What’s New in Release 3.8.1

Polycom® RealPresence® Desktop version 3.8.1 is a maintenance release. It includes the features and functionality of previous releases and includes the following new features.
Support for Polycom® VoxBox™ USB Speakerphones

The RealPresence Desktop video collaboration software now supports Polycom® VoxBox™ USB speakers.

You can connect the Polycom® VoxBox™ USB Speakerphone to your computer using its USB interface or Bluetooth.

Polycom VoxBox is a USB human interface device (HID) device, offering USB and Bluetooth connectivity capabilities. You can use it as the audio device or call controller of your video collaboration software.

You can use a VoxBox USB speakerphone to do the following:

- End a call
- Turn on or turn off your microphone
- Adjust your device volume

Dropped Support for Automatic Detection of Polycom® SmartPairing™

From this version on, the RealPresence Desktop video collaboration software drops support for the automatic detection feature of Polycom SmartPairing. Instead of listing the IP address of nearby Polycom HDX or RealPresence Group Series systems automatically, you will have to enter their IP addresses manually to pair to them.
# Release History

This following table lists the release history of RealPresence Desktop.

## Release History

<table>
<thead>
<tr>
<th>Release</th>
<th>Release Date</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.8.1</td>
<td>December 2017</td>
<td>Support for Polycom® VoxBox™ USB speakerphones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dropped support for automatic detection of Polycom® SmartPairing™</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bug fixes</td>
</tr>
<tr>
<td>3.8</td>
<td>September 2017</td>
<td>Support for receiving 1080p people video</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support for 1080p content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sign-in domain automatic detection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disable Remember Password feature</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automatic Face Brightness Adjustment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dropped support for Polycom® Concierge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>User interface optimization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blurring Background feature available as a test feature</td>
</tr>
<tr>
<td>3.7</td>
<td>December 2016</td>
<td>Video enhancements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UI enhancements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New OS support</td>
</tr>
<tr>
<td>3.6</td>
<td>June 2016</td>
<td>Free access to Polycom® People+Content™ IP and SmartPairing in standalone mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Audio enhancements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Video enhancements</td>
</tr>
<tr>
<td>3.5.1</td>
<td>April 2016</td>
<td>Constant Bitrate (CBR) adopted for video codecs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bug fixes and feature enhancements</td>
</tr>
<tr>
<td>3.5</td>
<td>January 2016</td>
<td>Polycom® Concierge Solution Support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TLSv2 support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MusicMode support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Devices support</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SmartPairing Support for Polycom® RealPresence Debut™ Systems</td>
</tr>
<tr>
<td>3.4</td>
<td>June 2015</td>
<td>Profile Photo and Virtual Business Card</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support for Audio Mute Shortcut Keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support for Polycom NoiseBlock™</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In-call Toolbar User Interface Enhancements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provision the migration of CMA Desktop to RealPresence Desktop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Provisioning migration of CMA Desktop to RealPresence Desktop</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mid-string Search of Favorites</td>
</tr>
</tbody>
</table>
### Release History

<table>
<thead>
<tr>
<th>Release</th>
<th>Release Date</th>
<th>Features</th>
</tr>
</thead>
</table>
| 3.3     | December 2014| User Interface Improvements  
|         |              | Support for Calling SIP Users Directly  
|         |              | Directory Search Enhancements  
|         |              | Instant Messaging Enhancement  
|         |              | Support for selected test features  
|         |              | The **SDP Size Adjustment** feature has been moved out. To enable or disable this feature, enter `#001#` from the Dialpad. |
| 3.3     | December 2014| User Interface Improvements  
|         |              | Support for Calling SIP Users Directly  
|         |              | Directory Search Enhancements  
|         |              | Instant Messaging Enhancement  
|         |              | Some test features have been moved from the **Test Features** tab under **Settings**.  
|         |              | • The **USB Headset Acoustic Fence™** feature is now on the **Device** tab.  
|         |              | • The **SDP Size Adjustment** feature has been moved out. To enable or disable this feature, enter `#001#` from the Dialpad.  
|         |              | Mac OS X Support Changes  
|         |              | RealPresence Desktop 3.3 adds support for Yosemite 10.10 and drops support for Lion 10.7. |
| 3.2.2   | December 2014| Fixed the password security issue (**VIDESC-13226**). |
Release Notes

RealPresence Desktop - Version 3.8.1

Security Updates

RealPresence Desktop is now upgraded its OpenSSL to the latest version 1.0.2k for higher security.

Please refer to the Polycom Security Center for information about known and resolved security vulnerabilities.

Polycom, Inc.
Hardware and Software Requirements

The following hardware requirements were determined based on test scenarios. Your system’s actual performance may vary based on software or hardware configurations.

Hardware and Software Requirements

<table>
<thead>
<tr>
<th>Hardware or Software</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| Mac OS X             | Yosemite (10.10)  
                        El Capitan (10.11)  
                        Sierra (10.12)      |
| Software             | Polycom® RealPresence® Resource Manager version 8.1 or later |
| Processor            | RealPresence Desktop system’s capabilities vary depending on processor performance.  
                        The processor types and speeds listed below are intended as reference guides.  
                        RealPresence Desktop will have equivalent capabilities on other processors with equivalent performance.  
                        Recommended CPU: Intel Core i5, 2.5GHz or higher.  
                        Basic Video Transmit (Up to QVGA 30 fps sending, up to 720p 15 fps receiving)  
                        • Single core  
                        • Dual logical cores, lower than 2.0 GHz  
                        • Quad logical cores, lower than 1.3 GHz  
                        Premium Video Transmit (Up to VGA 30 fps sending, up to 720p 30 fps receiving)  
                        • Dual logical cores, 2.0 GHz or higher  
                        • Quad logical cores, 1.3 GHz or higher  
                        HD Transmit  
                        • Dual logical cores, 2.5 GHz or higher (Up to 720p 15 fps sending, up to 720p 30 fps receiving)  
                        • Quad logical cores, 1.6 GHz or higher (Up to 720p 15 fps sending, up to 720p 30 fps receiving)  
                        • Quad logical cores, 2.0 GHz or higher (Up to 720p 30 fps sending, up to 1080p 30 fps receiving)  
| RAM                  | 4 GB         |
| Video memory         | Minimum: 256 MB |
| Hard drive space     | 200 MB       |
| Camera               | Integrated or external |

Install RealPresence Desktop

This section discusses how to install RealPresence Desktop in both standalone and managed mode. In standalone mode, you will need a license number and activation key code or license file to activate the product and use it beyond the 30-day trial period.
Installation Notes

Here are some things to consider when doing a RealPresence Desktop installation:

- The RealPresence Desktop user interface supports the following languages: English, International Spanish, French, German, Simplified Chinese, Korean, Japanese, Russian, Portuguese, Kazakh, Czech, and Traditional Chinese.
- The Mac OS language setting controls the language choice for RealPresence Desktop.
- You can view the license number of the RealPresence Desktop by clicking Polycom RealPresence Desktop on the top menu and selecting the About option.

Install RealPresence Desktop in Standalone Mode

This section describes how to install RealPresence Desktop in standalone mode.

To install RealPresence Desktop:
1. Download the installation file from the Polycom Support site.
2. Follow the Installer Wizard instructions.

To activate RealPresence Desktop license:
1. Start RealPresence Desktop application and in the Individual Account box click Enter.
2. Click Activate to activate the application with a license. Then do one of the following:
   - Click to select a license file.
     - The license file is a .txt file that contains the license number and activation key.
   - Specify your License Number and Activation Key Code manually.
     - You can press the TAB key to navigate among different text fields.
     - You can also copy your key string, click in the first text field, and then press Ctrl + V to paste it.
3. Click Activate.

Install RealPresence Desktop in Managed Mode

In managed mode, an administrator can distribute the latest version of RealPresence Desktop to all managed systems. To do this, the administrator uploads the RealPresence Desktop distribution package (.tar.gz) to the RealPresence Resource Manager system. This process is described in detail in the Distribute Polycom Applications topic in the Polycom RealPresence Resource Manager Operations Guide.

The .pkg file is intended for use by experienced Mac administrators to support managed, provisioned, and silent installations.
To install RealPresence Desktop using terminal:

1. Navigate to the folder where the RealPresence Desktop .pkg installation file resides.
2. Run this command:
   
   ```sh
   sudo installer -pkg *.pkg -dumplog -verbose -target /
   ```

Upgrade RealPresence Desktop

This section describes how to upgrade RealPresence Desktop. You have two options:

- Upgrade RealPresence Desktop Using Code Commands
- Upgrade RealPresence Desktop through RealPresence Resource Manager.

Upgrade RealPresence Desktop Using Code Commands

This section describes how to upgrade RealPresence Desktop using code commands.

To install RealPresence Desktop using terminal:

1. Navigate to the folder where the RealPresence Desktop .pkg installation file resides.
2. Run this command:
   
   ```sh
   sudo installer -pkg *.pkg -dumplog -verbose -target /
   ```

Upgrade RealPresence Desktop through RealPresence Resource Manager

This section describes how to upgrade RealPresence Desktop when an upgrade package is available on the RealPresence Resource Manager.

The RealPresence Resource Manager can schedule and perform limited monitoring of the RealPresence Desktop application as well as manage and provision the application. The CMA system cannot upgrade the RealPresence Desktop application, and the Polycom RealPresence Resource Manager system can upgrade the application only from version 8.0.

About the .pkg file

- Centralized distribution is used by corporate system administrators for software installation or upgrades.
- When you save the .pkg file to your local disk, do not rename it.
- Silent installation needs administrator level permission.
- The name of the .pkg in your command line should be consistent with the installation package.
For more information on upgrading managed RealPresence Desktop systems, see the *Using Dynamic Software Updates Applications* topic in the *Polycom RealPresence Resource Manager Operations Guide*.

RealPresence Desktop will consume one more license after upgrading from 3.0 or earlier versions to version 3.1 or later. To release the old license, remove it manually or set the license reclaim cycle to be a small value, such as 5 minutes, on the RealPresence Resource Manager system.
Uninstall RealPresence Desktop Using Code Commands

This section describes how to uninstall RealPresence Desktop application using code commands.

To uninstall RealPresence Desktop using Mac terminal:

» Run this command:

```bash
cd /Applications
sudo rm -r -f *RealPresence*
```

Products Tested with this Release

The RealPresence Desktop is tested with other products. The following list is not a complete inventory of compatible equipment. It indicates the products that have been tested for compatibility with this release.

Polycom recommends that you upgrade your Polycom devices with the latest software versions, as compatibility issues may already have been addressed by software updates. See the Current Polycom Interoperability Matrix to match product and software versions.

### Products Tested with this Release

<table>
<thead>
<tr>
<th>Product</th>
<th>Tested Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycom® Distributed Media Application™ (DMA®) 7000</td>
<td>6.4.1, 9.0</td>
</tr>
<tr>
<td>Polycom® RealPresence® Resource Manager</td>
<td>10.2, 10.3</td>
</tr>
<tr>
<td>Polycom® RealPresence® Collaboration Server (RMX®) 4000/2000/1800/1500</td>
<td>8.7.3, 8.7.4</td>
</tr>
<tr>
<td>Polycom® RealPresence® Collaboration Server Virtual Edition</td>
<td>8.7.3, 8.7.4</td>
</tr>
<tr>
<td>Polycom® RealPresence® Collaboration Server (RMX®) 4000/2000 with MPMx</td>
<td>8.5.12</td>
</tr>
<tr>
<td>Polycom® RealPresence® Media Suite</td>
<td>2.8.2</td>
</tr>
<tr>
<td>Polycom® RealPresence® Web Suite</td>
<td>2.1.5, 2.2</td>
</tr>
<tr>
<td>Polycom® RealPresence® Group Series</td>
<td>6.1.3, 6.2</td>
</tr>
<tr>
<td>Polycom® HDX® Series</td>
<td>3.1.11</td>
</tr>
<tr>
<td>Polycom® RealPresence® Desktop</td>
<td>3.8, 3.8.1</td>
</tr>
<tr>
<td>Polycom® RealPresence® Mobile</td>
<td>3.8</td>
</tr>
<tr>
<td>Polycom® VVX®</td>
<td>5.5.2</td>
</tr>
<tr>
<td>Polycom® RealPresence Debut™</td>
<td>1.2.1, 1.3.1</td>
</tr>
<tr>
<td>Polycom® RealPresence Trio™</td>
<td>5.4.5, 5.5.2</td>
</tr>
</tbody>
</table>
Products Tested with this Release

<table>
<thead>
<tr>
<th>Product</th>
<th>Tested Versions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycom® RealPresence® Access Director™</td>
<td>4.2.5</td>
</tr>
<tr>
<td>Polycom® VBP® 7301</td>
<td>14.8.2</td>
</tr>
<tr>
<td>Broadsoft SIP Server</td>
<td>R21 SP1</td>
</tr>
<tr>
<td>Broadsoft DMS</td>
<td>R21 SP1</td>
</tr>
</tbody>
</table>

System Constraints and Limitations

The following sections provide information on constraints and limitations when using RealPresence Desktop.

The following protocols, resolutions, algorithms, and ports are supported for RealPresence Desktop.

Interoperability Issues

You may encounter the following issues when using RealPresence Desktop with other products or on specific operating systems.
Interoperability Limitations Related to the Mac Operating System

<table>
<thead>
<tr>
<th>Description</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>When the CPU type is single or dual core and the Mac OS version is 10.8, RealPresence Desktop only sends half frame rate of expected per second.</td>
<td>Upgrade to Mac OS 10.9.2 or higher.</td>
</tr>
<tr>
<td>On the Mac Air with CPU Intel Core 2 Duo, RealPresence Desktop has performance issues, such as long delays.</td>
<td>This issue is due to CPU limitation. The recommended CPU is Intel Core i5, 2.5 GHz or higher.</td>
</tr>
</tbody>
</table>

Interoperability Limitations Related to Other Polycom Products

<table>
<thead>
<tr>
<th>Description</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>In a motion mode conference, RealPresence Desktop receives video with a long delay because the video is 60 fps.</td>
<td>Set a conference with sharpness mode on MCU.</td>
</tr>
<tr>
<td>If you create a Continuous Presence (CP) only conference call on Polycom RealPresence Collaboration Server (RMX) 4000/2000 system and Polycom RealPresence Collaboration Server 800s version 8.1 with default content settings (Content Settings: HiResGraphics and Content Protocol: H.264 HD), the RealPresence Desktop application cannot send or receive content if call rate is set as 384 kbps or below.</td>
<td>In this case, you need to do the following: • Change Polycom RealPresence Collaboration Server (RMX) Content Settings to Graphics, and Content Protocol to H.263 &amp; H.264 Auto Selection. • Set the call rate on RPM to above 384 kbps.</td>
</tr>
<tr>
<td>RealPresence Desktop supports using only English user names and passwords to sign into the Polycom CMA server and RealPresence Resource Manager, or to register to a gatekeeper or an SIP server.</td>
<td>Use English user names and passwords.</td>
</tr>
<tr>
<td>When RealPresence Desktop and m100 are not in the same local network, RealPresence Desktop fails to call m100.</td>
<td>Let m100 call RealPresence Desktop.</td>
</tr>
<tr>
<td>When you enable mutual TLS (Transport Layer Security) from RealPresence Resource Manager, RealPresence Desktop will fail to upgrade from RealPresence Resource Manager.</td>
<td>Disable mutual TLS.</td>
</tr>
<tr>
<td>When using a USB camera through a USB hub, video may not be displayed.</td>
<td>Direct connect the USB camera to the desktop system.</td>
</tr>
<tr>
<td>With NoiseBlock on, when a participant speaks after a long period of silence, the participant's first syllables may not be heard.</td>
<td>None</td>
</tr>
<tr>
<td>In some MCU conference templates, the virtual business card is truncated.</td>
<td>None</td>
</tr>
<tr>
<td>RealPresence Desktop SIP call transfers by VVX systems may fail when the endpoints are not registered with a Polycom RealPresence DMA system.</td>
<td>Register the endpoints.</td>
</tr>
</tbody>
</table>

System Capabilities and Constraints
The following protocols, resolutions, algorithms, and ports are supported for RealPresence Desktop.

**Protocols**

The following table lists the supported protocols.

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNS</td>
<td>Domain Name System</td>
</tr>
<tr>
<td>H.235</td>
<td>Security and Encryption</td>
</tr>
<tr>
<td>H.239</td>
<td>Token Management</td>
</tr>
<tr>
<td>H.281</td>
<td>Far End Camera Control (FECC)</td>
</tr>
<tr>
<td>H.323</td>
<td>Signaling</td>
</tr>
<tr>
<td>H.460</td>
<td>Firewall/NAT Traversal</td>
</tr>
<tr>
<td>LDAP, H.350</td>
<td>Directory Services</td>
</tr>
<tr>
<td>NTLMv2</td>
<td>Authentication</td>
</tr>
<tr>
<td>Polycom® Lost Packet Recovery™ (LPR™)</td>
<td>Lost Packet Recovery</td>
</tr>
<tr>
<td>SIP</td>
<td>Session Initiation Protocol</td>
</tr>
<tr>
<td>XMPP</td>
<td>The Extensible Messaging and Presence Protocol</td>
</tr>
</tbody>
</table>

**Resolutions**

The following table lists the supported resolutions.

**Resolution and Frame Rate**

<table>
<thead>
<tr>
<th>Resolution and Frame Rate</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 720p / 30 fps</td>
<td>Video sent from camera</td>
</tr>
<tr>
<td>Up to 1080p / 30 fps</td>
<td>Video received from far end</td>
</tr>
<tr>
<td>Up to 1080p / 5 fps</td>
<td>Content showing from the computer</td>
</tr>
<tr>
<td>Up to 1080p / 15 fps</td>
<td>Content received from far end</td>
</tr>
</tbody>
</table>

**Algorithms**

The following table lists the supported algorithms.
### Algorithm Type

<table>
<thead>
<tr>
<th>Algorithm Type</th>
<th>Description</th>
</tr>
</thead>
</table>
| Audio          | G.711μ or G.711A  
Siren LPR at 24 kbps, 32 kbps, 48 kbps, and 64 kbps  
G.722.1 at 16 kbps, 24 kbps, and 32 kbps  
G.722.1 Annex C at 24 kbps, 32 kbps, and 48 kbps  
G.719 at 32 kbps, 48 kbps, 64 kbps  
G.729  
G.728  
SAC  
Automatic gain control  
Acoustic echo cancellation |
| Video          | H.261  
H.263/H.263+  
H.264 AVC  
H.264 SVC  
H.264 high profile  
Content over H.264/H.263/H.263+  
Video LPR |
| Encryption     | AES-128 media encryption  
TLS/SRTP supported in SIP calls |

### Inbound and Outbound Ports

The following tables list the supported inbound and outbound ports.

#### Inbound Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1720 (TCP)</td>
<td>H.323 Call Signaling (H.225)</td>
</tr>
<tr>
<td>1719 (UDP)</td>
<td>H.323 Registration, Admission, and Status (RAS)</td>
</tr>
<tr>
<td>3230 - 3250 (TCP)</td>
<td>H.323 Call Control (H.245)</td>
</tr>
<tr>
<td>3230 - 3250 (UDP)</td>
<td>Media (RTP/RTCP)</td>
</tr>
<tr>
<td>3238 (UDP and TCP)</td>
<td>BFCP</td>
</tr>
<tr>
<td>5060 (UDP and TCP)</td>
<td>SIP</td>
</tr>
</tbody>
</table>

#### Outbound Ports

<table>
<thead>
<tr>
<th>Port</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>443 (TCP)</td>
<td>Provisioning, Monitoring, Help Files, HTTPS</td>
</tr>
<tr>
<td>389 (TCP)</td>
<td>LDAP</td>
</tr>
</tbody>
</table>

Polycom, Inc.
Resolved Issues

The following table lists resolved issues in RealPresence Desktop.

<table>
<thead>
<tr>
<th>Issue Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN-58761</td>
<td>After you upgrade your device to Mac OS version 10.13, your local view is black in meetings.</td>
</tr>
</tbody>
</table>

Known Issues

The following table lists all known issues and suggested workarounds for RealPresence Desktop.

These release notes do not provide a complete listing of all known issues that are included in the software. Issues not expected to significantly impact customers with standard voice or video conferencing environments may not be included. In addition, the information in these release notes is provided as-is at the time of release and is subject to change without notice.

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN-25768</td>
<td>The RealPresence Desktop pops up certificate trust window even with RootCA certificate installed.</td>
<td>Select to trust the certificate manually.</td>
</tr>
<tr>
<td>SWEP-9980</td>
<td>The closed captioning feature is unavailable to audio-only call.</td>
<td>None.</td>
</tr>
</tbody>
</table>
Firewall and NAT Support

The Polycom RealPresence Desktop provides firewall and Network Address Translator (NAT) traversal ability without the need to log in to a VPN. The following features are supported:

- Ability to keep Real-time Transport Protocol (RTP) NAT mapping alive during live streaming.
- Support for guest user dialing.
- Ability to support Secure Real-time Transport Protocol (SRTP) and Transport Layer Security (TLS) for the secure transmission of media.
- Ability to support Binary Floor Control Protocol (BFCP) over both TCP and UDP links (UDP preferred). Control signaling can now be forwarded using the best-effort traffic class in firewall and NAT traversal.
- Support for the following dial strings when you place calls without registering to a server.
  - H.323
  - name@FQDN
name@IP
extension@FQDN
extension@IP
IP#extension

SIP
<name>@FQDN
<extension>@<ipAddress:port>

- Ability to verify server certificates by using installed root certificates (SIP, HTTPS, and LDAP) when establishing TLS connections.
- Ability to interoperate with Acme Session Border Controller (SBC) systems and Polycom® RealPresence® Access Director™.
- Support for SIP signaling FW/NAT traversal over TCP/TLS as defined in RFC5626.
- Ability to switch to a backup SIP server when the primary server fails.
Enterprise Scalable Video Coding (SVC) Mode

The Enterprise Scalable Video Coding (SVC) mode is an alternative to the AVC mode that has traditionally been supported. Differences between the two modes are listed in the following table.

SVC and AVC Mode

<table>
<thead>
<tr>
<th>SVC Mode</th>
<th>AVC Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Each participant in the conference call is received by the client as a separate video stream.</td>
<td>The composite video image is determined by the bridge based on administrator configuration.</td>
</tr>
<tr>
<td>A Caller ID is indicated by text in the appropriate window, which remains on display throughout the call.</td>
<td>Caller ID information is displayed intermittently.</td>
</tr>
<tr>
<td>Double-clicking or tapping on a participant's video, content video, or local preview expands that video to full screen. Double-clicking or tapping again reverts the display to the composite image.</td>
<td>Layout may be controlled by dialing ** and then selecting a format. Double-clicking or tapping on the remote video, content video, or local preview expands that video to full screen. Double-clicking or tapping again reverts the display to the composite image.</td>
</tr>
</tbody>
</table>

The SVC mode provides the following features:

- Video sends and receives up to 720p resolution
- Frame rates of 7.5/15/30
- Support for AVC content
- Support for SVC auto layouts for video streams of up to nine far-end participants
- Last active speakers, resolution, bandwidth, and number of participants are adjusted based on network bandwidth and processor capabilities.

When using SIP UDP in an SVC call and there is more than 10 percent Packet Loss, the screen layout may display incorrectly. Changing to SIP TLS or TCP is recommended.

- Supported layouts of 1x1 and 1+1 through 1+10
  - The maximum layout of 1+10 comprises nine remote participants plus one content sharing frame, and one local preview frame
- Support for SAC with at least two quality layers, for example, 48 kbps and 10 kbps
- Support for mixing up to three different audio streams from the MCU
- Support for combining up to nine different SVC video streams (call rate at 1920 kbps) from the MCUs

SVC conference calls currently do not support the following:

- Far-end Camera Control (FECC)
- Recording with RealPresence Capture Server


- **H.323 calls**

  In a poor network connection, sometimes a participant disconnects automatically from an SVC call. This can result in a frozen video stream of the participant. The RealPresence Collaboration Server (RMX) system will clear the frozen stream in 30 minutes.

### Access Media Statistics

To access media statistics, click the antenna icon on the in-call toolbar during a call.

<table>
<thead>
<tr>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Call Type</strong></td>
<td>SIP or H.323 call type.</td>
</tr>
<tr>
<td><strong>Call Encryption</strong></td>
<td>Indicates whether your call is encrypted.</td>
</tr>
<tr>
<td><strong>Far Site Name</strong></td>
<td>Name of the far site.</td>
</tr>
<tr>
<td><strong>Far Site System</strong></td>
<td>Type of video conferencing system at the far end and the software version.</td>
</tr>
<tr>
<td><strong>Call Speed</strong></td>
<td>Negotiated speed (bandwidth) for the call, which is usually the combined video and audio speeds in the call.</td>
</tr>
<tr>
<td><strong>Video Protocol</strong></td>
<td>ITU-C video algorithm and annexes used in the current call. The video protocol used depends on the capabilities of the system at the far end as well as on your system's configuration.</td>
</tr>
<tr>
<td><strong>Video Format</strong></td>
<td>Picture size currently in use.</td>
</tr>
<tr>
<td><strong>Audio Protocol</strong></td>
<td>Audio algorithm and annexes used in the current call. The audio protocol used depends on the capabilities of the system at the far end as well as on your system's configuration.</td>
</tr>
<tr>
<td><strong>Audio Rate</strong></td>
<td>Bandwidth specified for the audio portion of the call. The proportion of the audio rate to the video rate depends on the protocol used.</td>
</tr>
<tr>
<td><strong>Video Rate</strong></td>
<td>Bandwidth specified for the video portion of the call. The proportion of the video rate to the audio rate depends on the protocol used.</td>
</tr>
<tr>
<td><strong>Video Rate Used</strong></td>
<td>Actual bandwidth being used for the video portion of the call. This is a real-time measurement, which normally fluctuates.</td>
</tr>
<tr>
<td><strong>Video Frame Rate</strong></td>
<td>Rate your system uses to update the picture seen at the far end. The system can send up to 15 frames per second. If the camera picks up large, continuous, or frequent motions, the software takes longer to assemble the data into video frames, and the frame rate drops. Changes in lighting also reduce the frame rate.</td>
</tr>
<tr>
<td><strong>Video Packets Loss Percentage</strong></td>
<td>Total video packet loss as a percentage of the total number of video packets transmitted by your system and those transmitted by the far end.</td>
</tr>
<tr>
<td><strong>Video Jitter</strong></td>
<td>Percentage of variation in the video transmission rate.</td>
</tr>
<tr>
<td><strong>Audio Packet Lost</strong></td>
<td>Number of audio data packets lost during the call, including transmitted packets and incoming packets. Packet loss indicates congestion or other problems on the network.</td>
</tr>
<tr>
<td><strong>Audio Packets Loss Percentage</strong></td>
<td>Total audio packet loss as a percentage of the total number of audio packets transmitted by your system and those transmitted by the far end.</td>
</tr>
<tr>
<td>Value</td>
<td>Description</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Audio Jitter</td>
<td>Percentage of variation in the audio transmission rate.</td>
</tr>
<tr>
<td>Content Protocol</td>
<td>Format used for the recording, compression, and distribution of the content.</td>
</tr>
<tr>
<td>Content Format</td>
<td>Display resolution of the content.</td>
</tr>
<tr>
<td>Content Rate</td>
<td>Rate your system uses in content transmission.</td>
</tr>
<tr>
<td>Content Rate Used</td>
<td>Actual bandwidth being used for the content transmission.</td>
</tr>
<tr>
<td>Content Frame Rate</td>
<td>Rate your system uses in content frame transmission.</td>
</tr>
<tr>
<td>Content Packets Lost</td>
<td>Number of content data packets lost during the call, including transmitted packets and incoming packets. Packet loss indicates congestion or other problems on the network.</td>
</tr>
<tr>
<td>Content Packets Loss Percentage</td>
<td>Total audio packet loss as a percentage of the total number of content packets transmitted by your system and those transmitted by the far end.</td>
</tr>
</tbody>
</table>
About AES Encryption

The following are requirements for using AES encryption in calls.

**AES Encryption in H.323 Calls**

To use AES encryption in H.323 calls, both you and the far end must satisfy the following requirements:

- Enable AES encryption.
  - When working in the managed mode, the AES encryption of the RealPresence Desktop application is configurable through its provisioning server.
  - When working in the standalone mode, the AES encryption of the RealPresence Desktop application works as “When available” and is not guaranteed.
- Both you and your far end must support, or be compatible with, the same Key exchange and encryption method (H.235v3 w, or AES 128bit CBC).

**AES Encryption in SIP Calls**

To use AES encryption in SIP calls, both you and the far end must satisfy the following requirements:

- Enable AES encryption
- Enable TLS for SIP transport
- Support for SDES over TLS key exchange
- Support for AES 128 bit CBC mode over SRTP

When working in the managed mode, the AES encryption of the RealPresence Desktop application is configurable through its provisioning server.

When working in the standalone mode, the AES encryption of the RealPresence Desktop application works as “When available” and is not guaranteed.

Preparing Your Device for Mutual Transport Layer Security

You can establish secure communications using Mutual Transport Layer Security (MTLS) with provisioning servers such as Polycom RealPresence DMA, CMA, or RealPresence Resource Manager systems.

To establish MTLS connections, the client and server need to hold certificates issued from the same Certificate Authority (CA) and the root certificate of this CA.

**Generate and Import Your Certificate**

To import certificates, you need to generate a Certificate Request (CSR) first by using a computer that has installed the OpenSSL tool.
To generate and import your certificate:

1. Open the Terminal window from your Mac. *(Applications > Utilities > Terminal.app)*

2. Go to the Documents folder and generate the private key client.key. For example:
   
```bash
localhost$ cd documents
localhost$ openssl genrsa -out client.key 1024
```

3. Generate the certificate request client.csr. For example:
   
```bash
localhost$ openssl req -new -key client.key -out client.csr
```

   The requested information is incorporated into your certificate request. Enter a distinguished name (DN) and other information into the following fields (you can leave some blank).

   ----
   Country Name (2 letter code) [GB]:cn ---CSR info.
   State or Province Name (full name) [Berkshire]:bj ---CSR info.
   Locality Name (eg, city) [Newbury]:bj ---CSR info.
   Organization Name (eg, company) [My Company Ltd]:plcm ---CSR info.
   Organizational Unit Name (eg, section) []:caqa ---CSR info.
   Common Name (eg, your name or your server's hostname) []:caqa ---CSR info.
   Email Address []:pp@pp.com ---CSR info.

   Enter the following "extra" attributes to be sent with your certificate request. Write down the challenge password. You will need it later in the procedure.

   A challenge password []:1234 -----see the note below.

   An optional company name []:poly

4. Submit the certificate request to your CA:

   a. View the content of the file client.csr using the following command:
   
   ```bash
   localhost > more client.csr
   ```

   Select and copy its content from BEGIN CERTIFICATE REQUEST to END CERTIFICATE REQUEST.

   b. Go to your CA’s web interface *http://<CA’s IP address>/certsrv/*, and click Request a certificate.

   c. Choose Advanced certificate request.

   d. Click Submit a certificate request by using a base-64-encoded CMC or PKCS #10 file, or Submit a renewal request by using a base-64-encoded PKCS #7 file.

   e. Paste the content of the file client.csr in the Saved Request text field, and click Submit.

   f. Choose Base 64 encoded and then click Download certificate.

   The file is saved as certnew.cer by default in the folder Downloads.

5. Move the generated certnew.cer file to the Documents folder.

6. Convert the file certnew.cer to a .p12 file by using the openssl tool. Note that the export password should be the same as the challenge password you set in Step 4. For example:
   
```bash
localhost$ openssl pkcs12 -export -in certnew.cer -inkey client.key -out client.p12 -name testp12
```

   Enter Export Password: Verifying - Enter Export Password:

7. Encrypt the challenge password you set:
a Go to Convert String.
b Enter the challenge password in the text field, and click Base64 Encode!
c Copy the encoded text from the following text field, and save it as a .pwd file. For example: client.pwd.

8 Open the Documents/Polycom RealPresence Desktop folder, and then copy the files client.p12 and client.pwd to the folder.

To import the root certificate of your CA:

1 Go to your CA’s web address http://<CA’s IP address>/certsrv/, click Download a CA certificate, certificate chain, or CRL.
2 Select Base 64, and click Download CA Certificate.
3 Double-click the CA file, and select Always Trust. If you see the Add Certificates message, click Add before you click Always Trust.
Do you want to add the certificate(s) from the file "certnew.cer" to a keychain?

Keychain: [login]
About Section 508 Accessibility Standards

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