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 (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.

5. Select one or more reports to be dumped. The options are as follows:
   – **VDN Performance Report**
   – **VDN Performance Statistics Report by Access Code**
   – **IVR Data Report**
   – **IVR Data Statistics Report by Access Code**
   – **Skill Queue Performance Report**
   – **Skill Queue Performance Statistics Report by Access Code**
   – **Agent Performance Summary Report**
   – **Skill Queue Summary Report**
   – **Agent Outbound Call Summary Report**
   – **Agent Connection Operation Report**
   – **Summary Report on Calls Abandoned During Ringing**
6. Click **OK**.
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 (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.
4. Click **OK**.
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 (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.
6. (Optional) Set filter criteria.
7. Set **Export data field**. The options are as follows:
   – **Fields in contact record list**: All data fields are exported and the value cannot be customized.
   – **Customized fields in contact record**: All fields are exported by default and the value can be customized.
8. Click **OK**.
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 (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.
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 **OK**.

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**.

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 (month)**. The value is an integer ranging from 1 to 60. If this parameter is left empty, data is stored permanently.
4. Set **AI Inspection Data Dump Duration (Day)**.

   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 **OK**.

----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 **Customer Contact History** > **Dump Resource** to view dump resources online.

2.17.10 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.

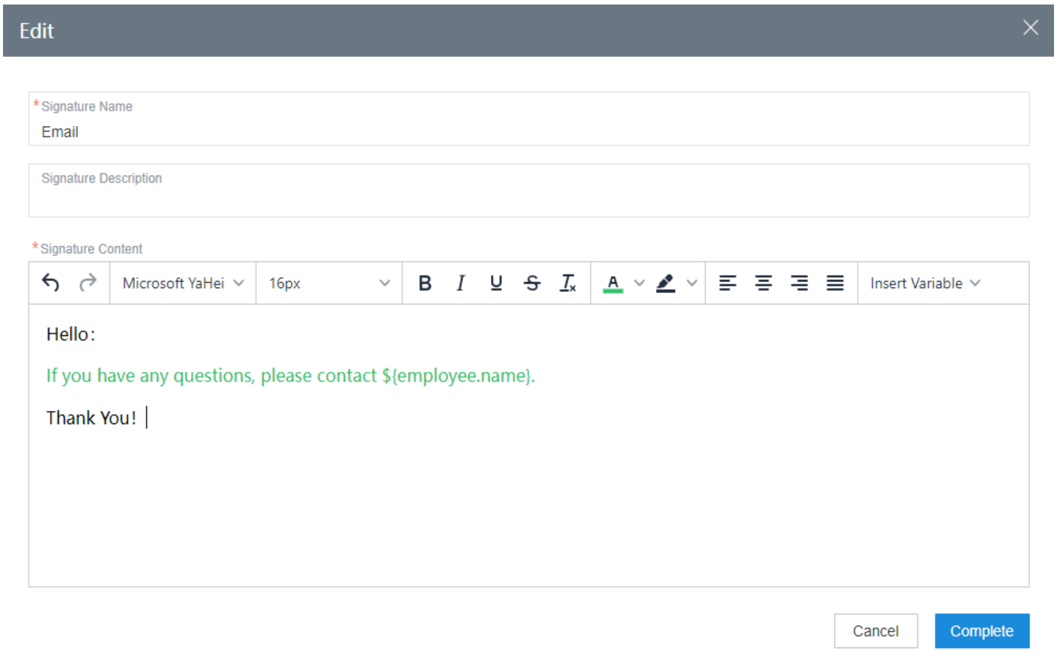
Procedure

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

Step 2 Click **New**. The page for creating an email signature is displayed.

Step 3 Configure an email signature.

Figure 2-413 Page for creating an email signature



- **Signature Content**: The font style can be set, and the **User Name** variable can be inserted. After entering the signature content, click **Complete**.

  NOTE

  The signature name must be unique in the tenant space, and cannot contain **eval**, **exec**, and the following special characters: <=>/\"

  When a signature with a variable is used, the variable in the signature is replaced with the actual username.

Step 4 (Optional) Click **Edit**, **View**, or **Delete** in the **Operation** column to edit, view, or delete a signature.

(Optional) Select one or more email signatures and click **Delete** to delete them in batches.

----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.

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 the parameters based on **Table 2-110**.

Table 2-110 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**
FC Object	Flow control object. The options are all the following channels of the current tenant: • WhatsApp channels • SMS channels
Period Type	Flow control period type. • **Daily** • **Weekly** • **Monthly** • **Time Range**: Customize a time range.
Select the start time.	Start time. This parameter needs to be set when **Period Type** is set to **Weekly** or **Monthly**. • **Weekly**: 1–7 • **Monthly**: 1–31
Start Time	Start time and end time. This parameter needs to be set when **Period Type** is set to **Time Range**. 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**.

Parameter	Description
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 **OK**.

Step 5 Click to enable the rule.

----End

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.
- 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 Management** > **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 Management** > **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 Email Messages

A tenant administrator can view and manage customer emails and forward emails to specified employees on this page.

Prerequisites

You have configured an available email channel and received the customer email.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Customer Contact History** > **Email Message Management**. 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. Click and set **Catalog Name** to **Employee A**.
2. Click **Finish**.

Step 3 Move the emails to the **Employee A** catalog.

1. Select the check boxes of the emails to be moved.
2. Click **Move** and select the **Employee A** catalog.
3. Click **Finish**.

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.
2. Click the email title to view the email details.

   The value cannot be modified.

----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.

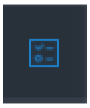
2.18.1 Agent Bypass

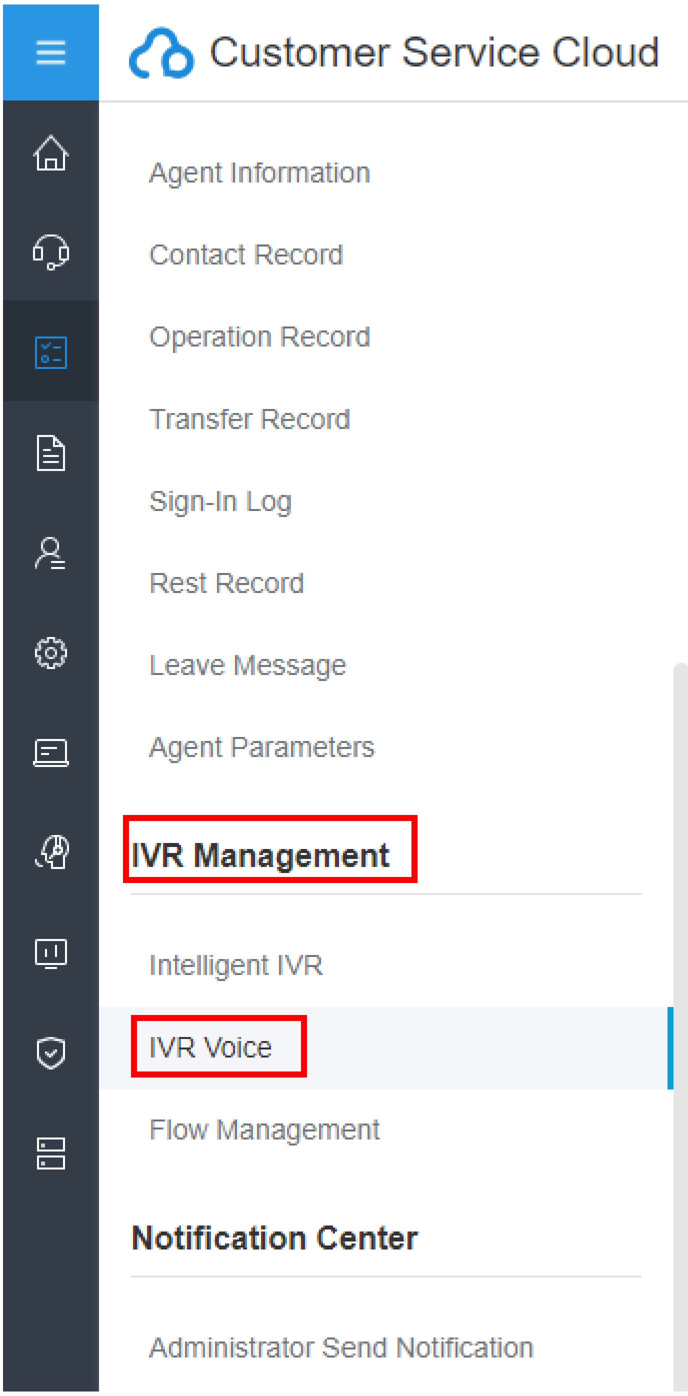
In fault mode, the AICC page cannot be signed in. You need to use the CCGatewayBar to access the AICC page. For details, see **2.18.3 CC-Gateway Emergency Connection Bar**.

2.18.2 Performing the IVR Bypass

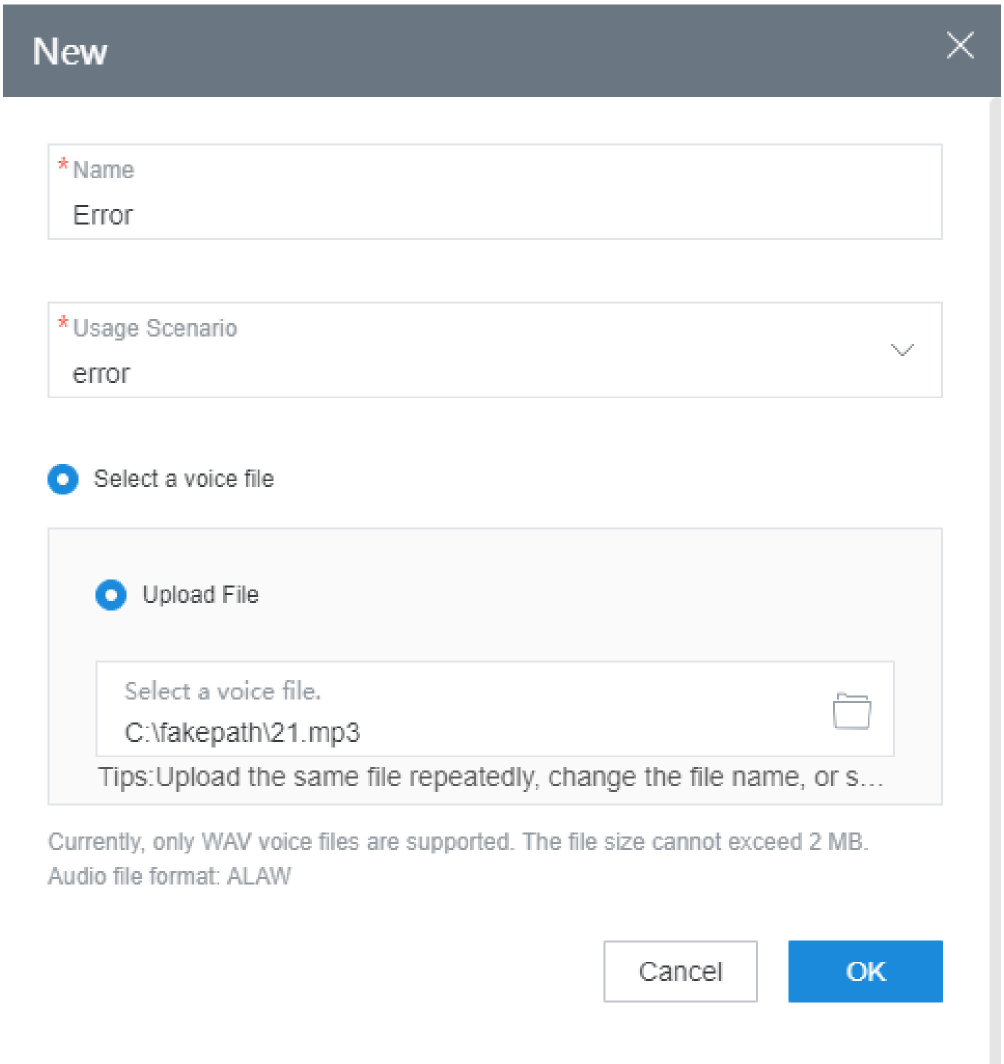
This section describes IVR business bypass.

Step 1 Sign in to the system as a tenant administrator and add a fault prompt tone.

1. Choose  > **IVR Management** > **IVR Voice**.



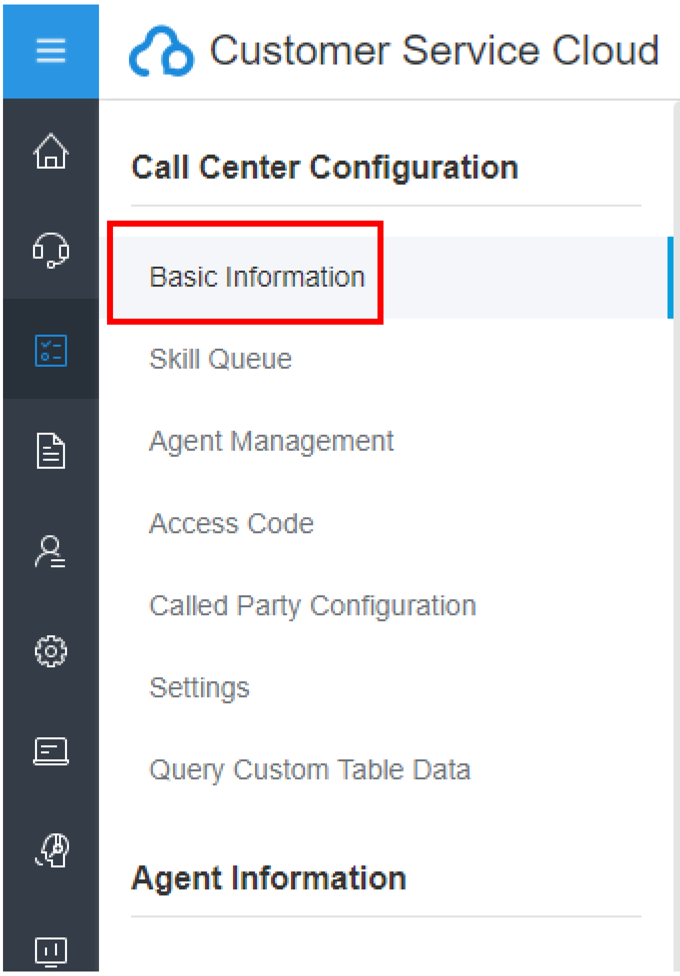
2. Upload a voice file and submit it for approval.



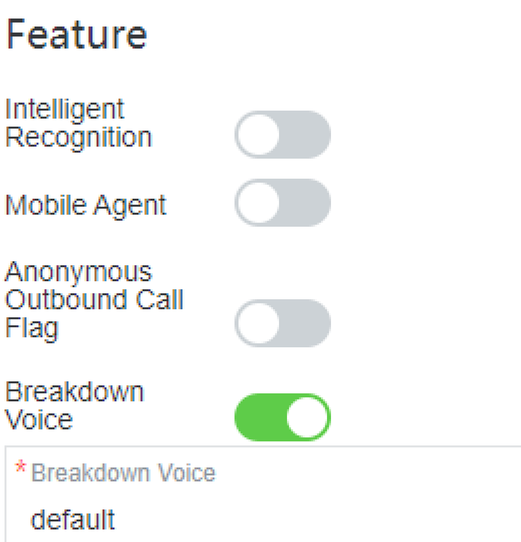
Step 2 After a voice file is uploaded, contact the system administrator for approval. After the file is approved, perform the following operations.

Step 3 Sign in to the system as a tenant administrator and set the fault prompt tone.

1. Choose  > **Call Center Configuration** > **Basic Information**.



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.

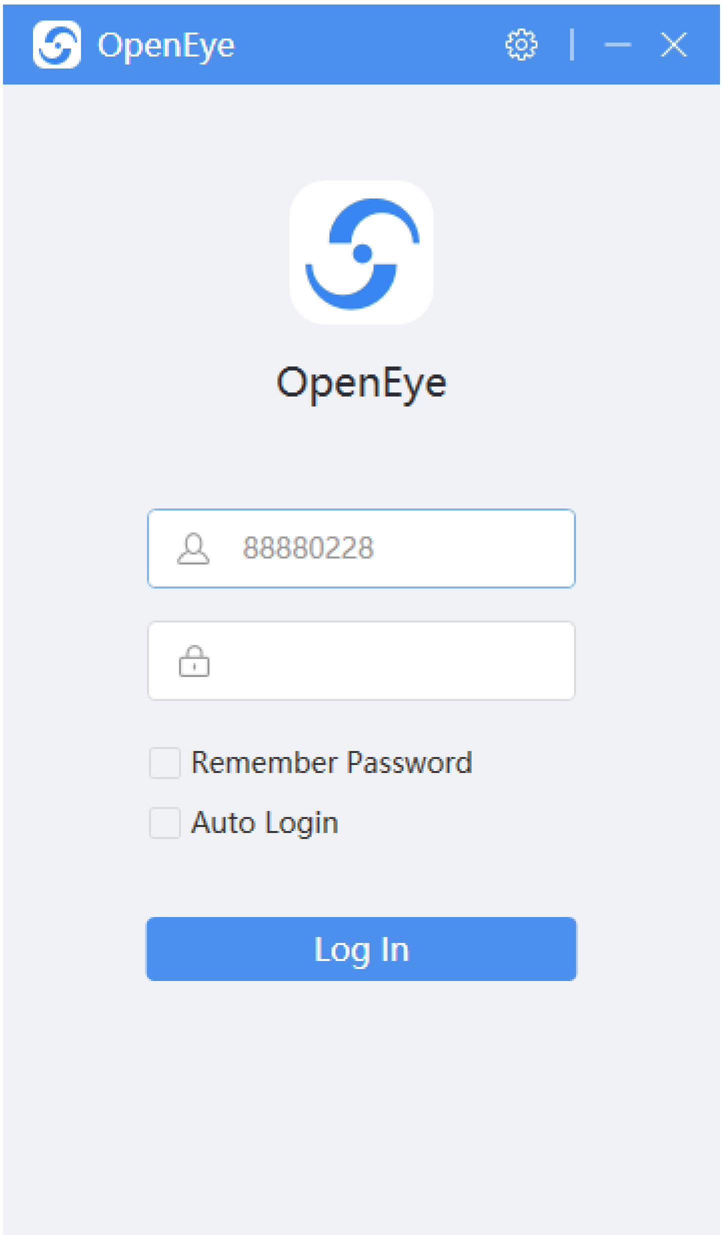
2.18.3 CC-Gateway Emergency Connection Bar

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, change the value of **SUPPORT_AGENT_FAULT_MODE** in the **/home/elpis/tomcat/webapps/agentgateway/WEB-INF/config/basic.properties** file to **ON**, 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.



Step 3 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 **Sign In**.

Step 5 Change the agent status.

1. If an agent needs to handle other businesses (for example, internal discussion), the agent can choose **Work** to enter the work state.

2. If an agent needs to handle other businesses (for example, internal discussion), the agent can choose **Busy** to enter the busy state.

Table 2-111 describes the results of choosing **Busy** in different agent states.

Table 2-111 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.

3. If an agent finishes handling other businesses (for example, internal discussion), the agent can choose **Exit Work** or **Idle** to enter the idle state and continue to answer calls from customers.

4. If an agent needs to leave for a while (for example, drinking water or going to the restroom), the agent can choose **Rest** to enter the rest state.

Table 2-112 describes the results of choosing **Rest** in different agent states.

Table 2-112 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**.

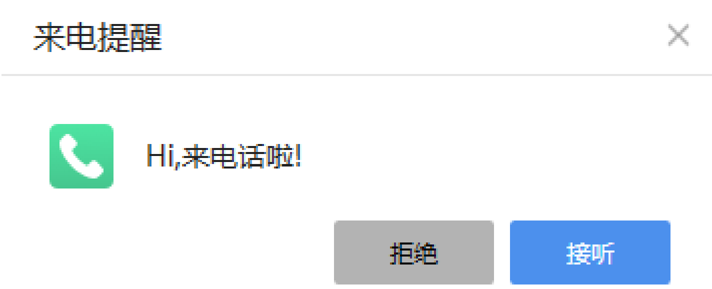
Agent State	Result
Work	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after exiting the work state.
Calling	The **Rest** state is applied for successfully. A dialog box is displayed, showing the rest start time. The agent enters the **Rest** state after ending the call.

Step 6 View agent information.

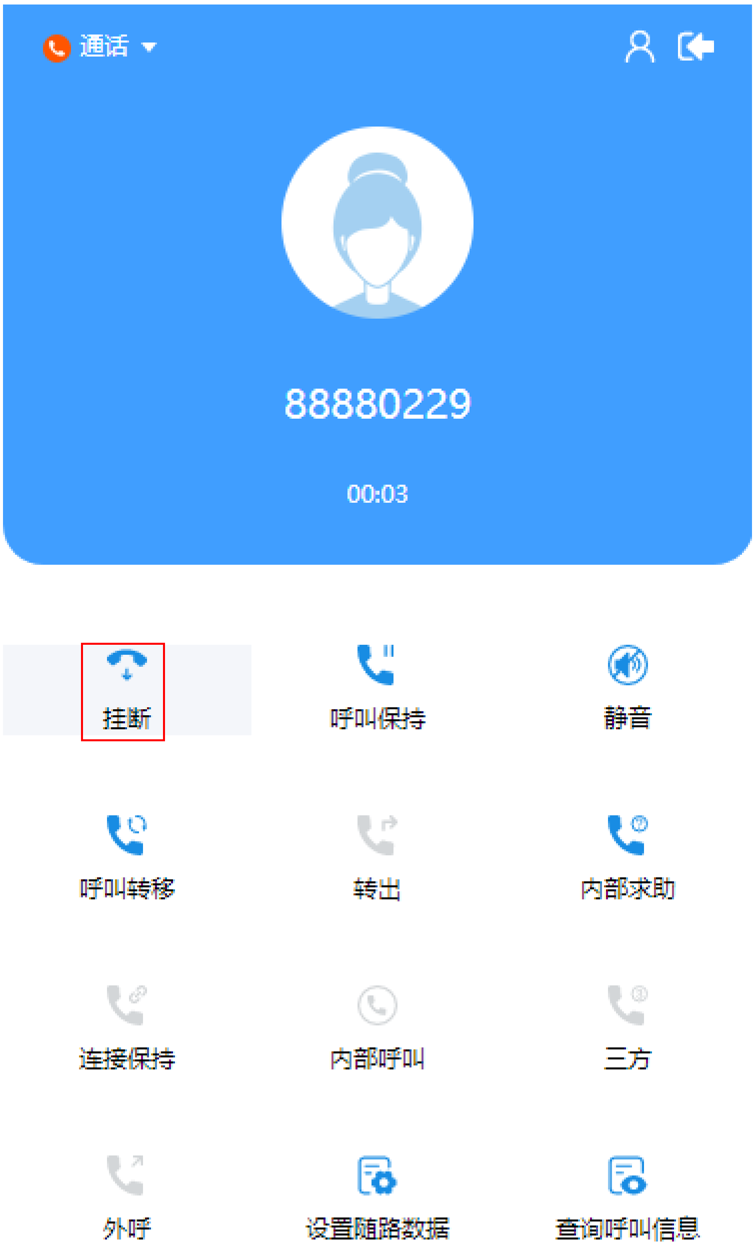
Step 7 Sign out.

Step 8 Answer a call.

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.

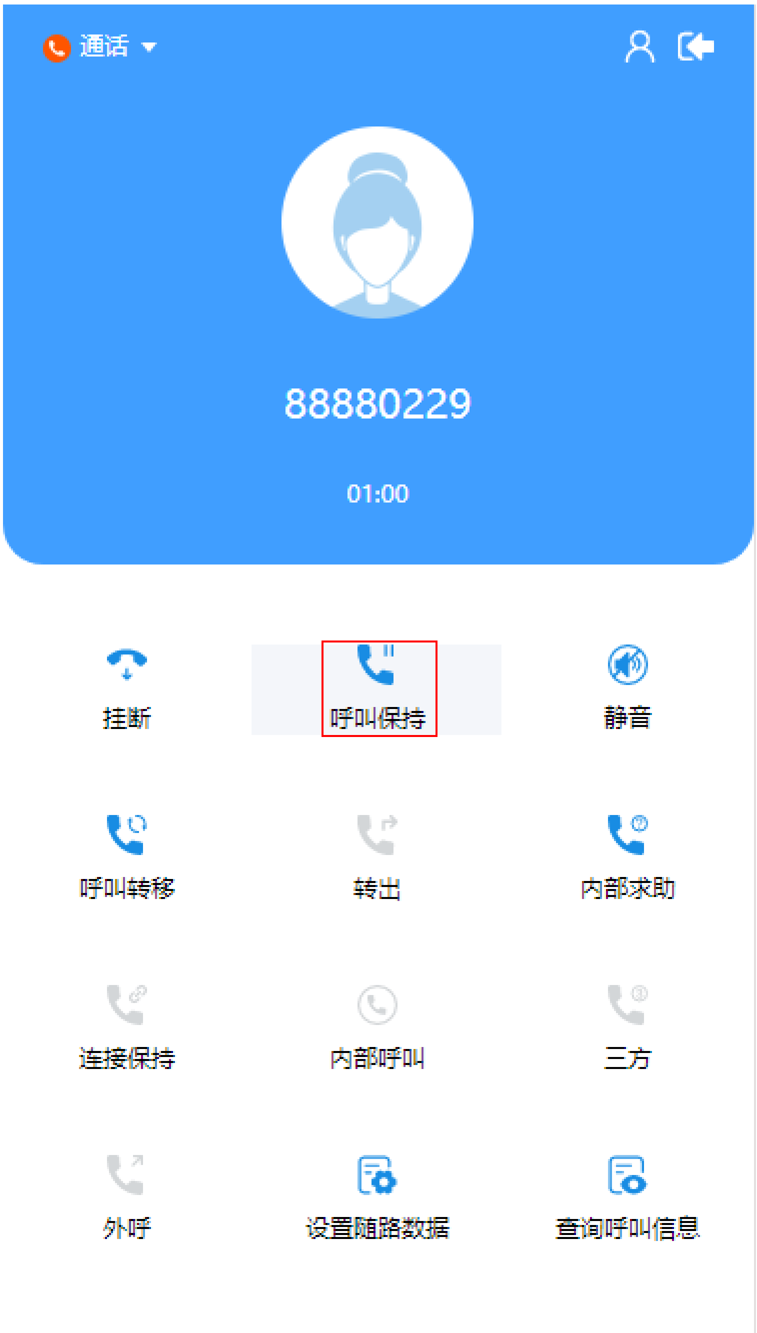


Step 9 Release a call.

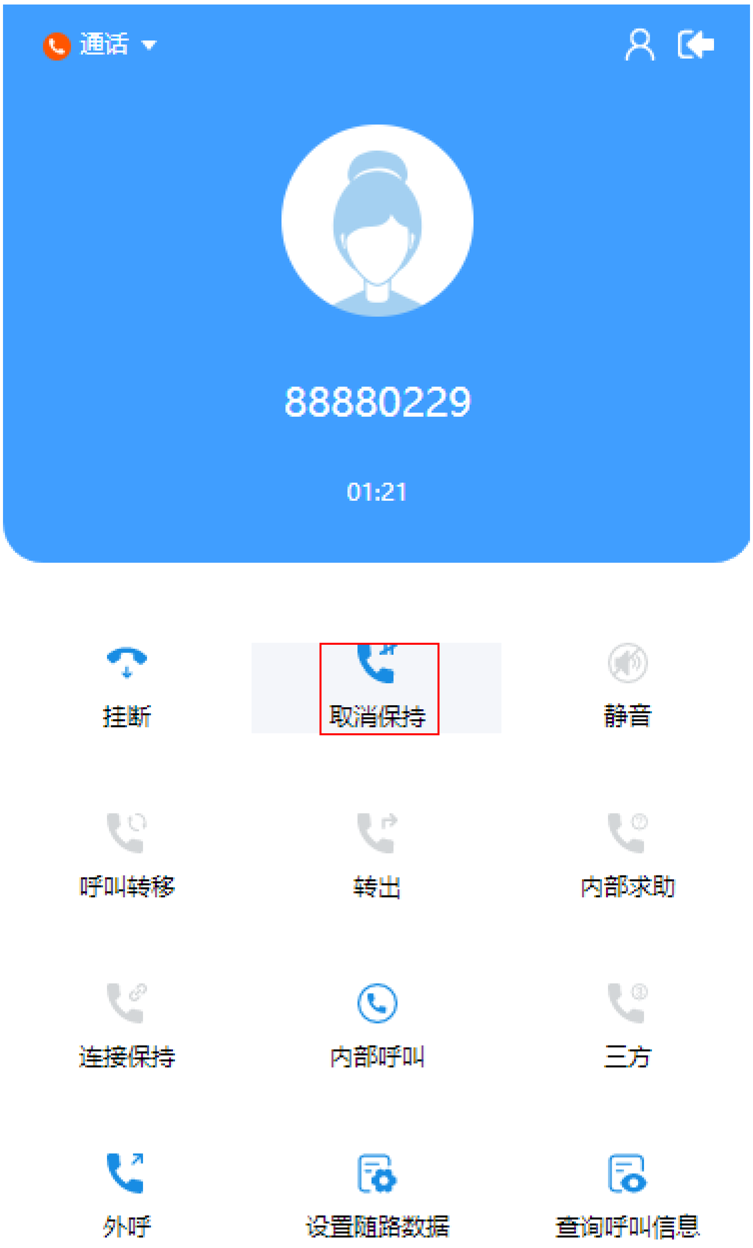


Step 10 Hold or unhold a call.

If an agent needs to make another call (for consultation or discussion), the agent can hold the current call to stop voice transmission. The agent and customer cannot hear each other, and the customer hears the call hold tone.

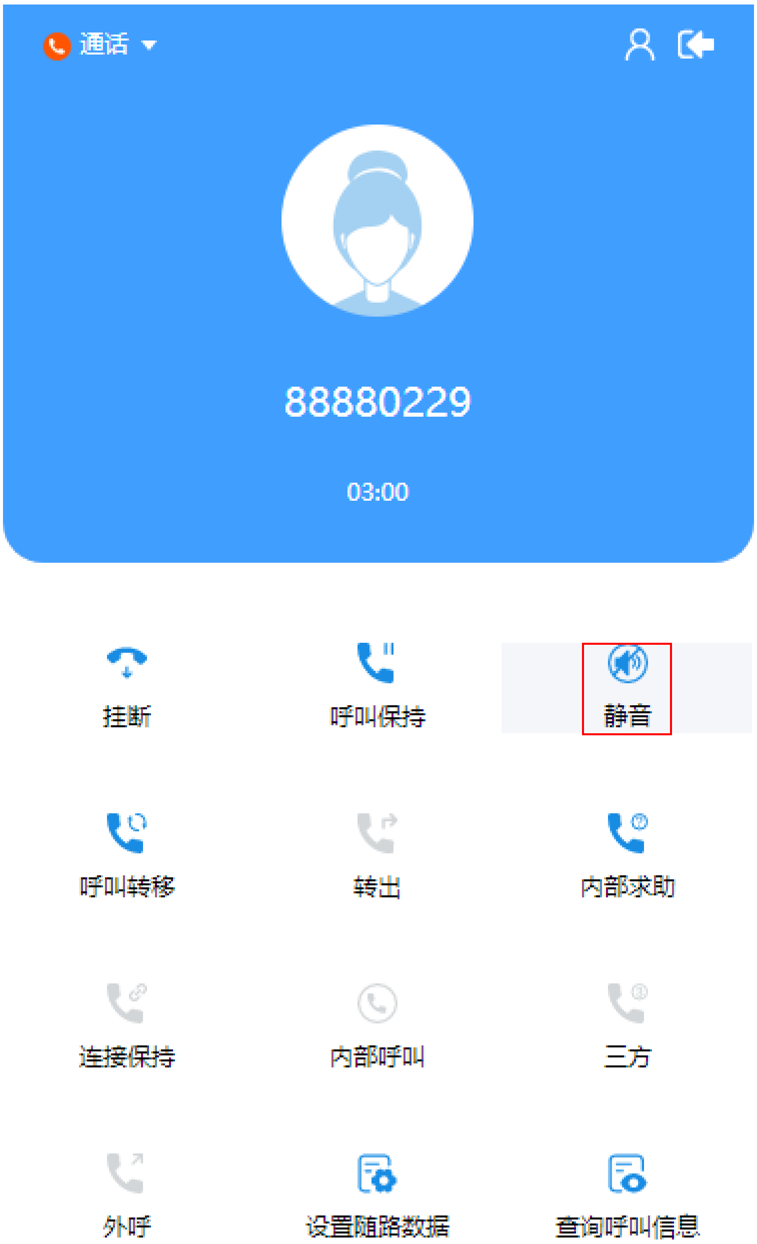


After the consultation or discussion ends, the agent can unhold the call to resume voice transmission.

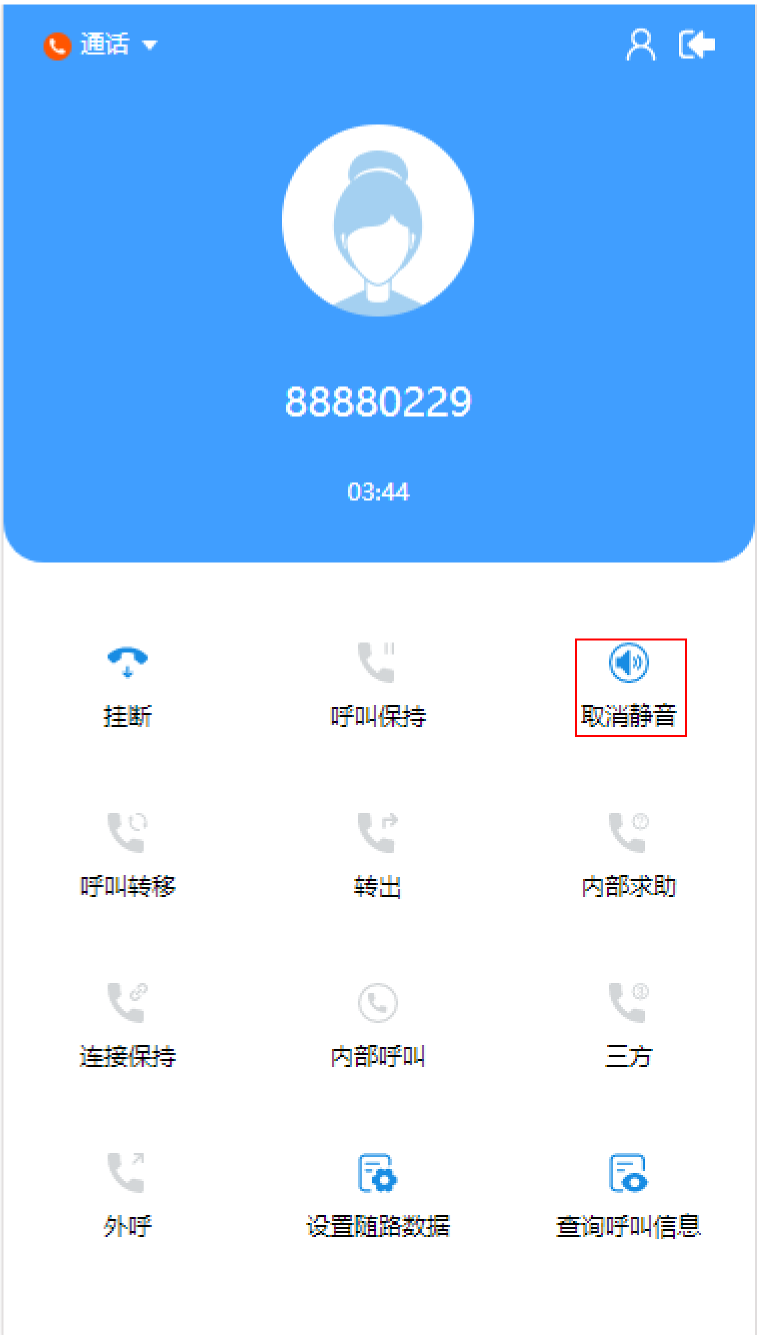


Step 11 Mute or unmute yourself.

After an agent is muted, the customer cannot hear the agent, but the agent can hear the customer.



After an agent is unmuted, the agent and customer can hear each other.

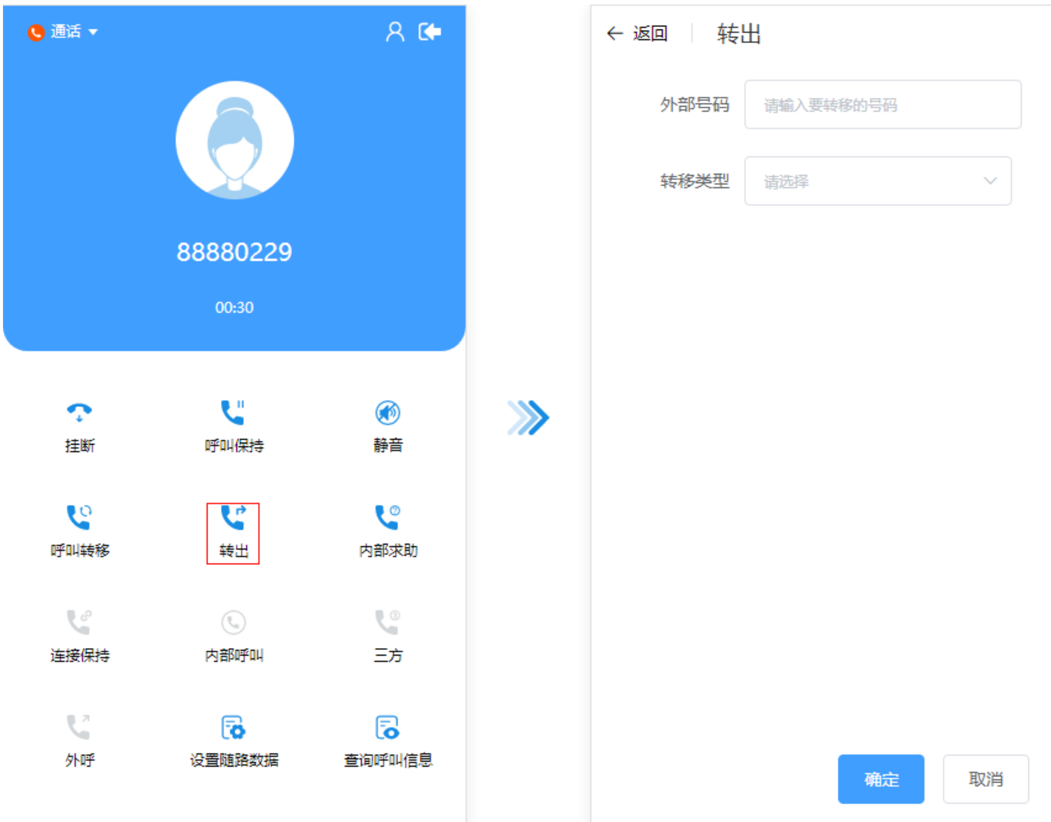


Step 12 Transfer a call.

An agent can transfer an ongoing call to a skill queue, another agent, or automatic flow.

Step 13 Transfer out a call.

An agent can transfer an ongoing call to an external expert.

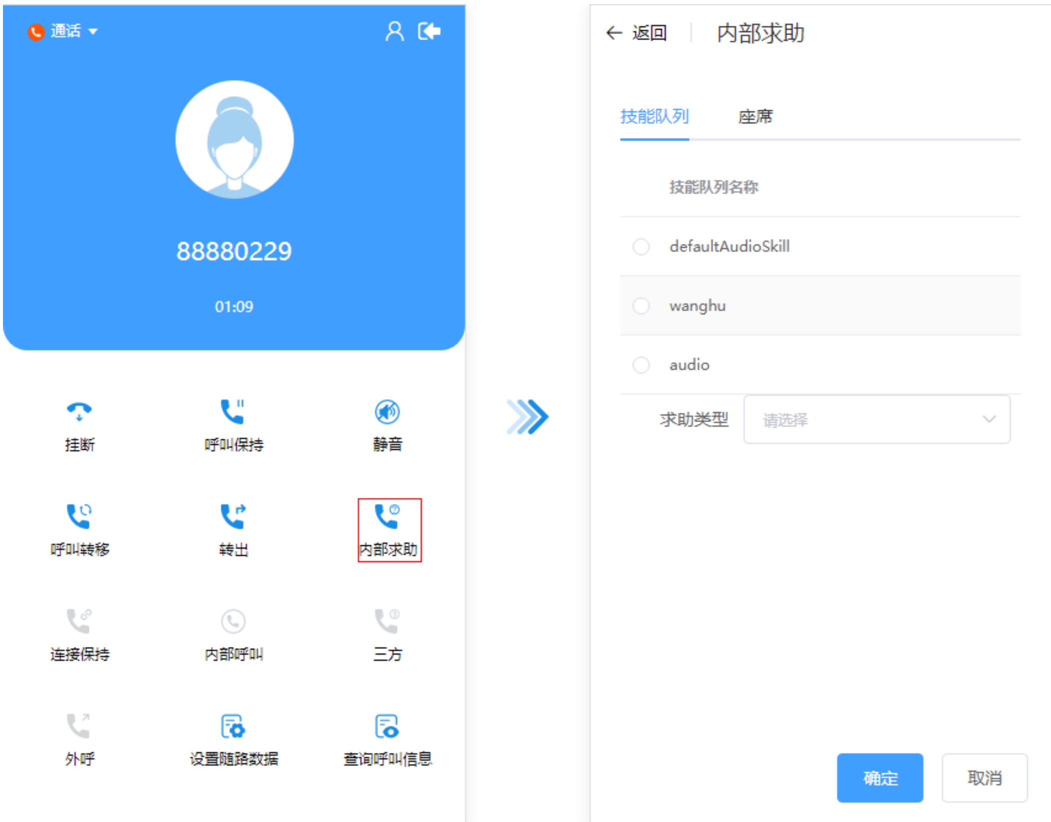


Step 14 Initiate an internal help request.

An agent can initiate an internal help request to another agent during a call with a customer. Internal help is classified into two-party help and three-party help.

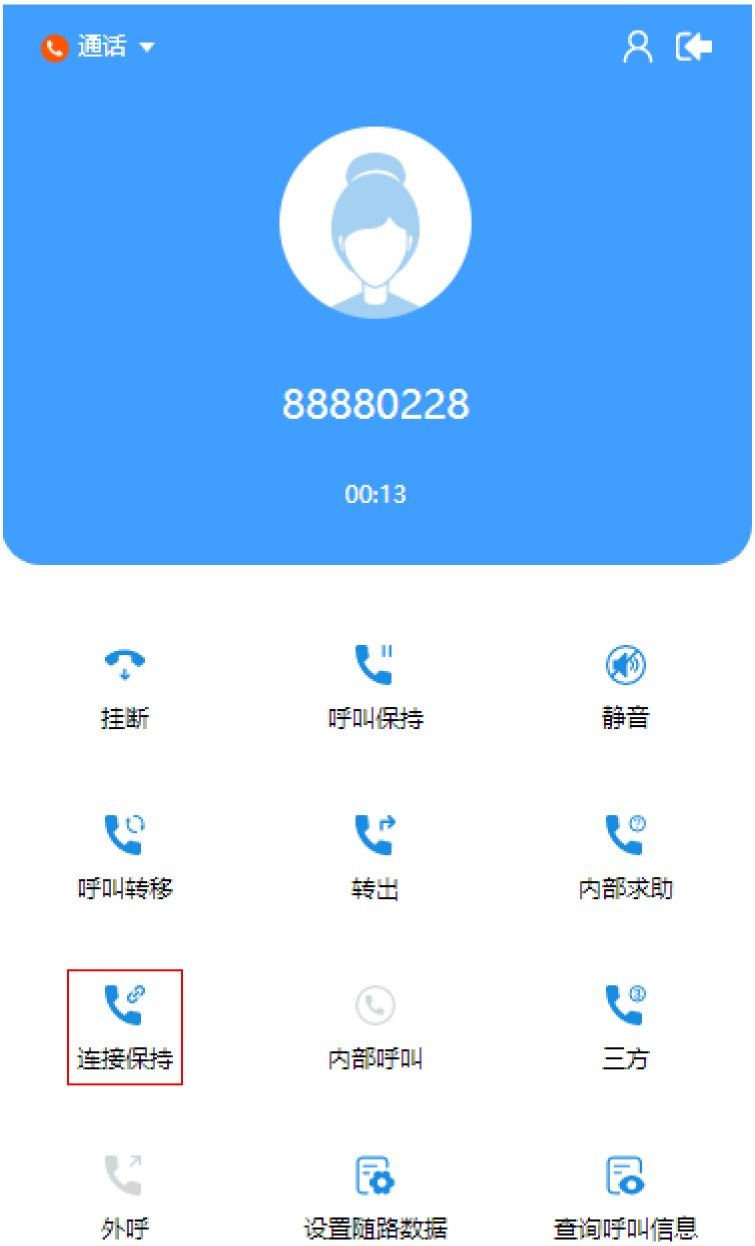
- Two-party help: The call with the customer is held, and the agent and requested agent are in a call. If the requested agent releases the call, the agent returns to the call with the customer.
- Three-party help: The customer, agent, and requested agent are in a call. If any party exits the call, the call continues between the other two parties.

  An agent can initiate an internal help request to a specified agent or a skill queue. If a skill queue is requested, the system specifies an agent.



Step 15 Connect a held call.

During a voice call with a customer, an agent can hold the call, call a third party, and connect the held call to the third party.



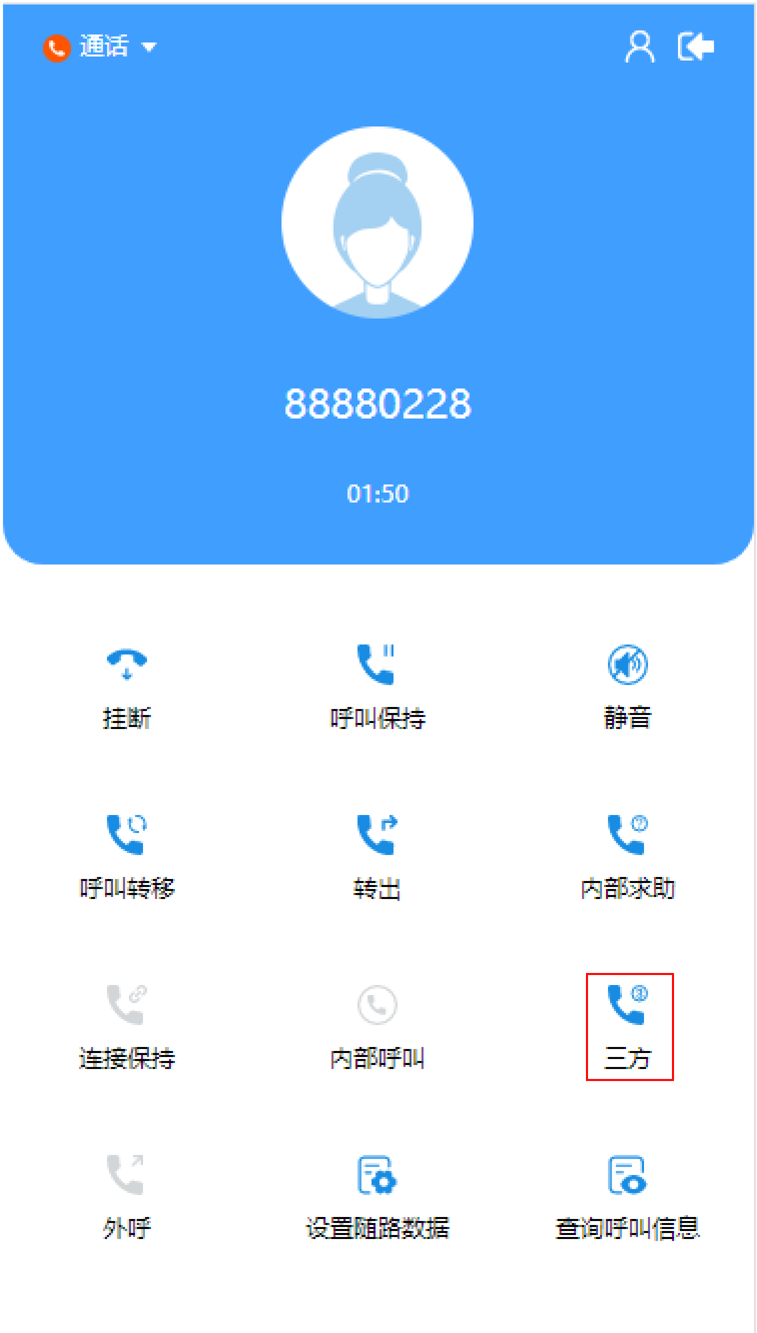
Step 16 Make an internal call.

To communicate with each other, agents (including inspectors) can make internal calls to each other.

Step 17 Make a three-party call.

During a voice call with a customer, an agent can call a third party (another agent or an external expert) to join the call. In this way, 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.

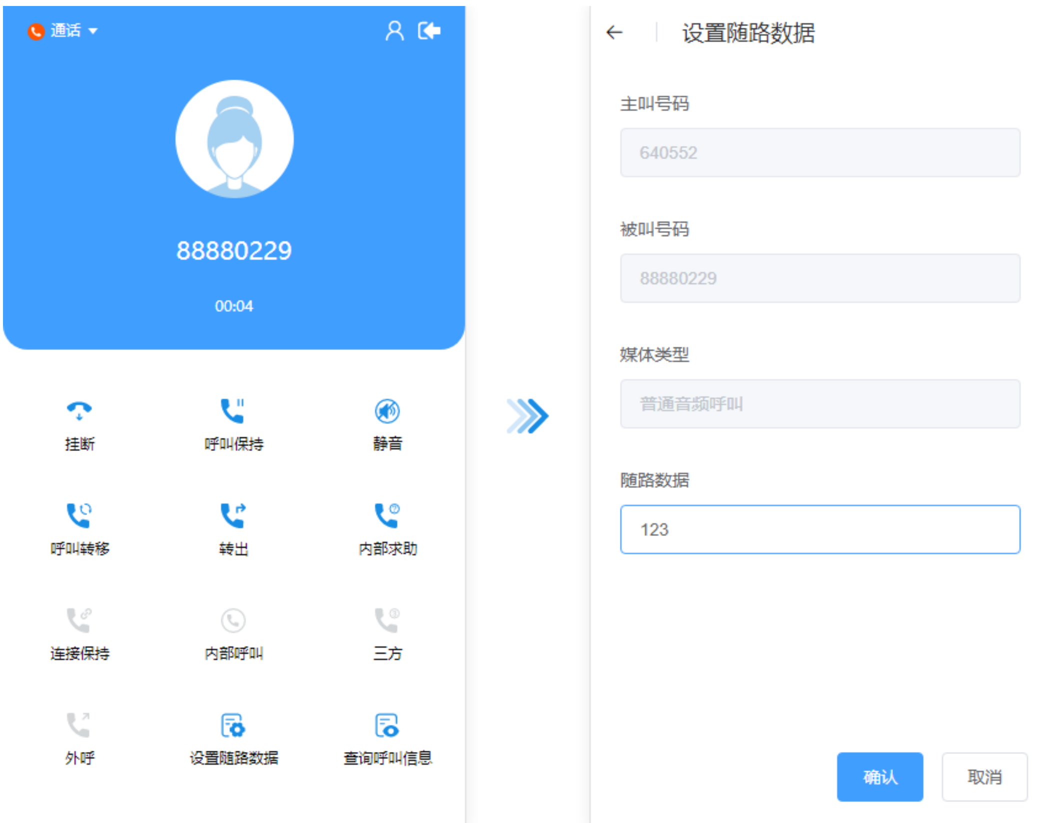


Step 18 Make an outbound call.

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.

Step 19 Set call-associated data.

During a voice call, an agent can set call-associated data.



Step 20 Query call information.

During a voice call, an agent can query call data.

----End

2.18.4 Automatic IVR Bypass

The IVR flow configures bypass skill queues and exception announcements for tenants in the configuration file.

Procedure

Step 1 Upload exception handling voices to the file server.

In this version, the IVR online orchestration function is optimized. To preset system or agent exception voices, you need to upload them to the path specified in the **defaultIVR.ini** file.

1. Obtain the following files from **\aicc\ivrdefaultflow\voice** in the **AICC_****_ConfigPkg.zip** package:
   – exceptionVoice.wav
   – faultVoice.wav
2. Log in to the LMT client as the **admin** user, right-click **Domain** > **Subnet** > **UAP** on the **Object Navigation Tree** tab page, and choose **Launch MML Command** from the shortcut menu to query the IP address of the UAP file server.

   On the **MML command** tab page, run the **LST FSCFG** command to query the IP address of the file server.

```
+++    UAP9600        2021-04-02 18:12:38+00:00
O&M    #399
%%LST FSCFG:;%%
RETCODE = 0  Operation succeeded.

List file server configuration information
------------------------------------------
         File server index  =  0
   File server description  =  NULL
    File server IP address  =  [redacted]
              IPv6 address  =  NULL
File server domain address  =  NULL
            Transport type  =  UDP
(Number of results = 1)
```

On the **MML command** tab page, run the **LST VOLCFG** command to query the path corresponding to the drive letter.

```
+++    UAP9600        2021-04-02 18:15:36+00:00
O&M    #403
%%LST VOLCFG:;%%
RETCODE = 0  Operation succeeded.

LST VOLCFG1
-----------
                     Volume symbol  =  y:
                      Volume index  =  0
               Fileserver directory  =  /share
                       NFS user ID  =  65534
                      NFS group ID  =  65533
          Active file server index  =  0
         Standby file server index  =  255
Specify as TTS/ASR/NLR service drive  =  NO
Enable disaster recovery file server  =  NO
                    File open mode  =  rw-rw-rw-
(Number of results = 1)
```

3. Log in to the UAP file server and place the voice files obtained in **Step 1.1** in **/voice** in the corresponding directory on the UAP file server, for example, **/share/voice**. After the voice files are uploaded, change the permission on the files to **640** and ensure that the owner group of the files is the same as that of the corresponding directory on the UAP file server. If the **voice** directory does not exist, manually create it, change the permission on the directory to **750**, and ensure that the owner group of the directory is the same as that of the corresponding directory on the UAP file server.
4. (Optional) Log in to the CTI server as the **cti** user, create a directory in **home/cti/icddir/bin** (for example, create **Y:** if the drive letter is **y**), and change the permission and owner group of the directory to **750** and **cti:icd**, respectively. Skip this step if you have completed the operations in (Optional) Configuring Information After the ASR and TTS Are Connected.

5. (Optional) Switch to the **root** user, mount the UAP file server to the new directory on the CTI, and run the following command. Skip this step if you have completed the operations in (Optional) Configuring Information After the ASR and TTS Are Connected.

```
# mount -t nfs -o soft,intr,rsize=32768,wsize=32768,timeo=50,retrans=5 ip:/share /home/cti/icddir/bin/Y:
```

ip:/share indicates the IP address and directory of the UAP file server, which must be the same as those in **Step 1.2**. */home/cti/icddir/bin/Y* indicates the directory created in **Step 1.4**.

Step 2 Check the **defaultIVR.ini** file on the IVR server.

1. Log in to the IVR server as the IVR installation user (usually the **cti** user), go to the **/home/cti/icddir/bin** directory, and open the **defaultIVR.ini** file.
2. Check whether the defaultAudioSkill skill queue exists in the flow configuration file. If the skill queue does not exist, set **VDNID** to the skill queue name.

```
SkillNameList="0-defaultAudioSkill"
```

3. Check the paths of the error prompt tone and exception prompt tone. If the paths are different from those configured on the UAP, change the paths.

```
ExceptionVoicePath="Y:/voice/exceptionVoice.wav"
FaultVoicePath="Y:/voice/faultVoice.wav"
```

NOTE

Replace *Y:/***voice** with the actual path.

Step 3 In **/home/cti/icddir/bin**, restart all IVR processes as the **cti** user.

Run the following commands to restart all IVR processes in sequence:

```
</home/cti/icddir/bin>mdscmd
mdscmd bind to ip xxx.xxx.34.108
ICDV300R008CXX

Main Menu:
    0). Get Process State From MDS
    1). List All Process
    2). Add  Process
    3). Modify Process Setting
    4). Delete Process
    5). Get Configuration From CCS
    6). Start Process
    7). Stop Process
    8). Start All Process
    9). Stop All Process
    a). Set Alarm Information
    b). Set Reference IP Address
    q). Quit
Please Select (0~9,a,b or q):
7
--------Request Stop Process--------
Please choose a Server:
    icdcomm        0
    omd            100
    ccsapp         2400
    cnfgsvr        60000
    oas            989
    nis            38
    ctilink        21
    ivr            301
    webm           2200
    aplogic64      201
    ctiserver      2100
    was            1001
```

```
    obs             1203
ServerName>ivr
ProgID>301
  Please confirm Y/N (default:N):
Confirm>Y
Submit Stop Process Request Success.
ProcName  ProgID CurrentStatus     CPU MemUsed MemLimit   ProcID Status BindCPU MemoryAlert
ivr          301      WAIT_EXIT    1.80% 2482(M)  3000(M)    11737 ---          0       80

Press ENTER to return main menu

Main Menu:
    0). Get Process State From MDS
    1). List All Process
    2). Add  Process
    3). Modify Process Setting
    4). Delete Process
    5). Get Configuration From CCS
    6). Start Process
    7). Stop Process
    8). Start All Process
    9). Stop All Process
    a). Set Alarm Information
    b). Set Reference IP Address
    q). Quit
Please Select (0~9,a,b or q):
6
--------Request Start Process--------
Please choose a Server:
    icdcomm         0
    omd             100
    ccsapp          2400
    cnfgsvr         60000
    oas             989
    nis             38
    ctilink         21
    ivr             301
    webm            2200
    aplogic64       201
    ctiserver       2100
    was             1001
    obs             1203
ServerName>ivr
ProgID>301
  Please confirm Y/N (default:Y):
Confirm>Y
Submit Start Process Request Success.
ProcName  ProgID CurrentStatus     CPU MemUsed MemLimit   ProcID Status BindCPU MemoryAlert
ivr          301 BEGIN_MONITOR   0.00%    0(M)  3000(M)      ??? ---        ???       80
```

----End

2.19 Co-browsing

2.19.1 Adding a Sensitive Information Rule for Co-browsing

An agent can configure rules to shield sensitive information on the customer page so that the sensitive information is not displayed during escorted browsing, protecting customer information.

Prerequisites

1. The co-browsing feature has been enabled for the tenant.

2. The agent is a tenant environment administrator.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Expansion Management** > **Co-browsing**.

Step 2 Choose **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.

1. **Universal match**: 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.

2. **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/****

3. **Match by page ID**: **Universal match** and **Match by URL path** cannot accurately select a page. In this case, **Match by page ID** can be used.

   The **cobrowse_page_id** parameter is carried 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 CCS selector.
- Contain a maximum of 1024 characters.

Example: **#input**

Step 7 Click **Complete**.

----End

Follow-up Procedure

You can perform the following operations on a created 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 permission on the **Session Record of Web Collaboration** menu.

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 **Customer Contact History** > **Session Record of Web Collaboration** to view co-browsing session records.

----End

2.20 Social Media Operations

Connect to social media (publishing Facebook posts, Twitter tweets, and YouTube videos) for social media operations.

2.20.1 Operating Enterprise Accounts

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:

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 2-414 Select a project

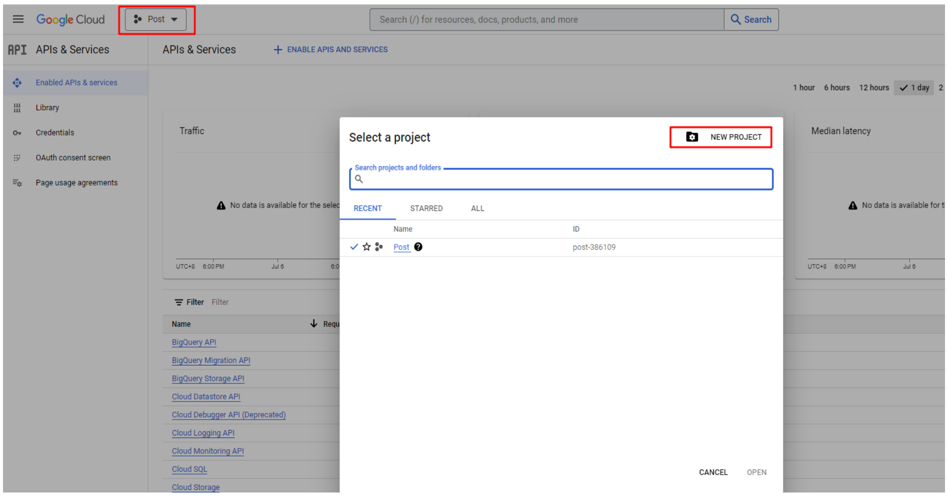
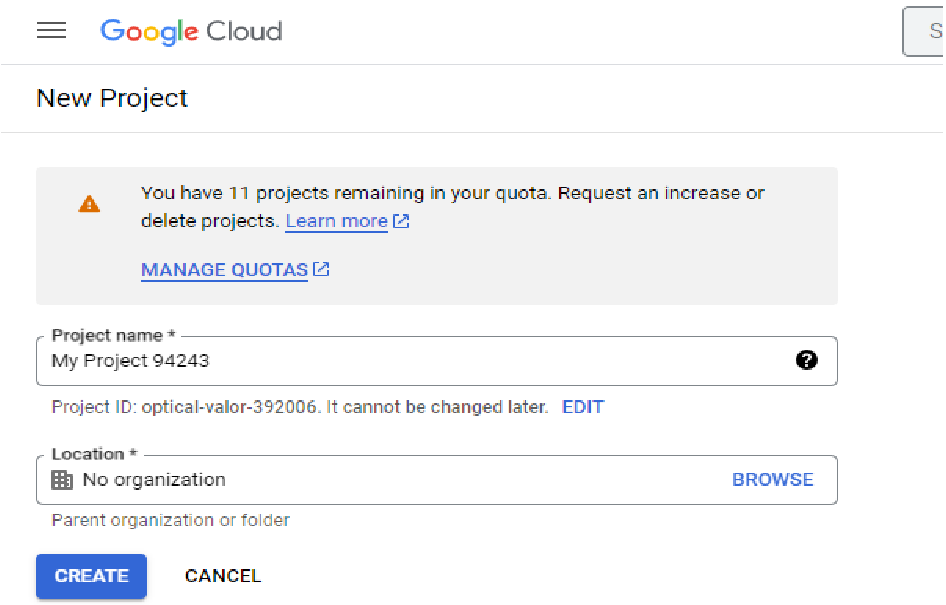


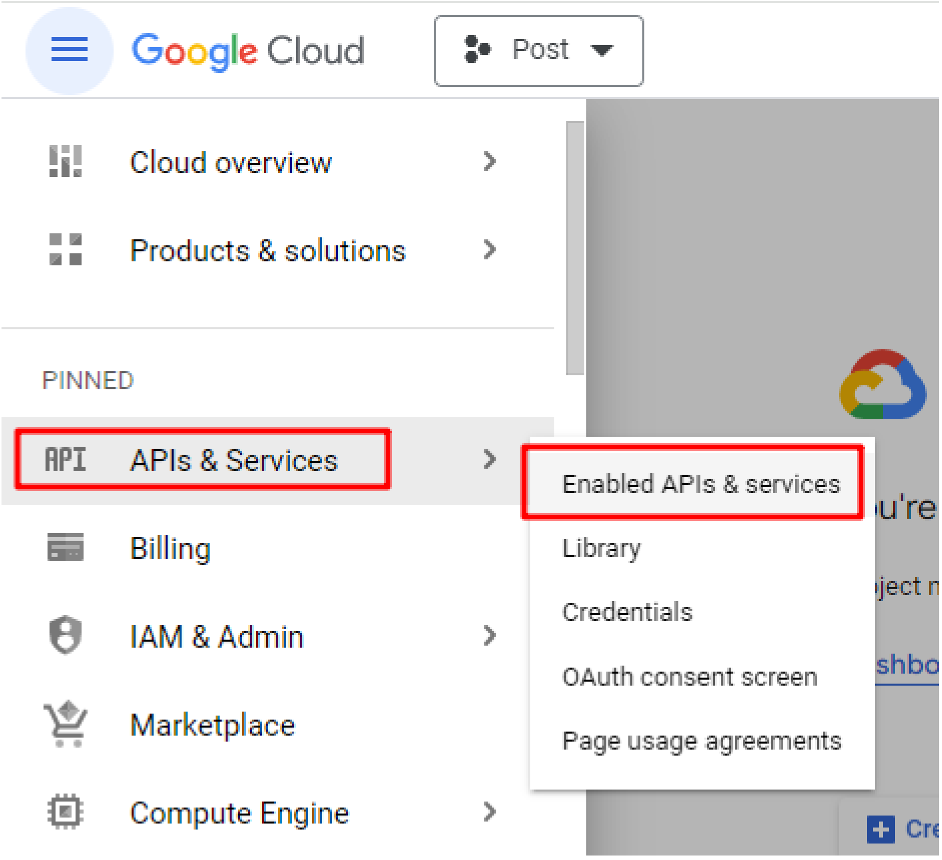
Figure 2-415 New Project



2. Enable YouTube.

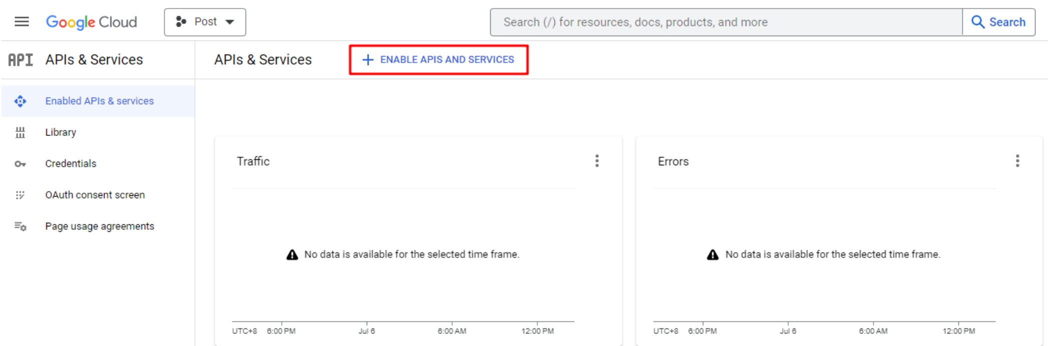
   a. In the navigation pane of Google Cloud, choose **APIs & Services** > **Enabled APIs & services**.

Figure 2-416 Enabled APIs & services



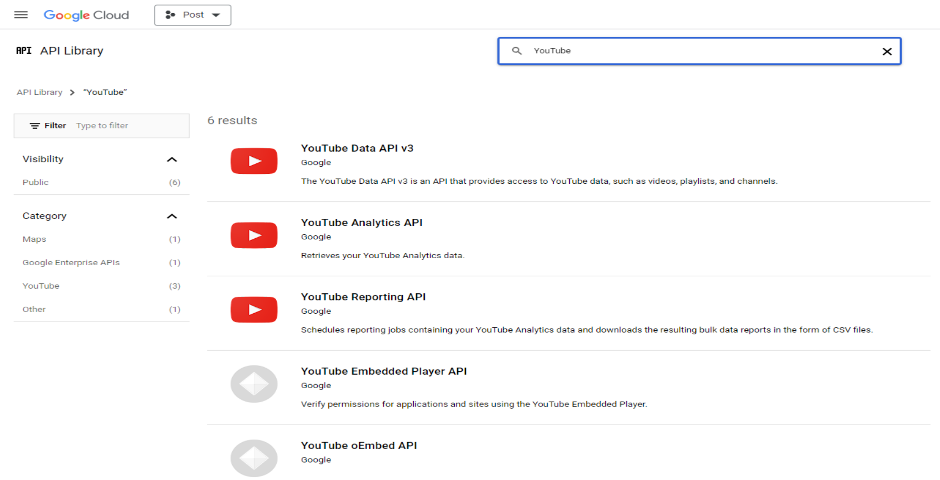
b. Click **ENABLE APIS AND SERVICES**.

Figure 2-417 ENABLE APIS AND SERVICES



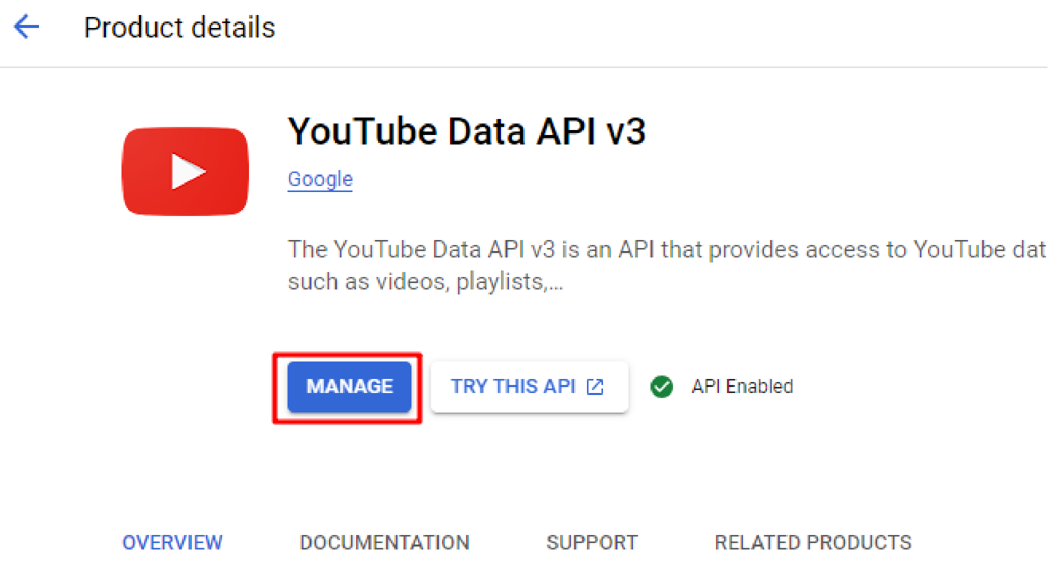
c. Search for YouTube.

Figure 2-418 Searching for YouTube



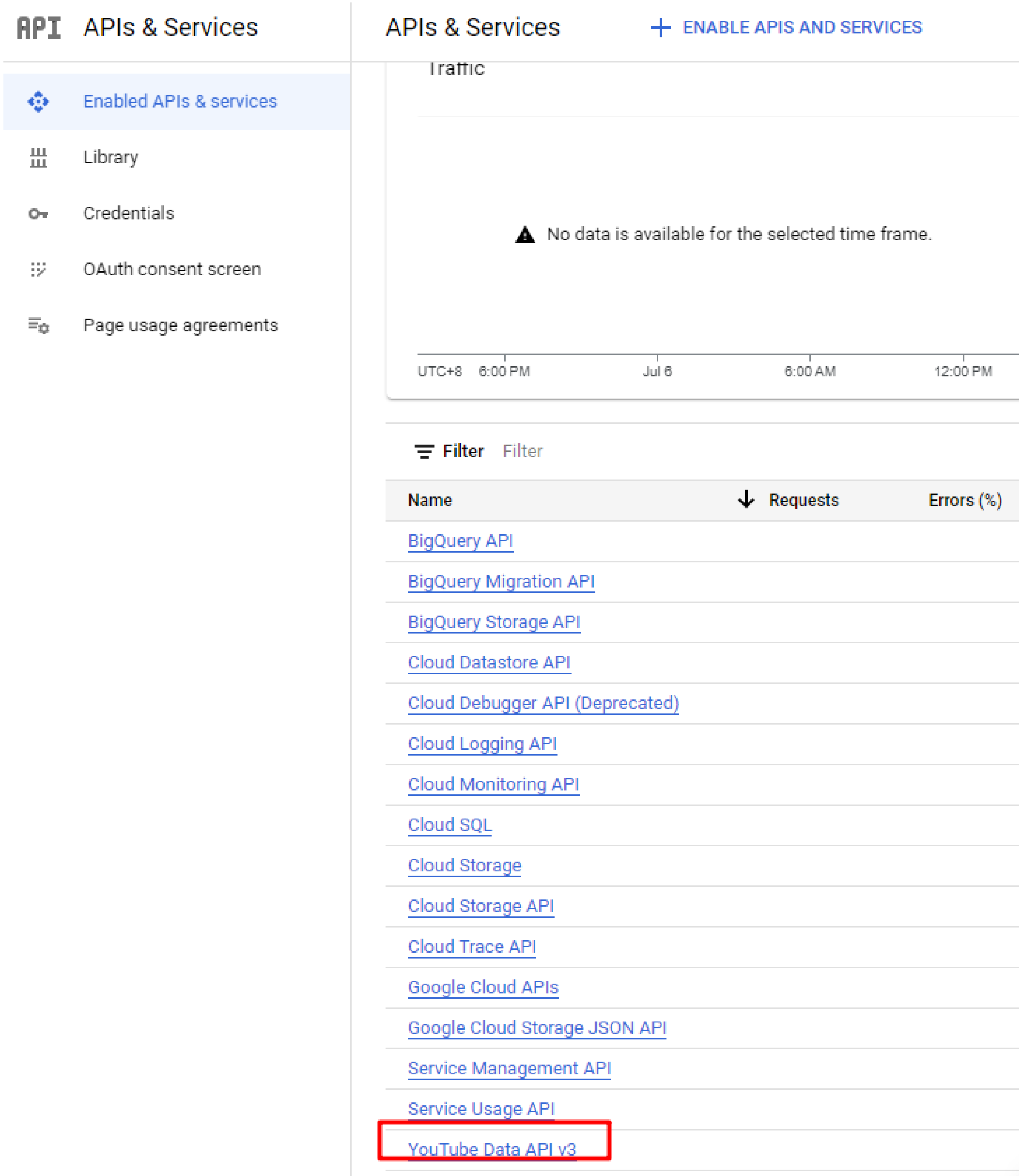
d. Find and enable **YouTube Data API v3**.

Figure 2-419 Enabling the API



If the following page is displayed, the API is enabled successfully.

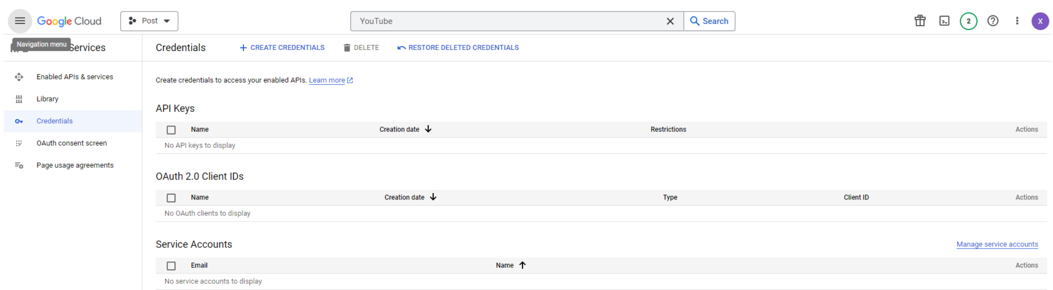
Figure 2-420 API enabled successfully



3. Create a credential.

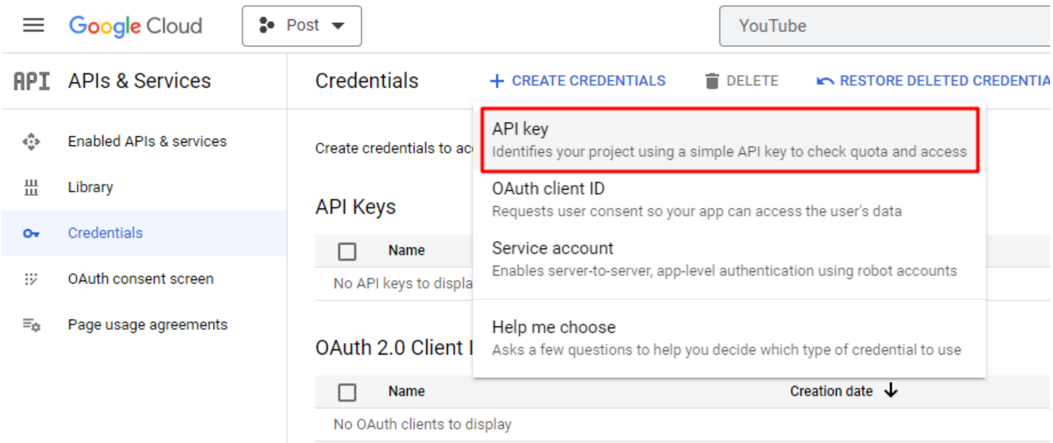
   a. In the navigation pane of Google Cloud, choose **Credentials**, and click **CREATE CREDENTIALS**.

Figure 2-421 Creating a credential



b. Create a key.

Figure 2-422 Creating a key



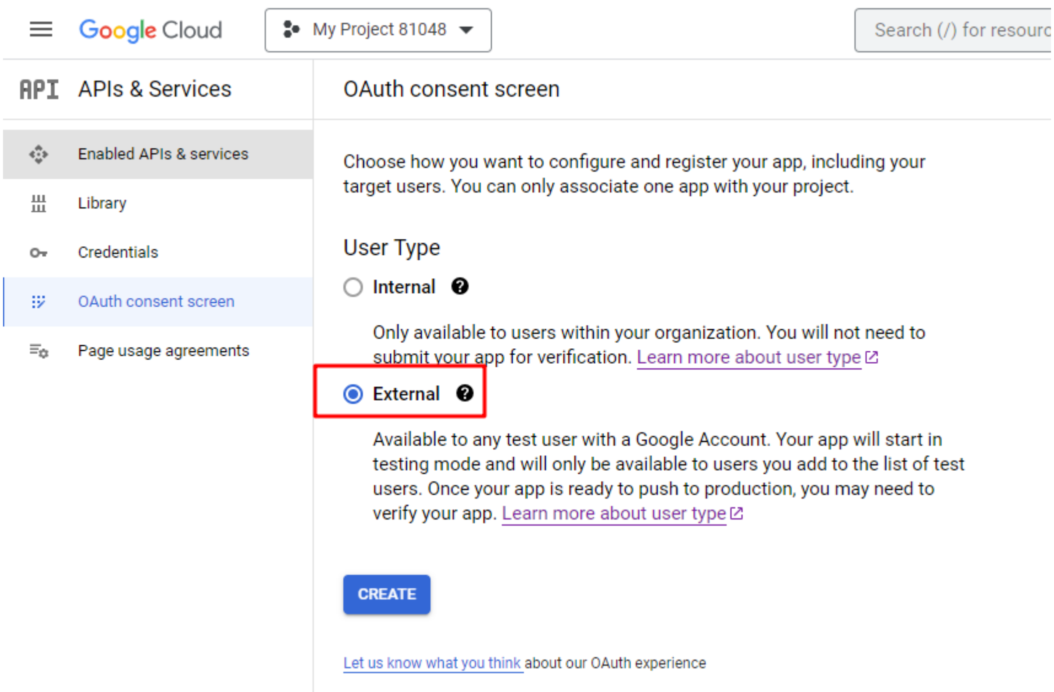
The value corresponds to the API key in the AICC.

4. Create an OAuth consent screen.

a. In the navigation pane of Google Cloud, choose **OAuth consent screen**.

b. Select **External** and click **CREATE**.

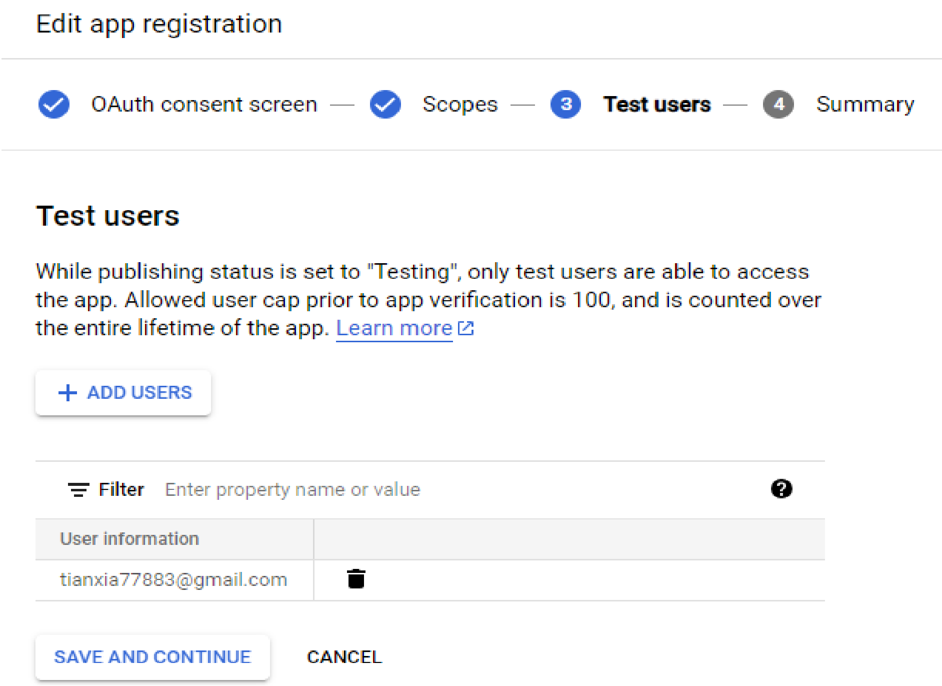
Figure 2-423 Creating an OAuth consent screen



Set all mandatory parameters and retain the default values for other parameters until the **3 Test users** page is displayed.

c. Click **ADD USERS** and add a test user.

Figure 2-424 Adding a test user



d. Click **SAVE AND CONTINUE** to complete the configuration.

e. In the navigation pane of Google Cloud, choose **Credentials**, click **CREATE CREDENTIALS**, and choose **OAuth client ID**.

Figure 2-425 Choosing OAuth client ID

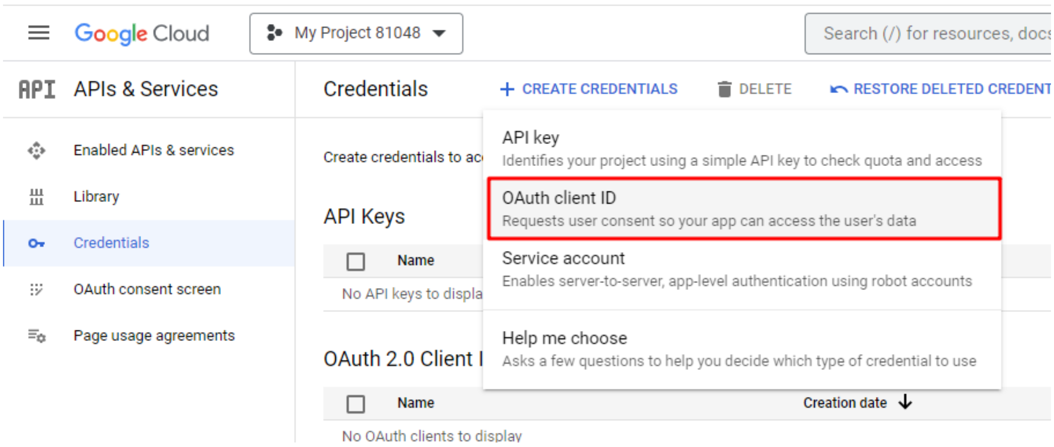
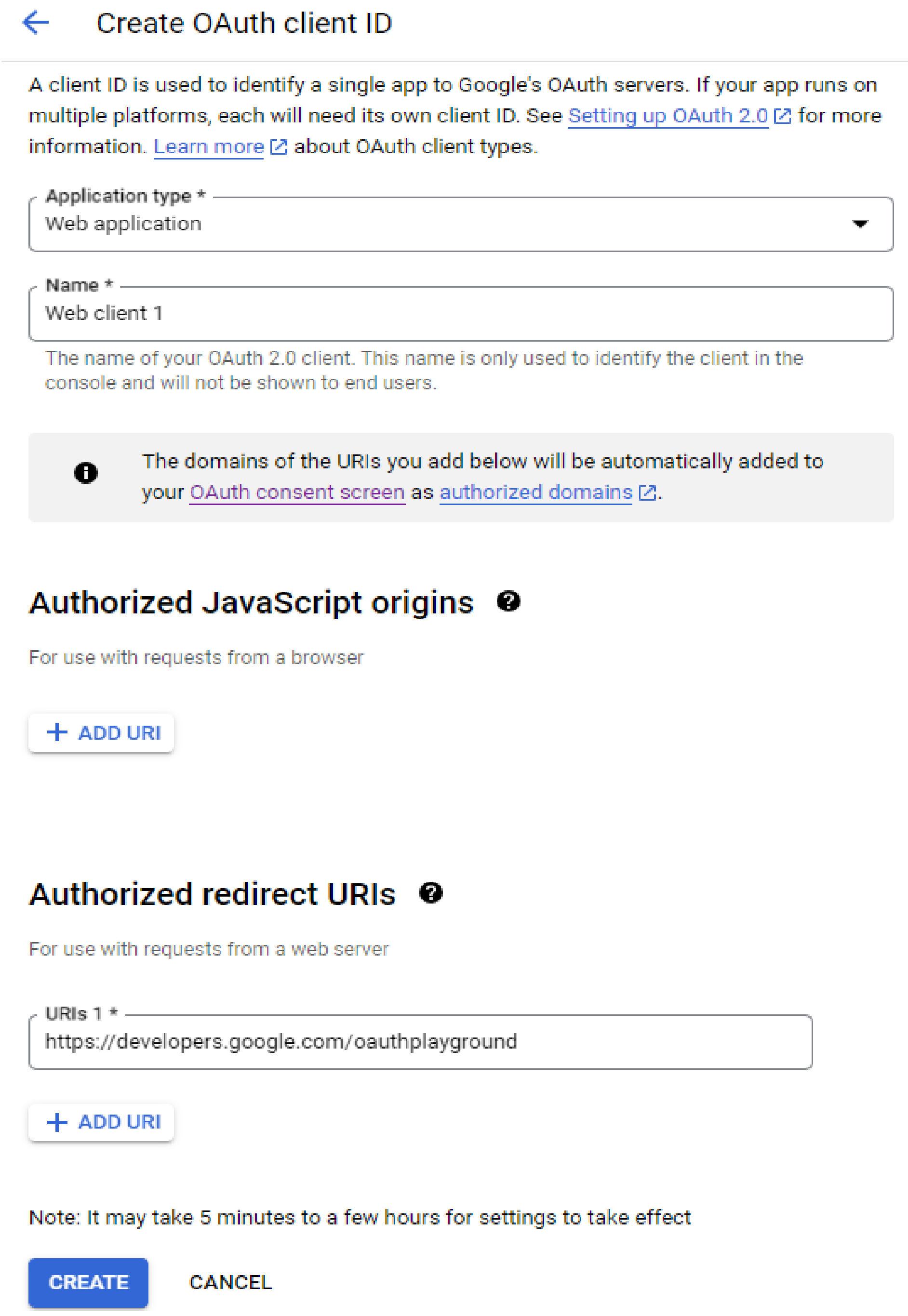


Figure 2-426 Creating an OAuth client ID



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. Access **Google Developers**, select all APIs under the YouTube Data API v3, and enter the obtained OAuth client ID and secret to generate an API.

Figure 2-427 Generating an API

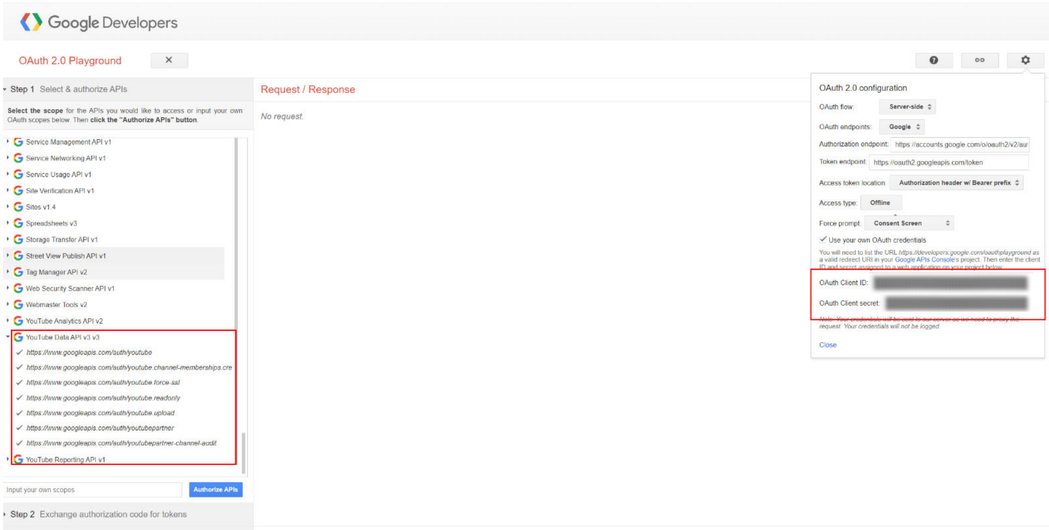
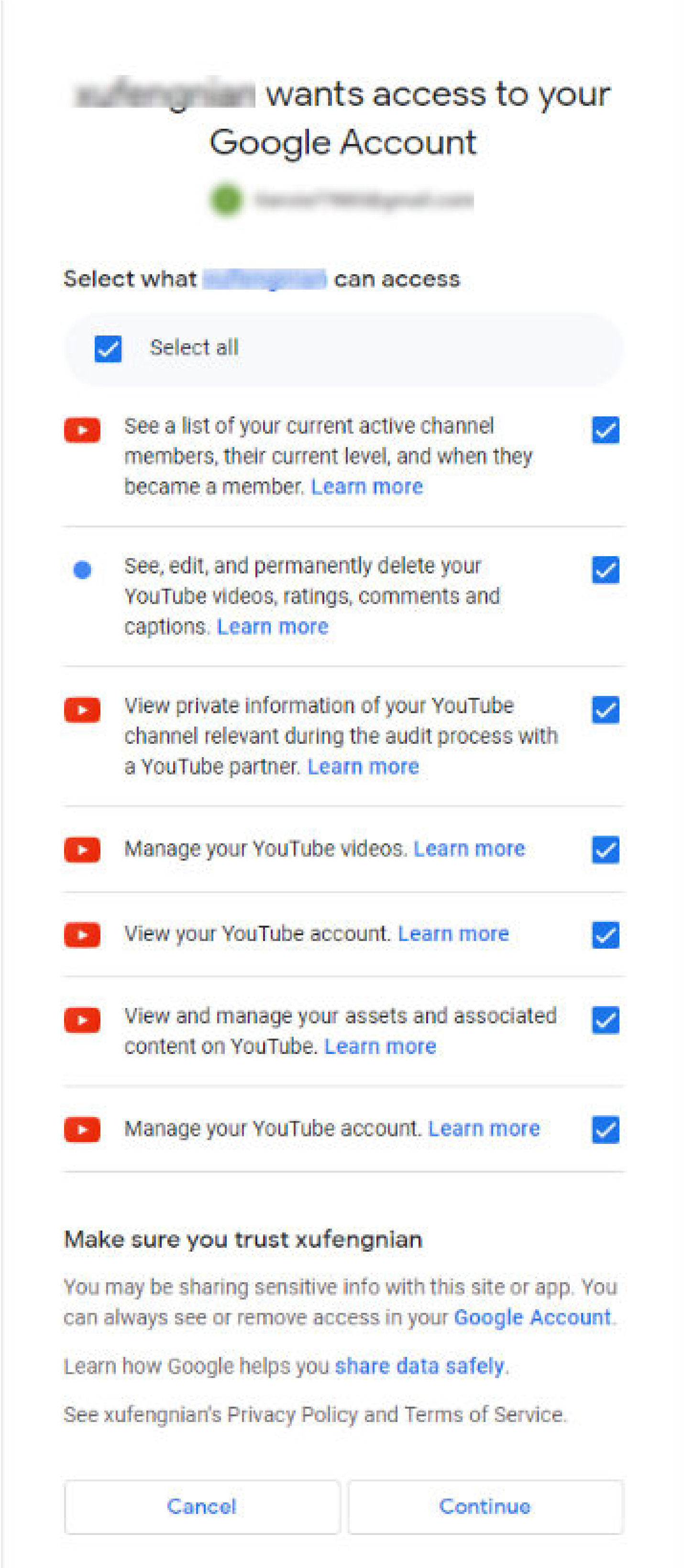


Figure 2-428 Obtaining the generated access token and refresh token

6. Use the developer account to sign in to Google. Select **Select all** to assign all permissions to the developer account.



7. Create a channel on YouTube.

Figure 2-429 Creating a channel

Go to the YouTube home page and choose **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 Outbound Call > **Account Post**.

Step 2 Click **Channel Configuration** and then click **Adding a channel**.

Step 3 In the **Creating channel** dialog box, set parameters based on **Table 2-113**.

Table 2-113 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized value.
Channel Configuration	Select **YouTube**.
Channel ID	ID of the channel created in **Figure 2-429**.
apiKey	Key created in **Figure 2-422**.
Client ID	Client ID generated in **Figure 2-426**.
appKey	Client key generated in **Figure 2-426**.
accessToken	Access token and refresh token generated in **Figure 2-428**.
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 WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion Management** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.

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 WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion Management** > **API Management** > **APP Service** > **APP Management** page, and enter the app secret here.

Step 4 Click **OK**.

----End

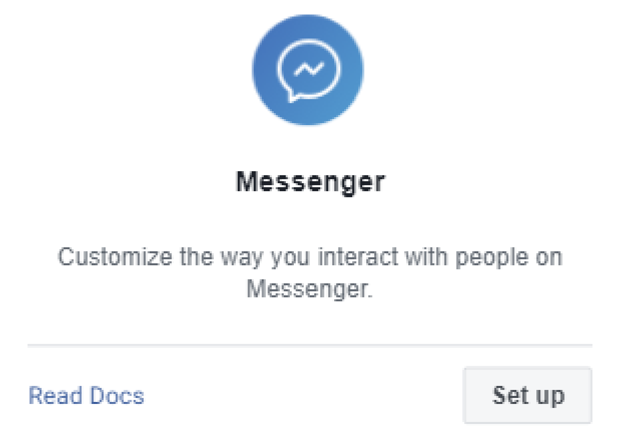
2.20.1.2 Creating a Facebook Channel

Prerequisites

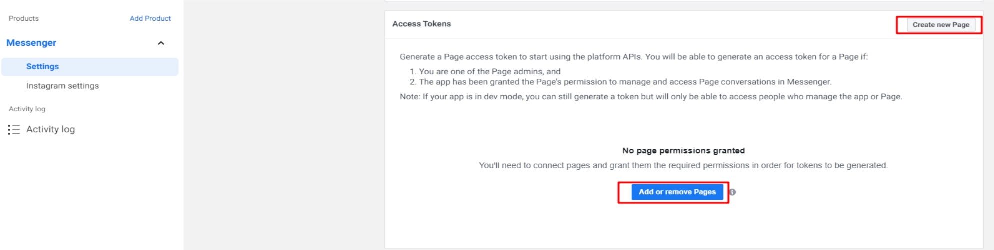
The connection to Facebook has been completed. If the connection has not been completed, perform the following steps to complete the connection:

1. Visit **https://developers.facebook.com/apps** and use a Meta for Developers account to log in.

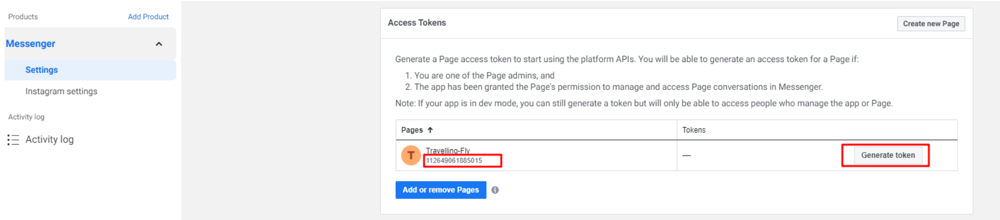
   If no Meta for Developers account is available, create one.
2. Create an app.
   a. Click **Other**, select the **Business** type, customize the app name, and retain other default settings.
   b. Click **Set up** corresponding to the Messenger product to add it to the app.



3. Create and configure a public home page. Permissions will be added to the home page later.

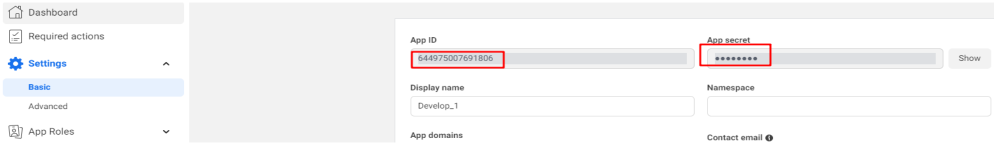


4. Obtain the home page ID and tokens.



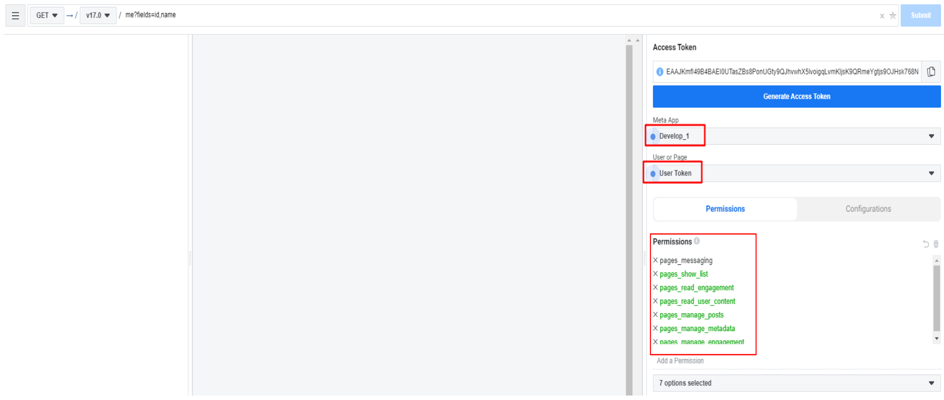
– The number in the red box is the ID of the public home page, which corresponds to the value of **Channel ID** in the AICC.
– The tokens correspond to the values of **accessToken** and **refreshToken** in the AICC.

5. 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.

6. Set access permissions.
   a. Access **https://developers.facebook.com/tools/explorer/**.
   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. Set **User or Page** to the public home page created in **3**.
   e. 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
   f. Click **Submit**. The permissions are added successfully.



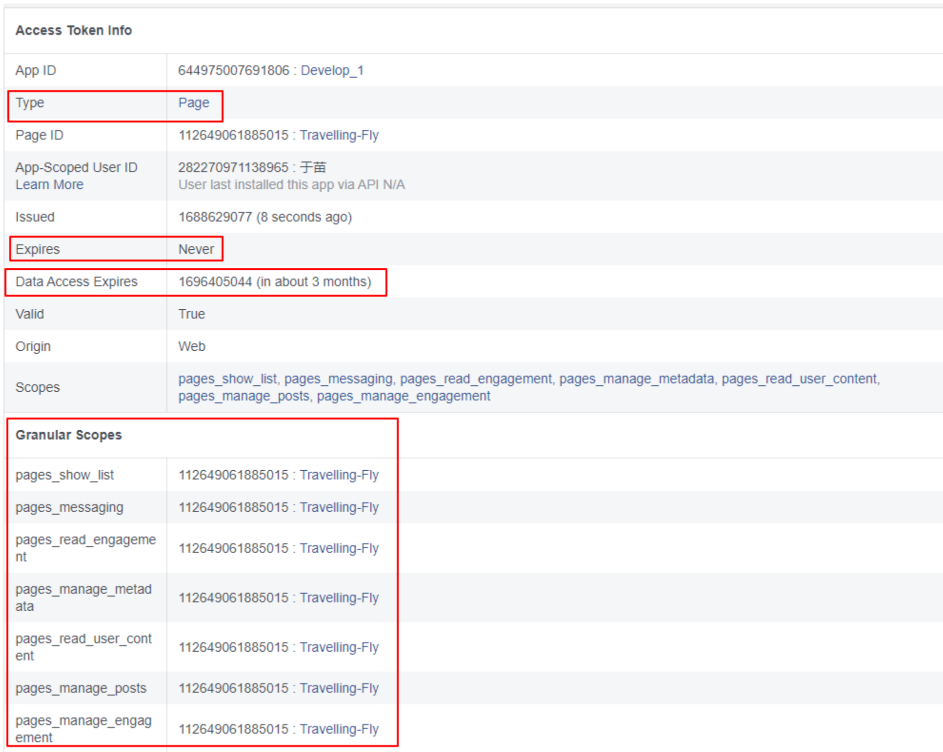
7. Set the validity period of the access token to three months.

   a. Access **https://developers.facebook.com/tools/debug/accesstoken**.

   b. Enter the access token obtained in **4** 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**.
      - 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 Outbound Call > **Account Post**.

Step 2 Click **Channel Configuration** and then click **Adding a channel**.

Step 3 In the **Creating channel** dialog box, set parameters based on **Table 2-113**.

Table 2-114 Parameters for creating a channel

Parameter	Description
Channel Name	Enter a customized value.
Channel Configuration	Select **Facebook**.
Channel ID	Public home page ID obtained in **4**.
Client ID	App ID generated in **5**.
appKey	App key generated in **5**.
accessToken	Tokens generated in **4**.
refreshToken	
ApiFabricAK	Contact the system administrator to obtain the app key of the app that has subscribed to the facebookNorth, facebookRefreshNoth, and FacebookNorth APIs and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion Management** > **API Management** > **APP Service** > **APP Management** page, and enter the app key here.
ApiFabricSK	Contact the system administrator to obtain the app secret of the app that has subscribed to the facebookNorth, facebookRefreshNoth, and FacebookNorth APIs and bound to the tenant space for which the WhatsApp channel needs to be configured on the **Configuration Center** > **Expansion Management** > **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 operations personnel can be assigned to a channel.

Step 4 Click **OK**.

----End

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 and choose Outbound Call > **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-115**.

Table 2-115 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 5000 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.

Parameter	Description
(Optional) Label	
(Mandatory) License	
(Mandatory) Category	
(Mandatory) Public Scope	

Step 4 Click **Next**.

Step 5 Configure publishment information based on **Table 2-116**.

Table 2-116 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	The options are as follows: ● **Real-Time Release** ● **Scheduled Release**
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

Follow-up Procedure

After a YouTube video post is published, choose Social media and click the **Enterprise Account Message Processing** tab to view the post publishment details. For details, see **2.20.3 Handling Enterprise Account Messages**.

2.20.1.4 Publishing a Facebook Post

Prerequisites

A Facebook channel has been created. For details, see **2.20.1.2 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**.
- 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 and choose Outbound Call > **Account Post**.

Step 2 Click **Post**.

Step 3 Configure basic information based on **Table 2-115**.

Table 2-117 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 5000 characters.

Parameter	Description
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 2-116**.

Table 2-118 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	The options are as follows: • **Real-Time Release** • **Scheduled Release**
Estimated Release Time	This parameter is mandatory when **Publication Type** is set to **Scheduled Release**. Set a future time.

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

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

None

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Outbound Call > **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.

Step 3 After reading the post, click **Passed** or **Reject**.

----End

Follow-up Procedure

Choose Outbound Call > **Account Post** and click the **Approval History** tab to view the approval history.

2.20.2 Handling Multimedia Messages

When a publish channel managed by an operator is mentioned (@) by others, operations personnel can receive notifications and make responses.

Prerequisites

1. A poster has mentioned the public home page, and the publish channel has been assigned to operations personnel.
2. The operations personnel must be employees of the current tenant and have the **Social Media Operations** and **Offline Message Processing** menu permissions.

Context

- Currently, only Facebook messages can be handled.
- A message is considered handled when it is opened. On the page, an operator can only click the link of a post to go to the post. After the list is refreshed, the handled message is no longer displayed.

Procedure

Step 1 Sign in to the AICC as a tenant administrator, choose Social media, and click the **Multimedia message processing** tab.

Posts that mention the operations personnel are displayed in the list. All posters are displayed as **Anonymous User**.

Step 2 In the list, click a post to view the post content.

- Click **Visit the original text** to go to the social media platform and read the original text.
- The function is not supported currently.
- Click to end the message.

----End

2.20.3 Handling Enterprise Account Messages

Operations personnel can maintain published posts, including viewing the number of likes and comments on a post and replying to comments.

Prerequisites

- The tenant administrator has published YouTube videos and Facebook posts on the Outbound Call > **Account Post** page.
- The operations personnel must be employees of the current tenant and have the **Social Media Operations** and **Enterprise account operation** menu permissions.

Context

Data on the page is automatically refreshed every 30 minutes. Posts that are just published can be displayed in the list only after being manually queried.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose Social media > **Enterprise Account Message Processing**.

Step 2 In the list, click a published post to view the post details.

Manage posts by referring to **Table 2-119**.

Table 2-119 Post operation buttons

Button	Description
Batch Reply	Click this button to reply to posts of a poster in batches. Click it again to cancel the batch reply.
Comment on	Comment on a post.
All Reply	This button is displayed when the total number of comments under a commenter is greater than 1. Click this button to display all comments. Click it again to hide the comments.
Reply	Reply to a single post.

NOTE

- Video posts can be played.
- Currently, only texts and emojis are supported.

----End

3 Agent Guide

This document provides guidance for agents to perform operations so that agents can use the AICC business platform.

An agent can view knowledge base content, learn experience, and solve problems.

3.13 OpenEye Help Document

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 Audio and Video Workbench

An agent uses the audio and video workbench to handle customer businesses through inbound and outbound voice calls.

The audio and video workbench can be opened in either of the following ways:

- Choose **Audio and Video Workbench**.
- After an agent signs in, the audio 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 audio and video workbench is automatically opened.

3.1.1 Audio and Video Workbench shows the audio and video workbench GUI.

Figure 3-1 Audio and video workbench

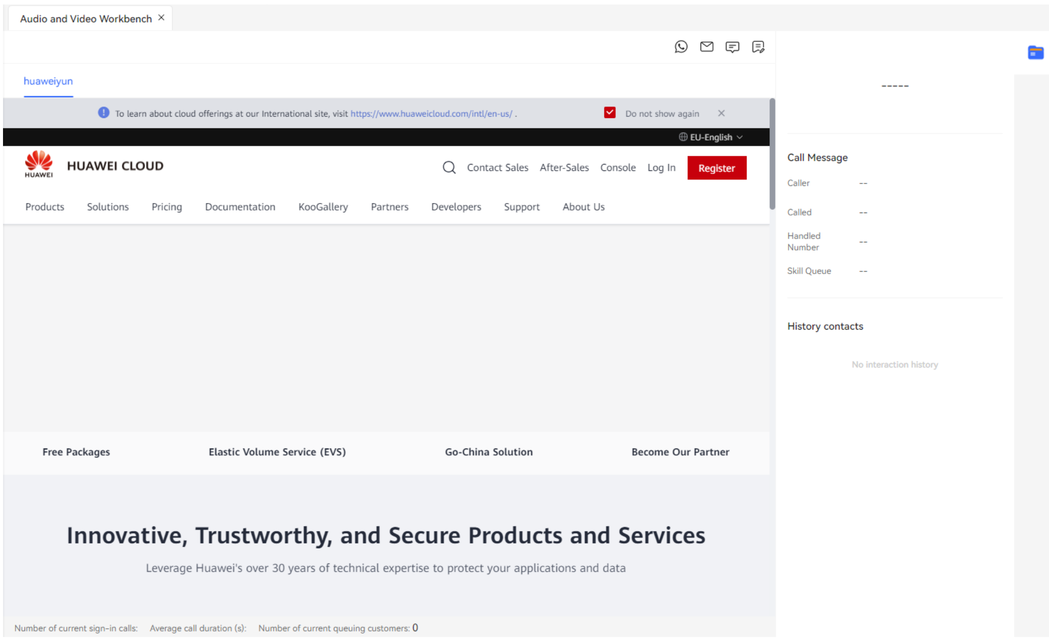
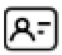


Table 3-1 describes the GUI.

Table 3-1 Audio and video workbench

Content	Description
	During a two-party call with a customer, create a harassment record for the customer. For details about how to create a harassment record, see **3.7.14 Creating Harassment Records**.
	Identifies and displays the call reason of the customer. You can add call remarks as required. The remarks can contain a maximum of 300 characters. For details about how to configure a call reason, see **2.4.2.1 Configuring a Call Reason**.
Third-party page provided by the customer	Displays the multimedia inbound call screen pop-up that has been enabled in the system. The tab page name is only an example. For details about how to configure a screen pop-up, see **2.4.2.6 Configuring Screen Pop-ups**.
	Send an email notification to the customer during a call with a customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Send a WhatsApp notification to the customer during a call with a customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Send an SMS notification to the customer during a call with a customer. For details about how to send a notification, see **3.7.8 Sending Notifications**.
	Authenticate the customer identity during a call with a customer. For details about how to perform identity authentication, see **3.7.11 Performing Identity Authentication**.

Content	Description
	This button is displayed only if the customer center feature is disabled. When the call between an agent and a customer is abnormally disconnected, the agent can proactively initiate a callback by clicking **Callback** to improve customer experience.
Call Message	This area is displayed only if the customer center feature is disabled. Displays session information, including the calling and called numbers of an inbound call, handled number, skill queue, and smart voice recording information. Click  to set the handled number to identify the service object. The handled number can contain a maximum of 24 characters. If no handled number is set, the handled number is the same as the customer number.
Customer Information	This area is displayed only if the customer center feature is disabled. The contact customer information area displays information about the customer who makes the inbound call. The style of each field in this area can be configured to display different field values in different styles.
Real-time transfer	Displays the converted conversations between customers and agents in real time in text format. When **Only Customer** is selected, only converted speeches of the customer are displayed. To view the **Real-time transfer** tab page, you need to enable the intelligent recognition function. For details, see "Manual Service FAQs > How Do I Enable Real-Time ASR?" in *AICC Operation Guide - FAQs*.

<table>
<tr><th>Content</th><th>Description</th></tr>
<tr><td>History contacts</td><td>
This area is displayed only if the customer center feature is disabled.
Displays the latest three contact records by time. Contact records can only be displayed by time.

When you click a contact record to view its details, the contact record details page is displayed. On the Message Sending Record tab page, click Send Message to send a multimedia message (SMS message, email, or WhatsApp message) to the customer.
NOTE
The agent is in a conversation with the handled number.
When you click More, the contact records generated for the handled number in the last seven days are displayed. On the Contact Record page, an agent can click Play to play the recording of a contact record without sign-in. On the Message Sending Record tab page, click Send Message to send a multimedia message (SMS message, email, or WhatsApp message) to the customer.

</td></tr>
</table>

Content	Description
Contact Records	This area is displayed only if the customer center feature is enabled. Displays the latest several contact records by time. Contact records can only be displayed by time. ● When you click a contact record to view its details, the contact record details page is displayed. On the **Message Sending Record** tab page, click **Send Message** to send a multimedia message (SMS message, email, or WhatsApp message) to the customer. **NOTE** The agent is in a conversation with the handled number. ● When you click **More**, the contact records generated for the handled number in the last seven days are displayed. On the **Contact Record** page, an agent can click **Play** to play the recording of a contact record without sign-in. On the **Message Sending Record** tab page, click **Send Message** to send a multimedia message (SMS message, email, or WhatsApp message) to the customer.
Basic Information	This area is displayed only if the customer center feature is enabled. ● If information about the customer exists on the **Customer Center** > **Customer Center Management** page, the 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 customer information. For details, see **3.7.16 Editing Customer Information**.

3.1.2 Online Chat Workbench

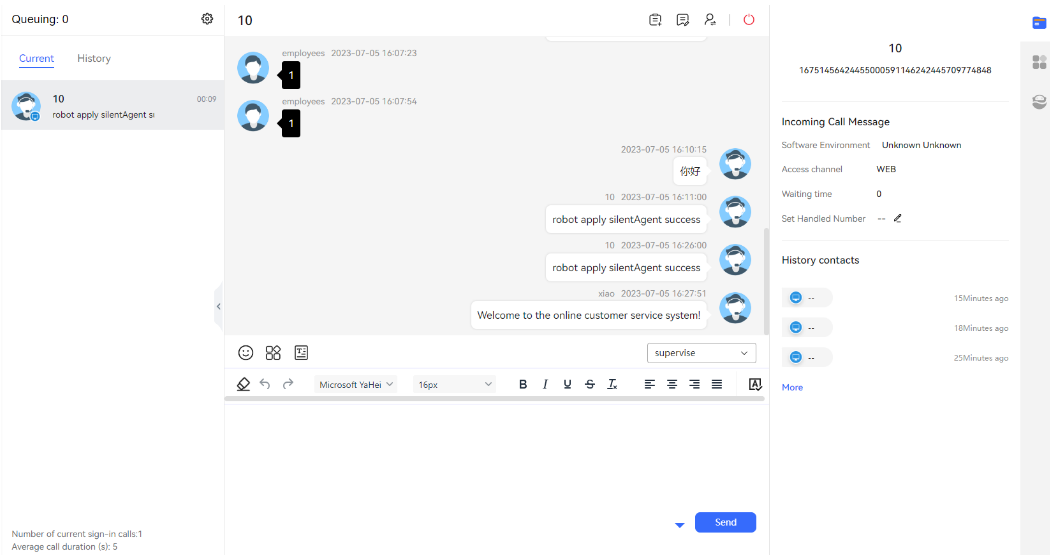
The online chat workbench is used when an agent handles businesses using the web, WeChat, Twitter, Facebook, FiveGAdapter, LineAdapter, or WhatsAppAdapter channel.

The online chat workbench can be opened in either of the following ways:

- Choose **Online Chat Workbench**.
- The online chat workbench is automatically opened after an agent signs in to a multimedia skill queue.

Figure 3-2 shows the online chat workbench GUI.

Figure 3-2 Online chat workbench



NOTE

During a web chat on the online chat workbench, if the customer sends an attachment, the agent can click **Receive** 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 processing the downloaded data to prevent personal data leakage and abuse.

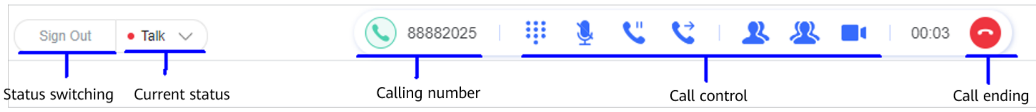
- During an SMS or email chat with a customer, click to create a harassment record.
- In the SMS or email session history on the online chat workbench, click to create a harassment record.

3.2 Switching the Agent Status

To better allocate services, an agent can switch the working status using the connection bar on the top of the platform page.

Context

The connection framework provides the connection bar. An agent can control the connection status by using the connection bar.



The connection status refers to the status of a sign-in agent, which can be **Idle**, **Talking**, **Wrap-up**, **Busy**, and **Rest**. **Table 3-2** describes the status. The system determines whether to allocate an incoming call to an agent based on the agent status.

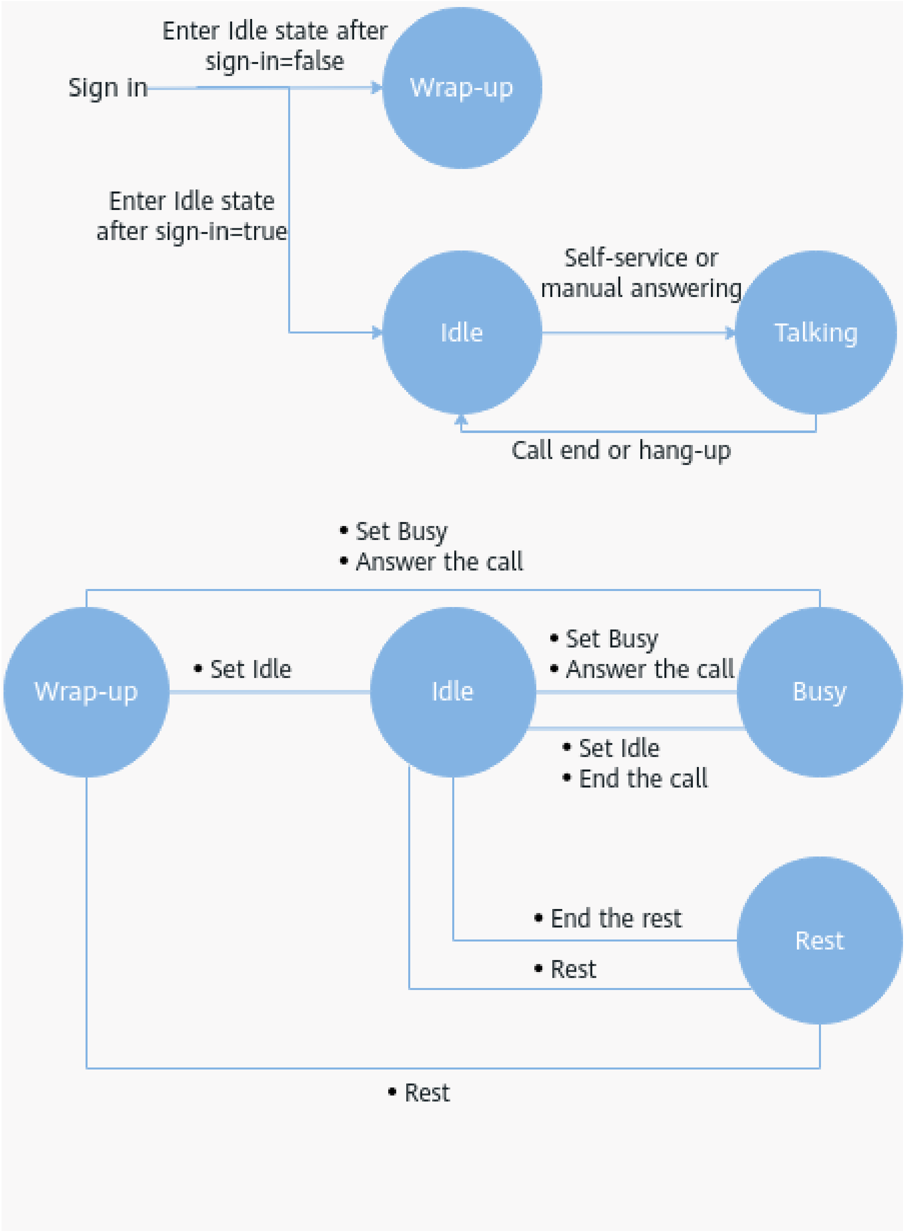
Table 3-2 Connection status description

Agent Status	Description
Idle	Agent status when an agent waits for the system to allocate an incoming call.
Talking	Agent status when an agent is processing an incoming call.
Wrap-up	Agent status when an agent processes a call-related transaction (for example, filling in the customer incoming call information) after the customer hangs up.
Busy	Agent status after an agent chooses **Set Busy**.
Rest	Connection status when an agent takes a rest.

An agent performs connection operations, such as answering calls, taking a rest, and showing busy, to switch between the connection states. **Figure 3-3** shows the connection status switchover relationship.

A dialog box is displayed in the lower right corner of the browser, indicating the call connection event.

Figure 3-3 Connection status switchover



Procedure

Step 1 Sign in to the AICC as an agent.

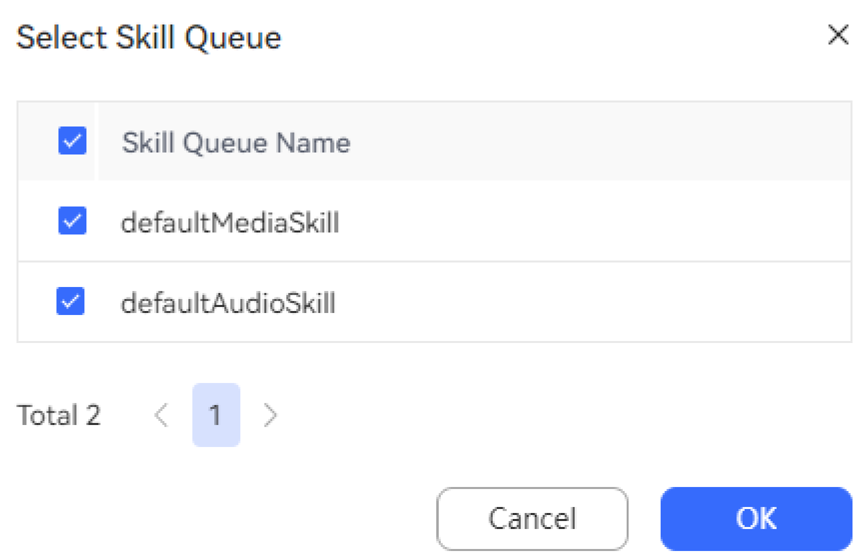
Step 2 Click 

on the top to sign in to the platform.

- The system parameter **Agent status after sign-in** specifies the agent status after sign-in. The agent states after sign-in are as follows:
  - **Idle**
  - **Wrap-up**
  - **Busy**

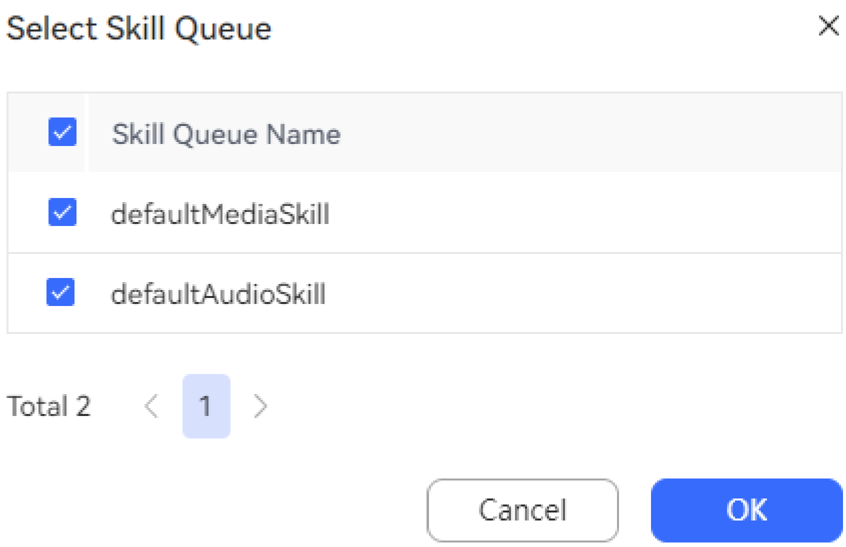
- The tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** and agent parameter with the same name specify the mode in which an agent signs in to a skill queue.
  - The options of the tenant parameter **Mode in Which an Agent Signs In to a Skill Queue** are as follows:
    - **Agent-defined**
    - **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 3-4 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.

Figure 3-5 Specifying skill queues



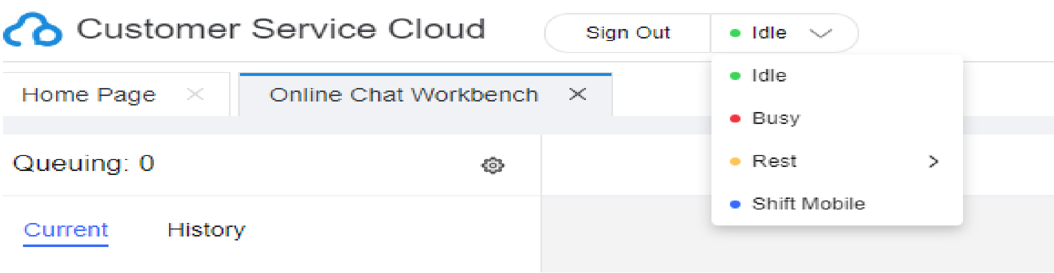
The default value is **Automatic**. The parameter modification takes effect after the page is refreshed.

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 3-6 Switching the agent status



----End

Follow-up Procedure

After signing in, an agent can click ﹀ in the upper right corner and choose **Reset Skill Queue** to reselect the skill queue to which the agent needs to sign in. The 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 Skill Queue**, 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 3-7 Expanding the shortcut menu

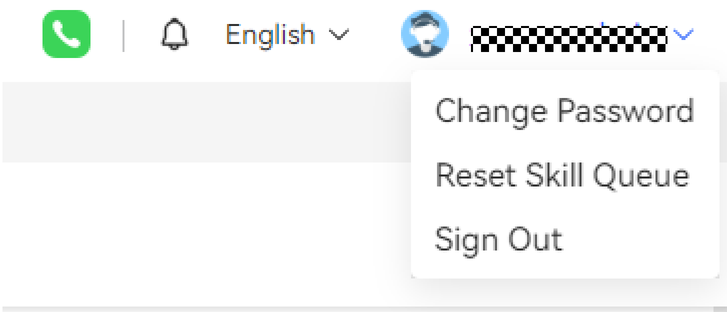
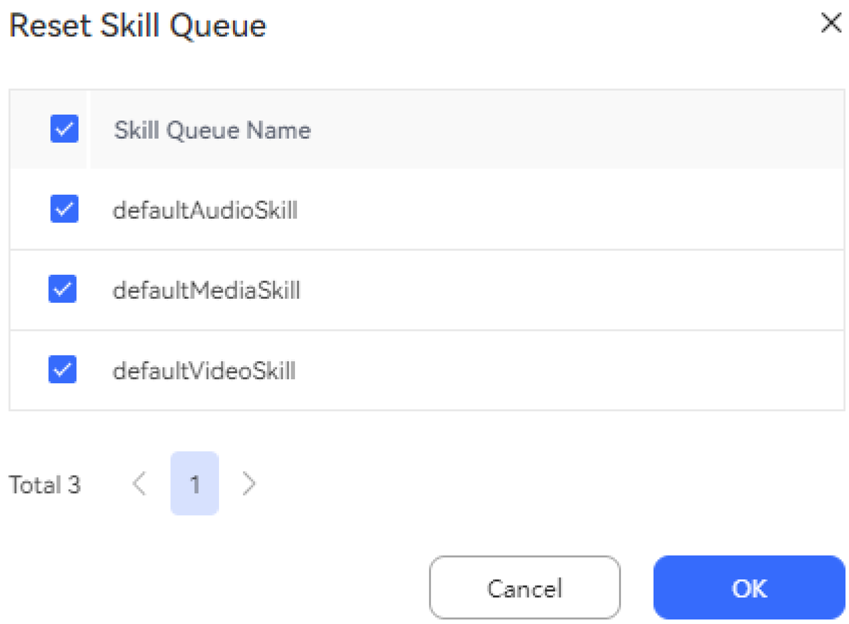


Figure 3-8 Reset Skill Queue page



NOTE

The agent must have the **Reset Skill Queue** 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.

3.3 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.

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

3.4 Processing Voice Businesses

This section describes how to process voice businesses as an agent.

3.4.1 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.

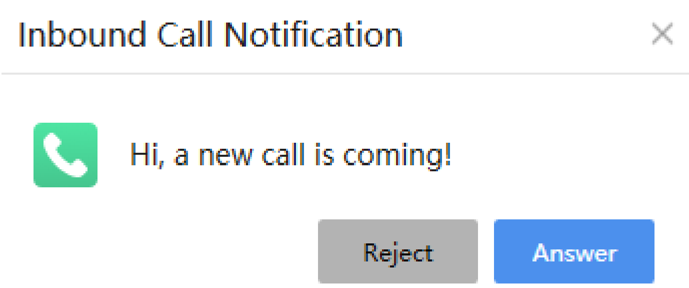
Prerequisites

An agent has signed in and is in idle state.

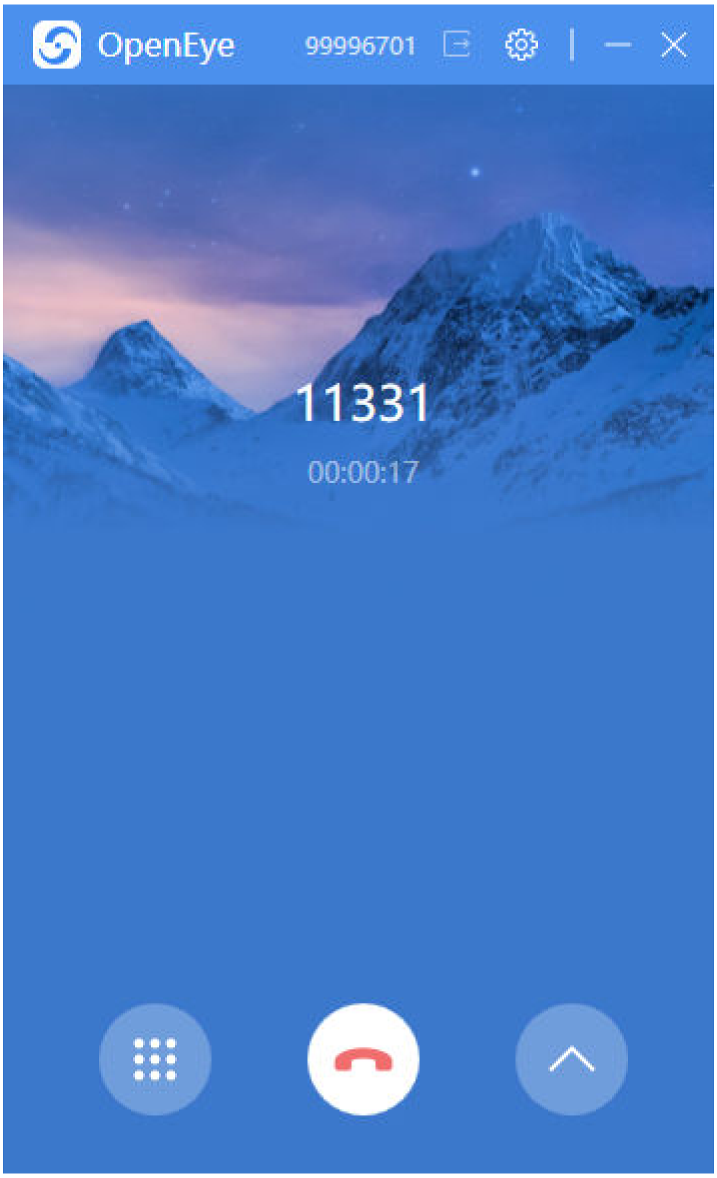
Procedure

When a new inbound call arrives, the softphone on the agent side 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:

Step 1 After a new inbound call arrives, the softphone of the agent rings.



Step 2 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.



----End

3.4.2 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.

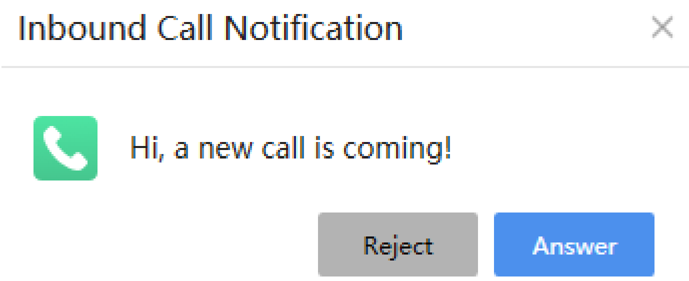
Prerequisites

- The agent has set the answering mode to manual answering in the agent parameters.
- The agent has signed in.
- The agent is in idle state.

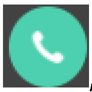
Procedure

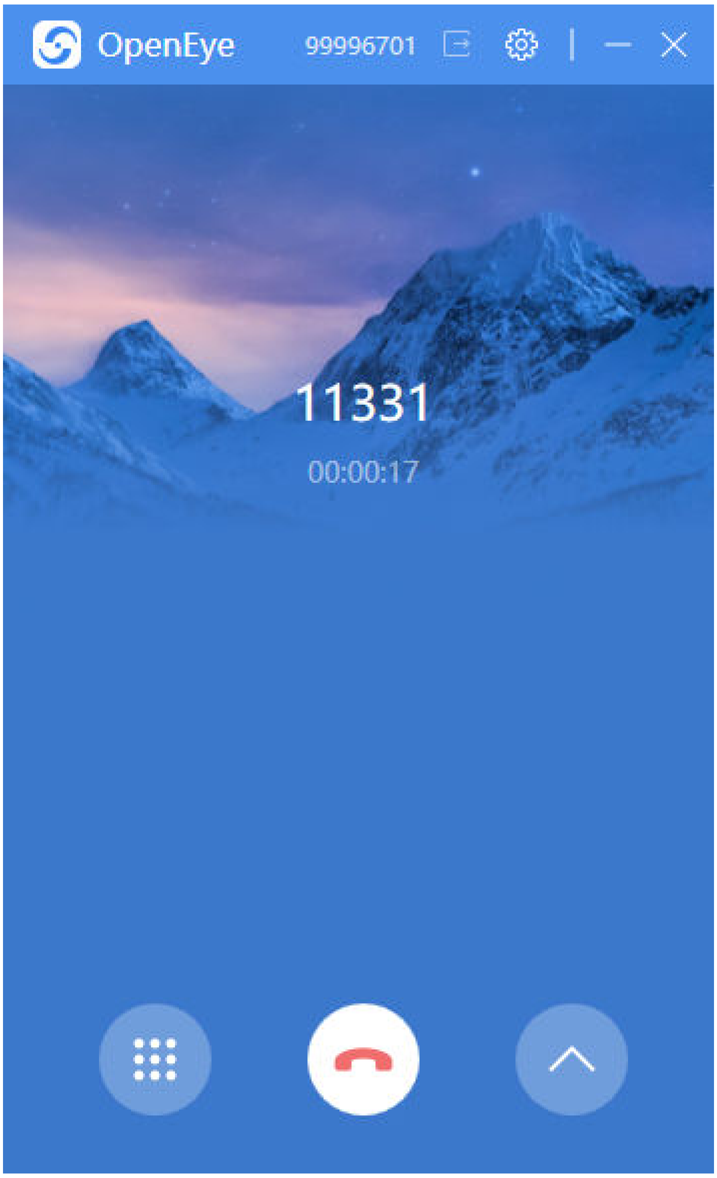
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

Step 1 After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.



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.



----End

3.4.3 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 incoming 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.

Table 3-3 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 processing 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.

Prerequisites

The agent is in talking state.

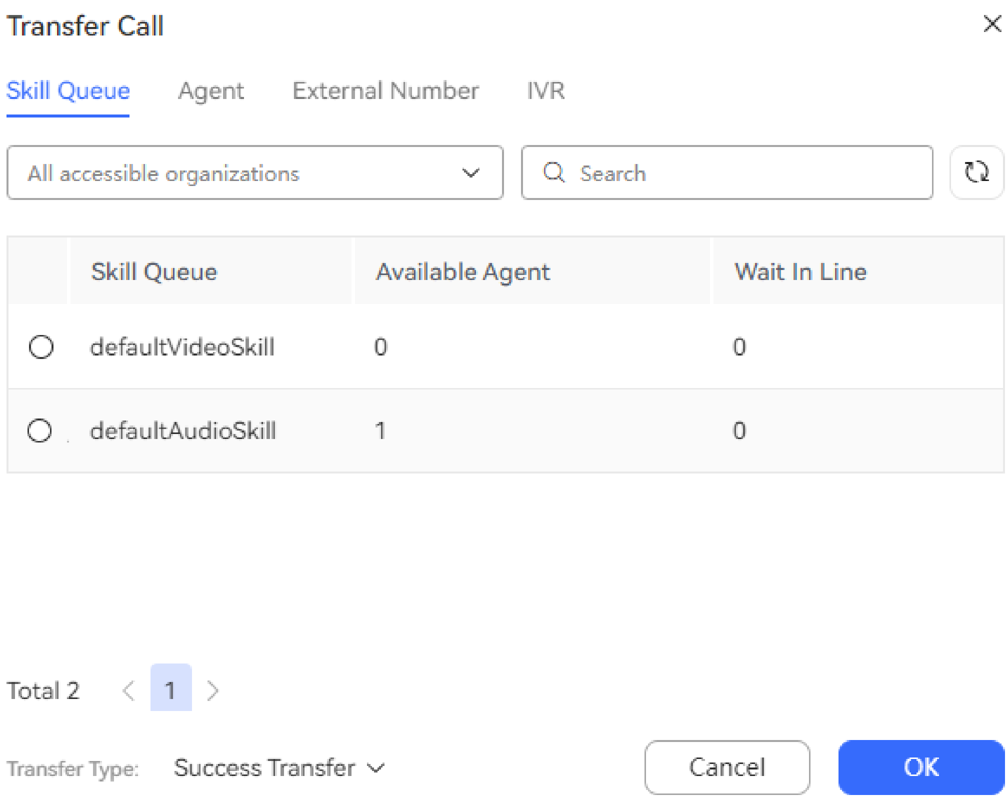
Procedure

After answering an inbound call, the agent finds that the call needs to be transferred.

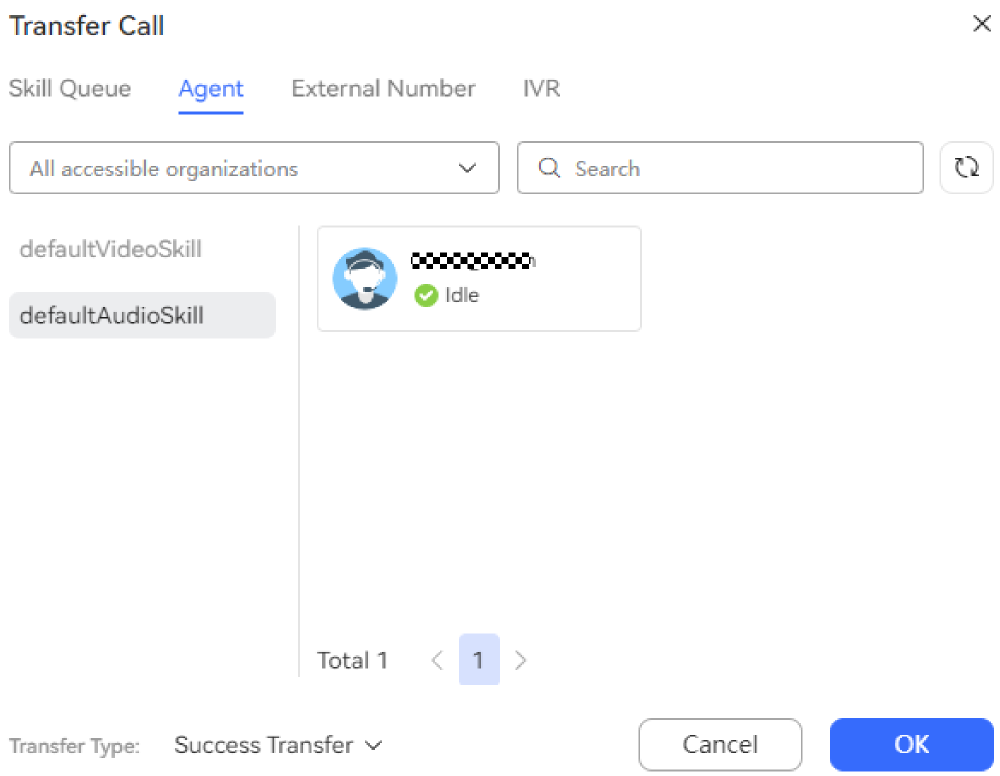
Step 1 Click  on the connection bar.

Step 2 Click the tab corresponding to the transferred-to object.

- **Skill Queue**



- **Agent**



Idle : The agent is idle.

: The agent is busy.

: The agent is taking a rest.

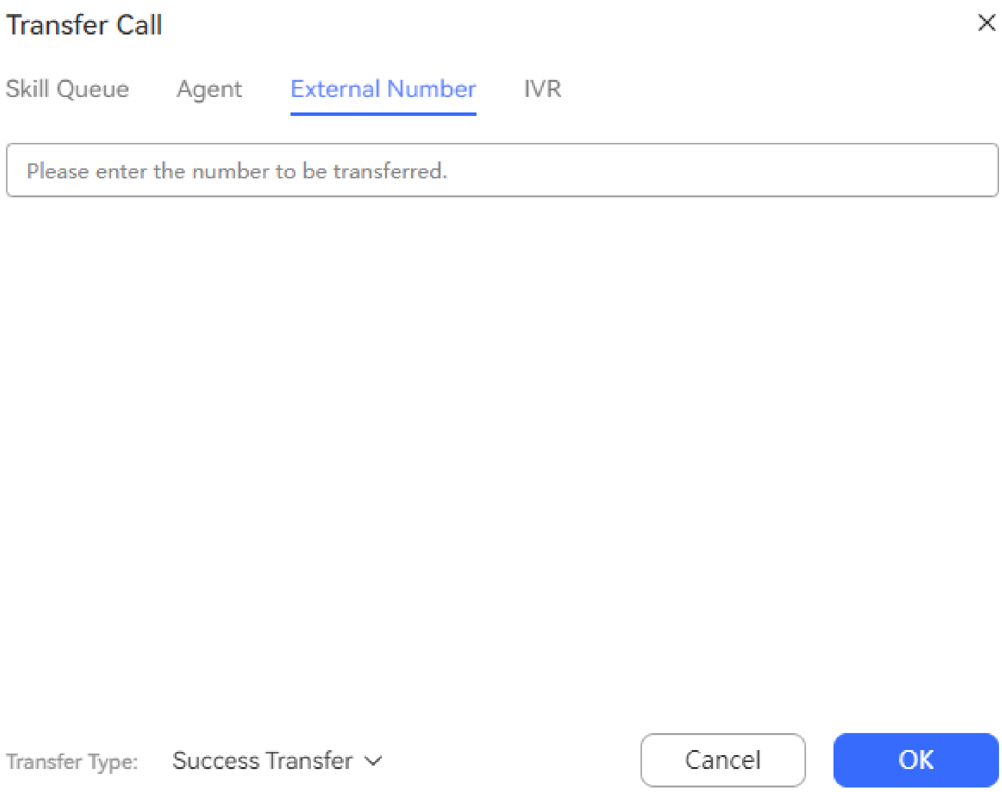
: The agent is in a voice or video call.

: The agent is in an online chat.

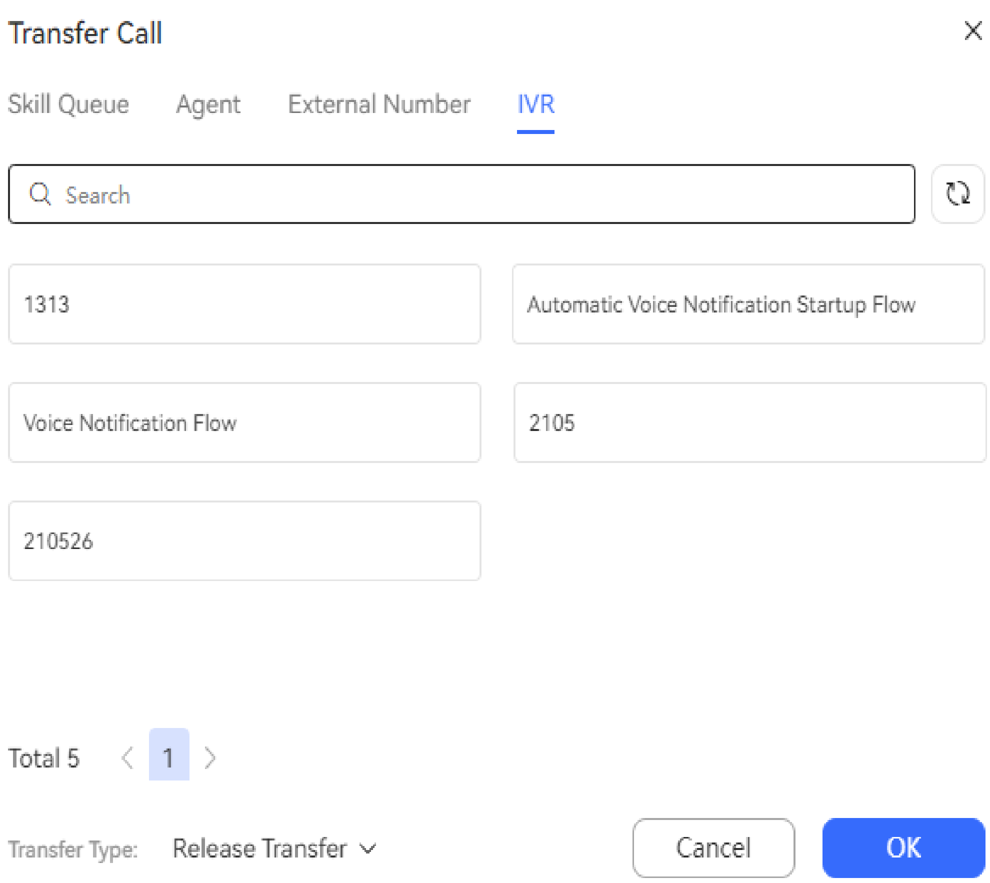
- **External Number**

  NOTE

  - Release Transfer is supported for inbound calls but not outbound calls.
  - 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 cannot further transfer the call to an external number.



- **IVR**



Step 3 Select an idle agent, skill queue, or IVR or enter an external number, and then click **OK**.

----End

After the transfer, the current agent enters the **Idle** state.

3.4.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

Context

An outbound call refers to a call proactively initiated by an agent.

An agent needs to perform this operation to talk to agents of other call centers or to customers.

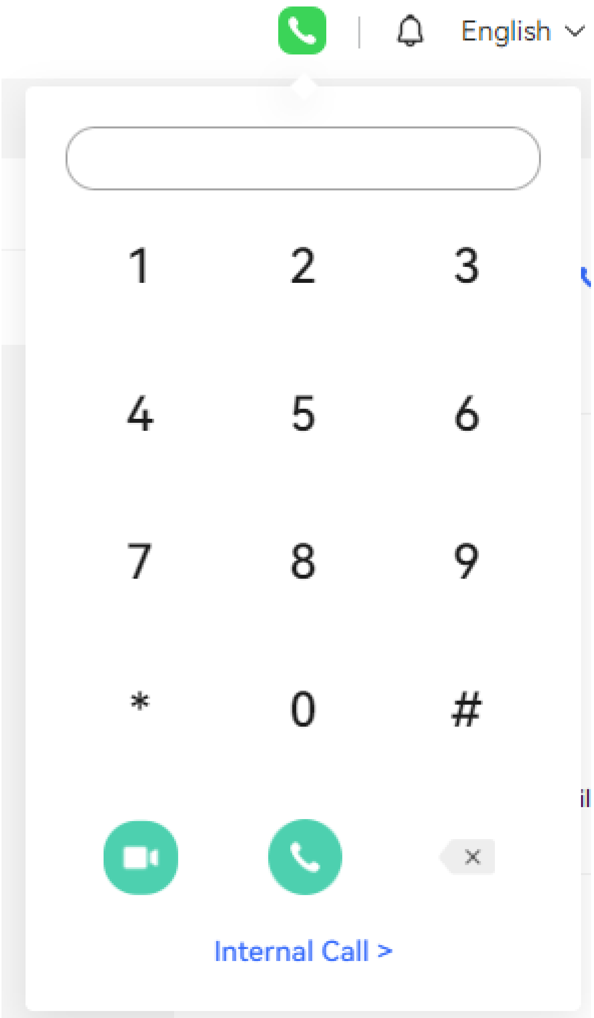
Prerequisites

- 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 in all connection states except the talking state can make outbound calls.

An agent clicks , enters the called number in the keyboard area, and clicks .



3.4.5 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.

- Help-seeking from a skill queue: If an agent does not know to whom a help-seeking request can be sent, the agent can select a skill queue. The system then specifies an agent in the skill queue to answer the call.
- Help-seeking from a specified employee ID: If an agent knows to whom a help-seeking request can be sent, the agent can directly enter the corresponding employee ID for help-seeking.

Prerequisites

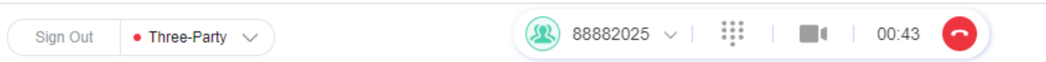
- The agent has signed in.
- The agent is in a two-party conversation.

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 the agent does not know to whom a help-seeking request can be sent, the agent can select a skill queue. The system then specifies an agent in the skill queue to answer the call.
- If the agent needs to seek help from another agent, the agent can select an agent. The system then specifies the agent as the requested object.
- If the agent knows to whom a help-seeking request can be sent, the agent can click , choose **External Number**, and enter the external number.



3.4.6 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.

3.4.7 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.

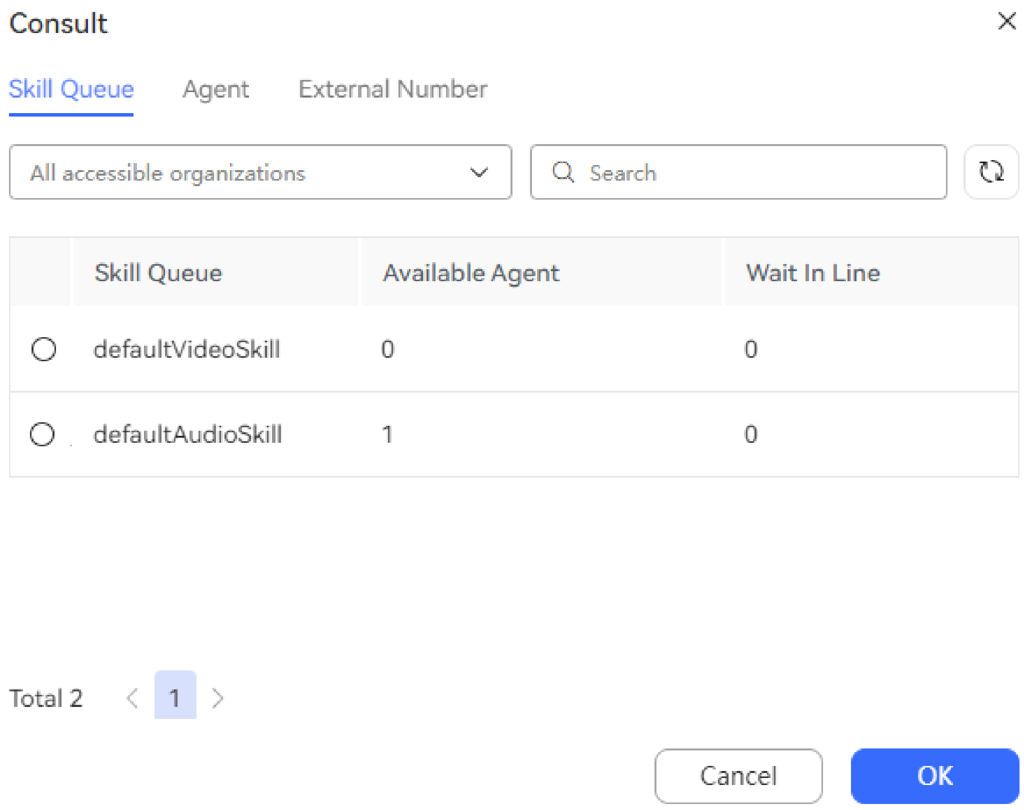
During consultation, if the consulted agent does not answer the call for a long time, the agent who initiates the consultation request can cancel the consultation.

Procedure

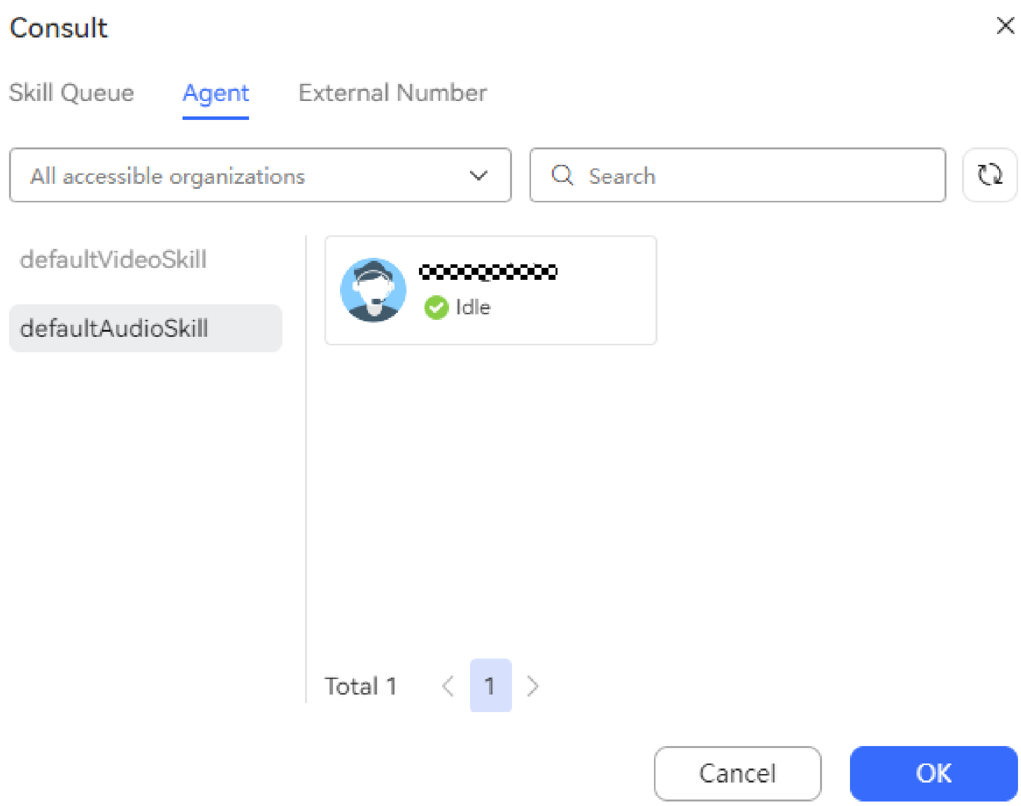
An agent in talking state clicks  on the connection bar to open the consultation page.

Consultation supports three modes: skill queue, agent, and external number.

- **Skill Queue**


Consult
Skill Queue
Agent
External Number
All accessible organizations
Search
Skill Queue
Available Agent
Wait In Line
defaultVideoSkill
0
0
defaultAudioSkill
1
0
Total 2
1
Cancel
OK

- **Agent**


Consult
Skill Queue
Agent
External Number
All accessible organizations
Search
defaultVideoSkill
defaultAudioSkill
Idle
Total 1
1
Cancel
OK

Idle : The agent is idle.

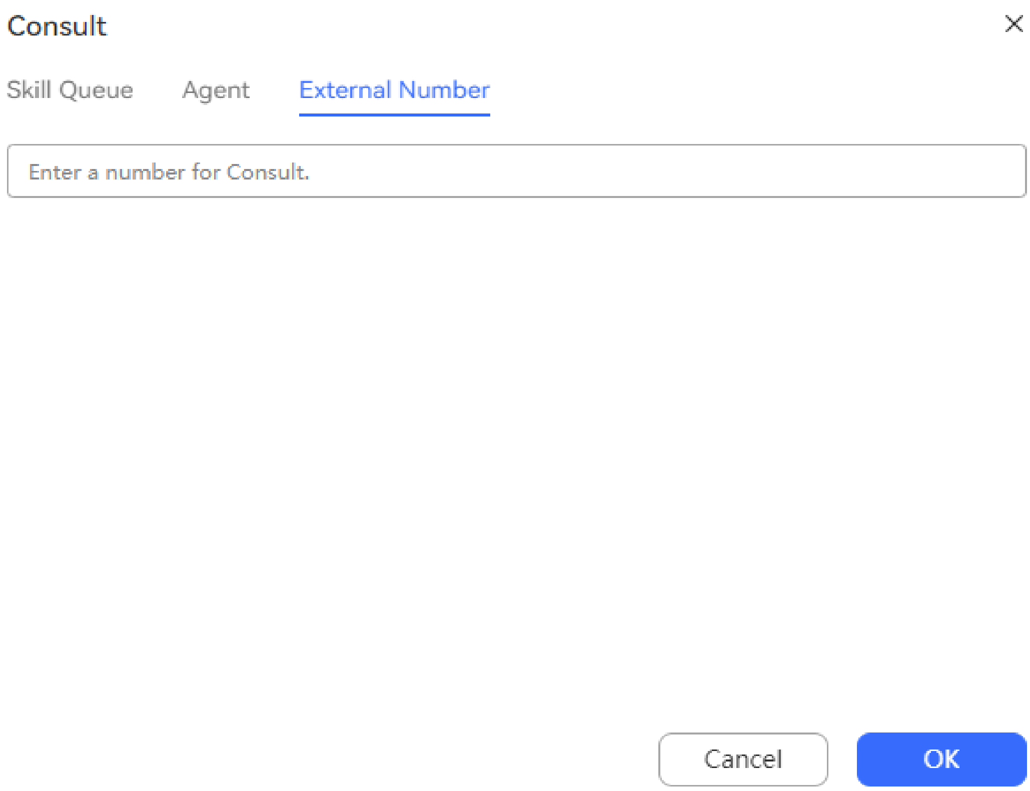
Busy : The agent is busy.

Rest : The agent is taking a rest.

Talk : The agent is in a voice or video call.

Talk: The agent is in an online chat.

- **External Number**



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 **Is Self-service Flow**.

This check box is controlled by the tenant parameter **Three-party Conference Number Transfer**. The default value is **not supported**, indicating that this check box is not displayed. This check box is displayed only when the tenant administrator sets the parameter to **supported**.

3.4.8 Making Internal Calls

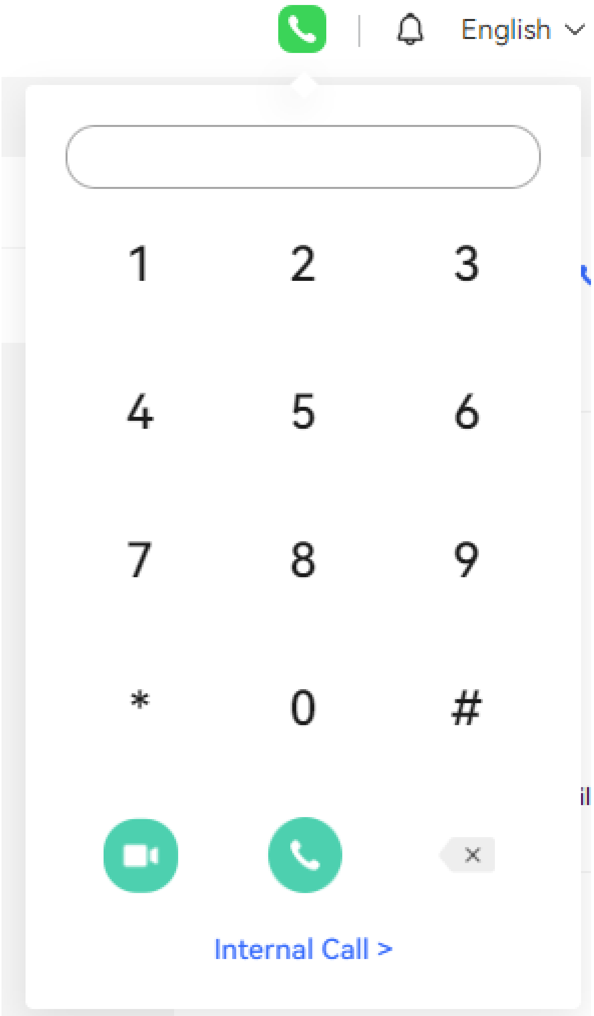
An agent can also call other agents.

Context

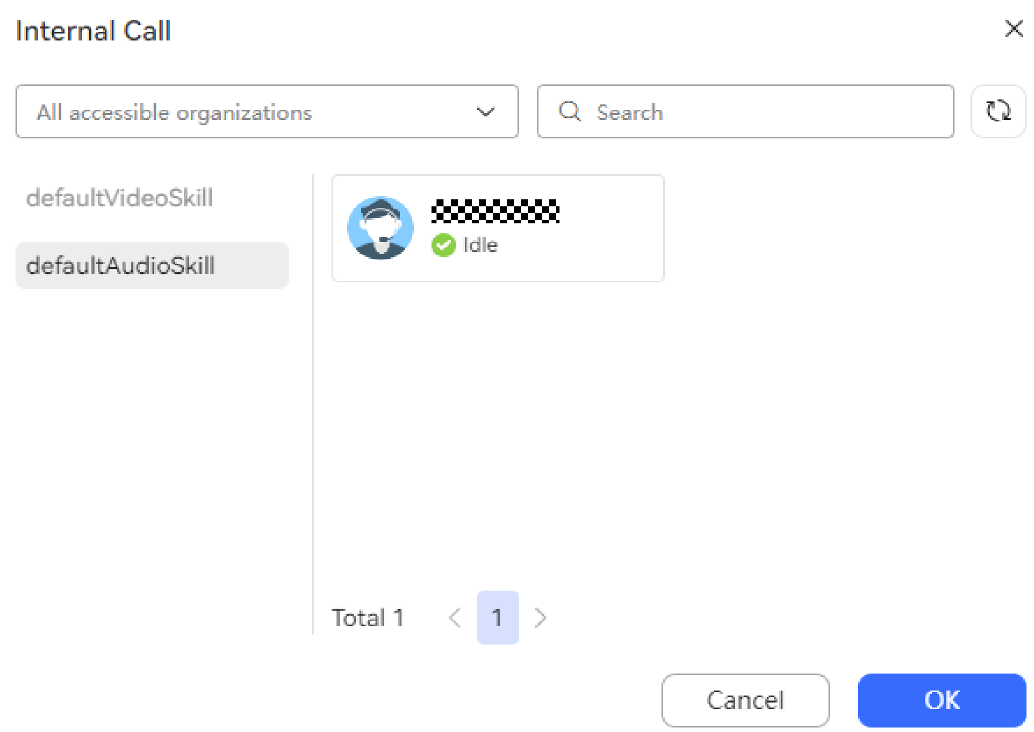
Internal calls refer to the calls between agents in the AICC. For example, when no inbound call is available, frontend agents can make internal calls to relevant personnel for consultation.

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 or wrap-up state.



Idle : The agent is idle.

Busy : The agent is busy.

Rest : The agent is taking a rest.

Talk : The agent is in a voice or video call.

Talk: The agent is in an online chat.

----End

3.4.9 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.

3.4.10 Configuring the Agent Assistant

An agent can use the agent assistant to better communicate with customers.

Context

On the audio 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.

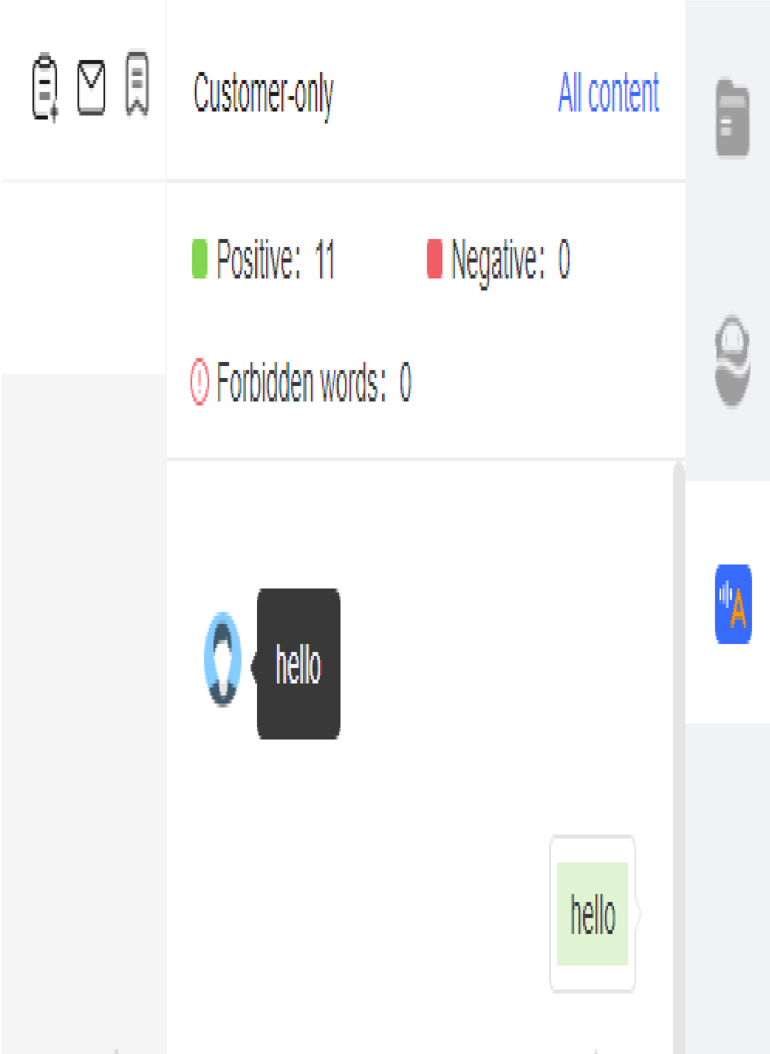
Procedure

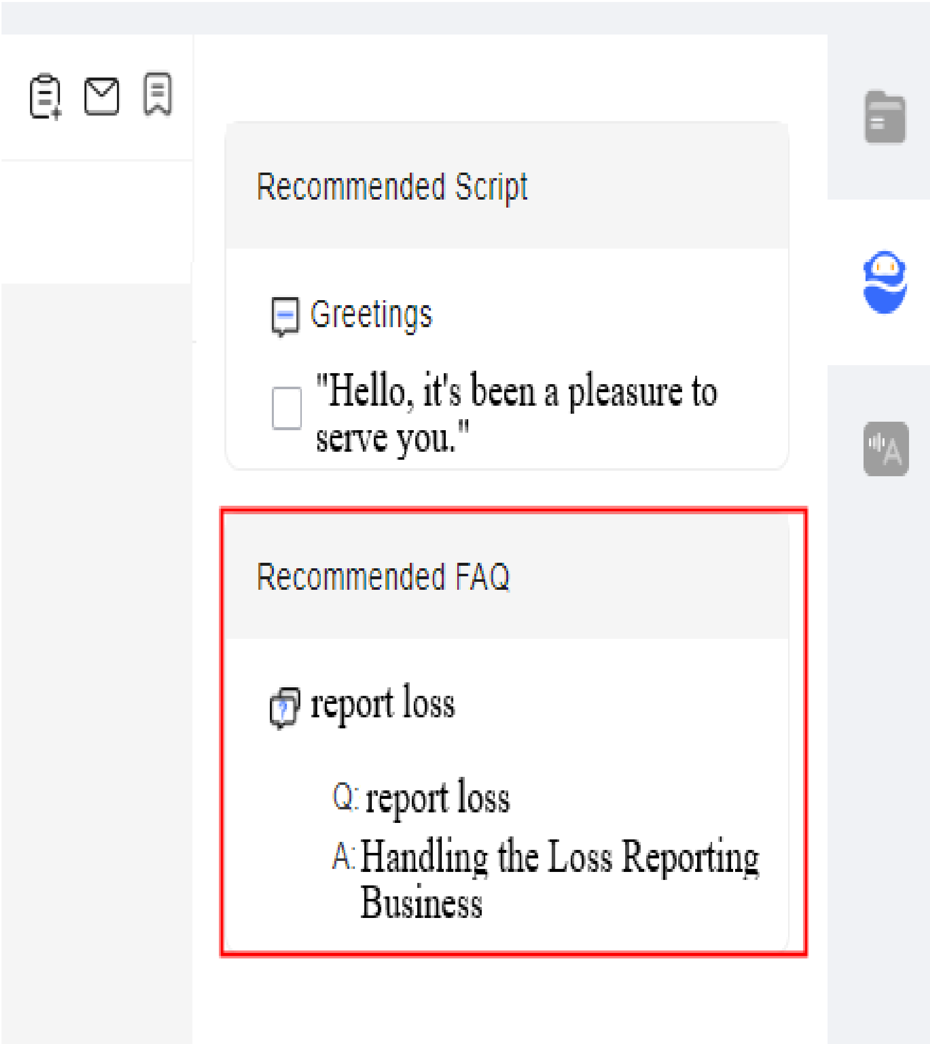
When **Only Customer** is selected, the system can display only converted speeches of the customer.

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.


Customer-only
All content
Positive: 11
Negative: 0
Forbidden words: 0
hello
hello



3.4.11 Initiating Callbacks

An agent can proactively initiate a callback to a customer for completing a business which is interrupted abnormally.

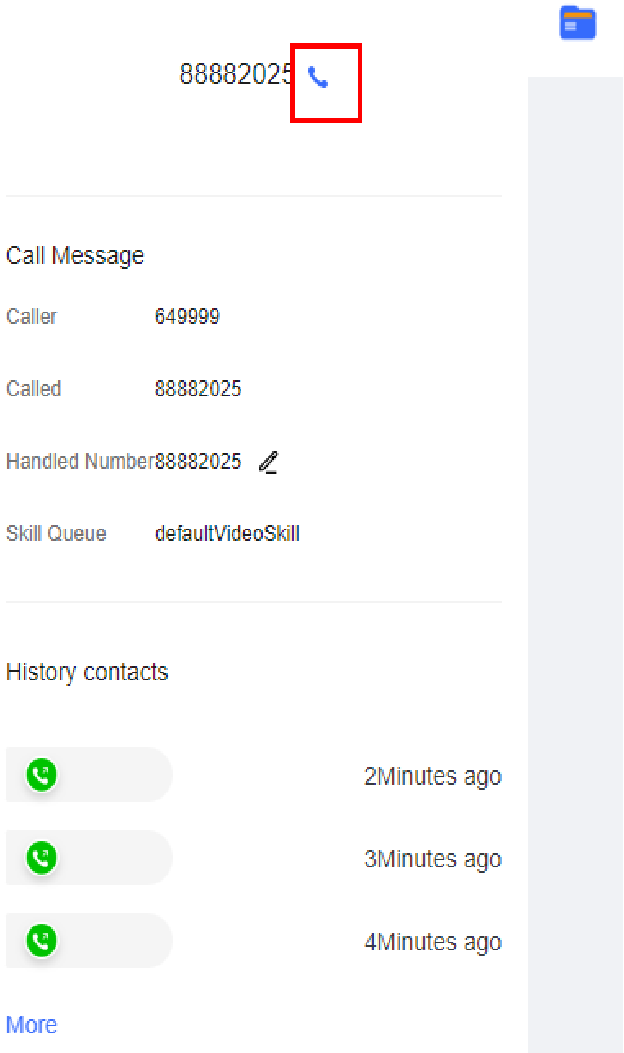
Context

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.



3.5 Processing Video Businesses

This section describes how to process video businesses as an agent.

3.5.1 Answering Inbound Calls Automatically

An agent can automatically answer an inbound call from a customer.

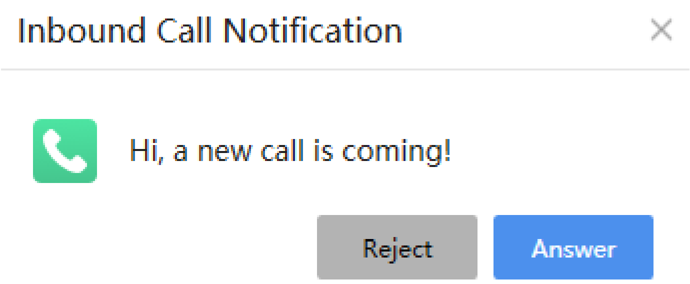
Context

An agent can answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

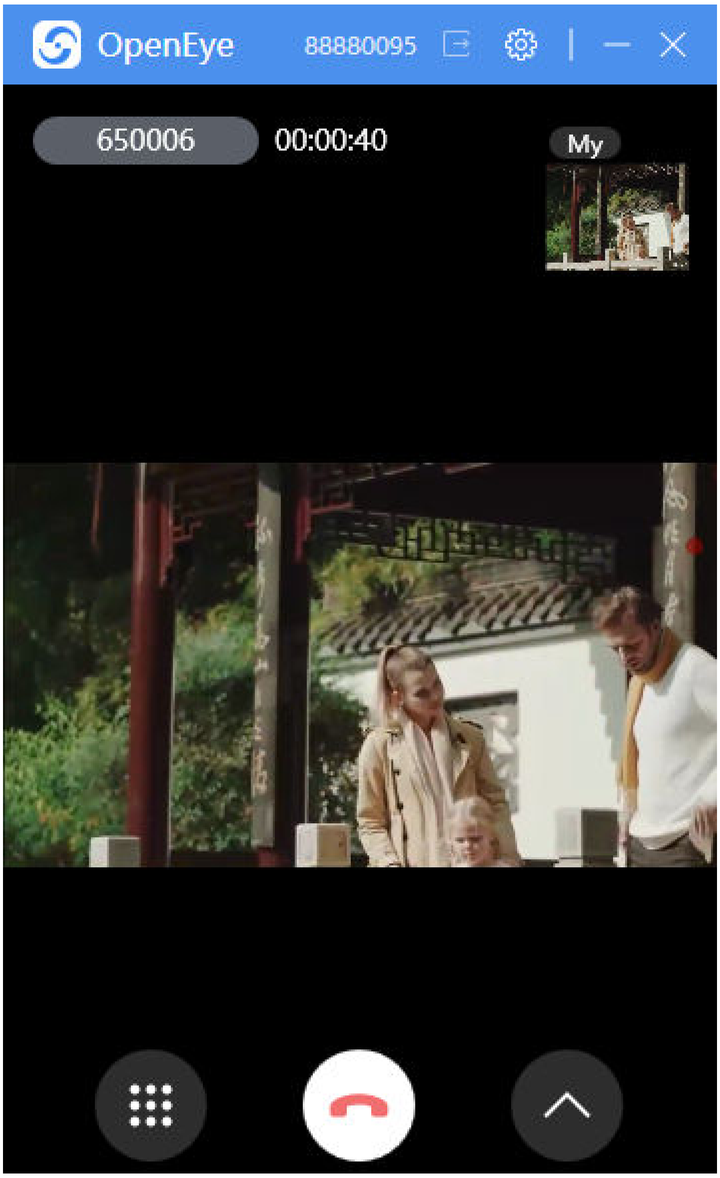
Procedure

When a new inbound call arrives, the softphone on the agent side 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:

1. After a new inbound call arrives, the softphone of the agent rings.



2. 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.



3.5.2 Answering Inbound Calls Manually

An agent can manually answer an inbound call from a customer.

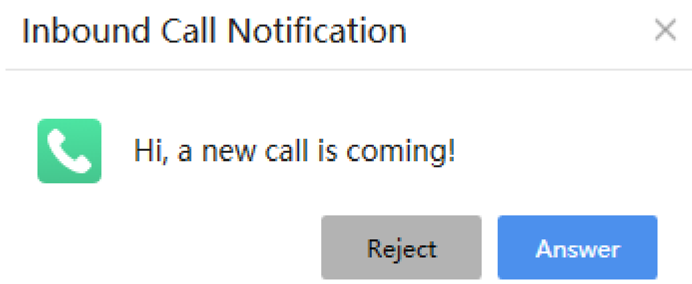
Context

An agent can manually answer an allocated inbound call. After the call is answered successfully, the agent can start talking with the customer.

Procedure

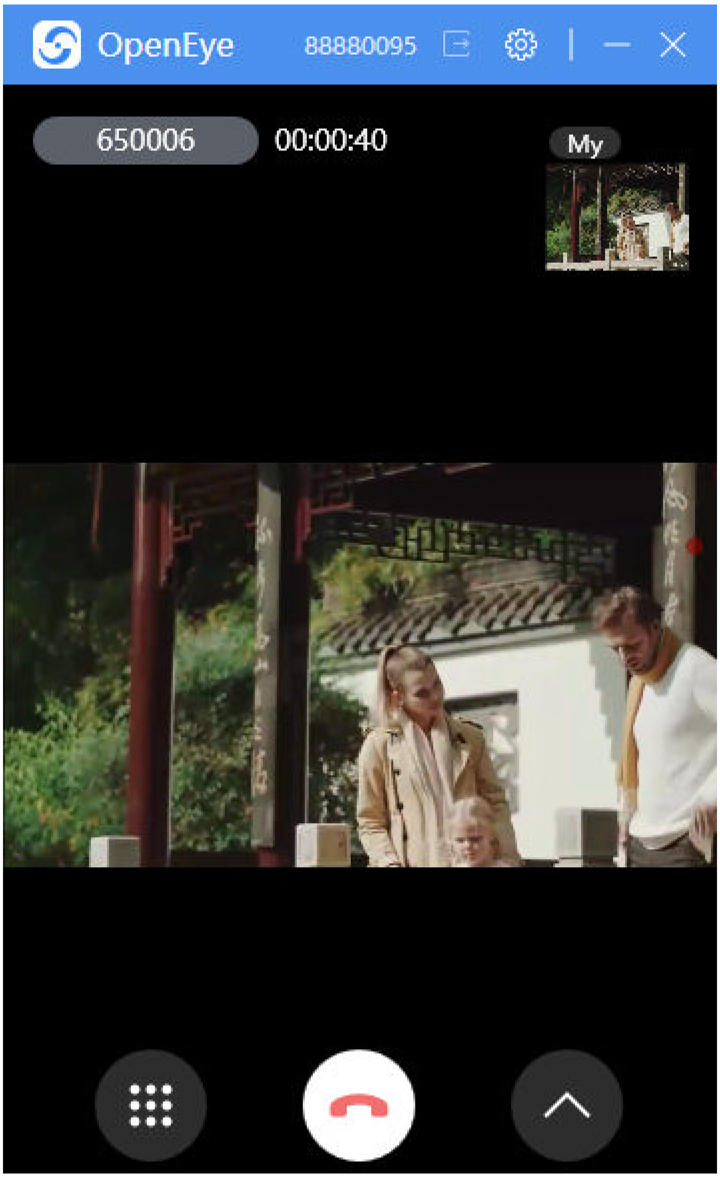
When a new inbound call arrives, the softphone of the agent rings. The agent can click **Answer** to answer the call.

1. After a new inbound call arrives, the softphone of the agent rings. Click **Answer**.



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.



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 incoming 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.

Table 3-4 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 processing the call, the automatic 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.

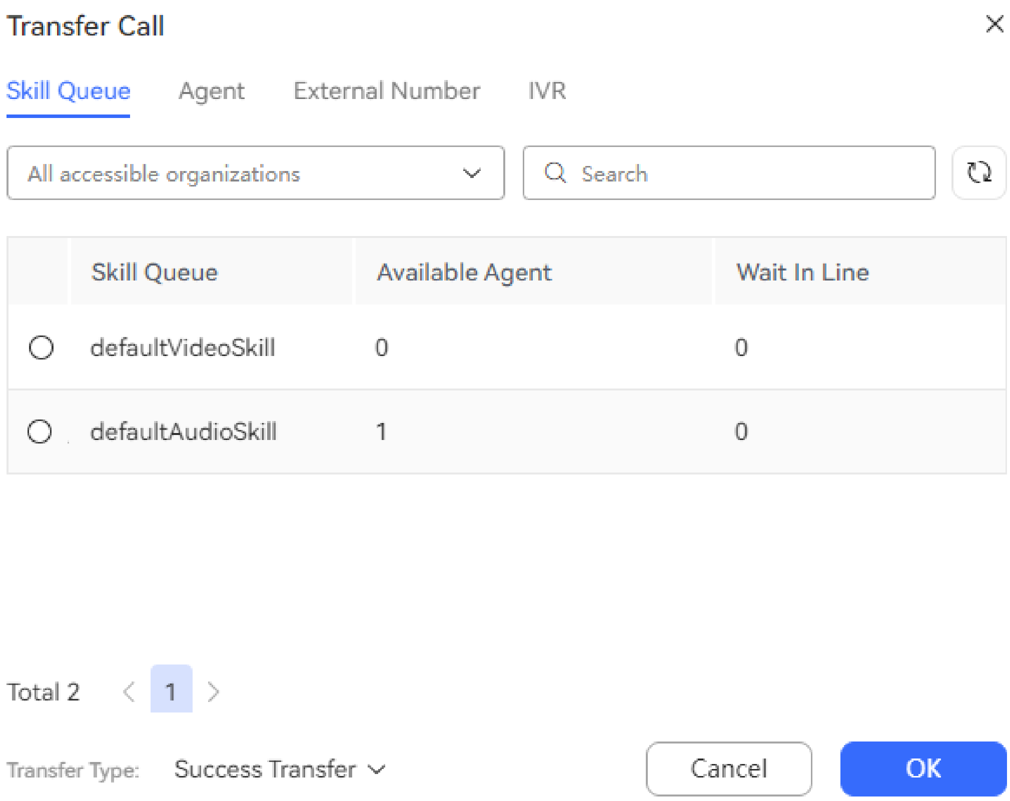
Procedure

After answering an inbound call, the agent finds that the call needs to be transferred.

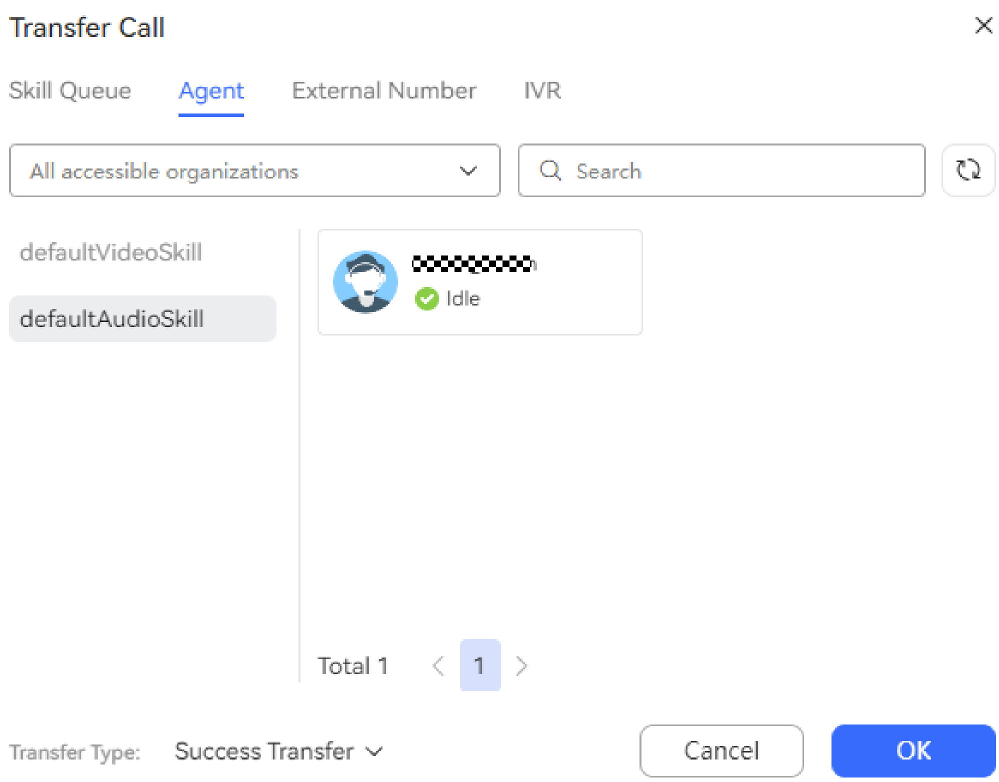
1. Click  on the connection bar.

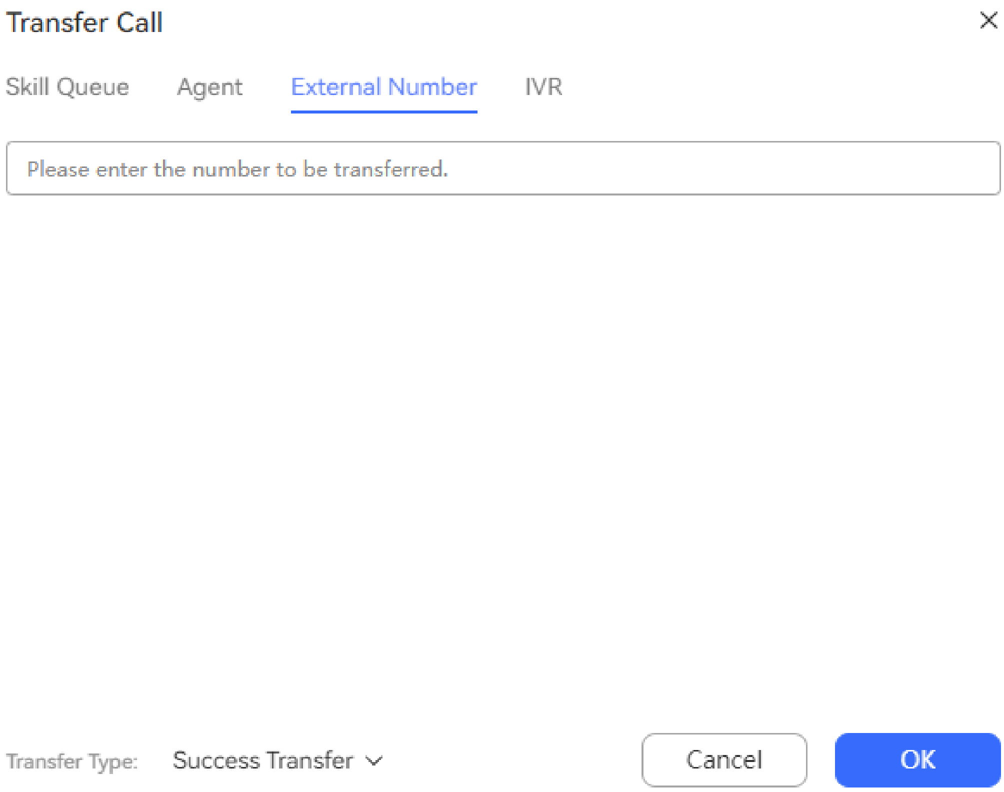
2. Click the tab corresponding to the transferred-to object.
   – **Skill Queue**



– **Agent**



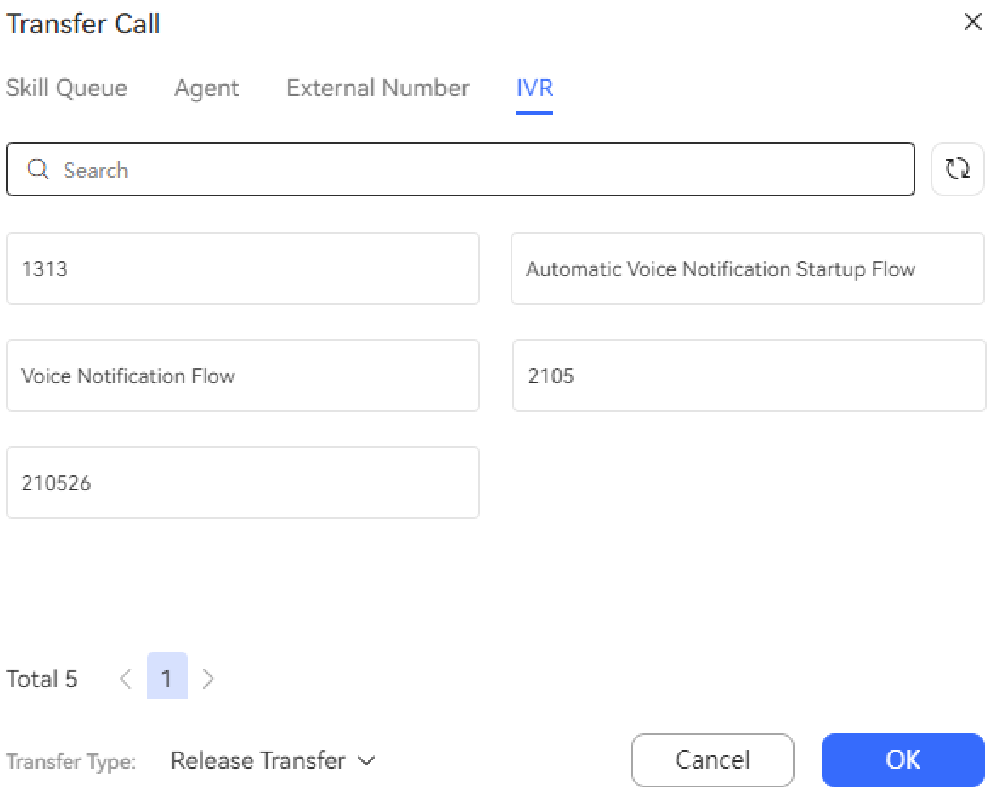
– **External Number**



NOTE

- **Release Transfer** is supported for inbound calls but not outbound calls.
- 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 cannot further transfer the call to an external number.

– **IVR**



3. Select an idle agent, skill queue, or IVR or enter an external number, and then click **OK**.

After the transfer, the current agent enters the **Idle** state.

3.5.4 Making Outbound Calls

An agent can initiate a call to a customer for business operations.

Context

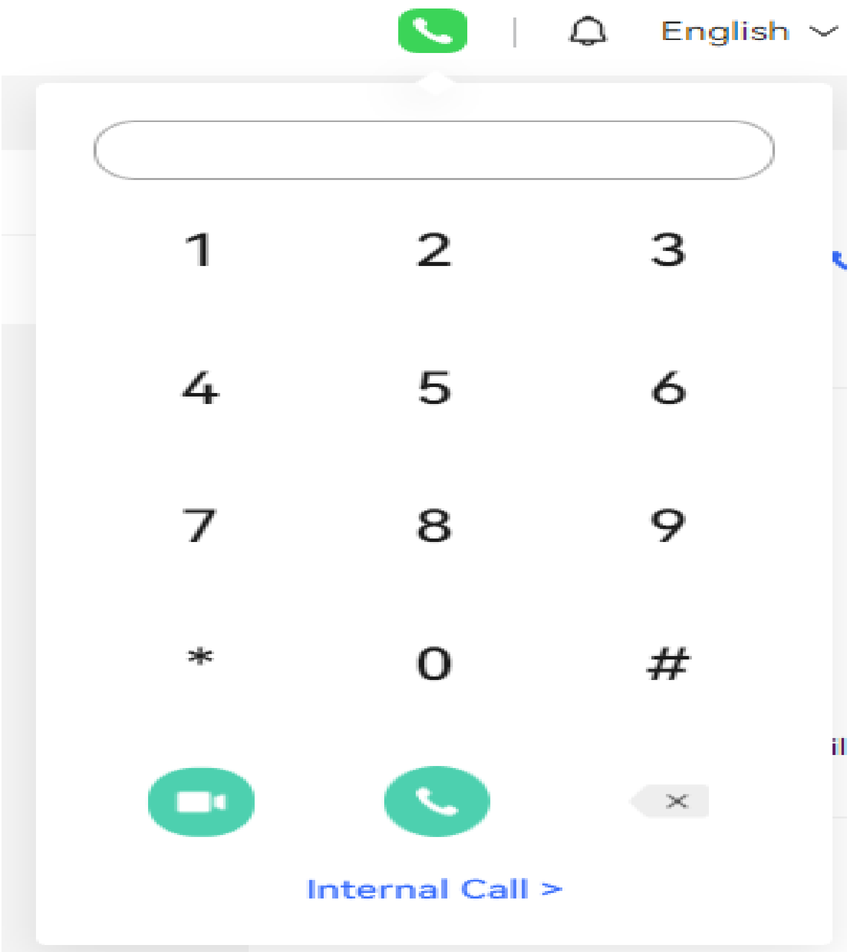
An outbound call refers to a call proactively initiated by an agent.

An agent needs to perform this operation to talk to agents of other call centers or to customers.

Procedure

An agent in all connection states except the talking state can make outbound calls.

An agent clicks , enters the called number in the keyboard area, and clicks to initiate a call.



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.

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

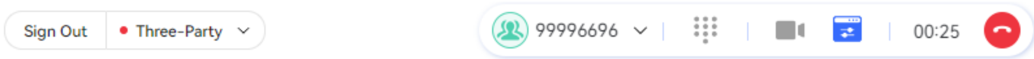
A three-party call supports three help-seeking modes: help-seeking from a skill queue, help-seeking from an agent, and help-seeking from an external number.

When an agent clicks **Three-Party** during a call:

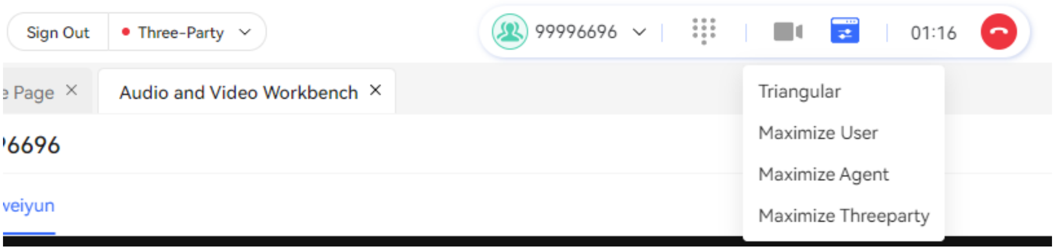
- If the agent does not know to whom a help-seeking request can be sent, the agent can select a skill queue. The system then specifies an agent in the skill queue to answer the call.
- If the agent needs to seek help from another agent, the agent can select an agent. The system then specifies the agent as the requested object.
- If the agent knows to whom a help-seeking request can be sent, the agent can click , choose **External Number**, and enter the external number.

During a three-party call, you can manually maximize the displayed image.

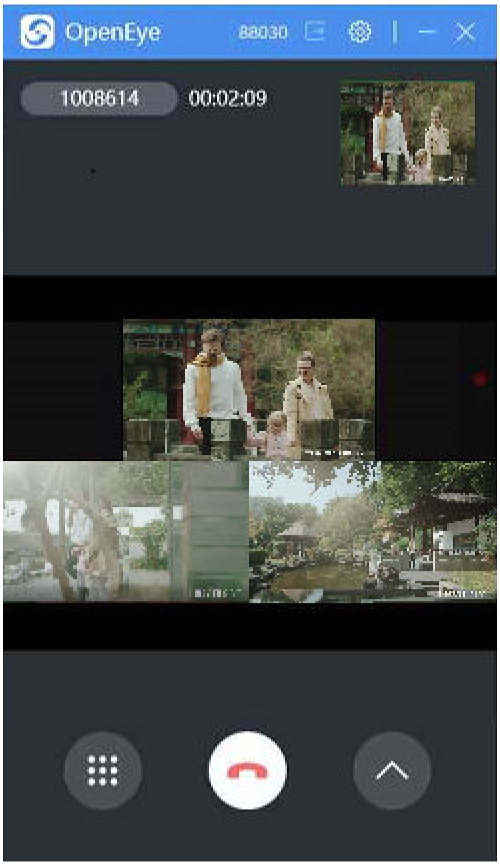
During a three-party call, you cannot share the desktop or adjust the video window size if not all of the three parties enable the video function.



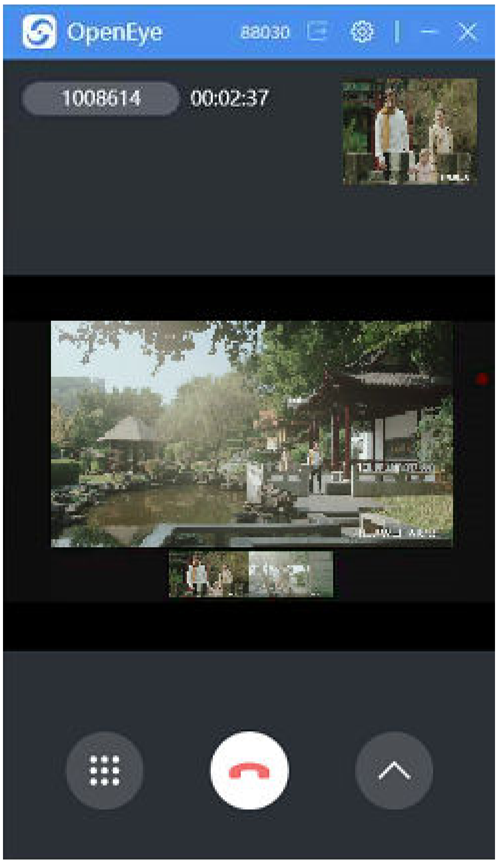
The following modes are supported.



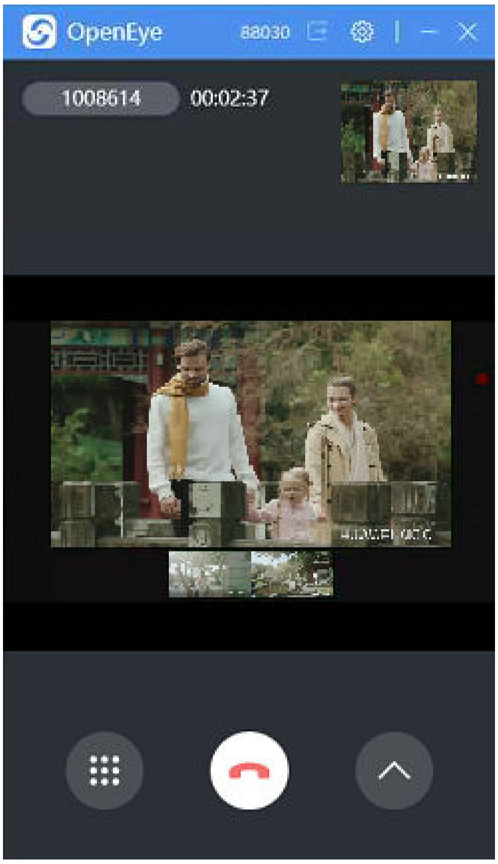
- The following figure shows the images of three parties of an equal size.



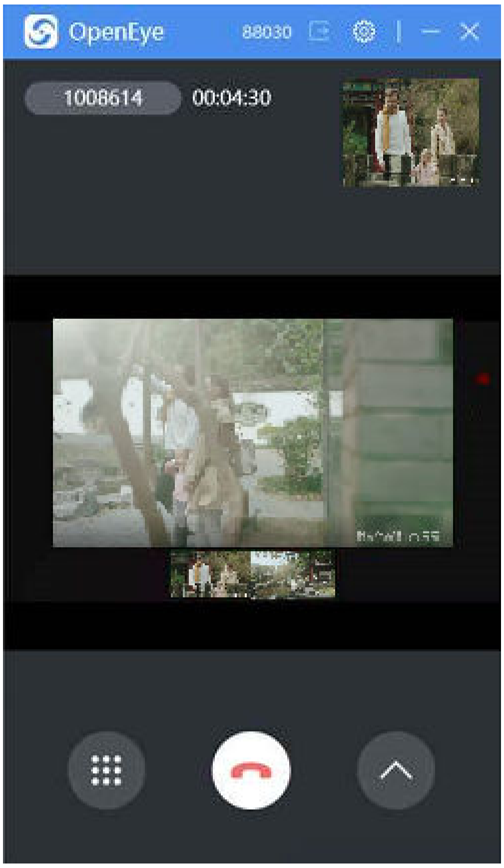
- The following figure shows a maximized user image.



- The following figure shows a maximized agent image.



- The following figure shows a maximized third party image.



3.5.6 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.

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.

3.5.7 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

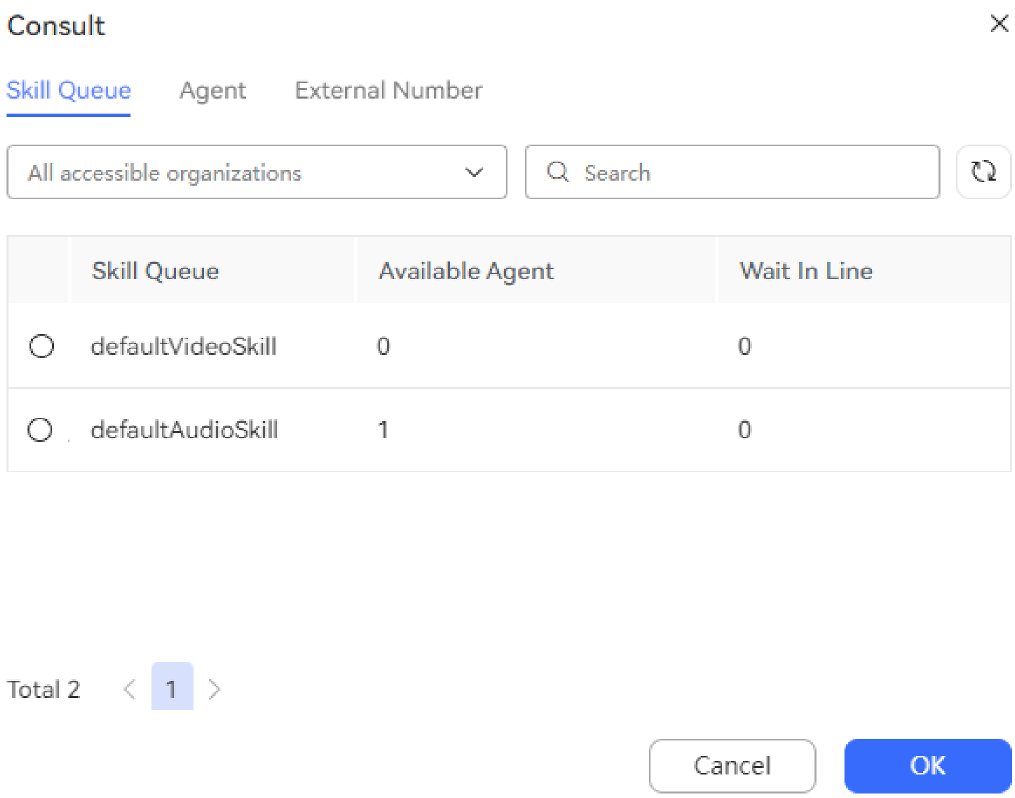
During consultation, the call between the agent and customer is held, and the agent talks with another agent or an external party who accepts the consultation request. After the consultation call ends, the current agent can continue to talk with the customer.

Procedure

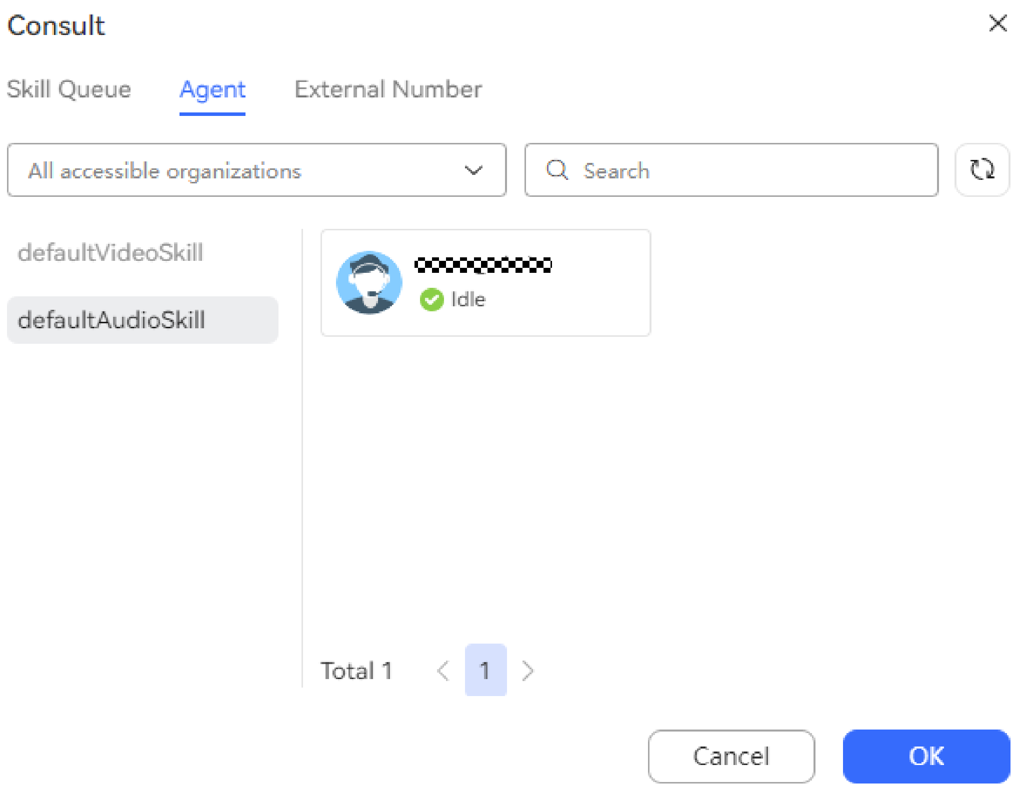
An agent in talking state clicks on the connection bar to open the consultation page.

Consultation supports three modes: skill queue, agent, and external number.

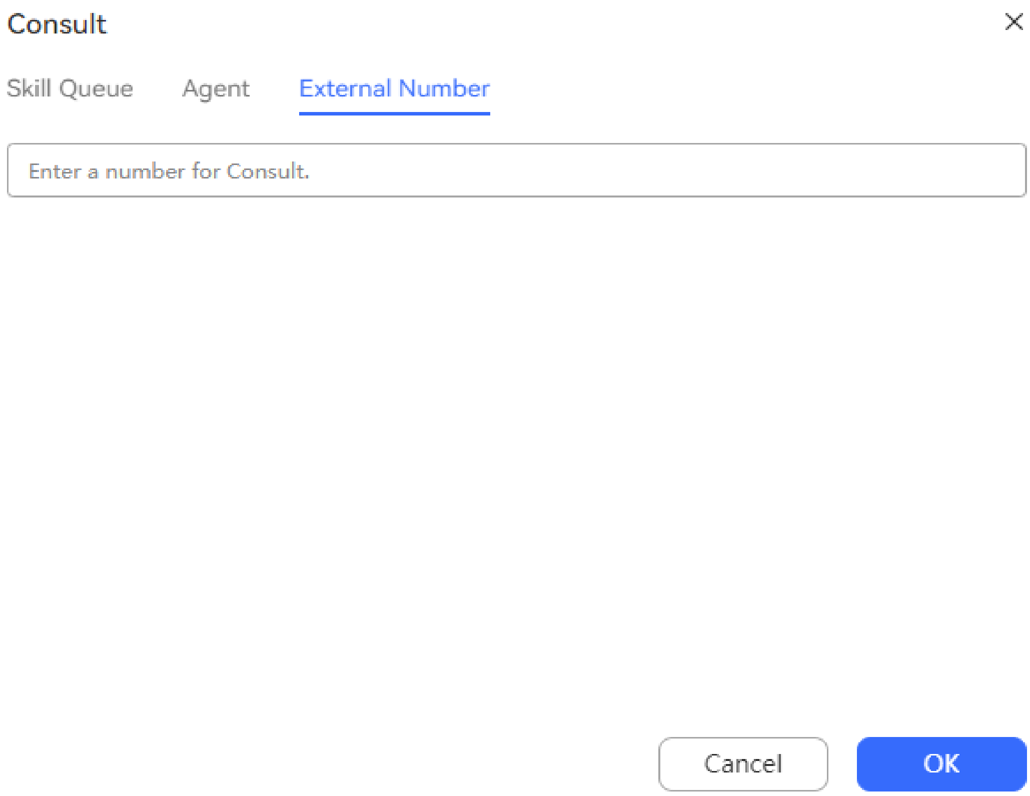
- **Skill Queue**



- **Agent**



- **External Number**



3.5.8 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.

3.5.9 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 user dials an access code 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.
- 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.

3.5.10 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

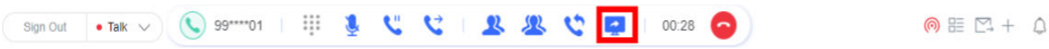
An agent can use the WebRTC or OpenEye softphone to sign in as an agent and share the desktop during a video call with a customer.

CAUTION

Pay attention to personal privacy protection during desktop sharing.

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

3.6 Processing Multimedia Chat Businesses

This section describes how to process multimedia businesses as an agent.

3.6.1 Answering Calls

The online chat workbench is used when an agent handles businesses through the web, WeChat, Twitter, Facebook, 5G, email, WhatsApp, SMS, Instagram, or Telegram channel.

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 and average call duration (in minutes) are displayed.

When an agent processes a multimedia message, the connection bar is in the **Occupied** state. 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.

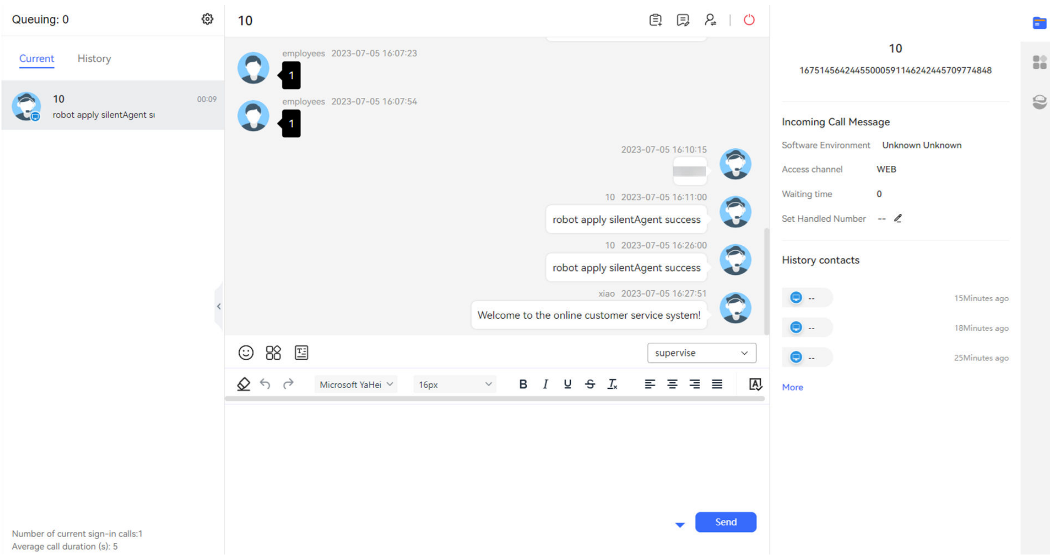
If multiple tab pages are opened and the current online chat workbench is not activated, when a new message is received, the tab page blinks and an announcement is played, indicating that a new message is received.

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.



NOTE

- Before sending a message, click [A] to check spelling to avoid spelling mistakes.

  All channels support spelling check. For the email channel, the forwarding, reply, and email draft viewing pages are involved.

  Only the spelling of text is checked. Misspelled words are marked in red.

  Currently, only Chinese and English spelling check is supported. If other tenant languages are used, Chinese is displayed by default.
- The chat contents between the customer and agent are displayed in **Current**. 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.

----End

Troubleshooting

If the email content cannot be displayed and is empty, click **Refresh** to check the OBS status. If a message is displayed, including that the refresh fails, contact O&M personnel.

3.6.2 Sending an Electronic Document Link

Context

During the chat with a customer, you can send an electronic document link to the customer for signing.

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 **3.6.2.1 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.

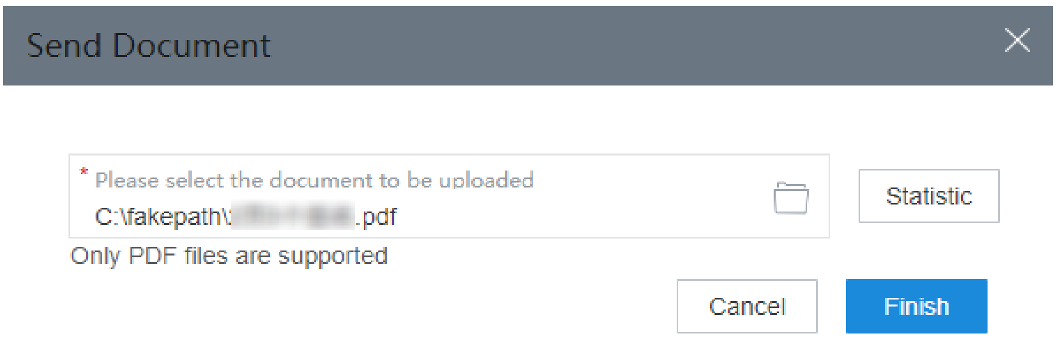
- The arrow size is specified by the system parameter **Signature location picture size**. The default value is **18*22**, indicating the width x height of the signature location image.
- The arrow location is specified by the system parameter **Signature image size and offset**. The default value is **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 3-9 Send Document page



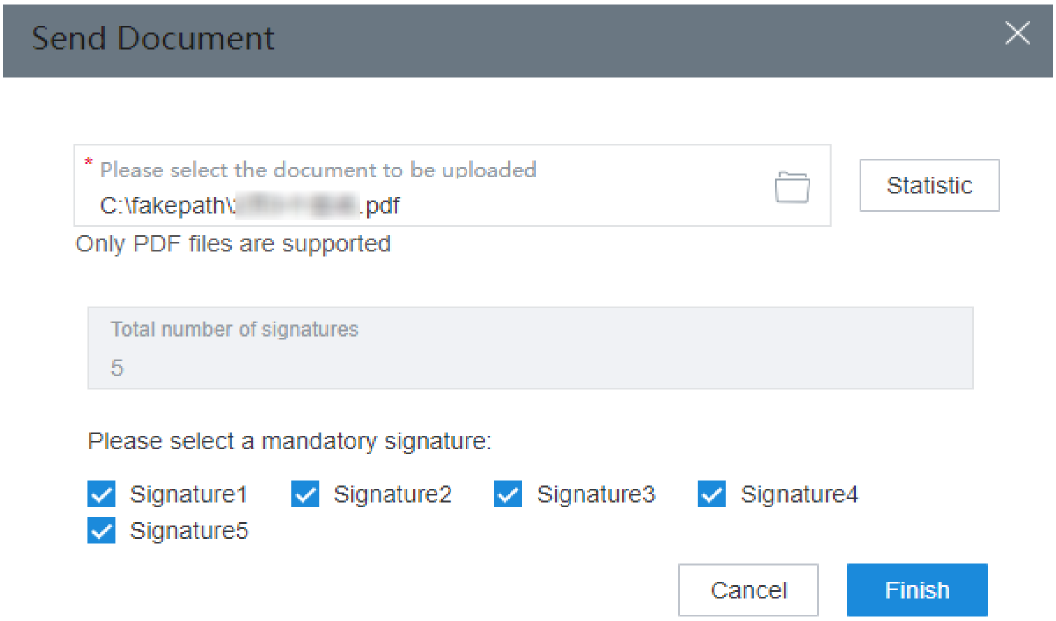
2. Click  and select the prepared electronic document.

   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 3-10 Selecting mandatory signatures

4. Click **Finish**. The document link is automatically saved in the text box.

   A record is automatically added on the **Customer Contact History** > **Document Management** page, and the document status is **Unsigned**. For details about other operations, see **3.7.13 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 **Customer 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.

3.6.2.1 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

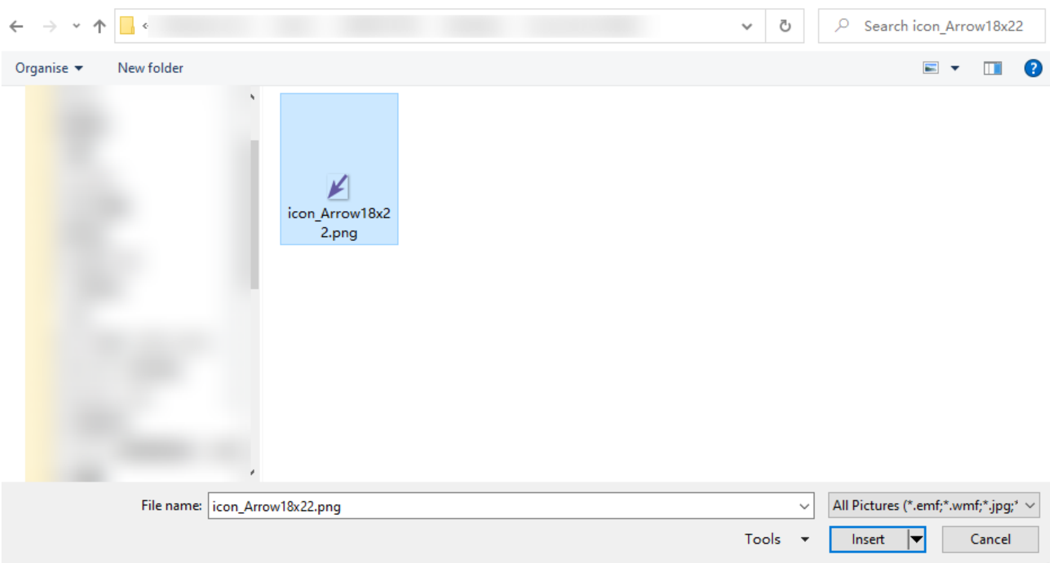
Step 1 Download the package from **Context** and extract the arrow icon **icon_Arrow18x22.png**.

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.

Figure 3-11 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

3.6.3 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

If call collaboration is required, that is, a customer can have a text chat and a voice or video call with the same agent, the agent scope of the click-to-dial skill queue configured in the web channel configuration must be the same as that of the multimedia skill queue.

A voice or video call cannot be initiated during a chat between the chatbot and a customer.

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

3.6.4 Transferring Sessions

Context

A session needs to be transferred to another agent.

Procedure

Click to transfer an ongoing session to another agent. A session can be transferred by skill queue (multimedia type) or by agent (multimedia agent). The transfer modes are release-after-transfer and blind transfer. During session transfer, agent states and accounts can be viewed.

Release-after-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.

Blind transfer: After an agent transfers a session, the agent releases the session immediately, regardless of whether the transfer is successful.

Figure 3-12 Transferring a session to a skill queue

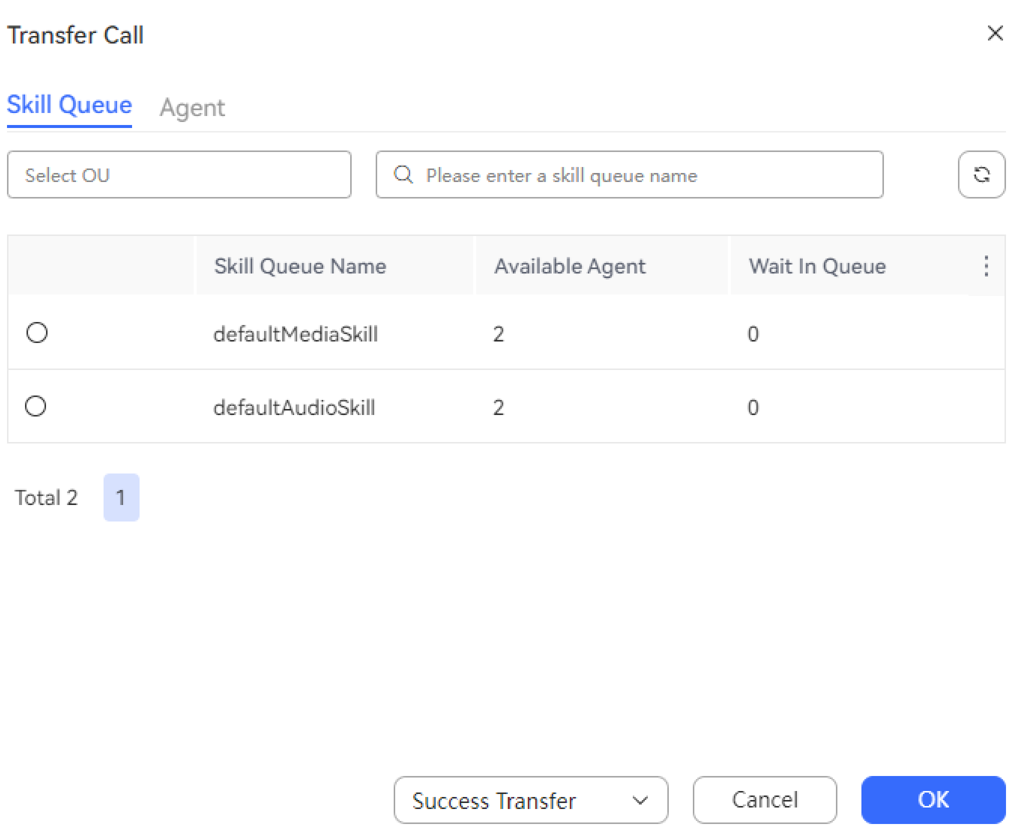
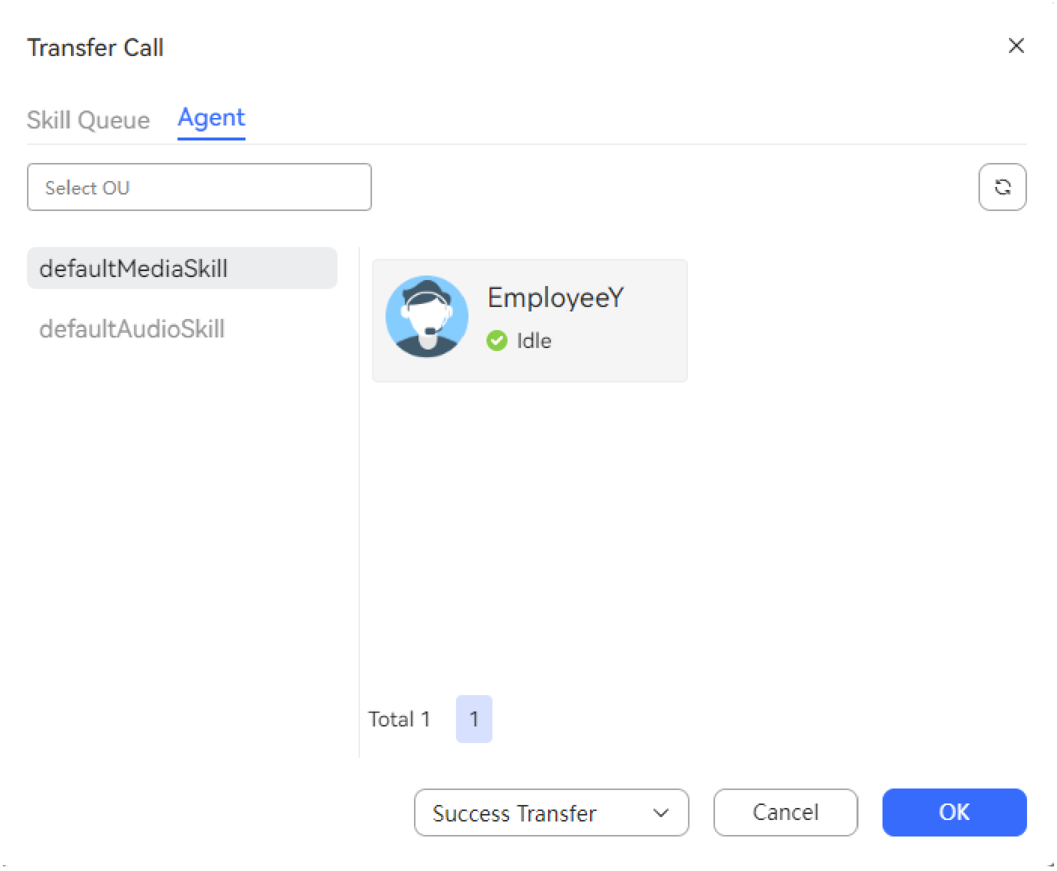


Figure 3-13 Transferring a session to an agent



: The agent is in a voice or video call.

: The agent is in an online chat.

3.6.5 Initiating Sessions

An agent can search for a user not contacted in historical sessions, and set up a connection through the email, WhatsApp, 5G, or SMS channel.

Prerequisites

The email, WhatsApp, 5G, or SMS channel is available, and the offline message function has been enabled for the channel.

Context

Users not contacted refer to users who have never been contacted and users who have not been contacted for more than seven days.

Procedure

The following uses an email agent as an example.

Step 1 Click **Sign In** on the connection bar and set the agent status to busy.

Step 2 On the **Online Chat Workbench** tab page, click **History**.

Step 3 Enter a user ID in the search box.

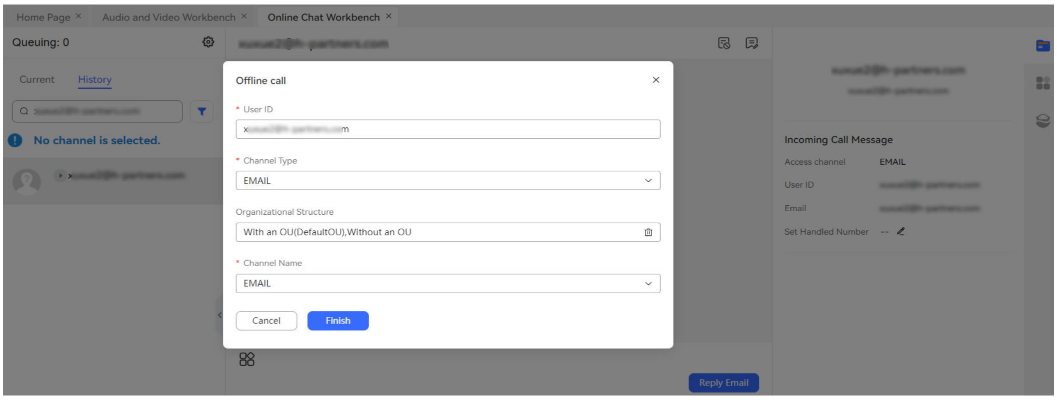
The mapping between user ID types and channel types is as follows:

- Email address -> email channel
- Mobile number -> WhatsApp, 5G, or SMS channel

Step 4 Click and select a channel type.

Step 5 In the **Offline call** dialog box that is displayed, set **Organizational Structure** and select a channel based on the OU. The values of **User ID** and **Channel Type** are automatically filled in.

Figure 3-14 Offline call dialog box (EMAIL)



Step 6 Click **Finish**. A session is initiated, and the agent status changes to **Occupied**.

----End

3.6.6 Initiating Co-browsing

An agent can initiate co-browsing after a customer is connected to the agent.

Prerequisites

- The agent and customer are in a session.
- The OU that the agent can access has available co-browsing URLs.

Context

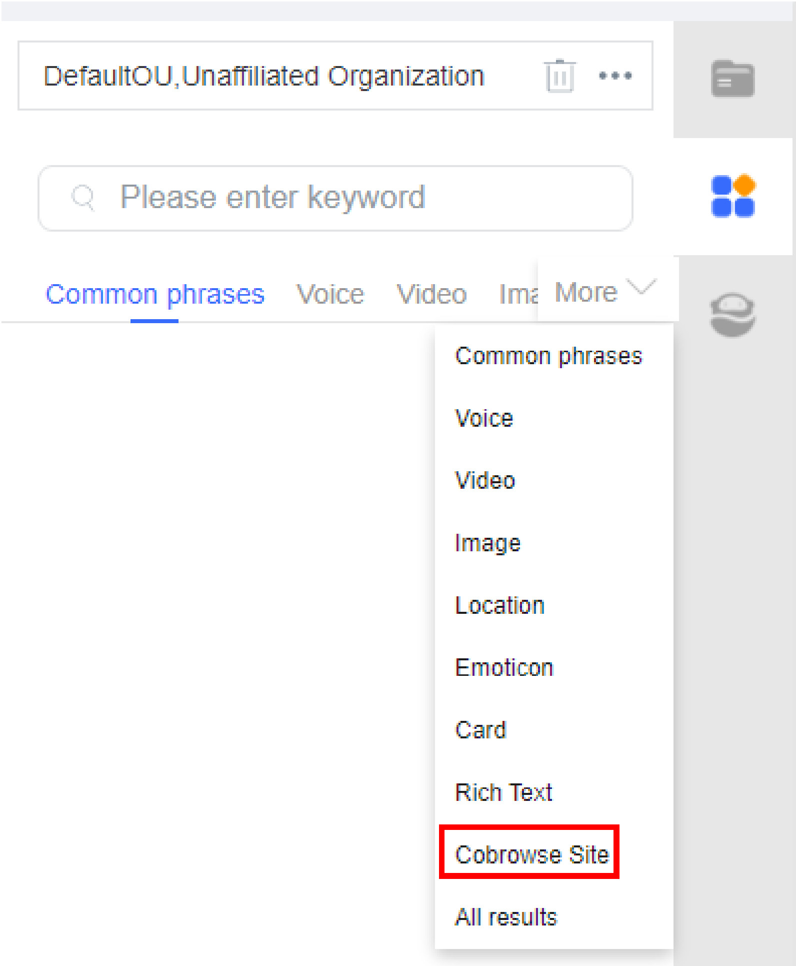
Only the web channel supports this function.

Procedure

Step 1 Click on the right and select an OU that you can access.

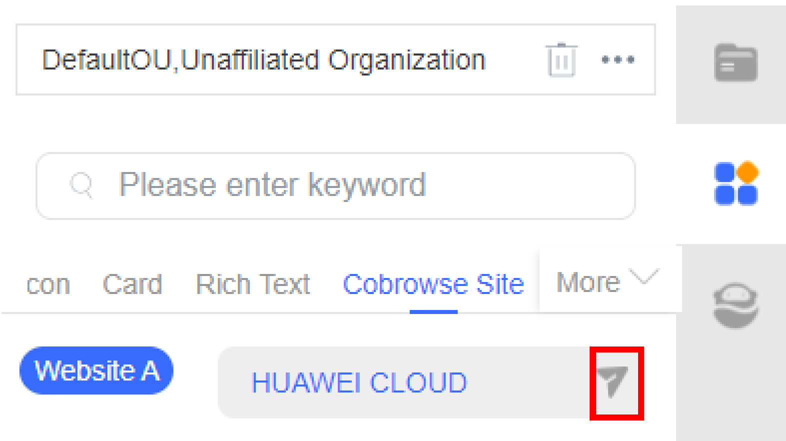
Step 2 Click **More** and choose **Cobrowse Site**.

Figure 3-15 Choosing Cobrowse Site



Step 3 Select a co-browsing URL and click  to send a co-browsing request.

Figure 3-16 Sending a co-browsing URL



Step 4 After the co-browsing request is successfully sent, wait for the customer to accept the request.

A blank **Co-browsing** tab page and a browser trust request requiring your acceptance are displayed on the agent side.

Figure 3-17 Waiting page

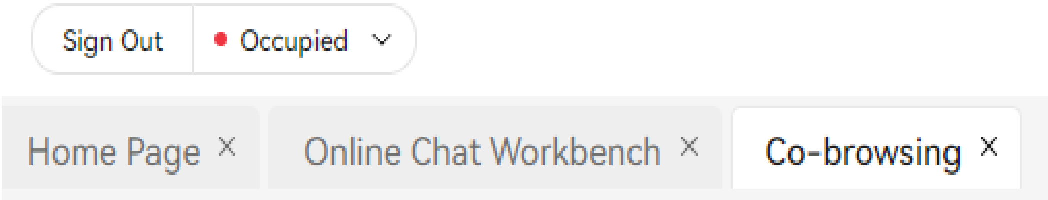
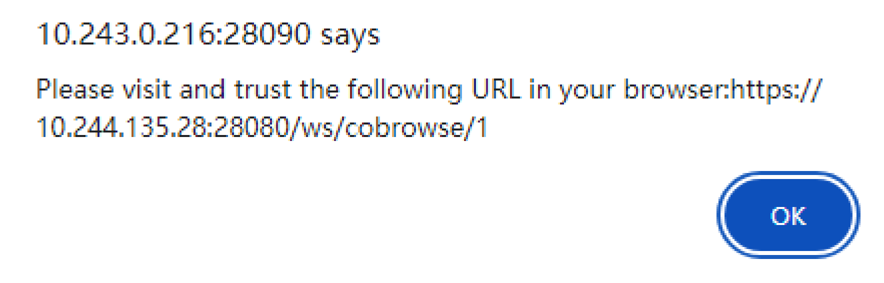


Figure 3-18 Browser trust request



The preceding figures are only examples.

Step 5 After the customer accepts the request, co-browse the page with the customer.

A new page is displayed on the customer side. The page content of the co-browsing URL is displayed on both the new page on the customer side and the **Co-browsing** tab page on the agent side.

Table 3-5 GUI elements on the Co-browsing page (agent side)

Element/Component	Type	Description
	Button	The agent requests or stops the customer page control permission. After the agent initiates a request, the following options are displayed on the customer side: • : Accept the request. • : Reject the request. **NOTE** Accepting the request will share your page, which may contain your personal data. Exercise caution when performing this operation.
	Button	The agent exits the co-browsing room.
	Button	Eraser.

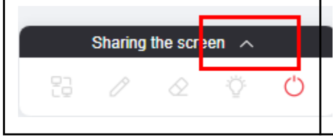
Element/Component	Type	Description
	Button	Highlighter.
	Button	Brush.
	Button	Hide the toolbar.

Figure 3-19 Co-browsing page (customer side)

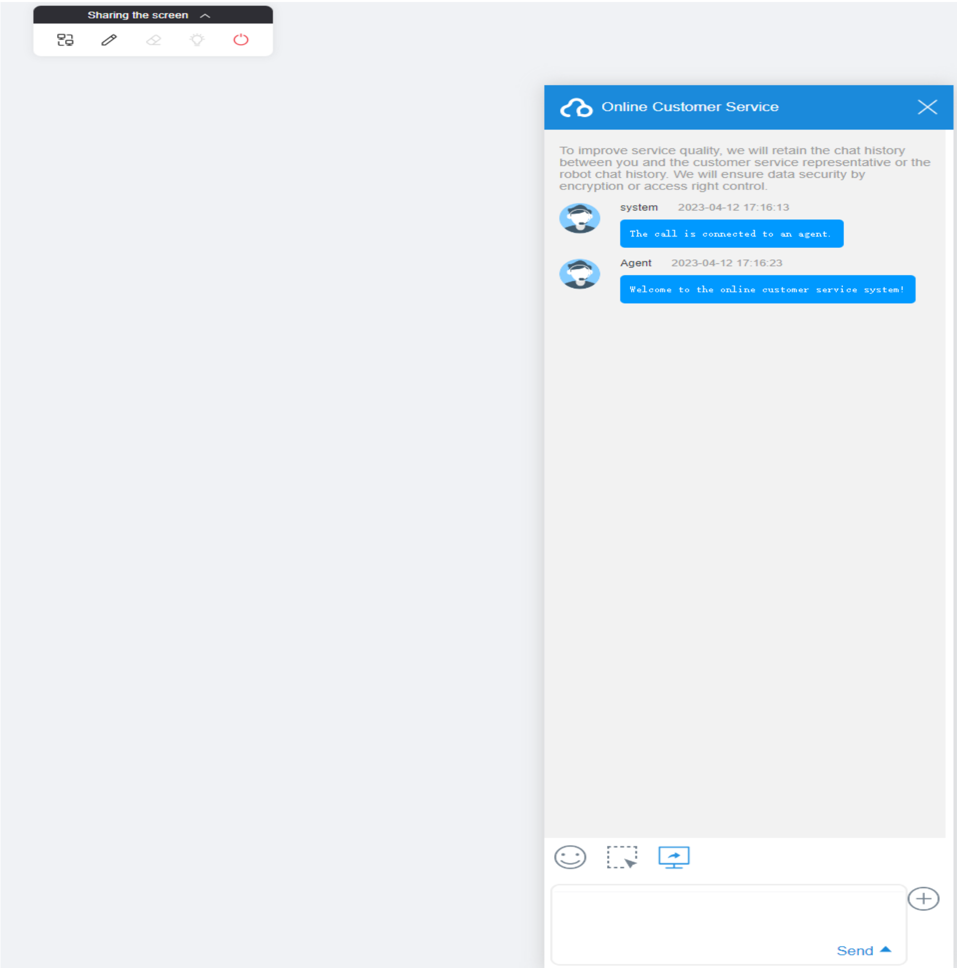
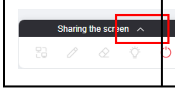


Table 3-6 GUI elements on the Co-browsing page (customer side)

Element/Component	Type	Description	Value Range	Triggering Event	Remarks
	Button	Draw.	-	Click	-
	Button	The customer revokes or grants the page control permission to the agent.	-	Click	-
	Button	Highlight key areas.	-	Click	-
	Button	Erase a drawn mark.	-	Click	-
	Button	The customer exits the co-browsing room.	-	Click	-
	Button	Hide the toolbar.	-	Click	-

NOTE

The agent is advised to view the customer's presentation in the normal browser window instead of the zoomed-out browser window.

----End

Follow-up Procedure

After the co-browsing ends, the agent can choose **Customer Contact History** > **Session Record of Web Collaboration** to view the co-browsing session record, including **Room Number**, **Agent Number**, **Caller**, **Starting Time**, and **End Time**.

3.6.7 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.

3.6.8 Querying Historical Contacts

An agent can view the latest three contact records.

Context

The latest three contact records are displayed by time. Contact records can only be displayed by time.

You can view multimedia messages, such as emojis, images, videos, and addresses, in historical contact records.

Procedure

- When you click a contact record to view its details, the contact record details page is displayed.

  On the **Message Sending Record** tab page, click **Send Message** to send a multimedia message (SMS message or email) to the customer.

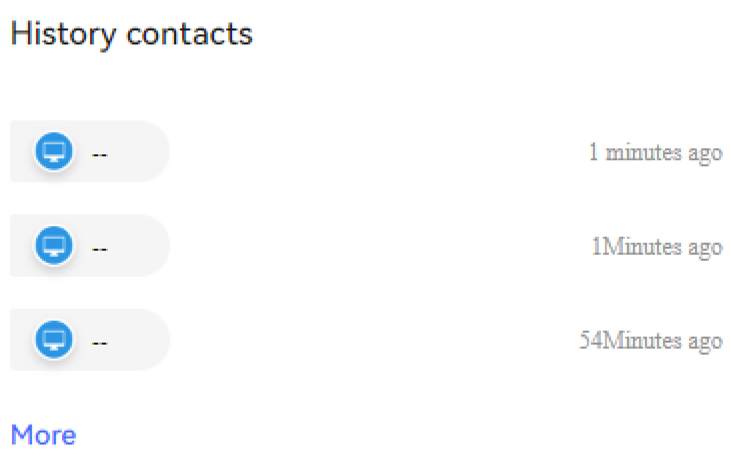
  NOTE

  The agent is in a conversation with the handled number.

- When you click **More**, the contact records generated for the handled number in the last seven days are displayed.

  On the **Contact Record** page, an agent can click **Play** to play the recording of a contact record without sign-in.

  Figure 3-20 Historical contact page



3.6.9 Withdrawing Agent Messages

An agent can withdraw messages.

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.

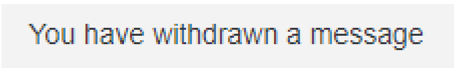
Procedure

On the agent side, right-click a message and choose **Retract** from the shortcut menu.

Figure 3-21 Withdrawing a message

After a message is recalled, the following information is displayed.

Figure 3-22 Agent page



3.6.10 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.

Transfer: When a silent agent switches to this state, the agent can transfer the call to the agent service.

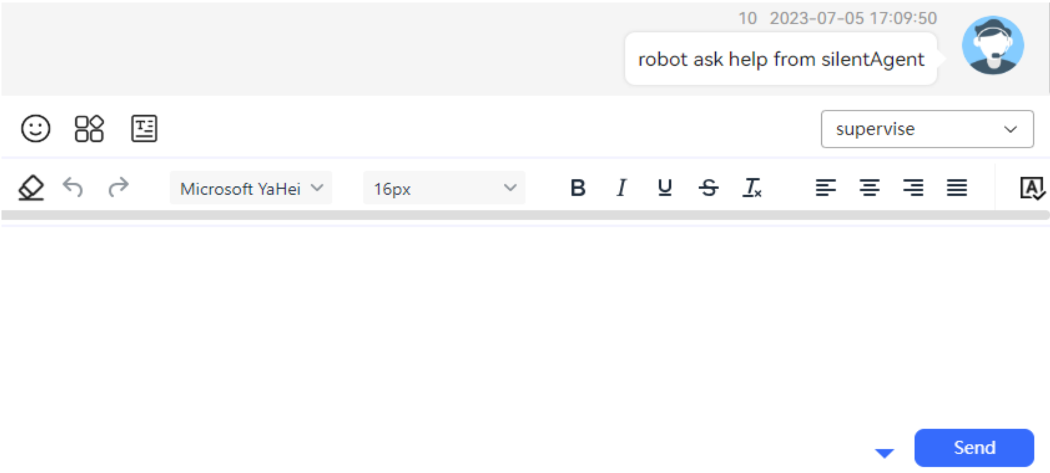
NOTE

- 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 3-23 Multimedia silent agent page



3.7 Performing Other Agent Operations

This section describes other operations performed by an agent.

3.7.1 Querying Historical Contacts

An agent can query historical contact records.

Context

The latest three contact records are displayed by time. Contact records can only be displayed by time.

Procedure

- When you click a contact record to view its details, the contact record details page is displayed.

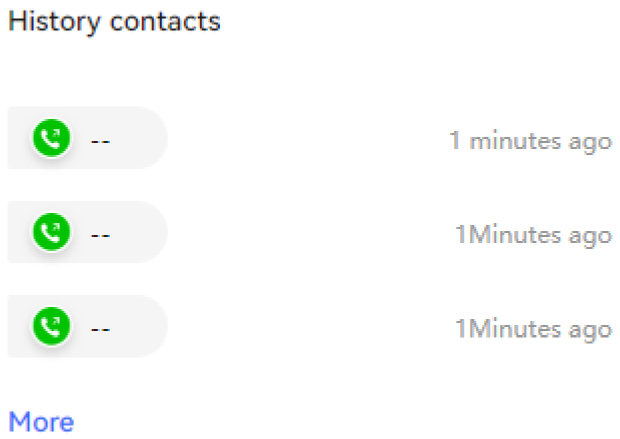
  On the **Message Sending Record** tab page, click **Send Message** to send a multimedia message (SMS message, email, or WhatsApp message) to the customer.

NOTE

The agent is in a conversation with the customer.

- When you enter a handled number for query, the contact records of all handled numbers in the last seven days are queried.
- When you click **More**, the contact records generated for the handled number in the last seven days are displayed.

  On the **Contact Record** page, an agent can click **Play** to play the recording of a contact record without sign-in.



3.7.2 Viewing Inbound Call Information

An agent can view inbound call information.

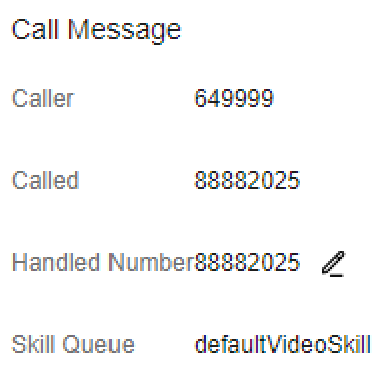
Context

The **Call Message** area displays inbound call information, including the calling number, called number, handled number, skill queue, and smart voice recording information.

Procedure

Smart Voice Recording is displayed when a call is transferred from a chatbot to an agent. The chat content between the chatbot and the user can be viewed by clicking **Details** on the **Smart Voice Recording** page.

Figure 3-24 Call Message



You can set a handled number to identify the service object. The handled number can contain a maximum of 24 characters.

If no handled number is set, the handled number is the same as the customer number.

Figure 3-25 Smart Voice Recording

3.7.3 Setting the Handled Number

During a call, an agent can set the handled number to identify the service object.

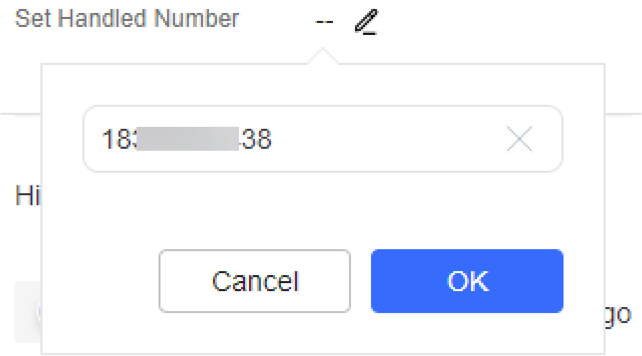
Context

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 3-26 Setting the handled number



3.7.4 Setting Call Reasons

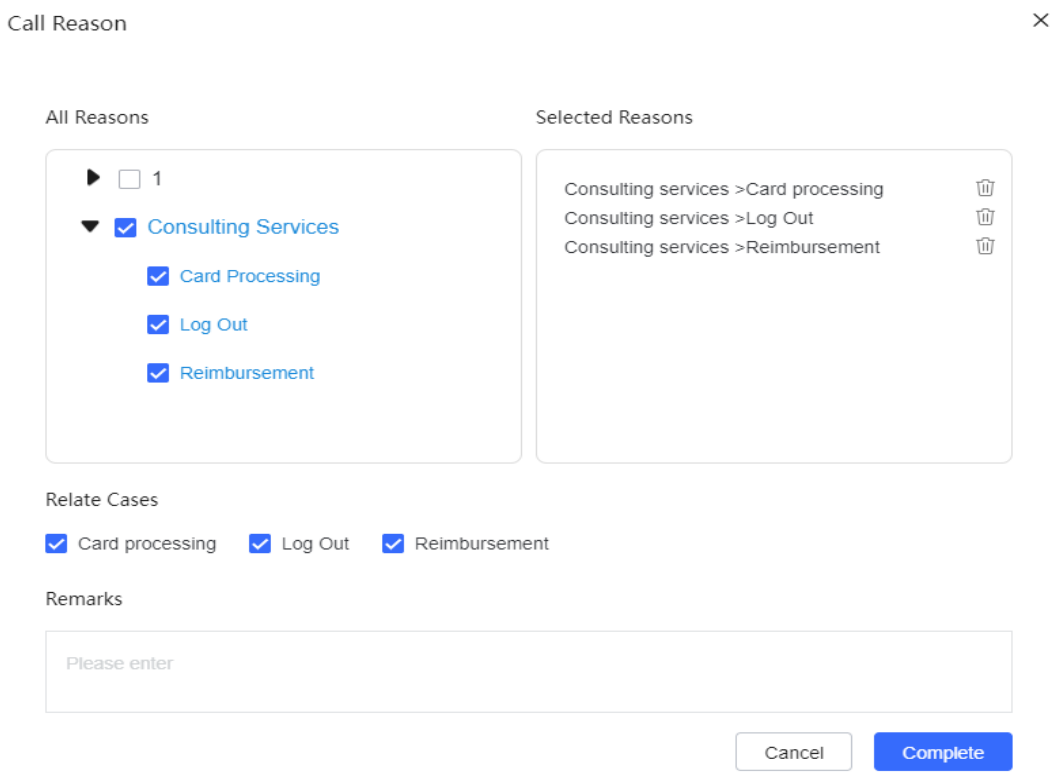
An agent can set call reasons to identify the customer.

Context

The call reason of the customer is identified and displayed.

Procedure

Click and select a call reason in the dialog box that is displayed. Add call remarks as required. The remarks can contain a maximum of 300 characters.



3.7.5 Setting the Working 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.

Procedure

Choose **Configuration Center** > **Workbench Configuration** > **Online Chat Service Hours**.

- Set the non-working days of each week.

  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.

3.7.6 Configuring Personalized Information

An agent can configure personalized information such as the nickname and greeting for themselves. When an agent handles a business through the online chat workbench, the personalized information is displayed directly.

Step 1 Choose **Configuration Center** > **Workbench Configuration** > **Personalization**.

Step 2 Set the avatar, nickname, maximum number of customers, and personalized greeting of the agent, and click **Save**.

The parameters are described as follows:

- **Nickname**: The value can contain a maximum of 20 characters and cannot contain brackets (< and >), ampersands (&), and slashes (/).
- **Maximum concurrent service customers**: This parameter requires the menu permission **Maximum Number Of Concurrent Service Customers**. A tenant administrator has this permission by default.

  The value ranges from 0 to 60. The default value is **0**.

  The value **0** indicates that the value of the tenant parameter **Multimedia Sessions Concurrently Processed by Agent** is used. The default value of the tenant parameter is **5**.

  If the agent is not bound to a business account, **Maximum concurrent service customers** is not displayed.
- **Personalized Greetings**: Different greetings can be set based on time segments. A greeting can contain a maximum of 80 characters and cannot contain brackets (< and >), ampersands (&), and slashes (/).

----End

3.7.7 Configuring Personalized Common Phrases

Agents can configure personalized common phrases in advance to improve work efficiency.

Prerequisites

None

Procedure

Step 1 Choose **Configuration Center** > **Workbench Configuration** > **Personalized Common Language**.

Step 2 Click , set **Phrase Type** on the right, and click to save the category.

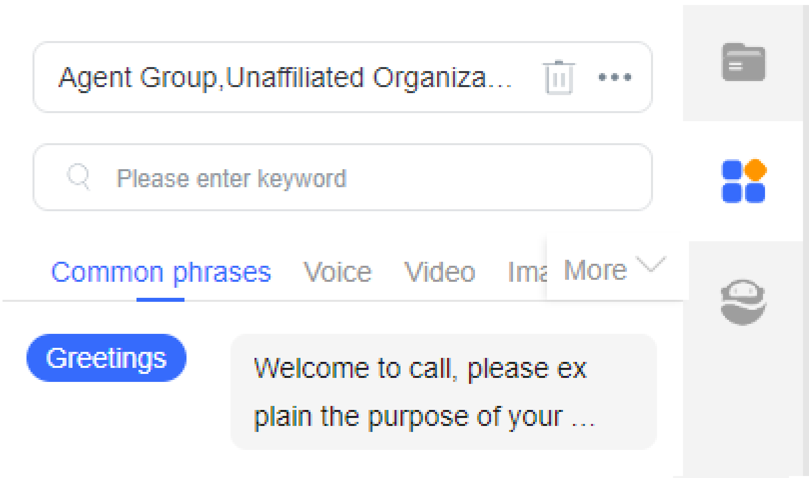
Click to modify the category.

Step 3 Select a common phrase category, click **Add** in the lower right corner of the page, enter a common phrase, select a shortcut (optional), and 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.



3.7.8 Sending Notifications

An agent can send a multimedia message (SMS message, WhatsApp message, or email) to a customer during a call with the customer.

Prerequisites

- To send Huawei Cloud SMS messages, the tenant administrator has purchased the Huawei Cloud SMS service and has completed 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, the tenant administrator has configured SMS message sender numbers on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
- To send SMS gateway messages and emails, the tenant administrator has configured the SMS and email gateways on the **Configuration Center** > **Access Configuration** > **Gateway Configuration** page.
- To send WhatsApp messages, the tenant administrator has configured the WhatsApp channel on the **Configuration Center** > **Access Configuration** > **Channel Configuration** page.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Send an SMS message.

1. Click on the **Audio and Video Workbench** page when answering a call or making an outbound call.
2. Select **Huawei SMS** to send a Huawei Cloud SMS message.
   a. Click **Reference Template**. In the template list that is displayed, select a configured Huawei Cloud SMS template whose **Notification Type** is **External Notification** and click **Complete**.
   b. Confirm the information and click **Send**.
3. Select **Gateway SMS** to send an SMS gateway message.
   a. Click **Sender Number**, select a sender number, and click **OK**.
   The sender number is added on the **Configuration Center** > **Access Configuration** > **SMS Configuration** > **SMS Number** page.
   b. (Optional) Click **Reference Template**. In the template list that is displayed, select a configured SMS gateway template whose **Notification Type** is **External Notification** and click **Complete**.

   NOTE

   After a template is referenced, you can modify the sender number, recipient, and variable value, but cannot modify the content.

   c. Enter the SMS message content.
   d. Confirm the information and click **Send**.

Step 3 Send an email.

1. Click on the **Audio and Video Workbench** page when answering a call or making an outbound call.
2. Set **Outbox** to the default email address configured on the **Gateway Configuration** page.
3. In the **Recipient** text box, enter the recipient email address.
4. In the **Title** text box, enter a title.

5. (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.

6. (Optional) Click **Reference Template**. In the template list that is displayed, select a configured email template and click **Complete**.

   NOTE

   After a template is referenced, you can modify the outbox, recipient, and variable value, but cannot modify the content.

7. Enter the email content.
8. Confirm the information and click **Send**.

Step 4 Send a WhatsApp message.

1. Click on the **Audio and Video Workbench** page when answering a call or making an outbound call.
2. Set **WhatsApp Channel** to a WhatsApp channel.
3. Click **WhatsApp Message Template**, select a WhatsApp template message created on the **Configuration Center** > **Resource Management** > **Online Chat 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** > **Online Chat Multimedia Library** > **WhatsApp Template** page.

4. Confirm the information and click **Send**.

----End

3.7.9 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.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Connection Operation Log** > **Reset Skill Record**.

Step 2 Set search criteria to search for skill queue adjustment records based on the criteria.

Figure 3-27 Reset Skill Record page

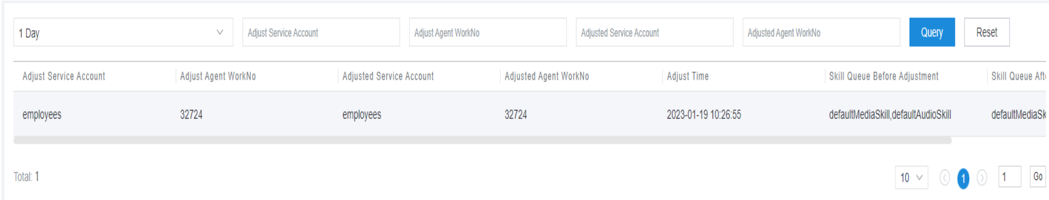


Table 3-7 GUI elements on the Reset Skill Record page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Adjust Service Account	Text box	• Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjust Agent WorkNo	Text box	• Employee ID of the agent who adjusts a skill queue. • Agent ID of an inspector.
Adjusted Service Account	Text box	• 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 WorkNo	Text box	• Employee ID of the agent whose skill queue is adjusted. • Employee ID of the agent whose skill queue is adjusted by an inspector.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
Adjust Service Account	Label	• Business account of the agent who adjusts a skill queue. • Business account of an inspector.
Adjust Agent WorkNo	Label	• Employee ID of the agent who adjusts a skill queue. • Agent ID of an inspector.

Element	Type	Description
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 WorkNo	Label	• Employee ID of the agent whose skill queue is adjusted. • Employee 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.

----End

3.7.10 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 a tenant administrator and choose **Connection Operation Log** > **Identity Authentication Record**.

Step 2 Set search criteria to search for identity authentication records based on the criteria.

Figure 3-28 Identity Authentication Record page

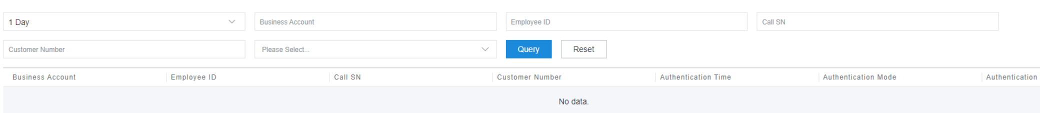


Table 3-8 GUI elements on the Identity Authentication Record page

Element	Type	Description
Time	Drop-down list	The options are as follows: • **1 Day** • **3 Days** • **7 Days** • **Customization**
Business Account	Text box	Business account of the agent who performs identity authentication.
Employee ID	Text box	Employee ID of the agent who performs identity authentication.
Call SN	Text box	Call SN.
Customer Number	Text box	Customer number.
Please Select...	Drop-down list	• **Not returned** • **Pass** • **Fail** • **Error**
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
Business Account	Label	Business account of the agent who performs identity authentication.
Employee ID	Label	Employee ID of the agent who performs identity authentication.
Call SN	Label	Call SN.
Customer Number	Label	Customer number.
Authentication Time	Label	Time when identity authentication is performed.

Element	Type	Description
Authentication Mode	Label	Identity authentication mode.
Authentication Result	Label	Identity authentication result. ● **Not returned** ● **Pass** ● **Fail** ● **Error**

----End

3.7.11 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 Management** > **Authentication** page.

Procedure

Step 1 Sign in to the AICC as an agent.

Step 2 Click on the **Audio and Video Workbench** page when answering a call or making an outbound call.

The identity authentication record can be queried on the **Connection Operation Log** > **Identity Authentication Record** page.

----End

3.7.12 Viewing Customer Information

An agent can view customer information on the audio and video workbench.

Context

The contact customer information area on the agent workbench displays information about the customer who makes the inbound call. The data sources of this area are as follows:

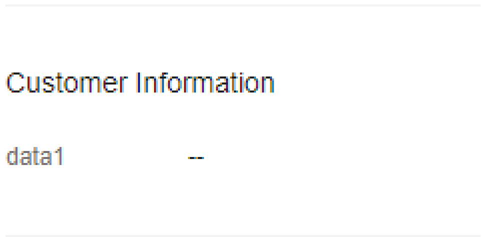
- Call-associated data
- Information dataset (data of the connected outbound call API)

- Local data (customized data table)

Procedure

After a customer makes an inbound call, the audio and video workbench displays the customer information.

Figure 3-29 Customer Information



3.7.13 Managing Documents

An agent can search for documents of the current tenant space by page based on criteria, or invalidate, preview, or download documents.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Customer Contact History** > **Document Management**.

Step 2 Set search criteria to search for documents based on the criteria.

Figure 3-30 Document Management page

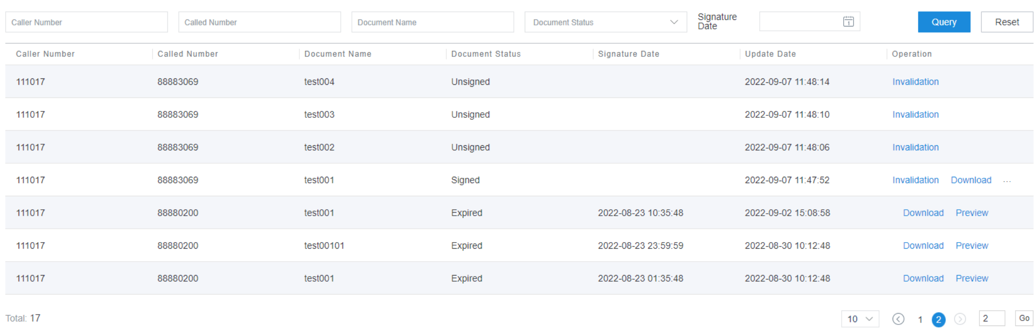


Table 3-9 GUI elements on the Document Management page

Element	Type	Description
Caller Number	Text box	• 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.

Element	Type	Description
Called Number	Text box	• 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.
Document Name	Text box	Document name.
Document Status	Drop-down list	Document status. • **Unsigned** • **Signed** • **Expired**
Signature Date	Drop-down list	Customized date.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
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.

Element	Type	Description
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.
Document Name	Label	Document name.
Document Status	Label	Document status. • **Unsigned** • **Signed** • **Expired**
Signature Date	Label	Date when a document is signed.
Update Date	Label	Date when a document is re-signed.
Operation	Label	• **Invalidation** Select the document to be invalidated and click **Invalidation**. • **Download** Select the document to be downloaded and click **Download**. • **Preview** Select the document to be previewed and click **Preview**.

----End

3.7.14 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.

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

3.7.15 Setting the Fixed-Line Phone Number or Mobile Number

Agents can set their own fixed-line phone numbers or mobile numbers.

Prerequisites

The agent must have the **Modifying Agent Fixed-Line Phone Number** operation permission.

Procedure

Step 1 Choose **Configuration Center** > **System Management** > **Agent Information**.

Step 2 Click **Edit**.

Set **Fixed-Line/Mobile Number**. The value can contain a maximum of 24 digits.

Step 3 Click **Submit**.

----End

3.7.16 Editing Customer Information

An agent can edit customer information 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 space.

Procedure

Step 1 View basic information on the workbench during a session between an agent and a customer.

Step 2 Click ✎ to configure basic information.

Table 3-10 GUI elements on the page for configuring basic information

Element	Type	Description
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 ⊕ Add on the right to add a mobile number. A maximum of three mobile numbers can be configured. The value is a string of 0 to 20 characters.
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 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.
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 3 Click **Create**.

After the customer information is created, you can query it on the **Customer Center** > **Customer Center Management** page.

----End

3.7.17 Querying Sign-In Records

An agent or tenant administrator can query 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 tenant administrator and choose **Connection Operation Log** > **Sign-In Log**.

Step 2 Set search criteria to search for sign-in logs based on the criteria.

Figure 3-31 Sign-In Log page

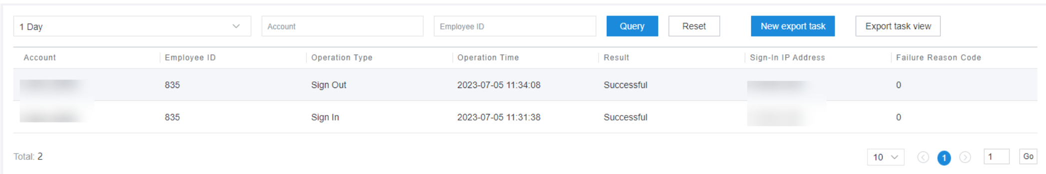


Table 3-11 GUI elements on the Sign-In Log page

Element	Type	Description
Time	Drop-down list	The options are as follows: ● **1 Day** ● **3 Days** ● **7 Days** ● **Customization**
Account	Text box	Business account. Search criterion.
Employee ID	Text box	Agent ID. Search criterion.
Query	Button	Perform a search.
Reset	Button	Reset search criteria.
New export task	Button	Add a sign-in log export task.

Element	Type	Description
Export task view	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.
Result	Label	Operation result. ● **Successful** ● **Failed**
Sign-In IP Address	Label	IP address of the PC for signing in to the Customer Service Cloud.
Failure Reason Code	Label	Failure cause code.

Step 3 Export sign-in logs.

1. Click **New export task**. 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 can contain a maximum of 12 characters.
3. Click **OK**. The export task is added successfully.

Step 4 View export tasks.

1. Click **Export task view**. The **Export task view** dialog box is displayed.
2. Click **download** corresponding to a task whose **Status** is **Successful** to download sign-in logs.
3. After the download is successful, open the exported file and enter the compression password to view the exported sign-in logs.

----End

3.8 Managing Inspection Results

This section describes inspection management. An agent can manage inspection results.

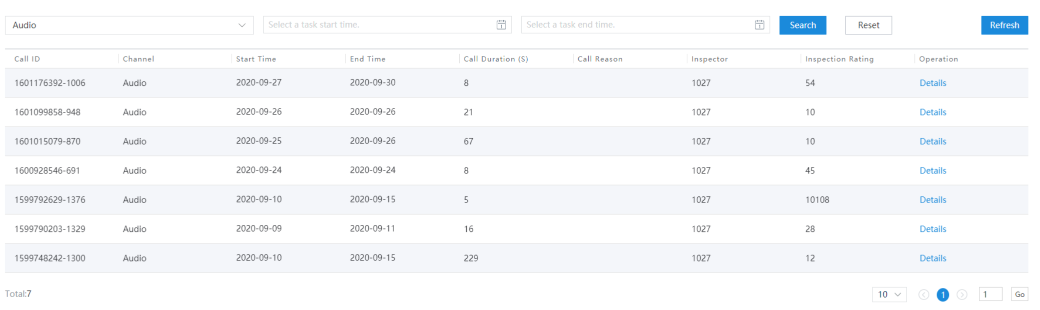
3.8.1 Viewing Manual Inspection Results and Applying for Inspection Reviews

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.

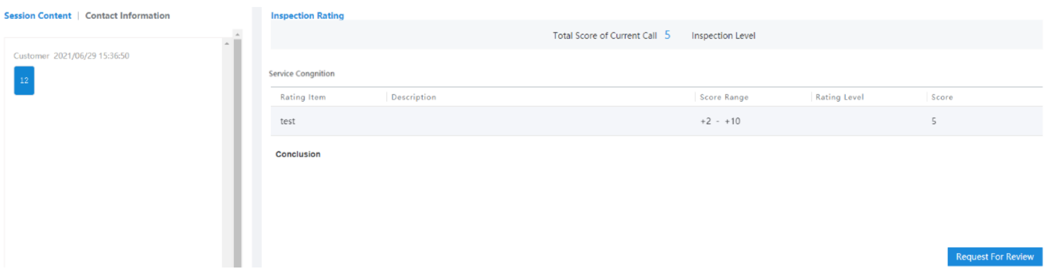
Applying for Manual Inspection Reviews

Step 1 Choose **Quality Inspection** > **Inspection Results**.

Step 2 Set the search criteria and click **Search** to obtain the inspection result. Click **Reset** to clear the existing search criteria.

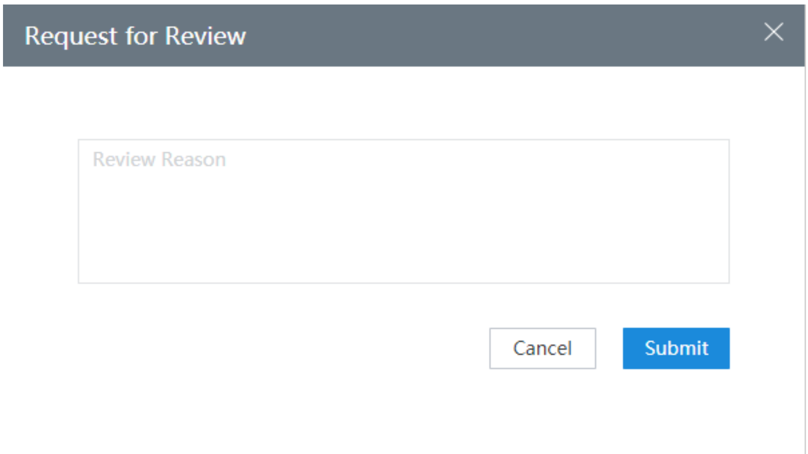


Step 3 Click **Details** next to a desired record. On the **Manual Inspection** page, obtain the rating details.



Step 4 Click **Request for Review**, set the application reason, and submit the application.

Figure 3-32 Review application 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.

3.8.2 Appealing Against AI Inspection Results

An agent can view AI inspection results and provide materials to initiate appeals if the agent has any doubts.

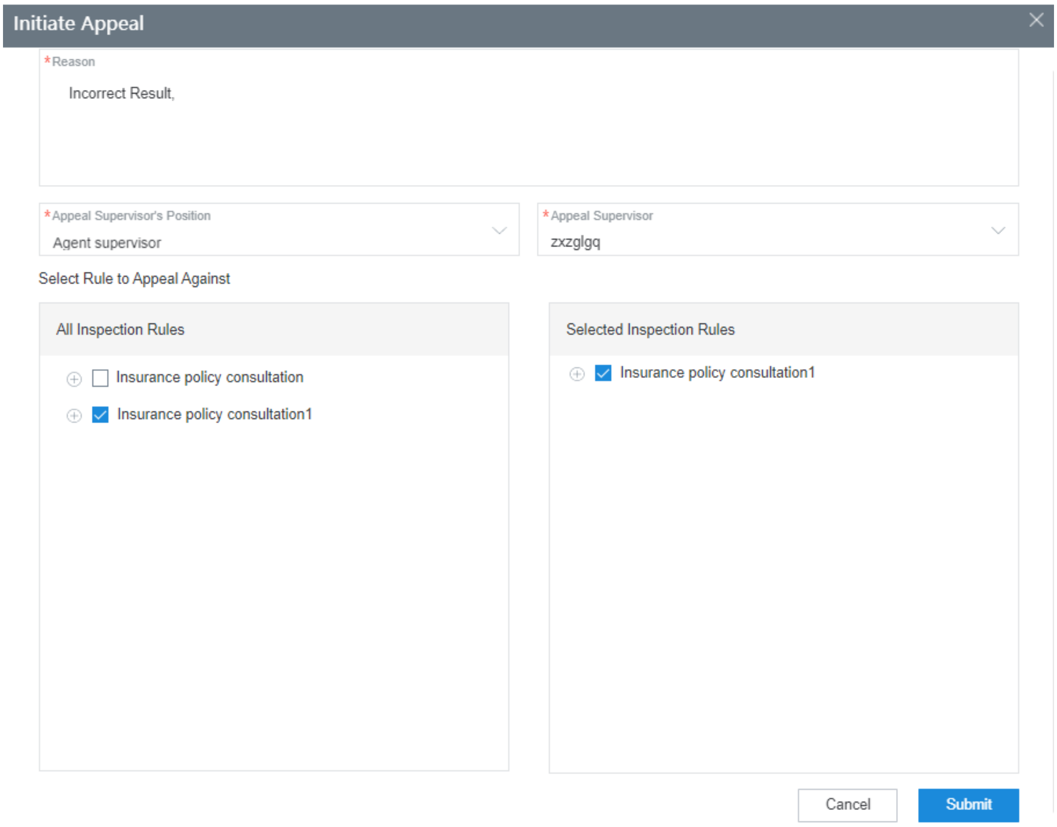
Procedure

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 3-33 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.

3.8.3 Handling AI Inspection Appeals

After inspectors perform AI inspections, they can review the AI inspection appeals submitted by agents and update inspection results.

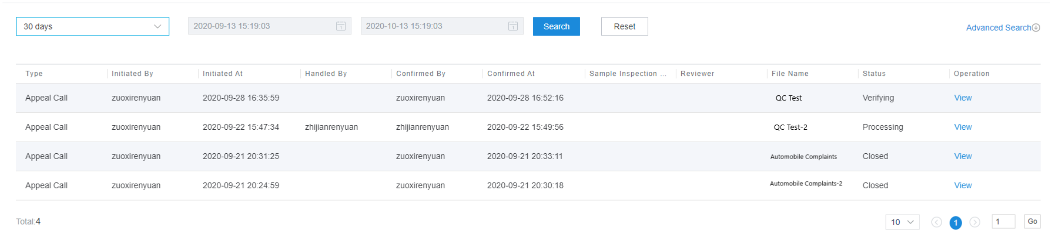
Scenario

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.

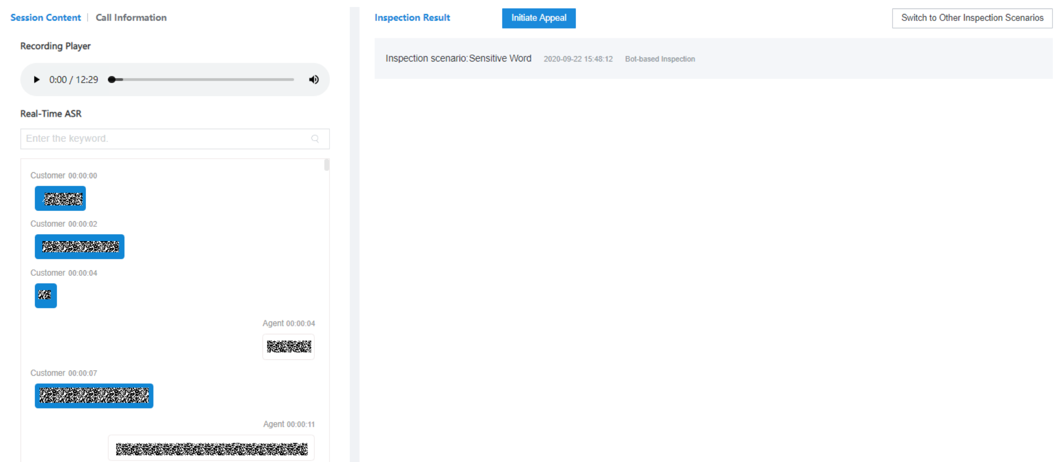
Procedure

Step 1 Use the allocated business account to sign in to the CEC and access the **Process Inspected Calls** page.

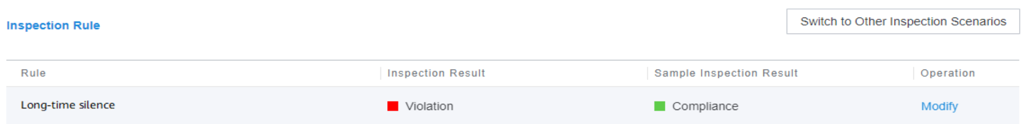
Choose **Quality Inspection** > **Process Inspected Calls**. The inspected call list is displayed.



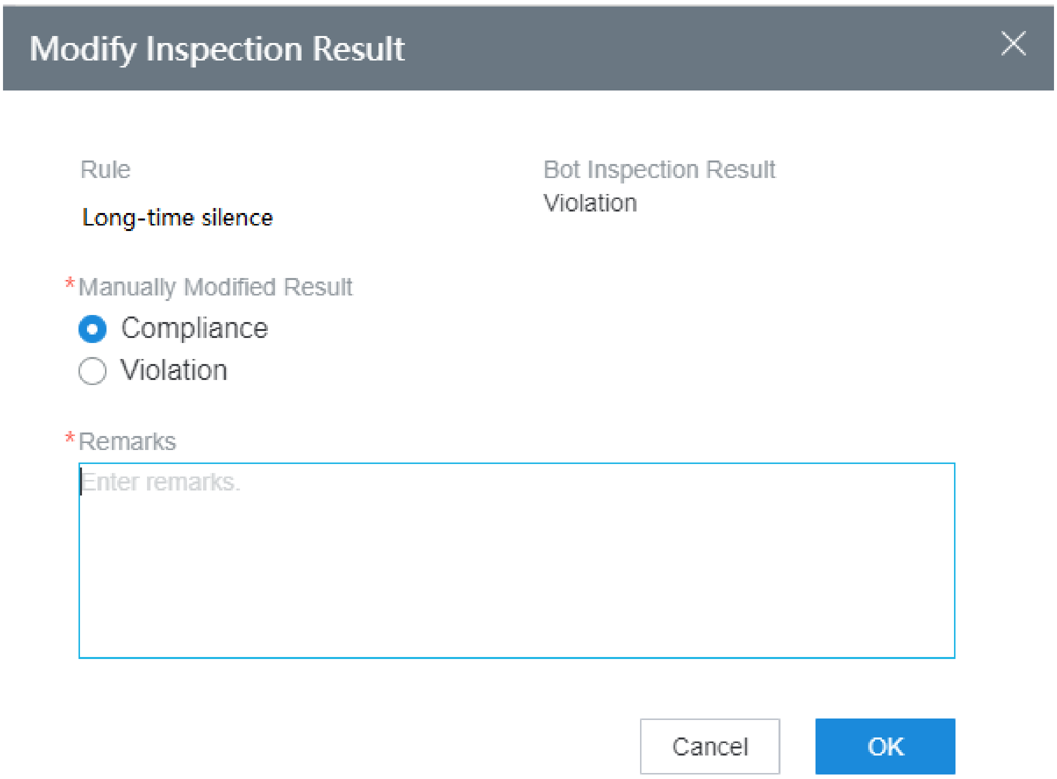
Step 2 In the inspected call list opened in **Step 1**, click **View**. The appeal details page is displayed. (Closed appeals can only be viewed but cannot be handled.)



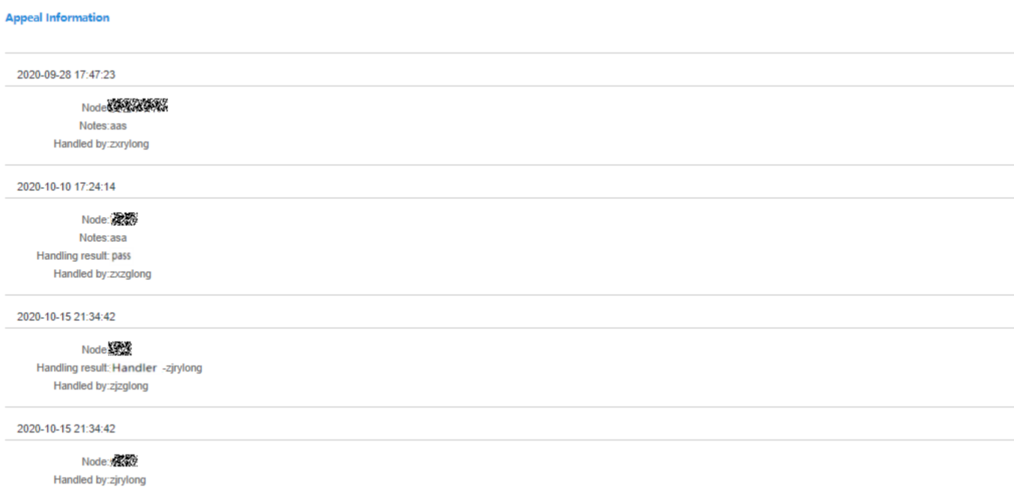
Step 3 In the **Inspection Rule** area, modify the inspection result of a pending appeal.



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.

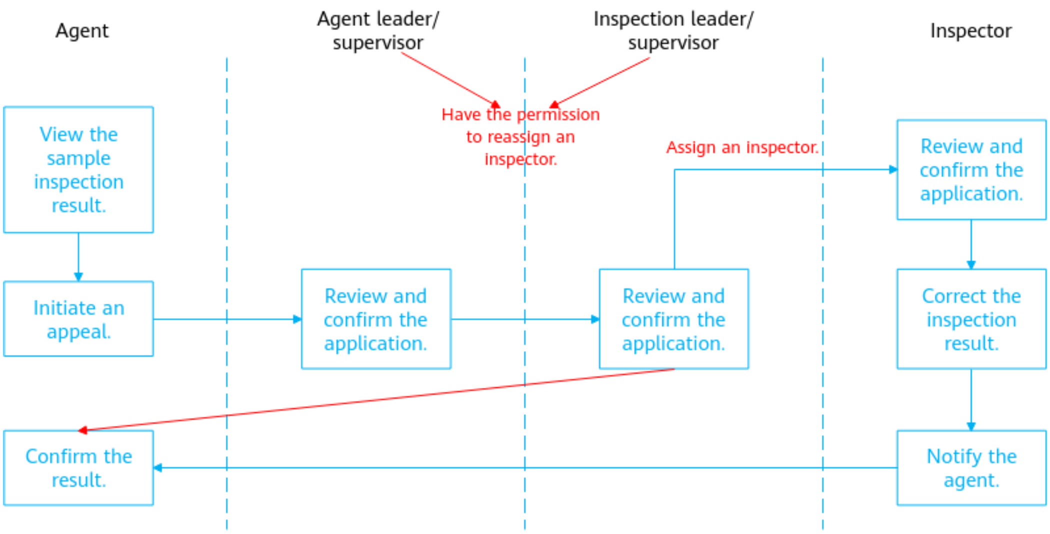


Step 5 View the appeal handling process which varies according to the operator's title.



The following figure shows the appeal handling process.

Figure 3-34 Appeal handling process



----End

3.9 Typical Scenarios

This section describes some typical scenarios of operations performed by an agent.

3.9.1 Communicating with an Agent Through the Web Channel

Scenario

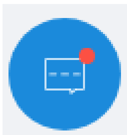
A customer communicates with agent A through the web channel to query the call fee balance, and then rates the service after the conversation ends.

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 status to idle.

Step 2 Open the customer conversation window.

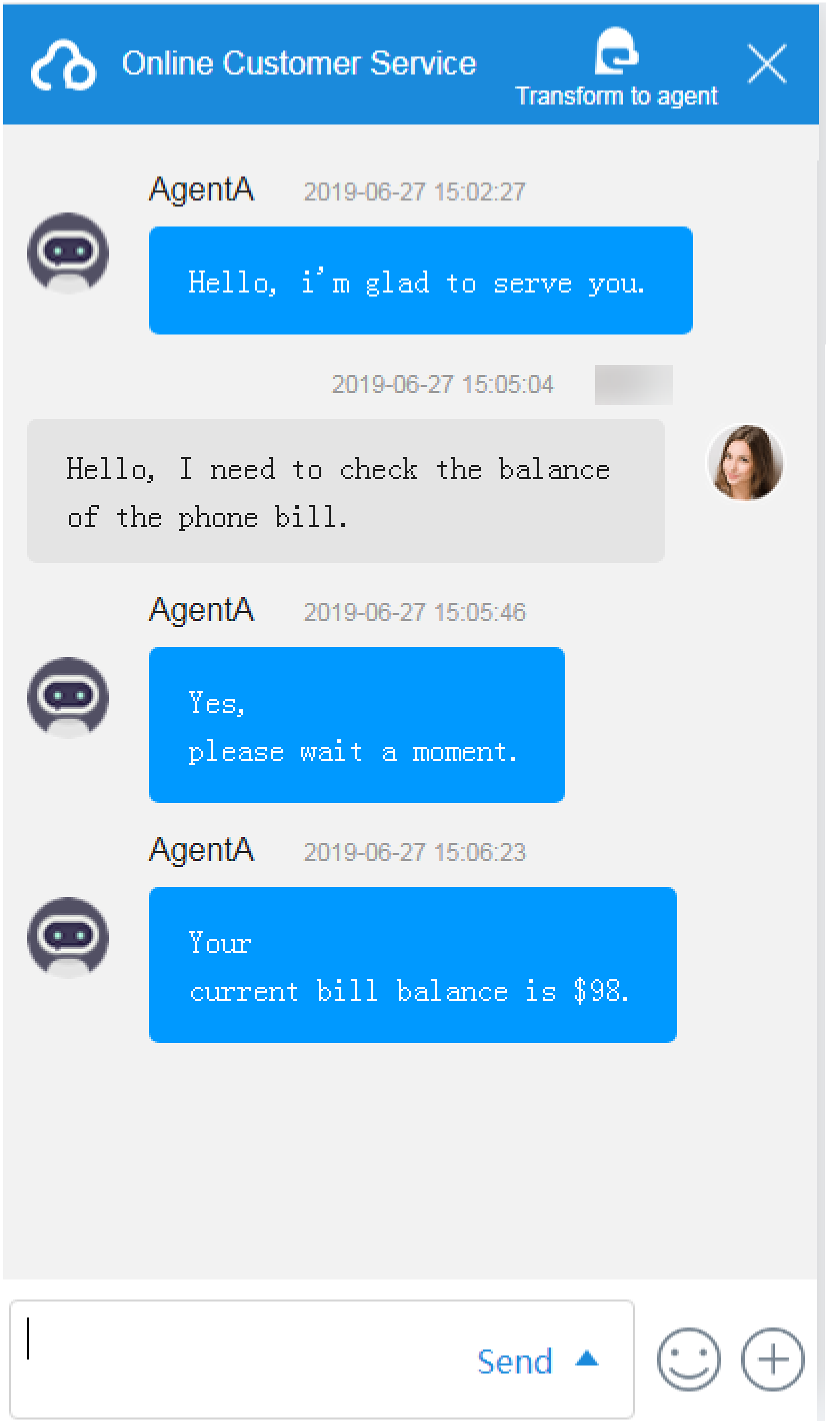
1. Choose **Configuration Center** > **Access Configuration** > **Channel Configuration**, click **Modify** corresponding to the new web channel, save the modification, and click **Try** on the **Integration instructions** tab page.
2. On the page that is displayed, click  in the lower right corner. The **Online Customer Service** dialog box is displayed.
3. In the **Online 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 cannot be identified, the agent replies, for example, "Sorry, I cannot understand."

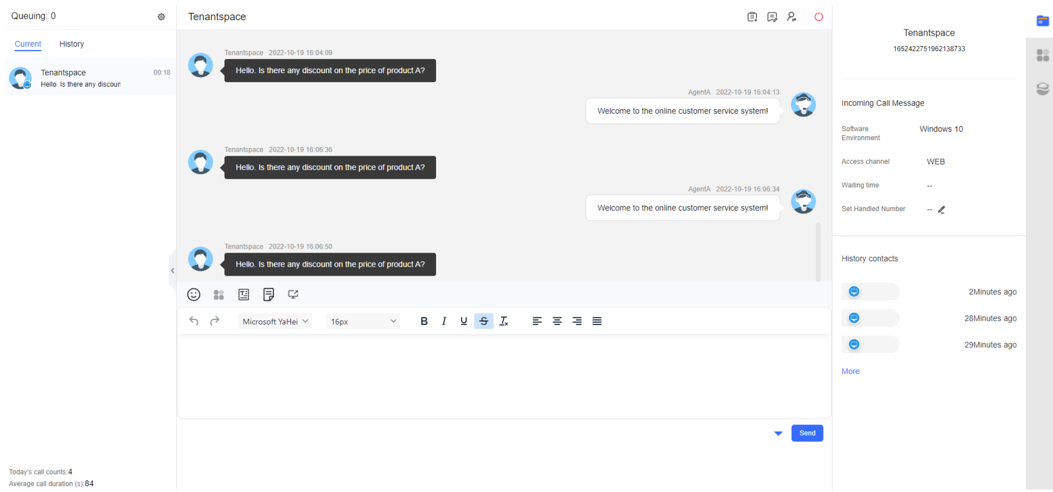
NOTE

- 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.



The online chat workbench of agent A is as follows.



NOTE

- The chat contents between the customer and agent are displayed in **Current**. 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 dialog, the system automatically associates and displays the original contents 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 **OK**.

   The customer can only evaluate the 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

3.9.2 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.

Procedure

Step 1 Sign in to the AICC as a system administrator.

Step 2 Enable the intelligent agent function for a tenant administrator.

1. Choose **Call Center Management** > **TenantSpace 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 set **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 , enter the softphone password, click **Register**, and click **Sign In**.

NOTE

- When you sign out, the two phones sign out at the same time.
- After you sign out, the softphone status changes to unregistered.
- If the unified softphone number authentication feature is enabled for the tenant and the agent authentication mode is set to unified authentication, you can click **Sign In** without entering the password. 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.

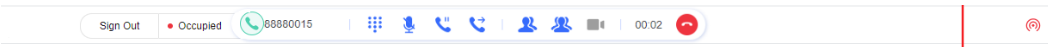
Step 3 Initiate a voice call.

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 red, 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.

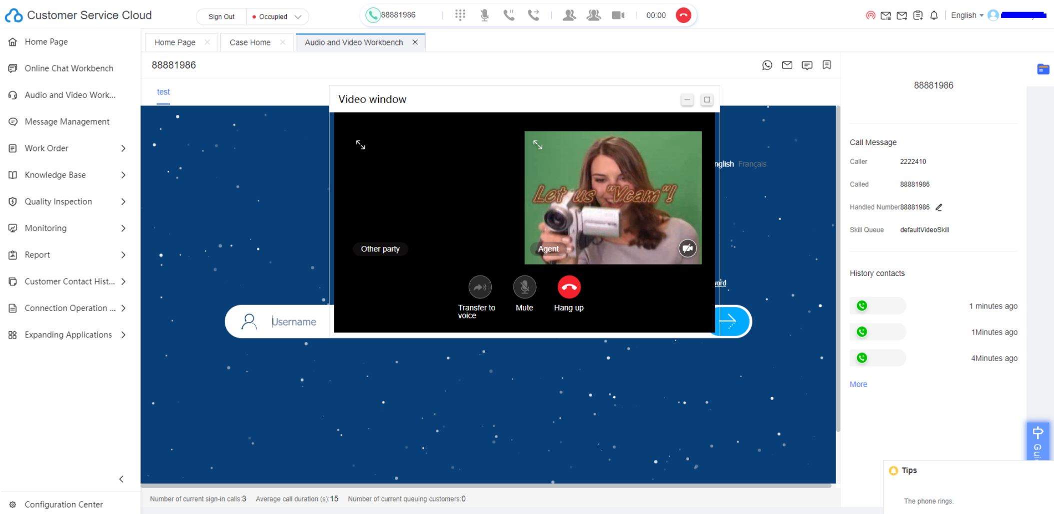
   NOTE

   – 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 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 red, and the agent is in occupied state. The following figure shows a video call.

   Only the local video window is displayed.

   Click the desktop sharing on the connection bar to share a specified area, including:

   – Entire screen

   – Application window

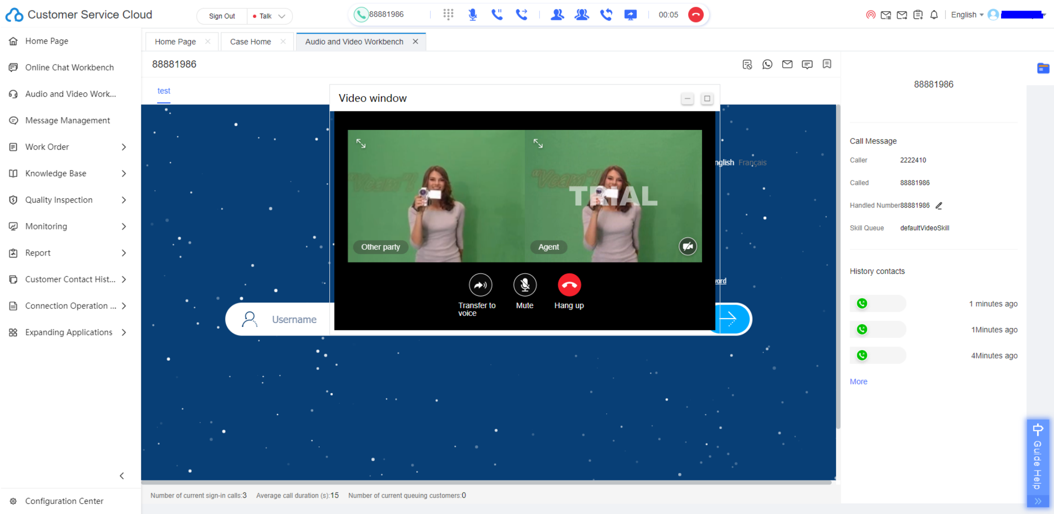
   – Browser tab page

   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 that the following page is displayed.



: Click to stop sending the video.

: Click to zoom in the window.

: Click to hide the video window and display the call duration ().

: Click to display the fullscreen video window.

: Click to 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.

: Click to mute yourself and click again to unmute yourself.

: Click to 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

3.10 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.

3.10.1 My Training Tasks

Agents can view training tasks that have been started and participate in tasks as required.

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.

3.11 Intelligent Outbound Call Tasks

Based on the assigned outbound call tasks, agents make outbound calls and configure outbound call results.

3.11.1 Agent Outbound Call Task

A tenant administrator executes the outbound call task through the agent outbound call task and views the outbound call result.

3.11.1.1 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:

- **3.11.1.2 Manually Making an Outbound Call**
  - Retrieving/Releasing a number
  - Viewing the number list
  - Calling the current number
- **3.11.1.3 Viewing and Executing a Previewed Outbound Call Task**
- **3.11.1.4 Viewing a Predicted Outbound Call**
- **3.11.1.5 Viewing a Preempted Outbound Call**
- **3.11.1.6 Creating a Reserved Outbound Call Task**
- **3.11.1.7 Adding a Customer Number to the Blocklist**

- 3.11.1.8 Changing an Outbound Number
- 3.11.1.9 Viewing the Outbound Call Result: 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.

3.11.1.2 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

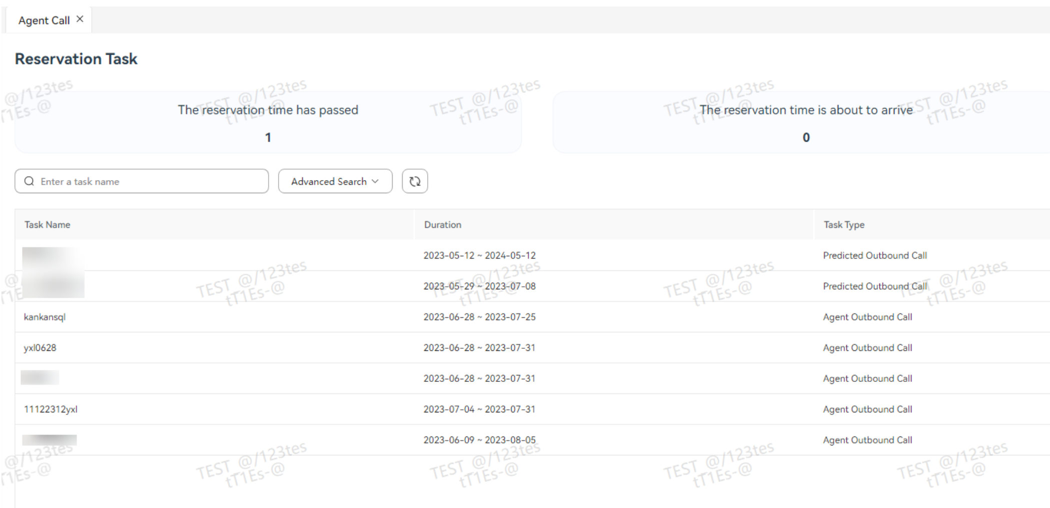
The administrator has created a manual outbound call task for a specified agent and started the task.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-35 Agent outbound call task



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 3-12 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 **3.11.1.9 Viewing the Outbound Call Result**.

----End

3.11.1.3 Viewing and Executing a Previewed Outbound Call Task

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

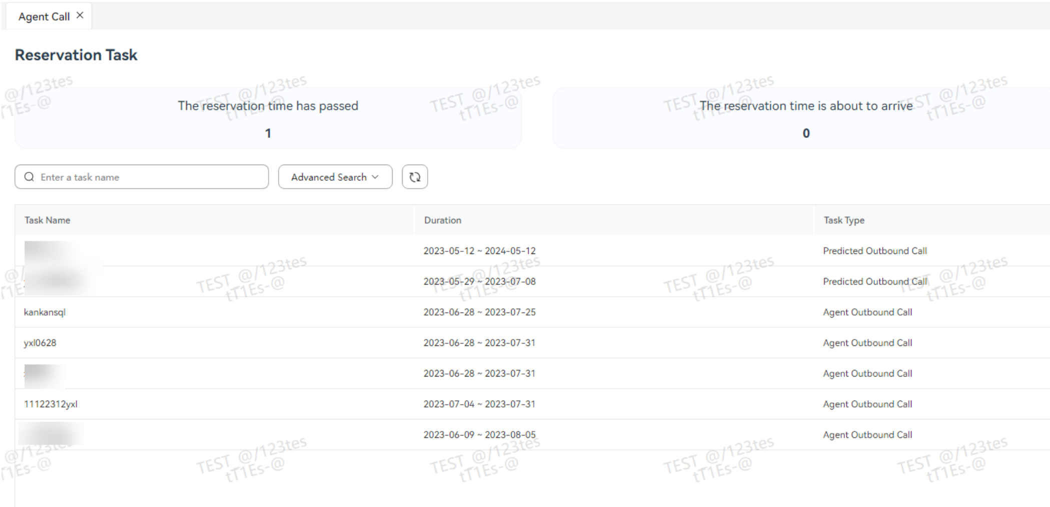
- The administrator has created a previewed outbound call task for a specified agent and started the task.
- The agent is in the idle state. The previewed outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-36 Outbound call task page



Step 3 In the **Preview Outbound Call** area, click **Call** to make an outbound call.

Table 3-13 Elements in the preview information

Element/Component	Description
Outbound Call ID	ID of the current previewed outbound call.
Called Number	Outbound number.
Operation	Operations that can be performed.

Step 4 After the call ends, view the outbound call result. For details, see **3.11.1.9 Viewing the Outbound Call Result**.

----End

3.11.1.4 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

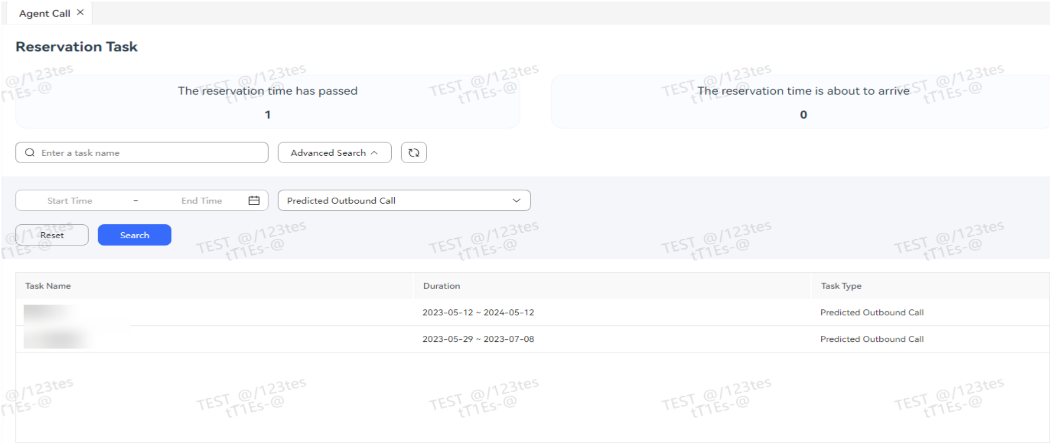
- The administrator has created a predicted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The predicted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-37 Outbound call task page



Step 3 View the outbound call result. For details, see **3.11.1.9 Viewing the Outbound Call Result**.

Table 3-14 GUI elements on the predicted outbound call result page

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
Outbound Call ID	Label	Unique ID of a customer.	-	Read-only	-
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	-

Element / Component	Type	Description	Value Range	Triggered Event	Remarks
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

3.11.1.5 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

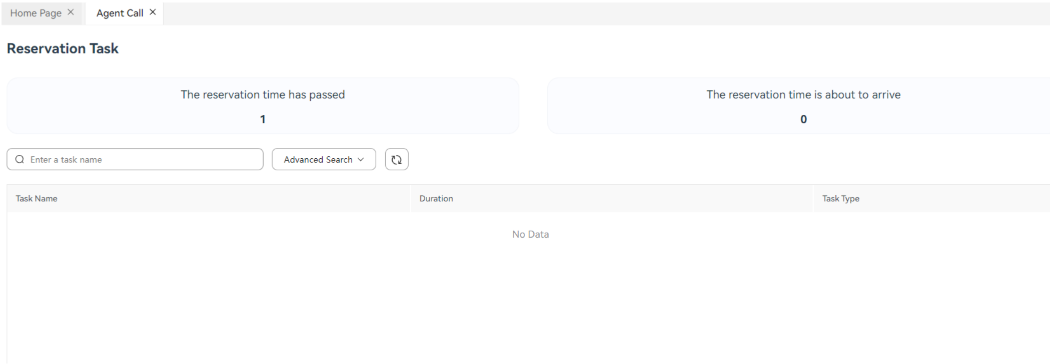
- The administrator has created a preempted outbound call task for a specified agent and started the task.
- The agent is in the idle state. The preempted outbound call task is configured with outbound call data and has been started.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-38 Agent outbound call task



Step 3 Click the outbound call result in the row where the task is located. For details, see **3.11.1.9 Viewing the Outbound Call Result**.

----End

3.11.1.6 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

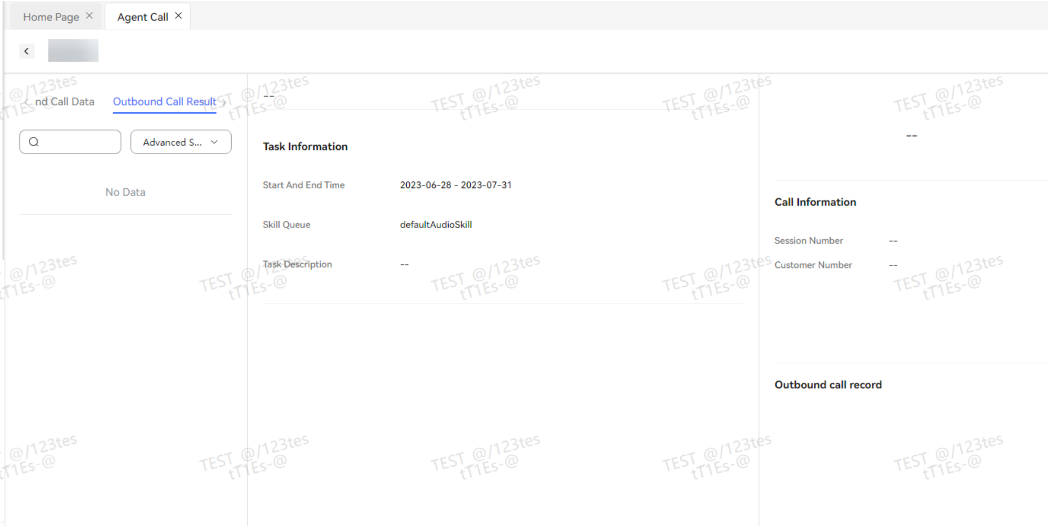
When an agent is executing an outbound call task, if the customer is busy and wants to communicate with the agent at another time, the agent can create an outbound call task and call the customer again at the time specified by the customer.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-39 Outbound call execution



Step 3 Click **Reserved Outbound Call**. The **Create Reserved Outbound Call** page is displayed, as described in the following table.

Table 3-15 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

3.11.1.7 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

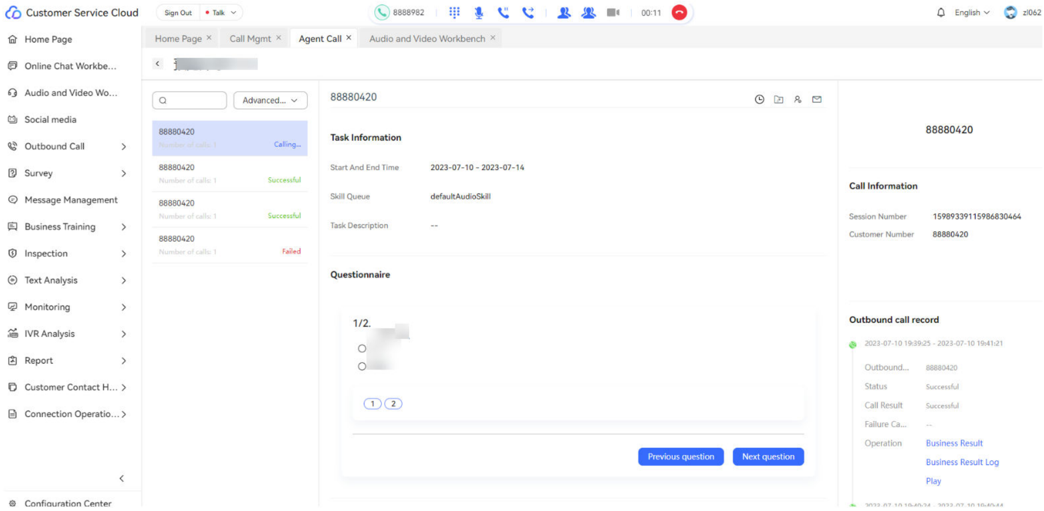
When an agent executes an outbound call task, if a customer does not want to be called anymore, the agent can add the customer to the blocklist.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-40 Outbound call execution

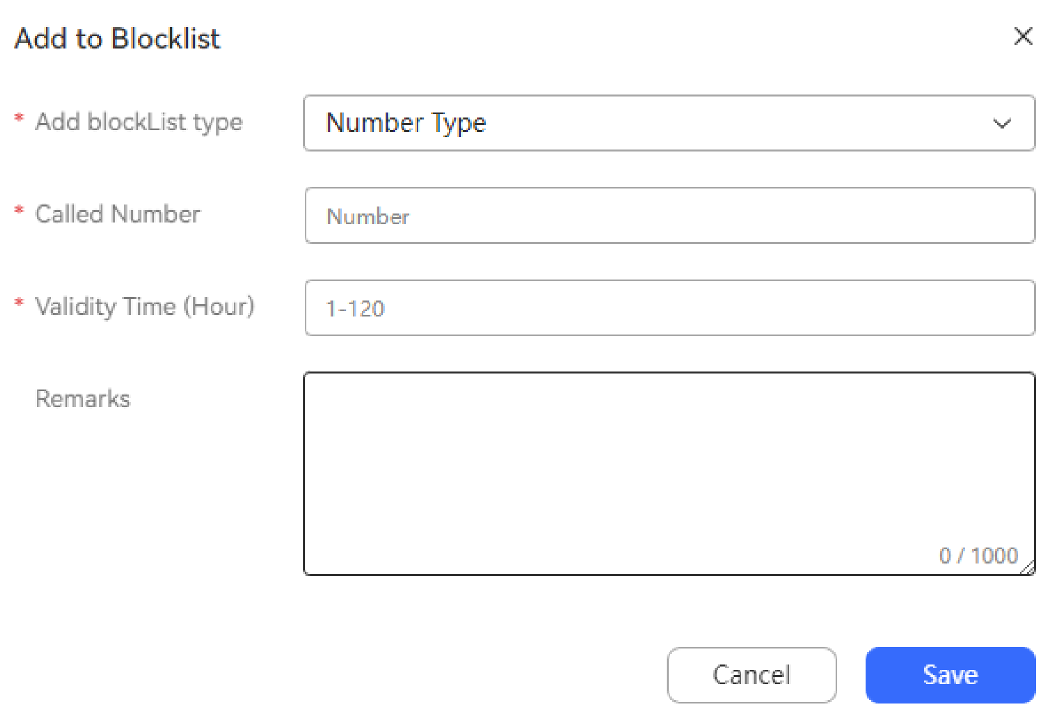


Step 3 Click . The dialog box for adding a number to the blocklist is displayed. The following table describes the GUI elements in the dialog box.

Table 3-16 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.

Figure 3-41 Adding a number to the blocklist



Step 4 Set mandatory parameters and click **Save**. The number is added to the blocklist successfully.

----End

3.11.1.8 Changing an Outbound Number

Agents can change the outbound call number of a customer in the outbound call task.

Scenario Description

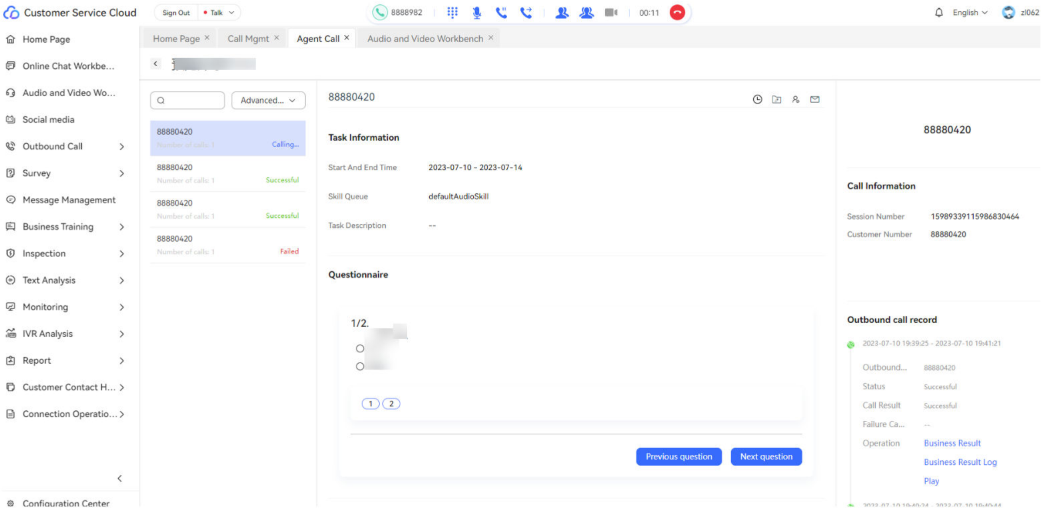
When an agent executes an outbound call task, if a customer wants the agent to call another number, the agent can change the outbound number.

Procedure

Step 1 Sign in to the AICC as an outbound call agent.

Step 2 Choose **Outbound Call** > **Agent Call**.

Figure 3-42 Outbound call execution

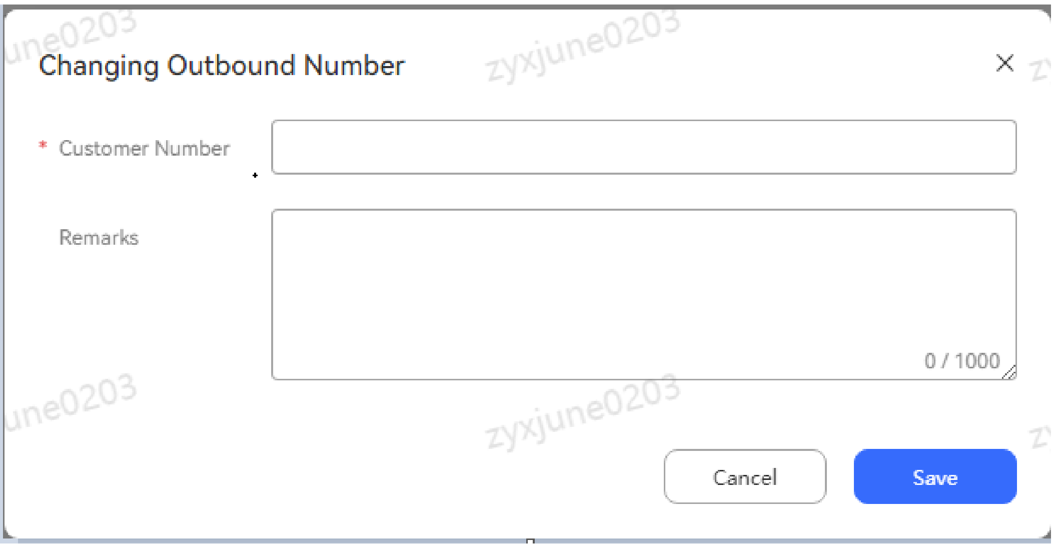


Step 3 Click the edit icon. The window for changing the reserved outbound call number is displayed. The GUI elements are as follows.

Table 3-17 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 3-43 Changing Outbound Numbers



Step 4 Enter the mandatory information and click **Save**. The outbound number is changed successfully.

----End

3.11.1.9 Viewing the Outbound Call Result

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 3-18 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	Business result.
Description	Business result description.

----End

3.11.1.10 Viewing a Reserved Outbound Call

During the reserved outbound call time, an agent can access the outbound call task page to execute the reserved outbound call task. If the reservation task times out, the system notifies the agent when the agent enters the outbound call task.

Context

The outbound call task refreshes and displays the total number of reserved outbound calls that have expired and the total number of reserved outbound calls that are about to expire within 5 minutes every minute, and reminds agents to process reserved outbound call tasks.

Procedure

Step 1 Sign in to the AICC as an agent.

1. Choose **Outbound Call** > **Agent Call**. A message is displayed above the outbound call task. Click **Ready**. Set the agent status to busy and open the page for making a reserved outbound call.

   Figure 3-44 Reserved outbound call notification page

2. Choose **Outbound Call** > **Reserved Call**.

Step 2 Select the reservation task to be executed and click **Call**. The agent starts to dial the reserved customer number.

NOTE

An outbound call can be made only when the following conditions are met: The number has not been used to make an outbound call, and the agent has signed in and is in idle state.

----End

3.11.2 Making a Reserved Outbound Call

When a customer requests a date change during an outbound call, the AICC records the expected date and makes a manual outbound call to proceed with the conversation on the day.

3.11.2.1 Viewing a Reserved Outbound Call

After an agent accesses the agent outbound call task page, the agent can access the page for reserving an outbound call according to the system prompt or directly access the page for reserving an outbound call through the menu.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 Check the list that displays the reserved outbound calls added to the current agent in ascending order by reserved call time.

Table 3-19 Parameters in the reserved outbound call list

Parameter	Description
Customer Number	Number used for a reserved call.
Reserved Call Time	Reserved call time.
Associate Outbound Call Task	Name of the outbound call task associated with the reservation.

Parameter	Description
Result	Call result. • **Failed** • **Successful** • **Reject**
Failure Cause	Failure cause.
Reservation Status	• **Reserved** • **Prepare for callback** (within 5 minutes before the reservation time) • **Callback** • **Completed**
Remarks	Remarks.
Business Result	Business result of the call.
Business SubStatus	Sub-status of the business result.
Business Description	Description of the business result.
Operation	Operations that can be performed on the current call. The options are as follows: • **Call** • **Modify** • **Delete** • **Adjustment Record** • **Survey Result** (This button is available when the outbound call task is associated with a survey.)

Step 3 Set search criteria based on **Table 3-20**, and click **Search** to search for reserved outbound calls that meet the search criteria.

Table 3-20 Search criteria for querying reserved outbound calls

Parameter	Description
Customer Number	Customer number. Fuzzy search by suffix is supported.
Task Name	Name of the associated outbound call task. Fuzzy query is supported.
Start Time - End Time	Start time and end time.
Reset	Button for resetting the search criteria and refreshing the list.

Step 4 Click **Modify**, set **Remarks**, and click **Save**. The reserved outbound call remarks are modified successfully.

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

3.11.2.2 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 agent is in the calling state.
- The reserved time must not be earlier than the current time.

Procedure

Step 1 Sign in to the AICC as an agent and choose **Outbound Call** > **Reserved Call**.

Step 2 Click **Add**.

Step 3 Set **Customer Number**, **Reserved Call Time**, and **Remarks**.

Step 4 Click **Save**. The reserved outbound call is created successfully.

----End

3.11.2.3 Executing a Reserved Outbound Call Task

During the reserved outbound call time, an agent can access the outbound call task page to execute the reserved outbound call task. If the reservation task times out, the system notifies the agent when the agent enters the outbound call task.

Context

The outbound call task refreshes and displays the total number of reserved outbound calls that have expired and the total number of reserved outbound calls that are about to expire within 5 minutes every minute, and reminds agents to process reserved outbound call tasks.

Procedure

Step 1 Sign in to the AICC as an agent. Choose **Outbound Call** > **Reserved Call**.

Step 2 Select the reservation task to be executed and click **Call**. The agent starts to dial the reserved customer number.

NOTE

An outbound call can be made only when the following conditions are met: The number has not been used to make an outbound call, and the agent has signed in and is in idle state.

----End

3.12 Viewing the Knowledge Base

An agent can view knowledge base content, learn experience, and solve problems.

3.12.1 Knowledge Base Homepage

An agent can log in to the knowledge base homepage to view knowledge content.

Prerequisites

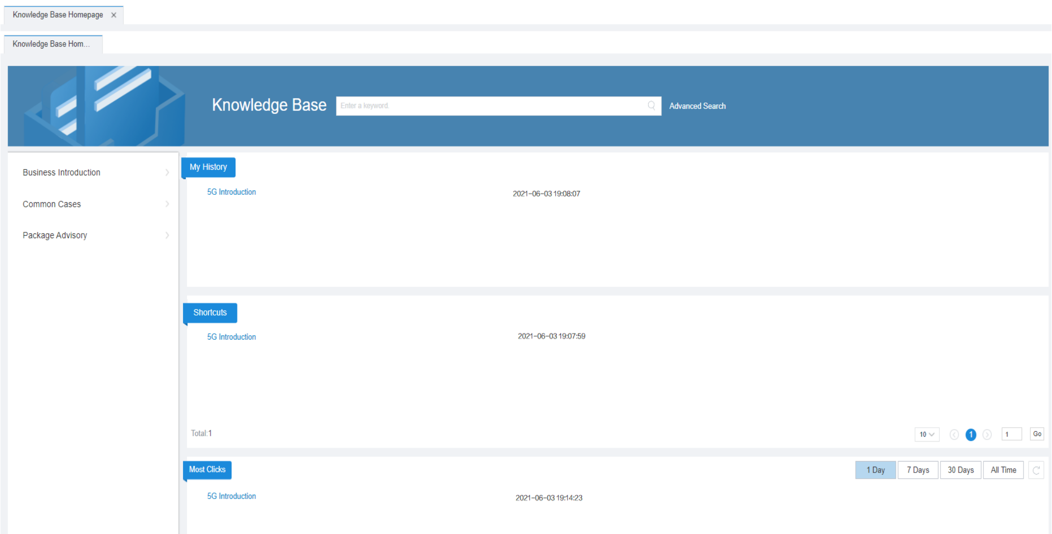
The knowledge base function has been enabled for the tenant space, and the operator has the permission on the **Knowledge Base Homepage** menu.

Procedure

Step 1 Enter the operator username and password to sign in to the AICC.

Step 2 Choose **Knowledge Base** > **Knowledge Base Homepage**.

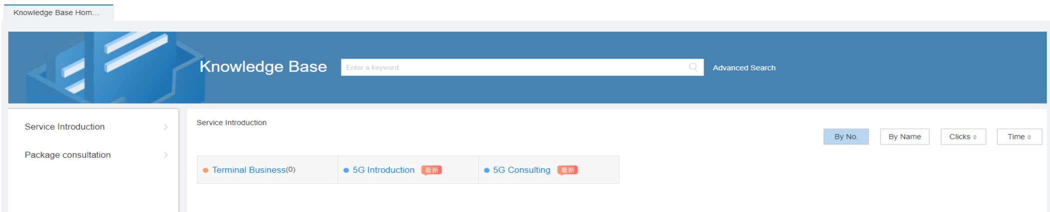
Figure 3-45 Knowledge base homepage

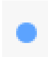


- On the top, knowledge search is supported, including keyword search and advanced search. Advanced search includes searches by keyword, category name, knowledge type, and update start and end time.
- On the left, level-1 categories are displayed. You can hover over a category to view its subcategories.
- On the right, the **My History**, **Shortcuts**, and **Most Clicks** areas are displayed. You can click **1 Day**, **7 Days**, **30 Days**, or **All Time** in the **Most Clicks** area to view the 10 knowledge items with the most clicks.

Step 3 Hover over a category on the left to view its subcategories. If you click a category, its subcategories and knowledge items are displayed on the right.

Figure 3-46 Category knowledge



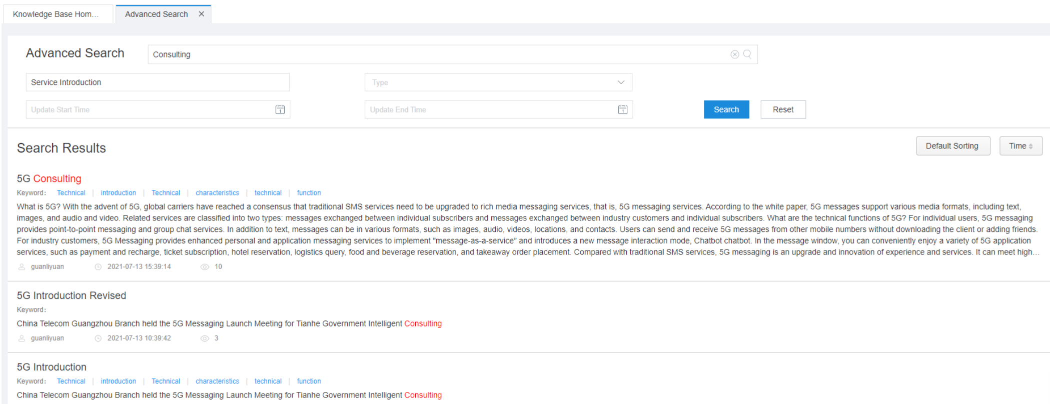
-  : a category.
-  : a knowledge item.
- Display and sorting: You can click **By No.**, **By Name**, **Clicks**, or **Time** to sort data by sequence number, name, number of clicks or time, respectively. For the **Clicks** and **Time** buttons, you can click  to sort the data in descending or ascending order.

Step 4 Click a subcategory to view its content and knowledge list, and click a knowledge item to view the knowledge details.

Step 5 To find the desired knowledge from a great number of contents on the knowledge homepage, search for the knowledge, locate and click it in the search result to view its details.

Step 6 Click a document to download it to the local PC for details.

Figure 3-47 Search result



----End

3.12.2 Favorites Management

After finding useful knowledge, an agent can add it to favorites so that the agent can view it again.

Prerequisites

The knowledge base function has been enabled for the tenant space, and the operator has the permission on the **Favorites** menu and has added knowledge to favorites on the knowledge details page.

Procedure

Step 1 Enter the operator username and password to sign in to the AICC.

Step 2 Choose **Knowledge Base** > **Favorites**.

Step 3 Click to add a favorites category.

Step 4 On the **Add Directory** page, enter a category name and click **OK**.

NOTE

On the **Favorites** page, the favorites category tree on the left can be expanded. A maximum of three levels of categories are supported.

Step 5 Click **Edit** to change the knowledge name in the favorites category.

Step 6 On the page that is displayed, change the knowledge name and click **OK**.

----End

NOTICE

Deleting the favorites category will delete all knowledge in the category. Exercise caution when performing this operation.

3.12.3 Consultation Table Lookup

During business handling, an agent can look up in a consultation table to answer business questions.

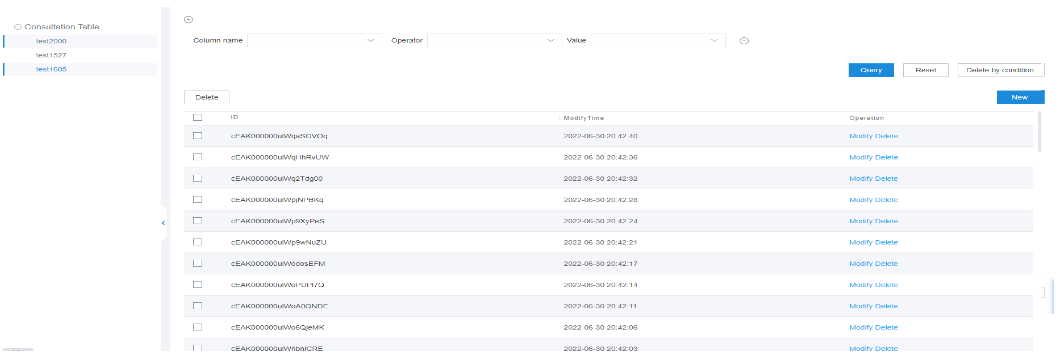
Prerequisites

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 3-48 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

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.

- **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.

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.

b. China-made environment: Phytium Arm chip + UnionTech OS V20; Zhaoxin x86 chip + UnionTech OS V20; or Phytium Arm chip + Kylin V10 SP1.

- Obtain the **AICC_***_OpenEye.zip** package from **AICC support website** and decompress it to obtain the OpenEye installation package.

  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.

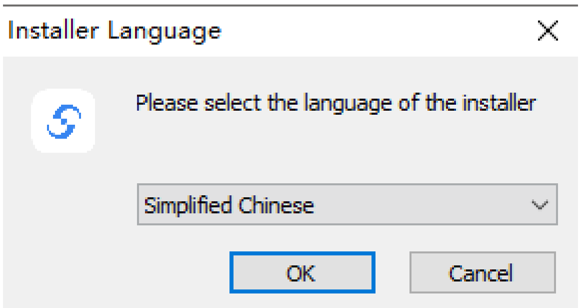
3.13.3.1 Installation

3.13.3.1.1 Common Installation

Procedure

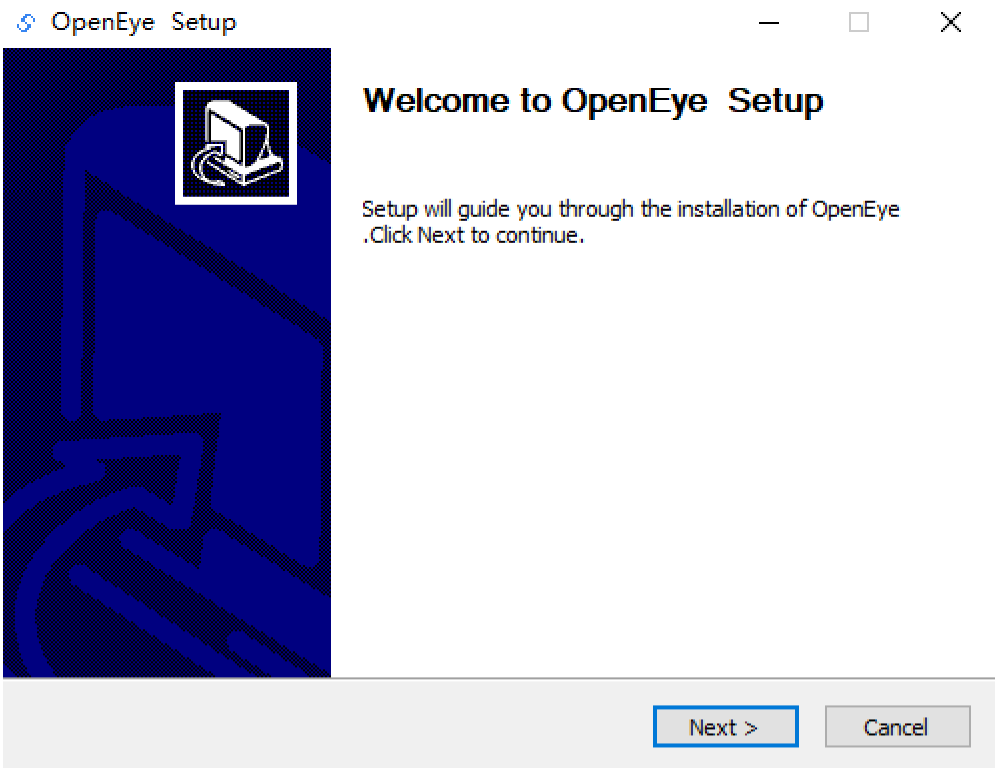
Step 1 Double-click **OpenEyeSetup.exe** to install the program. Select a language. You can change the language later by choosing **Settings** > **General** . Click **OK**.

Figure 3-49 Installation language



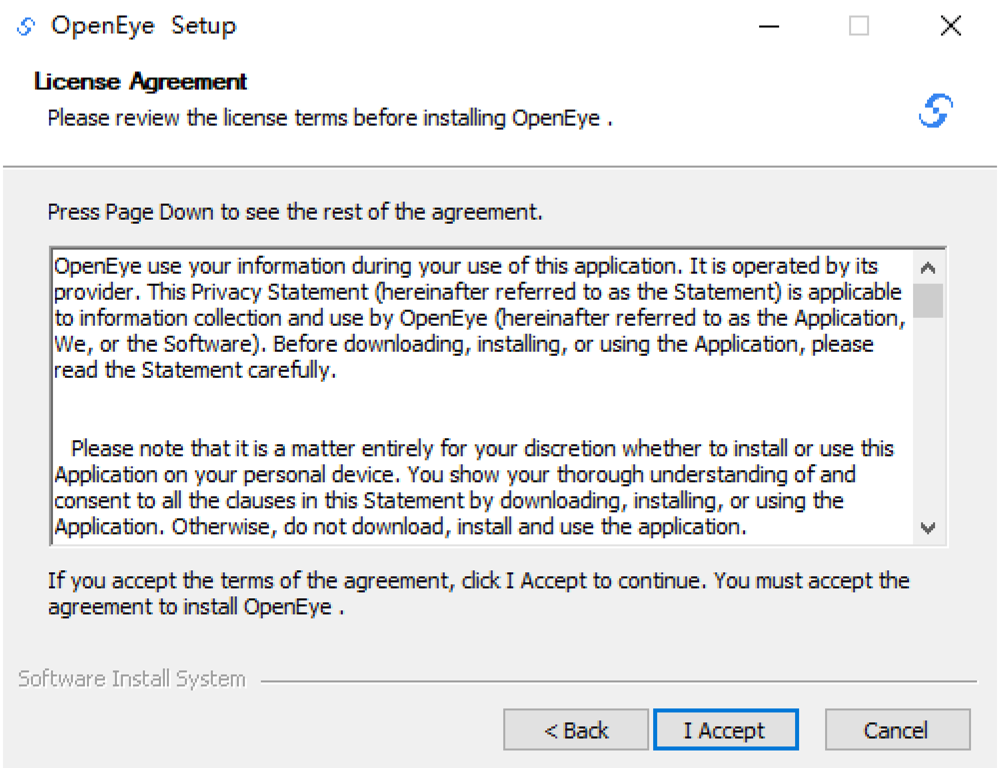
Step 2 Perform the installation according to the installation wizard. Click **Next**.

Figure 3-50 Installation wizard



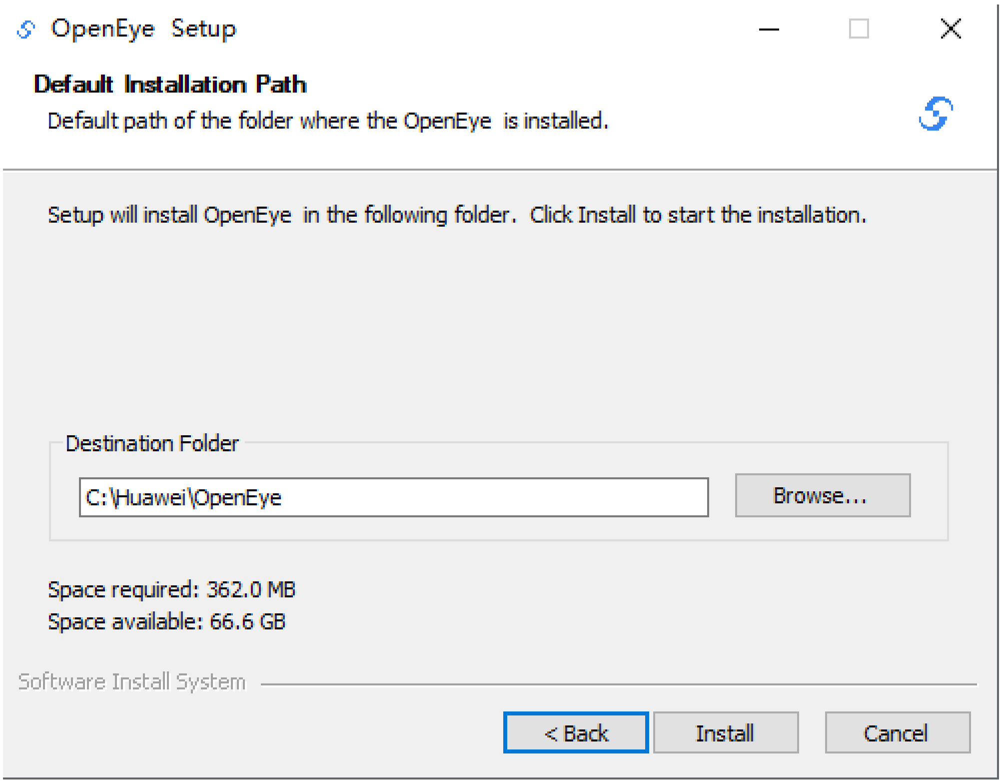
Step 3 Read the license agreements and click **I Accept**. If you do not accept the agreements, click **Cancel** to end the installation.

Figure 3-51 License Agreement window



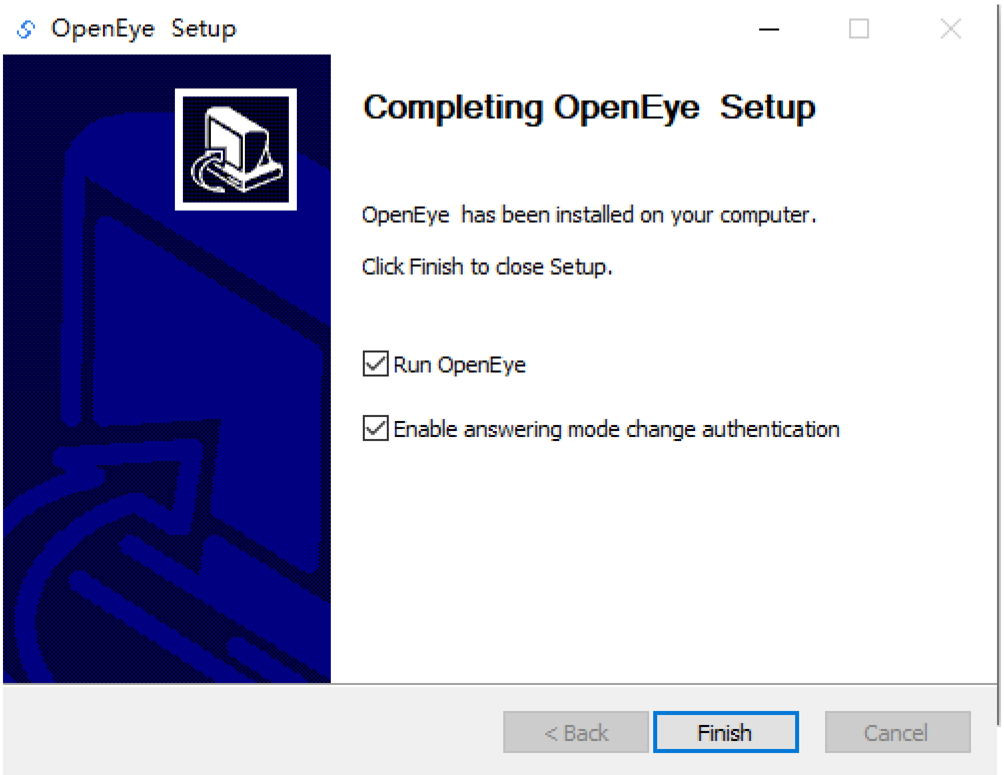
Step 4 The OpenEye provides a default installation path. Click **Browse** to change the installation path.

Figure 3-52 Installation path



Step 5 Click **Install**. The program will be installed automatically. When the installation is complete, select **Run OpenEye Desktop** and click **Finish**.

Figure 3-53 Installing the OpenEye



NOTE

Enable answering mode change authentication: This option is selected by default. When this option is selected, only the administrator can change the **Answering Mode** in general settings and select **Ring for 0 Seconds Before Auto-answer**. If this parameter is not selected, common operators can also change the **Answering Mode**.

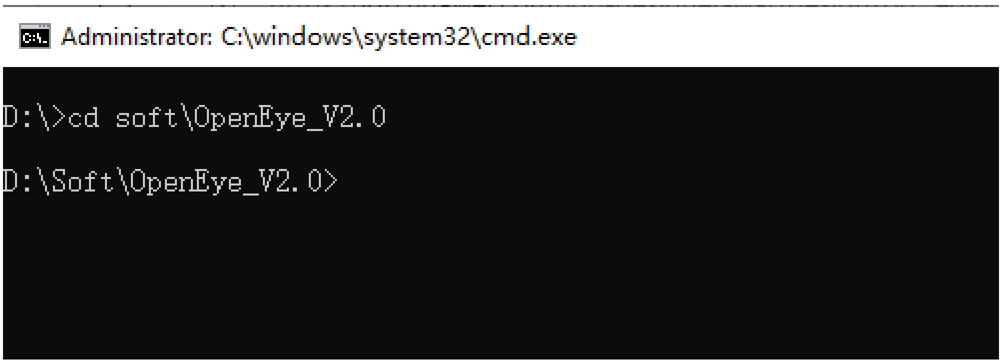
----End

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.

Figure 3-54 Commands for opening the installation program directory



Step 2 Perform the installation.

- **OpenEyeSetup.exe /S**: silent installation in the default path

Figure 3-55 Command for installation in the default path

```
D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S
```

- **OpenEyeSetup.exe /S /D=D:***xxxx******xxxx*: silent installation in a specified installation path

Figure 3-56 Command for installation in a specified path

```
D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /D=D:\HUAWEI\OpenEye
```

- **OpenEyeSetup.exe /S /A=1**: silent installation in the default path, with the answering mode change authentication enabled

Figure 3-57 Command for setting parameters for installation

```
D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /A=1
```

- **OpenEyeSetup.exe /S /A=1 /D=D:***xxxx******xxxx*: silent installation in a specified installation path, with the answering mode change authentication enabled

Figure 3-58 Command for setting parameters and specifying the installation path

```
D:\Soft\OpenEye_V2.0>OpenEyeSetup.exe /S /A=1 /D=D:\HUAWEI\OpenEye
```

- **OpenEyeSetup.exe /S /L=1033 /D=D:***xxxx******xxxx*: silent installation in a specified installation path, with the language set to English

Figure 3-59 Command for setting the language and specifying the installation path

```
>OpenEyeSetup.exe /S /L=1033 /D=D:\HUAWEI\OpenEye
```

- **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 3-60 Command for enabling the answering mode change authentication, setting the answering interval, and specifying the installation path

```
OpenEyeSetup.exe /S /A=1 /T=0 /D=D:\HUAWEI\OpenEye
```

NOTE

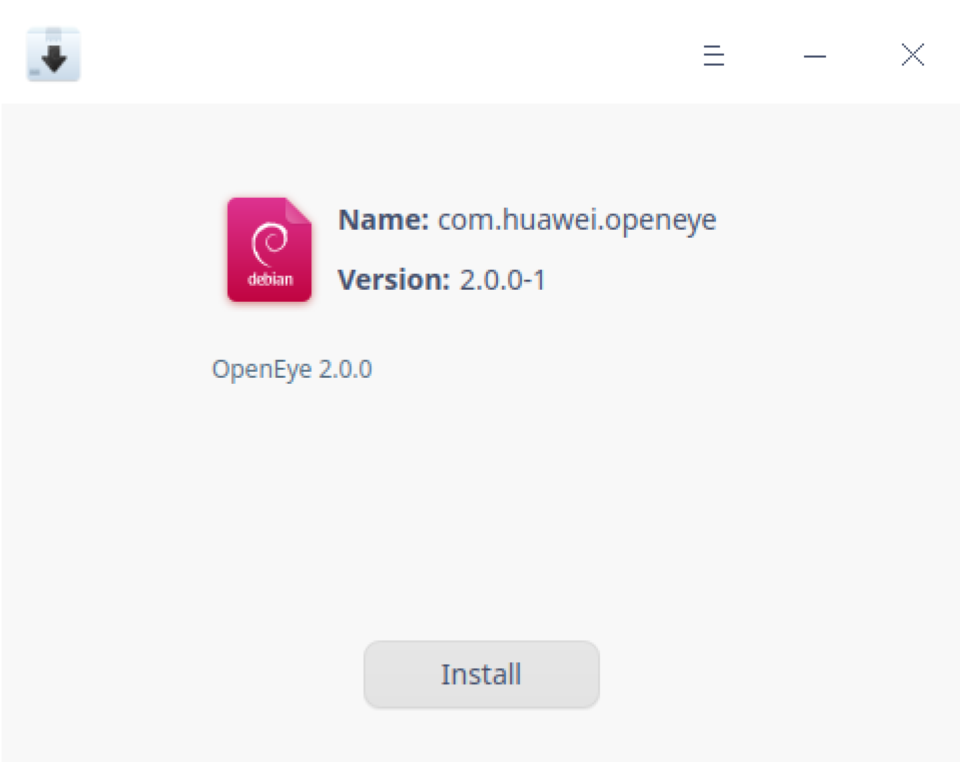
- **/S** indicates silent installation.
- **/A=1** indicates that answering mode change authentication is enabled.
- **/D=***Installation path* indicates the specified installation path.
- **/L=2052** indicates the language setting. **2052** indicates Chinese, **1033** indicates English, **1034** indicates 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**.

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.

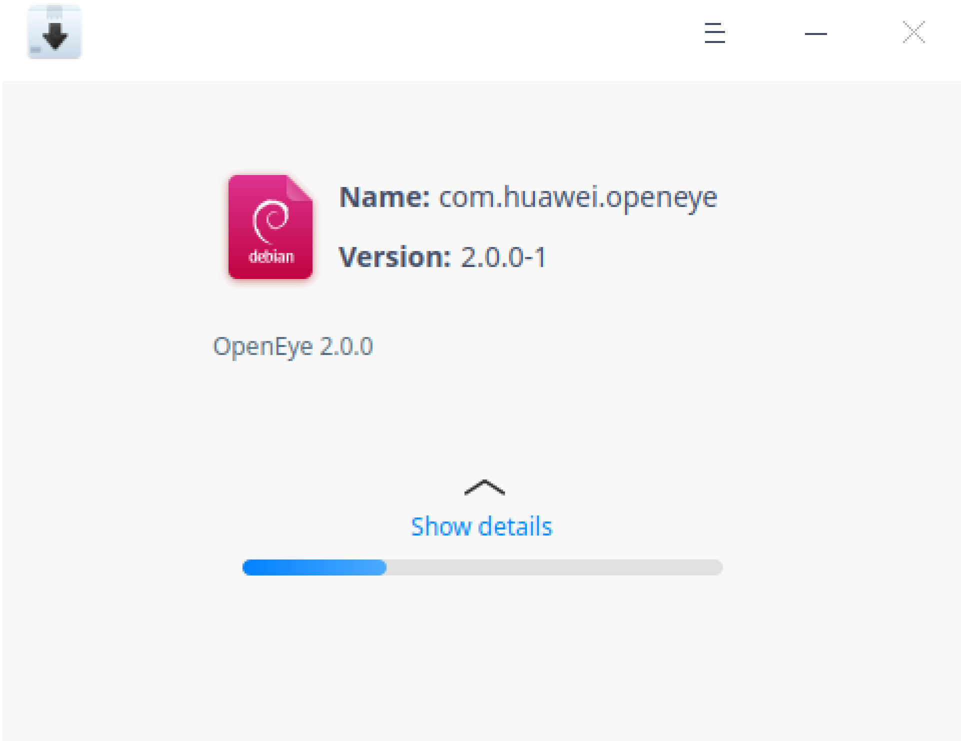
----End

3.13.3.1.3 Chinese Version Installation

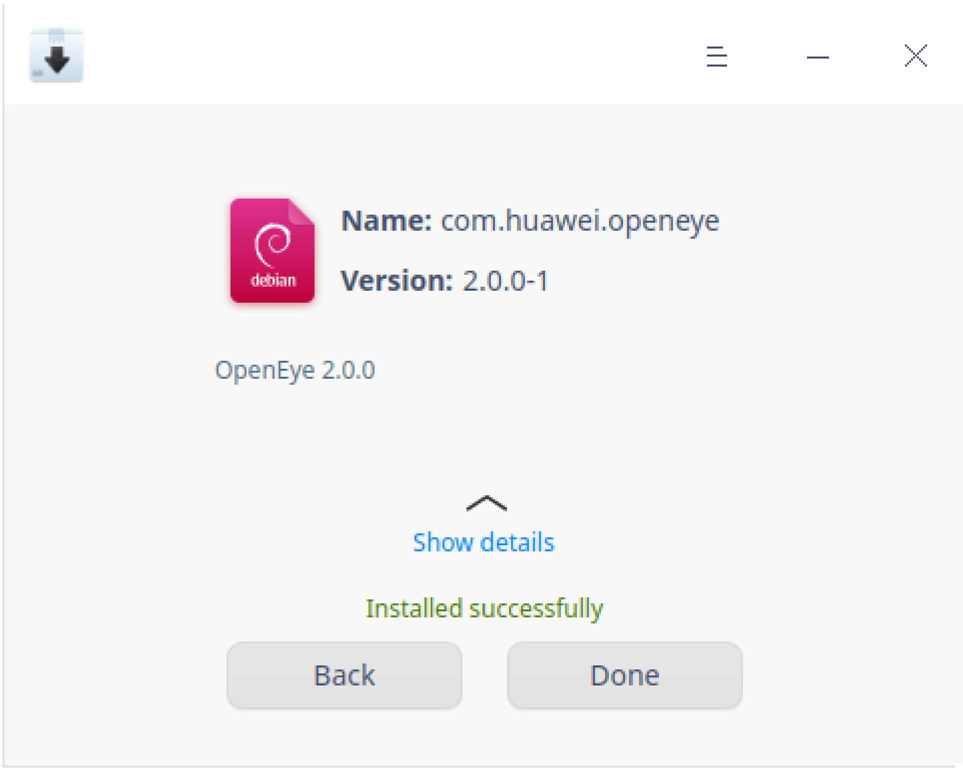
Step 1 Double-click the installation package to run the installation program



Step 2 Click **Install**. (You may need to enter the computer user password for authorization.)



Step 3 Complete the installation.



----End

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.

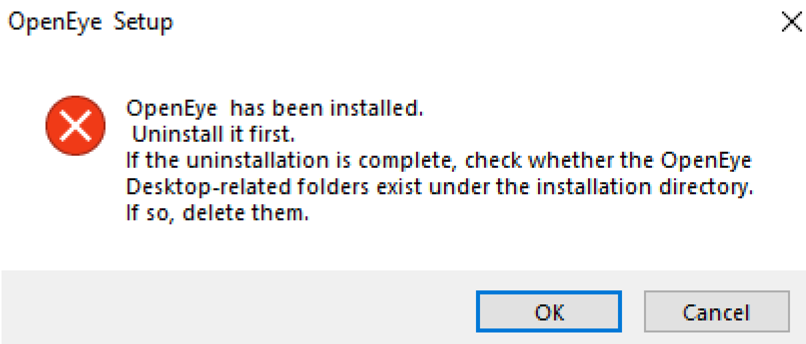
You can perform the upgrade in either of the following ways:

- 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.

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 3-61 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

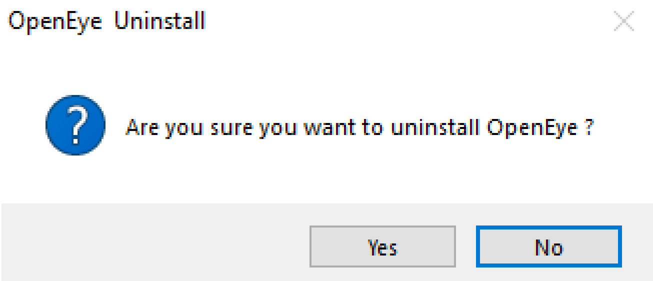
Step 1 Manually uninstall the OpenEye program of the original version.

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.

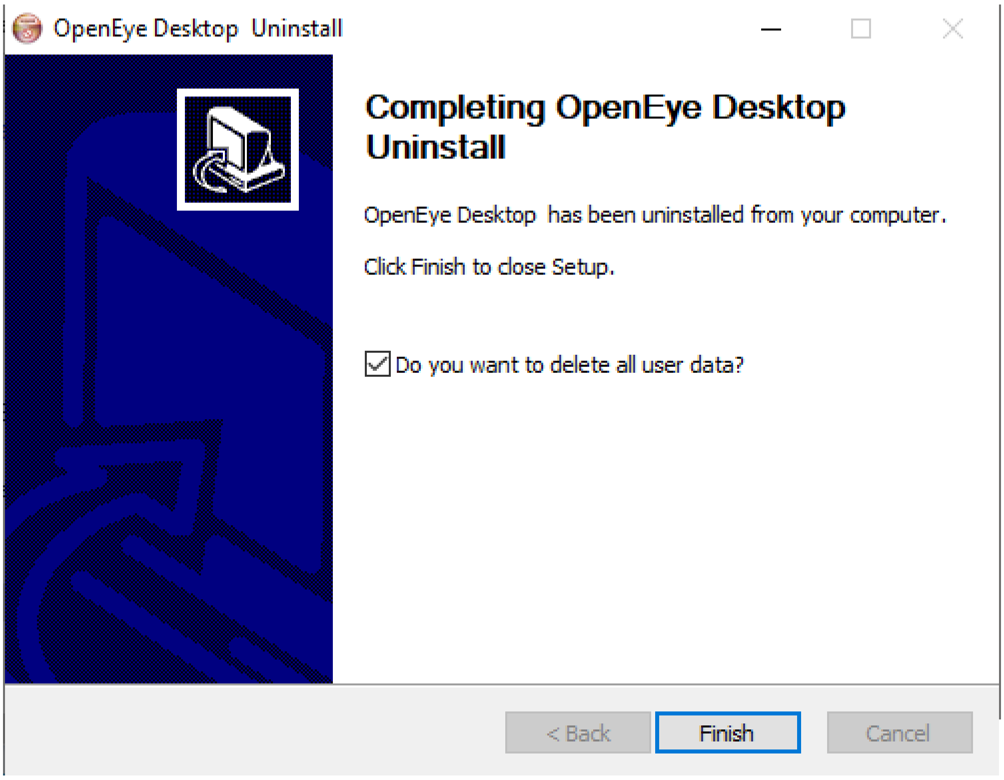
Step 2 Confirm the uninstallation and click **OK**.

Figure 3-62 Information confirmation



Step 3 When the uninstallation is complete, select **Do you want to delete all user data?** and click **Finish**.

Figure 3-63 Uninstalling the program



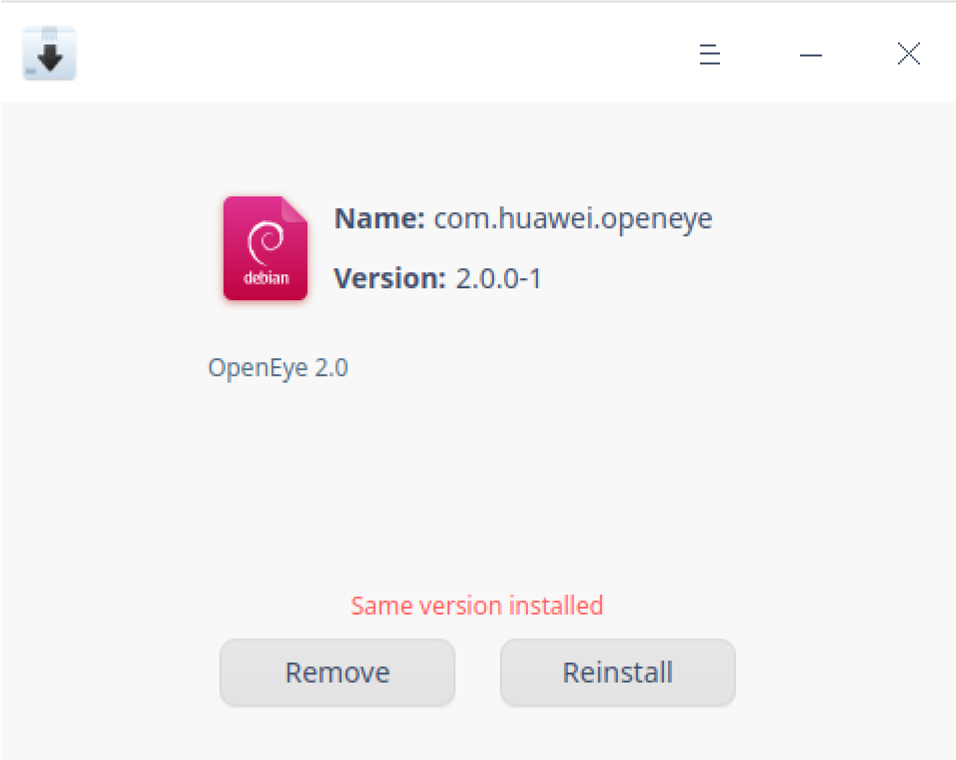
Step 4 Double-click **OpenEyeSetup.exe** to run the installation program. For details, see **Common Installation**.

----End

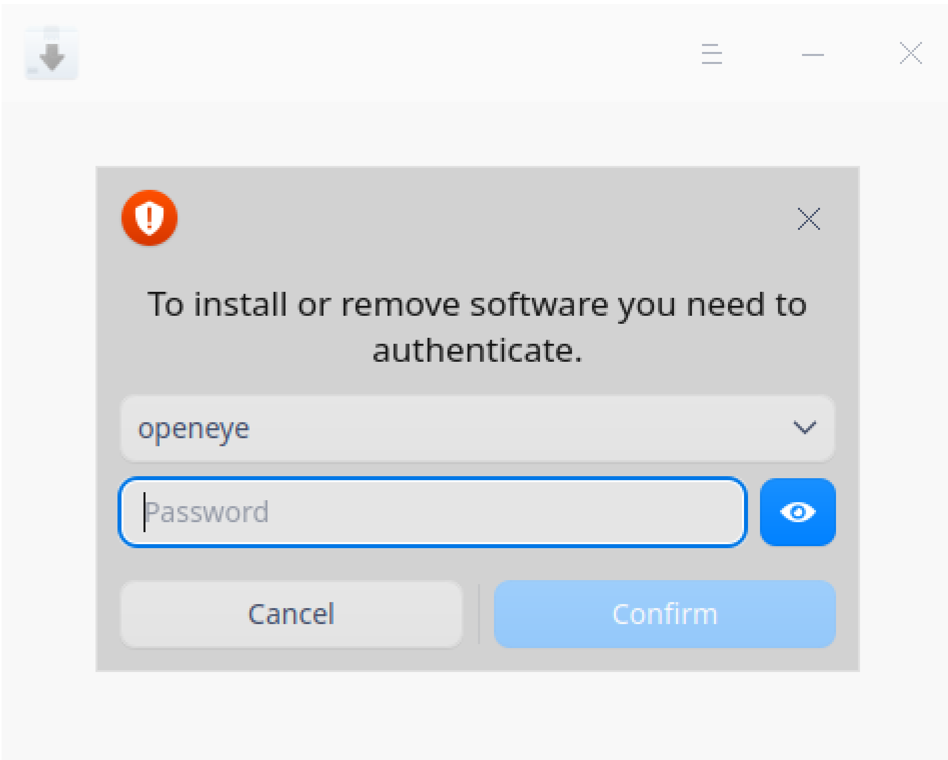
3.13.3.2.2 Upgrade for Chinese Version

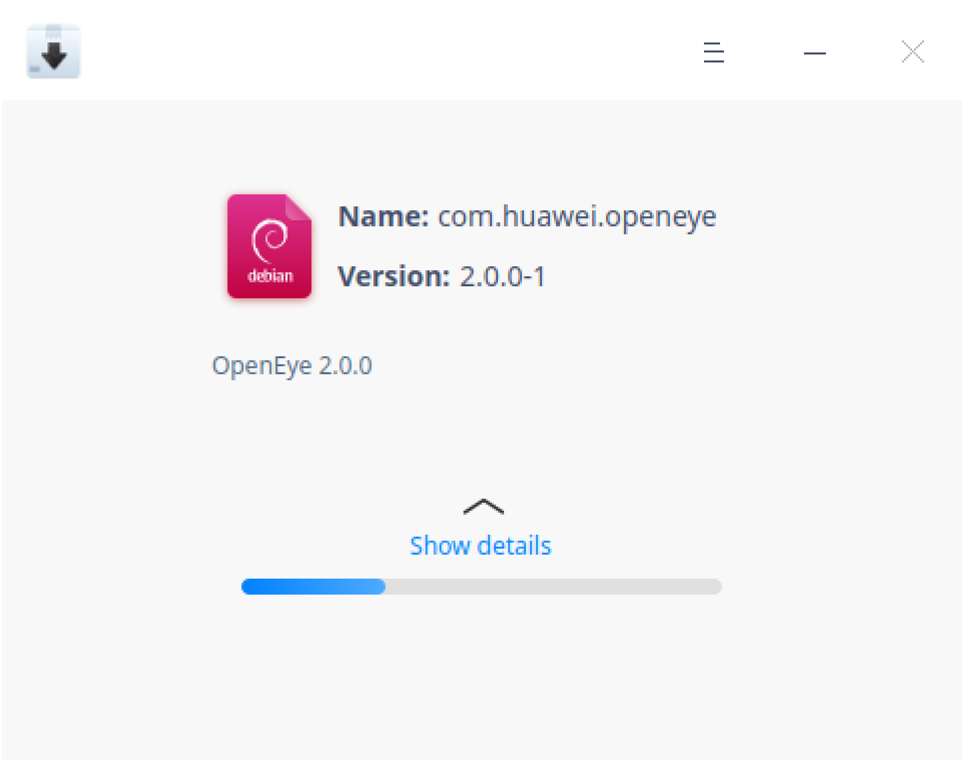
Overwrite Upgrade

Step 1 Double-click the **com.huawei.openeye_2.0.0-1_arm64.deb** installation program. A message is displayed, indicating that the same version has been installed. Click **Reinstall**.

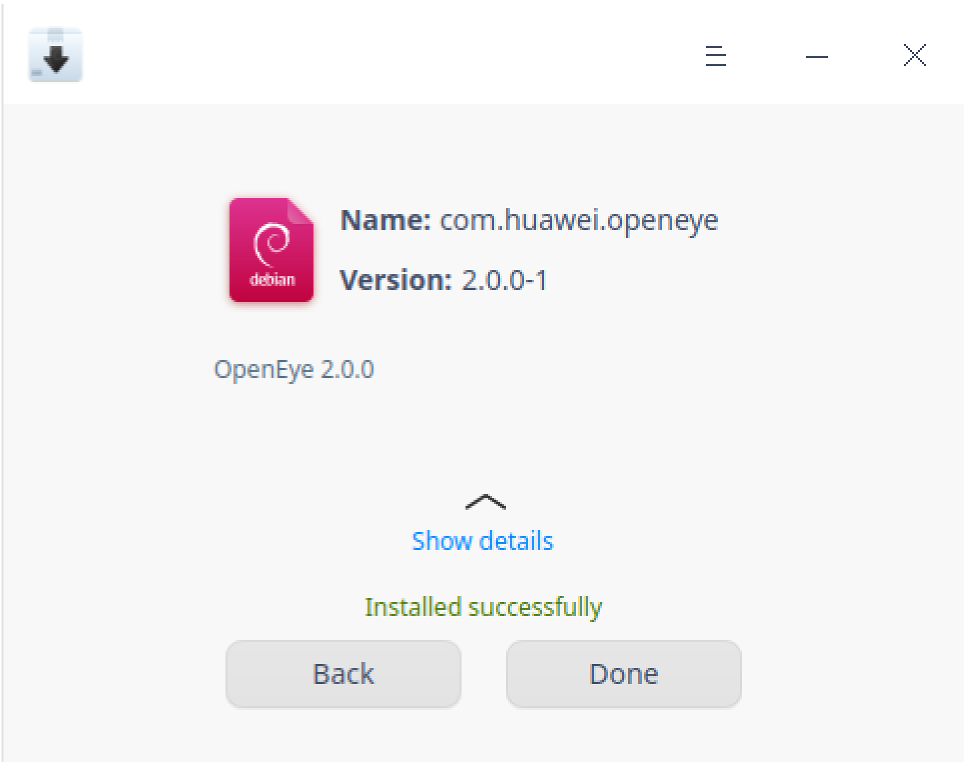


Step 2 In the displayed dialog box, enter the password and click **Confirm**.





Step 3 Complete the installation.



----End

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**.

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

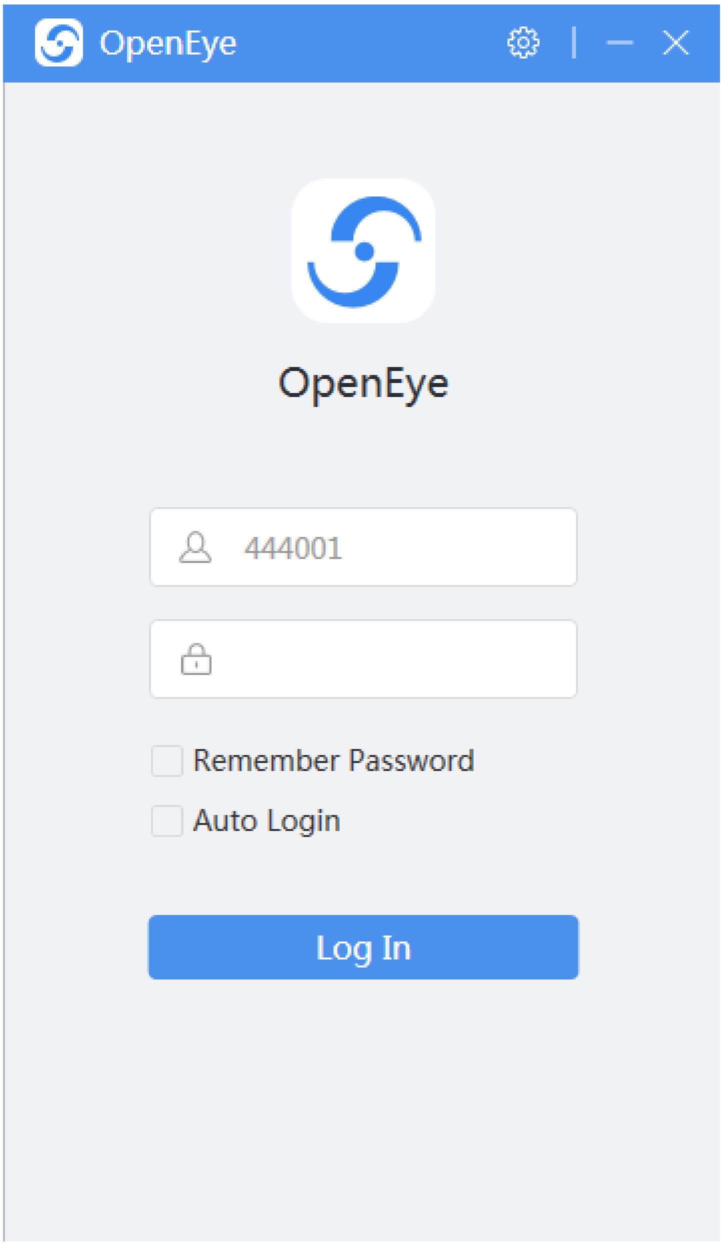
Prerequisites

You have completed the configurations in **Settings** > **Server Settings**.

Procedure

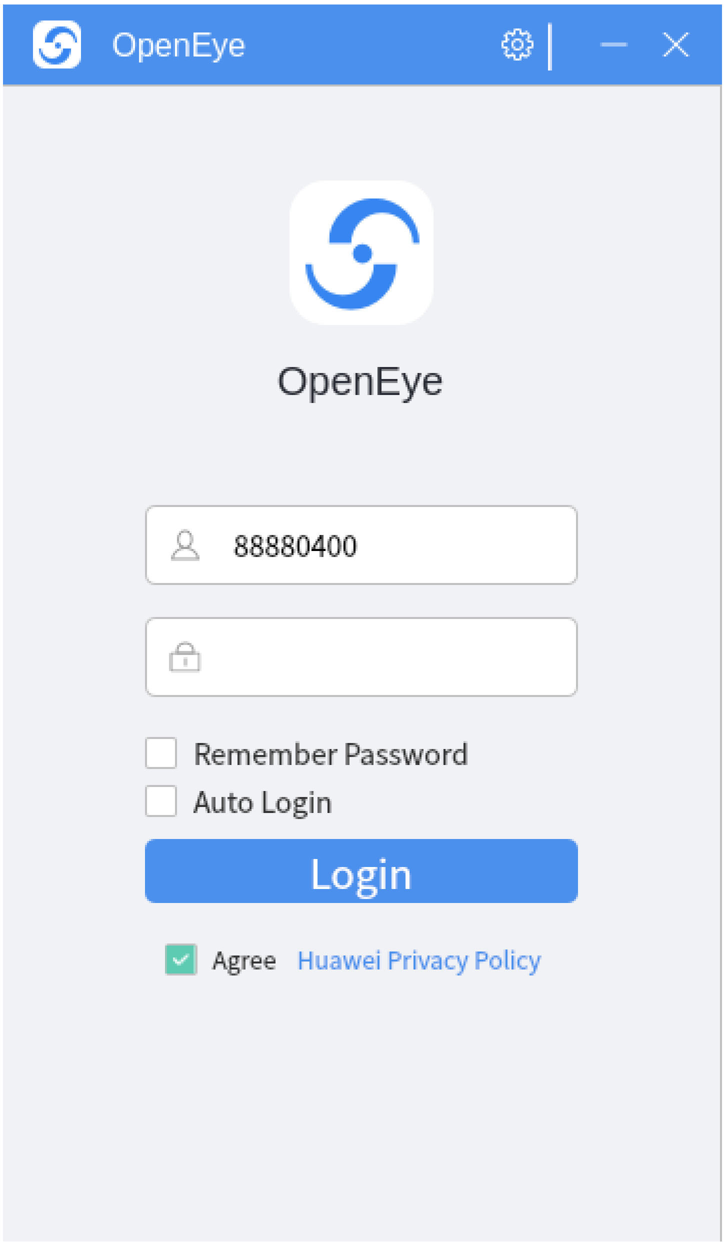
Step 1 Double-click the OpenEye and enter the softphone number and password on the login page. You can select **Remember Password** or **Auto Login** as required. Click **Log In**.

Figure 3-64 Login page



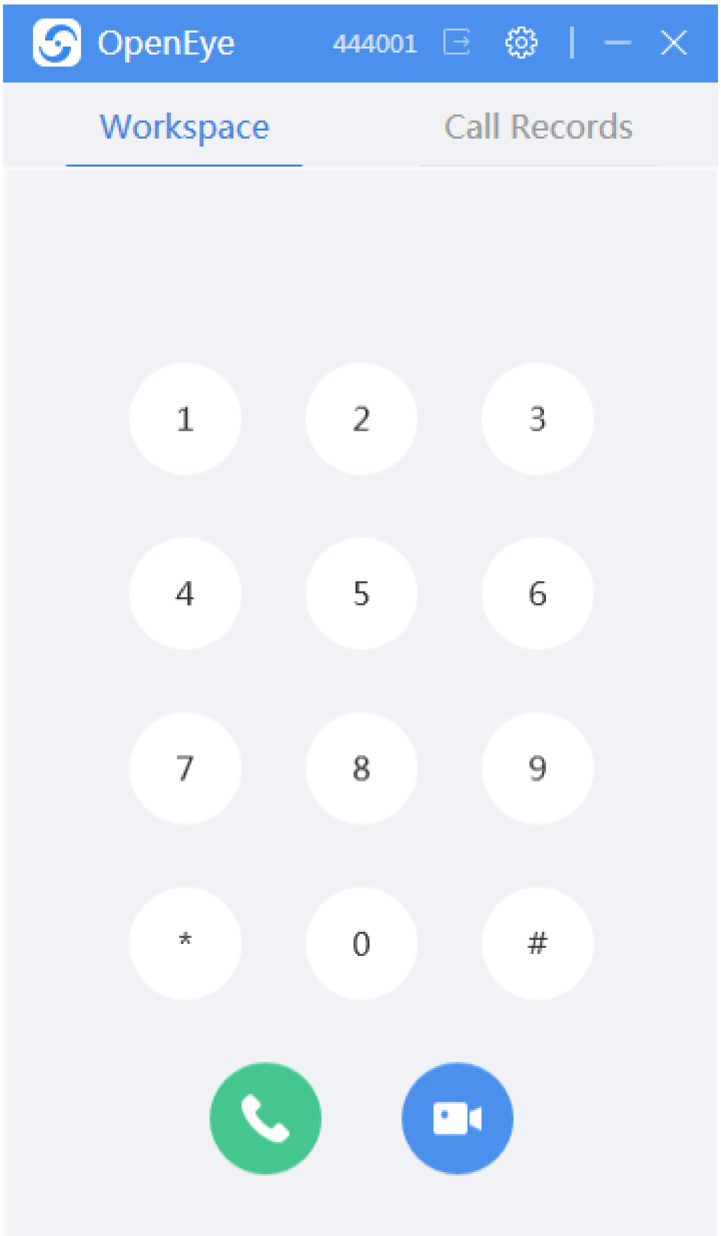
Before logging in to the Chinese version and making anonymous calls, select **Agree Huawei Privacy Policy**.

Figure 3-65 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.

Figure 3-66 OpenEye workspace

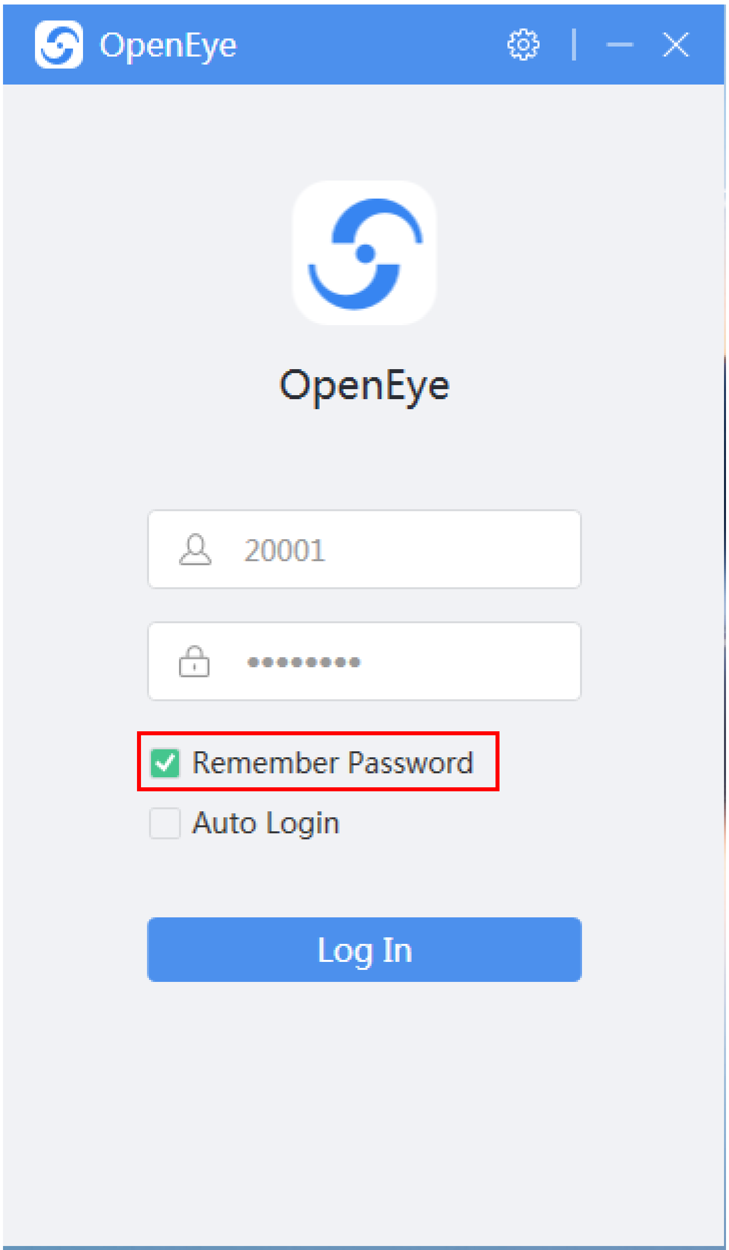


----End

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.

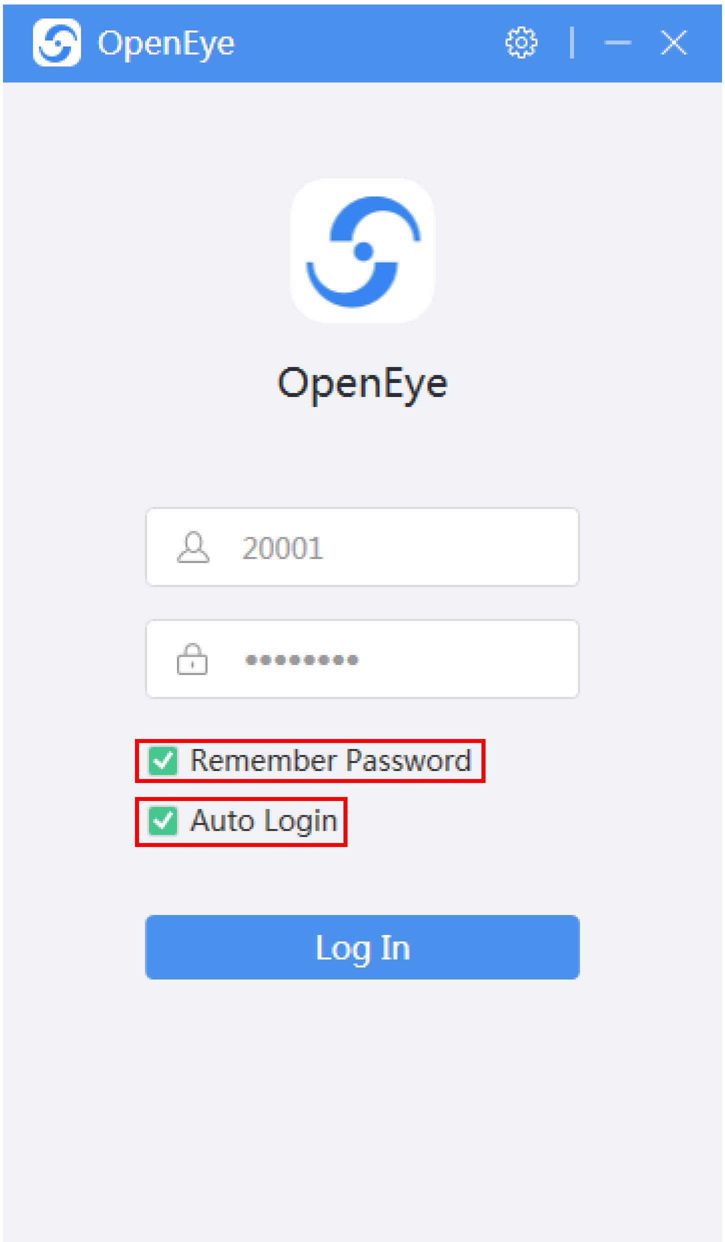
Figure 3-67 Remember Password



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.

Figure 3-68 Auto Login



NOTE

You can select both **Remember Password** and **Auto Login** or only one of them.

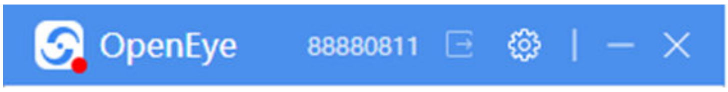
3.13.5.4 Login Status

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.

Logo displayed (green, red, and gray) after successful login is as follows.

Figure 3-69 Logo on the home page



Login status is as follows.

Figure 3-70 All servers are registered and logged in

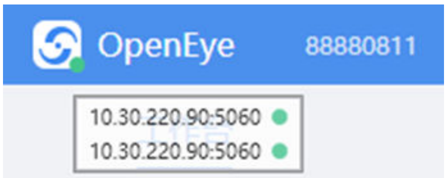


Figure 3-71 Red: some servers failed to be registered or logged in

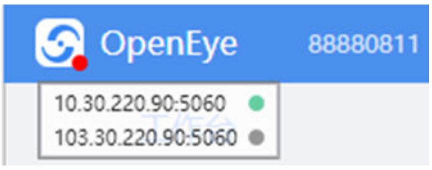
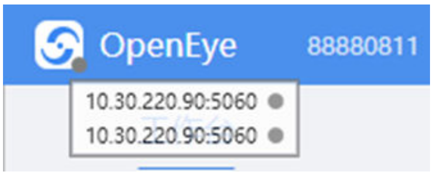


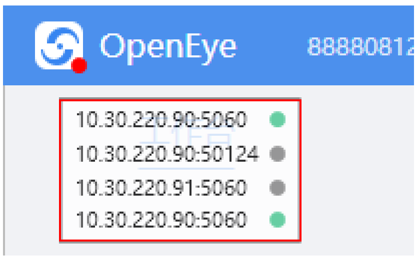
Figure 3-72 All servers are offline



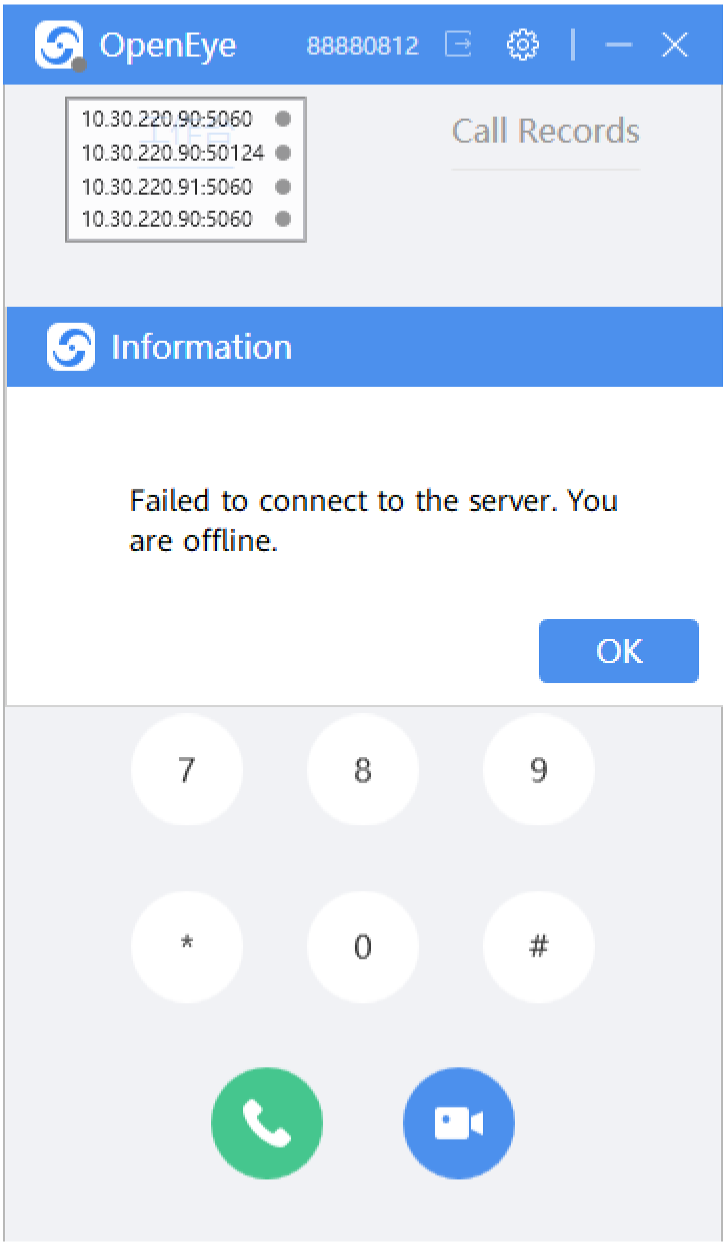
Elements in the server status dialog box:

IP address:*Port number*

Figure 3-73 Green: registration successful; gray: registration failed



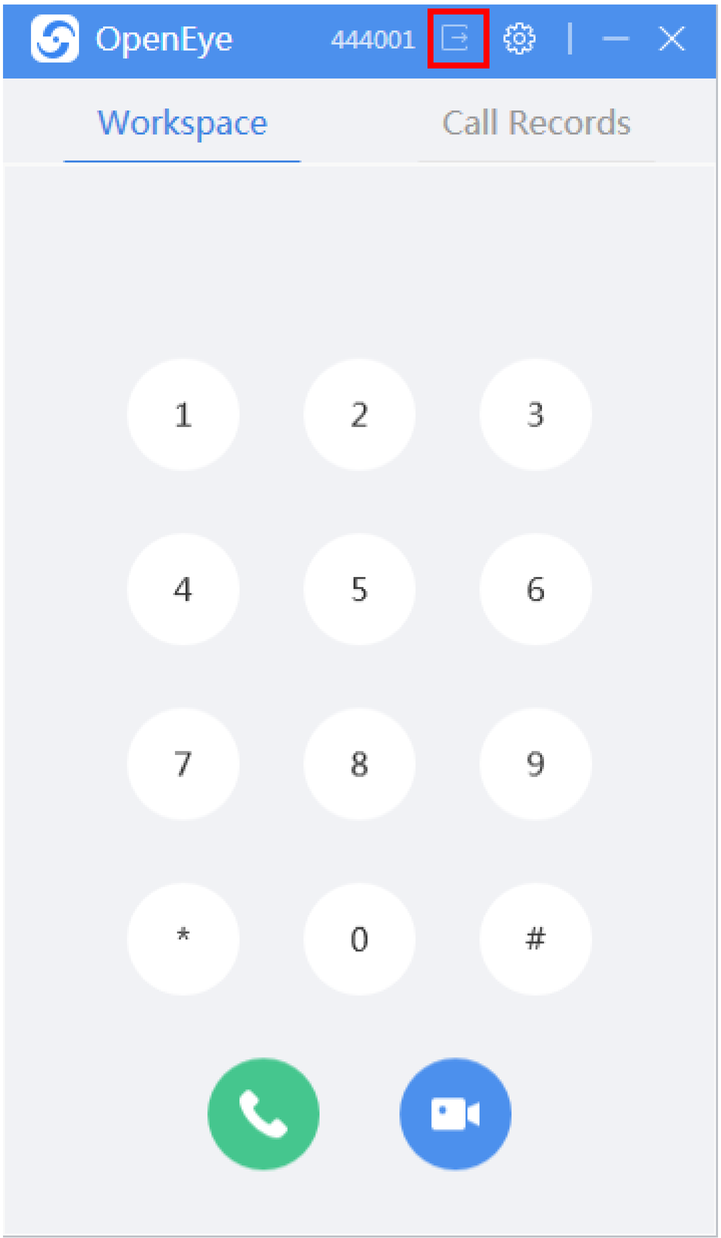
All servers are offline, the login status turns gray, and a dialog box is displayed, indicating that the servers are offline.



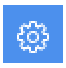
3.13.5.5 Logout

After login, you can click  on the workspace to log out of the system and return to the login page.

Figure 3-74 Logout



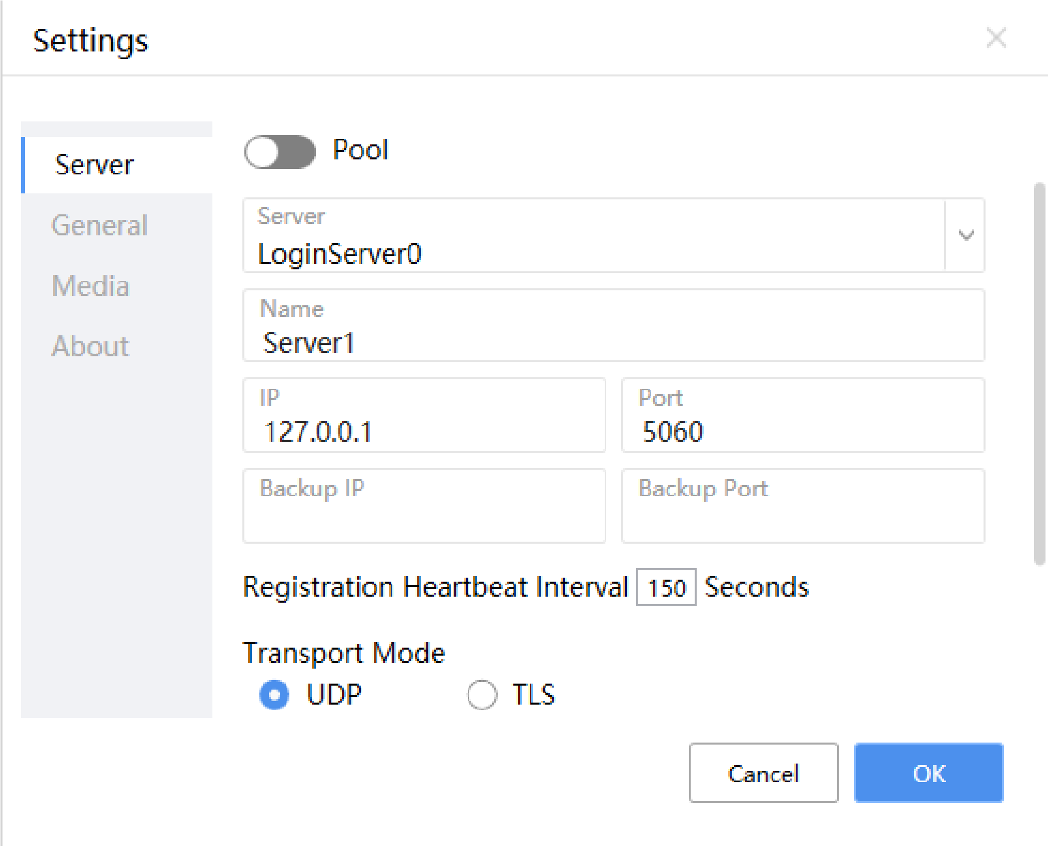
3.13.6 Introduction to System Settings

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.

3.13.6.1 Server Settings

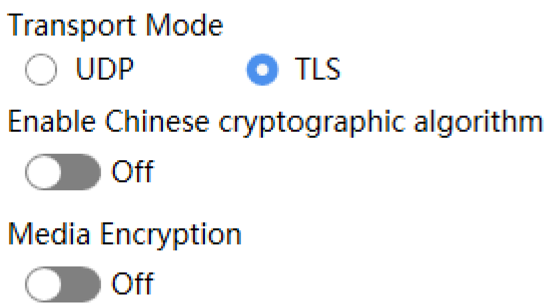
Server settings support the pool networking mode and common server setting mode.

Figure 3-75 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**.

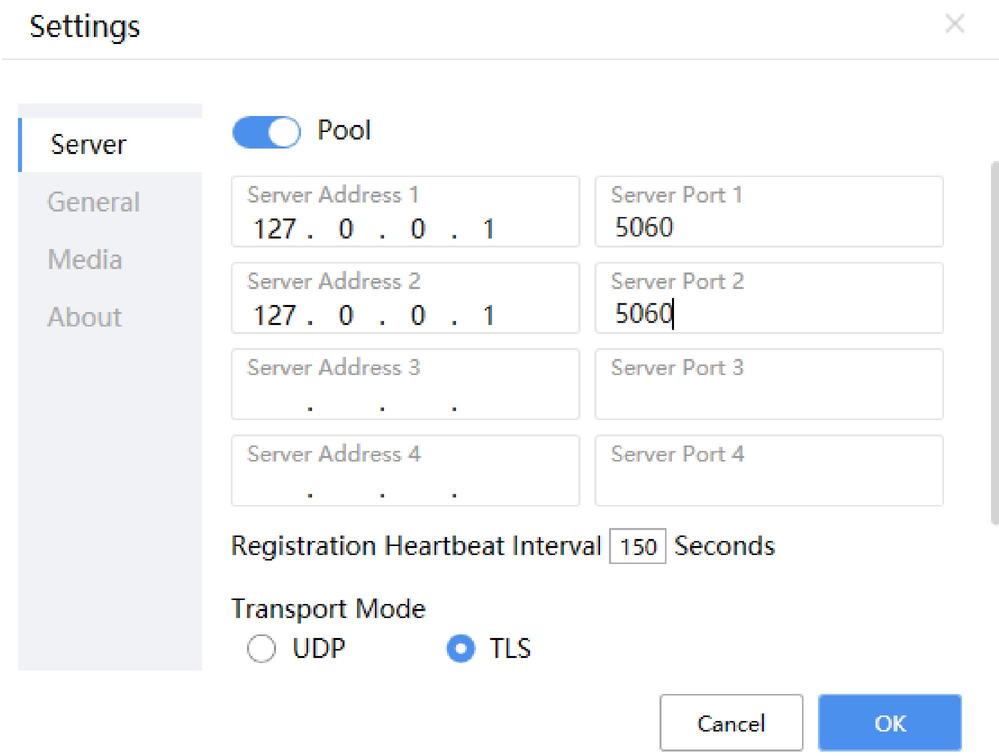


To use the TLS transmission mode, you need to configure the certificates and keys in the **config.xml** file in the program installation directory.

```
<!--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 3-76 Configuring the pool networking



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.

3.13.6.2 General Settings

General settings of the OpenEye allow you to set the language, answering mode, shortcut key for screenshots, path for saving screenshots, and screenshot format.

Figure 3-77 General settings 1 (administrator)

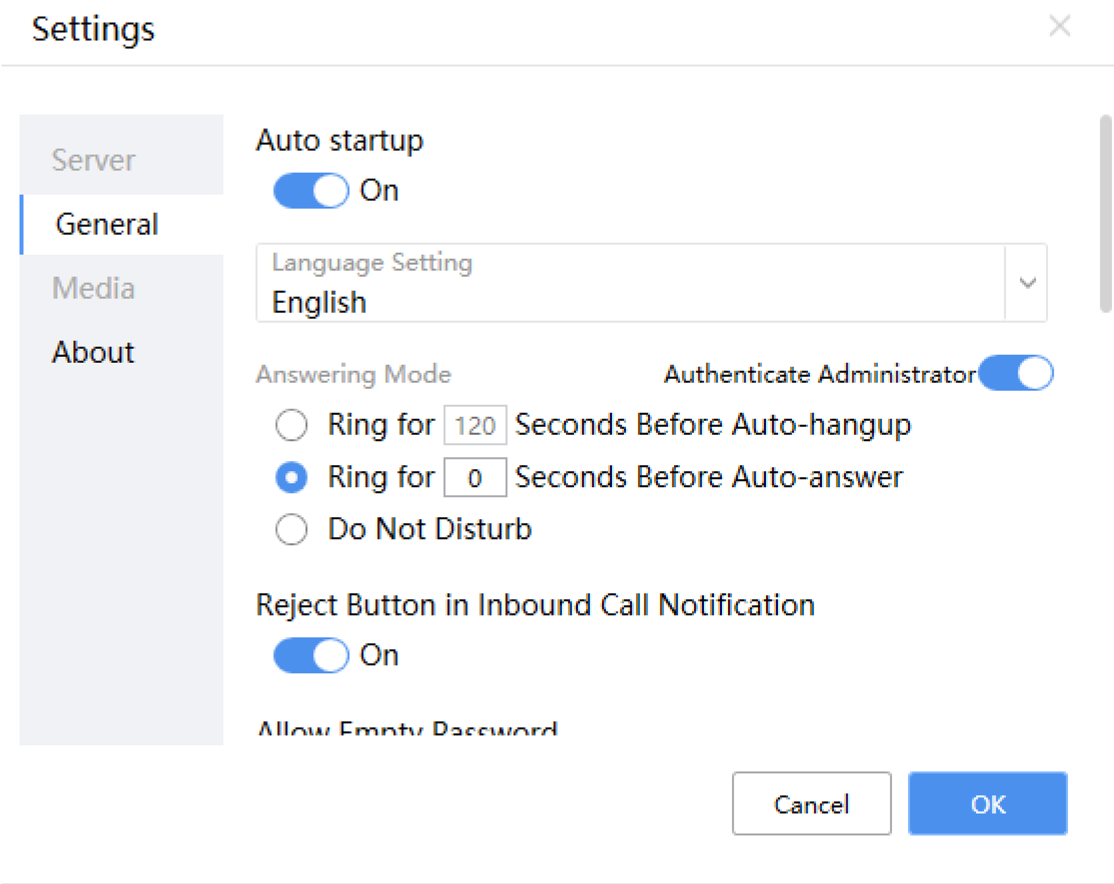


Figure 3-78 General settings 2

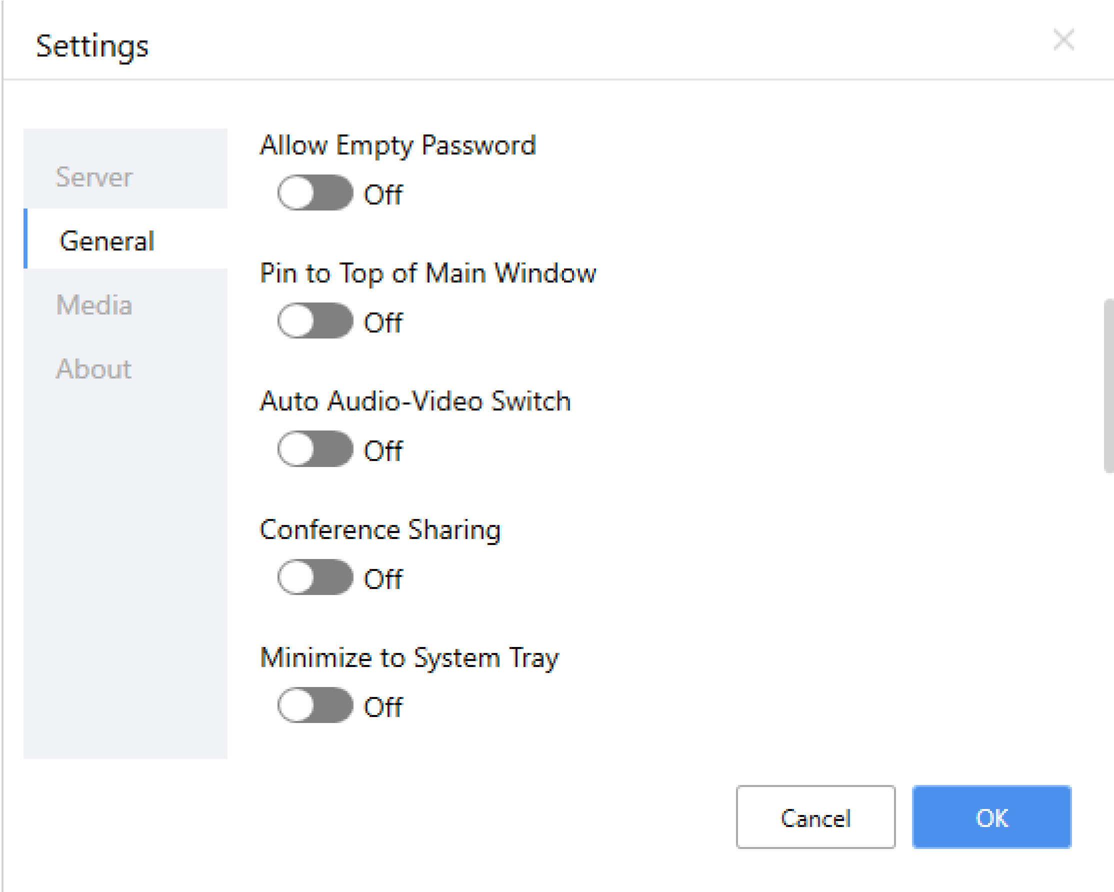


Figure 3-79 General settings 3

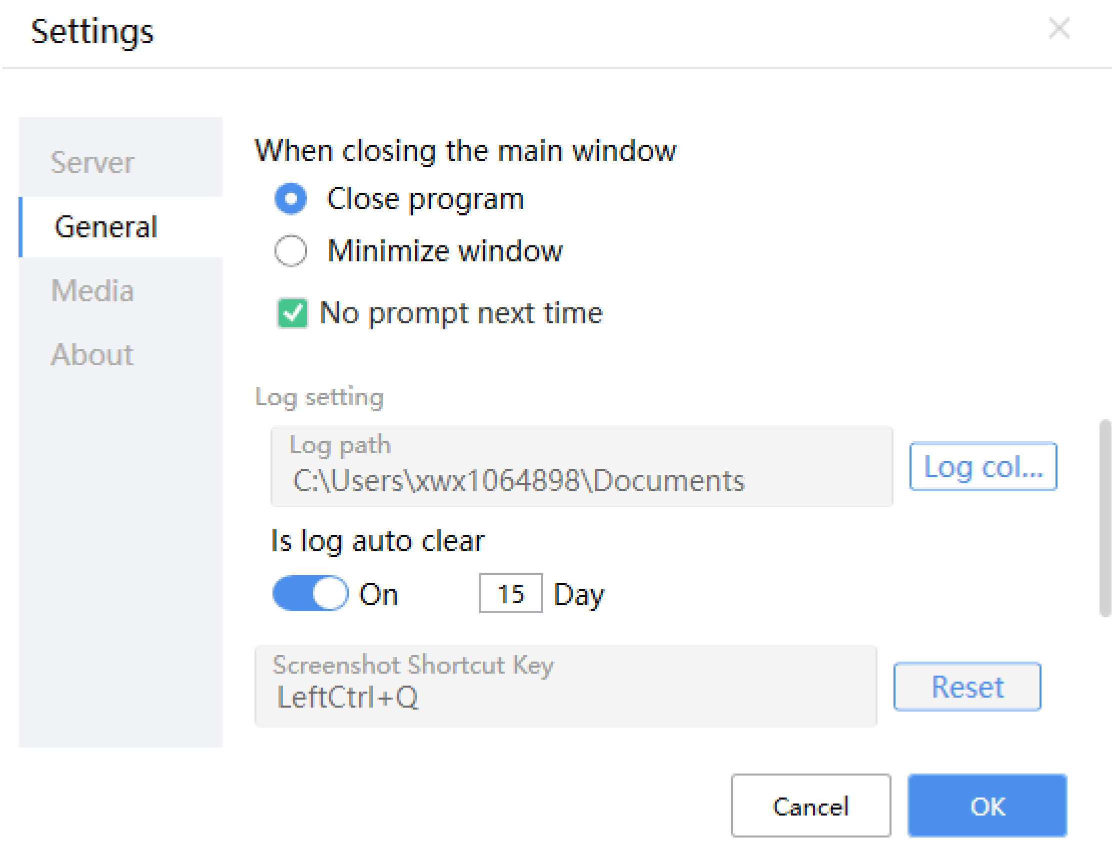
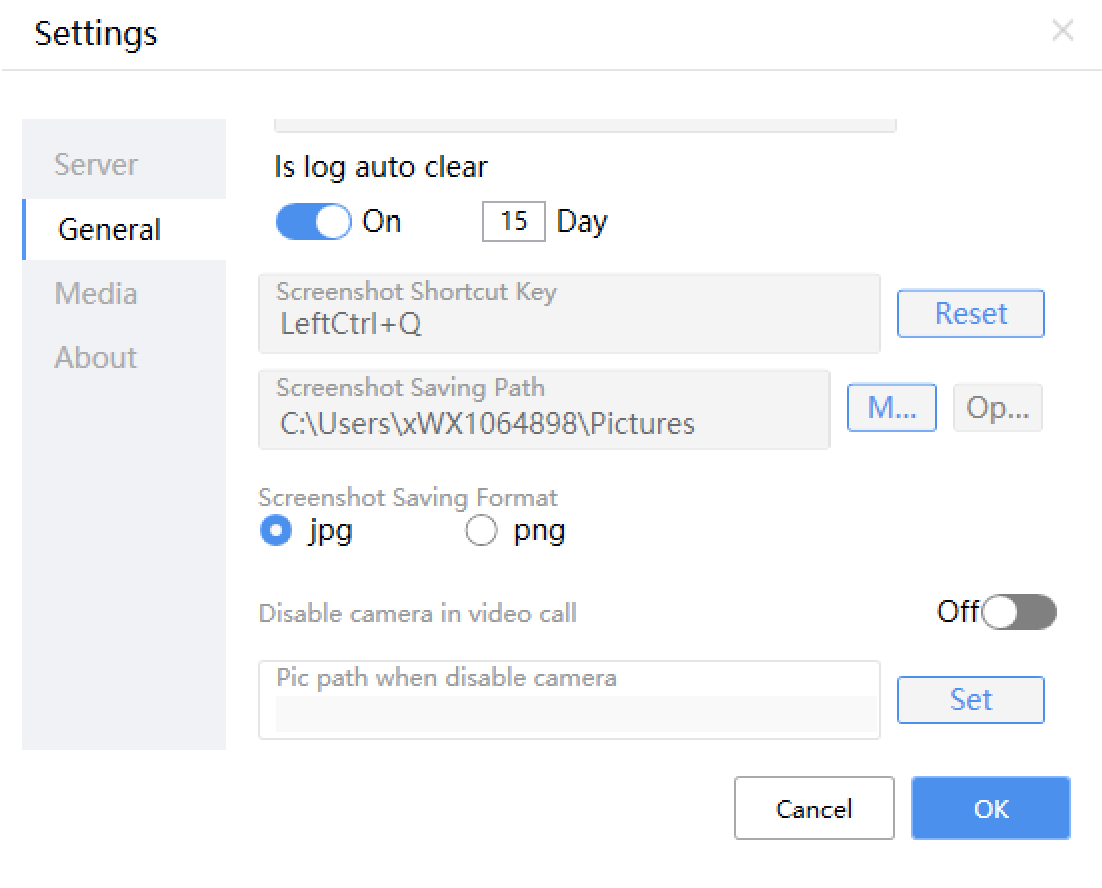


Figure 3-80 General settings 4



- **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.

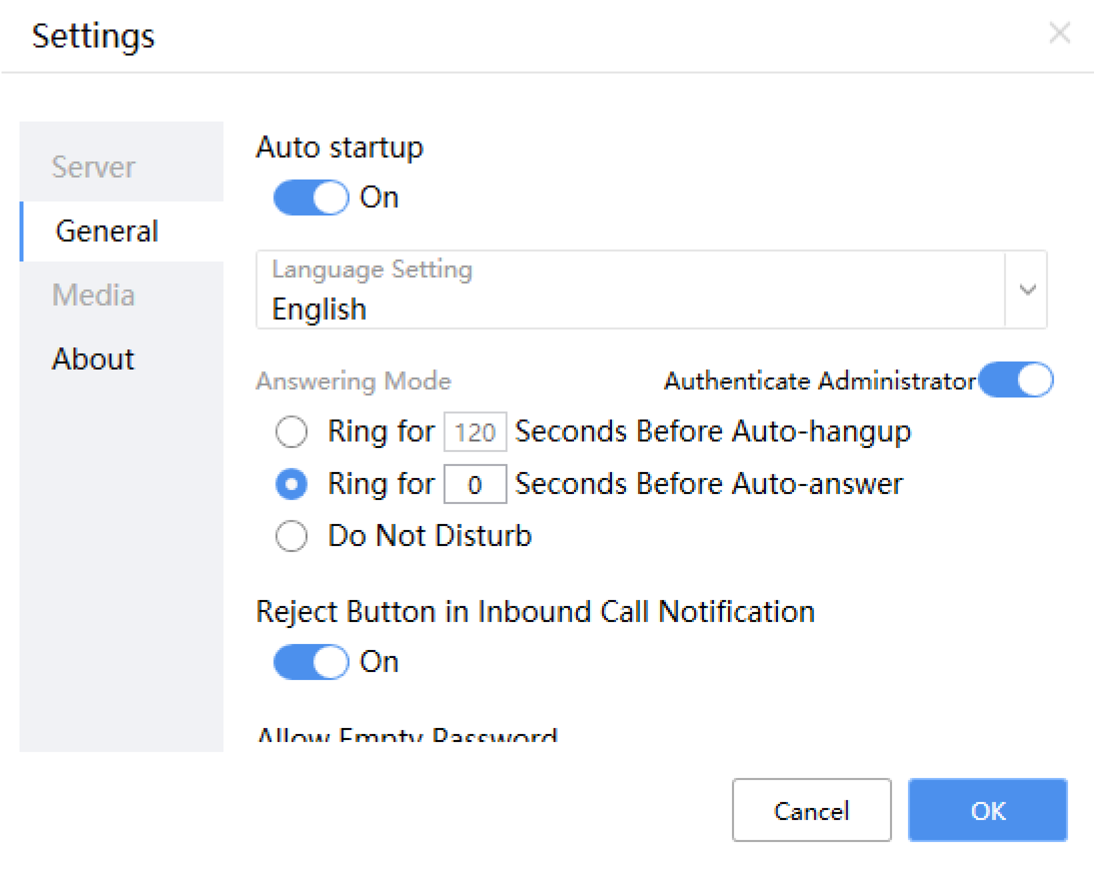
- **Language Setting**

  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:

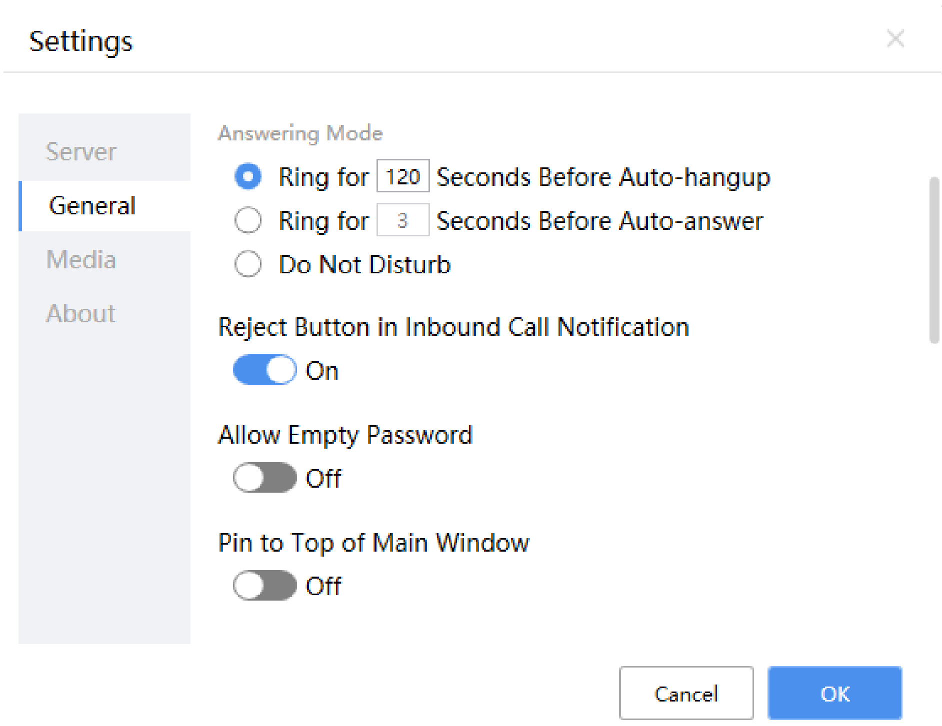
    When an administrator logs in to the OpenEye, the **Authenticate Administrator** switch is displayed and **Answering Mode** can be changed. **Figure 3-77** shows the details.

    A common operator cannot change the answering mode.



– If the answering mode change authentication is disabled:

  Both the administrator and common operators can change **Answering Mode** and **Authenticate Administrator** is not displayed.



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.

- **Reject Button in Inbound Call Notification**

  This function is enabled by default. If this function is disabled, the **Reject** button in the **Inbound Call Notification** window in the lower right corner is hidden.

Figure 3-81 Inbound Call Notification - the Reject button displayed

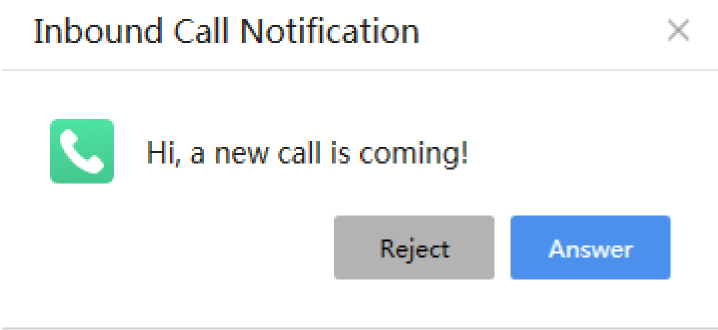
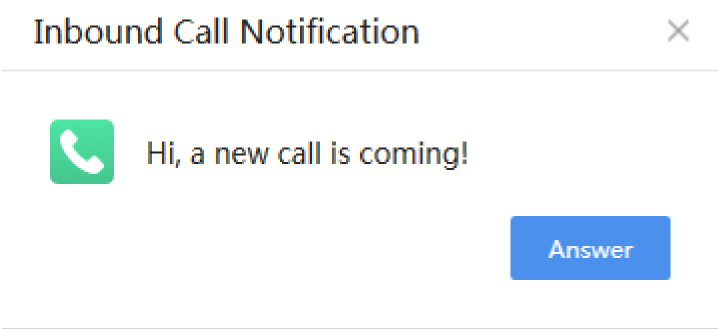


Figure 3-82 Inbound Call Notification - the Reject button hidden



NOTE

Currently, the Chinese version does not support the function.

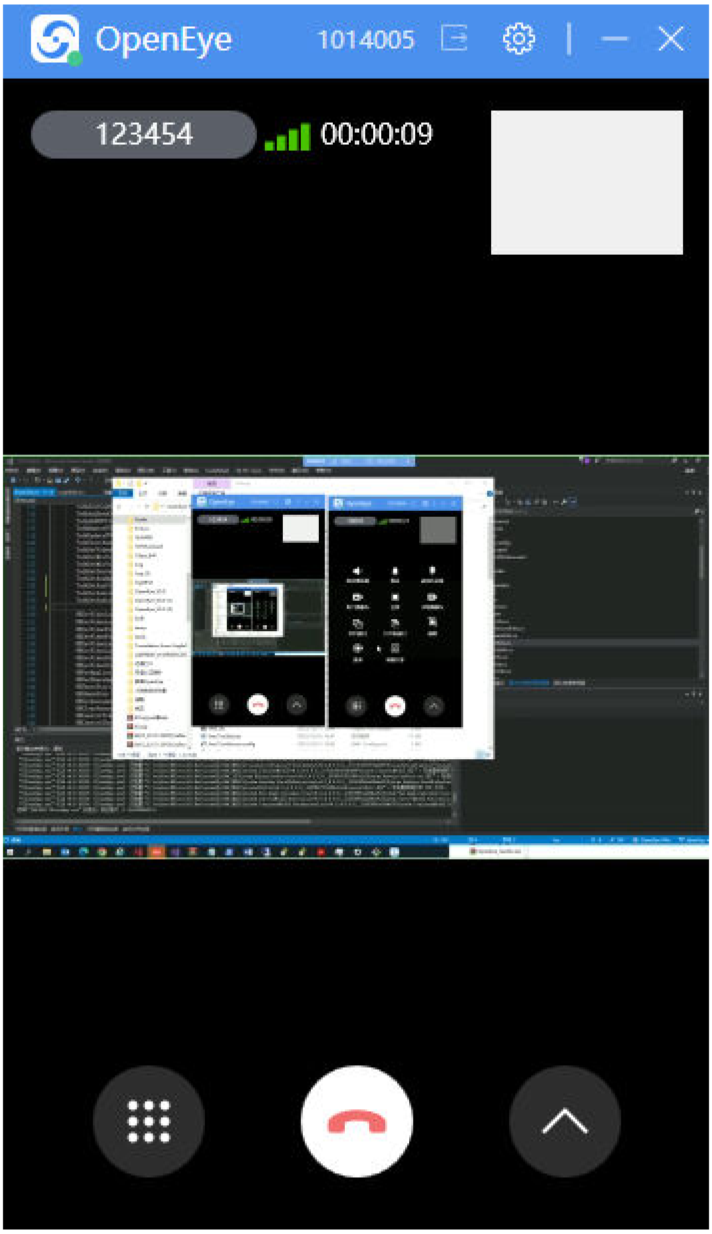
- **Pin to Top of Main Window**
  After this function is enabled, the main window can be displayed on the top and is not covered by other windows. This function is disabled by default.
- **Allow Empty Password**
  When this function is disabled, if the password text box is empty, the login request is 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.
  - Currently, the Chinese version does not support the 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.

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.



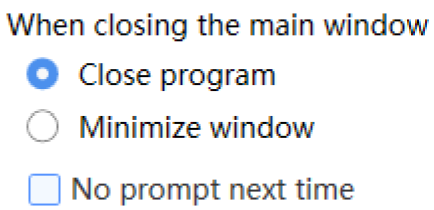
If the UAP does not provide the self-developed conference function, the customer cannot view the screen being shared, and the call is not affected.

- **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, OpenEye logs are automatically collected and saved to the path specified by **Log path**.

- **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 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 settings 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.

3.13.6.3 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 3-83 Media setting 1

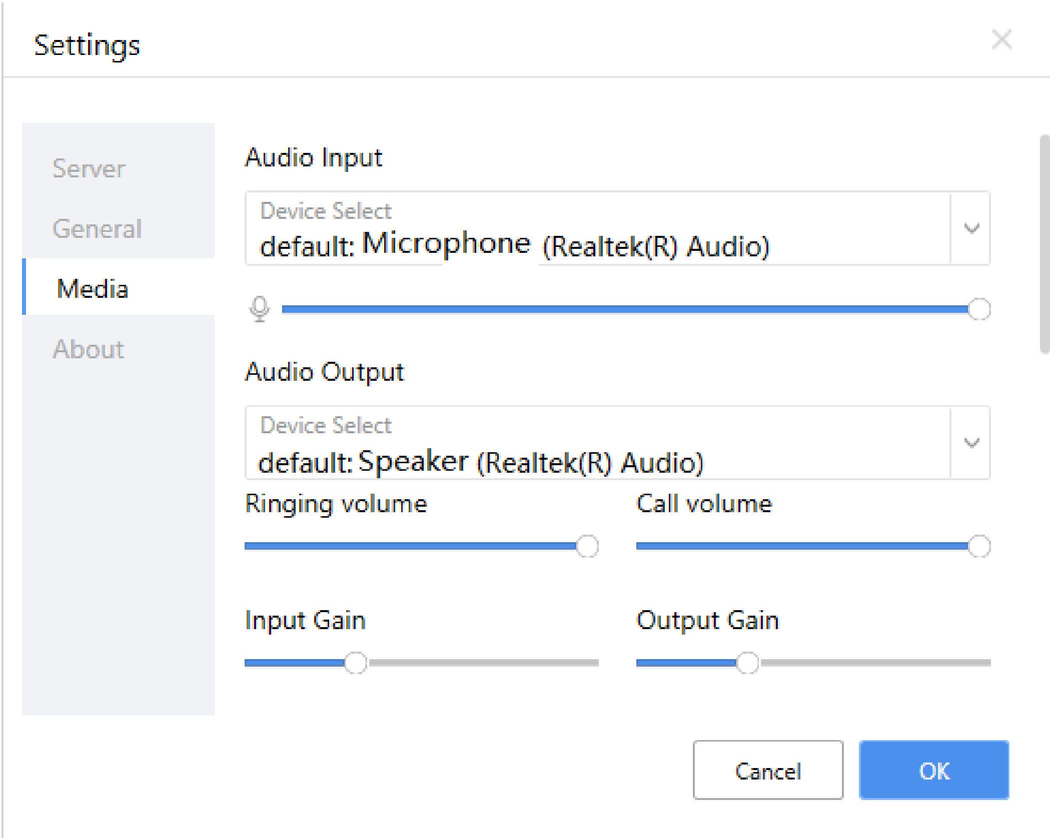


Figure 3-84 Media setting 2

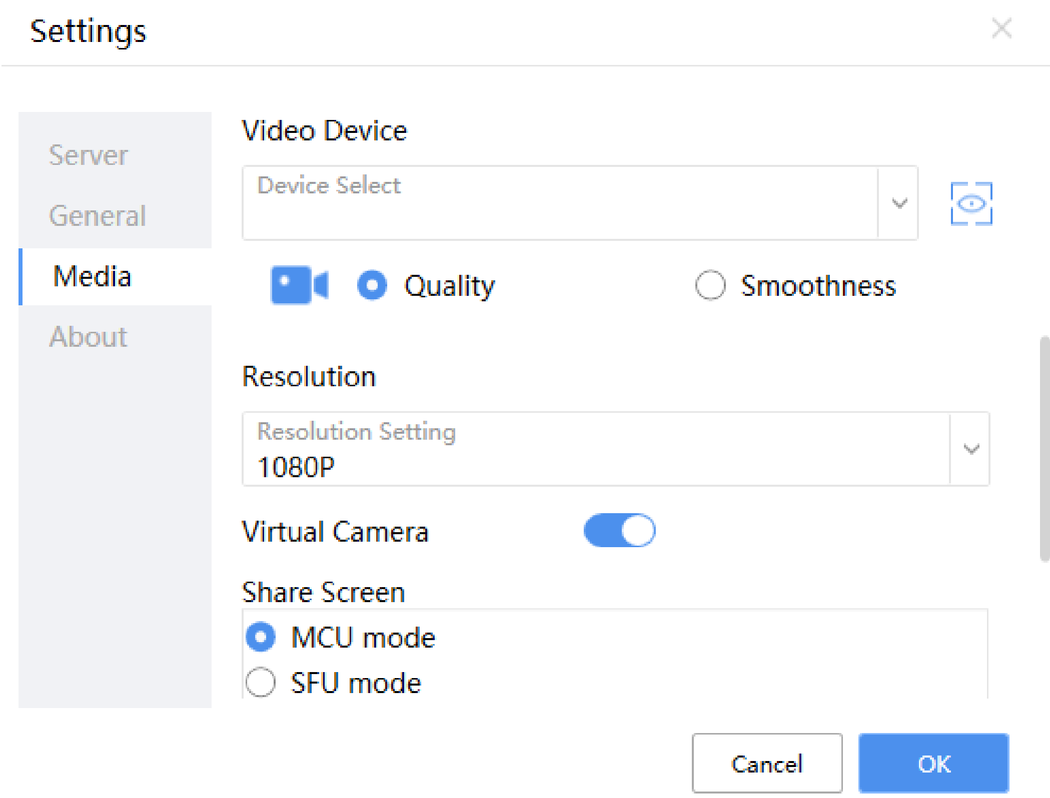
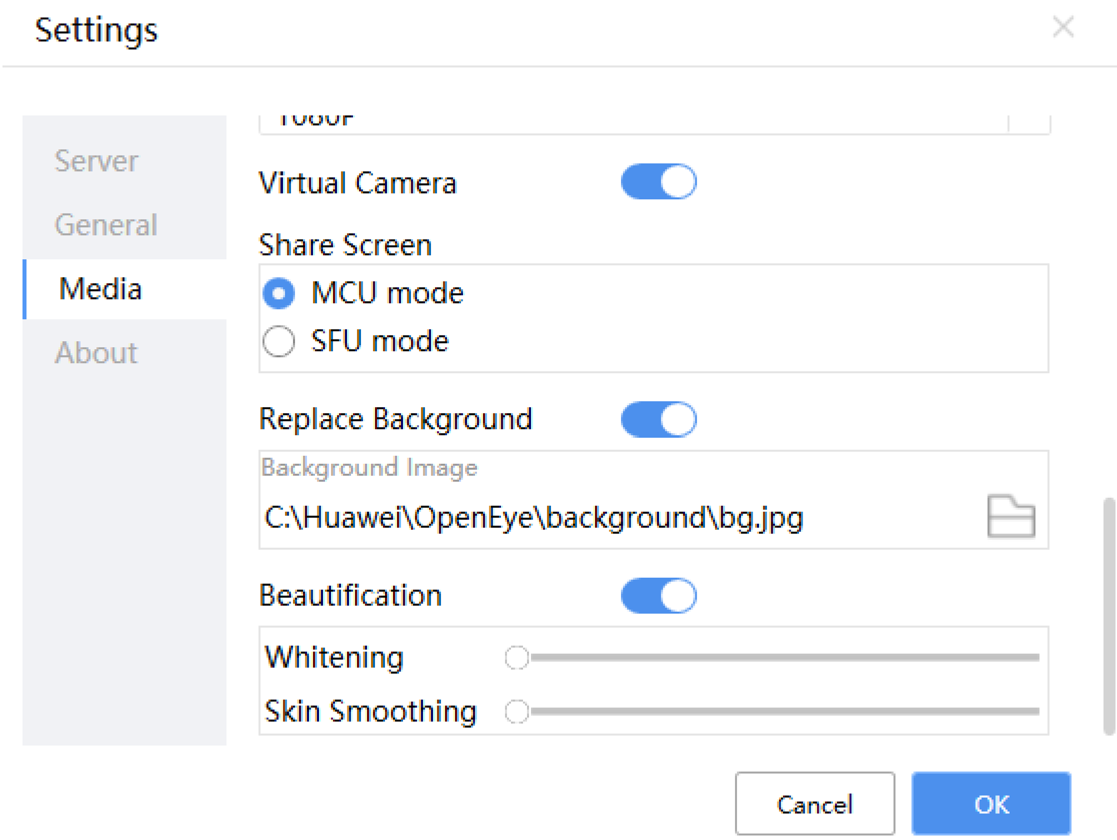


Figure 3-85 Media setting 3



- **Audio Input**

  Multiple types of microphone devices are supported.

  NOTE

  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.

- **Audio Output**

  Multiple types of speaker devices are supported.

- **Ringing volume** and **Call volume**

  NOTE

  Set the ringing volume and call volume separately.

  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 call ends.

- **Input Gain**, **Output Gain**

  The decibel values of the input and output audio are added.

- **Video Device**

  Multiple types of video devices are supported. Click  to preview the image quality of the video device.

- 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.

- **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.

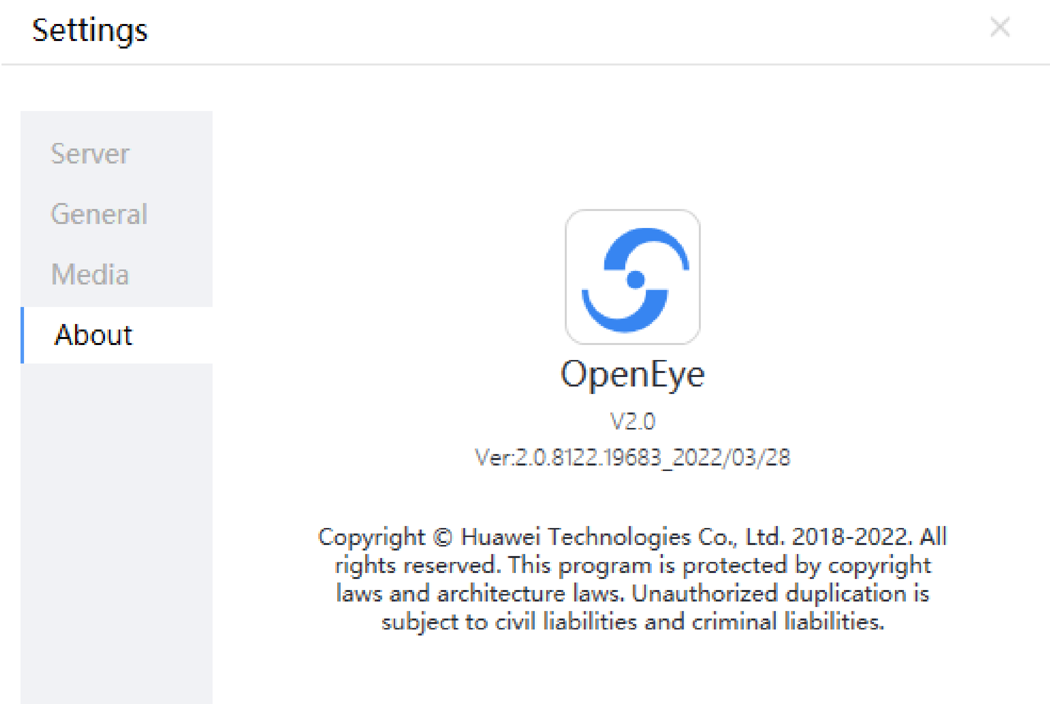
- **Beautification**

  Whitening and **Skin Smoothing** are supported. The beautification degree can be adjusted as required.

3.13.6.4 About

You can query the OpenEye version information, including the version ownership and legal liability.

Figure 3-86 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

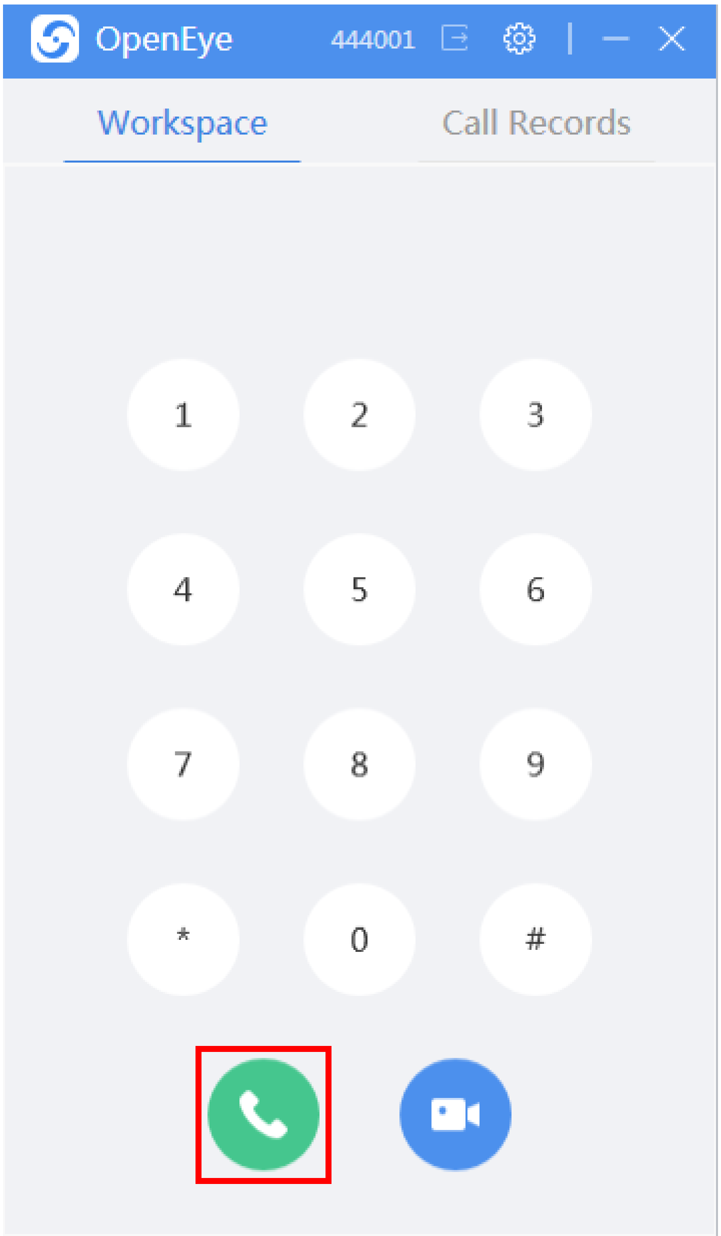
A voice call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.13.7.3.3 Initiating a Call**.

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.

Figure 3-87 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

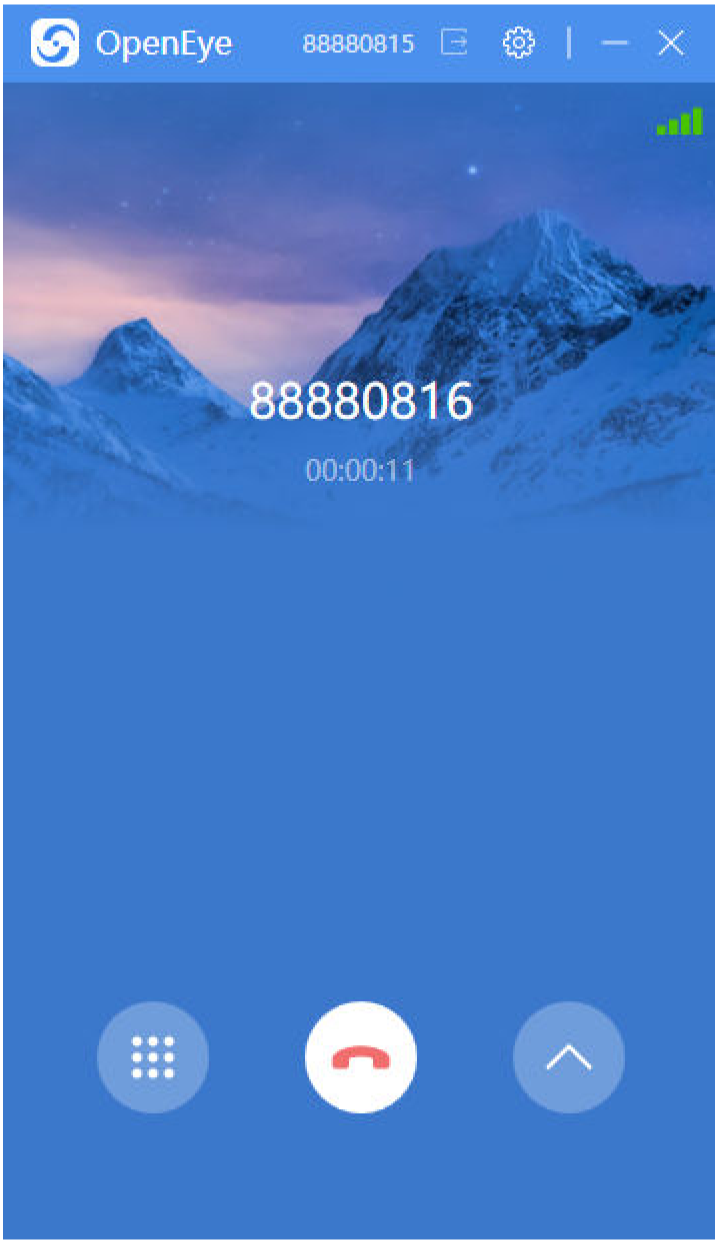
When entering a called number, you can click  to delete a character each time or press the **Delete** or **Backspace** key to delete one or more characters.

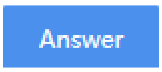
3.13.7.1.2 Answering a Call

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.

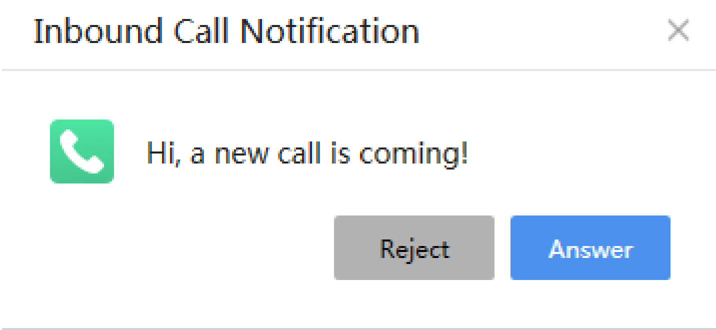
Figure 3-88 Call page



- **Inbound Call Notification**: Click 

to answer the call.

Figure 3-89 Inbound Call Notification

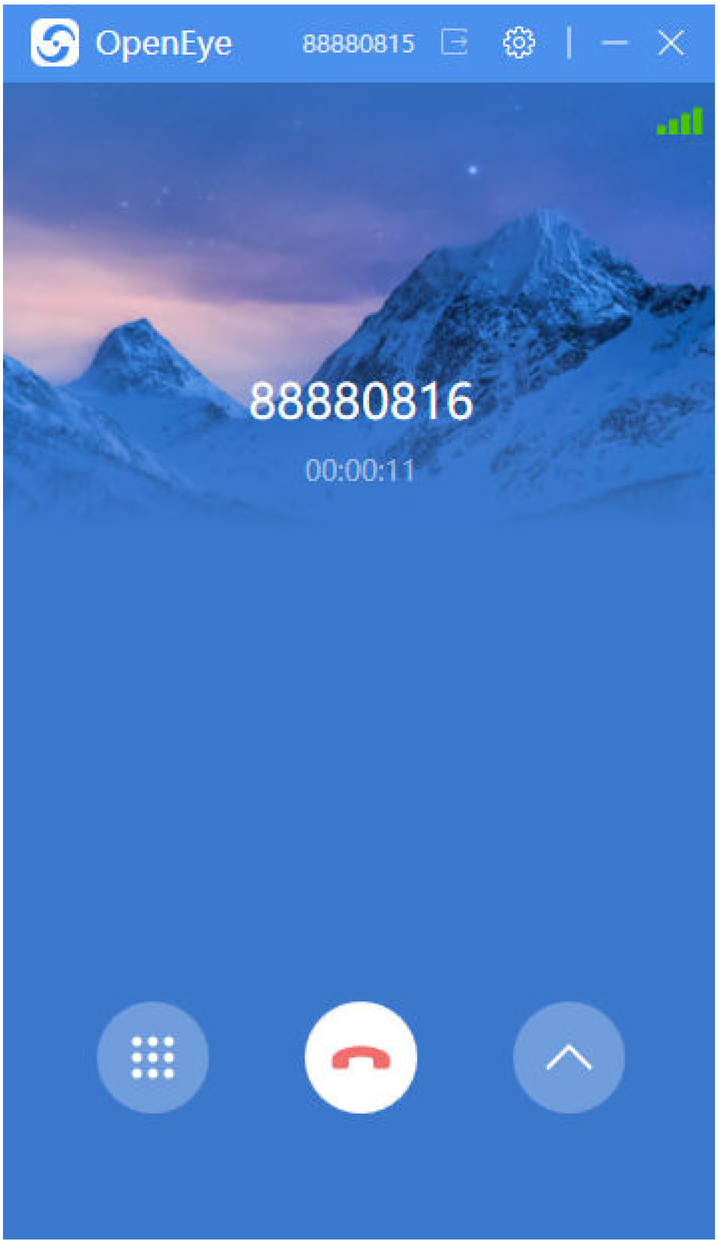


3.13.7.1.3 Rejecting a Call

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.

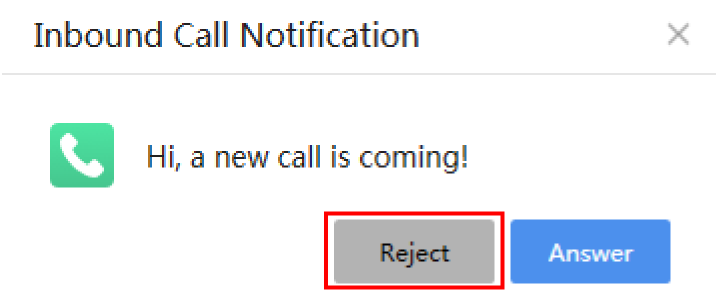
- Home page: Click  to reject the call.

Figure 3-90 Call page



- **Inbound Call Notification**: Click Reject to reject the call.

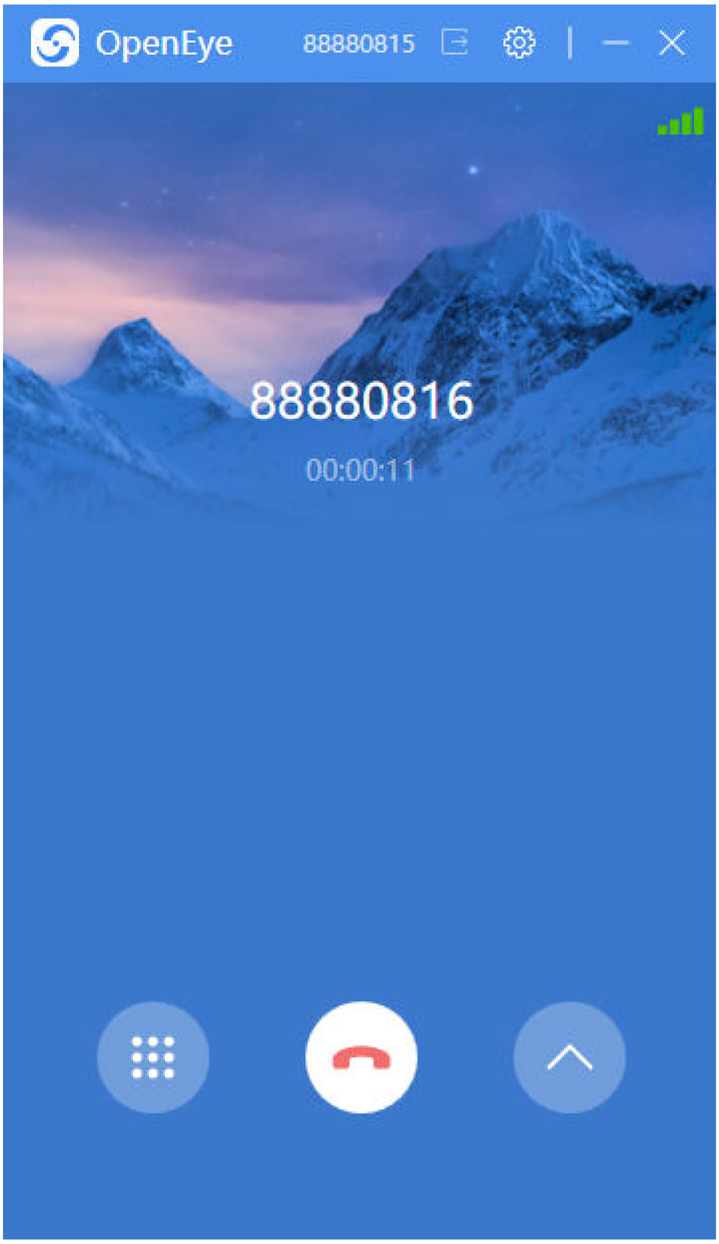
Figure 3-91 Inbound Call Notification



3.13.7.1.4 Hanging Up a Call

During a voice call, you can click  to end the call.

Figure 3-92 Voice call window

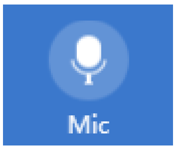


3.13.7.1.5 Adjusting Volume

After an inbound call is answered, the volume of the microphone and speaker can be adjusted to ensure that the call is smooth.

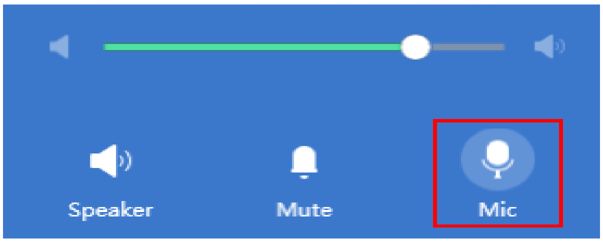
Procedure

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.

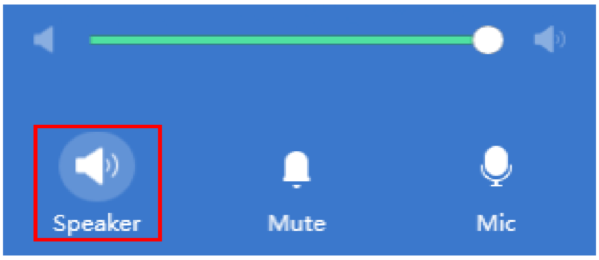
Figure 3-93 Adjusting the microphone volume

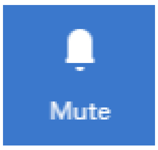


Step 3 Click 

and drag the dot in the volume slider to adjust the speaker volume.

Figure 3-94 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

3.13.7.1.6 Initiating an Anonymous Call

The local number can be hidden using the anonymous call function.

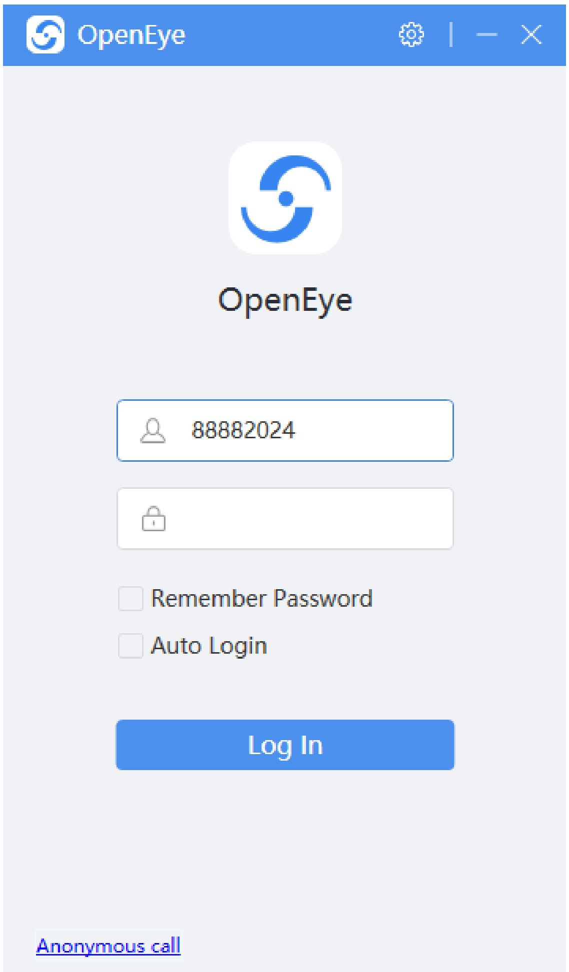
NOTE

- 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

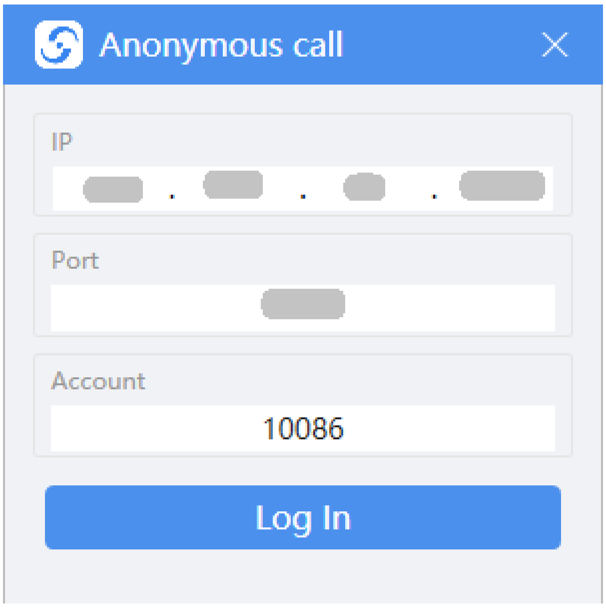
Step 1 On the login page of the OpenEye client, click **Anonymous Call** in the lower left corner.

Figure 3-95 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.

Figure 3-96 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

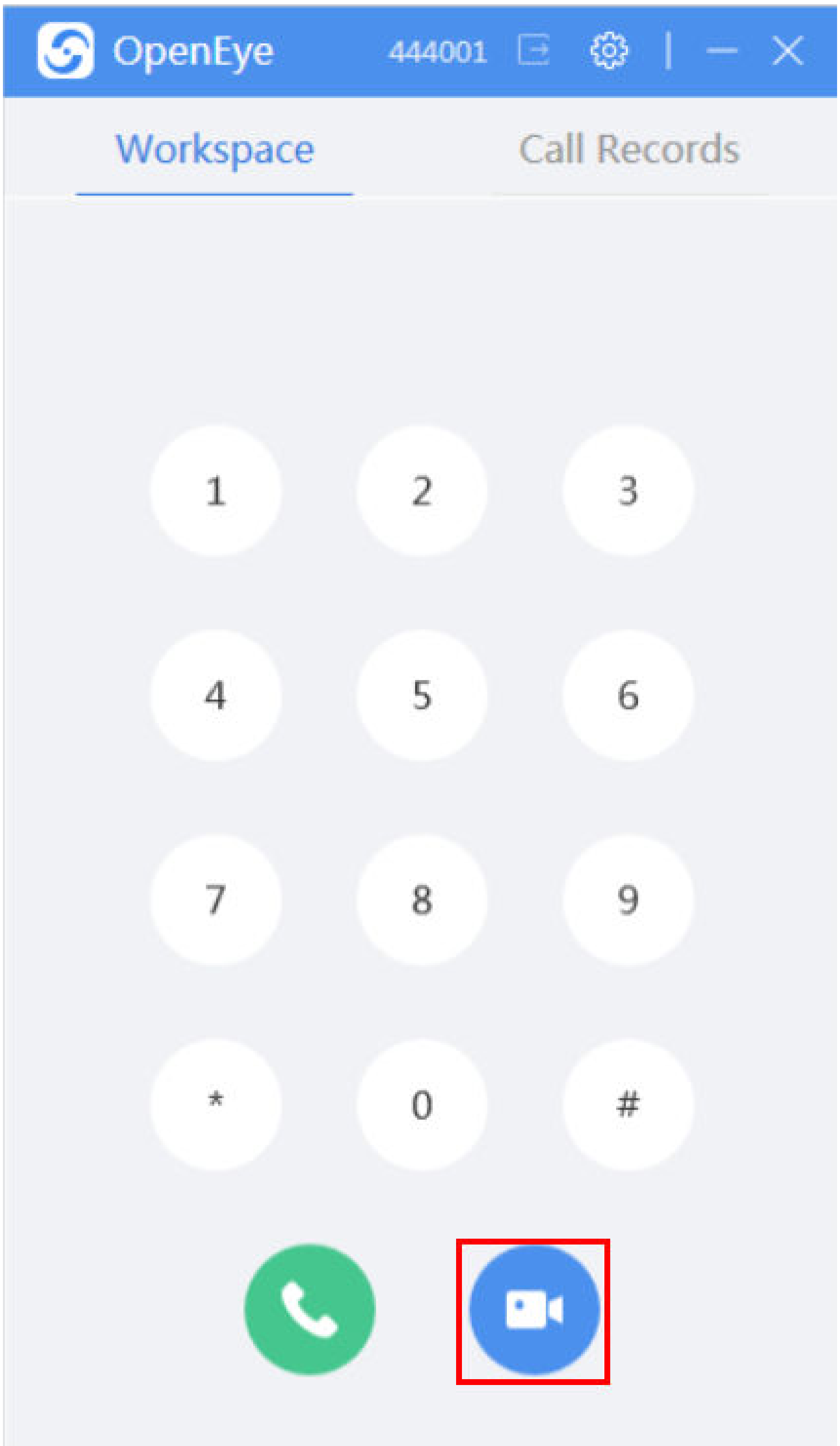
A video call can be initiated by dialing a number or from call records. For details about how to initiate a call from call records, see **3.13.7.3.3 Initiating a Call**.

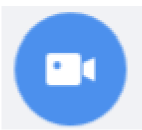
Procedure

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.

Figure 3-97 OpenEye workspace



Step 3 Click  to make a video call.

Step 4 After the customer answers the call, the agent can talk with the customer through the video call.

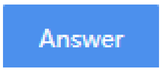
----End

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.

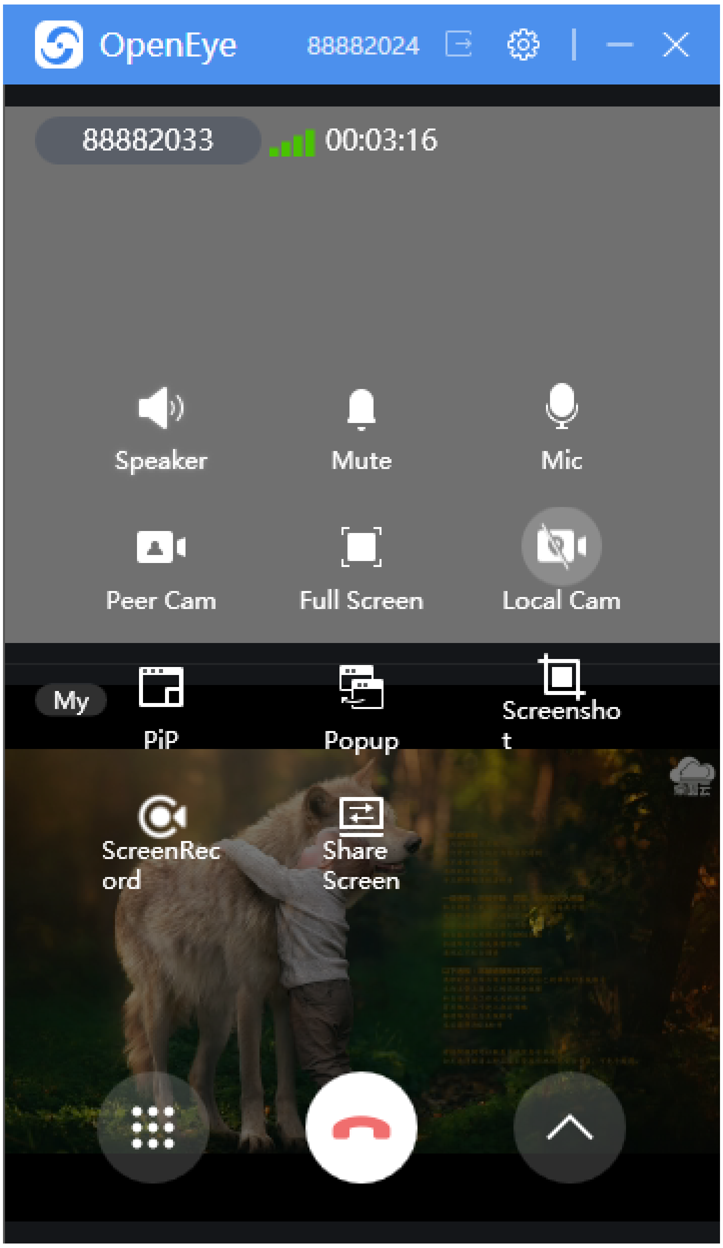
3.13.7.2.3 Rejecting a Call

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.

Figure 3-98 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.

Procedure

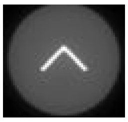
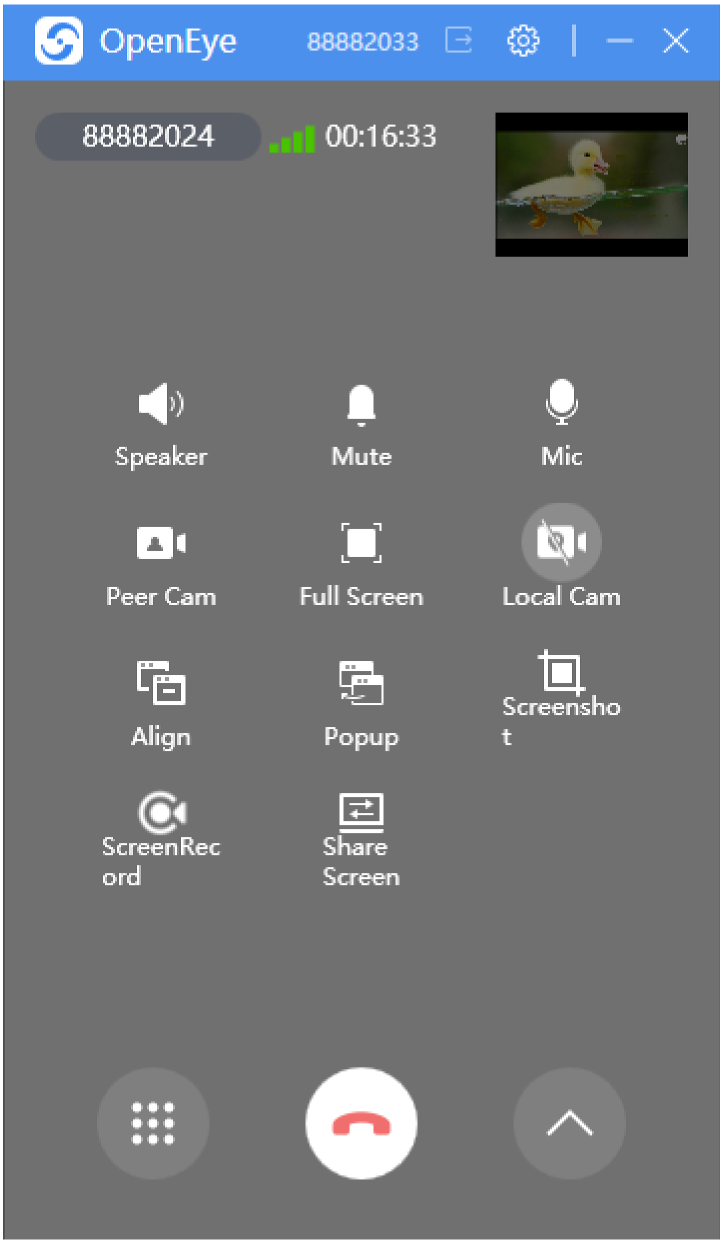
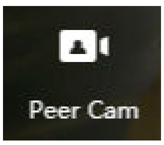
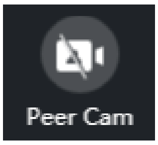
Step 1 During a video call, click  to access the function area and configure the camera function.

Figure 3-99 Video call function area

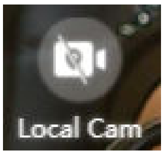


Step 2 Set the peer camera.

- You can click  to disable the peer camera.

- You can click  to enable the peer camera.

Step 3 Set the local camera.

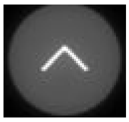
- Click  to disable the local camera. The preset image for the camera image is displayed on the peer client.
- Click  to enable the local camera.

----End

3.13.7.2.7 Window Mode Switching

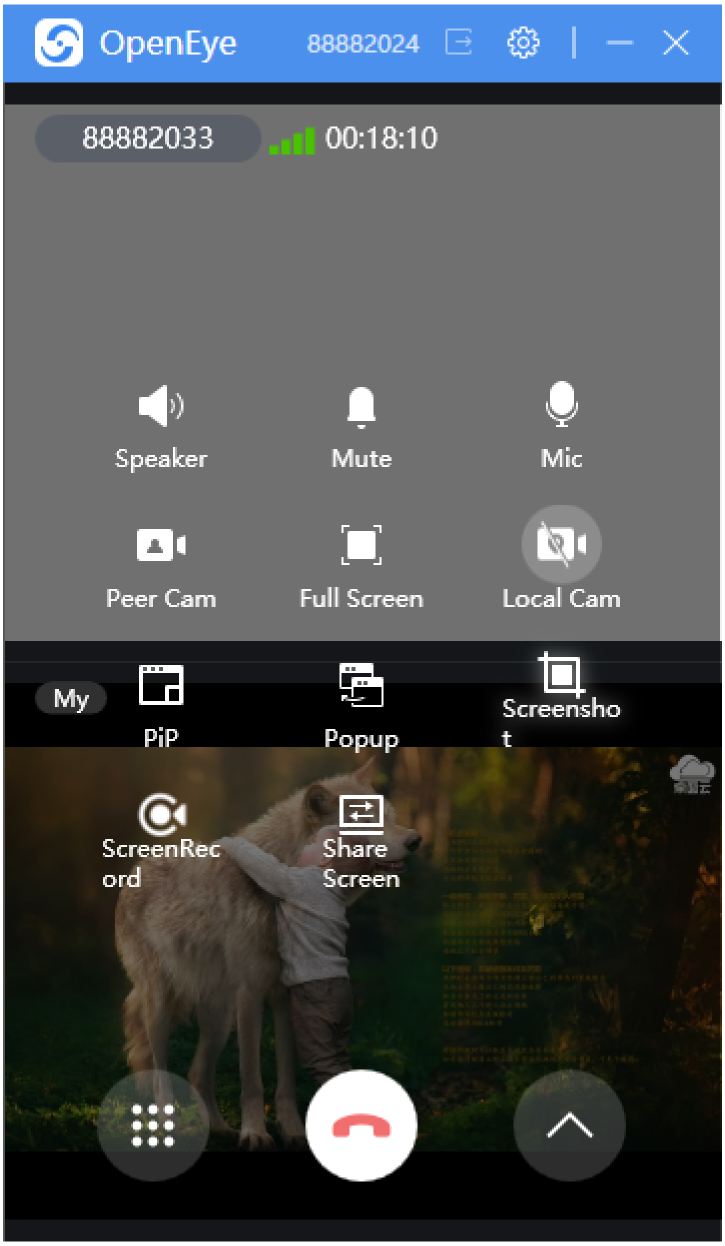
The video call window supports the **PiP** and **Align** mode. The **PiP** mode is used by default.

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.

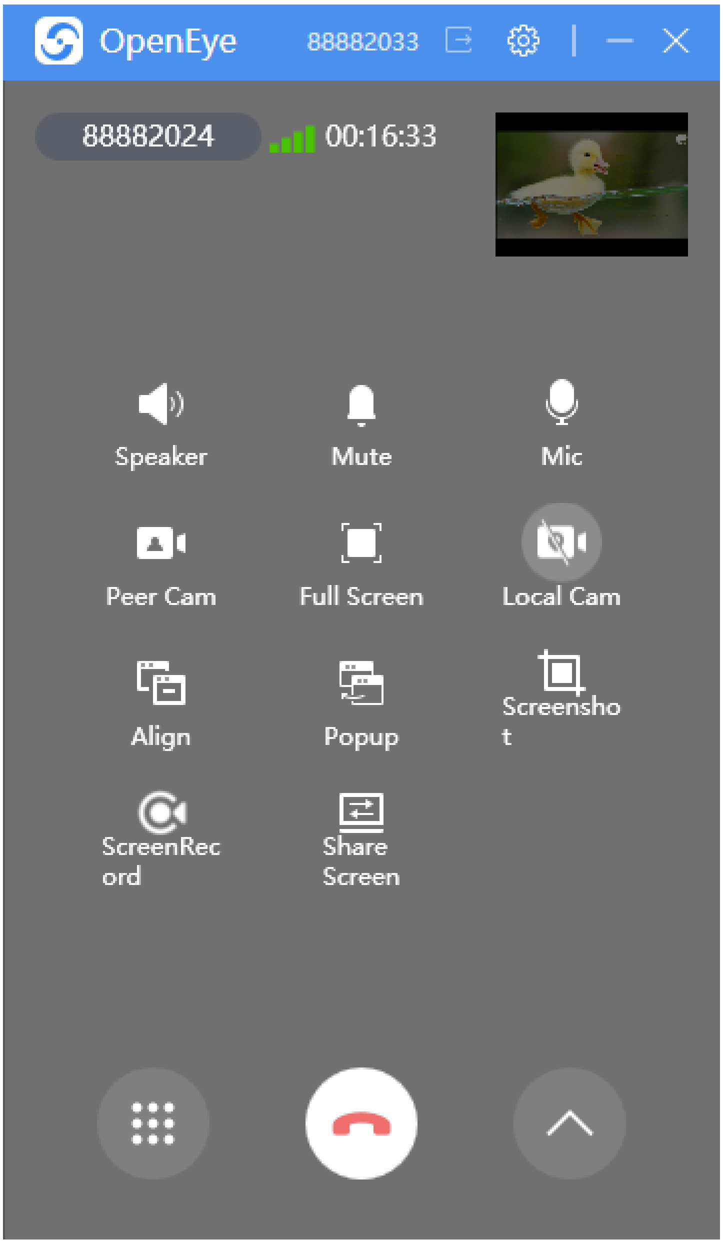
Figure 3-100 Align window



Step 3 In **Align** mode, click 

to switch to the **PiP** mode.

Figure 3-101 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

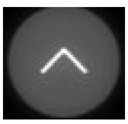
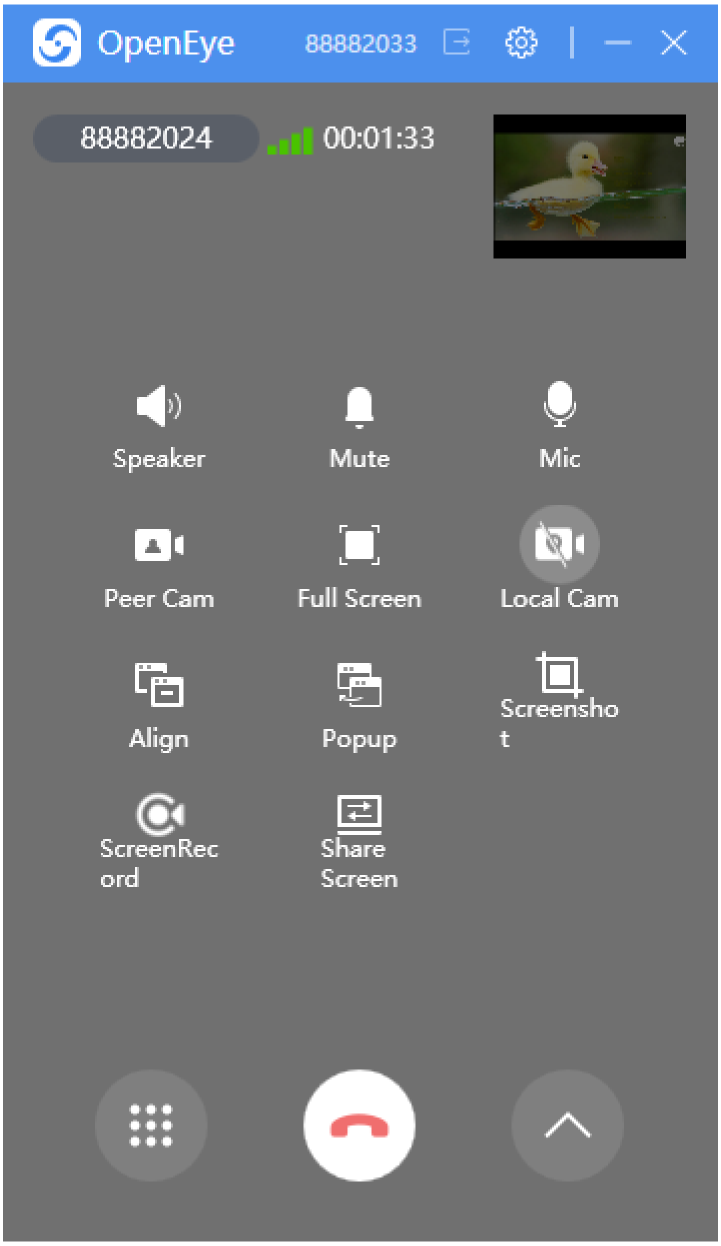
Step 1 During a video call, click  to access the function area and switch the video window.

Figure 3-102 Function area



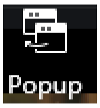
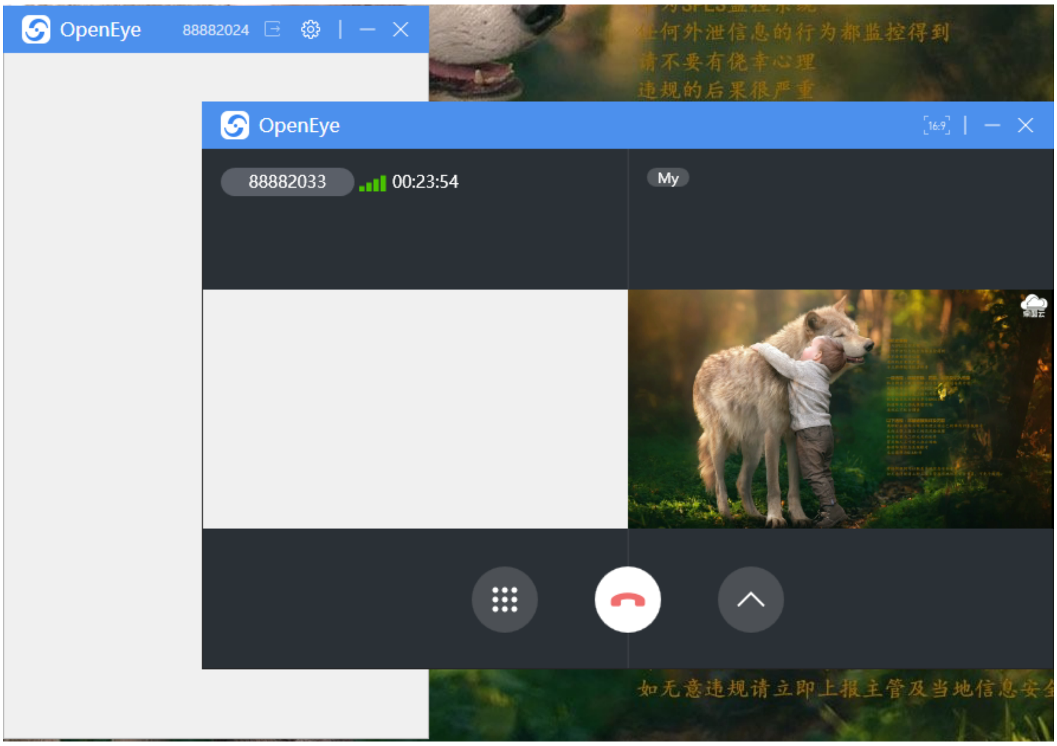
Step 2 Click . The video page is displayed in a new window.

Figure 3-103 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.

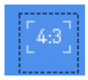
Step 3 The video display supports the **16:9** and **4:3** ratios. You can click  to change the mode.

Figure 3-104 16:9 mode

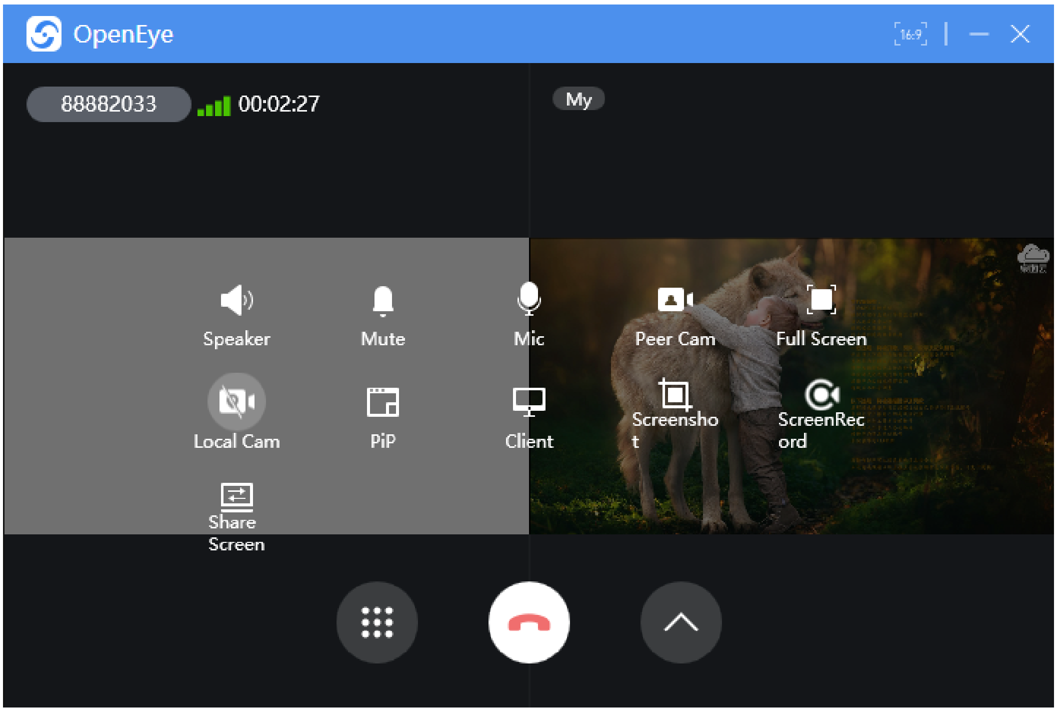
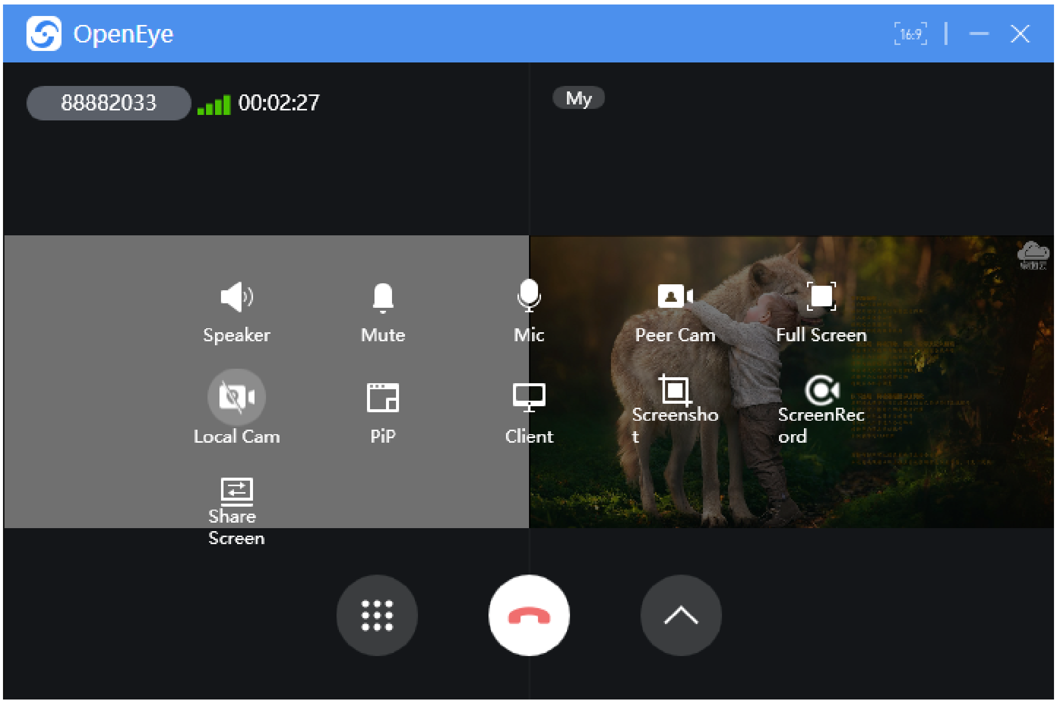
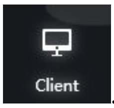


Figure 3-105 4:3 mode



Step 4 Access the function area and click 

. The initial video page is displayed.

----End

NOTE

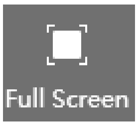
Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

3.13.7.2.9 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.

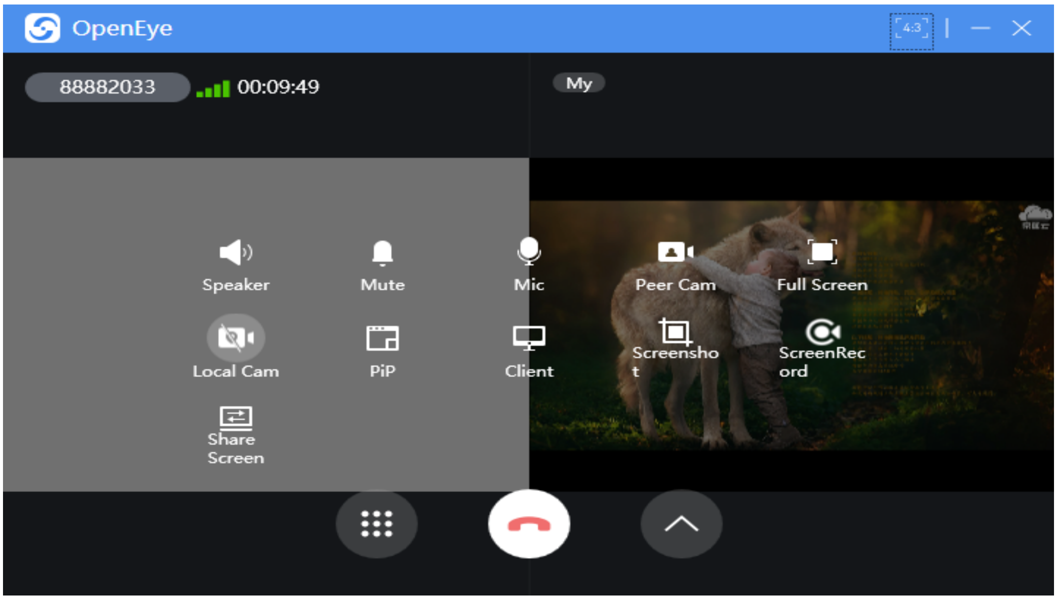
Procedure

Step 1 During a video call, click  to access the function area and choose the full screen function.

Step 2 Click 

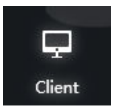
to display the page in full screen mode.

Figure 3-106 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.

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

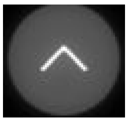
NOTE

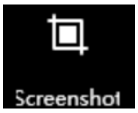
Click the close button in the upper right corner to end the full-screen display and the current video call. The workspace on the home page is displayed. Exercise caution when performing this operation.

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.

Figure 3-107 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**.

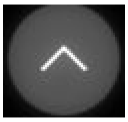
For details about how to set the screenshot format, see **Screenshot Saving Format**.

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.

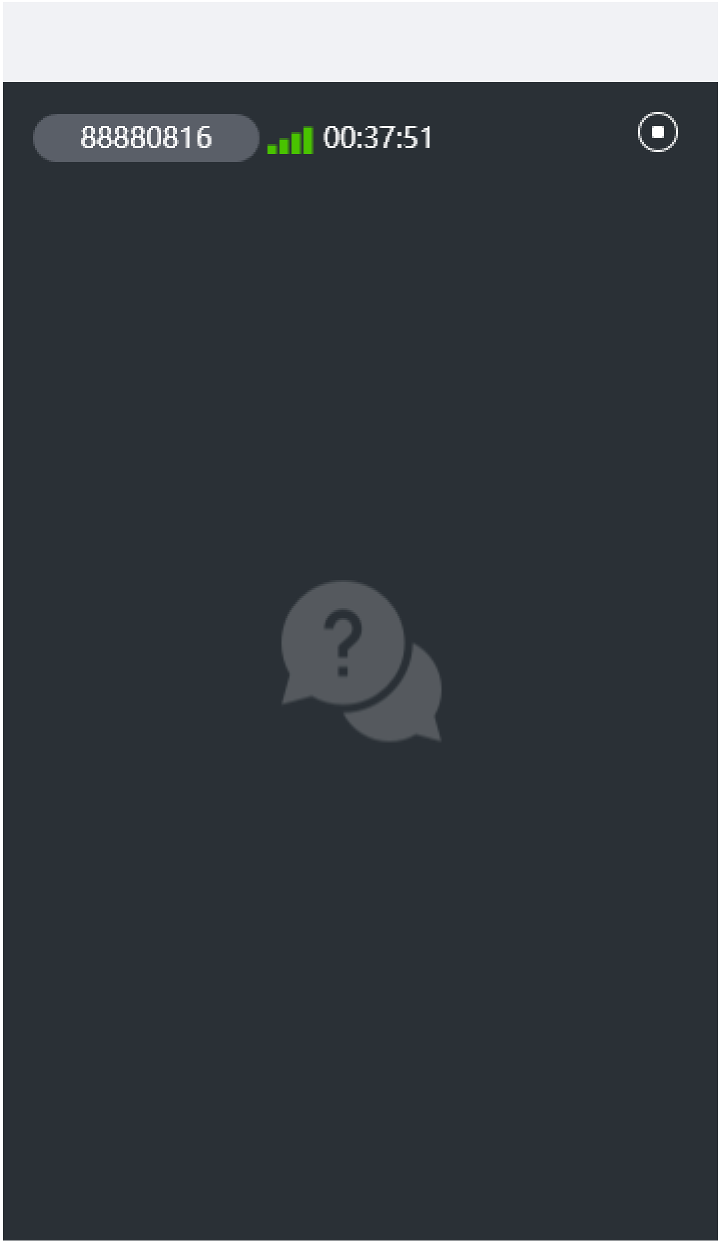
Procedure

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 3-108 Screen recording



Step 3 Click  to stop screen recording.

----End

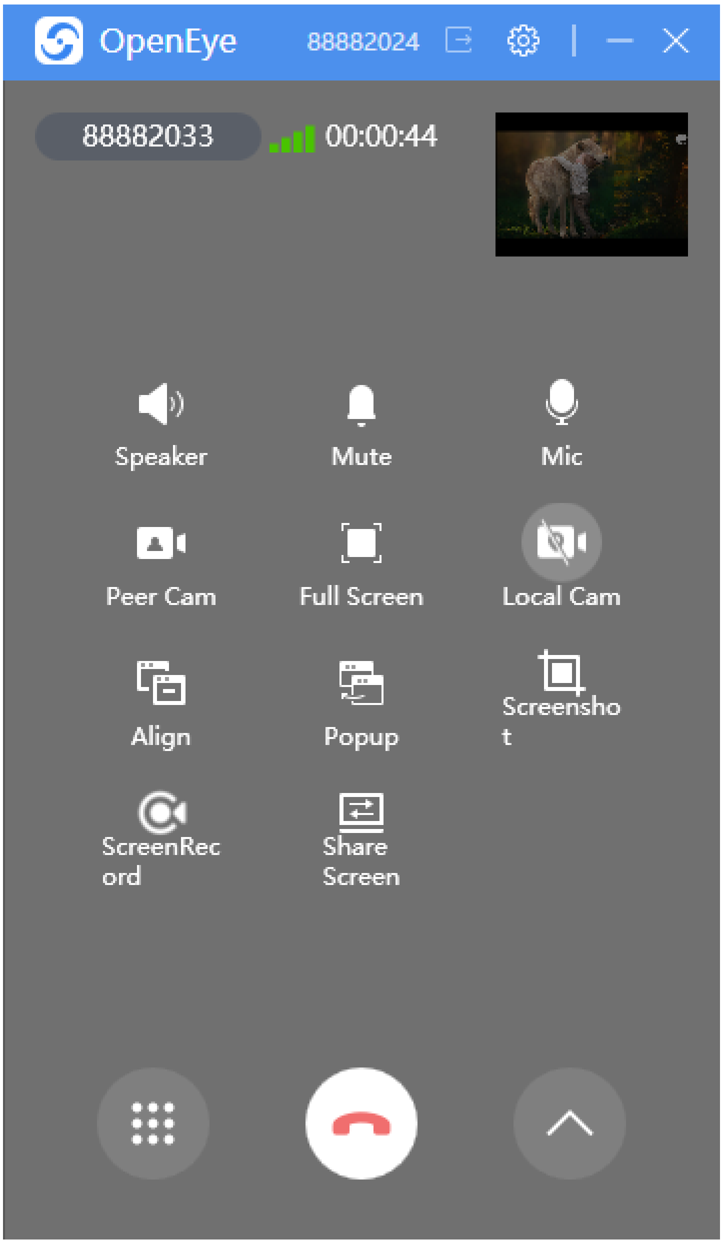
3.13.7.2.12 Screen Sharing

Screen sharing scope includes desktop, specified area, and specified application. The sharing scope can be customized as required.

Procedure

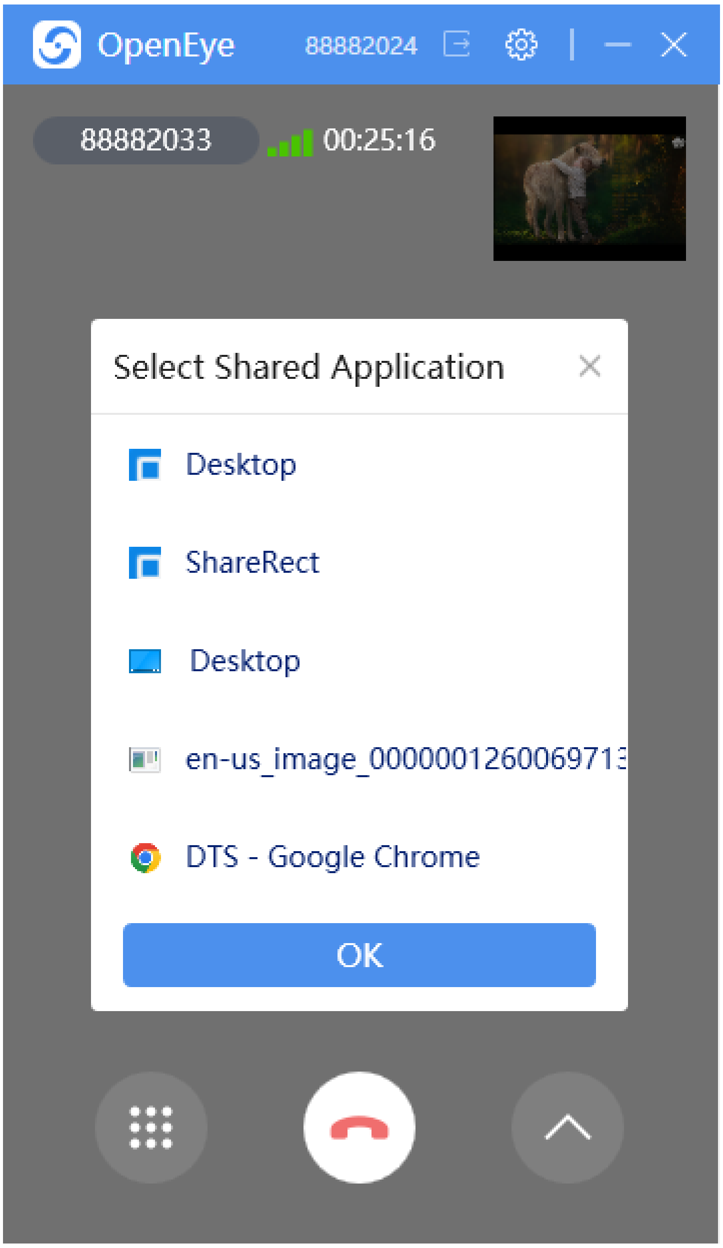
Step 1 During a video call, click  to access the function area and choose the screen sharing function.

Figure 3-109 Screen sharing



Step 2 Click  and select an application to be shared.

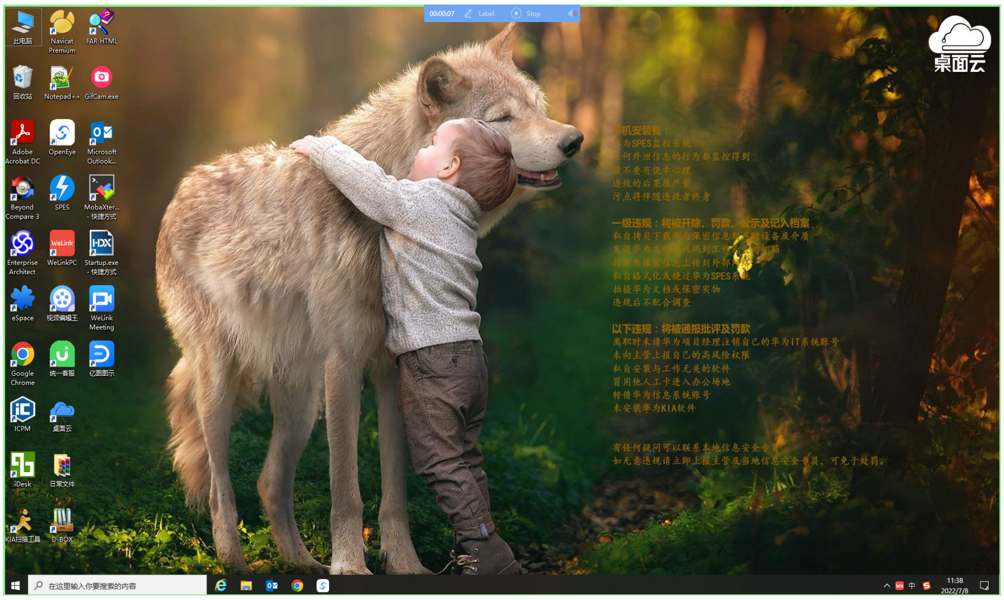
Figure 3-110 Selecting an application to be shared



Step 3 Share the screen.

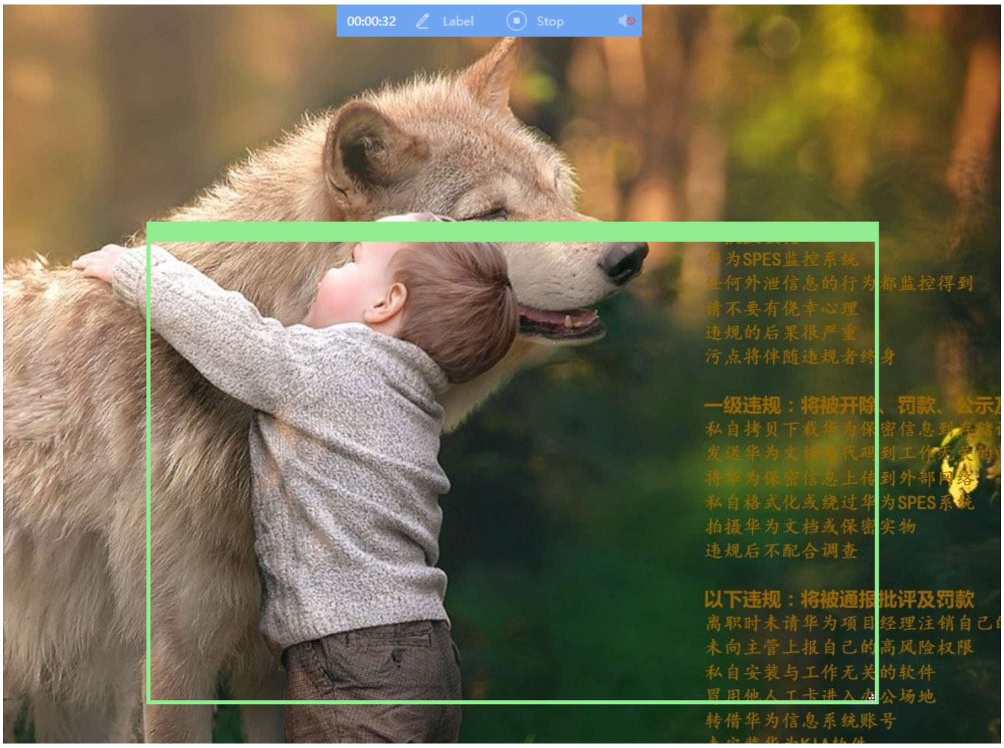
- **Desktop**: The sharing scope is the entire local desktop.

Figure 3-111 Sharing the desktop



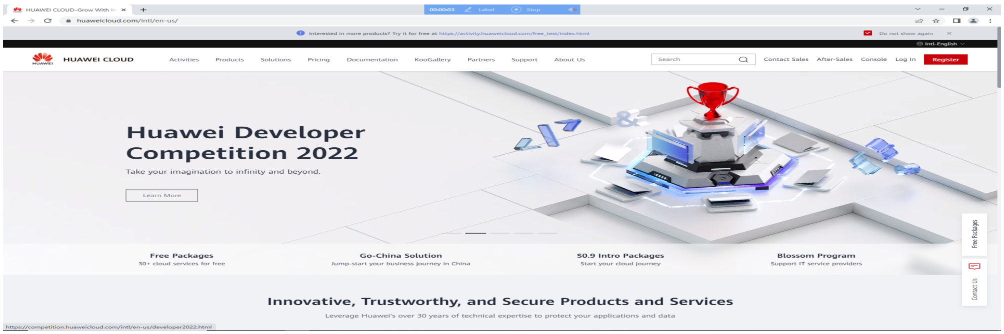
- **ShareRect**: The sharing scope is the content covered by the green box. You can drag the box to change the sharing scope as required.

Figure 3-112 Sharing a specified area



- Specified application: The sharing scope is the content in the selected application window.

Figure 3-113 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.

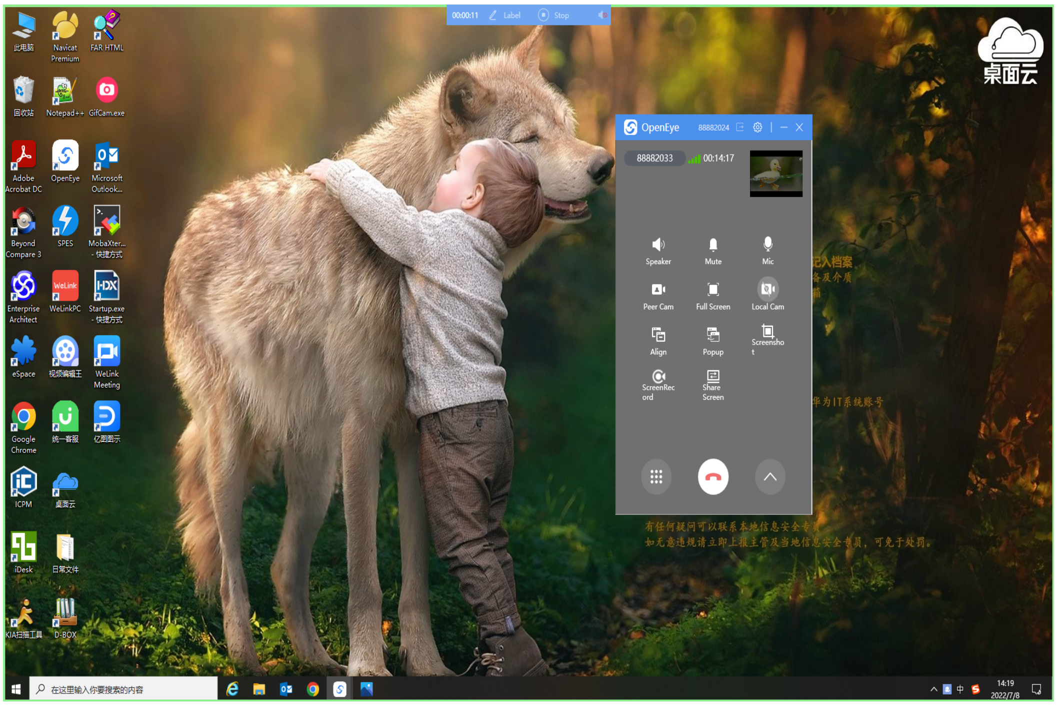
Step 5 Click  to stop the sharing.

Figure 3-114 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.



NOTE

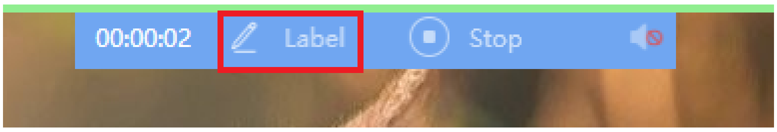
During screen sharing, the peer end can only end the call to stop screen sharing.

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 

.

Figure 3-115 Sharing labels on the desktop

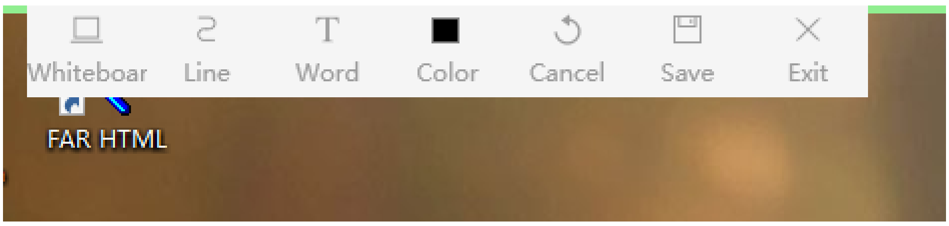


Figure 3-116 Sharing labels in a specified application

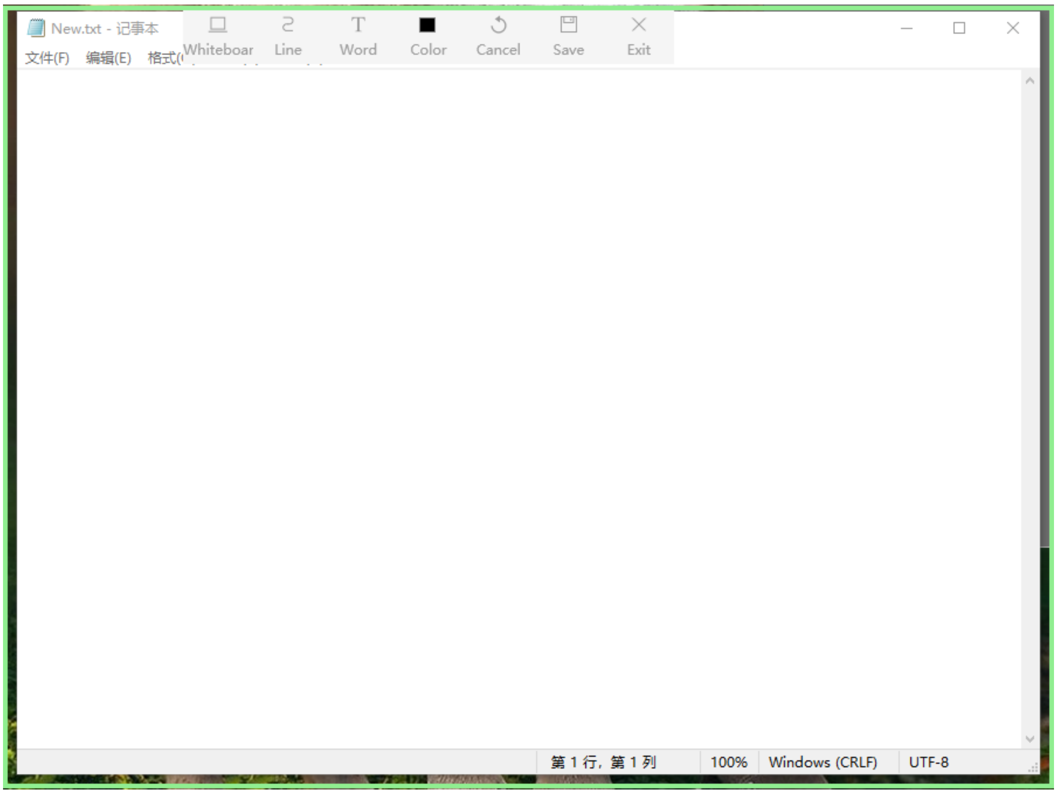
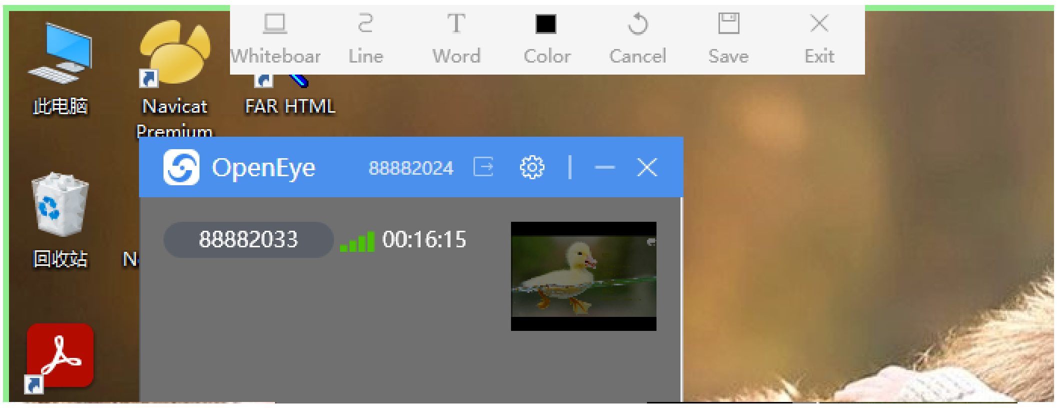


Figure 3 Sharing labels in a specified area



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

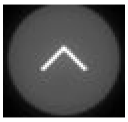
3.13.7.2.14 Replacing the Background

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.

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.

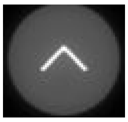
3.13.7.2.15 Beautification

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.

3.13.7.3.1 Viewing Call Records

Context

Call records are classified into the following types:

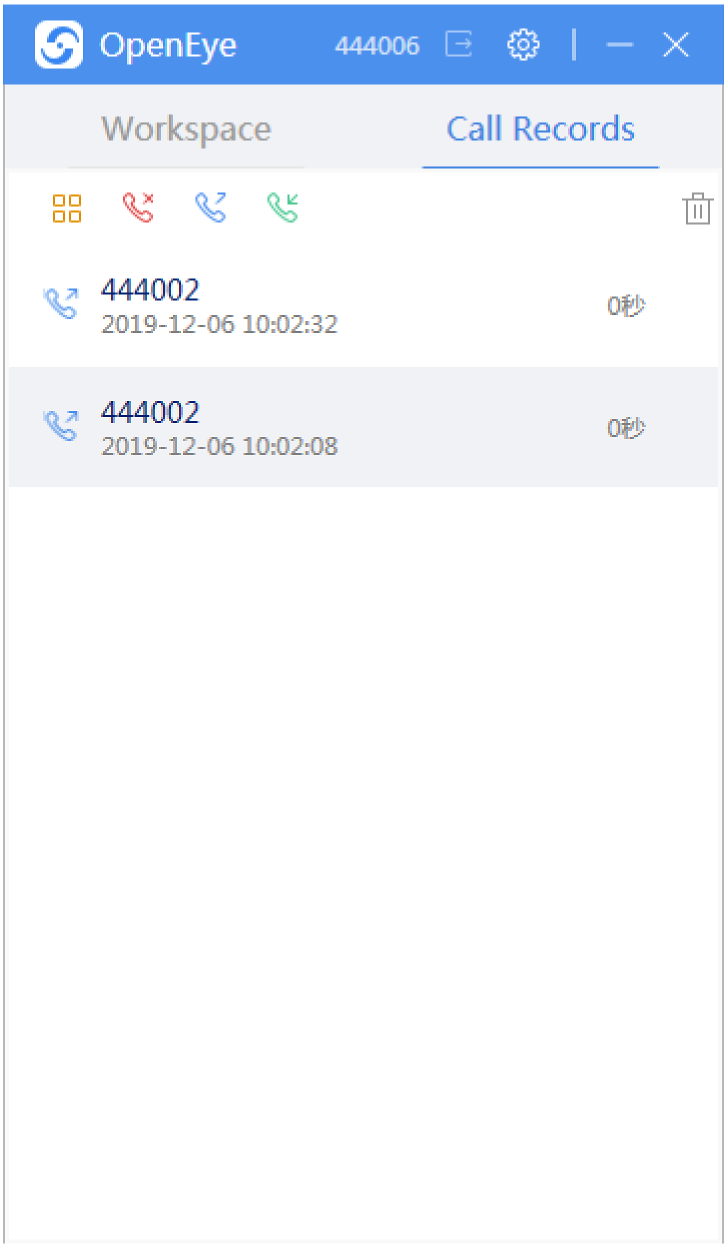
- Missed calls: calls that are not answered, marked with .
- Answered calls: calls that have been answered, marked with .
- Dialed calls: calls that have been dialed, marked with .

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.

Figure 3-117 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.

Step 4 Click  . The call quality analysis page is displayed, showing the quality of each call.

Figure 3-118 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.

Procedure

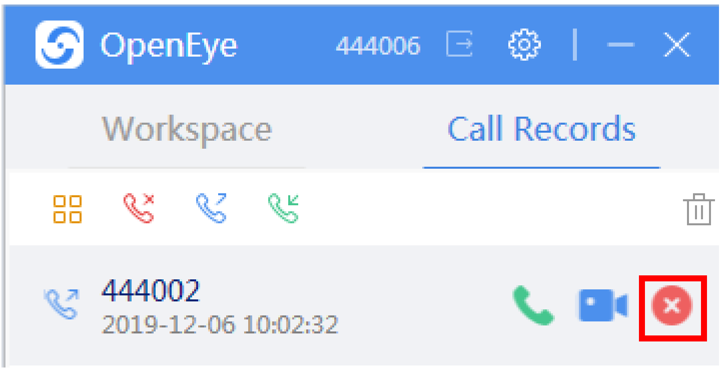
Step 1 Start the OpenEye client and enter the account and password to log in to the OpenEye workspace.

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 3-119 Deleting a call record



----End

3.13.7.3.3 Initiating a Call

Voice calls and video calls can be initiated from call records.

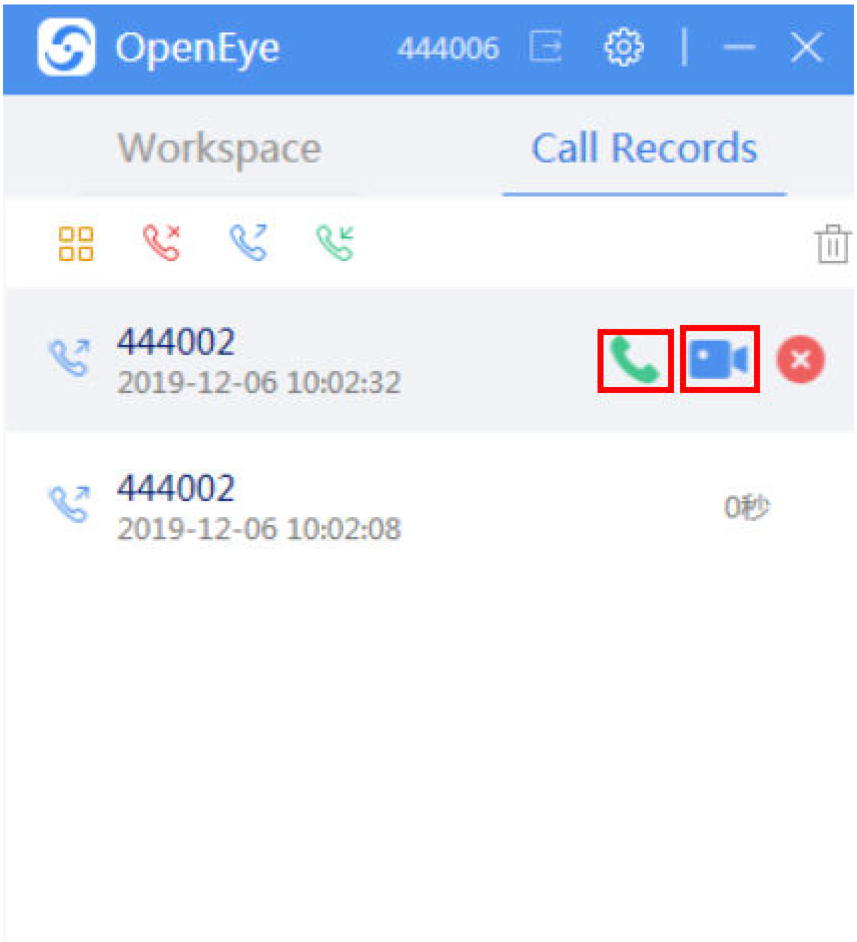
Procedure

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.

Figure 3-120 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.

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.

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.

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

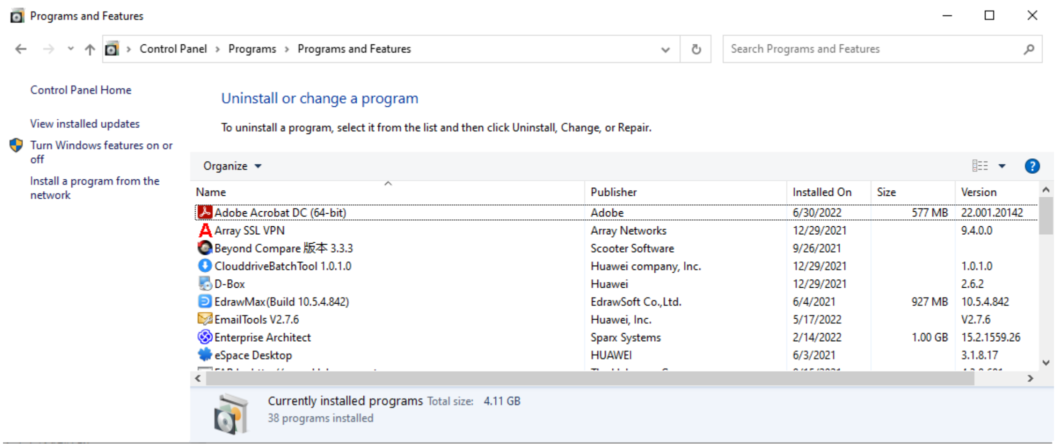
Usage Scenario	Personal Data Collected	Data Collection Source and Method	Purpose and Security Protection Measure	Data Storage Period and Strategy	Data Destruction Method	Export Method (Such as APIs and Commands) and Export Implementation Scheme (Anonymity or Pseudonym)	Export Guide
Video call screenshot 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.

3.13.9 Uninstallation Description

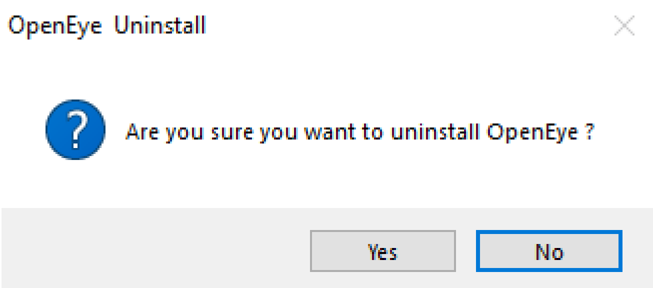
The OpenEye can be uninstalled manually.

Procedure

Step 1 Choose **Start** > **Control Panel** > **Programs and Features**. The **Uninstall or change a program** window is displayed.

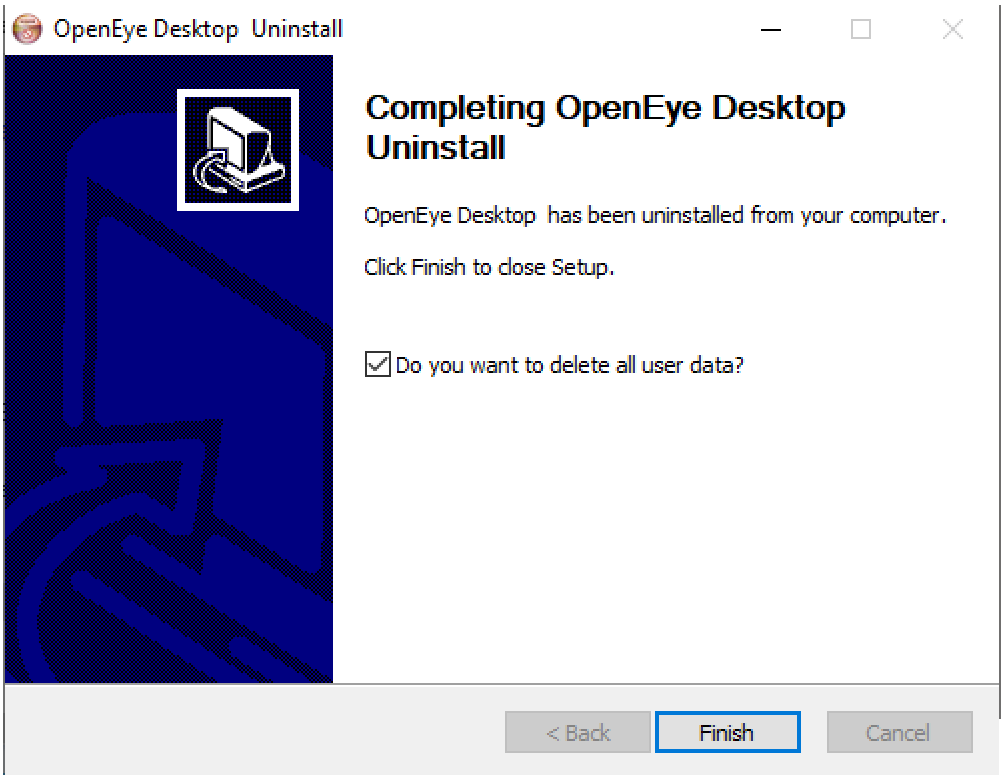


Step 2 Click the OpenEye and right-click **Change/Uninstall Program**. A confirmation dialog box is displayed.



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**.


OpenEye Desktop Uninstall
Completing OpenEye Desktop Uninstall
OpenEye Desktop has been uninstalled from your computer.
Click Finish to close Setup.
Do you want to delete all user data?
< Back
Finish
Cancel

----End

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.

4.1.1 Executing Inspection Tasks

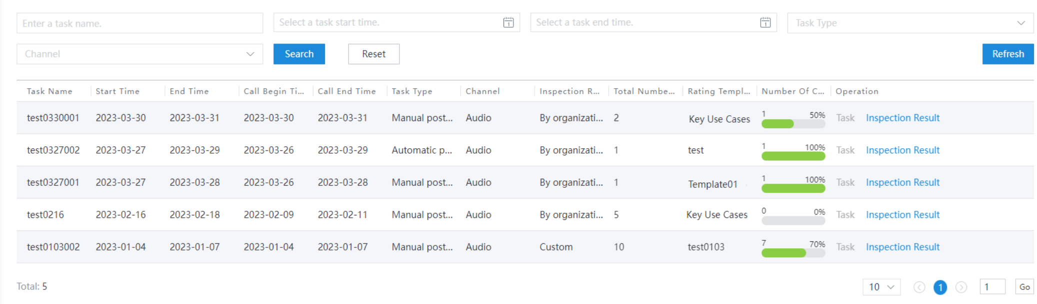
An inspector accesses the inspection task and reviews the operations performed by an agent.

Step 1 Use the allocated business account to sign in to the CEC.

Step 2 Choose **Quality Inspection** > **Inspection Task Query**.

Step 3 By default, the inspection task list displays the tasks that an inspector is involved in.

Figure 4-1 Inspection Task Query page



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, the automatically extracts contact records from the.

When the task type is manual post-event inspection, you need to manually select contact records.

Figure 4-2 Querying pending inspection records

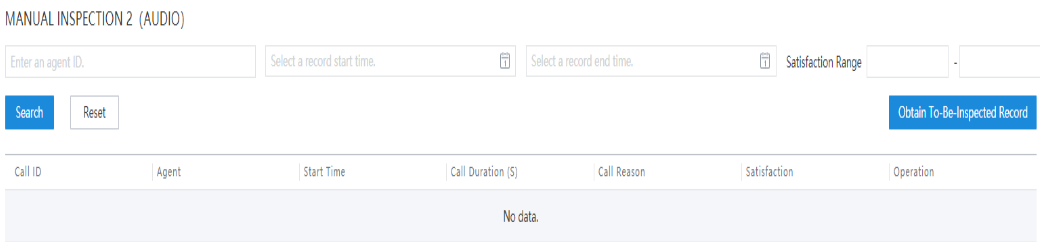
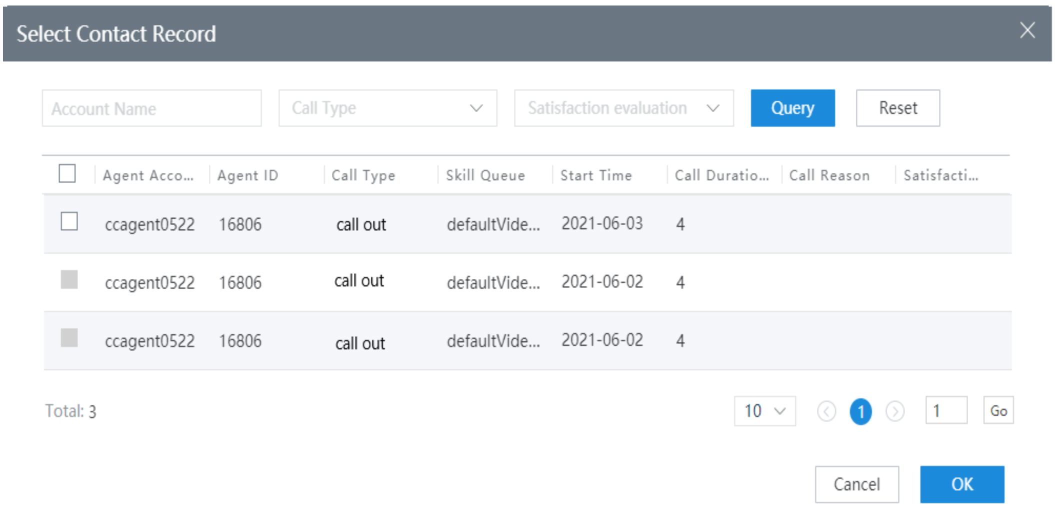
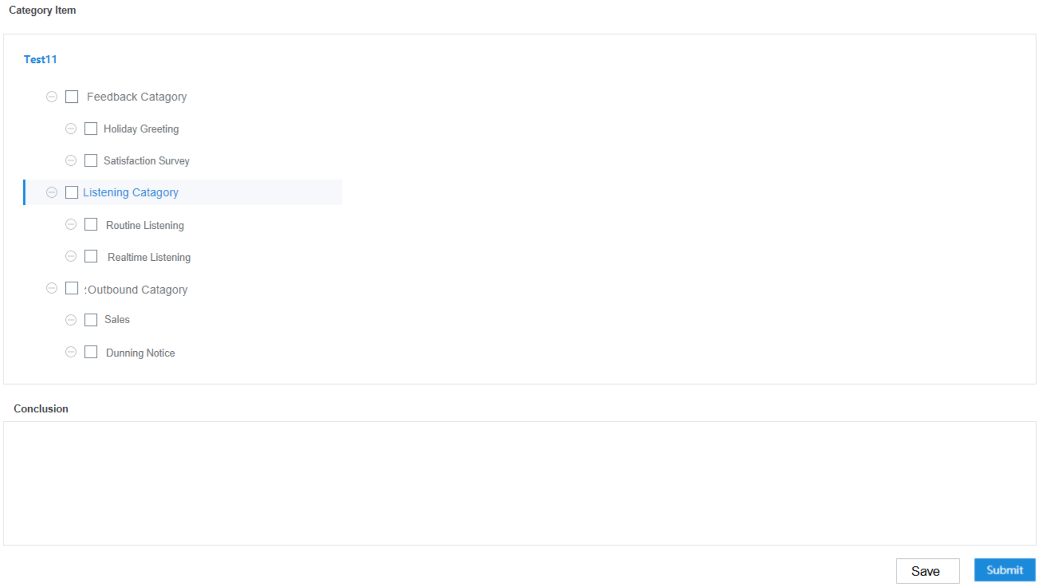


Figure 4-3 Select Contact Record page



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

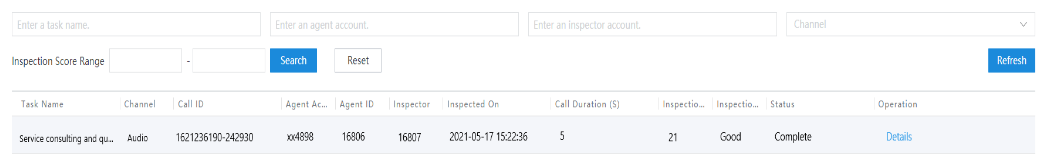
4.1.2 Viewing Inspection Results

An inspector can view the inspection results.

Step 1 Choose **Quality Inspection** > **Inspection Results**.

Step 2 Set the search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Figure 4-5 Inspection Task Query page



Step 3 Click **Details**. On the **Manual Inspection** page, view the score details and summary for the current inspection record.

----End

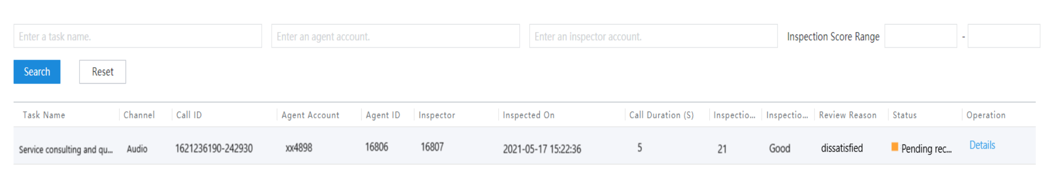
4.1.3 Handling Review Applications

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**.

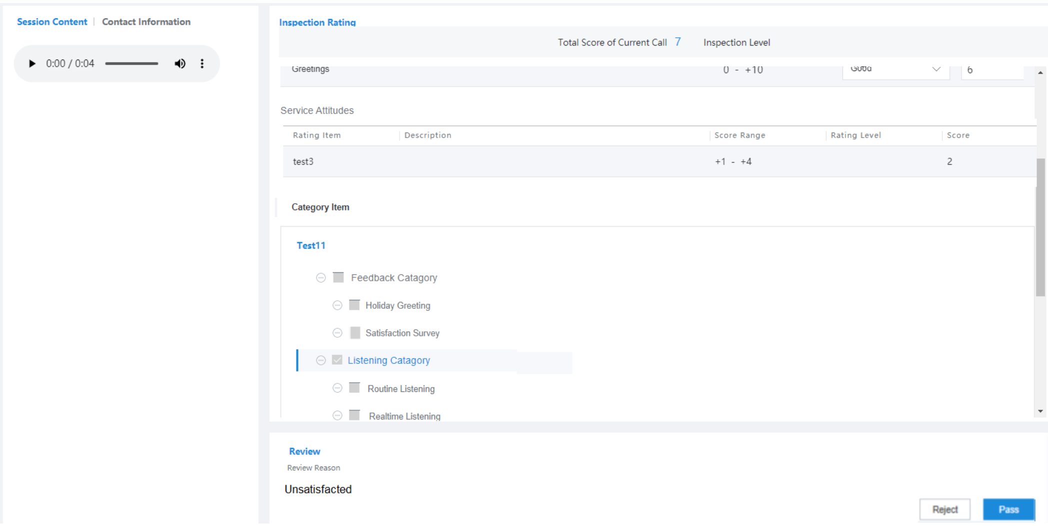
Step 2 Set the search criteria and click **Search** to obtain the search result. Click **Reset** to clear the existing search criteria.

Figure 4-6 Reconsideration Management page



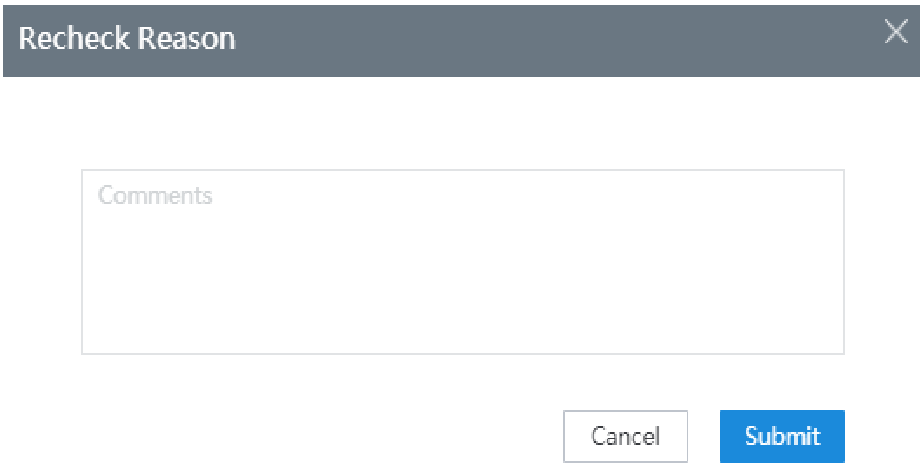
Step 3 Click **Details** in the **Operation** column to view the inspection details. If an inspection record is in **Approved** or **Failed** state, you can only view the result. If it is in **Pending** state, you can click **Details** to handle the review application.

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 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.

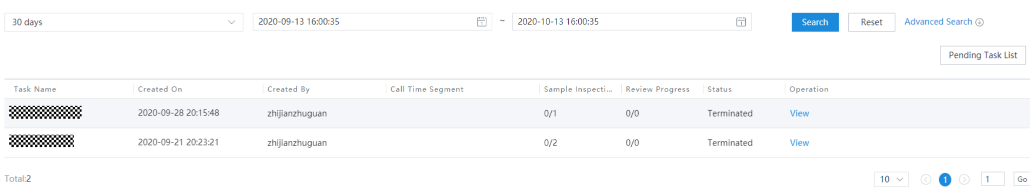
Procedure

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.

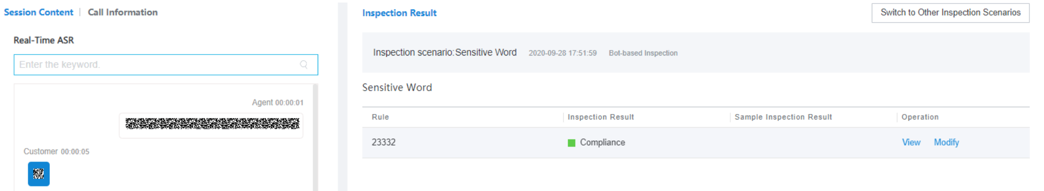
Figure 4-9 Inspection task list



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.

Figure 4-10 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 4-11 Silence Rule Details page

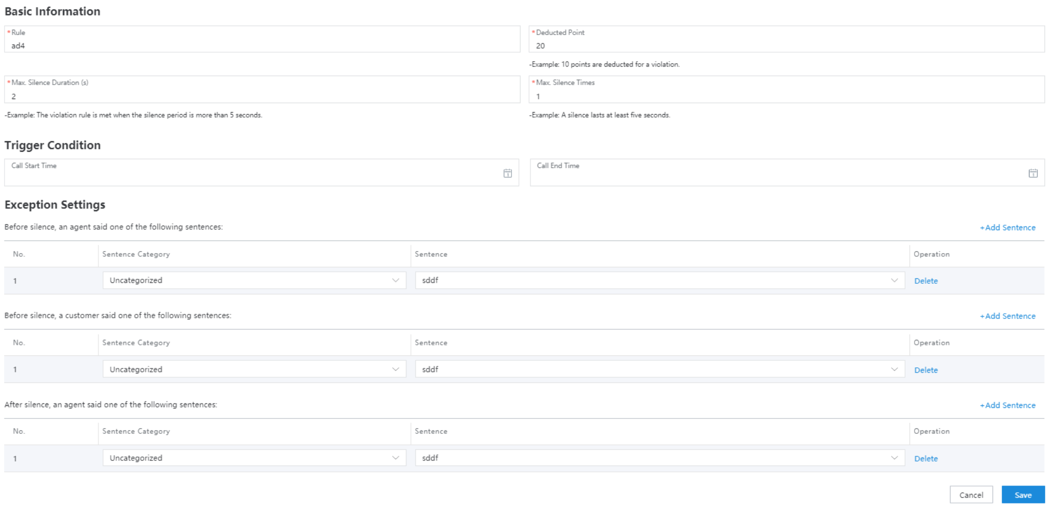
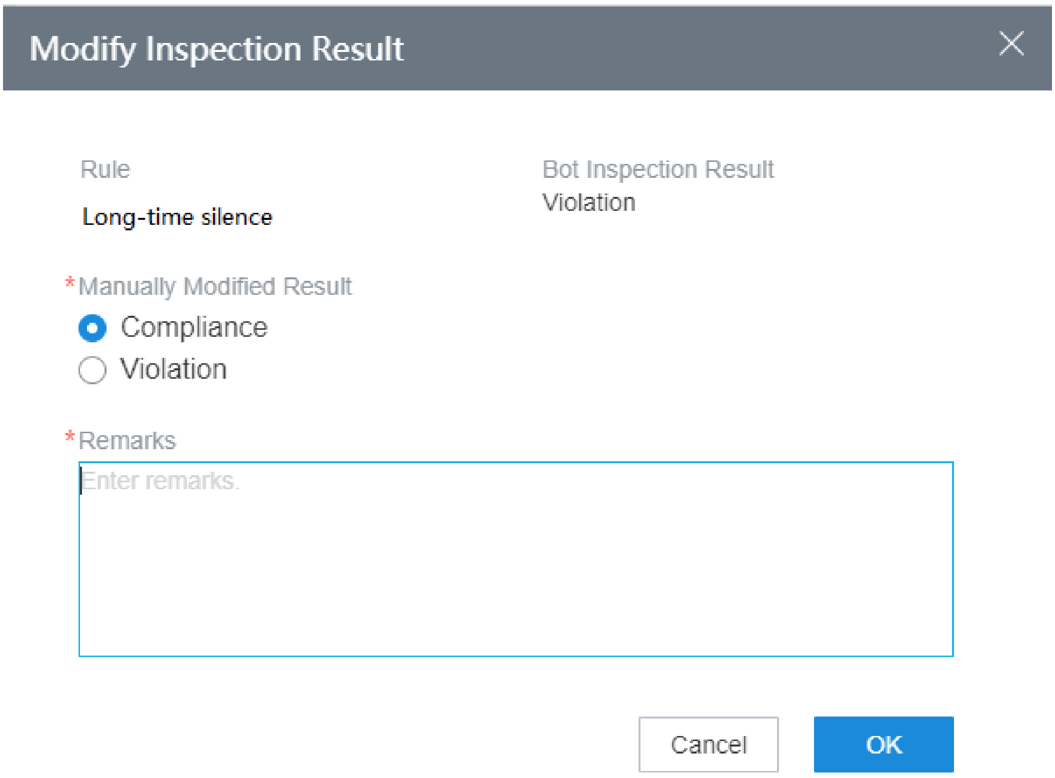


Figure 4-12 Modify Inspection Result page



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.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Monitor Relationship**.

Step 2 Click  to add a user group. Add inspector groups and agent groups based on the requirements.

Table 4-1 User group buttons

Parameter	Description
	Add a user group.
	Delete a user group. This button is displayed only when you click a user group under **User Group**.
	Edit a user group. This button is displayed only when you click a user group under **User Group**.
	Query a user group.
User Group	List of created user groups. The format is *Customized user group name***(***User group type***)**. Click a created user group to configure inspection relationships for the user group. For details, see **Step 3**.

Table 4-2 Creating a user group

Parameter	Description
User Group Name	This parameter is mandatory. User group name.
User Group Type	This parameter is mandatory. User group type. The options are as follows: ● **Quality Check Group** ● **Agent Group**
Remark	Remarks.
Add Group Member	Add members to a user group by selecting agent IDs.
Delete Group Member	Delete members from a user group by selecting agent IDs.

Step 3 On the left of the page, click the inspector group to which inspection relationships are to be assigned. All agent groups are automatically displayed under **Unselected User Groups** in the **Configure Inspection Relationships** area. Select agent groups to be inspected, click > to move the agent groups to **Selected User Groups** on

the right, and click **Save**. A message is displayed, indicating that the saving is successful and that the inspection relationships between the inspector group and the agent groups are configured.

Figure 4-13 Configuring inspection relationships

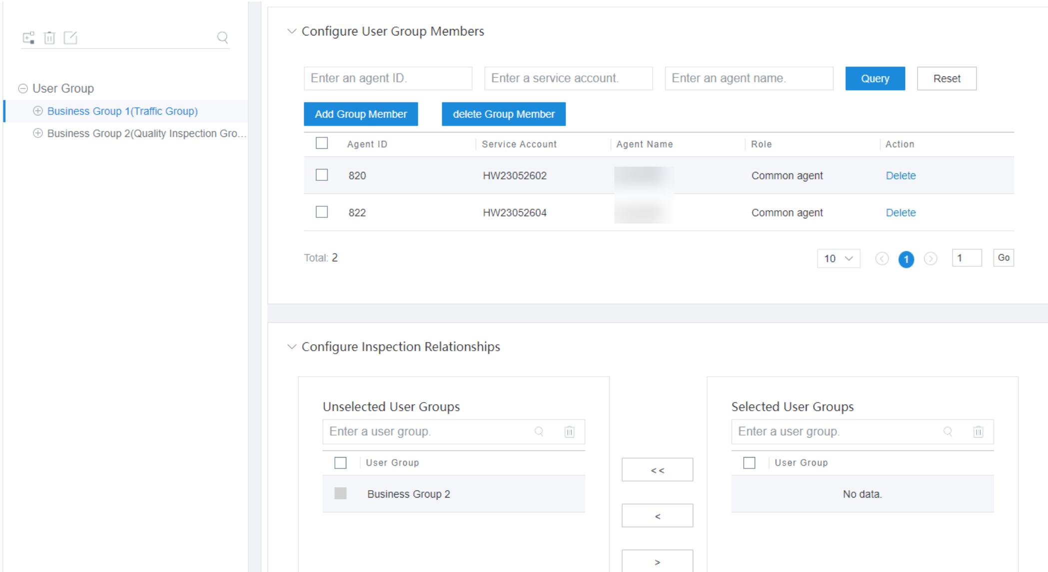


Table 4-3 Button description

Button	Description
>	Select the agent group to be inspected.
>>	Select the agent groups to be inspected in batches.
<	Cancel the selected agent group.
<<	Cancel the selected agent groups in batches.

----End

4.3.1.2 Configuring Fullscreen Monitoring

A tenant administrator performs this operation when a fullscreen is required to view the real-time monitoring and historical indicator monitoring data as well as the trend chart of the number of calls, call rate, duration, and number of agents under the tenant space, or display the monitoring data.

Procedure

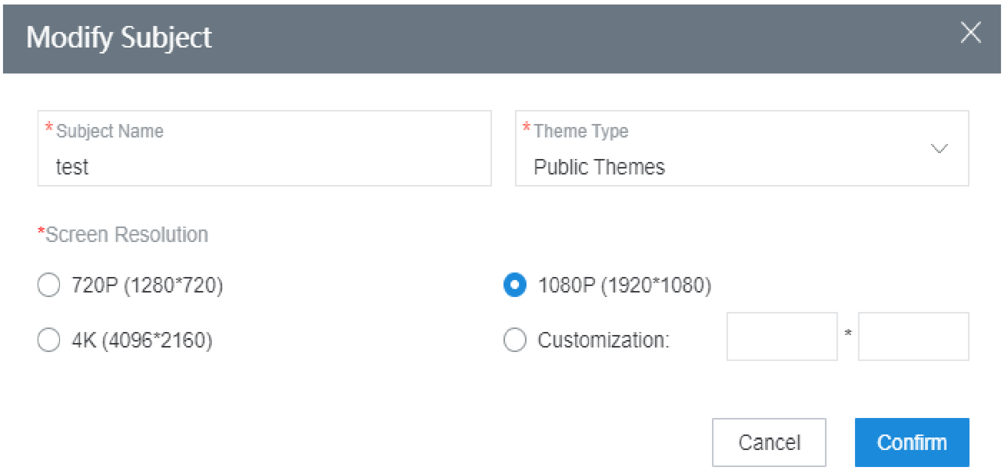
Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Fullscreen Monitor**.

Step 2 Click  to add a theme. Enter a theme name, select a theme type, and set the screen resolution.

There are two types of themes: public and private themes. 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**

  For details about how to assign the preceding basic function permissions to an employee, see **Managing Employees** in the operation guide.

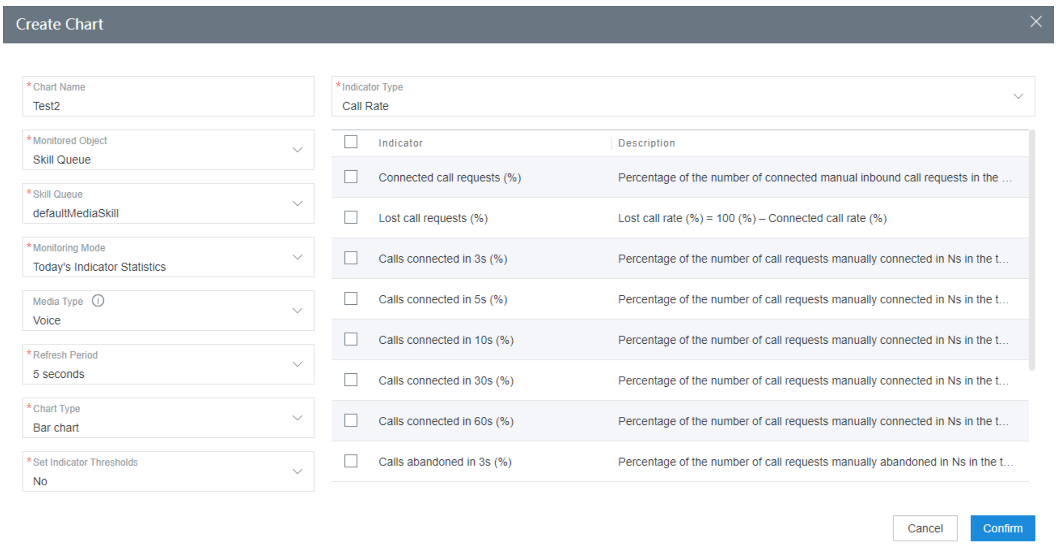


Step 3 Click **Confirm**.

Step 4 Repeat the preceding operations to add other themes for fullscreen monitoring based on site requirements.

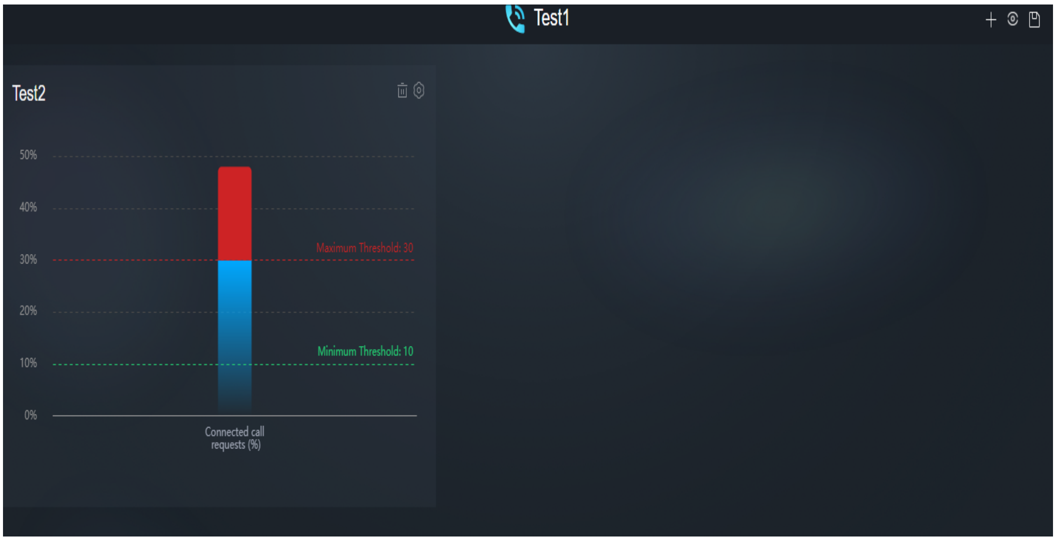
Step 5 Select the theme for which you want to create a chart. You can create multiple charts for a theme. Click , filter indicators, and set chart attributes. Click **Confirm**.

Figure 4-14 Creating a chart



NOTE

If **Set Indicator Thresholds** is set to **Yes**, the threshold settings are displayed on the fullscreen, as shown in the following figure.



Step 6 Drag the chart to a proper position.

Step 7 Click to save the layout.

Step 8 (Optional) Click to preview the new theme layout.

----End

NOTE

After a theme is added, the , , , and buttons are displayed in the upper left corner of the page only when you click the theme.

After a theme is added, the , , and buttons are displayed in the upper right corner of the page only when you click the theme.

Follow-up Procedure

Click next to a theme. The page for this theme is displayed.

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.

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.

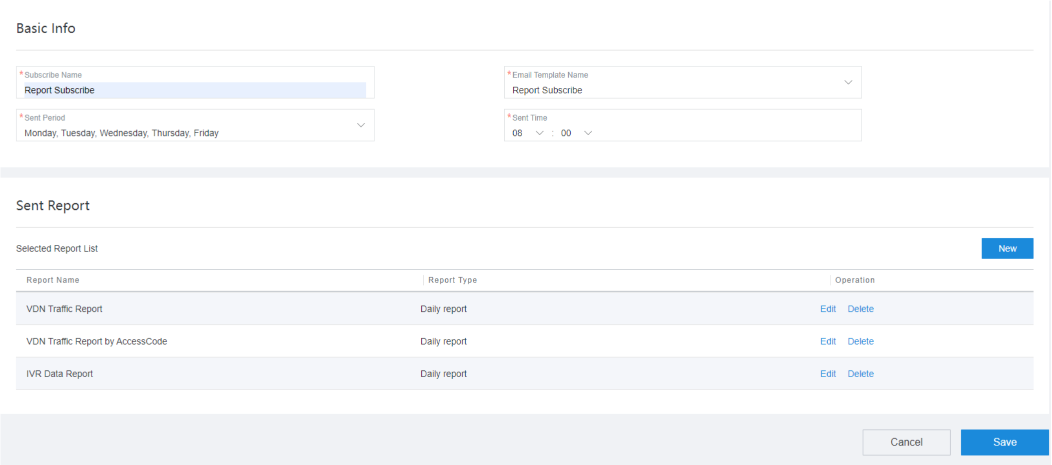
Prerequisites

- You have configured an email gateway. For details, see **2.11.3.2 Configuring Email Gateways**.
- You have configured an email notification template. For details, see **2.11.5 Configuring Notification Templates as an Administrator**.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Configuration Center** > **Quality Management** > **Report Subscription**.

Step 2 Click **Create** to add the subscription content. Enter the subscription name, select the notification template configured in **2.11.5 Configuring Notification Templates as an Administrator**, and set the sending period and sending time.



NOTE

The notification template must be unique.

Step 3 Click **New**, select a report from the report name drop-down list, select a daily, weekly, or monthly report from the daily report drop-down list, select the corresponding indicator name, and click **Confirm**.

NOTE

For details, see **4.3.3 Report Query**.

Step 4 Click **Save**.

Step 5 (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.
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.

Step 6 (Optional) Click **Save** to return to the report subscription list. You can edit the report subscription again.

Step 7 (Optional) Click **Prohibit** to disable report subscription. After this function is disabled, you can delete the report subscription.

----End

4.3.2 Monitoring Management

A tenant administrator can manage the monitoring content after the monitoring content configuration.

4.3.2.1 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.

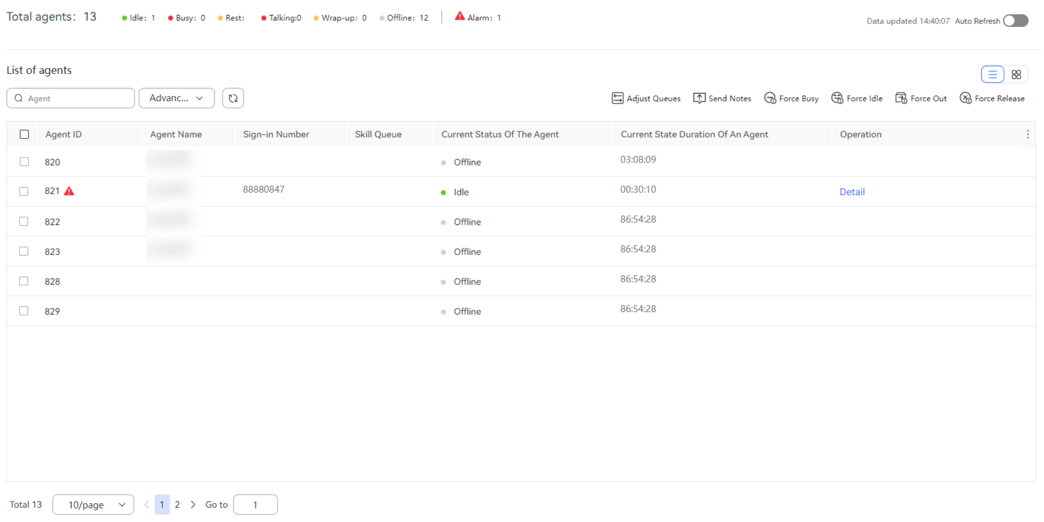
Prerequisites

- Monitoring and inspection relationships have been configured for the inspector.
- The permission on the **Agent Monitor** menu has been assigned to the inspector.

Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Agent Monitor**.

Figure 4-15 Agent Monitor (in list mode)



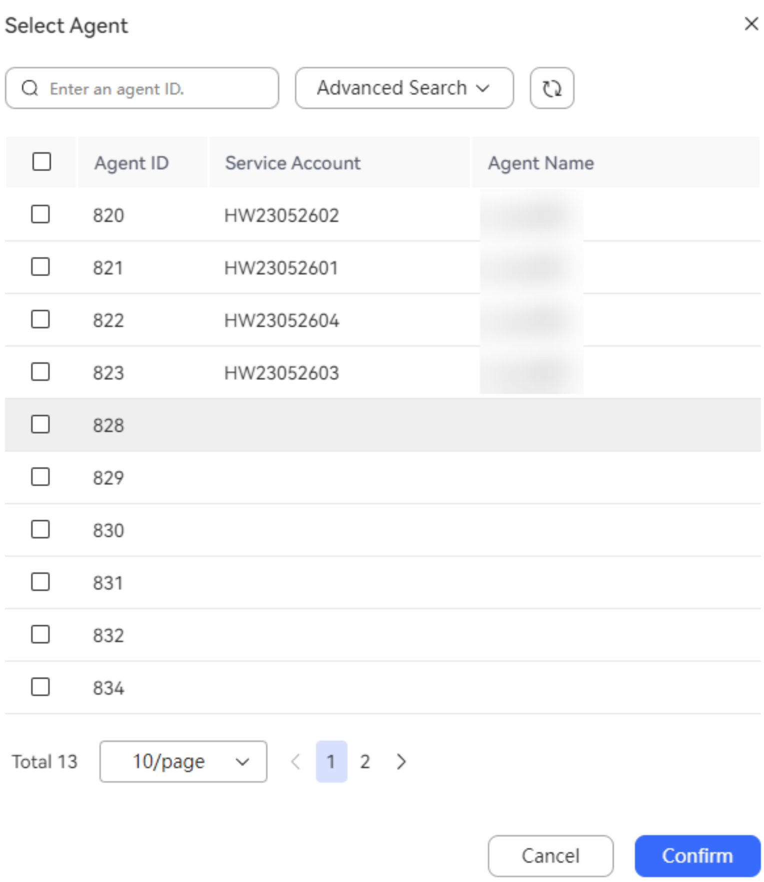
- Agent statistics: Statistics on the total number of agents for whom monitoring and inspection relationships with the current inspector have been configured, including the agent status and alarm information, are displayed.
- Data update time: The time when agent monitoring information is last updated is displayed. Automatic refresh can be enabled.

- Current agent status: The current agent status can be **Offline**, **Idle**, **preoccupied**, **Occupied**, **Answering**, **Talking**, **Wrap-up**, **Busy**, **Rest**, **Learning**, or **Adjusting**.
- Alarm monitoring: 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: Click to manually refresh data. Alternatively, enable **Auto Refresh** to automatically refresh data every 10 seconds.

Step 2 Set data filter criteria.

- Click **Agent**. In the **Select Agent** dialog box that is displayed, select agents and click **Confirm**. Click to query the monitoring information about the agents.

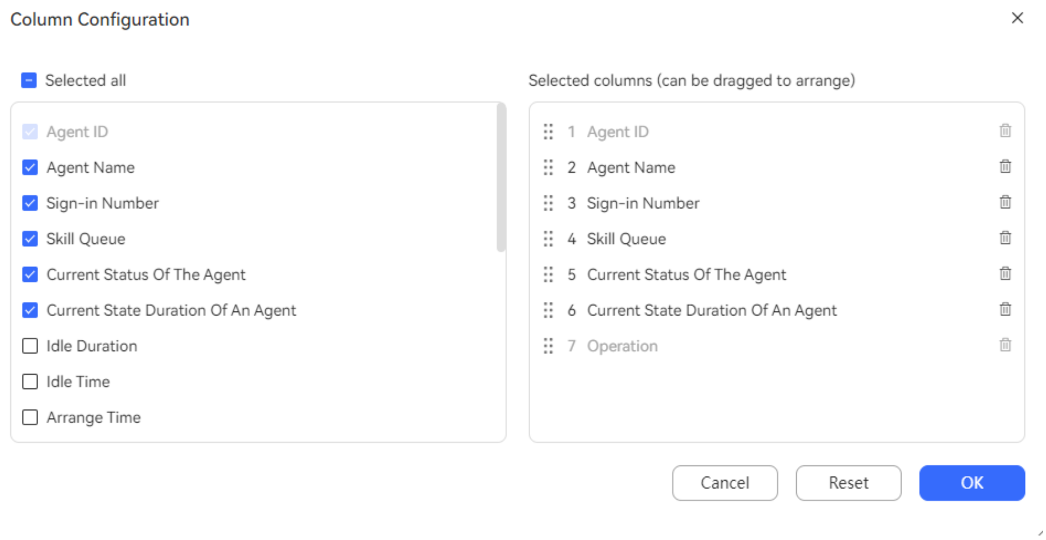
Figure 4-16 Select Agent



- Click **Advanced Search**, set **Agent Status**, **Select the minimum duration of the status**, **Inspection Status**, **Alarm Status**, and **Sign-in Queue**, and click **Search** to filter detailed data.
- Click to refresh real-time data.

Step 3 Click to set the table header.

Figure 4-17 Column Configuration

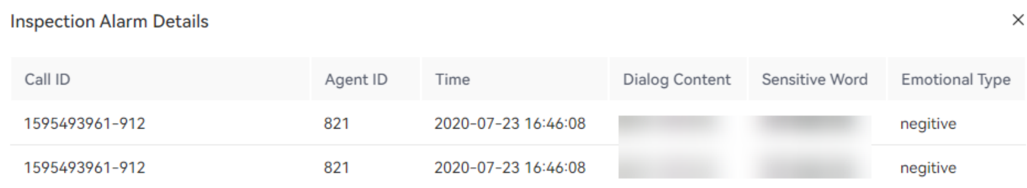


- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

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**.

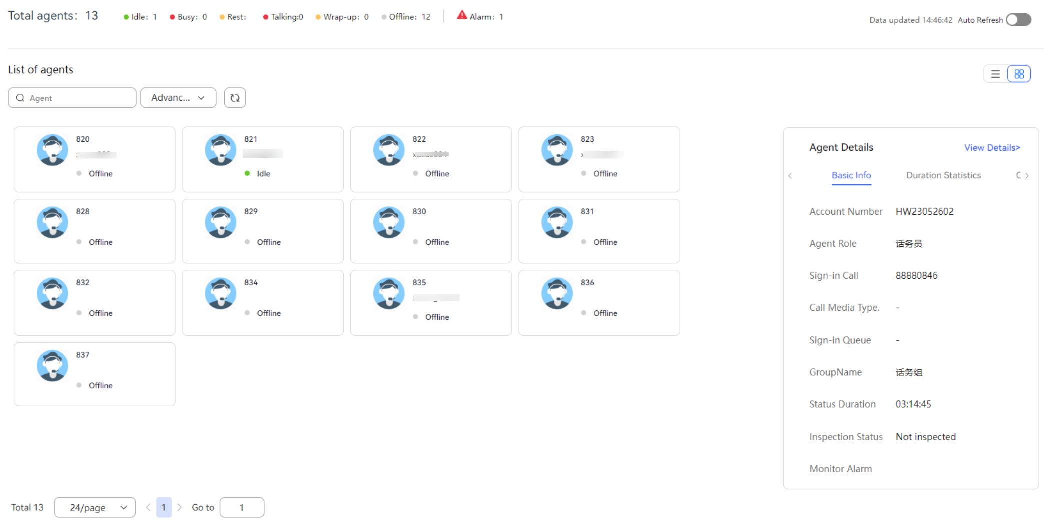
Figure 4-18 Inspection Alarm Details


Inspection Alarm Details

Call ID	Agent ID	Time	Dialog Content	Sensitive Word	Emotional Type
1595493961-912	821	2020-07-23 16:46:08	[illegible]	[illegible]	negitive
1595493961-912	821	2020-07-23 16:46:08	[illegible]	[illegible]	negitive

Step 5 Click to switch the **Agent Monitor** page between the list mode and chart mode.

Figure 4-19 Agent Monitor (in chart mode)



📖 NOTE

- In chart 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.

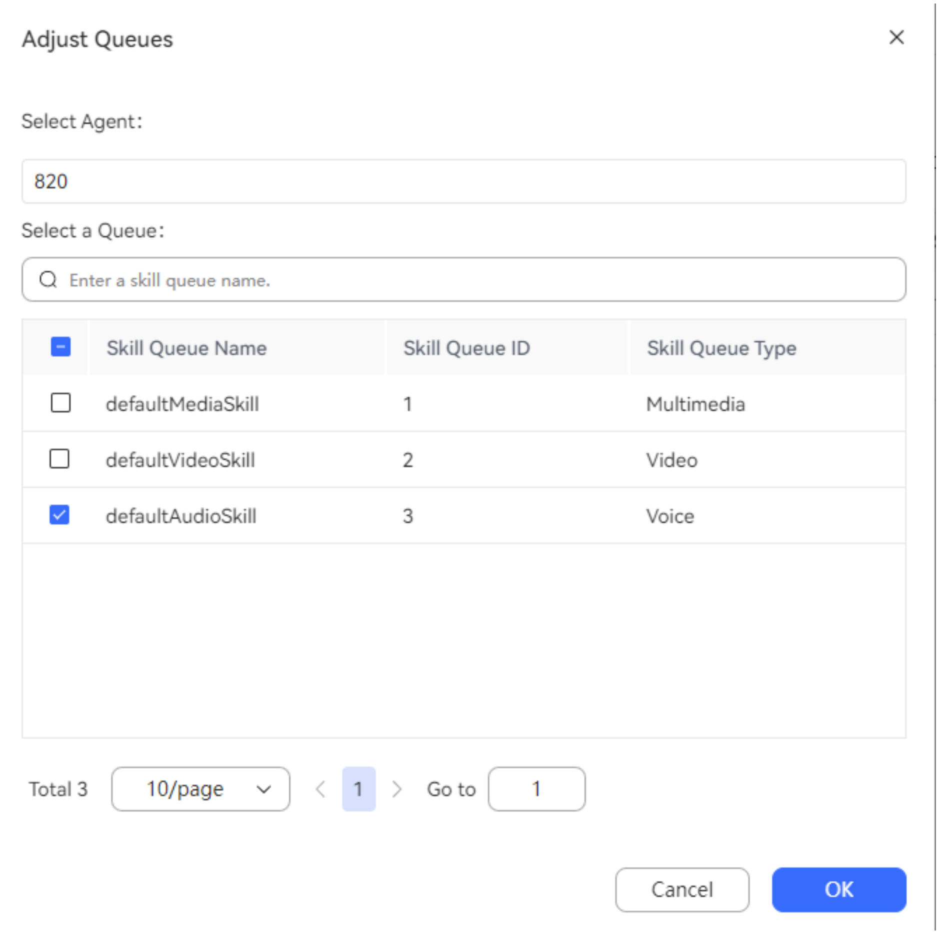
Step 6 Perform inspection operations.

📖 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.

- **Adjust Queues**: Select one or more signed-in agents and click **Adjust Queues** to adjust their skill queues.

Figure 4-20 Adjust Queues

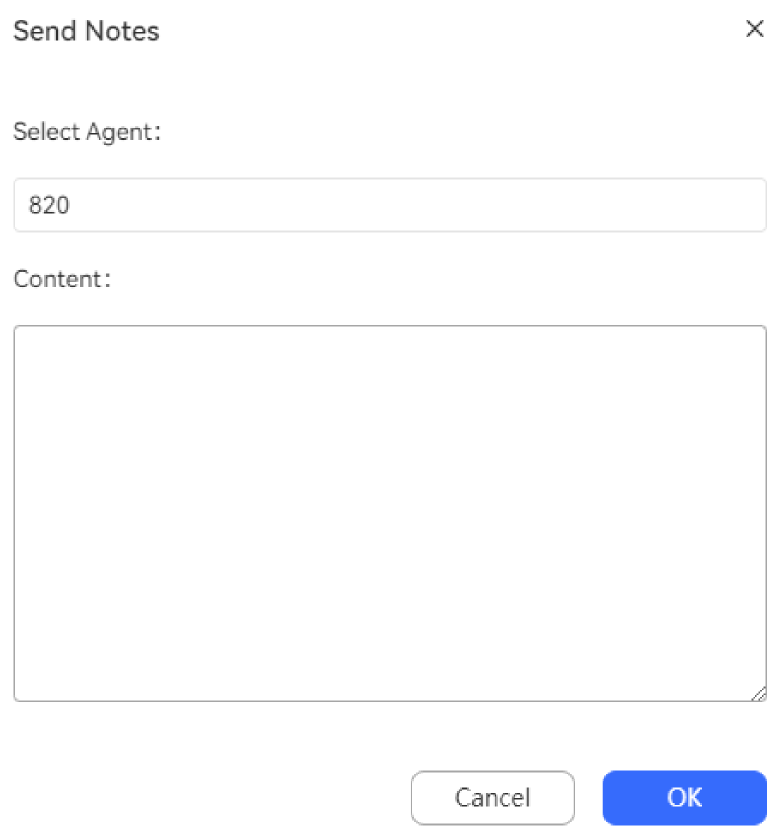


NOTE

- 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.

Figure 4-21 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.
- **Force Out**: Select a signed-in agent and click **Force Out** to forcibly sign out the agent.
- **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.

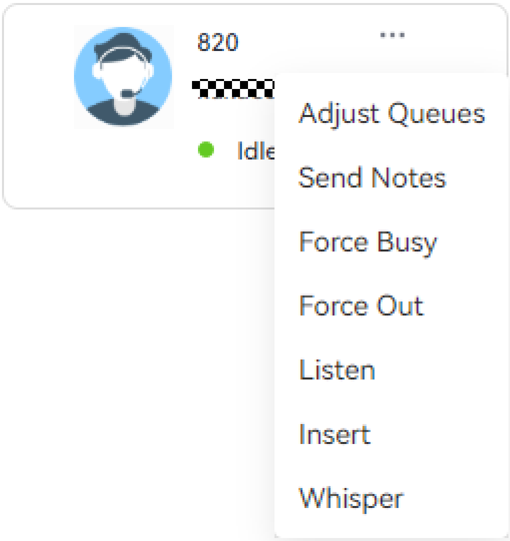
- **Whisper**: Click **Whisper** in the **Operation** column corresponding to an agent to whisper to the agent. (The customer is unaware of the talk between the inspector and the agent.)

NOTE

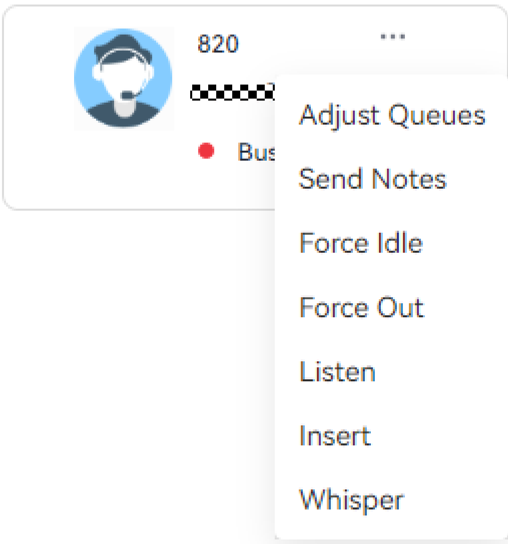
In list mode, a maximum of three buttons are displayed in the **Operation** column corresponding to an agent. If there are more than three buttons, two buttons and the **More** button are displayed. Click **More** to view other buttons.

Step 7 In chart mode, perform different inspection operations based on different agent states.

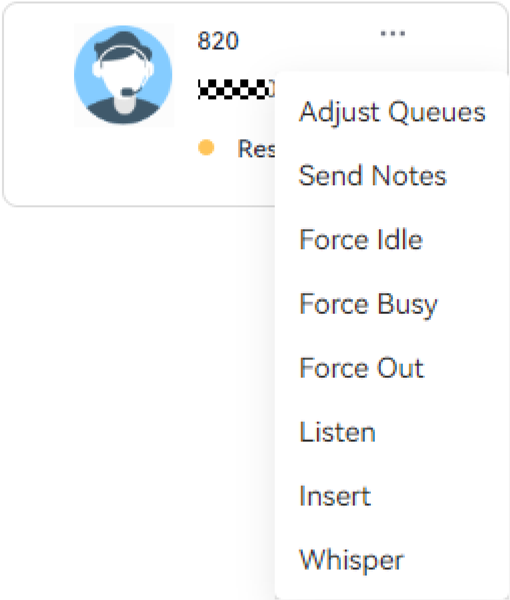
- Agent in Idle state



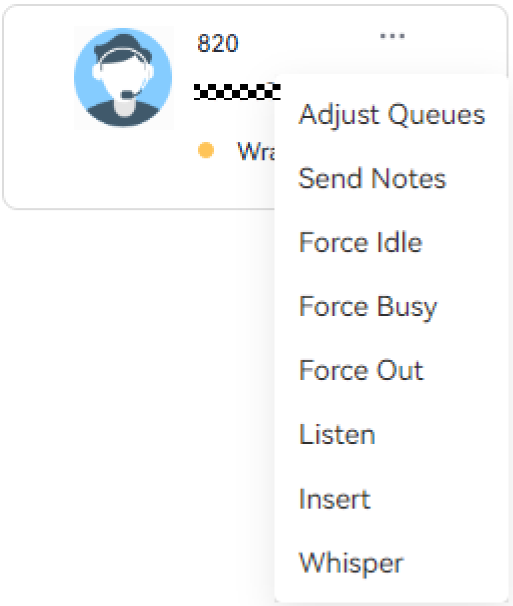
- Agent in Busy state



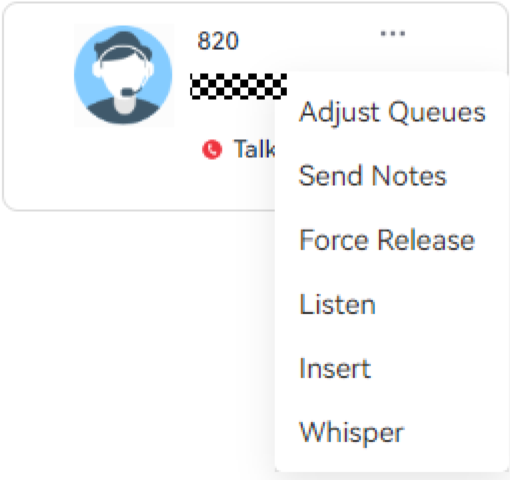
- Agent in Rest state



- Agent in Wrap-up state



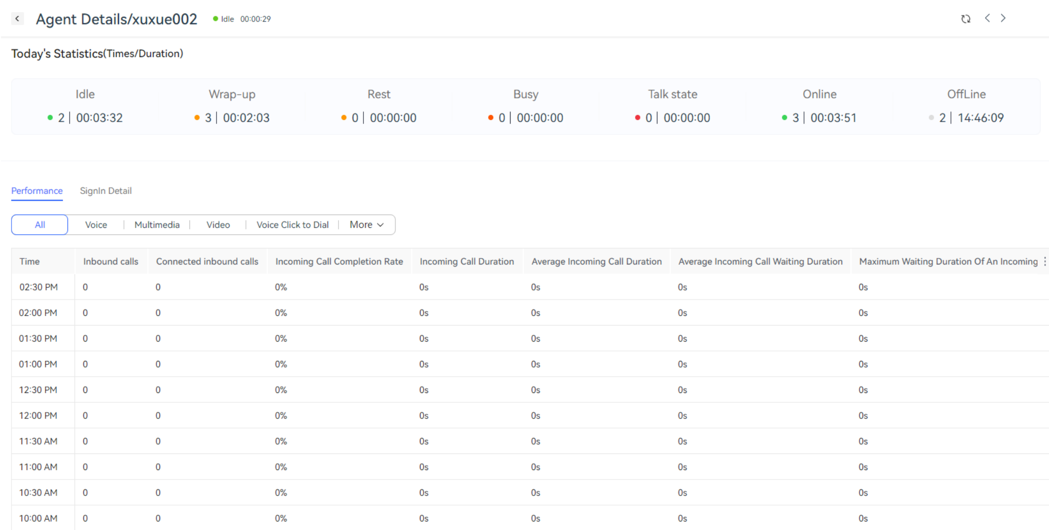
- Agent in Talking state



Step 8 View details about an agent.

- In list mode, click an agent and view the agent details on the **Agent Details** page that is displayed.

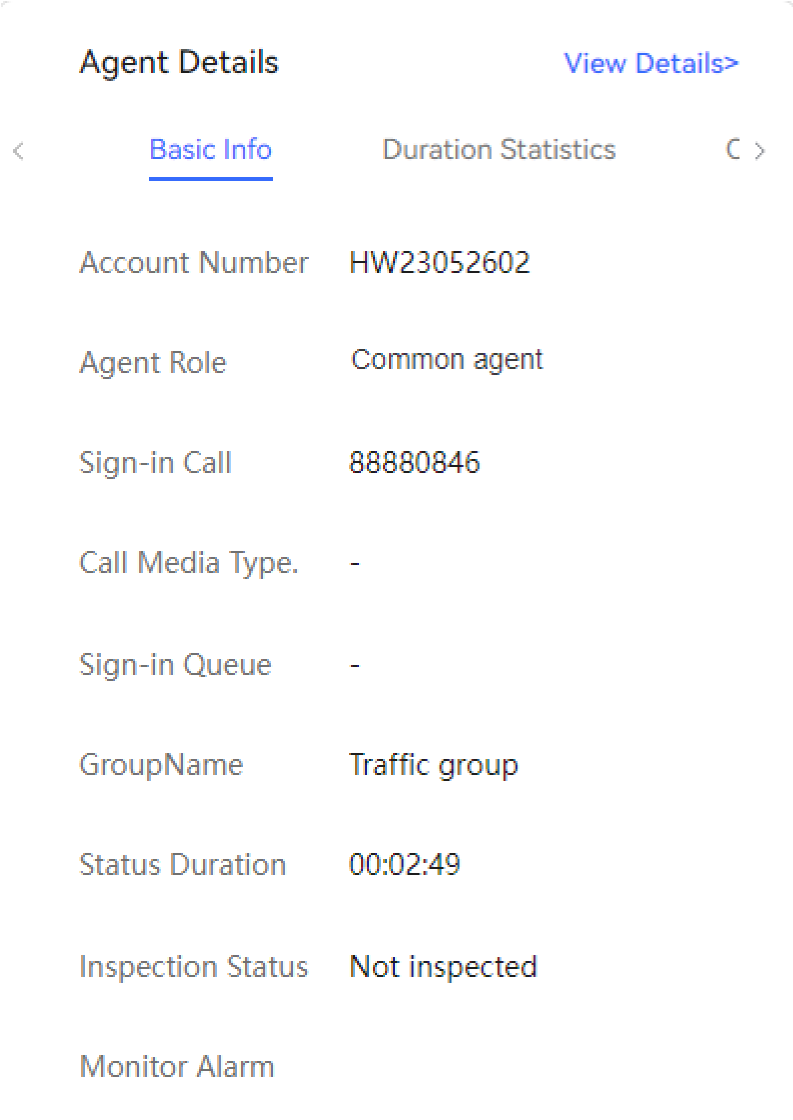
Figure 4-22 Agent Details (in list mode)



Time	Inbound calls	Connected inbound calls	Incoming Call Completion Rate	Incoming Call Duration	Average Incoming Call Duration	Average Incoming Call Waiting Duration	Maximum Waiting Duration Of An Incoming
02:30 PM	0	0	0%	0s	0s	0s	0s
02:00 PM	0	0	0%	0s	0s	0s	0s
01:30 PM	0	0	0%	0s	0s	0s	0s
01:00 PM	0	0	0%	0s	0s	0s	0s
12:30 PM	0	0	0%	0s	0s	0s	0s
12:00 PM	0	0	0%	0s	0s	0s	0s
11:30 AM	0	0	0%	0s	0s	0s	0s
11:00 AM	0	0	0%	0s	0s	0s	0s
10:30 AM	0	0	0%	0s	0s	0s	0s
10:00 AM	0	0	0%	0s	0s	0s	0s

- In chart 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 4-22**.

Figure 4-23 Agent Details (in chart mode)



----End

4.3.2.2 Playing Recordings

Inspectors can play and download call recording and video files.

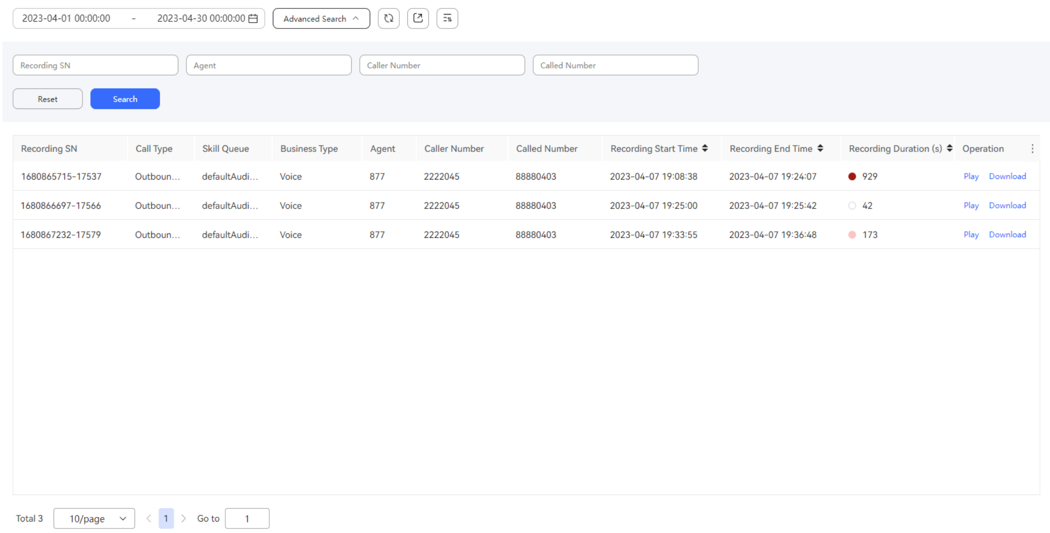
Prerequisites

- Monitoring and inspection relationships have been configured for the inspector.
- The permission on the **Recording** menu has been assigned to the inspector.

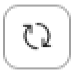
Procedure

Step 1 Sign in to the AICC as an inspector and choose **Monitoring** > **Recording**.

Figure 4-24 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**
- **Skill Queue**
- **Business Type**
- **Agent**
- **Caller Number**
- **Called Number**
- **Recording Start Time**
- **Recording End Time**
- **Recording Duration (s)**

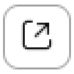
Step 3 Click **Play** in the **Operation** column to play a recording or video online. You can set the playback rate of the recording or video.

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.

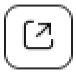
Step 5 (Optional) Export recording playback data (excluding recording or video files) to the local PC.

1. Click  and enter a compression password to create an export task.

   NOTE

   – For details about the 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.

   – 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

4.3.2.3 Monitoring Indicators

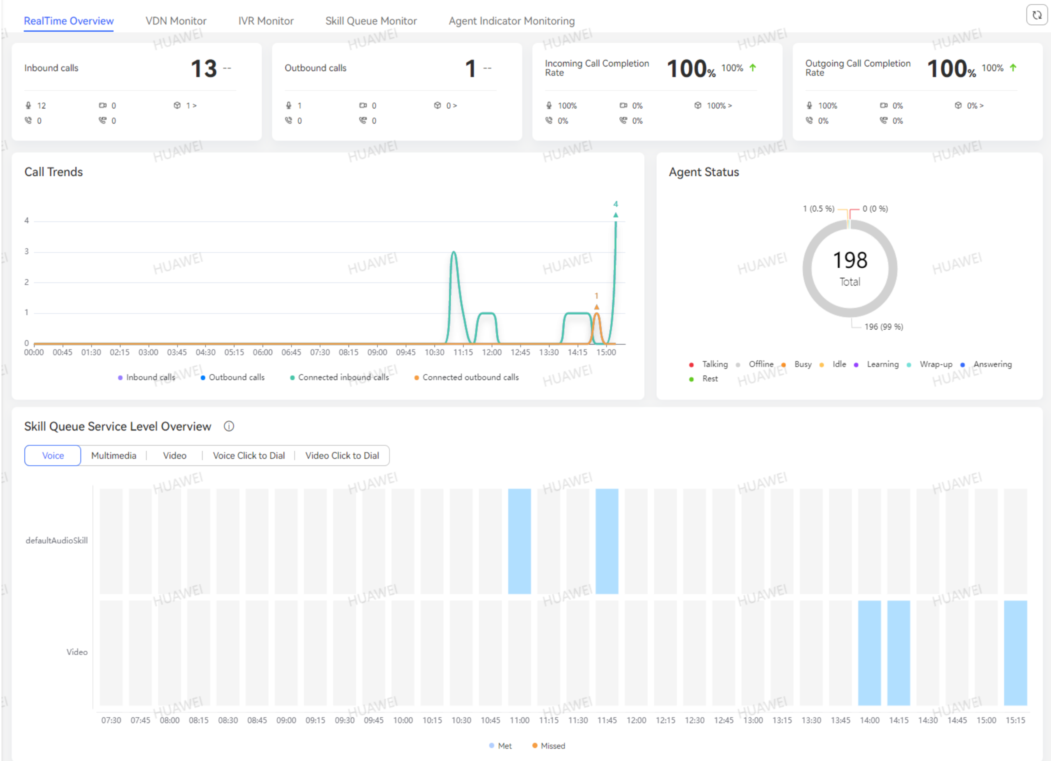
A tenant administrator can view data about the real-time overview, VDN, IVRs, skill queues, and agents in the tenant space.

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 4-25 RealTime Overview

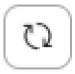


- Indicator statistics: The indicators include the number of inbound calls, number of outbound calls, inbound call connection rate, and outbound call connection rate. The statistics are displayed in the following dimensions: data summary, day-over-day (DoD) rate (compared with the indicator value collected 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.

- 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.

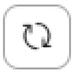
  The independent deployment environment supports only the configuration of system parameters. You can configure the system parameter **Expected service level of the skill queue** under **Configuration Center** > **System Management** > **Parameter Settings** > **Call Center Monitoring** > **Index Monitor**. The default value is **0.8**, indicating 80%. The value ranges from 0 to 1.

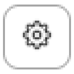
- Click  to refresh real-time data. The indicator statistics as well as the **Call Trends**, **Agent Status**, and **Skill Queue Service Level Overview** areas are refreshed.

Step 3 View VDN monitoring information.

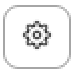
Figure 4-26 VDN Monitor

1. Click the **VDN Monitor** tab and select a media type to query today's VDN monitoring information.
   - When **Media Type** is set to **Multimedia**, select a submedia type to query today's VDN monitoring information.

– Click  to refresh real-time data.

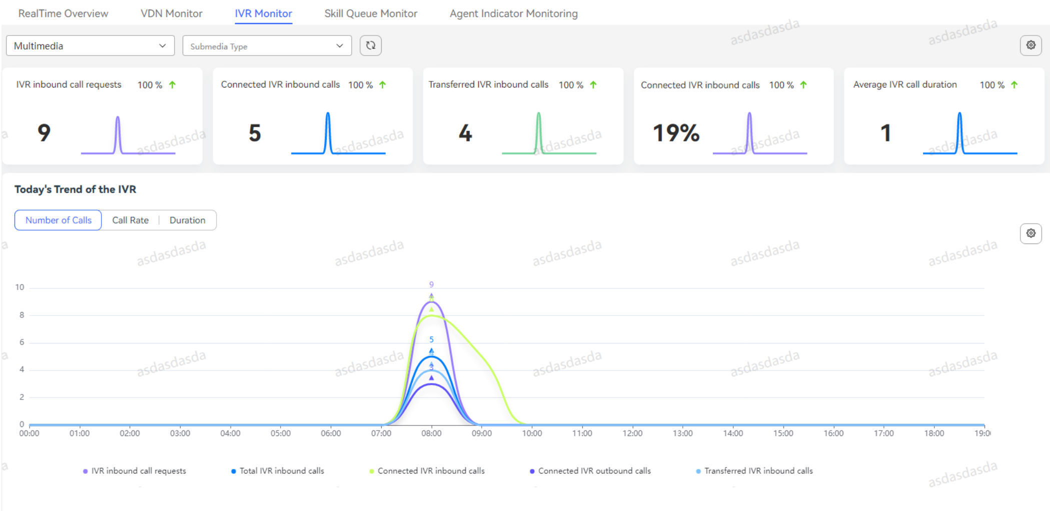
– Click  to set indicators related to the real-time number of calls, today's number of calls, call rate, and duration.

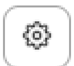
  The real-time number of calls and today's number of calls are both displayed in the statistics under **Number of Calls**.

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.

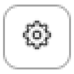
Step 4 View IVR monitoring information.

Figure 4-27 IVR Monitor



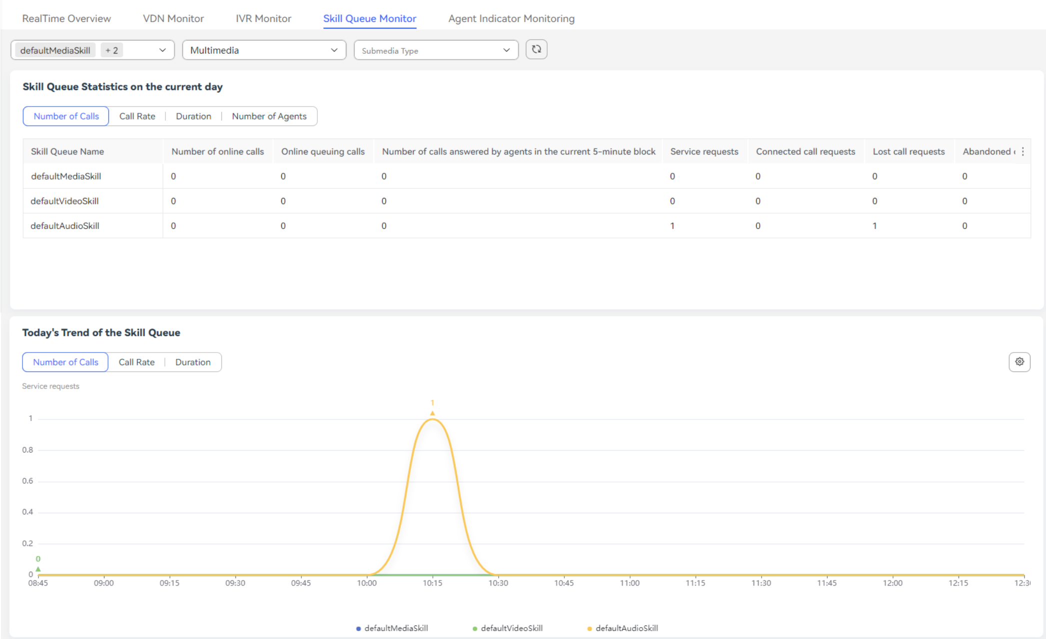
1. Click the **IVR Monitor** tab and select a media type to query today's IVR monitoring information.
   – When **Media Type** is set to **Multimedia**, IVR monitoring information can be queried by submedia type.
   – Click  to refresh real-time data.
   – Click  to set indicators. You can select three 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.

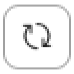
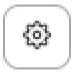
   For each indicator, a small chart of today's trend statistics is displayed.
3. Click **Number of Calls**, **Call Rate**, or **Duration** to view the corresponding monitoring indicator information in a trend chart.

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.

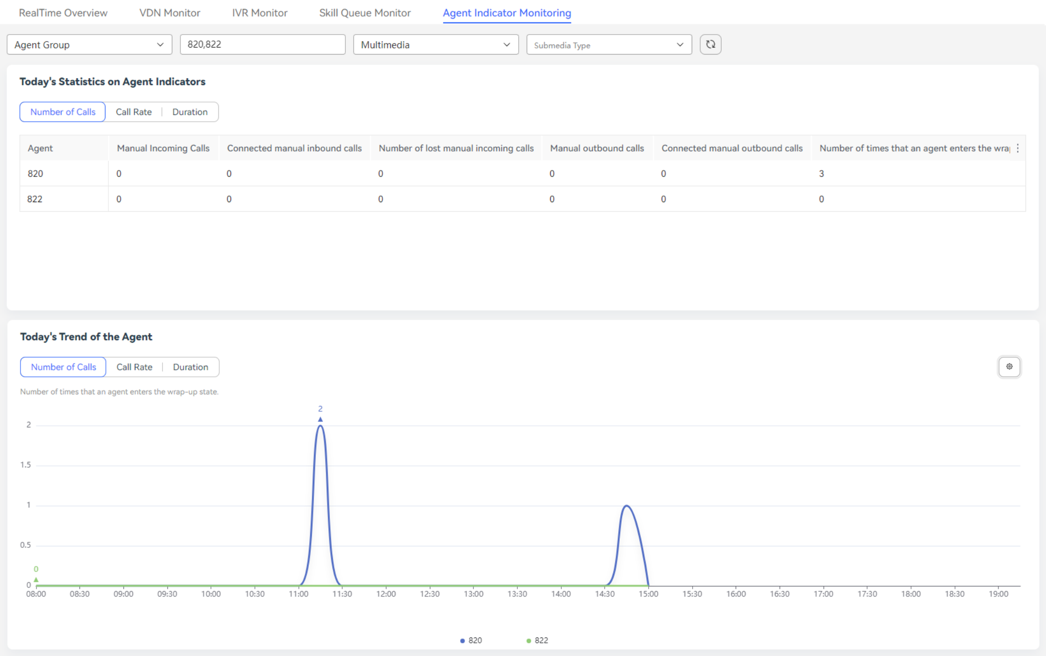
Figure 4-28 Skill Queue Monitor

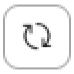
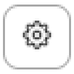


1. Click the **Skill Queue Monitor** tab page and select a skill queue and a media type to query today's skill queue monitoring information.
   – You can select a maximum of 10 skill queues.
   – When **Media Type** is set to **Multimedia**, select a submedia type to query today's skill queue monitoring 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.

Step 6 View agent indicator monitoring information.

Figure 4-29 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.
   - 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.
   - 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.

----End

4.3.2.4 Monitoring Inbound Call Records

A tenant administrator can view information about abandoned customer calls, calls requiring callback, and inbound calls.

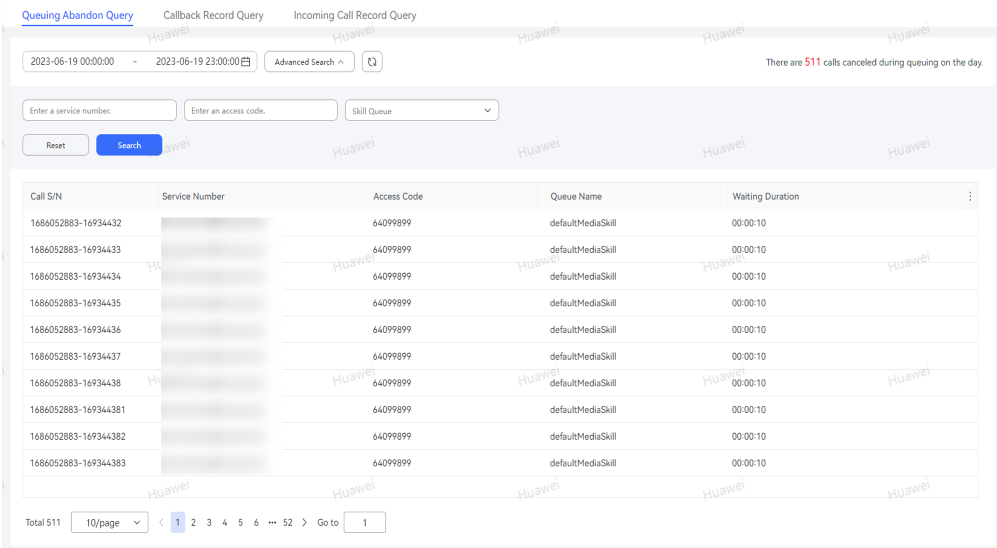
Procedure

Step 1 Sign in to the AICC as a tenant administrator. Choose **Monitoring** > **Incoming Call Record**.

Step 2 Query information about abandoned calls.

1. Click the **Queuing Abandon Query** 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 4-30 Queuing Abandon Query

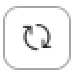
   

   – You can query abandoned calls in the tenant space based on the start time, end time, customer number, access code, and skill queue name.

   – By default, the list displays information about abandoned customer calls in the tenant space on the current day, including the call SN, customer number, access code, skill queue name, and waiting duration.

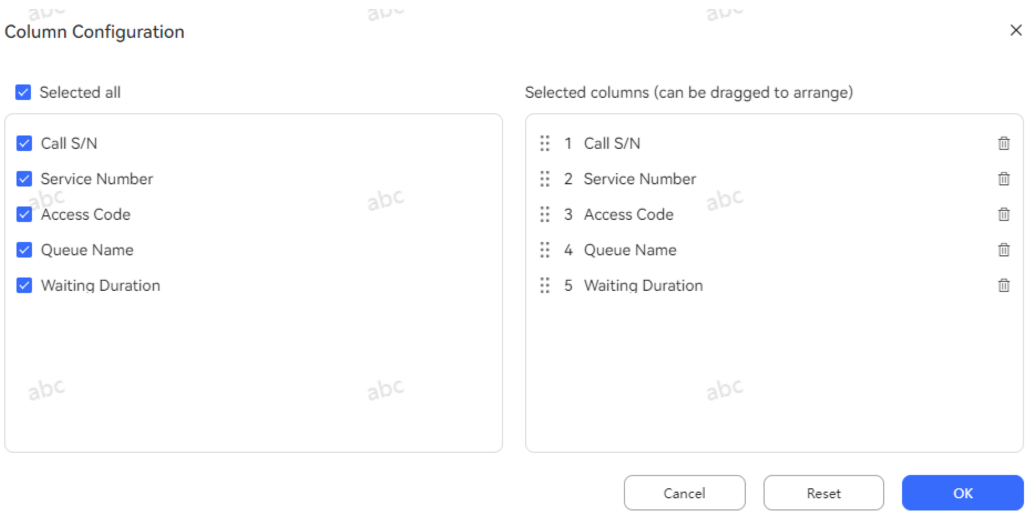
2. Set data filter criteria.

   – Click **Advanced Search**, enter a customer number and an access code, 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 4-31 Queuing Abandon Query - Column Configuration



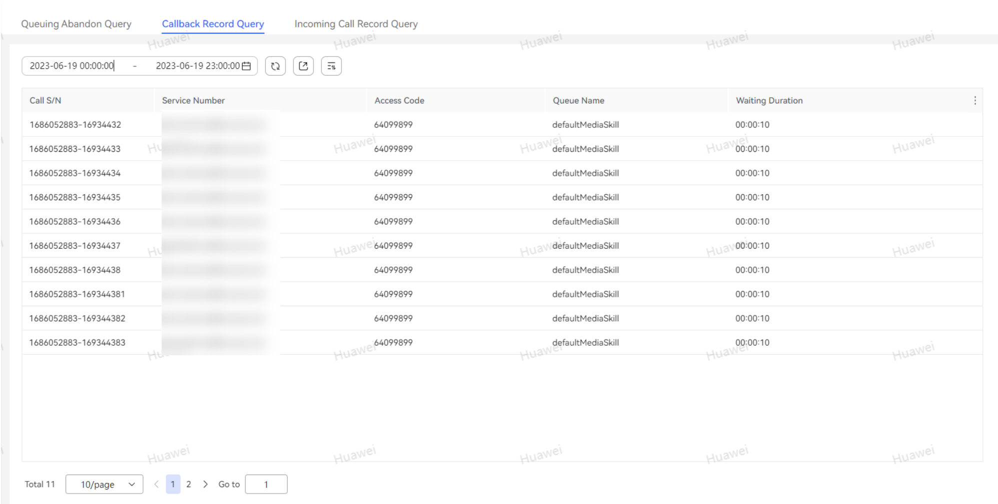
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

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

Step 3 Query information about calls requiring callback.

1. Click the **Callback Record Query** 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 4-32 Callback Record Query



- 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, access code, skill queue name, and waiting duration.

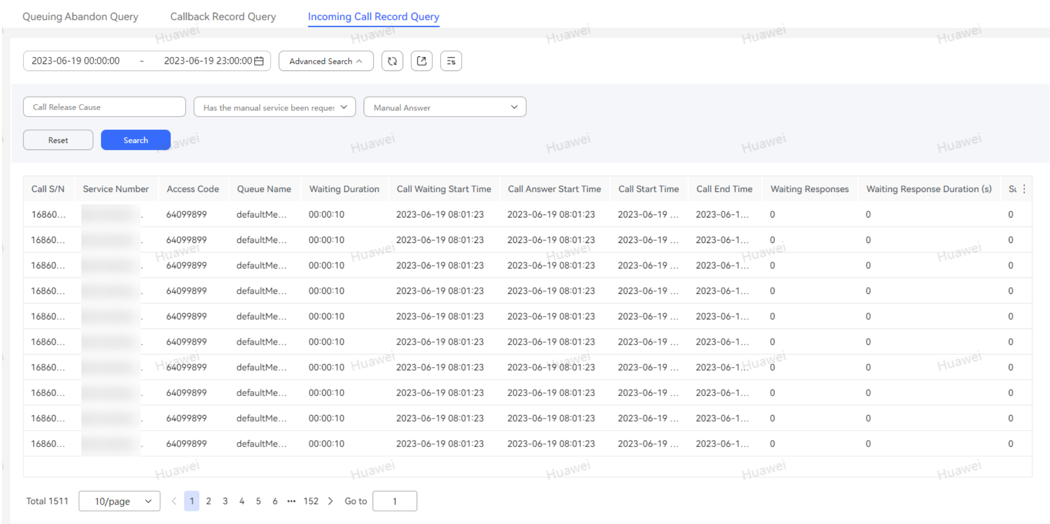
2. Click to refresh real-time data.

3. Click to set the table header by referring to **Step 2.3**.

Step 4 Query information about inbound calls.

1. Click the **Incoming Call Record Query** 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 4-33 Incoming Call Record Query



– 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.

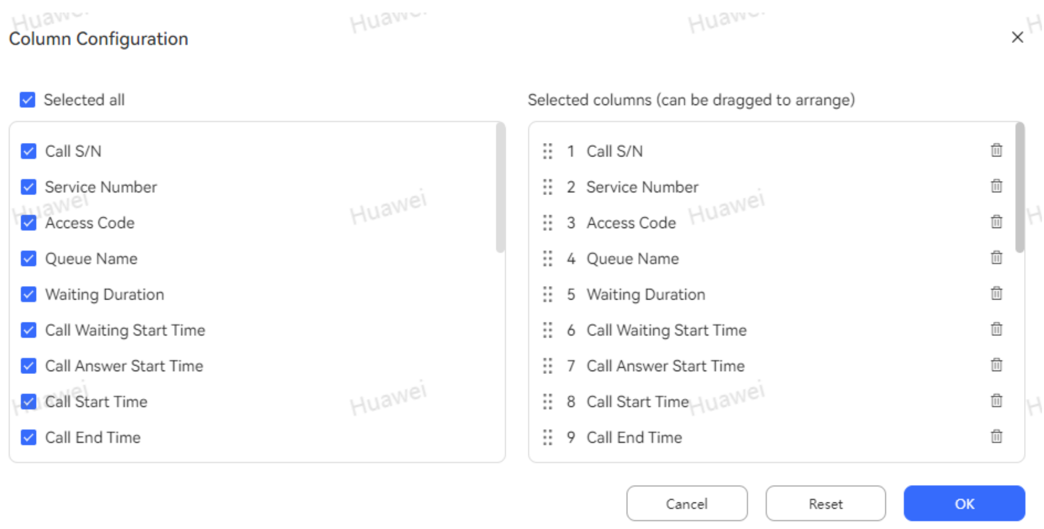
2. Set data filter criteria.

– Click **Advanced Search**, 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 4-34 Incoming Call Record Query - Column Configuration



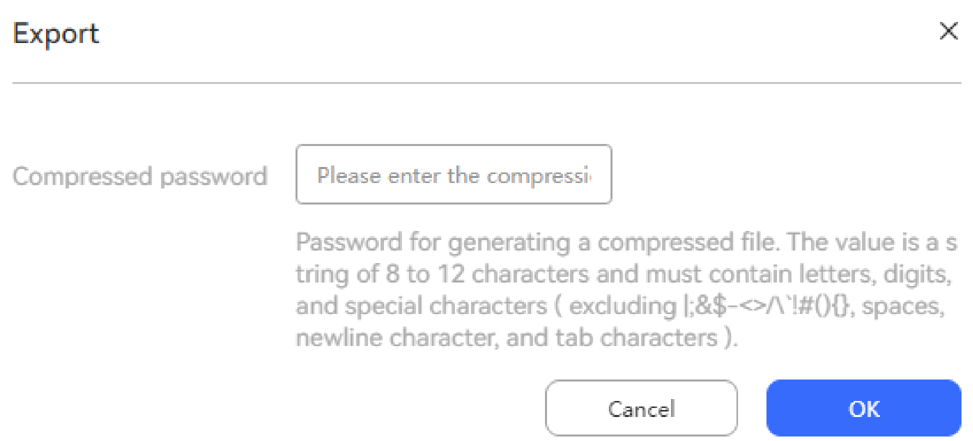
- Click or to deselect a column.
- Drag a selected column to change its sequence.
- Click **Reset** to reset the column configuration to the state when the dialog box is opened.

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

Step 5 (Optional) On the **Callback Record Query** or **Incoming Call Record Query** page, export the queried data to the local PC.

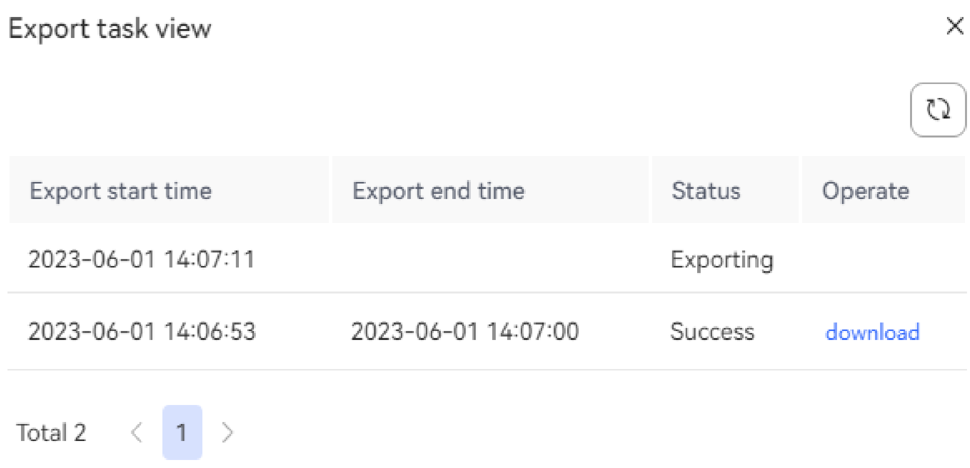
1. Click and enter a compression password based on the password requirements. Click **OK**. An export task is created.

Figure 4-35 Export



2. Click , select the export task whose **Status** is **Success** based on the export time, and click **download** to download the exported data.

Figure 4-36 Export task view



Export start time	Export end time	Status	Operate
2023-06-01 14:07:11		Exporting	
2023-06-01 14:06:53	2023-06-01 14:07:00	Success	download

NOTICE

Data files can be exported only in the integration environment.

----End

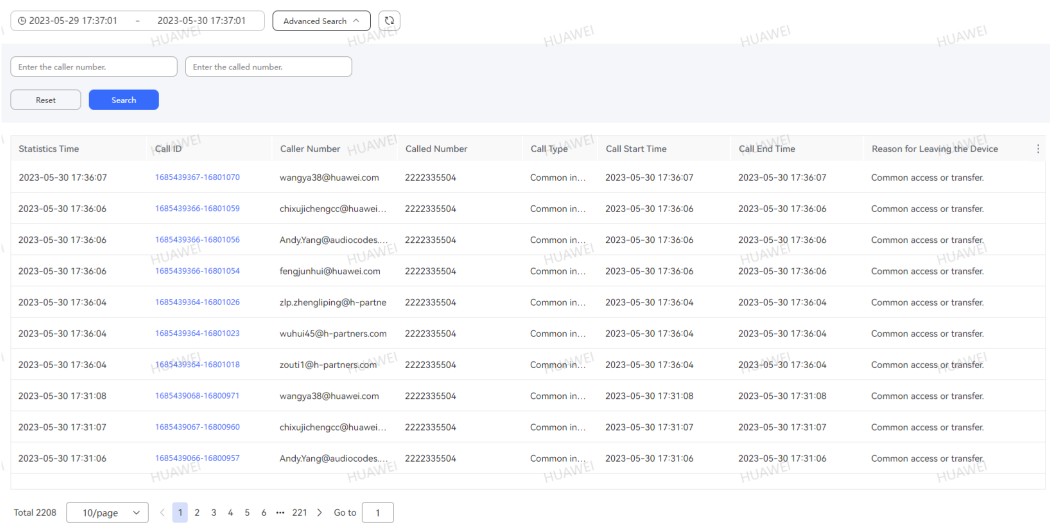
4.3.2.5 Monitoring Call Links

A tenant administrator can view call link information.

Procedure

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Call Link**. Inbound call details are displayed.

Figure 4-37 Call Link



Statistics Time	Call ID	Caller Number	Called Number	Call Type	Call Start Time	Call End Time	Reason for Leaving the Device
2023-05-30 17:36:07	1685439367-16801070	wangya38@huawei.com	2222335504	Common in...	2023-05-30 17:36:07	2023-05-30 17:36:07	Common access or transfer.
2023-05-30 17:36:06	1685439366-16801059	chixujichengcc@huawei...	2222335504	Common in...	2023-05-30 17:36:06	2023-05-30 17:36:06	Common access or transfer.
2023-05-30 17:36:06	1685439366-16801056	Andy.Yang@audiocodes....	2222335504	Common in...	2023-05-30 17:36:06	2023-05-30 17:36:06	Common access or transfer.
2023-05-30 17:36:06	1685439366-16801054	fengjunhui@huawei.com	2222335504	Common in...	2023-05-30 17:36:06	2023-05-30 17:36:06	Common access or transfer.
2023-05-30 17:36:04	1685439364-16801026	zlp.zhengliping@h-partne	2222335504	Common in...	2023-05-30 17:36:04	2023-05-30 17:36:04	Common access or transfer.
2023-05-30 17:36:04	1685439364-16801023	wuhui45@h-partners.com	2222335504	Common in...	2023-05-30 17:36:04	2023-05-30 17:36:04	Common access or transfer.
2023-05-30 17:36:04	1685439364-16801018	zouti1@h-partners.com	2222335504	Common in...	2023-05-30 17:36:04	2023-05-30 17:36:04	Common access or transfer.
2023-05-30 17:31:08	1685439068-16800971	wangya38@huawei.com	2222335504	Common in...	2023-05-30 17:31:08	2023-05-30 17:31:08	Common access or transfer.
2023-05-30 17:31:07	1685439067-16800960	chixujichengcc@huawei...	2222335504	Common in...	2023-05-30 17:31:07	2023-05-30 17:31:07	Common access or transfer.
2023-05-30 17:31:06	1685439066-16800957	Andy.Yang@audiocodes....	2222335504	Common in...	2023-05-30 17:31:06	2023-05-30 17:31:06	Common access or transfer.

Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

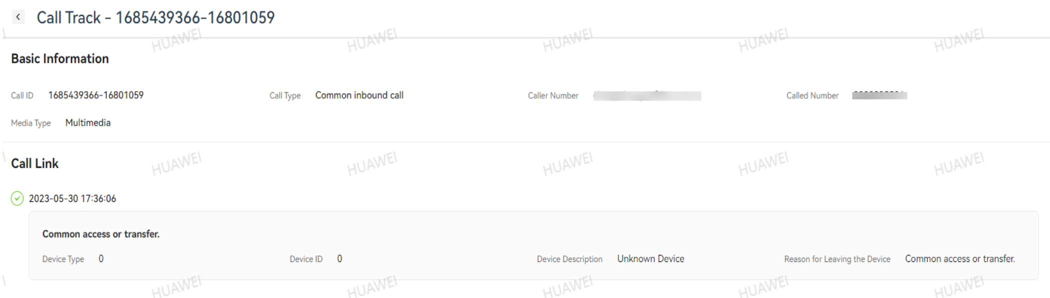
  NOTE

  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.

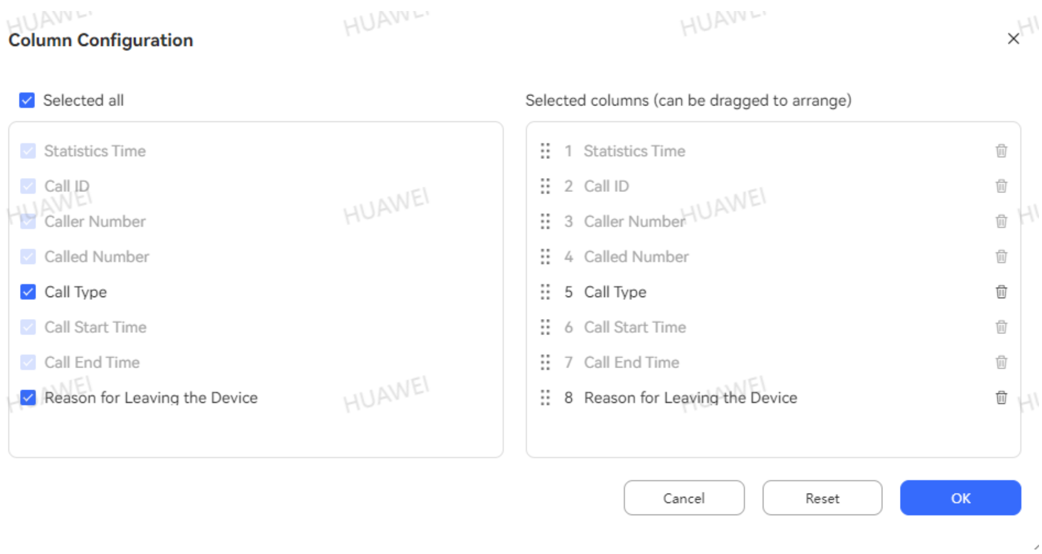
Step 3 Click a call ID to view the call track of a specific call.

Figure 4-38 Call Track



Step 4 Click to set the table header.

Figure 4-39 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.

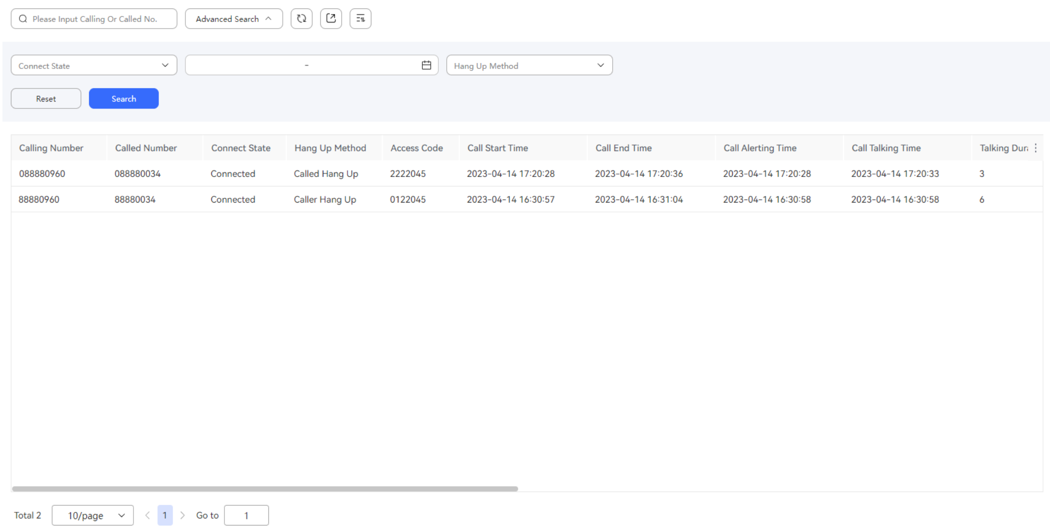
After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

----End

4.3.2.6 Querying Bidirectional Call Details

Step 1 Sign in to the AICC as a tenant administrator and choose **Monitoring** > **Bidirectional Call** to query bidirectional call details.

Figure 4-40 Bidirectional Call

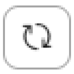


Step 2 Set data filter criteria.

- **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

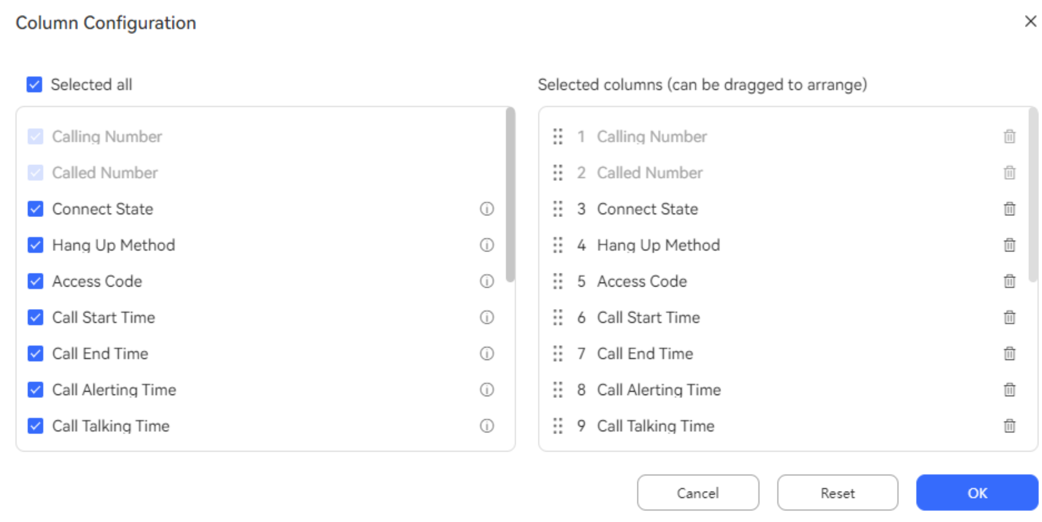
    The call start time and call end time must be both set or left blank. The time range cannot exceed seven days.

  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.

Figure 4-41 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.

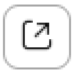
After the configuration is complete, click **OK** to save the new column configuration. Data is displayed based on the new column configuration.

Table 4-4 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.

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.

   NOTE

   For details about the 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.
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

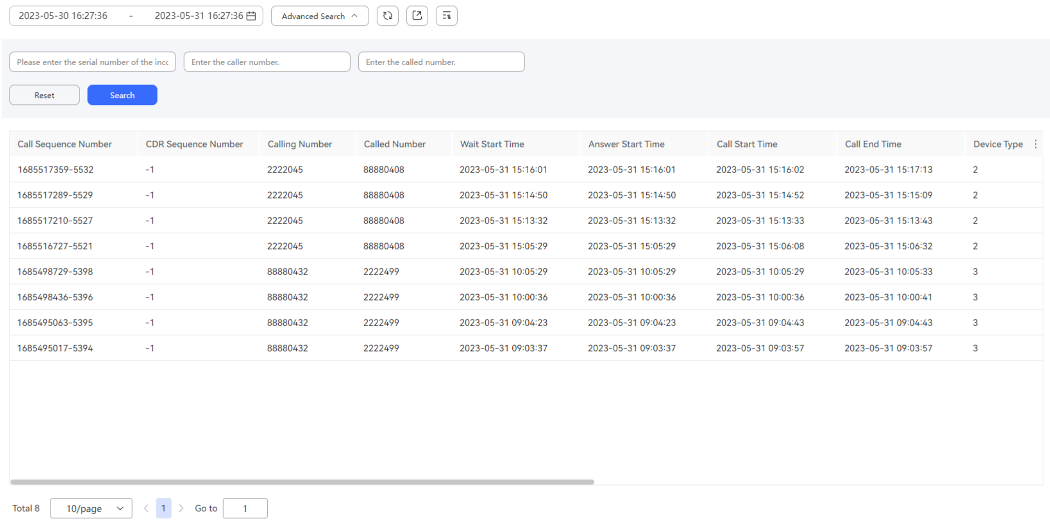
4.3.2.7 Monitoring Call Details

A tenant administrator can view call details.

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 4-42 Call Detail



Call Sequence Number	CDR Sequence Number	Calling Number	Called Number	Wait Start Time	Answer Start Time	Call Start Time	Call End Time	Device Type
1685517359-5532	-1	2222045	88880408	2023-05-31 15:16:01	2023-05-31 15:16:01	2023-05-31 15:16:02	2023-05-31 15:17:13	2
1685517289-5529	-1	2222045	88880408	2023-05-31 15:14:50	2023-05-31 15:14:50	2023-05-31 15:14:52	2023-05-31 15:15:09	2
1685517210-5527	-1	2222045	88880408	2023-05-31 15:13:32	2023-05-31 15:13:32	2023-05-31 15:13:33	2023-05-31 15:13:43	2
1685516727-5521	-1	2222045	88880408	2023-05-31 15:05:29	2023-05-31 15:05:29	2023-05-31 15:06:08	2023-05-31 15:06:32	2
1685498729-5398	-1	88880432	2222499	2023-05-31 10:05:29	2023-05-31 10:05:29	2023-05-31 10:05:29	2023-05-31 10:05:33	3
1685498436-5396	-1	88880432	2222499	2023-05-31 10:00:36	2023-05-31 10:00:36	2023-05-31 10:00:36	2023-05-31 10:00:41	3
1685495063-5395	-1	88880432	2222499	2023-05-31 09:04:23	2023-05-31 09:04:23	2023-05-31 09:04:43	2023-05-31 09:04:43	3
1685495017-5394	-1	88880432	2222499	2023-05-31 09:03:37	2023-05-31 09:03:37	2023-05-31 09:03:57	2023-05-31 09:03:57	3

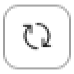
Step 2 Set data filter criteria.

- Click the time widget, set the start time and end time, and click **OK** to filter data.

  NOTE

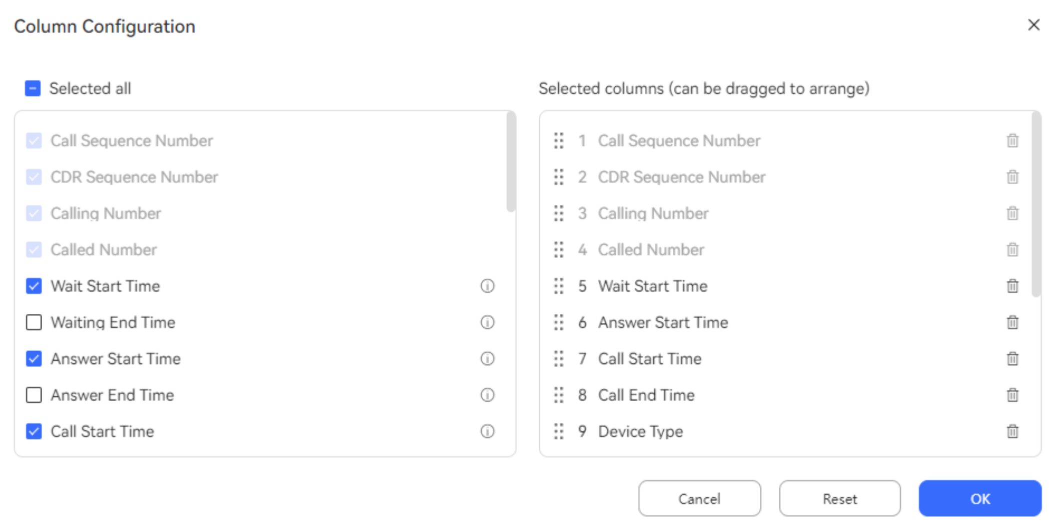
  In the integrated deployment environment, the maximum time span between the start time and end time is five days.

  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.

Figure 4-43 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.

   NOTE

   - For details about the 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.
   - In the independent deployment environment, 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.

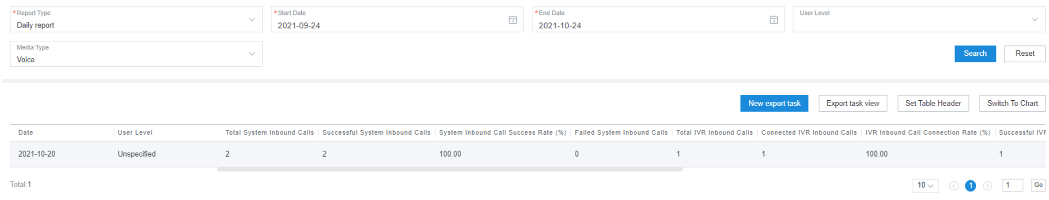
NOTE

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

4.3.3.1 VDN Traffic Report

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VDN Traffic Report** to query VDN traffic report data.

Figure 4-44 VDN 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 VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-45 Filter Indicator dialog box

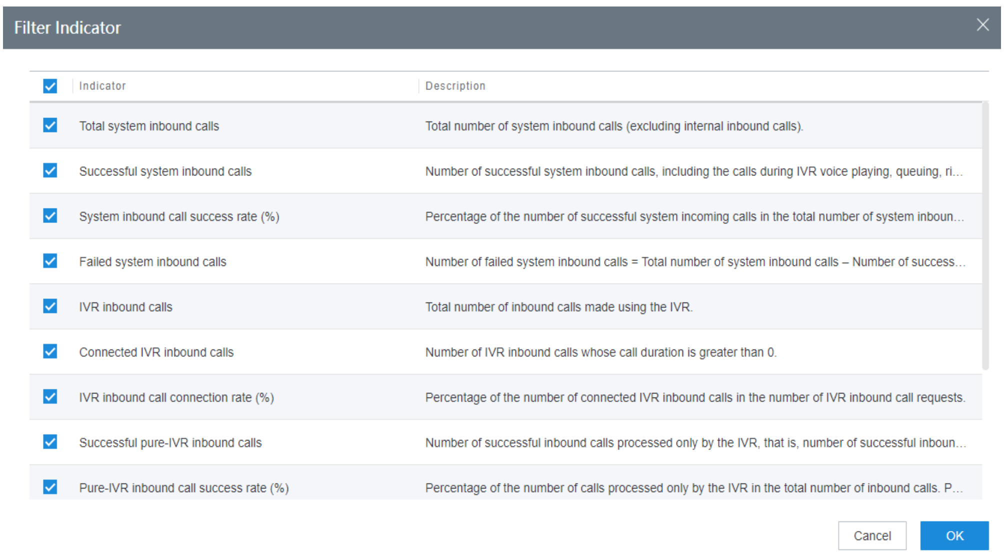


Table 4-5 Indicators in the Filter Indicator dialog box

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 playing, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System inbound call success rate (%)	Percentage of the number of successful system inbound calls in the total number of 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 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 in 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
Manual inbound calls	Total number of inbound calls requesting agent services.
Agent answered calls	Number of calls successfully answered by agents.
Manual inbound call success rate (%)	Percentage of the number of agent answered calls in the number of manual inbound calls.

Indicator	Description
Manual success rate in total inbound calls (%)	Percentage of the number of agent answered calls in the total number of 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.

- 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 page 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.

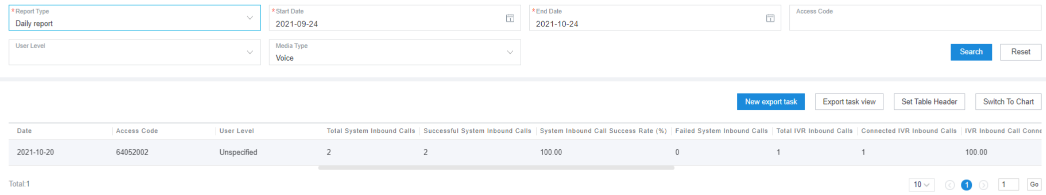
     ■ You do not need to configure the compression password in the independent deployment environment.
   – Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, 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 VDN Traffic Report by Access Code

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **VDN Traffic Report by AccessCode** to query VDN traffic report data by access code.

Figure 4-46 VDN 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.
- **Access Code**: 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.
- **User Level**: The options are existing customer levels of the VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-47 Filter Indicator dialog box

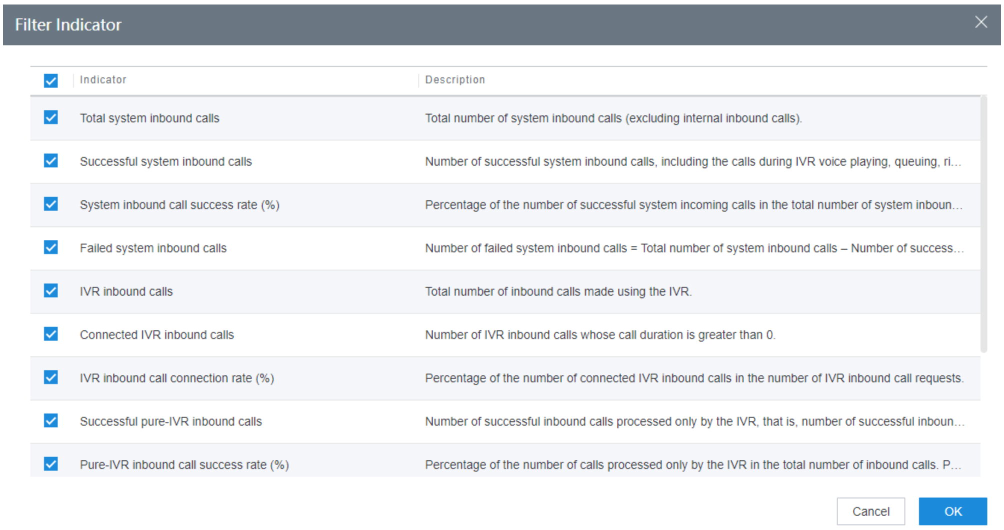


Table 4-6 Indicators in the Filter Indicator dialog box

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 playing, queuing, ringing at agent voice terminals, and agent answering (excluding internal inbound calls).
System inbound call success rate (%)	Percentage of the number of successful system inbound calls in the total number of 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 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 in 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.

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
Manual inbound calls	Total number of inbound calls requesting agent services.
Agent answered calls	Number of calls successfully answered by agents.
Manual inbound call success rate (%)	Percentage of the number of agent answered calls in the number of manual inbound calls.
Manual success rate in total inbound calls (%)	Percentage of the number of agent answered calls in the total number of 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.

- 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 page 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.

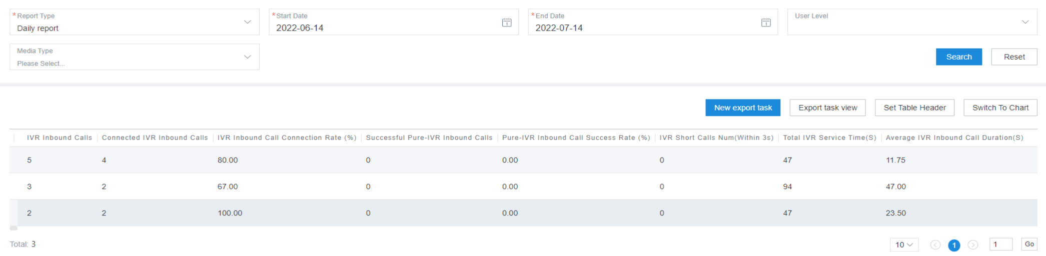
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.3 IVR Traffic Report

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 4-48 IVR 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 VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-49 Filter Indicator dialog box

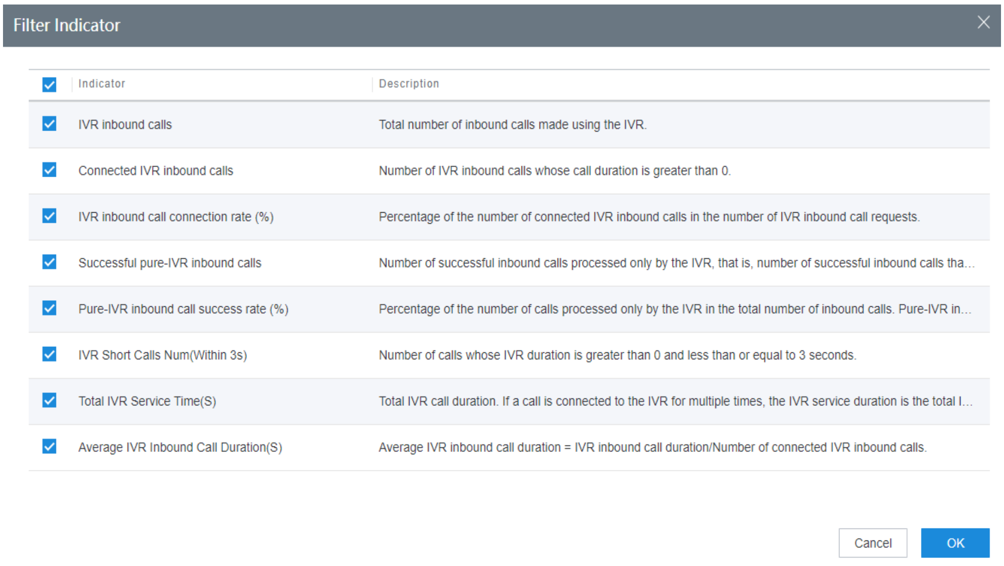


Table 4-7 Indicators in the Filter Indicator dialog box

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 in 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.

Indicator	Description
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 page 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

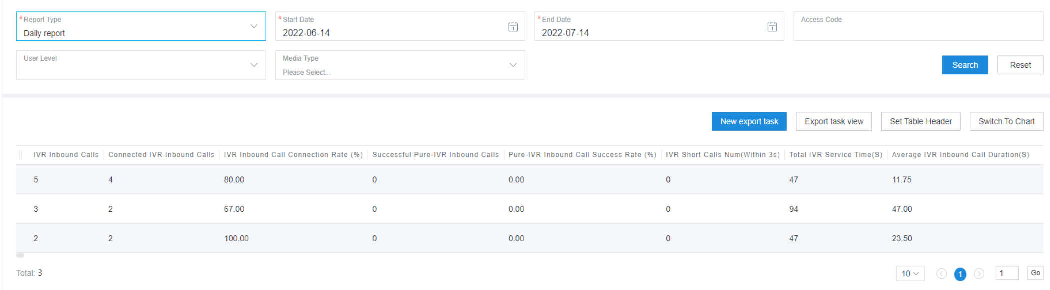
     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select 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

4.3.3.4 IVR Traffic Report by Access Code

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 4-50 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.
  - **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.
- **Access Code**: 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.
- **User Level**: The options are existing customer levels of the VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-51 Filter Indicator dialog box

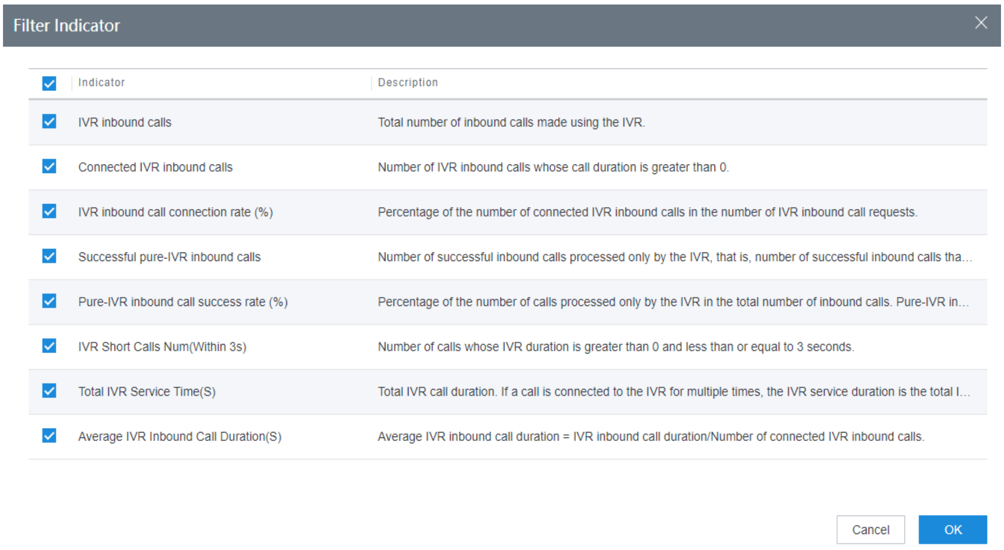


Table 4-8 Indicators in the Filter Indicator dialog box

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 in 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.

Indicator	Description
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 page 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

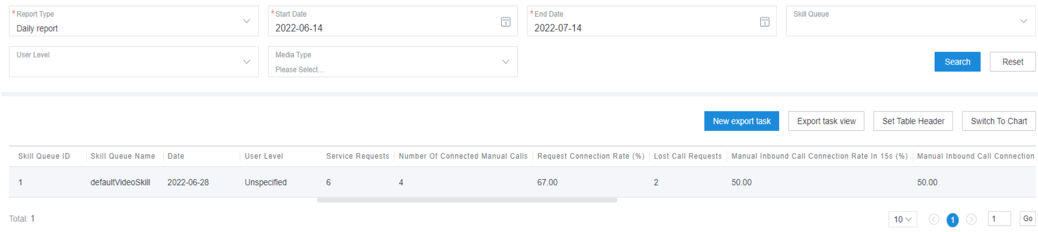
     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select 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

4.3.3.5 Skill Queue Traffic Report

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.

Figure 4-52 Skill Queue 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.
- **Skill Queue**: Select a skill queue that has been configured in the call center configuration.
- **User Level**: The options are existing customer levels of the VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-53 Filter Indicator dialog box

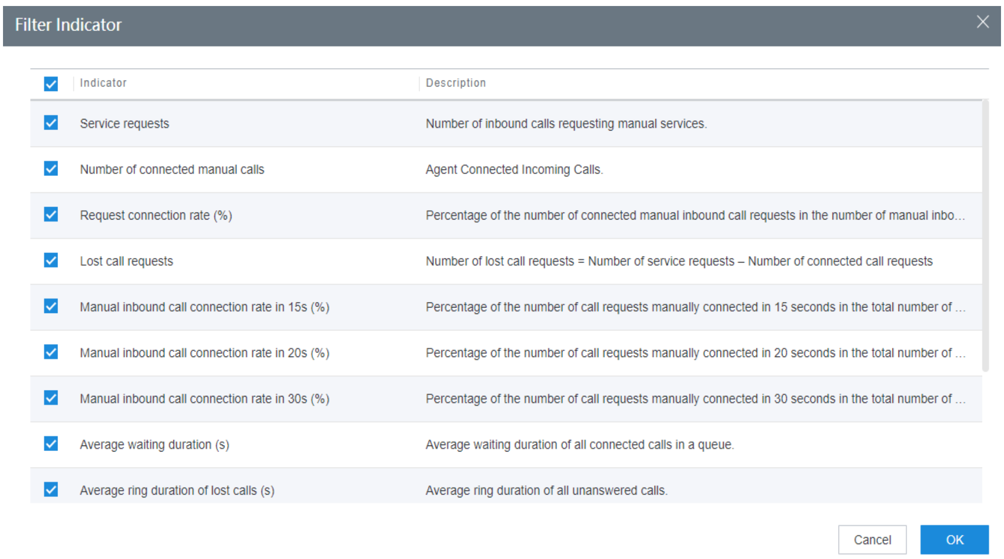


Table 4-9 Indicators in the Filter Indicator dialog box

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.
Lost call requests	Number of lost call requests = Number of service requests – Number of connected call requests
Manual inbound call connection rate in 15s (%)	Percentage of the number of call requests manually connected in 15 seconds in the total number of calls requesting manual services.
Manual inbound call connection rate in 20s (%)	Percentage of the number of call requests manually connected in 20 seconds in the total number of calls requesting manual services.
Manual inbound call connection rate in 30s (%)	Percentage of the number of call requests manually connected in 30 seconds in the total number of calls requesting manual services.
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 ring 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 subscribers during queuing and ringing.

Indicator	Description
Unanswered calls	Number of unanswered calls after being allocated 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.

- 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 page 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.

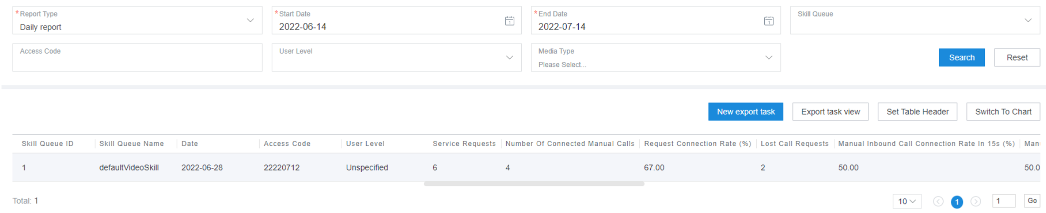
   – Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.6 Skill Queue Traffic Report by Access Code

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 4-54 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.
  - **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.
- **Skill Queue**: Select a skill queue that has been configured in the call center configuration.
- **Access Code**: 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.
- **User Level**: The options are existing customer levels of the VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-55 Filter Indicator dialog box

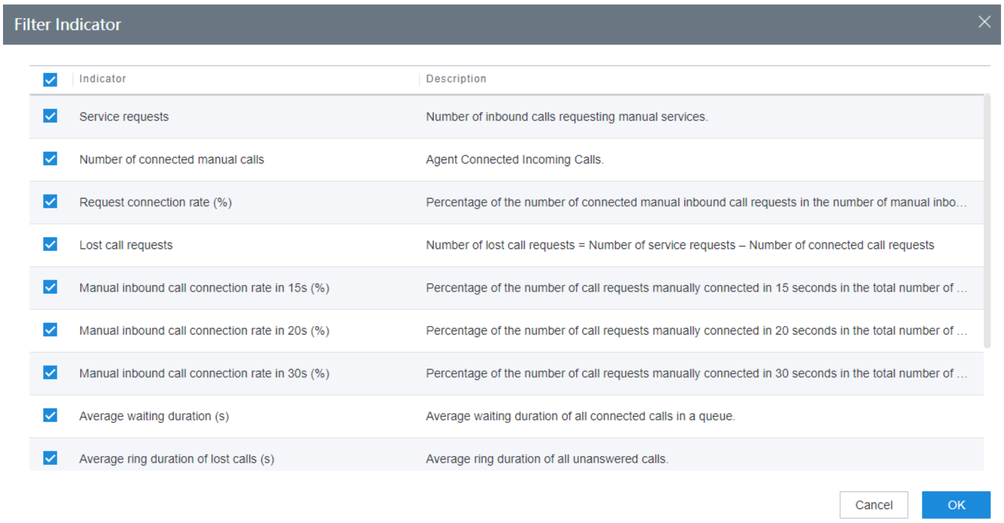


Table 4-10 Indicators in the Filter Indicator dialog box

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.
Lost call requests	Number of lost call requests = Number of service requests – Number of connected call requests
Manual inbound call connection rate in 15s (%)	Percentage of the number of call requests manually connected in 15 seconds in the total number of calls requesting manual services.
Manual inbound call connection rate in 20s (%)	Percentage of the number of call requests manually connected in 20 seconds in the total number of calls requesting manual services.
Manual inbound call connection rate in 30s (%)	Percentage of the number of call requests manually connected in 30 seconds in the total number of calls requesting manual services.

Indicator	Description
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 ring 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 subscribers during queuing and ringing.
Unanswered calls	Number of unanswered calls after being allocated 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.

- 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 page 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.

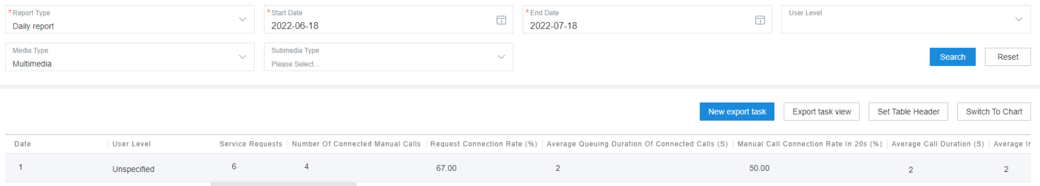
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.7 Traffic Summary Report

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 4-56 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.
  - **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 VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-57 Filter Indicator dialog box

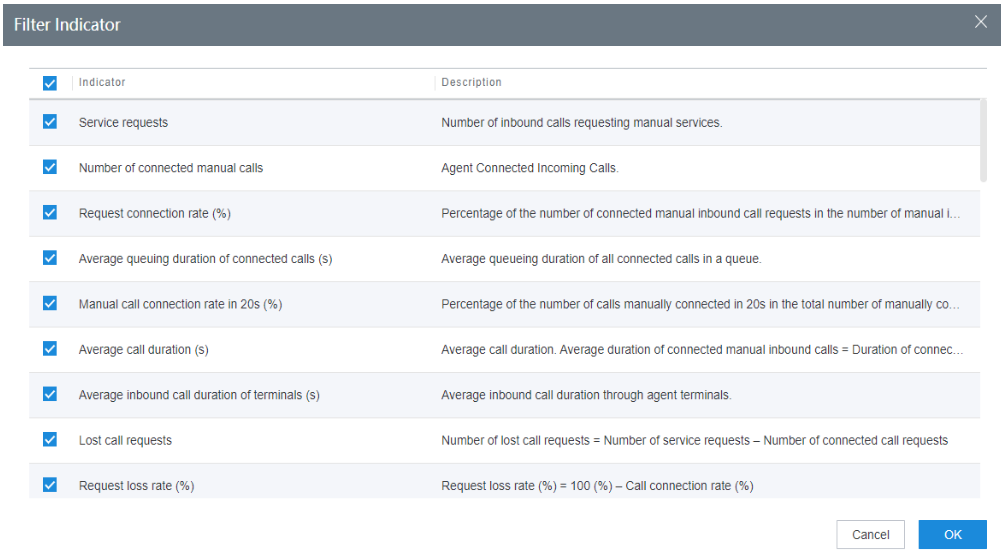


Table 4-11 Indicators in the Filter Indicator dialog box

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.

Indicator	Description
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.
Outbound call connection rate (%)	Percentage of the number of connected outbound calls in 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.

Indicator	Description
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
Total 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.
Manual call duration rate (%)	Manual call duration rate = Manual call 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
Total 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
Total 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
Total 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 duration of other states (s)	Total duration when an agent is in another state, or call duration of other skills when multiple skills exist.

Indicator	Description
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 in 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.
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 page 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

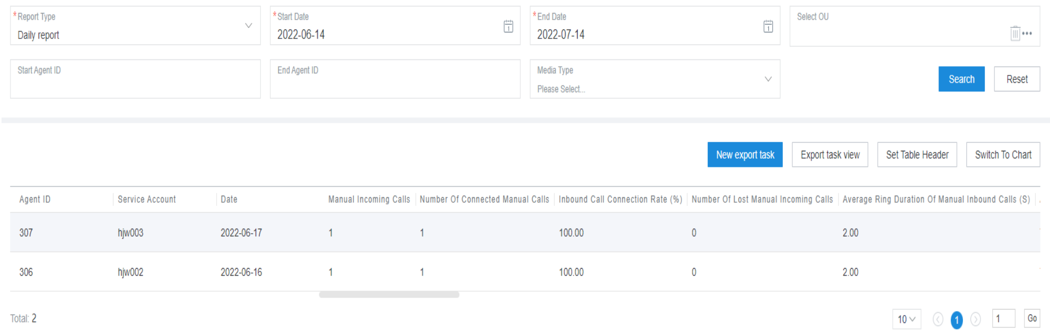
file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.8 Agent Traffic Report

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.

Figure 4-58 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.
- **Select OU**

  a. Click , select an OU in the **Select OU** dialog box that is displayed, 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.

  b. Click  to delete the selected OU. After the selected OU is deleted, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

- The options are all OUs.
- 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.

When you do not have the permission to view report OUs:

- The options are only the current OU and its lower-level OUs.
- 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 five 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 five 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-59 Filter Indicator dialog box

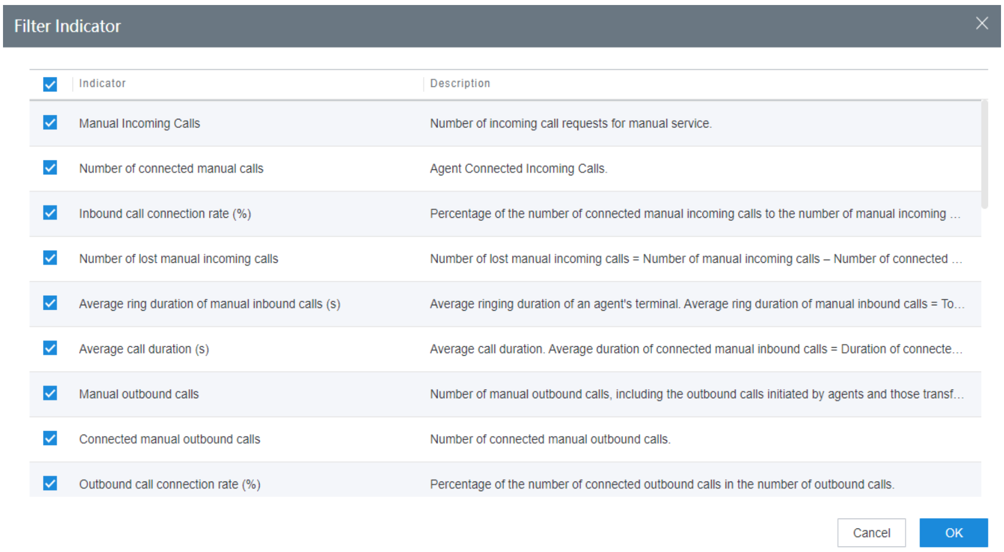


Table 4-12 Indicators in the Filter Indicator dialog box

Indicator	Description
Manual Incoming Calls	Number of incoming call requests for manual service.
Number of connected manual calls	Number of inbound calls connected by an agent.
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
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 in 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.

Indicator	Description
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
Total 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.
Manual call duration rate (%)	Manual call duration rate = Manual call 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
Total 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
Total 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

Indicator	Description
Total 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 in 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.
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.
- 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 page 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

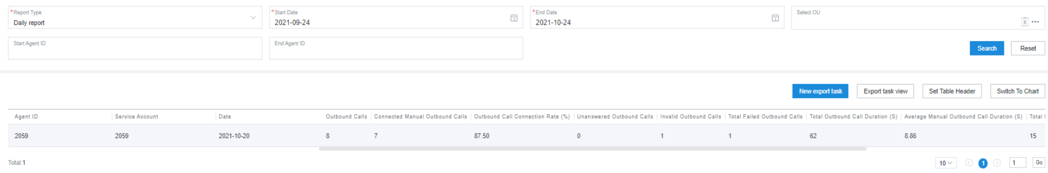
file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.9 Agent Outbound Call Report

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 4-60 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.

  NOTE

  The **Start Week**/**End Week** and **Start Month**/**End Month** drop-down list boxes support search and filtering.
- **Select OU**

  a. Click , select an OU in the **Select OU** dialog box that is displayed, 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.

  b. Click  to delete the selected OU. After the selected OU is deleted, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

- The options are all OUs.
- 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.

When you do not have the permission to view report OUs:

- The options are only the current OU and its lower-level OUs.
- 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 five 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 five 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-61 Filter Indicator dialog box

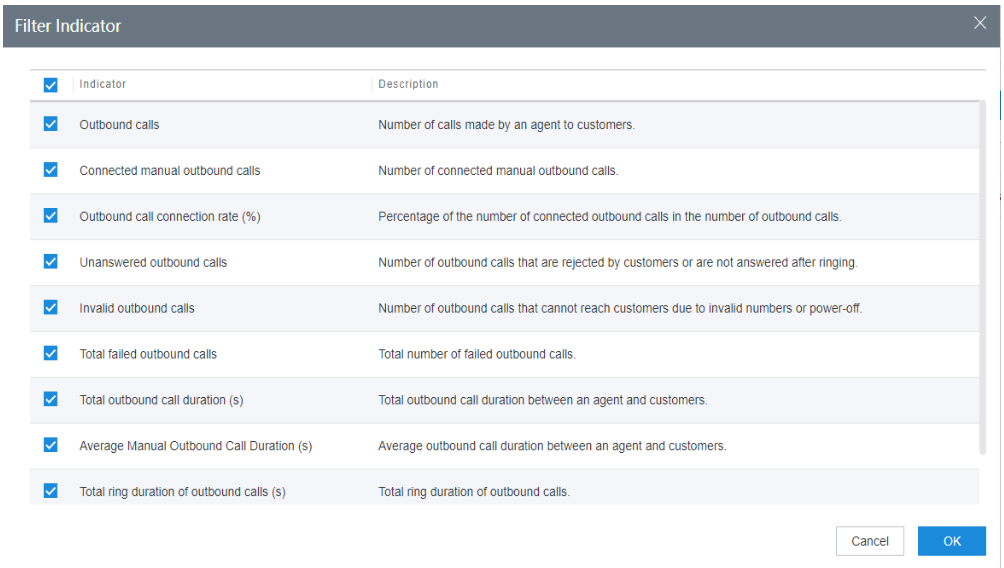


Table 4-13 Indicators in the Filter Indicator dialog box

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 in 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.
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 page 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

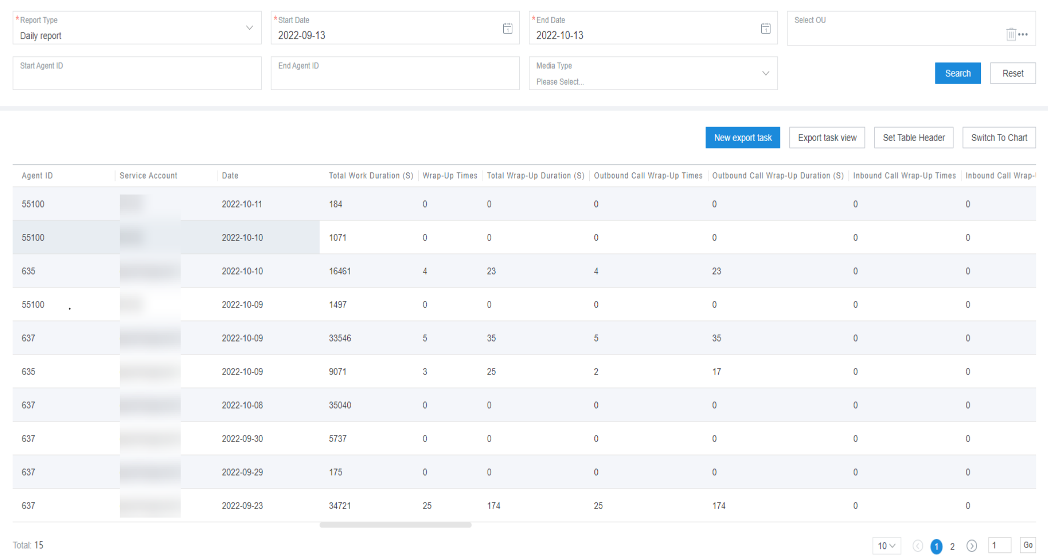
     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select 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

4.3.3.10 Agent Connection Report

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 4-62 Agent Connection 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**
  a. Click , select an OU in the **Select OU** dialog box that is displayed, 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.
  b. Click to delete the selected OU. After the selected OU is deleted, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

  NOTE

  When you have the permission to view report OUs:
  – The options are all OUs.
  – 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.

  When you do not have the permission to view report OUs:
  – The options are only the current OU and its lower-level OUs.
  – 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 five 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 five 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-63 Filter Indicator dialog box

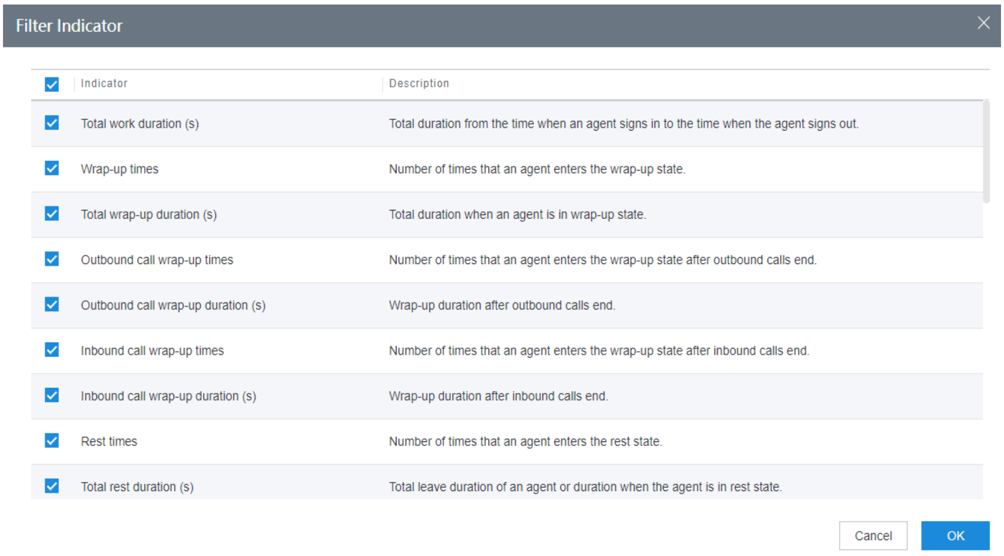


Table 4-14 Indicators in the Filter Indicator dialog box

Indicator	Description
Total 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
Wrap-up times	Number of times that an agent enters the wrap-up state.
Total 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.

Indicator	Description
Rest Times	Number of times that an agent enters the rest state
Total 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.
Total 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.
Total busy duration (s)	Total duration when an agent is in busy state.
Voice playing times	Number of voice playing times.
Voice playing duration (s)	Voice playing duration.
Total 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.

Indicator	Description
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 that 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.
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 page 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.

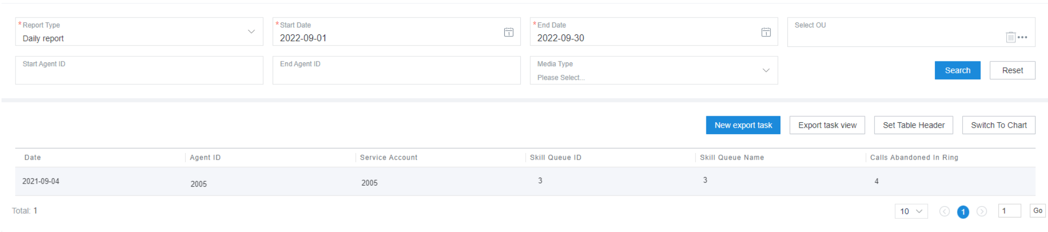
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.11 Abandoned Call in Ringing Report

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 4-64 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**

  a. Click , select an OU in the **Select OU** dialog box that is displayed, 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.

  b. Click to delete the selected OU. After the selected OU is deleted, the **Start Agent ID** and **End Agent ID** text boxes are displayed, and the **Select Agent** selection box is hidden.

NOTE

When you have the permission to view report OUs:

– The options are all OUs.
– 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.

When you do not have the permission to view report OUs:

– The options are only the current OU and its lower-level OUs.
– 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 five 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 five 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-65 Filter Indicator dialog box

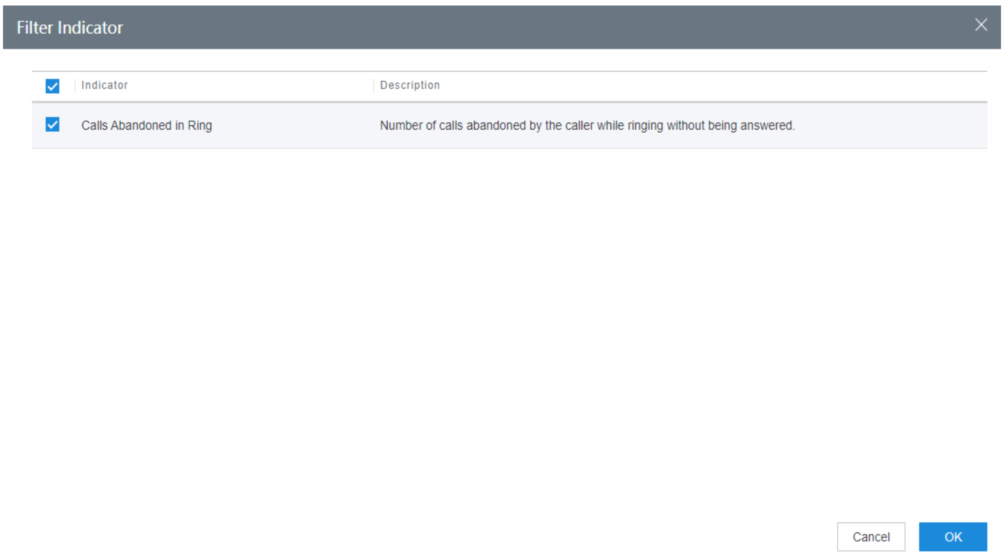


Table 4-15 Indicators in the Filter Indicator dialog box

Indicator	Description
Calls Abandoned in Ring	Number of calls abandoned by the caller while ringing without being answered.

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 page 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

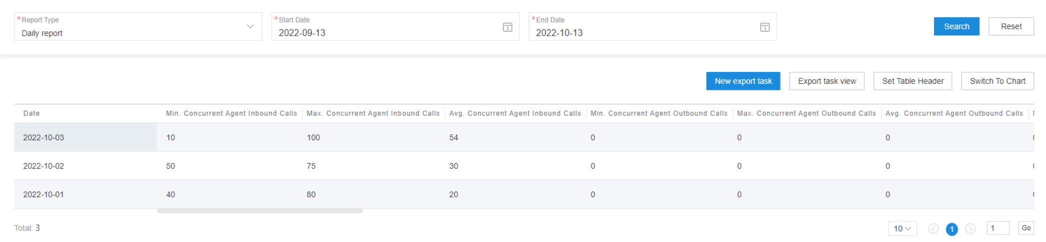
     - The compression password is used to open the downloaded package.
     - You do not need to configure the compression password in the independent deployment environment.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select 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

4.3.3.12 Interval-based VDN Traffic Report

Step 1 Sign in to the AICC as a tenant administrator or an inspector and choose **Report** > **Interval-Based VDN Traffic Report** to query interval-based VDN traffic report data.

Figure 4-66 Interval-Based VDN 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 VDN 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 **Web**, **WhatsApp**, **LINE**, **WeChat**, **Facebook Messenger**, **Twitter**, **New message**, **Email**, and **SMS**.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-67 Filter Indicator dialog box

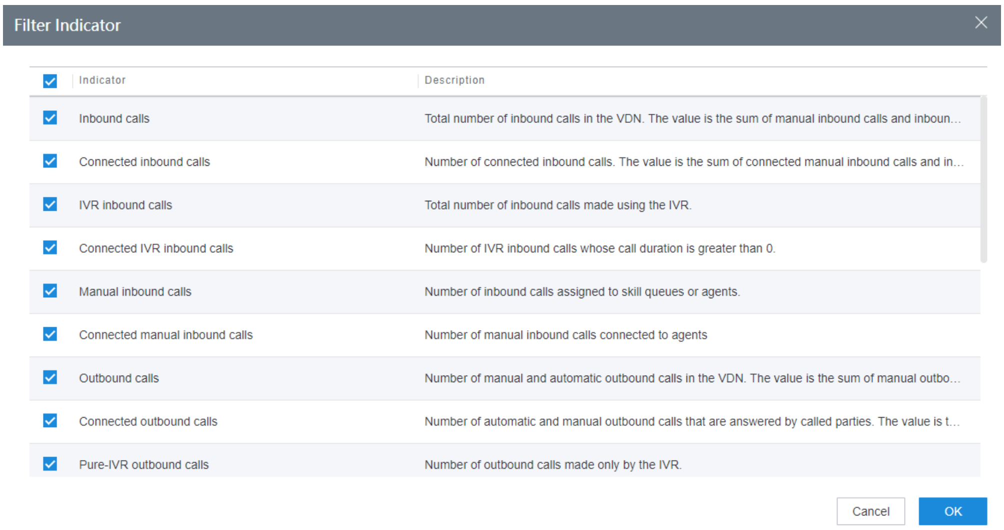


Table 4-16 Indicators in the Filter Indicator dialog box

Indicator	Description
Inbound calls	Total number of inbound calls in the VDN. 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.
Connected IVR inbound calls	Number of IVR inbound calls whose call duration is greater than 0.
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 VDN. 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.
Connected pure-IVR outbound calls	Number of connected pure-IVR outbound calls whose IVR device occupation duration is greater than 0.
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.

Indicator	Description
IVR inbound call connection rate (%)	Percentage of connected IVR inbound calls to total IVR inbound calls.
Manual inbound call connection rate (%)	Percentage of connected manual inbound calls to total manual inbound calls.
Outbound call connection rate (%)	Percentage of connected outbound calls to total outbound calls.
Pure-IVR outbound call connection rate (%)	Percentage of connected pure-IVR outbound calls to total pure-IVR outbound calls.
Manual outbound call connection rate (%)	Percentage of connected manual outbound calls to total manual outbound calls.
Average inbound call duration in VDN (s)	Average inbound call duration in the VDN. The value is the total inbound call duration divided by the number of inbound calls.
Average outbound call duration in VDN (s)	Average outbound call duration in the VDN. 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 page 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.

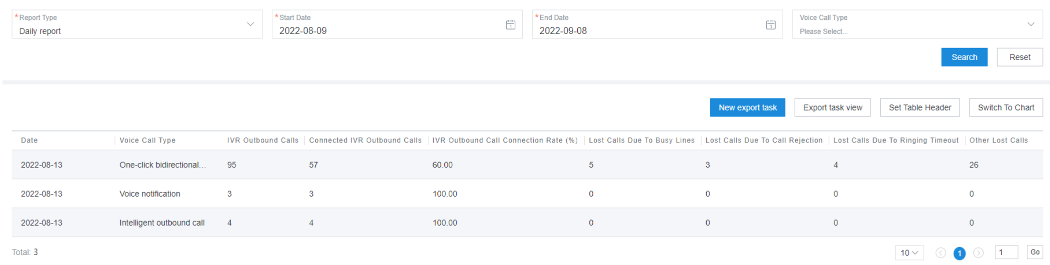
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export the report file to the local PC. To open the report file on the local PC, you need to enter the compression password set when you create the export task.

----End

4.3.3.13 IVR Outbound Call Report

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 4-68 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** page is displayed.

Figure 4-69 Filter Indicator dialog box

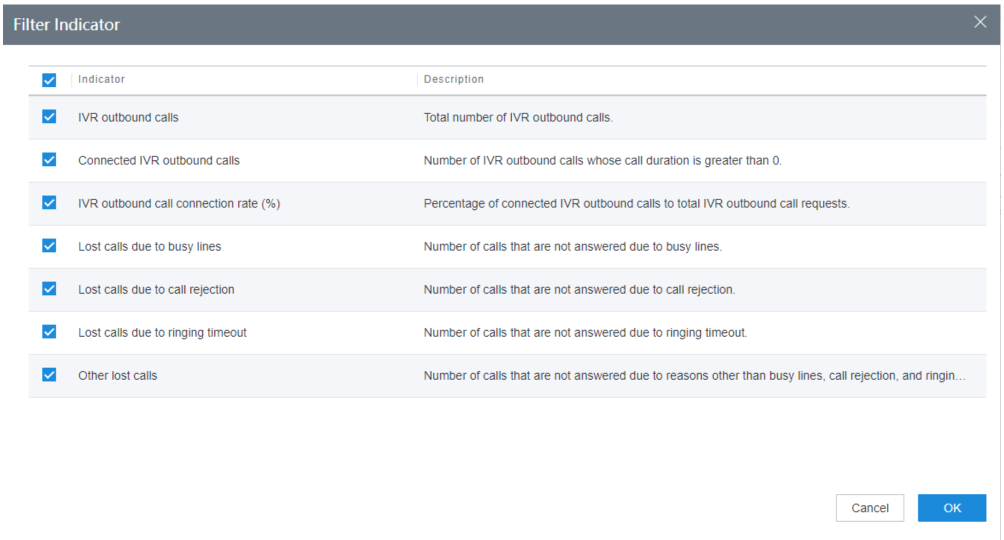


Table 4-17 Indicators on the Filter Indicator page

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.

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 page 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

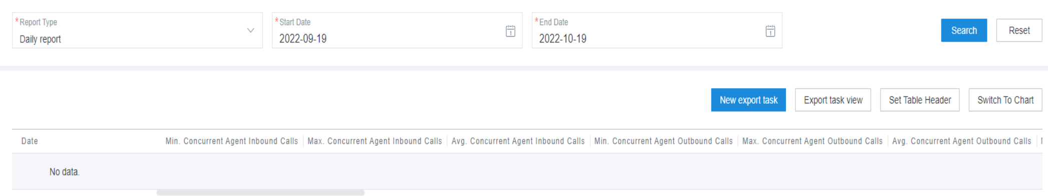
     The compression password is used to open the downloaded package.
   - Click **OK** to create an export task.
3. Click **Export task view** to view the export tasks in the last seven days.
4. Select the created export task based on **Export Start Time** and **Status**, and click **download** to export 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

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 4-70 System Performance 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.

Step 2 Filter indicators.

1. Click **Set Table Header**. The **Filter Indicator** page is displayed.

Figure 4-71 Filter Indicator dialog box

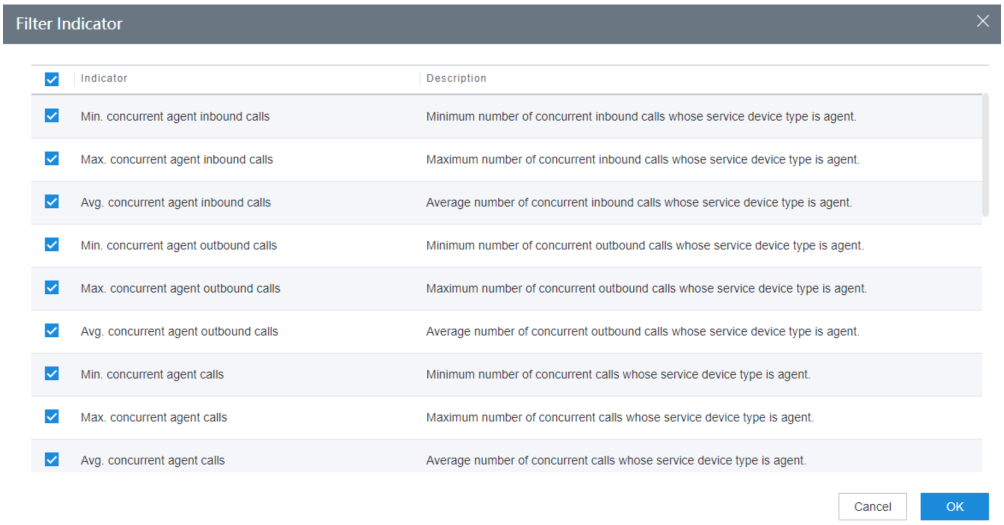


Table 4-18 Indicators on the Filter Indicator page

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.
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.

Indicator	Description
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.
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.

Indicator	Description
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.
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.

Indicator	Description
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 page 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