

# HUAWEI RoomPresence 65T 20.0

## Product Overview

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# 1 Product Positioning

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HUAWEI RoomPresence 65T is a next-generation multifunctional telepresence conference solution developed by Huawei. It has four models with a stately look, ultimate simplicity, and graceful design, delivering a superior, user-centric meeting experience. It facilitates collaboration through integrated whiteboard, content sharing, and audio and video functions. Also, it supports collaborative sharing of local and remote whiteboards, allows content sharing and reverse control over the content source from the Board, and features a built-in intelligent camera for close-up of focus areas and speakers. These functions can be accessed through the Board's touchscreen or voice commands recognized by its AI voice assistant.

HUAWEI RoomPresence 65T is a fully self-contained system that combines the high-performance and cost-effective codec, camera, display, digital microphone array, and integrated mechanical parts into one device. It fits perfectly with meeting rooms from small to large.

# 2 Product Highlights

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## Designed with Ultimate Simplicity

- Aluminum alloy body, light, sleek, and pleasing to eyes
- All-in-one design: no screws, dual screens seamlessly combined like one screen, and ultra-narrow frames
- Floating button and global navigation, enabling easy access to any desired services
- 65-inch screen

## Eye-Catching Ultra-HD Video

- Powerful H.265 encoding and decoding capabilities, presenting 1080p 30 fps video and 4K 8 fps data in true color and capturing every detail
- Proprietary Video Motion Enhancement (VME) and Super Error Concealment (SEC) technologies, delivering smooth video even at a low bandwidth against 20% packet loss

## Dual-Screen Display

- One panoramic wallpaper covers two screens
- Free video viewing of participants
- Free combination of whiteboards, browsers, and shared materials on dual screens

## Intelligent Meeting Experience

- AI voice assistant, which makes your meeting control more convenient
- Facial recognition sign-in and on-screen name tag

## Easy Operations with a Tablet

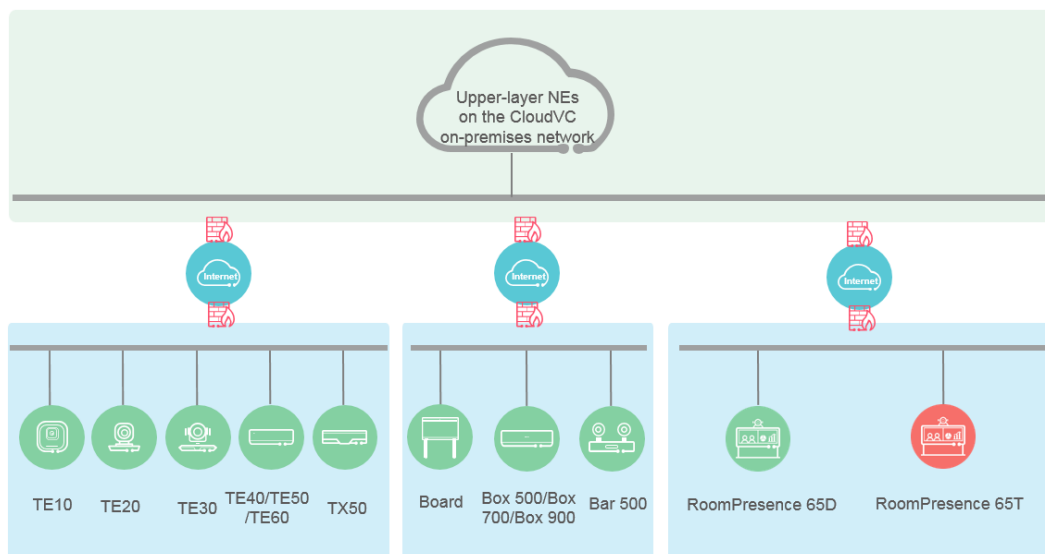
- 10-inch tablet, which is stylish and easy to use
- User-friendly GUI
- PoE power supply and reserved Kensington lock slot

# 3 Networking Schemes

## 3.1 CloudVC On-Premises Network

The RoomPresence can be connected to the CloudVC on-premises network to meet video communication requirements of enterprises and carriers.

Figure 3-1 Networking scheme



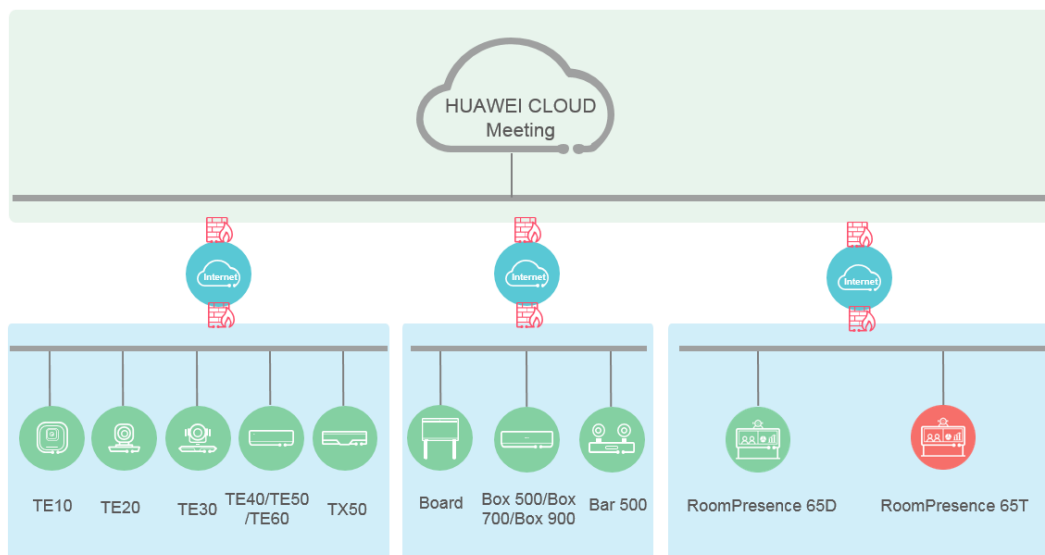
In this networking scheme:

- The RoomPresence connects to the on-premises network through standard H.323 or SIP.
- Audio and video calling, content sharing, and data collaboration can be implemented between the RoomPresence and various types of meeting terminals and clients.
- To learn more, visit <http://support.huawei.com/enterprise/zh/index.html> or <http://support.huawei.com/carrier/zh/hwe/index.html>, search for the solution's product documentation name, and view or download the documentation.

## 3.2 HUAWEI CLOUD Meeting Network

Meeting services are available on HUAWEI CLOUD, namely Huawei's public cloud platform, to provide enterprises with audio and video conferencing and data collaboration.

Figure 3-2 Networking scheme



In this networking scheme:

- The RoomPresence accesses the HUAWEI CLOUD Meeting service over the Internet through standard SIP, enabling video conferencing across branches, enterprises, and countries.
- A whole range of hard terminals and soft clients collaborate to extend video conferencing to all office scenarios. Cutting-edge technologies of hard terminals make them fit perfectly with various industries.



# 4 Product Structure

## 4.1 Appearance

RoomPresence 65T is a highly integrated system with ultimate simplicity and also technically appealing. It fits perfectly with various office environments.

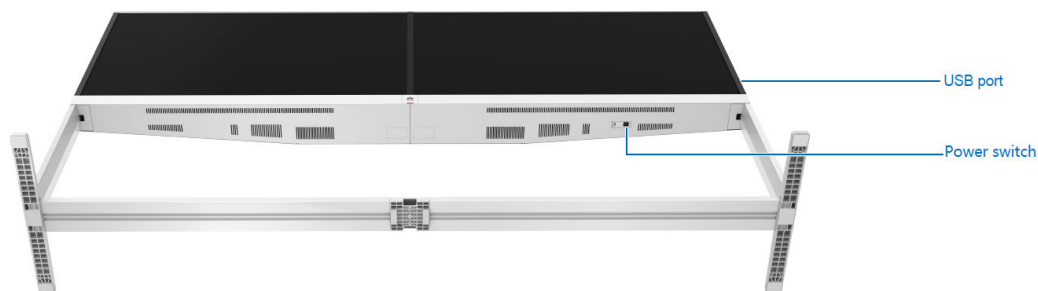
RoomPresence 65T consists of the Bar 500 (used as the codec and camera), HD display, assembly components, Touch, Mic 500 microphone array, and speaker, as shown in [Figure 4-1](#).

**Figure 4-1** Front view



The main power switch of RoomPresence 65T is on the lower right, and the USB port is on the right column, as shown in [Figure 4-2](#).

Figure 4-2 Bottom view



## 4.2 Codec and Camera

RoomPresence 65T uses HUAWEI Bar 500 (a next-generation intelligent tracking video conferencing terminal) as the codec and camera, as shown in [Figure 4-3](#).

Figure 4-3 Bar 500



The Bar 500 has the following features:

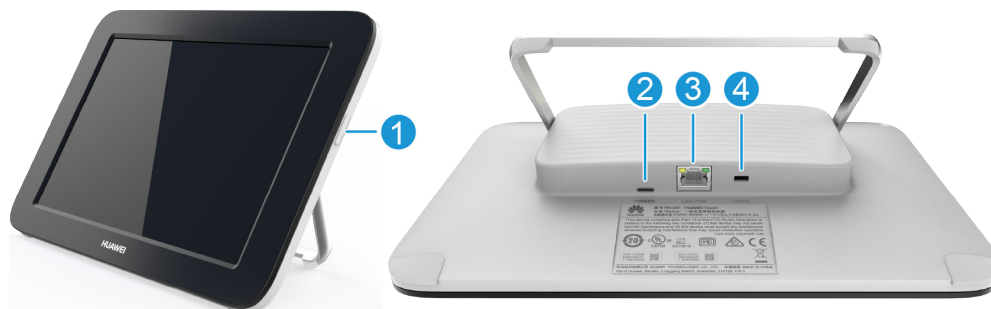
- Ultimate audio and video:
  - The new H.265 codec capability provides video of up to 1080p 60 fps and presentation of up to 4K 8 fps.
  - Huawei's unique Video Motion Enhancement (VME) technology saves 50% bandwidth but delivers better video.
- Intelligent tracking: The built-in panoramic camera and dual-channel 1080p tracking camera can detect the speaker's position in real time to track close-up of focus areas and speakers.
- AI voice assistant:
  - With the intelligent voice assistant, you can use voice commands to create or join meetings, call other users, adjust the volume, and others.
  - Voice detection and facial recognition technologies can automatically identify speakers, display close-up images, and implement facial recognition sign-in and name tag display.

## 4.3 Touch

The Touch runs the Huawei Telepresence system with an entirely new UI. You can start a meeting and control it easily with several taps.

**Figure 4-4** shows the appearance of the Touch and its rear components. **Table 4-1** describes the function of each component.

**Figure 4-4** Touch



**Table 4-1** Component description

No.	Component	Function
1	Power button	Press to lock or wake up the screen. Press and hold to turn the Touch on or off.
2	USB Type-C port	Connects to the Touch power adapter through the Type-C cable to supply power to the Touch.
3	PoE port	Connects to the TOUCH port on the codec to control the RoomPresence and supply power to the Touch.
4	Kensington lock slot	Connects to a Kensington lock to secure the Touch. The Kensington lock should be prepared separately.

## 4.4 Microphone

The RoomPresence can be connected to an HUAWEI Mic 500 microphone array. The Mic 500 provides dual-channel wideband audio, delivering an unprecedented audio experience.

**Figure 4-5** Mic 500



- **High-quality audio**  
The Mic 500 supports a sampling rate of up to 48 kHz and a full frequency range. It is able to sample sound at rates lower than 22 kHz, which means that it can completely pick up any sound recognized by human ears. The Mic 500 significantly reduces signal loss caused by analog transmission cables, while offering a hi-fi stereo experience. These capabilities are made possible through the integrated digital signal processing and transmission technology and the Acoustic Echo Cancellation (AEC), Automatic Gain Control (AGC), and Automatic Noise Suppression (ANS) functions.
- **Superior audio experience**  
Embedded with three microphones, a single Mic 500 supports 360-degree sound pickup with an optimal range of 6 meters. This allows participants at the local site to hear every sound nuance coming from participants at the remote site.
- **Power saving**  
Highly energy-efficient, the Mic 500 requires no more than 2.5 W of power when running.

## 4.5 Assembly Components

The RoomPresence assembly components include the floor stand, tray, bars, front decorative strips, cable covers, rear cover plates, and multifunctional socket. With ultimate simplicity, the assembly components are technically appealing.

- **Professional design**  
The RoomPresence is an integrated multifunctional collaborative telepresence system with the optimal dimensions for easy human-machine interaction.
- **User-centered design**  
The RoomPresence has an integrated structure. It can be easily maintained after the rear cover is removed. Cables are easy to connect and manage. All cables and components are hidden or framed inside the RoomPresence. The RoomPresence has a neat appearance. Compared with traditional RP series telepresence systems, the

RoomPresence has a much better meeting environment and provides a more enjoyable meeting experience.

# 5 Functions and Features

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## 5.1 Connecting to the Huawei Cloud Video Conferencing Service

When you configure the connection to RoomPresence 65T on the uPortal, an activation code is generated and sent to your email box and mobile phone. After RoomPresence 65T is powered on for the first time, you can enter the activation code to activate the endpoint and connect to the Huawei Cloud conferencing service.

## 5.2 Intelligent Content Sharing

### Content Sharing over a Cable Connection

You can connect your endpoint to a computer through the HDMI port to share the computer desktop. If no participants are sharing content in a meeting, your endpoint starts sharing content after the computer is connected. If someone is sharing content when your endpoint and computer are connected, you will be asked to confirm whether to start sharing content.

### Wireless Content Sharing Using the AirPresence Client/AirPresence Key

- Using the AirPresence mobile client, you can share documents, images, or screen.
  - Supported formats of shared files on Android: PDF, PNG, JPG, and BMP
  - Supported formats of shared files on iOS: PDF, DOC/DOCX, XLS/XLSX, PPT, PNG, JPG, and BMP
- Using the AirPresence PC client, you can share the desktop, including played audio and video files, documents, and images.
- You can also use the AirPresence Key to share the desktop, including played audio and video files, documents, and images.
- When a participant is sharing content in a meeting, other participants are still allowed to start sharing, but the existing content sharing session will be dropped. Up to three users can connect to the same RoomPresence.

**Figure 5-1** AirPresence Key



## 5.3 AI Voice Assistant

RoomPresence 65T uses various AI technologies, including voice recognition and tracking and facial recognition, to facilitate meeting functions and provide an intelligent meeting experience.

### NOTE

Currently, only the enterprise on-premises (convergent conference) networking supports facial recognition sign-in and electronic name tag.

## Voice Operation

A user says "Hi, Scotty" close to the microphone to wake up the intelligent voice assistant and speaks the operation instruction. Then, RoomPresence 65T can perform the operation as instructed.

### NOTE

You can determine whether to enable the intelligent voice assistant function. By default, this function is disabled.

You can perform the following operations using voice commands:

- Initiating or canceling a call
- Creating a meeting
- Joining a scheduled meeting
- Extending a meeting
- Adding participants to a meeting
- Viewing participants or continuous presence
- Sharing or stopping content sharing over a cable

- Adjusting the speaker volume at your site
- Muting or unmuting the microphones of other participants
- Starting device diagnostics

## Facial Recognition Sign-in

Participants can sign in automatically simply by using the groundbreaking facial recognition.

- The sign-in time can be specified before a meeting takes place. Participants can then sign in before or during the meeting.
- The sign-in information can be displayed in full screen or collected in the background.

## Electronic Name Tag

RoomPresence 65T leverages face recognition to produce on-screen name tags after users are identified.

# 5.4 Intelligent Tracking

RoomPresence 65T supports intelligent tracking with the following features:

- Uses voice tracking and facial recognition algorithms for sound detection and localization and collects images for facial recognition to achieve accurate and flexible tracking.
- Automatically presents the optimal view of participants in a meeting room, without requiring any manual intervention. This function is called **AutoFrame**.
  - The camera automatically identifies whether only one participant is speaking or two participants are having a conversation, and then presents the most suitable close-up of the speaker/speakers.
  - When no one is speaking, the camera automatically adjusts its lens to provide a dynamic overview of the entire meeting room based on the number and location of participants.
- Supports three tracking modes, including **Auto**, **AutoFrame**, and **Auto (no AutoFrame)**, from which you can choose one as needed.
- Allows users to set the screen layout. When only one participant is speaking, the panoramic view is displayed in full-screen mode and the close-up of the speaker is displayed in a small window at a corner. When two participants are having a conversation, their close-up is displayed in two different panes. When no participant is speaking, the panoramic view is displayed in full-screen mode.

# 5.5 Joining or Initiating a Meeting

## Joining a Meeting

You can join a meeting from the **Next Meeting** popup box or by entering the meeting ID.

## Initiating a Meeting

A meeting can be arranged using any of the following methods:



- Starting a meeting instantly  
You can start a meeting instantly through the Virtual Meeting Room (VMR) with just one click or through SiteCall. This function is applicable to the scenario where you have not scheduled any meetings but need to start a meeting right now. After a meeting is created, you can directly invite participants to the meeting by calling them. Alternatively, send the meeting ID to participants. They can then dial the meeting ID to join the meeting.
- Initiating a multipoint meeting  
Select multiple contacts to initiate a meeting and set parameters, such as the chairperson password and whether to encrypt the meeting.
- Initiating a point-to-point (P2P) meeting  
Enter keywords to search for a site, enter the site number or IP address, or directly select a site to place a call to the site.

## 5.6 Multistream Conferencing

Multistream conferencing leverages the Scalable Video Coding (SVC) technology, with which the RoomPresence is responsible for video codec and continuous presence layout and the CloudMCU only forwards video streams at different resolutions or frame rates. The CloudMCU service load is relieved, the latency is reduced, and access of mass terminals is made possible.

The CloudMCU can receive at most four channels of video streams at a resolution of 90p to 720p from the RoomPresence, and a maximum of 16-channel video streams can be forwarded by the CloudMCU to the RoomPresence. The resolution of the forwarded video streams depends on the actual bandwidth, and the maximum resolution is 720p.

## 5.7 Conference Control

Both the chairperson and other participants in a meeting can control the meeting, but the operations they can perform are different, as listed in [Table 5-1](#).

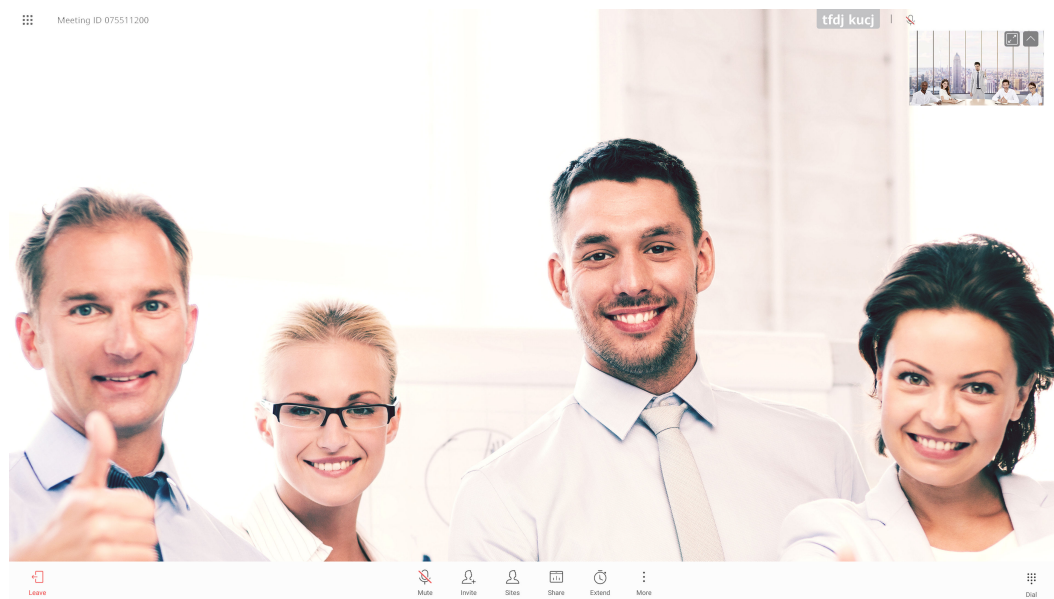
The chairperson has more conference control functions than non-chairperson participants. The non-chairperson participant can also perform some simple and useful conference control operations.

**Table 5-1** Conference control operations

Role	Conference Control Operations
Chairperson	<ul style="list-style-type: none"> <li>● Inviting one or more participants</li> <li>● Deleting a disconnected participant</li> <li>● Redialing a participant</li> <li>● Disconnecting a participant</li> <li>● Muting or unmuting the microphone of a participant</li> <li>● Ending a meeting</li> <li>● Extending a meeting</li> <li>● Releasing the chairperson role</li> <li>● Setting the layout</li> <li>● Broadcasting a participant or continuous presence</li> <li>● Stopping broadcasting a participant or continuous presence</li> <li>● Viewing a participant or continuous presence</li> <li>● Enabling or disabling voice activation</li> <li>● Perform two-stage dialing</li> <li>● Locking a meeting</li> <li>● Unlocking a meeting</li> </ul> <p><b>NOTE</b> When a conference is locked, the desktop cannot be shared.</p>
Other participants	<ul style="list-style-type: none"> <li>● Leaving a meeting</li> <li>● Viewing a participant or continuous presence</li> <li>● Applying for the chairperson role</li> <li>● Muting or unmuting the local microphone</li> <li>● Redialing a participant</li> <li>● Inviting one or more participants</li> <li>● Extending a meeting</li> <li>● Perform two-stage dialing</li> <li>● Request the Floor</li> </ul> <p><b>NOTE</b> A participant can call an unconnected participant, invite one or more participants, or extend a meeting only when the service platform on the network supports specific meeting control by participants or after the participant obtains chairperson control.</p>

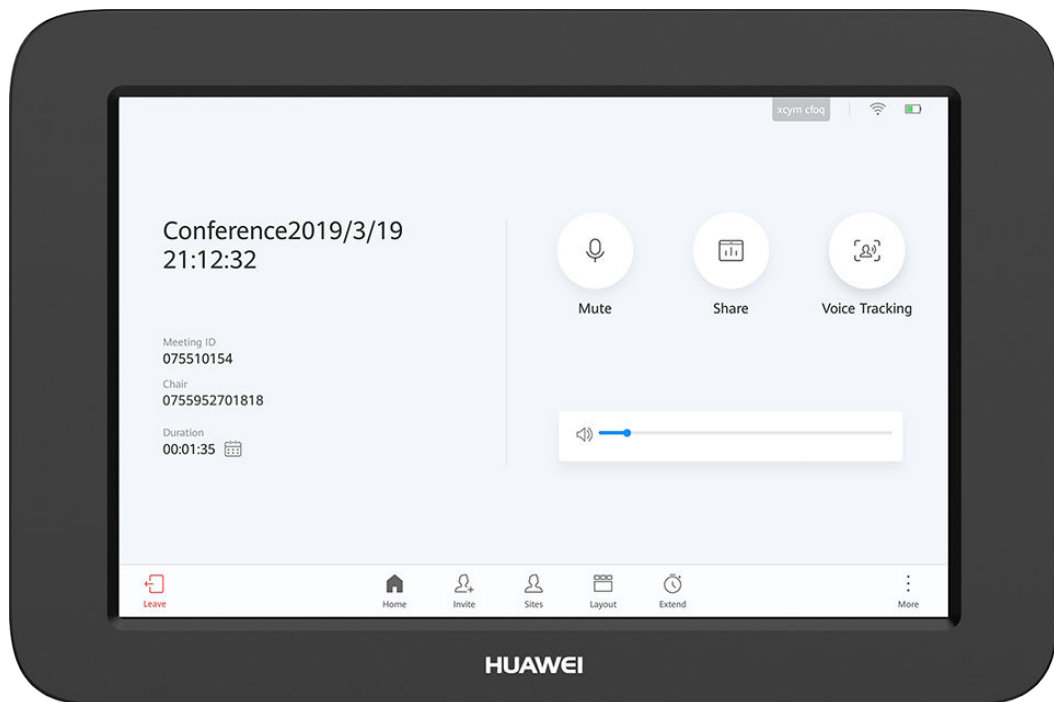
**Figure 5-2** shows how the touchscreen appears when the chairperson is controlling a non-multistream meeting).

**Figure 5-2** Non-multistream meeting control the touchscreen



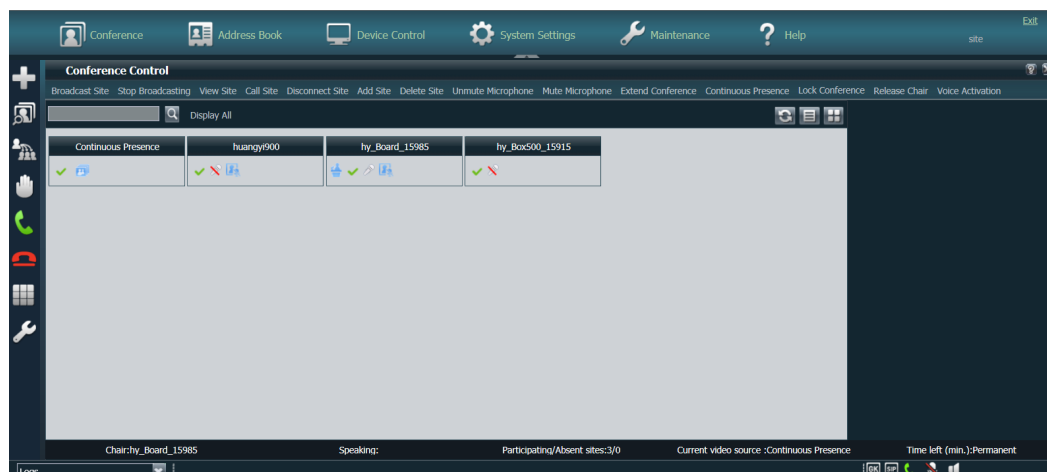
**Figure 5-3** shows how the Touch's screen appears when the chairperson is controlling a meeting.

**Figure 5-3** Meeting control on the Touch



**Figure 5-4** shows how the web interface appears when the chairperson is controlling a meeting.

**Figure 5-4** Meeting control on the web interface



## 5.8 Dual-Screen Switching and Cloning

RoomPresence 65T does not need to reconnect to devices through cables. You can tap on the touch panel to switch between the two screens or copy the content on one screen to the other screen.

## 5.9 Multiple Layouts

You can view the composite of video and content on one screen by adjusting the screen layout. In a data collaboration conference, video, content, and whiteboard can be simultaneously displayed on one screen.

### Non-Multistream Conferencing

The following layouts are available:

- Full screen  
Video, content, or whiteboard is displayed in full-screen mode.
- Picture in Picture (PiP)

The PiP mode includes one full-screen video and a small window that can be located at any of the four corners. By default, the small window lies in the upper right corner. In a video conference, the small window size is about 1/16 of the full screen size.

### Multistream Conferencing

The following layouts are available:

- Presenter view
  - When content sharing is in progress, shared content is displayed in the large pane.
  - When no content is shared, the large pane presents the speaker. A speaker can be configured to permanently stay in the large pane.
  - If a user chooses to broadcast or view a participant, the participant will be presented in the large pane.

- PiP view
  - When content sharing is in progress, shared content is displayed in the large pane. The small pane presents video of the broadcast participant, speaker, and other participants, in descending order of priority.
  - When no content is shared, the large pane presents the speaker. A speaker can be configured to permanently stay in the large pane. Video of other participants is displayed in the small pane.
  - If a user chooses to broadcast or view a participant, the participant will be presented in the large pane. The small pane presents shared content or video of other participants.
- Gallery view  
Video of participants and shared content are displayed in panes (16 at most) equivalently.

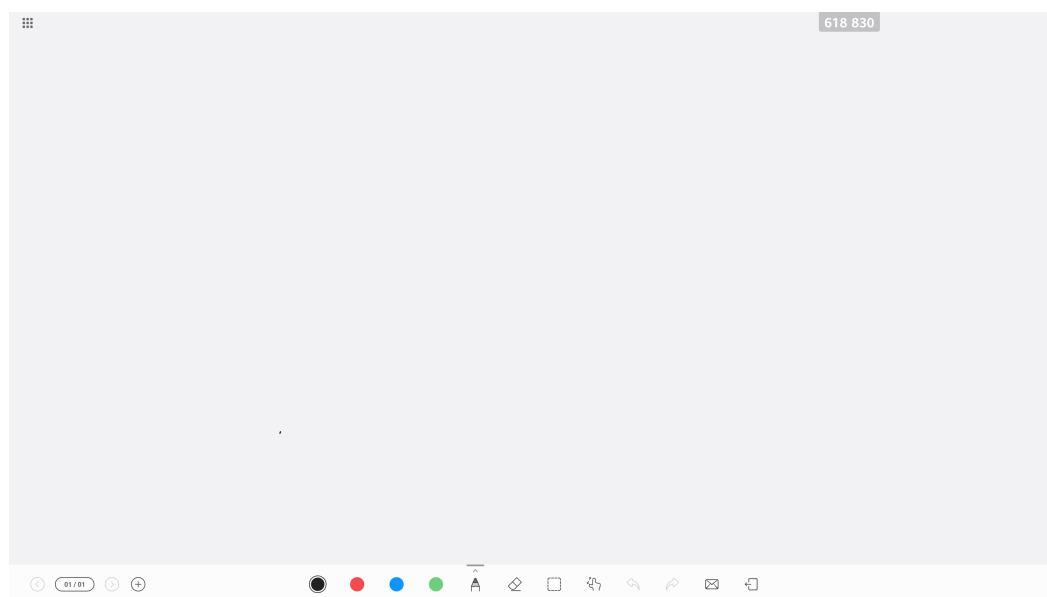
**Figure 5-5** Video layouts



## 5.10 Whiteboard Collaboration

RoomPresence 65T allows users to collaborate with others on the local whiteboard and remote whiteboard and provides functions such as whiteboard writing, annotation, and sharing. [Figure 5-6](#) shows the whiteboard screen, on which the functions listed in [Table 5-2](#) are available.

**Figure 5-6** Whiteboard screen



**Table 5-2** Whiteboarding functions

Function	Description
Creating a whiteboard	Create a maximum of 100 whiteboard pages and set their background color to white or gray.
Writing on a whiteboard	<p>Wake up the endpoint by picking up the pen from the dock.</p> <ul style="list-style-type: none"> <li>● Write using your finger or the pen. <ul style="list-style-type: none"> <li>- White background colors: black, red, blue, and green</li> <li>- Gray background colors: white, red, blue, and green</li> <li>- Three types of pens: pencil, marker, and brush</li> </ul> </li> <li>● Resize the canvas or lock it. <ul style="list-style-type: none"> <li>- Drag, move, and zoom in or out on the canvas using your fingers.</li> <li>- Disable the canvas resizing function. Then two people can write on the canvas at the same time.</li> </ul> </li> <li>● Circle an area. The content inside the circled area can be moved, deleted, or resized.</li> <li>● Erase content using your palm or the eraser. Or you can directly clear the whiteboard page to erase all content.</li> <li>● Undo the previous operation and redo it.</li> </ul>
Closing a whiteboard	Close a whiteboard with or without saving its content.
Emailing a whiteboard	<p>Send a whiteboard to an email address. A whiteboard with a large amount of content will be split into multiple emails.</p> <p>The email account of the endpoint needs to be set.</p>
Deleting a whiteboard	Delete whiteboard pages or files.
Annotating a whiteboard	Annotate the shared computer desktop or content and edit or delete annotations.
Sharing a whiteboard	In a remote collaborative meeting, the local and remote participants can write on the shared whiteboard simultaneously.

## 5.11 Wireless Connections

The RoomPresence supports 2 x 2 Wi-Fi technology (that is, 2-channel input and 2-channel output of Wi-Fi data), dual antennas, and dual bands (2.4 GHz and 5 GHz). The RoomPresence can serve as a Wi-Fi hotspot and connect to a Wi-Fi network as a client at the same time.

If the RoomPresence is configured as a client, it automatically detects and connects to Wi-Fi networks. You can set the RoomPresence IP address in DHCP or static mode. This function applies to the scenarios in which no wired network is available and you need to connect the RoomPresence to the network through Wi-Fi.

When the RoomPresence has its Wi-Fi hotspot enabled, it can serve as a hotspot for connecting other devices (such as a PC) to Wi-Fi.

## 5.12 Interoperability Between Data Collaboration and Content Sharing

In a data collaboration conference, if the CloudMCU is deployed, the CloudMCU can share content or data with other endpoints using whiteboards or annotations. RoomPresence 65T can receive and view the content shared by video conferencing endpoints and telepresence systems, and can also view the desktop, documents, whiteboard, programs, and media shared by other endpoints in presentation mode.

## 5.13 Automatic Configuration

### Zero Configuration at Startup

The RoomPresence can automatically obtain the type of the connected cloud platform or server. You only need to set the RoomPresence and server IP addresses or enter the activation code to fast complete the RoomPresence configuration.

### Configuration Import from a USB Device

You can obtain a USB device with a configuration file from the agent or carrier, and then import the configuration file to the RoomPresence through the USB device. In this way, the configuration is automatically completed at a high efficiency.

## 5.14 Connection to eSight

The RoomPresence can be managed by eSight if it is connected to eSight.

- On eSight, you can perform many RoomPresence-related tasks, including query and set parameters, upload and download configuration files, upgrade and restart the RoomPresence, manage public and private networks, collect logs, and upload Call History Record (CHR) data files.
- You can download CA certificates and server certificates from eSight and import them into the RoomPresence in batches.
- HTTPS-based bidirectional authentication is used for establishing a connection between the RoomPresence and eSight, enhancing communications security.

## 5.15 Startup Video Customization

The customized startup video and logo can be replaced by using the upgrade tool to meet personalized requirements.

## 5.16 Network Address Book

The network address book stores participant information, which you can directly use for easily starting a meeting. RoomPresence 65T can quickly obtain a participant's information from the network address book on the corporate directory or LDAP server.

The administrator can perform the following operations:

- Query, edit, and delete contacts on the web interface, sort contacts, add participants to the address book, and add groups. Search for contacts from the LDAP address book server and save them to the local address book. The contacts that are found from the corporate directory cannot be saved to the local address book.
- Update contacts in the local address book in batches by importing/exporting their information into/from the web interface.
- View the status of each participant in the corporate directory on the web interface and initiate calls to participants or invite new participants to a meeting on the Touch, touchscreen, or web interface.

## 5.17 Globalization

The web interface and Touch UI of the RoomPresence support multiple languages and time zone settings. If some countries in the selected time zone use daylight saving time (DST), the RoomPresence automatically enables DST and changes its clock to comply with DST.

All GUIs of the RoomPresence support the following languages: Simplified Chinese, Traditional Chinese, English, Spanish (Europe), French, Russian, Japanese, German, and Portuguese (Brazil).

## 5.18 Hi-Fi Audio

RoomPresence 65T provides hi-fi audio and clearer full-duplex digital audio, delivering a superb audio experience.

- The endpoint supports Acoustic Echo Cancellation (AEC), Automatic Noise Suppression (ANS), Automatic Gain Control (AGC), VoiceClear, AudioEnhancer, and lip synchronization.
- Opus-related technologies are adopted, including Forward Error Correction (FEC), Backward Error Correction (BEC), Packet Loss Concealment (PLC), Net Automatic Transfer-Enhancement (netATE), and Audio Jitter Buffer (AJB).
- The RoomPresence connects to a wired microphone array VPM220 or Mic 500 for sound pickup. If the meeting room is large, with participants dispersed, microphones can be cascaded for sound pickup within a wider range. Two microphones can be cascaded, with a maximum distance of 12 m between them. The recommended distance is 3 m to 6 m.

## 5.19 Network Adaptability

With powerful network adaptability, RoomPresence 65T provides smooth, sharp HD video even in the case of unstable network conditions and low bandwidth.



- The endpoint utilizes SEC, Hybrid Automatic Repeat Request (HARQ), and automatic deceleration to deliver clear and smooth video even when the packet loss rate reaches 30%.
- The Opus high-quality codec, Net Automatic Transfer-enhancement (netATE), and AJB are supported to reduce the packet loss rate and improve audio quality.
- Bandwidth sharing is supported among video, content, and data in a meeting. This feature improves network utilization and delivers smooth HD video images.

## 5.20 Web-based Monitoring

During a meeting, you can log in to the web interface of RoomPresence 65T and select video sources to view local and remote video in real time. This function is shown in [Figure 5-7](#). You need to enable the web-based monitoring function on the Touch.

**Figure 5-7** Viewing local and remote video



### CAUTION

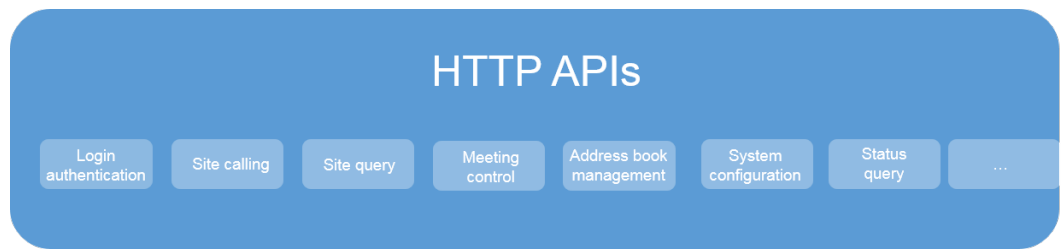
This function involves personal privacy. Ensure that its use complies with local laws and regulations.

## 5.21 APIs for Third-Party Integration

The RoomPresence provides HTTP-compliant third-party APIs to implement various functions, including login authentication, site calling, site query, meeting control, address book management, system configuration, and status query.

Users can choose necessary APIs based on their actual needs to develop required functions and integrate them into other products or applications.

**Figure 5-8** Functions implemented through HTTP APIs



# 6 Security and Reliability

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## 6.1 Operating System Security

Security maintenance for the system layer ensures that the operating system runs smoothly and also supports stable services at the application layer. The Touch uses a customized Android operating system, which delivers enhanced security and immunity to viruses.

## 6.2 Network Layer Security

The network layer security policies for the CloudVC on-premises network are as follows:

- The RoomPresence, SMC, and MCU are deployed in the trusted zone, isolated from the Demilitarized Zone (DMZ) and the untrusted zone. Furthermore, firewalls are deployed for security domain division and access control.
- Terminals (such as TE Desktop and TE Mobile) in the untrusted zone communicate with NEs in the trusted zone through the Switch Center (SC) in the DMZ.

## 6.3 Firewall Technology (NAT)

The firewall protects your IP network by separating the internal and external network communication data. Using Network Address Translation (NAT) technology and signaling exchange between public network protocols and private network protocols, the firewall enables participants on local area networks (LANs) in different places to make use of video conferences. With NAT, a device on a LAN is allocated a dedicated internal IP address that uniquely identifies the device on the LAN, and the device uses an external IP address to communicate with external devices. Through NAT mapping, multiple internal IP addresses are mapped to one external IP address. NAT mapping not only reduces the number of IP addresses that are needed for users on a private network to access the Internet, but also enhances the security of the private network.

## 6.4 Traversal Between Public and Private Networks

The media latching and standard H.460 traversal technology are used to set up secure video call connections between public and private networks and between private networks through the firewall.

## 6.5 Email Security

To ensure the security of email accounts and sent emails, the STARTTLS protocol is used by default to authenticate the mail server and send encrypted emails.

## 6.6 Web Request Authentication

- When a user requests access to a specified web page or submits a Servlet request, the endpoint checks whether the user's session identifier is valid and whether the user is authorized to perform the operation.
- The server implements the final authentication on the user.
- Before transmitting user-generated data to clients, the server verifies the data and encodes it using HyperText Markup Language (HTML) to prevent malicious code injection and cross-site scripting attacks.
- Web security software is used to scan the web server and applications to ensure that there are no high-risk vulnerabilities.

## 6.7 Protocol Anti-Attack Measures

- The communication matrix is provided in the product documentation. Do not enable the services and ports that are not described in the communication matrix.

The communication matrix contains the following information:

- Open ports
- Transport layer protocols used by the ports
- NEs that use the ports to communicate with peer NEs
- Application layer protocols used by the ports and description of the services at the application layer
- Whether services at the application layer can be disabled
- Authentication modes adopted by the ports
- Port functions (such as data traffic control)
- To ensure the security and stability of the video conferencing system, the endpoint utilizes multiple encryption measures, including H.235 (for encryption of media and signaling streams), SRTP, TLS, and HTTPS.
- For network management, the RoomPresence supports the SNMP v3 protocol, which features higher adaptability and security. User names and passwords are needed to connect the network management system to the RoomPresence.
- Robustness testing tools are used to scan protocols to ensure that there are no high-risk vulnerabilities.

- By default, the LDAP over SSL (LDAPS) protocol is used to encrypt the address book, ensuring data integrity and preventing data from being stolen.

## 6.8 Protection of Sensitive Data

- The log, diagnostics, debug, and alarm information do not contain sensitive data such as passwords and ciphering contexts. If sensitive data is included, it is displayed as "\*\*\*\*".
- Sensitive data is transmitted only through secure channels or after being encrypted.
- In the collaborative application scenario, the uPortal uses the root certificate for authentication through HTTPS to protect sensitive information such as accounts and passwords.
- The endpoint checks the complexity of passwords. When a password is being entered, each stroke is displayed as "." or "\*", and the entered password cannot be copied.
- Only standard encryption algorithms and key negotiation mechanisms are used. Proprietary algorithms are not allowed.

## 6.9 Protection of AI Voice Commands

The AI voice commands collected by RoomPresence 65T are uploaded to the AI server through TLS 1.2, and the AI server parses the commands. The commands are destroyed immediately after being uploaded to the AI server. RoomPresence 65T does not store any information locally or support access and obtaining.

## 6.10 Facial Recognition Privacy Protection

RoomPresence 65T utilizes the facial recognition technology to implement its intelligent sign-in and electronic name tag functions. This technology saves user face images to local cache and submits them to the facial recognition server for registration and identification. RoomPresence 65T deletes user face images periodically. After users leave a meeting or RoomPresence 65T is restarted, user face images are also deleted. In addition, the images are used only for facial recognition services.

## 6.11 System Management and Maintenance Security

- Software packages (including patches) are released only after they are scanned by at least five types of mainstream antivirus software and no issues are detected. In special cases, explanation is provided for alarms.
- All user operations and system exceptions are logged.
- A two-level certificate chain is supported to ensure the transmission security of confidential data.

## 6.12 Security Design

- The non-metal parts of the exterior use the V1 flame retardant (FR) materials.

- The component security design meets the requirements of the nine countries in the EU, North America, Australia, Canada, and the Middle East, as well as China. The components of mechanical parts comply with the EU Machinery Directive 2006/42/EC.
- Labels and security tips are used.

## 6.13 Disaster Recovery

The RoomPresence can simultaneously connect to the active and standby corporate directories or SCs for disaster recovery (DR). When the active corporate directory or SC is faulty, the RoomPresence automatically switches to the standby corporate directory or SC to continue providing services.

# 7 Operations and Maintenance

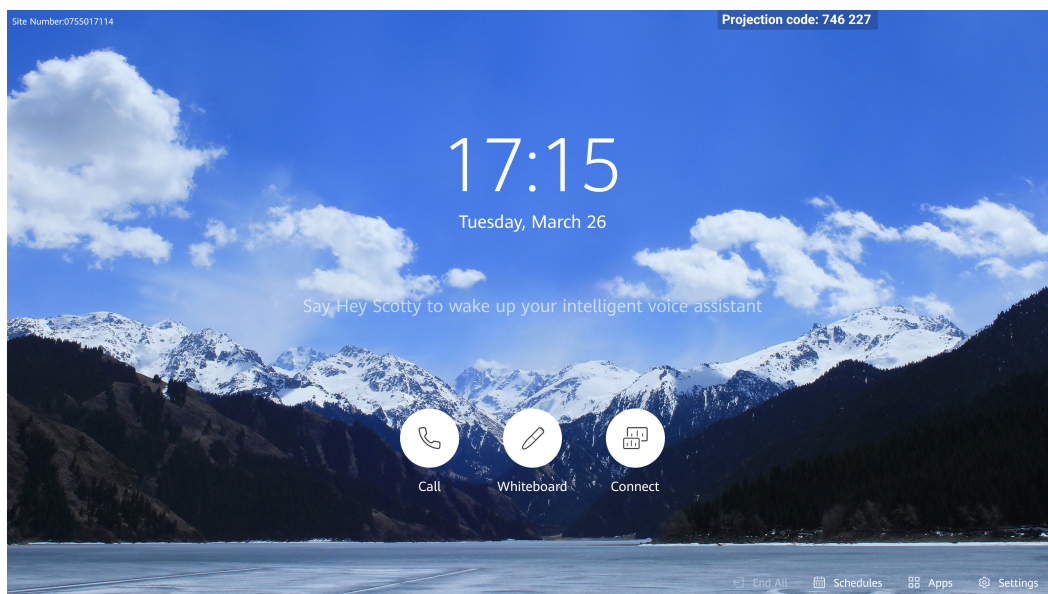
## 7.1 GUIs

### 7.1.1 Touchscreen

RoomPresence 65T provides an all-new touchable collaborative whiteboard system. You can tap icons on the touchscreen or speak to its intelligent voice assistant to start meetings with ease.

On the touch panel, you can join a scheduled conference, create a multipoint or P2P conference, share and collaborate with other participants on the whiteboard, control the microphone, speaker, and camera, perform intelligent tracking, perform one-click device diagnosis, change the wallpaper, and send captions. [Figure 7-1](#) shows the home screen.

**Figure 7-1** Home screen



## 7.1.2 Touch

The HUAWEI Touch, a 10-inch touch panel, provides a user-friendly UI where you can easily use meeting functions through several taps, including:

- Joining a scheduled meeting
- Creating a P2P or multipoint meeting
- Sharing content
- Setting continuous presence
- Controlling a meeting
- Setting system parameters
- Controlling a microphone
- Controlling a microphone, speaker, and camera
- Performing intelligent tracking
- Performing one-click device diagnosis
- Changing a wallpaper
- Sending captions

**Figure 7-2** shows the home screen of the Touch.

**Figure 7-2** Home screen



## 7.1.3 AirPresence Mobile/PC Client

AirPresence is a wireless content sharing client designed for the RoomPresence. It can be installed on a PC or mobile device to provide functions listed in **Table 7-1**. When a participant is sharing content in a meeting, other participants are still allowed to start sharing,

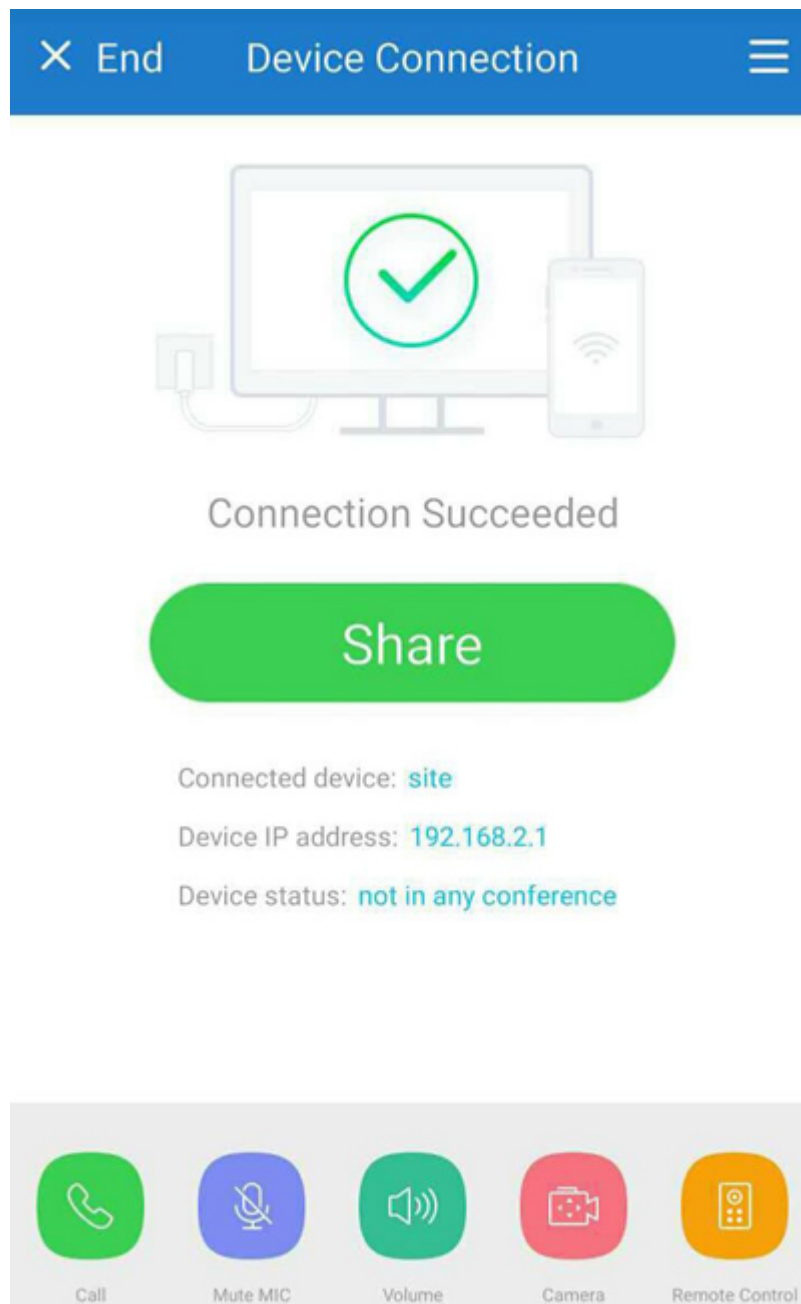


but the existing content sharing session will be dropped. Up to three users can connect to the same RoomPresence.

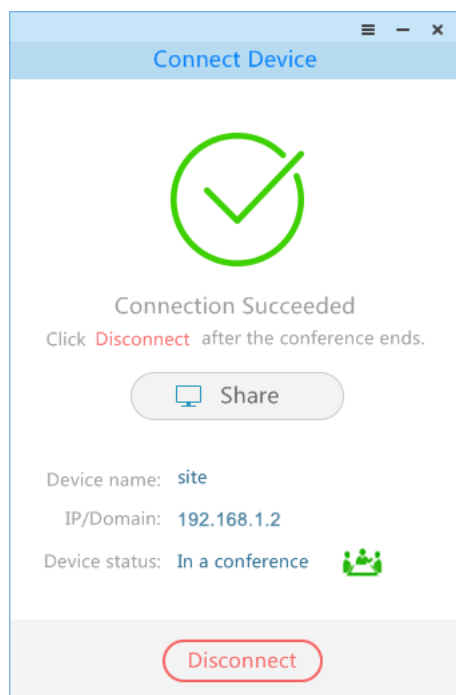
**Table 7-1** Functions supported by AirPresence

<b>AirPresence</b>	<b>Function</b>
Mobile client	Sharing content, initiating a call, joining a meeting, controlling the microphone and loudspeaker, adjusting the shooting angle of the camera, and controlling the RoomPresence using the virtual remote control
PC client	Sharing content

**Figure 7-3** AirPresence mobile client for Android



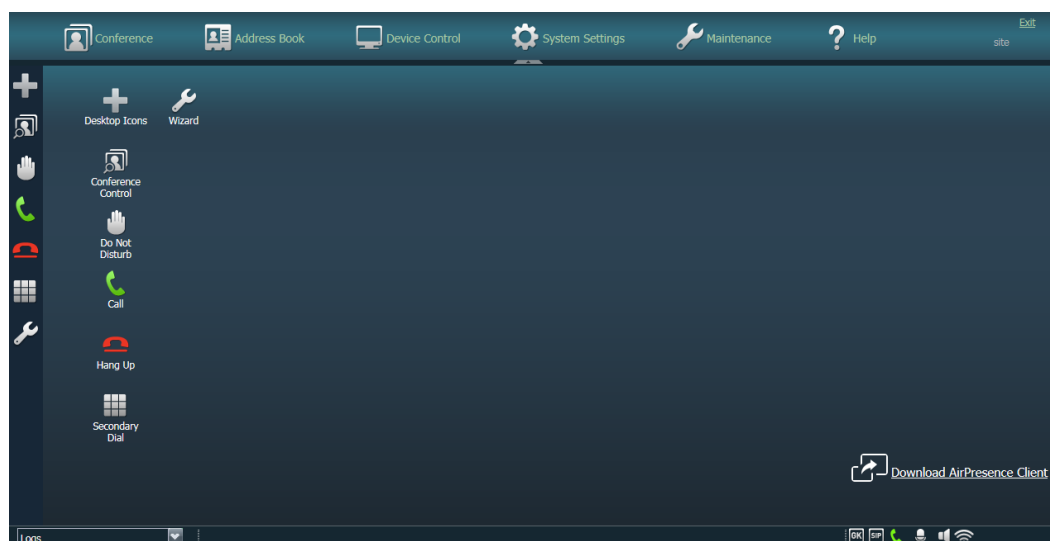
**Figure 7-4** AirPresence PC client



## 7.1.4 Web Interface

The RoomPresence 65T codec supports the web interface for management. The administrator can remotely operate the codec on the web interface to configure the address book, modify system settings, configure and send captions, configure the intelligent voice assistant, configure the voice tracking of the camera, maintain the system, and initiate and control the meeting. The web interface can be operated by a maximum of 10 users at the same time. Multiple users can use the same account and password. However, only the last operation takes effect. [Figure 7-5](#) shows the web interface.

**Figure 7-5** Web interface



## 7.2 Maintenance and Upgrade

### 7.2.1 Log Management

The RoomPresence records logs about user operations and system exceptions, helping the administrator maintain the system and locate faults.

Logs are stored as files. On the RoomPresence web interface, the administrator can query, export, or delete logs of a specified time frame or all logs.

### 7.2.2 Diagnostics

The RoomPresence can detect the hardware running status, network connections, audio input/output, video input/output, common parameter settings, and server registration status to help users locate faults.

### 7.2.3 Inspection

The RoomPresence can be inspected using the SMC2.0 and eSight. You can:

- Check the status of IP lines.
- Check the system software version.
- Check the system performance, including the temperature and fan status.
- Check the registration status.
  - SMC2.0: Check the H.323 and SIP registration status.
  - eSight: Check the SIP registration status.
- Check the camera control status.
- Check the content source connection status and input port settings.
- Check the video input cable connection status and video input port settings.
- Continue inspection after the endpoint restarts or ends a call.
- Check the inspection status and result. (This function is supported only on the SMC2.0.)

### 7.2.4 Upgrade

You can upgrade the RoomPresence to the latest version to fix its vulnerabilities and use the new functions provided in the latest version.

- You can manually upgrade the RoomPresence using the upgrade tool or web interface.
- The RoomPresence can be first restored to factory defaults and then upgraded.
- The RoomPresence supports silent upgrade mode, in which the RoomPresence is upgraded at a scheduled time without affecting services.
- RoomPresence systems can be upgraded in batches.
- The RoomPresence upgrade can be paused and resumed.
- Any RoomPresence connected to eSight can be upgraded using eSight.
- As a manageable device, the RoomPresence can be upgraded using the SMC2.0. If multiple RoomPresence systems exist, they can be upgraded in batches from the SMC2.0.

## 7.3 CHR Data Collection

After connecting to eSight, the RoomPresence can send its session and media CHR files to eSight. SessionInsight obtains CHR data files from eSight and analyzes them to quickly locate faults.

# 8 Technical Specifications

## 8.1 Physical Specifications

**Table 8-1** lists the physical specifications of the RoomPresence 65T main unit.

**Table 8-1** Main unit specifications

Parameter	Value
<b>Electricity supply requirements</b>	
Operating voltage	100 - 240 V AC
Operating frequency	50 - 60 Hz
Maximum power consumption	453 W
<b>Environmental requirements (in use)</b>	
Operating temperature	Main unit: 0°C to 40°C (32 °F to 104 °F) Touch: 0°C to 35°C (32 °F to 95 °F)
Relative humidity	10% to 90%
Ambient noise	≤ 35 dB
Minimum illuminance	7 lux
Recommended illuminance	> 200 lux
EMC	Class A
Operating altitude	< 4000 m (13123 ft)
<b>Environmental requirements (idle)</b>	

Parameter	Value
Operating temperature	- 20°C to +60°C ( - 4°F to +140°F)
Relative humidity (non-condensing)	10% to 90%
<b>Dimensions and weight</b>	
Device dimensions (H x W x D)	1818.5 mm x 3008 mm x 700 mm (71.6 in. x 118.5 in. x 27.6 in.)
Package dimensions (H x W x D)	1926 mm x 1050 mm x 700 (75.9 in. x 41.4 in. x 27.6 in.)
Net weight	180 kg (296 lb)
Gross weight	260 kg (572 lb)
<b>Wi-Fi</b>	
Frequency bands	2.4 GHz and 5 GHz
Working frequency ranges (codec)	2.4 GHz: 2400 MHz to 2483.5 MHz 5 GHz: 5150 MHz to 5250 MHz
Working frequency ranges (Touch)	2.4 GHz: 2400 MHz to 2473.5 MHz 5 GHz: 5150 MHz to 5250 MHz
Maximum transmission power	< 20 dBm
Working range in an environment without barriers	20 m (65.6 ft) Recommended: 10 m (32.81 ft)
<b>Display</b>	
Screen size	65-inch
Screen resolution	4K

**Table 8-2** lists the physical specifications of the Bar 500.

**Table 8-2** Bar 500 specifications

<b>Tracking camera</b>	
Image sensor	2-megapixel, 1/2.8-inch CMOS
Resolution	Up to 1920 x 1080 (1080p 60 fps)
Zoom	Up to 5x optical zoom

Focal length	3.17 mm (Wide end) to 15.85 mm (Tele end)
Maximum aperture	F1.8
Maximum horizontal field of view	83°
Maximum vertical field of view	51.6°
Number of presets	Local camera: 30 at most; remote camera: 16 at most
PTZ	Supported
<b>Panoramic camera</b>	
Resolution	1920 x 1080 (1080p 30 fps)
Zoom	Fixed focal length
Focal length	3.8 mm
Aperture	F2.8
Horizontal field of view	84°
Vertical angle of view	48°
<b>Image mode</b>	
Image mode	Four image modes: standard, vivid, natural, and user-defined
<b>Automatic adjustment</b>	
Automatic adjustment	Automatic White Balance (AWB), Automatic Exposure (AE), and Automatic Focus (AF)
Exposure mode	Auto, manual, iris priority, and shutter priority
White balance mode	Auto, manual, and one-push
<b>Built-in microphone</b>	
Sound pickup	Range: 180°; distance: 6 m (19.7 ft)
Maximum sound localization distance	10 m (32.8 ft)
Sound localization angle	Forward, 180°
<b>Built-in loudspeaker</b>	
Sound playing	Distance: 6 m (19.7 ft)
Maximum sound level	92 dB SPL@1m 8 W



<b>Voice tracking</b>	
Distance	5 m (16.4 ft)

## 8.2 Performance Specifications

**Table 8-3** describes the performance specifications of RoomPresence 65T.

**Table 8-3** Performance specifications

Item	Specifications
Call bandwidth	64 kbit/s to 8 Mbit/s
Video capabilities (H.264)	Minimum bandwidth required to deliver video of a specific resolution (without any packet loss): <ul style="list-style-type: none"> <li>● 1 Mbit/s for 1080p 60 fps</li> <li>● 512 kbit/s for 1080p 30 fps</li> <li>● 768 kbit/s for 720p 60 fps</li> <li>● 384 kbit/s for 720p 30 fps</li> <li>● 128 kbit/s for 4SIF/4CIF 30 fps</li> <li>● 64 kbit/s for SIF/CIF/QSIF/QCIF/SQSIF/SQCIF 30 fps</li> </ul>
Video capabilities (H.265)	Minimum bandwidth required to deliver video of a specific resolution (without any packet loss): <ul style="list-style-type: none"> <li>● 768 kbit/s for 1080p 60 fps</li> <li>● 384 kbit/s for 1080p 30 fps</li> <li>● 512 kbit/s for 720p 60 fps</li> <li>● 256 kbit/s for 720p 30 fps</li> </ul>

Item	Specifications
Content sharing capabilities	<ul style="list-style-type: none"> <li>● Content sharing over a wireless connection               <ul style="list-style-type: none"> <li>In a remote meeting:                   <ul style="list-style-type: none"> <li>- AirPresence mobile client: up to 1080p 3 fps</li> <li>- AirPresence PC client (Windows): up to 1080p 25 fps</li> <li>- AirPresence PC client (Mac): up to 1080p 15 fps</li> </ul> </li> <li>In a local meeting:                   <ul style="list-style-type: none"> <li>- AirPresence mobile client: up to 1080p 3 fps</li> <li>- AirPresence PC client (Windows): up to 1080p 25 fps</li> <li>- AirPresence PC client (Mac): up to 1080p 15 fps</li> </ul> </li> </ul> </li> <li>● Content sharing over a cable connection               <ul style="list-style-type: none"> <li>Input resolution:                   <ul style="list-style-type: none"> <li>- HDMI: 3840 x 2160 25/30 fps, 3200 x 1800 30 fps, 2880 x 1800 30 fps, 2880 x 1620 50 fps, 2560 x 1600 60 fps, 2048 x 1536 60 fps, 1920 x 1200 60 fps, 1920 x 1080 24/25/30/50/60 fps, 1680 x 1050 60 fps, 1600 x 1200 60 fps, 1600 x 900 60 fps, 1400 x 1050 60 fps, 1440 x 900 60 fps, 1366 x 768 60 fps, 1360 x 768 60 fps, 1280 x 1024 60/75/85 fps, 1280 x 960 60/75/85 fps, 1280 x 800 60/75/85 fps, 1280 x 768 60/75/85 fps, 1280 x 720 60/75/85 fps, 1280 x 600 60 fps, 1152 x 864 60/75/85 fps, 1024 x 768 60/70/75/85 fps, 800 x 600 56/60/72/75/85 fps, and 640 x 480 60/72/75/85 fps</li> <li>- VGA: 1920 x 1200 60 fps, 1920 x 1080 60 fps, 1680 x 1050 60 fps, 1600 x 1200 60 fps, 1600 x 900 60 fps, 1400 x 1050 60 fps, 1440 x 900 60 fps, 1366 x 768 60 fps, 1360 x 768 60 fps, 1280 x 1024 60/75/85 fps, 1280 x 960 60/75/85 fps, 1280 x 800 60/75/85 fps, 1280 x 768 60/75/85 fps, 1280 x 720 60/75/85 fps, 1280 x 600 60 fps, 1152 x 864 60/75/85 fps, 1024 x 768 60/70/75/85 fps, 800 x 600 56/60/72/75/85 fps, and 640 x 480 60/72/75/85 fps</li> </ul> </li> <li>Codec resolution: 3840 x 2160, 3200 x 1800, 2880 x 1800, 2880 x 1620, 2560 x 2048, 2560 x 1600, 2560 x 1440, 2048 x 1556, 2048 x 1536, 2048 x 1236, 2048 x 1152, 1680 x 1050, 1600 x 900, 1400 x 1050, 1440 x 900, 1366 x 768, 1360 x 768, 1280 x 960, 1280 x 800, 1280 x 768, 1280 x 600, 1152 x 864, 1920 x 1200, 1600 x 1200, 1920 x 1080, 768 x 448, 1280 x 1024, 1280 x 720, 1024 x 768, 800 x 600, 704 x 576, 640 x 480, and 352 x 288</li> <li>Output resolution: 3840 x 2160, 1920 x 1080</li> </ul> </li> </ul>
Dual streaming	<p>Video conferencing: Up to 1080p 30 fps + 1080p 30 fps, 1080p 30 fps + 4K 8 fps, 1080p 60 fps+1080p 60 fps, or 1080p 60 fps + 4K 15 fps</p> <p>Data conferencing: Up to 1080p 30 fps or 4K 8 fps</p>

Item	Specifications
Operating system and hardware requirements for AirPresence mobile client installation	<ul style="list-style-type: none"> <li>● Android 5.0 or later, CPU with the ARMv7 Neon chip or above, dominant frequency of 1.5 GHz or above, memory of 1 GB or above</li> <li>● iOS 7.0 or later, iPhone 5 or later or iPad2 or later</li> </ul>
Operating system requirements for AirPresence PC client installation	<ul style="list-style-type: none"> <li>● 32-bit Windows XP</li> <li>● 32-bit or 64-bit Windows 7, 8, 8.1 or 10</li> <li>● 32-bit and 64-bit macOS 10.7 to 10.11</li> </ul>
Recommended distance between the user and RoomPresence 65T when the voice assistant is used	Less than or equal to 1 m

## 8.3 Standards Compliance

**Table 8-4** lists the standards that RoomPresence 65T complies with.

**Table 8-4** Standards compliance

Item	Specification
Video encoding and decoding protocols	H.265, H.265 SCC decoding (screen content coding), H.264 HP, H.264 BP, H.264 SVC, H.263, and H.263+
Audio encoding and decoding protocols	AAC-LD (mono/stereo), G.711A, G.711U, G.722, G.722.1C, G.729A, and Opus
Multimedia framework protocols	ITU-T H.323 and IETF SIP
Dual-stream protocols	ITU-T H.239 and Binary Floor Control Protocol (BFCP)
Network transmission protocols	TCP/IP, RTP, RTCP, DHCP, Domain Name Server (DNS), SMTP, SNMP, Simple Network Time Protocol (SNTP), Telnet, SSH, HTTP, HTTPS, TR-069, and TR-111
Other communications protocols	H.224, H.225, H.235, H.241, H.245, H.281, H.350, H.460, T.140, RFC2833, LDAP, and LDAPS
IP protocols	IPv4 and IPv6 dual stack
Encryption protocols	H.235, STARTTLS, TLS, and SRTP
Wi-Fi standards	IEEE 802.11 a/b/g/n/ac, IEEE 802.1p/q, IEEE 802.1x, WEP, WPA, WPA2, and WPS

# A Glossary

<b>Numerics</b>	
<b>4CIF</b>	4 x Common Inediate Format A video resolution of 704 x 576 pixels.
<b>4SIF</b>	4 x Source Input Format A video format with a resolution of 704 x 480 pixels that uses progressive scanning.
<b>A</b>	
<b>AAC</b>	Advanced Audio Coding
<b>AEC</b>	Acoustic Echo Cancellation
<b>AGC</b>	Automatic Gain Control
<b>AI</b>	Artificial Intelligence
<b>AJB</b>	Audio Jitter Buffer
<b>ANS</b>	Automatic Noise Suppression
<b>API</b>	Application Programming Interface A particular set of rules and specifications that are used for communication between software programs.
<b>AutoFrame</b>	Based on the number, location, and motion of participants, this function automatically adjusts the camera to provide a dynamic overview of the full room.
<b>C</b>	
<b>CHR</b>	Call History Record
<b>CIF</b>	Common Intermediate Format

<b>CPE</b>	<p>Customer Premises Equipment</p> <p>Any terminal and associated equipment located at a subscriber's premises and connected with a carrier's telecommunication channel at the demarcation point.</p>
<b>CSCF</b>	<p>Call Session Control Function</p> <p>The core component of the IMS network. It performs the functions such as registration, authentication, session control, service triggering, topology hiding, QoS control, NAT traversal, and security management.</p>
<b>D</b>	
<b>DMZ</b>	<p>demilitarized zone</p> <p>A buffer area between an insecure system and the secure system and is used to solve the problem of an external network being unable to access an internal network equipped with a firewall. The DMZ is located between the internal network and the external network. The DMZ contains some public server facilities, such as the enterprise Web server and FTP server. The DMZ protects the internal network.</p>
<b>DNS</b>	<p>Domain Name System</p> <p>A mechanism that maps easy-to-remember domain names to IP addresses recognizable for network devices.</p>
<b>DVI</b>	Digital Visual Interface
<b>DVI-I</b>	Digital Visual Interface-Integrated
<b>address book</b>	Stores the information of remote participants, including the IP address, number, type, and bandwidth.
<b>E</b>	
<b>EUA</b>	<p>Enterprise Unified Address Book</p> <p>A next-generation address book server launched by Huawei. It provides LDAP-based unified address book services for Huawei videoconferencing and enterprise communication solutions.</p>
<b>F</b>	
<b>initiate call</b>	To initiate a call is a process where the calling party dials the called party's alias or IP address to set up a call and exchange audiovisual information with the called party.
<b>G</b>	
<b>G.722</b>	Audio codec standard that uses adaptive differential pulse-code modulation (ADPCM). Its data rate is 48 kbit/s, 56 kbit/s, or 64 kbit/s.
<b>G.728</b>	Audio codec standard that uses low-delay code excited linear prediction (LD-CELP). Its data rate is 16 kbit/s.
<b>H</b>	

<b>H.239</b>	A standard recommended by ITU-T. It enables a video conference to simultaneously transmit both video and data content (for example, computer desktop).
<b>H.263</b>	A video codec standard for video conferences at low rates. Five formats are available: SQCIF, QCIF, CIF, 4CIF, and 16CIF.
<b>H.264</b>	Compared with H.263, H.264 can provide the same-quality video at half of the bit rate, with strong error resilience.
<b>HD</b>	High Definition
<b>HDMI</b>	High Definition Multimedia Interface
<b>HTTP</b>	Hypertext Transfer Protocol
<b>HTTPS</b>	Hypertext Transfer Protocol over Secure Sockets Layer An HTTP protocol that runs over transport layer security (TLS) and Secure Sockets Layer (SSL) for secured transactions. It is used to establish a reliable channel for encrypted communication and secure identification of a network web server.
<b>loopback test</b>	The terminal can transmit audio or video data on a channel to simulate the actual application and test whether the output is satisfactory. A user can perform a local loopback test to check the local network connection or a remote loopback test to check the remote network connection. If a remote loopback test is performed, data is transmitted from the local site to a remote site, and then back to the local site.
<b>I</b>	
<b>IMS</b>	IP multimedia subsystem
<b>IWB</b>	interactive whiteboard
<b>L</b>	
<b>LAN</b>	Local Area Network
<b>LCD</b>	Liquid Crystal Display
<b>LDAP</b>	Lightweight Directory Access Protocol A network protocol based on TCP/IP, which allows access to a directory system agent (DSA). It involves some reduced functionality from X.500 Directory Access Protocol (DAP) specifications.
<b>M</b>	
<b>MediaX</b>	Media Switch Server
<b>media stream</b>	Data stream (such as audio, video and fax) between different bearer networks.
<b>N</b>	
<b>netATE</b>	Net Automatic Transfer-enhancement

<b>P</b>	
<b>PPPoE</b>	Point-to-Point Protocol over Ethernet
<b>Q</b>	
<b>HD display</b>	An HD plasma TV that is used to display the video from a telepresence codec.
<b>R</b>	
<b>RSE</b>	Recording & Streaming Engine
<b>RTCP</b>	Real-Time Transport Control Protocol A protocol used to monitor data delivery. RTCP enables the receiver to detect if there is any packet loss and to compensate for any delay jitter.
<b>S</b>	
<b>SBC</b>	Session Border Control
<b>SEC</b>	Super Error Concealment
<b>SIF</b>	Source Input Format
<b>SIP</b>	Session Initiation Protocol
<b>SMC</b>	Service Management Center A videoconferencing service management system that manages videoconferencing devices (including GKs, MCUs, and participant endpoints) and allocates videoconferencing resources.
<b>SP</b>	service provider A system that provides services to users. In IAM, the SP for federated identity authentication is the public cloud system.
<b>SRTP</b>	Secure Real-time Transport Protocol A real time transport protocol with enhanced security and encryption mechanism-based RTP.
<b>SSH</b>	Secure Shell A network security protocol formulated by the IETF's Network Working Group on the basis of the application layer to implement secure remote login and other secure network services. The use of SSH can effectively prevent information leakage during remote management. It is initially a program in the Unix operating system and adopted by other operating platforms soon. SSH can fix vulnerabilities on the network when it is used correctly. The SSH client is applicable to multiple platforms. SSH can run on almost all UNIX platforms, including HP-UX, Linux, AIX, Solaris, Digital UNIX, Irix, and other platforms.
<b>STG</b>	Security Traversing Gateway
<b>STUN</b>	Simple Traversal of UDP through NAT

<b>SVC</b>	Scalable Video Coding
<b>SVGA</b>	Super Video Graphics Array
<b>power on</b>	To start up a computer; to begin a cold boot procedure; to turn on the power
<b>sound pickup distance</b>	The maximum distance within which sounds can be picked up by a microphone.
<b>dual-stream</b>	During a conference, two channels of video streams can be sent or received simultaneously. One channel is used for transmitting video (such as the video captured by a camera) and the other channel is used for transmitting content (such as a computer desktop).
<b>T</b>	
<b>TCP/IP</b>	Transmission Control Protocol/Internet Protocol
<b>TLS</b>	Transport Layer Security
<b>V</b>	
<b>VGA</b>	Video Graphics Array
<b>VMR</b>	Virtual Meeting Room
<b>W</b>	
<b>WPA</b>	Wi-Fi Protected Access A wireless security protocol replacing WEP and aiming to provide stronger security for the IEEE 802.11 WLAN. WPA is a subset of IEEE 802.11i, whose core is IEEE 802.1x and TKIP.
<b>Wi-Fi</b>	Wireless Fidelity A short-distance wireless transmission technology. It enables wireless access to the Internet within a range of hundreds of feet wide.
<b>Switch Center</b>	A Switch Center (SC) is Huawei's new-generation network switch system that provides H.323 GK, SIP server, and media proxy functions.
<b>X</b>	
<b>XGA</b>	Extended Graphics Array
<b>Y</b>	
<b>schedule conference</b>	Specify the start time and duration of a conference. Then the system schedules the conference automatically.
<b>Z</b>	
<b>telepresence</b>	The Huawei telepresence system provides users with a comfortable video conferencing environment in which they can have true-to-life and face to face remote conferences.



<b>Endpoint</b>	A device that converts voice, sound, text, image, table, data and video from physical display to electronic signals or from electronic signals to physical display. A terminal generates and sends signals (such as telecommunications circuit setup or release) that maintain the normal running state of the telecommunications network, and it receives the call signals of telecommunications switch and transmission.
<b>chair site</b>	A site that has chair control rights.
<b>caption</b>	Text information that appears on video. During a conference, a site can add captions to the video sent by the local site. Users can add captions to the top, middle, and bottom areas of the screen.