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Product Description

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Contents

1 Introduction to the AICC

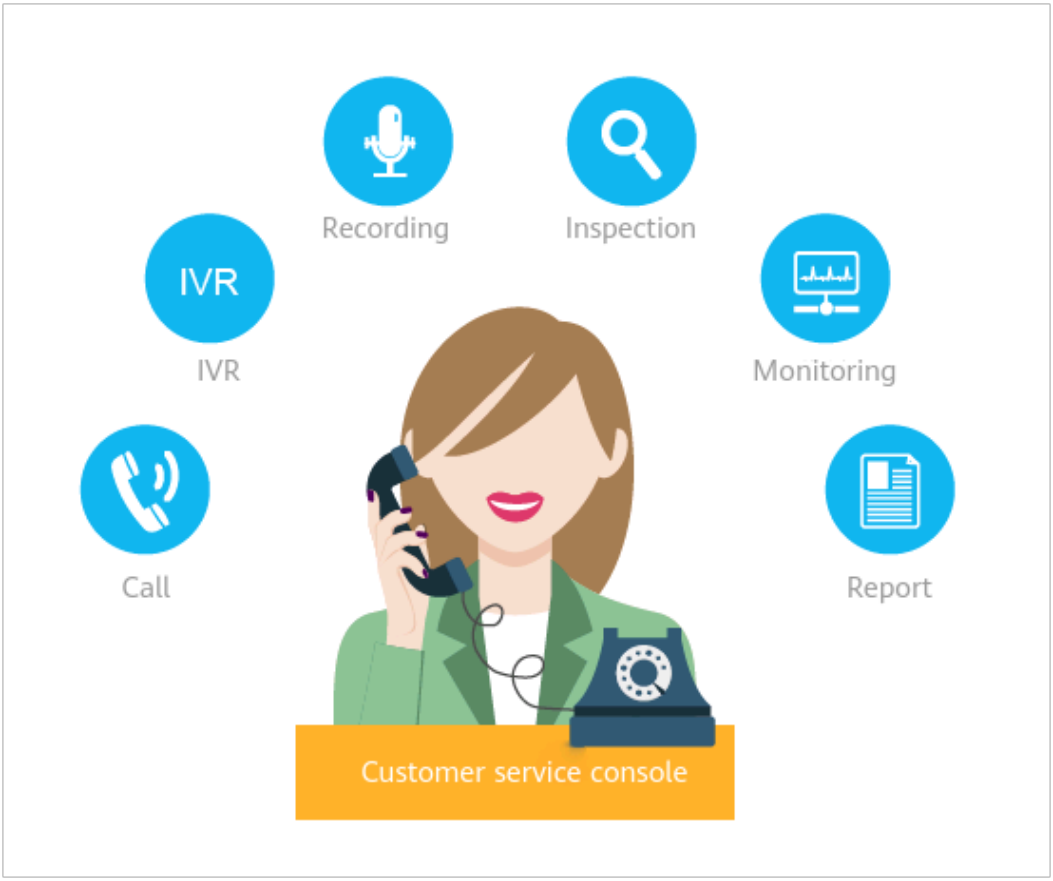
As a bridge between enterprises and customers, a contact center is an important part of enterprise services. A high-quality contact center not only brings a good reputation to enterprises, but also serves as the value and profit center of value-added services and precision marketing. The following describes the development history, advantages, and future of the AICC (AICC).

Development History

The development of the AICC can be divided into three phases based on the name.

Phase 1: Call Center

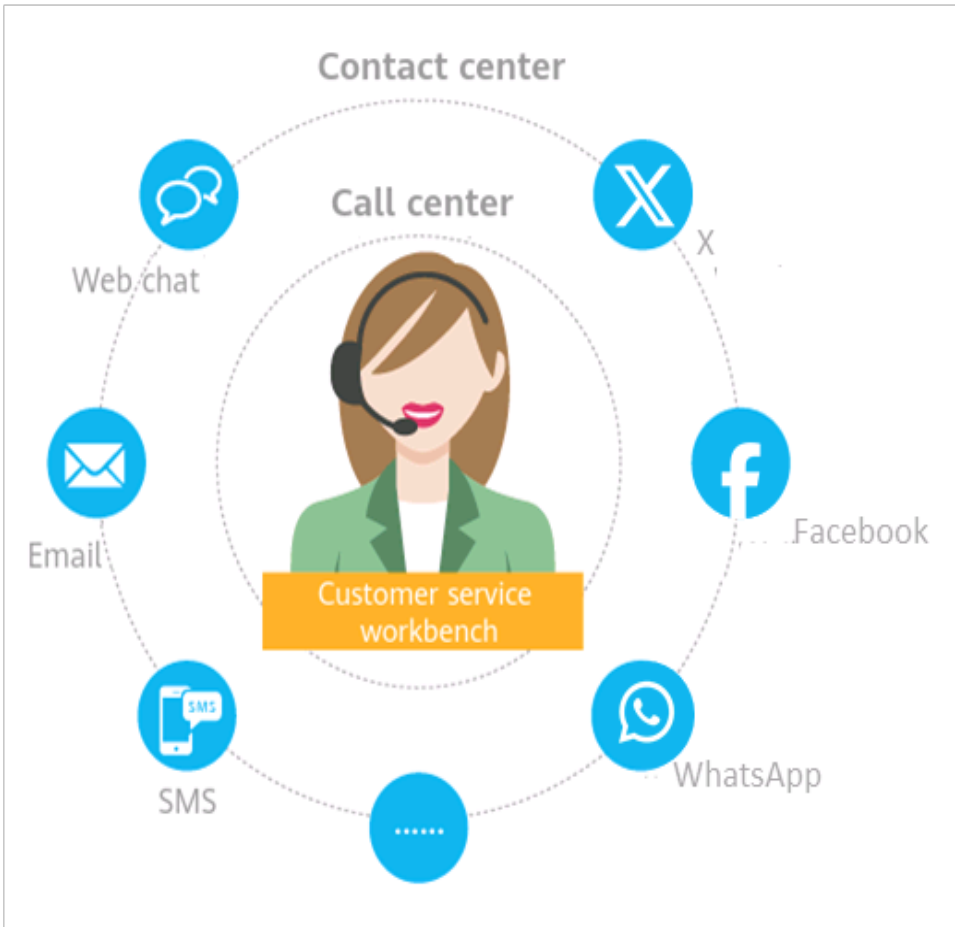
The earliest call center mainly processes hotline calls. The interactive voice response (IVR) reduces the number of handled manual services and agent workload. The computer telephony integration (CTI) technology allows the telephone exchange system to be integrated with the computer system. In this way, agents can obtain customer information from the computer when answering calls, and provide personalized services for customers. Recording devices improve the service quality with recordings in the entire service process. The real-time monitoring system, inspection system, and report system enable the management personnel to monitor the running states of the call center.



Phase 2: Contact Center

The rapid development of Internet technologies and emergence of new media, such as SMS messages, instant messaging, emails, web chats, WeChat, and Weibo, bring fundamental changes to customers' communication modes. The call center implements not only voice calls, but also multi-media communication. With this transformation, the call center becomes the contact center.

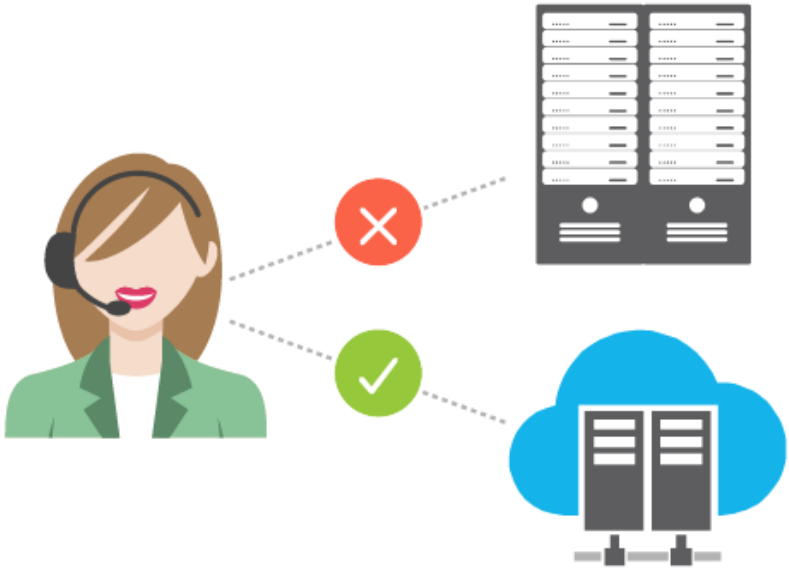
The key technologies of the contact center platform are platform openness and unified multimedia routing. The platform openness implements the access of multiple media, and the unified routing implements the unified routing and distribution of multimedia.



Phase 3: Cloud Contact Center

Although the functions of the contact center are complete, the on-premises deployment mode is widely used, resulting in high hardware and maintenance costs and slow capacity expansion. The AICC cloudifies all resources of a contact center to deploy services based on cloud computing. The public cloud–based contact center frees enterprises from purchasing and maintaining hardware devices. Instead, enterprises can purchase agent resources on demand and pay for them based on the usage.

Cloud computing is a technology that is naturally applicable to contact centers and brings more service flexibility to enterprises. Small- and medium-sized enterprises can use high-quality contact center services upon purchase.

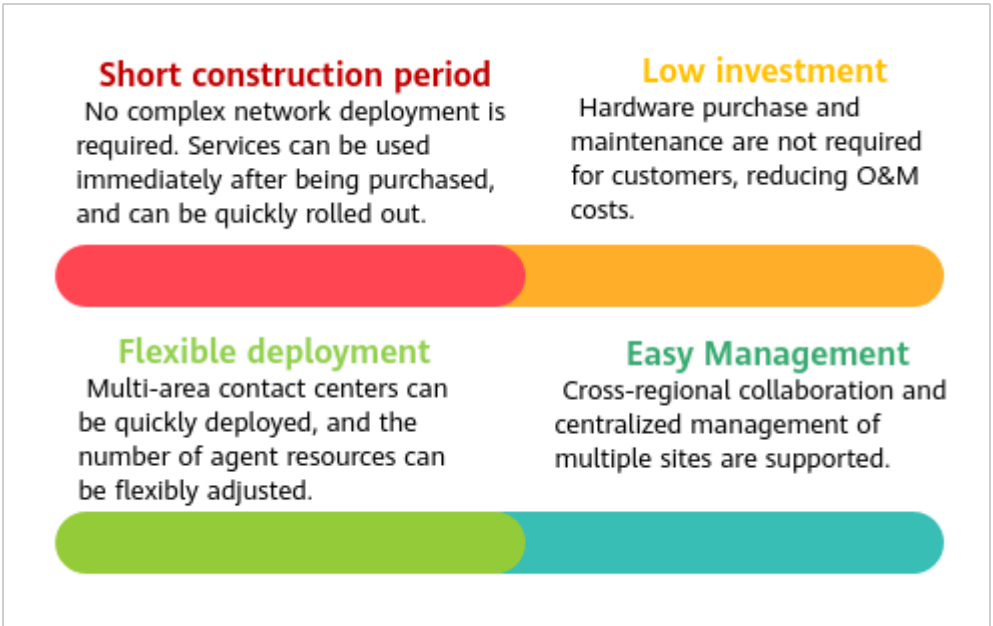


Currently, two types of cloud contact center services are available in the market:

- PaaS mode: Enterprises must have the PaaS interconnection capability. Enterprises encapsulate various open APIs of the cloud contact center and develop their own agent software.
- SaaS mode: Enterprises can directly purchase and use the agent software.

Advantages

The revolutionary innovation of the deployment mode promotes the development of the contact center. The cloud contact center has the following advantages: short construction period, low investment, flexible deployment, and easy management. Therefore, cloudification becomes an important option for enterprises to build contact centers.



Future

Unattended (artificial intelligence) and remote (video call) business handling and consulting services are changing people's daily life as well as contact centers. Intelligent voice navigation (that replaces key navigation), intelligent outbound call (that replaces manual outbound call), chatbot, intelligent inspection (ASR and TTS inspection), and HD video call are fundamentally changing the experience of a contact center.

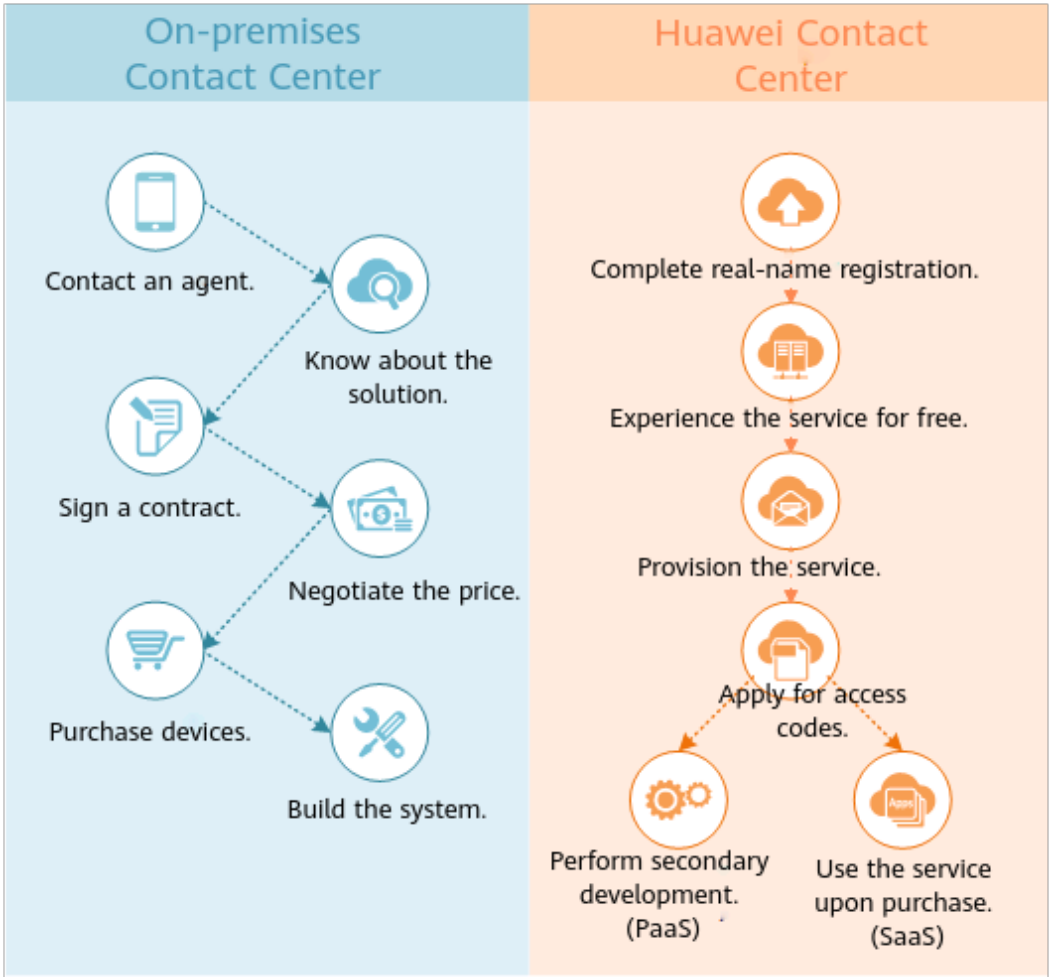
In the future, the AICC will provide more considerate and personalized services for customers and create new service experience for the contact center.

2 Differences Between the AICC and On-Premises Contact Center

Based on the previous section, you have a preliminary understanding of the AICC. The following describes the differences between the AICC and on-premises contact center in terms of purchase, deployment, capacity expansion, O&M, and costs.

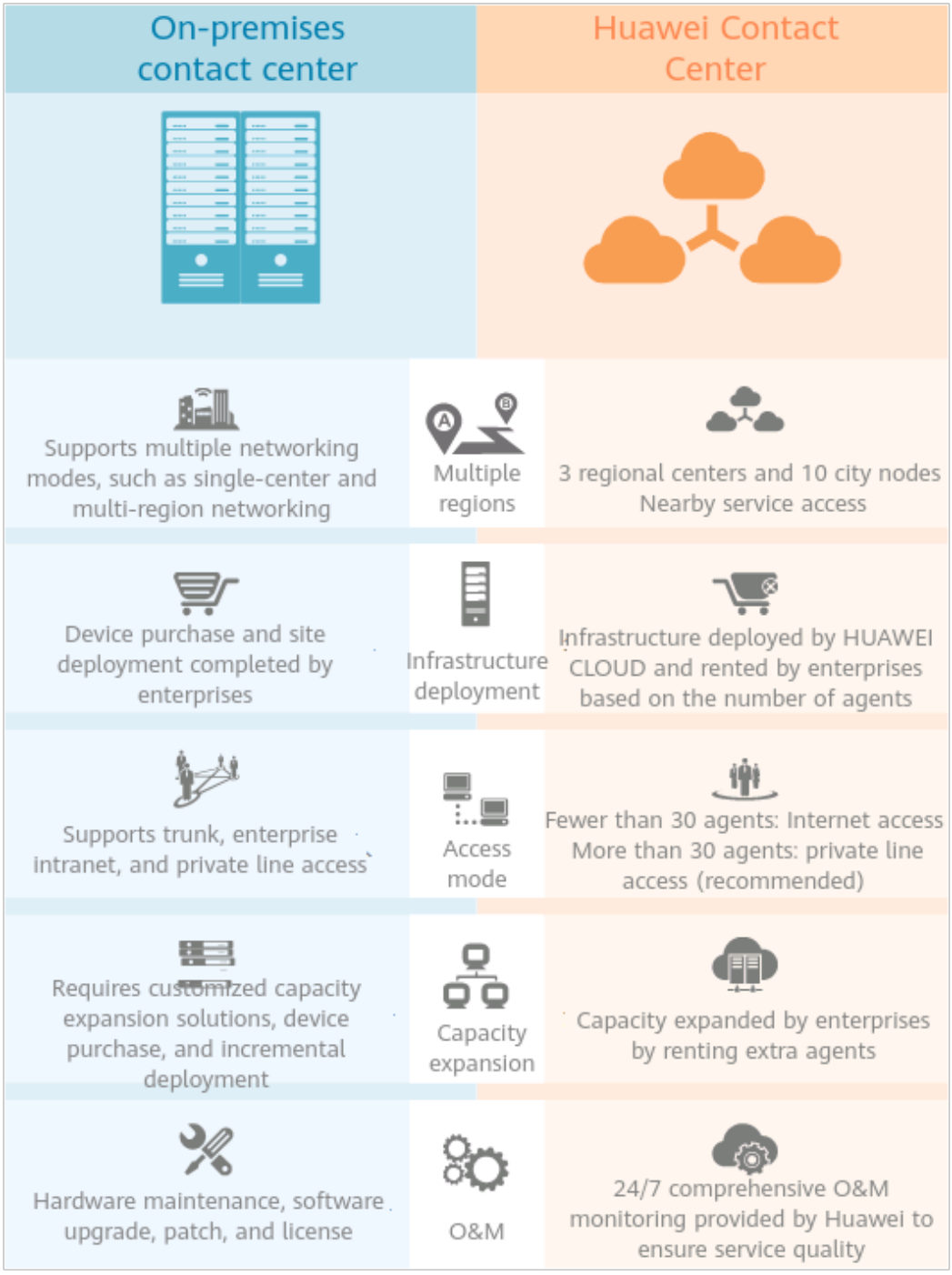
Purchase

- On-premises contact center: The traditional offline purchase mode is used. Enterprises negotiate with suppliers about solutions, sign contracts, purchase devices, and build systems. Access code resources are applied for by enterprises from the carrier.
- Cloud contact center: Enterprises rent agent resources on demand and pay for them based on the usage. After completing registration and real-name authentication on Huawei Cloud, enterprises can experience the cloud contact center service for free. Enterprises' self-owned access codes are supported.

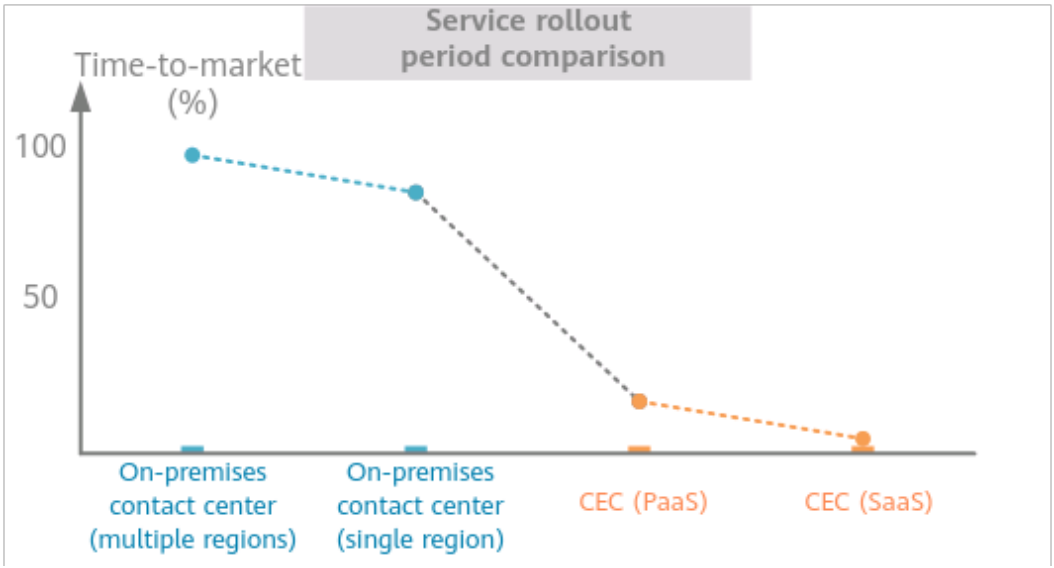


Deployment, Capacity expansion, and O&M

- On-premises contact center: Infrastructures are deployed in enterprises, and multiple networking modes, such as single-center and multi-region networking, are provided, featuring a long construction period and slow system rollout. The capacity is limited, and smooth capacity expansion is supported.
- AICC: It is deployed based on the infrastructure of Huawei Cloud and provides the PaaS and SaaS modes, featuring a short construction period, quick system rollout, and elastic capacity. Enterprises can rent agent resources on demand.

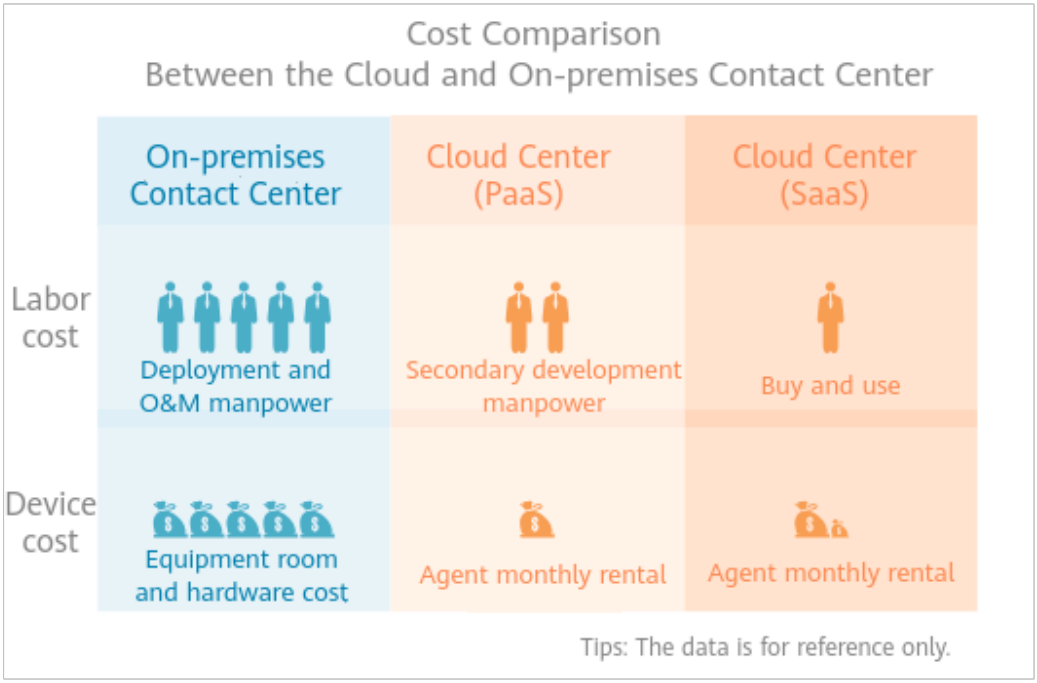


Due to different deployment modes, the service rollout period of the AICC is different from that of the on-premises contact center.



Cost

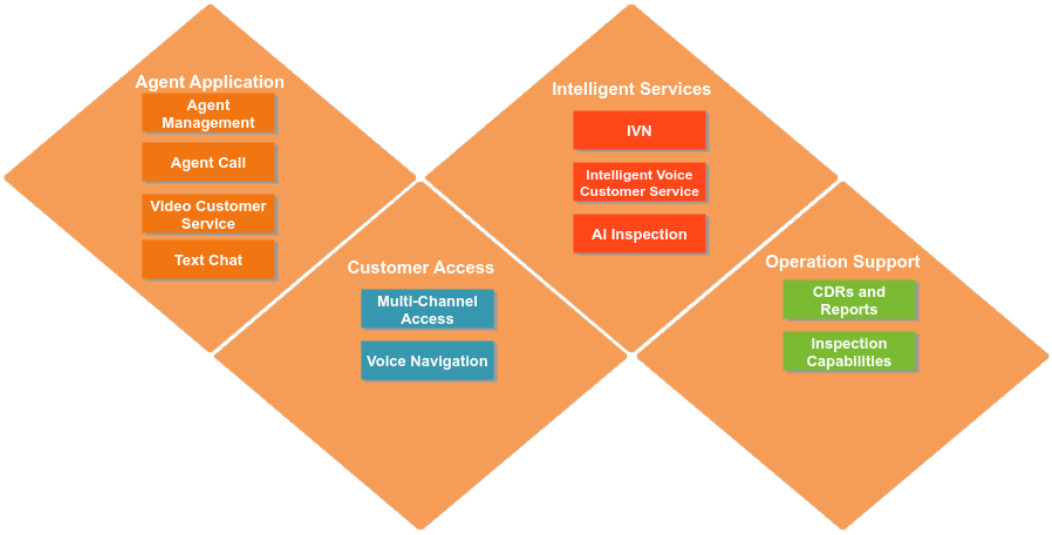
- On-premises contact center: Enterprises pay high device deployment and O&M costs as well as call fees and invest greatly in manpower.
- AICC: Enterprises need to pay only agent rental and call fees and invest slightly in manpower.



Based on the preceding comparison, enterprises can determine whether to select the on-premises contact center or AICC based on the requirements.

3 Functions in the Present and Future

As a bridge between enterprises and customers, Huawei AICC provides the following four capability sets to meet enterprise requirements and help enterprises build their own contact centers.

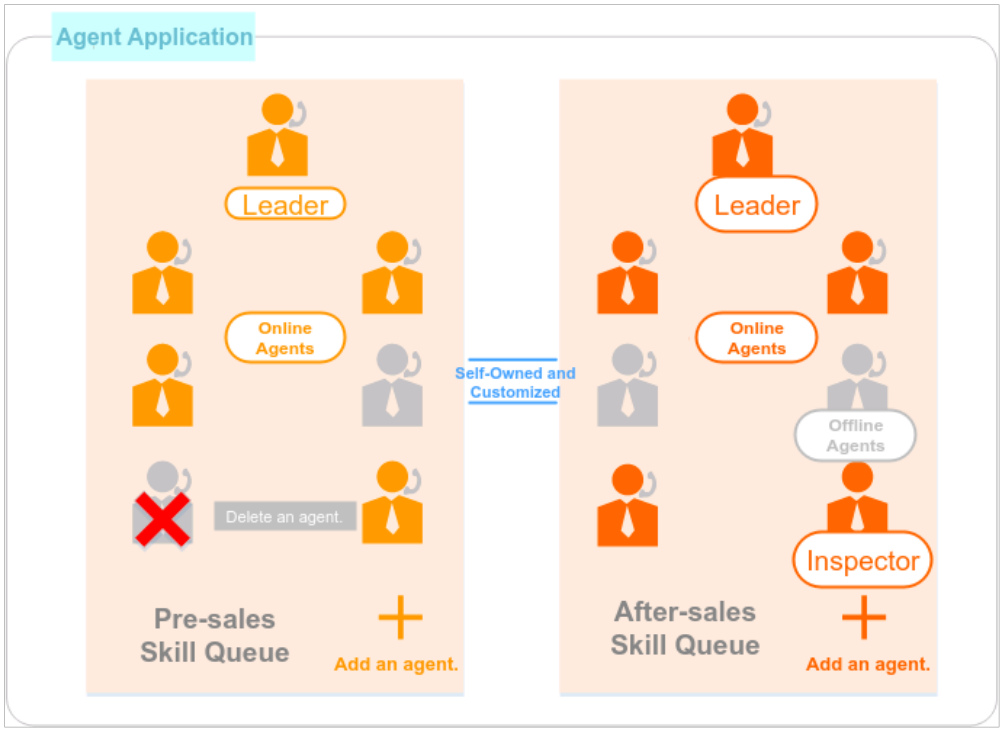


Agent Application

An agent is the basic unit of a contact center. The customization level and functionality of agents determine the capabilities of a contact center. Huawei AICC provides powerful agent capabilities for enterprises to flexibly operate agents.

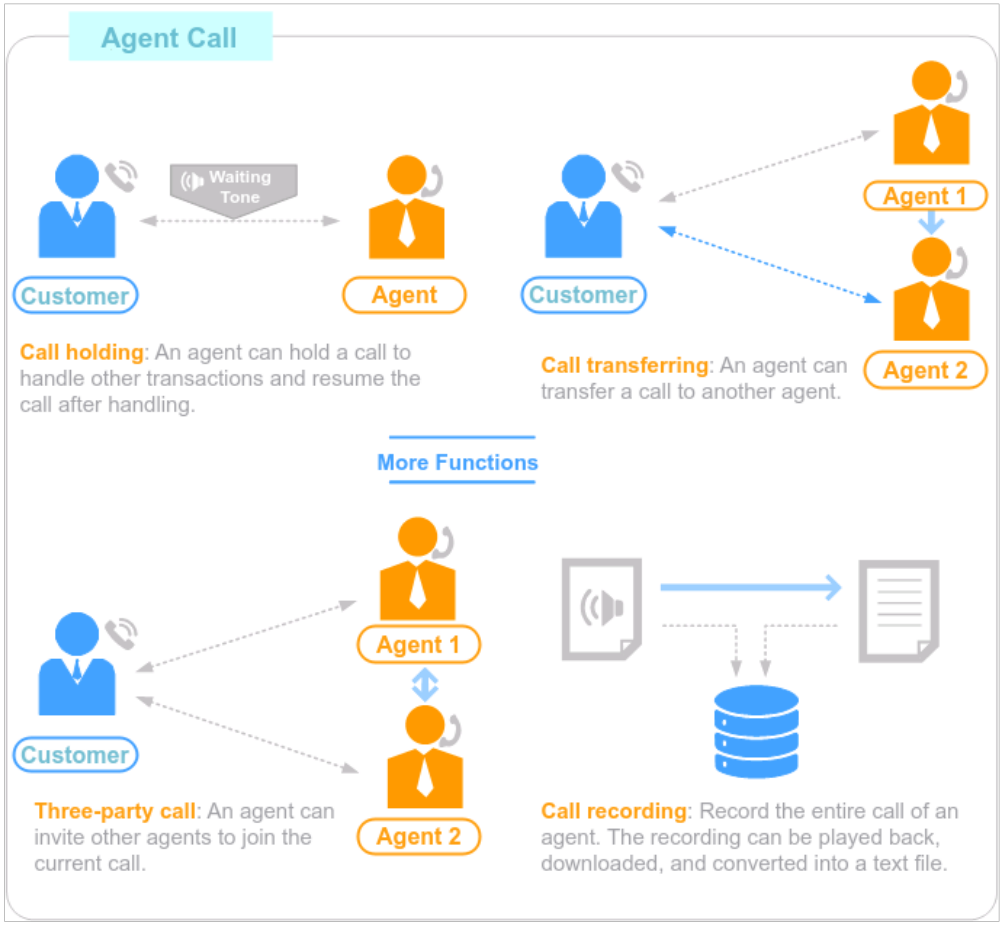
- Agent Management

  Huawei AICC enables enterprises to customize their own contact centers. Huawei AICC supports basic functions such as adding, deleting, modifying, and querying agents, setting agent status, and managing agents, that is, skill queue in Huawei AICC, by group. More importantly, Huawei AICC divides the agent permissions in detail. Enterprises can create various agents using permission control to meet various custom requirements.



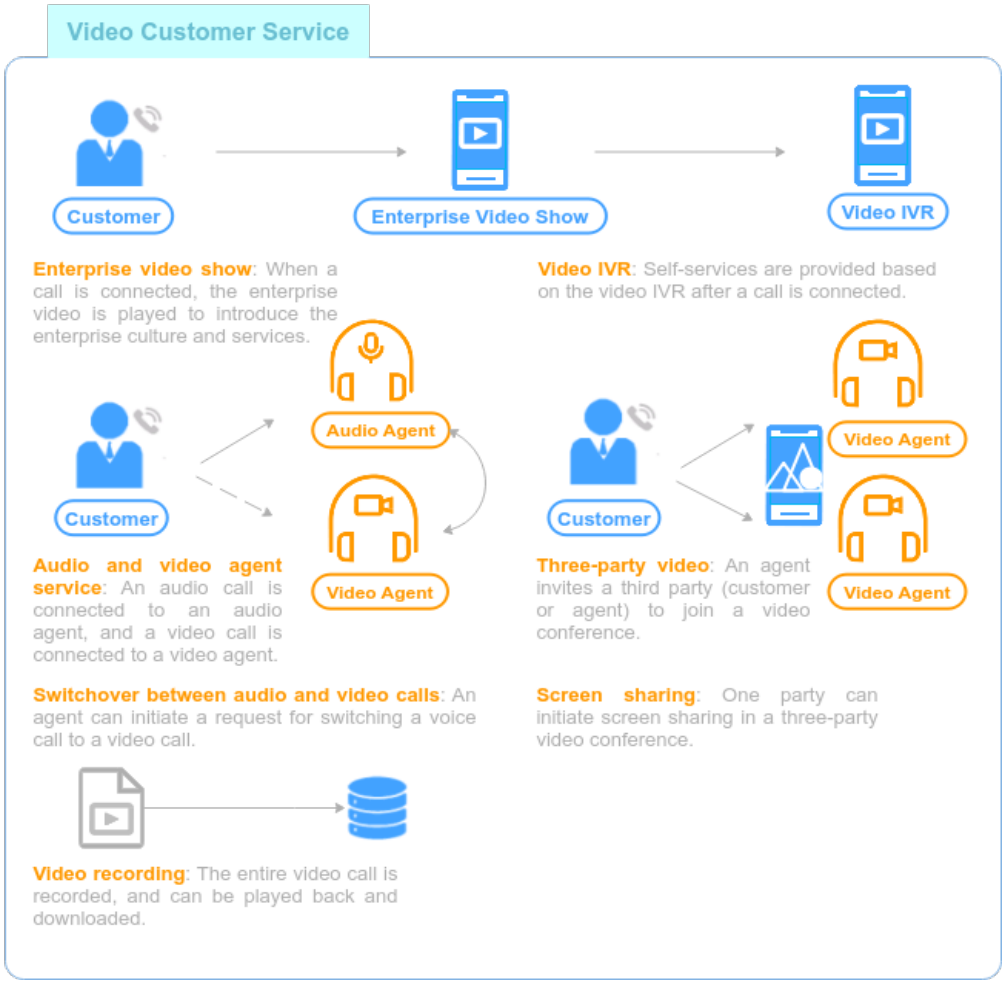
- Agent Call

  The quality and range of the voice call capability, the most basic and common capability of a contact center, are important indicators for measuring the contact center. Huawei has years of experience in the communication industry. The AICC supports multiple call functions such as call holding, call transferring, and three-party call, ensures high-quality calls, and helps agents better handle each inbound call, greatly improving customer service experience. Voice recordings are available during a call. In addition, the one-click ASR capability is provided for users to view and save the recordings.



- Video Customer Service

  The development of network technologies implements bandwidth acceleration, three-network convergence, and HD video calls across terminal devices. By using the video call technology in a contact center, customer service personnel can better present products to customers, explain business rules, and implement remote consultation and handling of more businesses. The video agents of the AICC support functions such as video playing in the ringing state (enterprise video show), video IVR, video call holding, video call transfer, voice and video call switching, three-party video, and agent desktop sharing. The video images are clear and smooth, facilitating communication between agents and customers. In addition, video conversations between agents and customers can be recorded and downloaded, which contributes to performance coaching and service quality evaluation for video agents.



- Text Chat

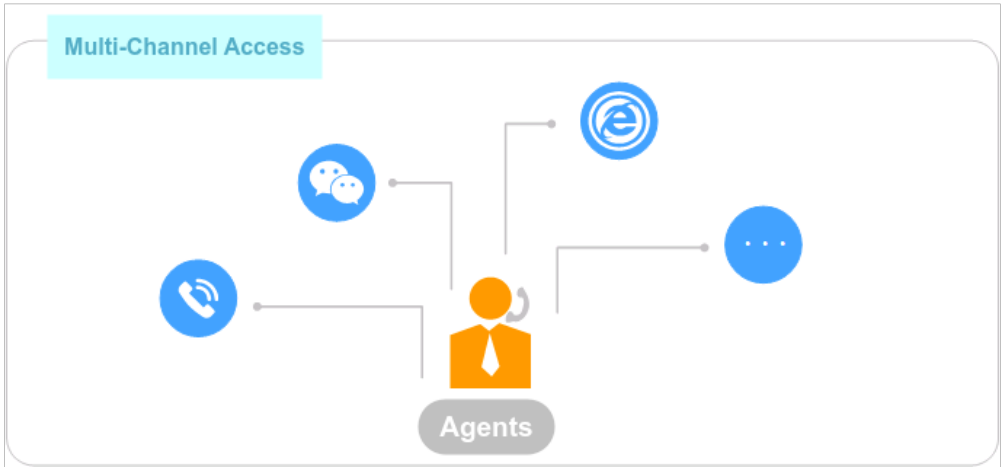
  Although voice call is the main communication mode of a contact center, not all customers are convenient to make calls when they need to contact the contact center. Huawei AICC plans to add the text chat function in the version to be released recently. The text chat function between agents and customers and between agents enables customers who are inconvenient to make voice calls to use contact center services.

Customer Access

Various communication modes are available in the modern society. A call center evolves into a contact center because of the open platform and omnimedia unified routing technology. Huawei AICC supports most mainstream access modes in the market and provides intelligent and flexible routing technologies to help enterprises easily build multi-channel contact centers.

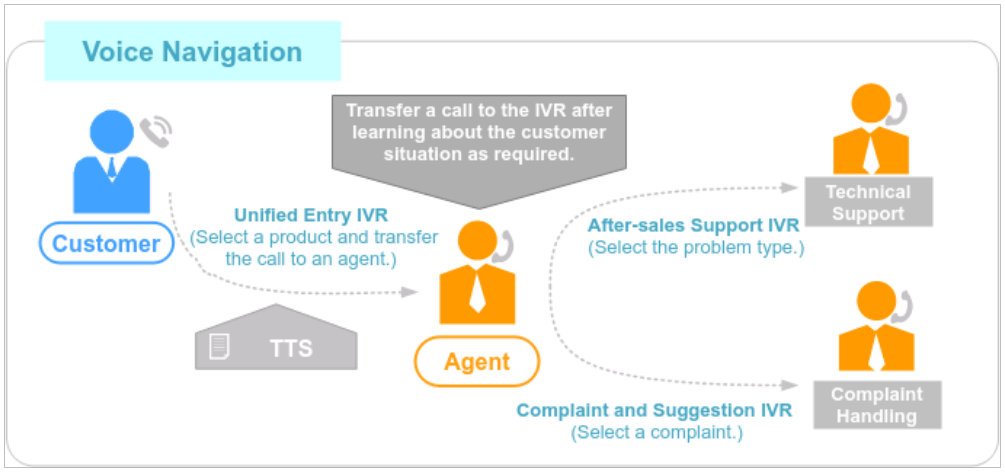
- Multi-Channel Access

  Huawei AICC supports multiple access modes, such as phone, WeChat, web, Facebook, LINE, and new messages, for customers to obtain services from the contact center anytime and anywhere. After customer calls are connected, the calls are processed in a unified manner and intelligently routed to agents. The agents do not need to pay attention to the customer access mode.

- Voice Navigation

  The IVR is a typical function of the contact center. An excellent IVR system can save not only the time of customers but also the labor costs of enterprises. Huawei AICC supports enterprise-defined rules, flexible conversion between agent and IVR response, and direct conversion from text to voice playing, reducing the enterprise workload in recording IVR voice files.

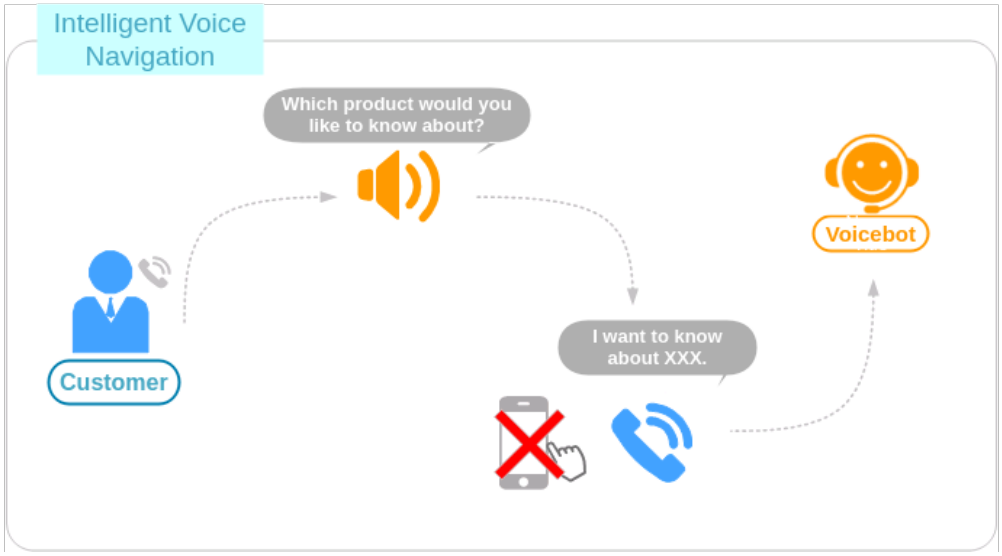


Intelligent Services

AI is changing people's daily life and contact centers. As the main evolution direction of Huawei AICC, various intelligent services bring brand-new experience to customers and further reduce labor costs for enterprises.

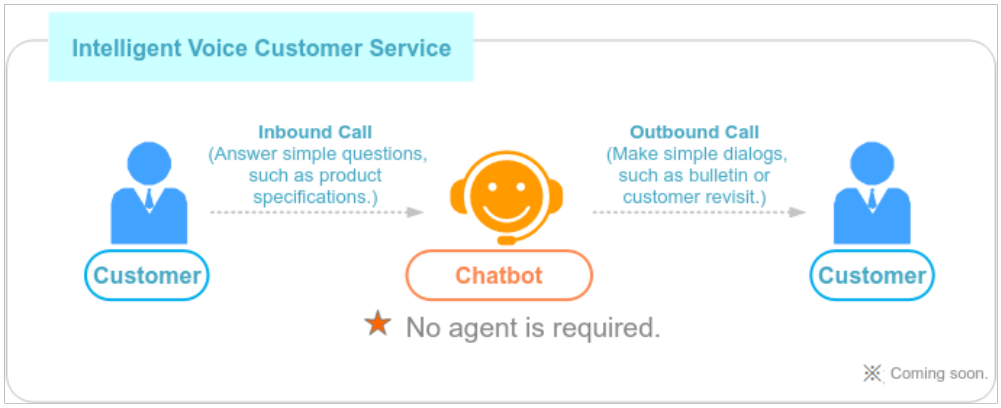
- Intelligent Voice Navigation

  Traditional voice navigation requires customers to press the number keys each time they respond. However, Huawei AICC plans to launch a new function recently to release customers' hands. The voice recognition function of the OIAP (Online Intelligent Assistant Platform) replaces the key pressing for selection in a traditional IVR flow, making the voice navigation process more smooth and intelligent.



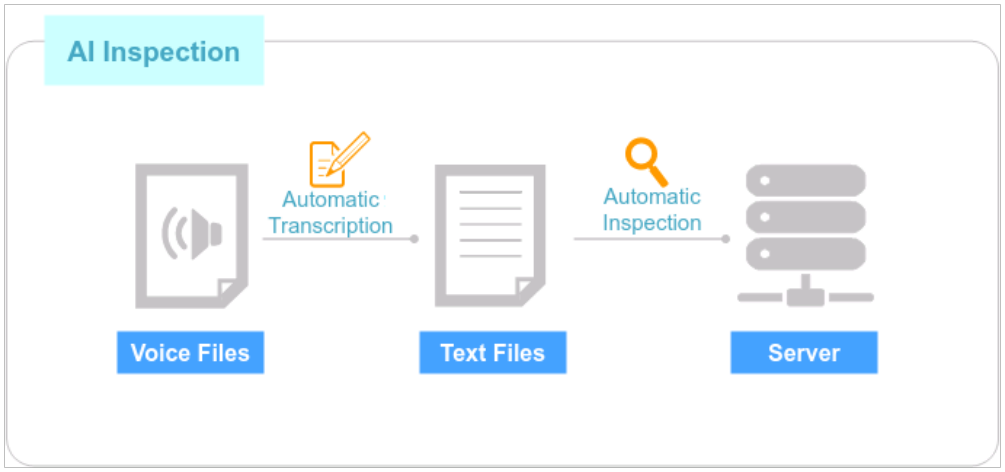
- Intelligent Voice Customer Service

  With the development of AI, chatbots can now do some simple work for human beings. Huawei AICC plans to add the intelligent voice customer service function in the version to be released recently. A customer's inbound call can be connected to a chatbot, who can communicate with the customer. Alternatively, the chatbot can initiate an outbound call to automatically connect to the customer for intelligent voice interaction such as bulletin or return visit.



- AI Inspection

  Service quality has been one of the main concerns of contact center services, and the most important one is inspection of call recordings. Huawei AICC automatically converts agent call recordings into text files and inspects call content based on preset inspection rules, implementing automatic voice inspection and greatly improving inspection efficiency.

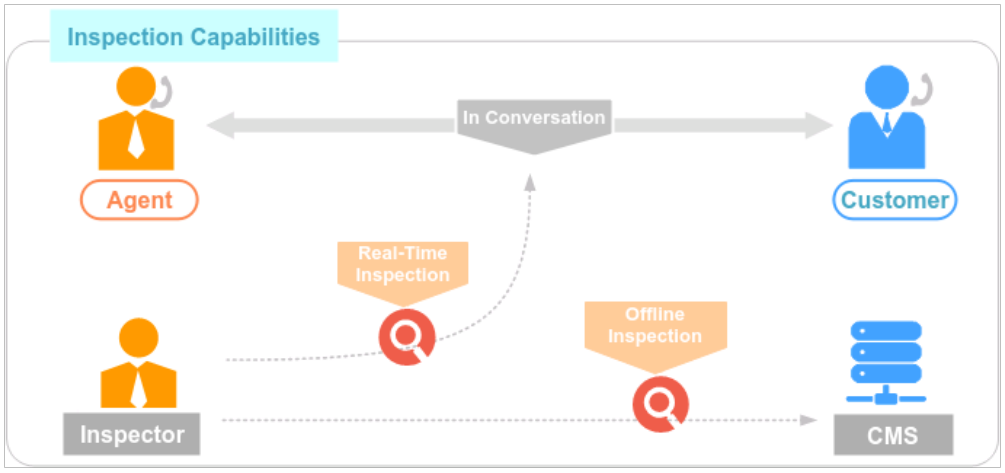


Operation Support

An excellent contact center is easy to manage and operate in addition to providing various services for customers. Huawei AICC provides quality inspection, call detail records (CDRs), and reports to facilitate enterprise operation.

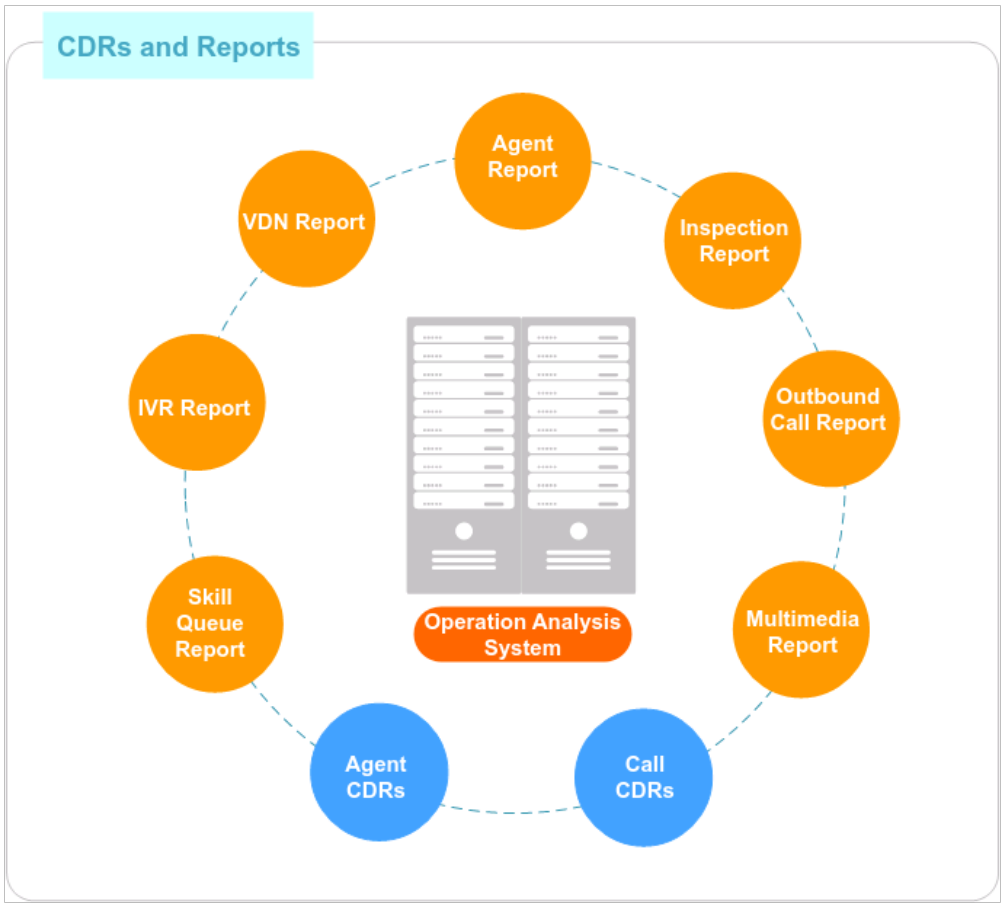
- Inspection Capabilities

  The inspection capabilities determine the extent to which an enterprise can control the service quality of a contact center. In Huawei AICC, inspectors can perform real-time inspection by listening to, inserting into, intercepting, and hanging up agent calls. Inspectors can also obtain call recordings and monitoring indicators of agents offline for offline inspection. Multiple inspection methods are provided to ensure service quality.



- CDRs and Reports

  The status of a contact center can be known by analyzing CDRs and report data for planning the future operation direction. Huawei AICC provides detailed call and CDR data to help enterprises operate contact centers.



Future Prospects

The preceding description has demonstrated the powerful functions of Huawei AICC. The following describes the development direction and new functions of Huawei AICC.

- More Powerful in Rich Media Capabilities

  In the future AICC, agents and customers no longer have to talk with each other using voice and text. Instead, video calls and stores simulated using the VR function make them communicate with each other face-to-face despite the distance.

- More Intelligent

  The application of AI in a contact center just starts. In the future, technical support and complaint handling may be handled by chatbots. Customers may not know whether they are communicating with human beings or AI until they hang up.

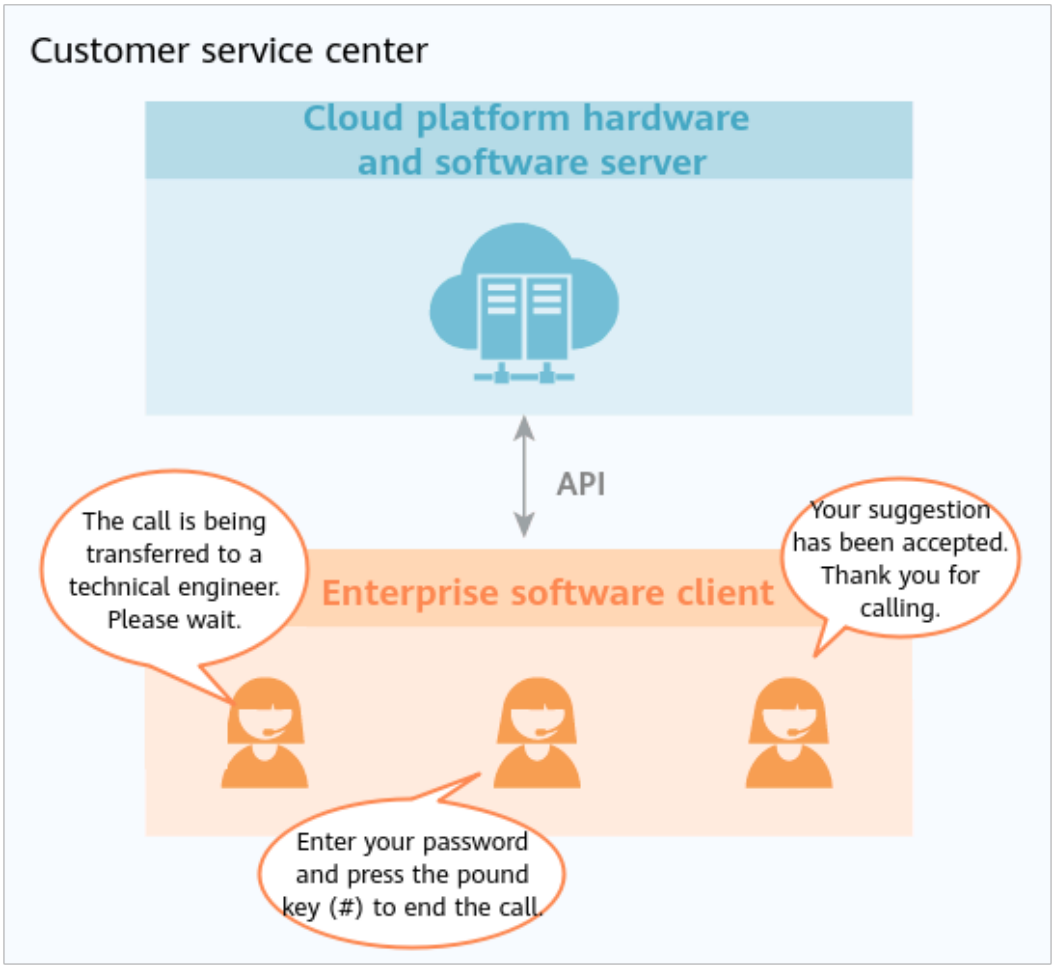
4 AICC Application Scenarios

After the previous sections get you familiar with the functions and features of the AICC, this section describes five typical application scenarios of the AICC for you to understand how its functions and features apply to various industries.

Customer Service Center

In the modern society, service has become a mainstream commodity, and how to control the cost when raising the value of commodities is the main topic of most enterprises.

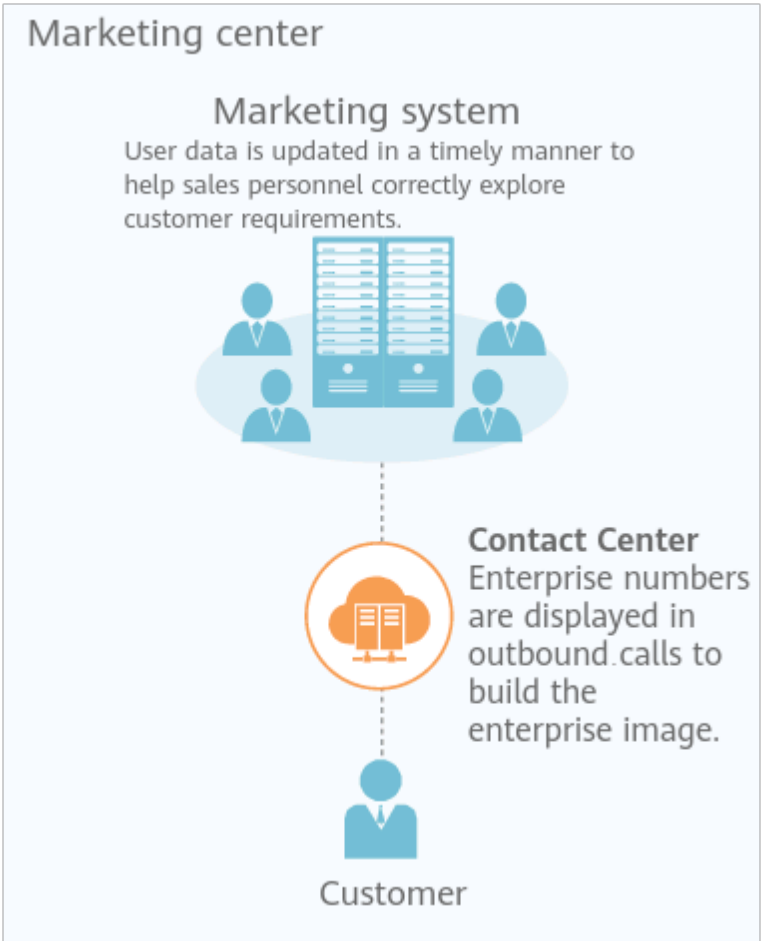
The AICC frees enterprises from building a complete set of contact center hardware. Instead, they can use APIs provided by the cloud platform to easily build dedicated contact centers for enterprises. Hardware O&M is performed by O&M personnel of the Huawei cloud service platform. The customer service center established by an enterprise based on the AICC service provides multiple functions such as agent grouping, intelligent IVR, automatic call queuing, and three-party call, providing high-quality service experience for customers.



Marketing Center

Telemarketing is still the main marketing method in many industries. The key point of telemarketing is to correctly explore customers' needs and quickly obtain their trust.

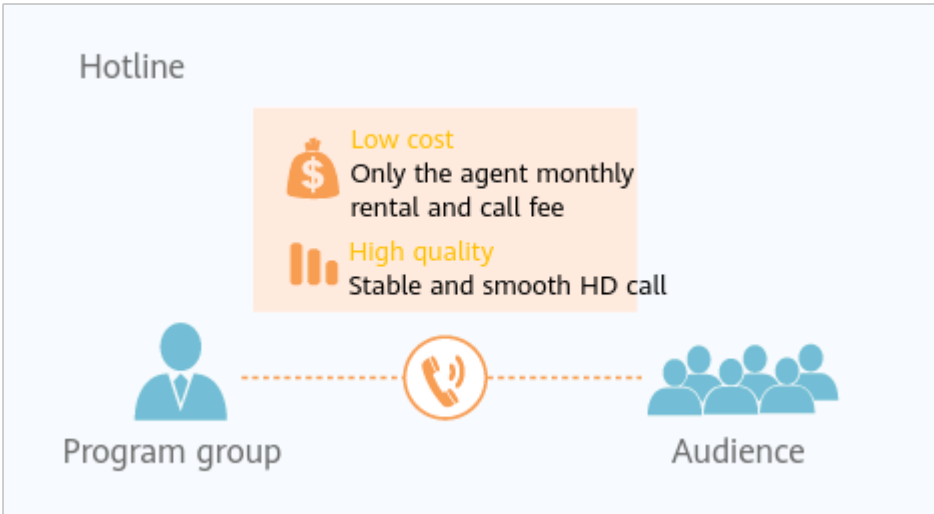
The AICC allows enterprises to easily establish a telemarketing system with a built-in operation data analysis system. In this way, enterprises can win customers' trust and quickly expand the market.



Hotline

Among the various means of interaction between TV and radio program groups and audiences, the hotline service has the advantages of low interaction threshold, intuitive interaction process, and high participation. However, it costs greatly to build a dedicated contact center system for a program.

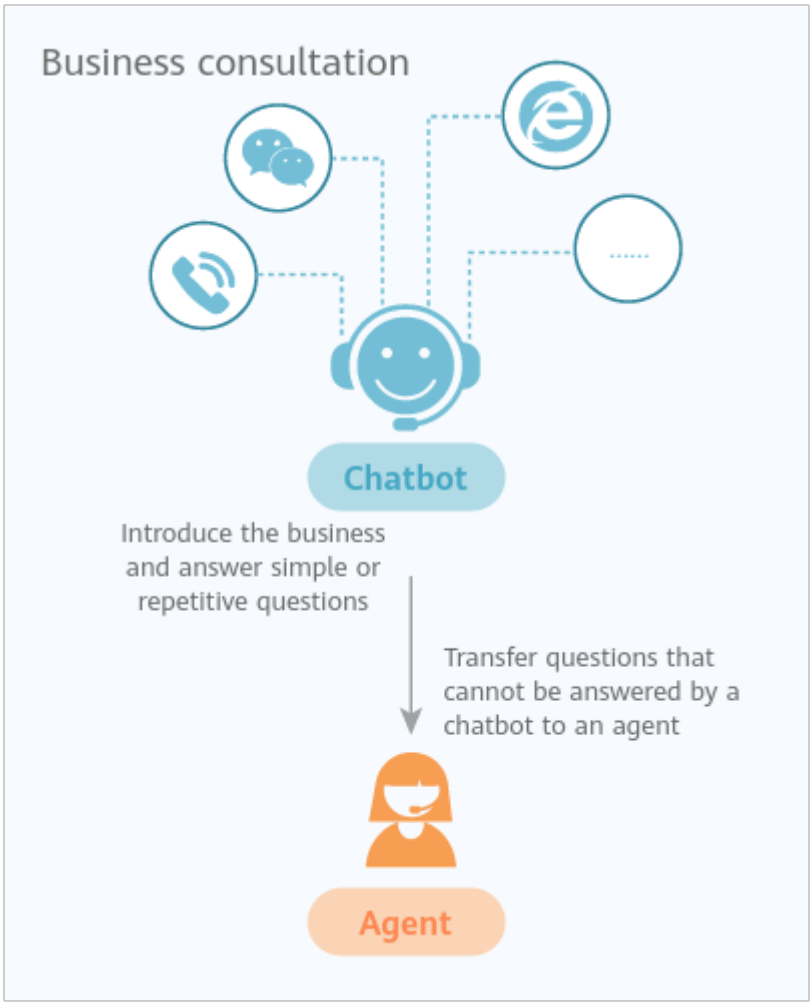
The AICC solves this problem and meets the requirements of the program group from purchase to payment and then to call quality, helping the program group achieve ideal program effects at a low cost.



Business Consultation

Many enterprises provide business consultation services for customers to obtain targeted information. The business consultation service values convenience and uses diversified access modes and quick and professional answers to greatly improve user experience.

For these enterprises, the AICC provides multiple access modes for users to access from anywhere, and also provides the intelligent customer service to improve user experience and save a large number of human resources.



Customer Return Visit

As an operation method, customer return visits not only enable customers to obtain high-quality service experience, but also provide enterprises with high-quality customer data. As a result, customer return visits have become an indispensable part of enterprise operation.

The AICC supports automatic outbound calls. Users are connected first and then agents are connected. In addition, the AICC provides intelligent return visit services, greatly improving the return visit efficiency of enterprises.

After going through this section, you may have a preliminary idea about how to apply the AICC to your industry.

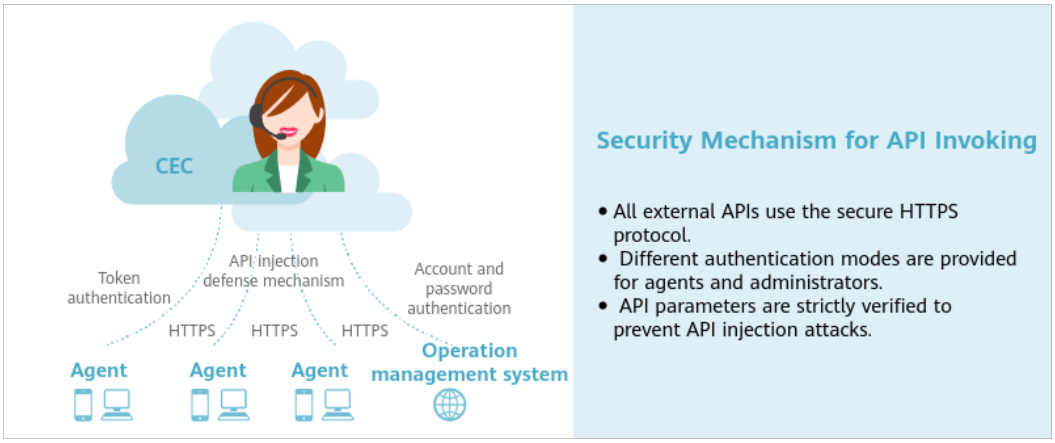
5 AICC Security Assurance

The AICC migrates businesses and data to the cloud, where system resources are shared by multiple enterprises. This section describes how the AICC ensures system security in this scenario.

The AICC ensures business security in terms of APIs, businesses, operations, and networks.

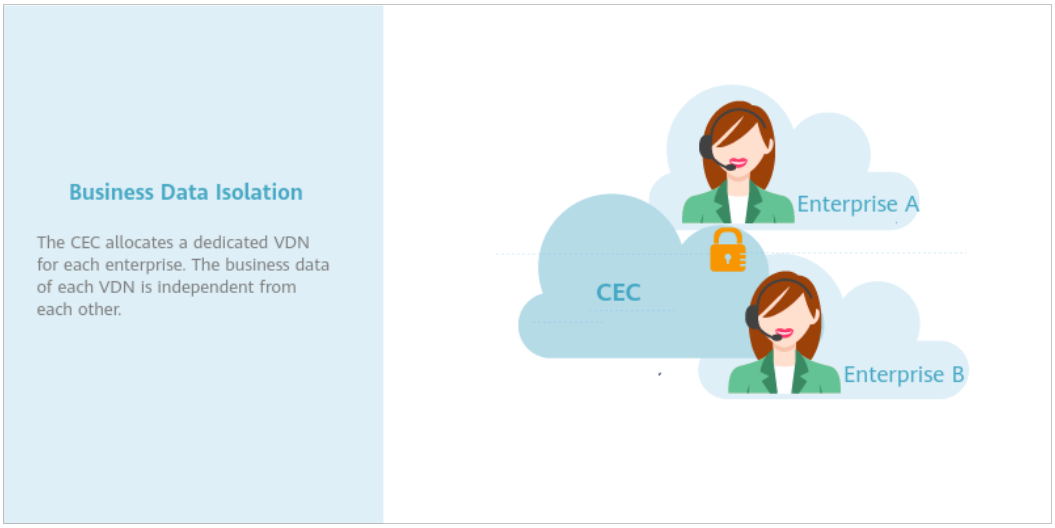
API Security

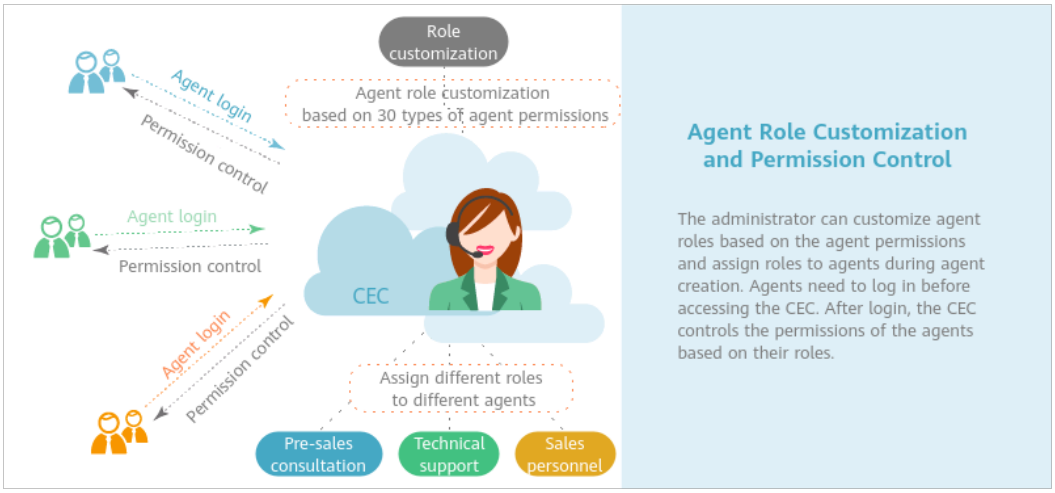
The AICC uses mechanisms such as encrypted data transmission and API authentication to ensure the security for enterprises to invoke APIs.



Business Security

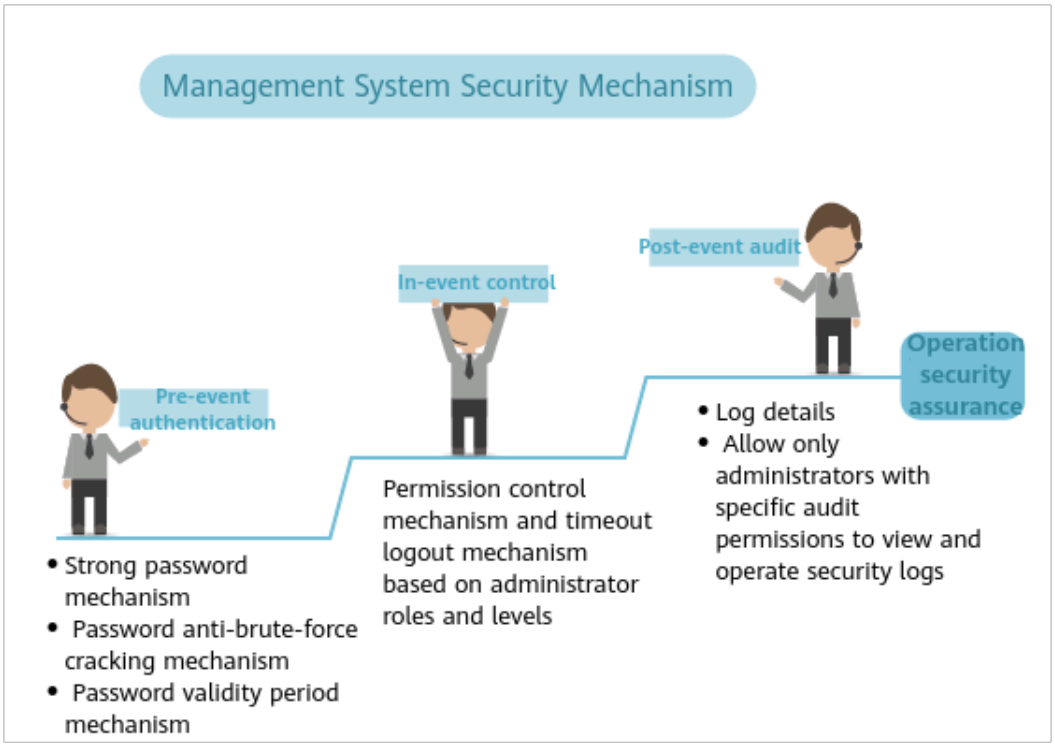
The AICC uses mechanisms such as business data isolation and user permission control to ensure the security of enterprise contact center services.





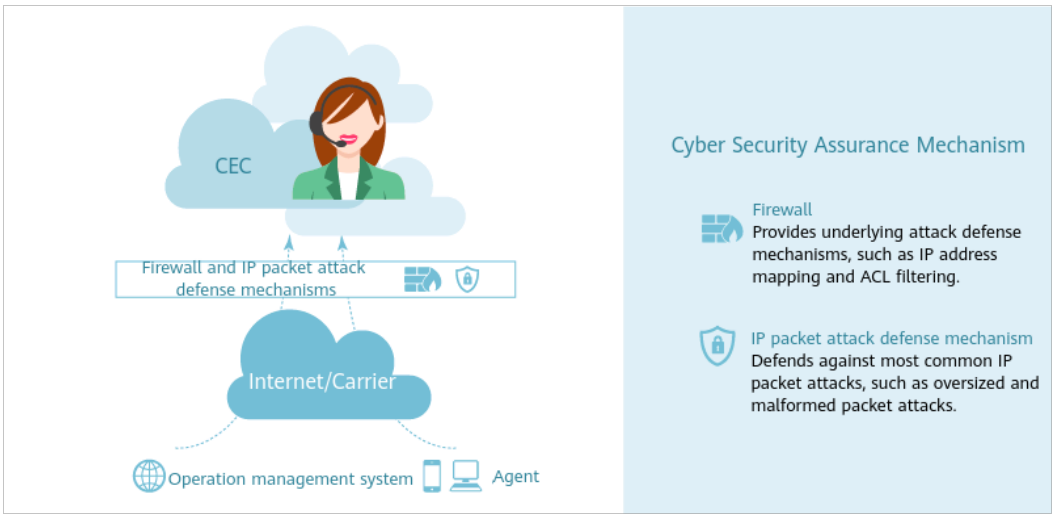
Operation Security

The AICC management system ensures the security of management operations for the enterprise contact center based on mechanisms such as administrator permission control and operation log recording.



Network Security

The AICC uses firewalls and IP packet attack defense mechanisms at network borders to prevent malicious behavior from untrusted domains.



To sum up, the AICC provides a four-layer security mechanism to ensure the security of contact center businesses.

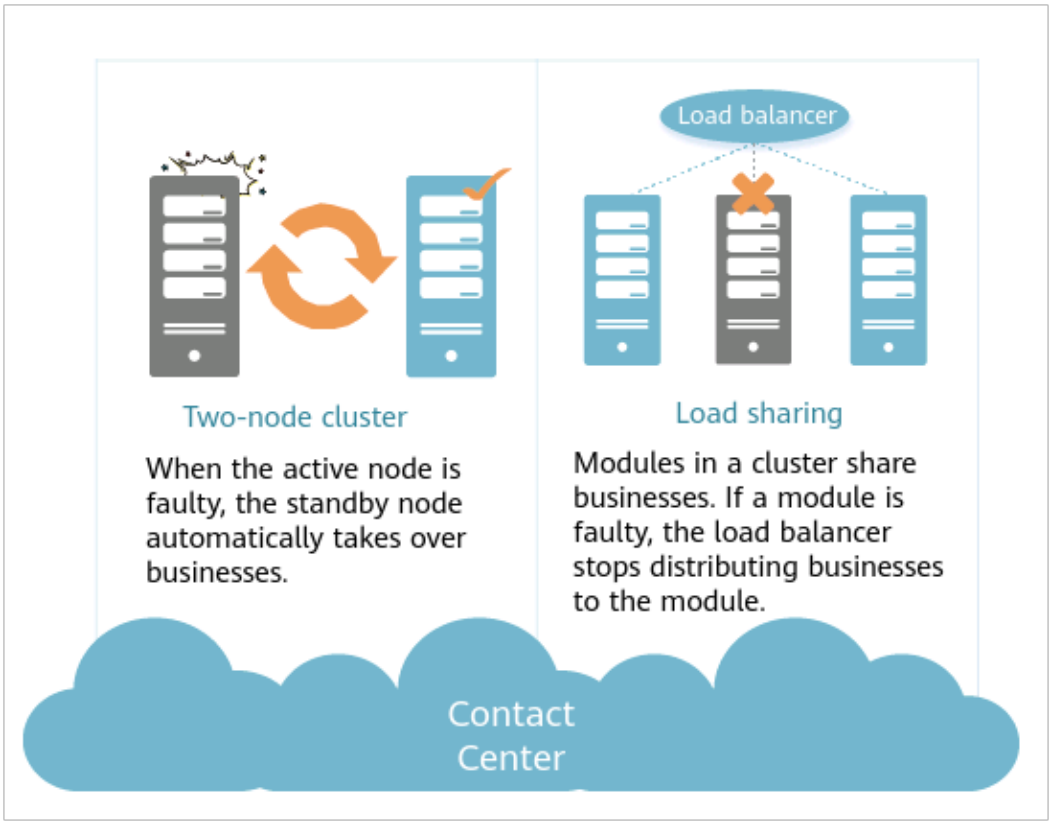
6 Reliability Assurance

After the contact center is moved to the cloud, the cloud platform is responsible for the deployment and O&M of the contact center system. When using convenient services, enterprises may worry about the reliability of the AICC. This section describes the reliability mechanism of the AICC to dispel your doubts.

The AICC uses mechanisms including two-node cluster and cluster DR deployment, business process self-recovery, and traffic control to ensure business reliability.

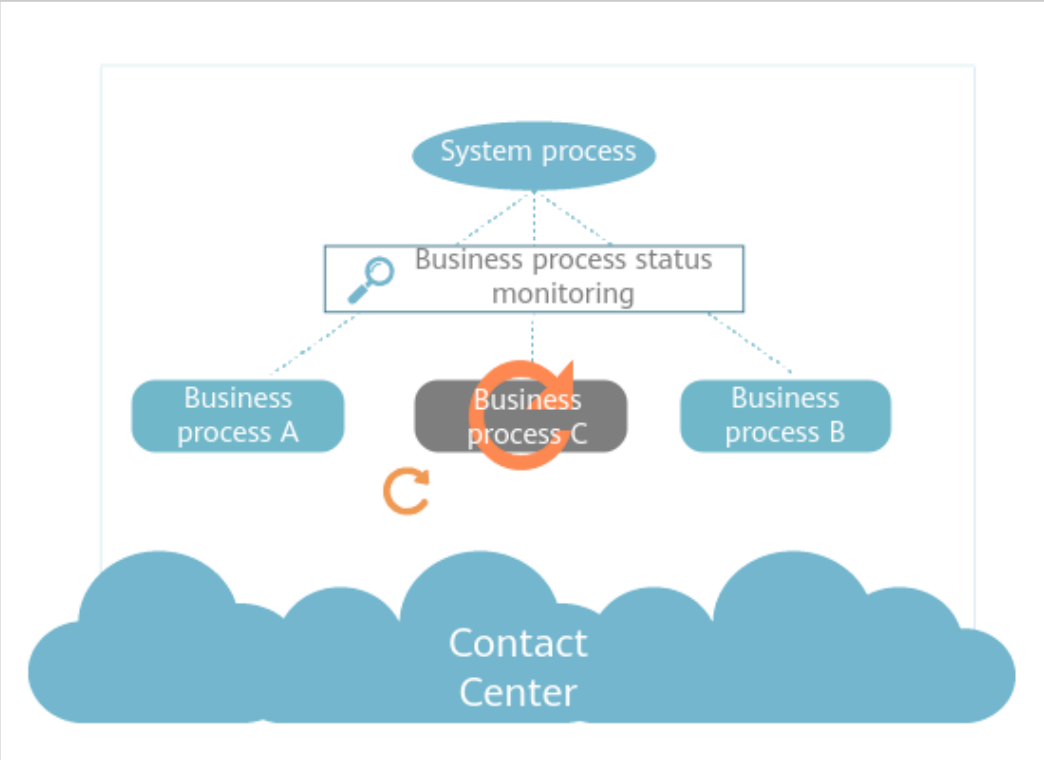
Two-Node Cluster and Cluster Deployment

Main AICC components work in two-node or cluster load sharing mode to ensure business continuity when some components are faulty.



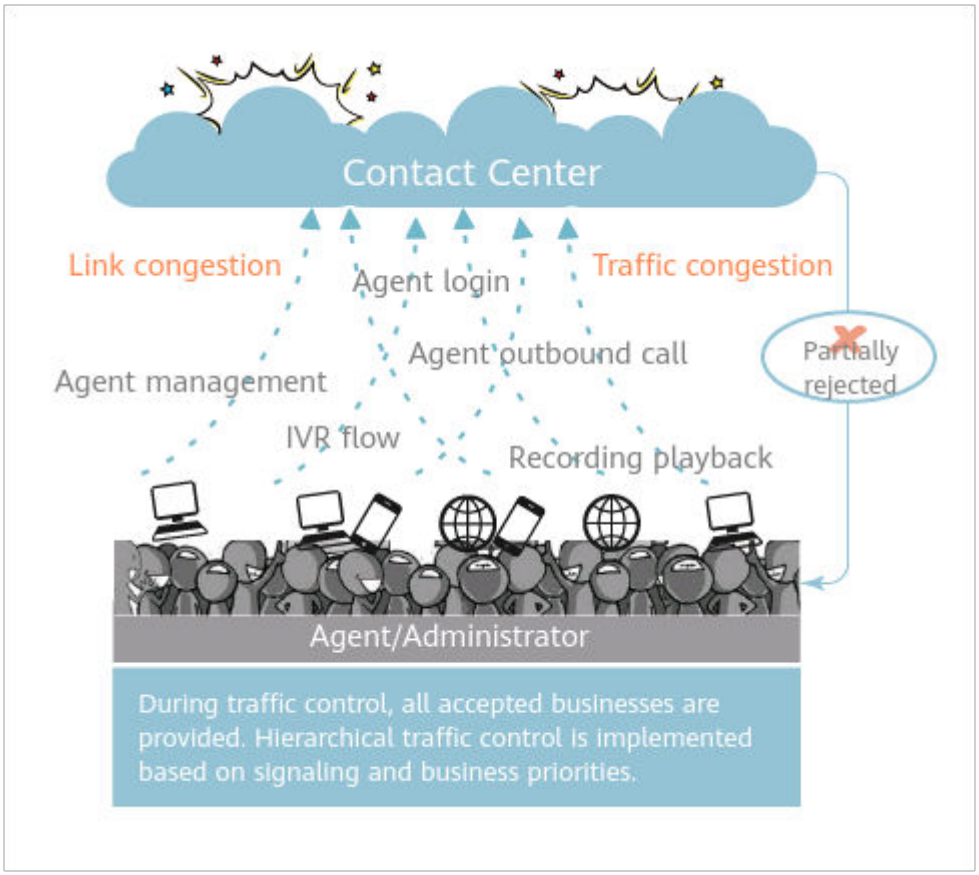
Self-Recovery Capability

The AICC monitors the status of main processes that provide contact center services in real time. If a process is abnormal, the system automatically restarts the abnormal process to ensure quick business recovery.



Traffic Control

The AICC supports traffic control. When the frequency of user requests exceeds the threshold set in the system, the system rejects new requests to ensure proper running of some running businesses and avoid overload.



The AICC supports overload protection in all access scenarios described in the preceding figure, rejects overload requests, and ensures that businesses within the flow control range are running properly.

Lab test results have shown that businesses can run properly in the following business scenarios, including in the scenario where the load is three times greater than the optimal load.

Scenario	Optimal Load	Twofold Load	Threefold Load
Accessing the system through the web channel	1500 concurrent user requests	3000 concurrent user requests	4500 concurrent user requests
Accessing the system through the IVR self-service	50 CAPS	100 CAPS	150 CAPS

NOTE

- The preceding results are based on the lab tests in standard networking with the ODFS NE as the flow-controlled NE.
- CAPS, short for call attempts per second, indicates the number of calls established per second.
- In the optimal load scenario, requests are processed properly. In the two- and three-fold load scenarios, requests that exceed the optimal load are discarded to ensure proper running of businesses.

To sum up, the AICC provides three reliability mechanisms to ensure that the contact center can provide reliable services when some modules are abnormal or the user traffic exceeds the threshold, ensuring proper running of contact center businesses.

