



Release Notes

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Polycom[®] RealPresence[®] Desktop for Windows[®]



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What's New in Release 3.6

Polycom announces the 3.6 release of the Polycom® RealPresence® Desktop software. This release includes the following features.

Free Access to Polycom® People+Content™ IP and SmartPairing in Standalone Mode

In standalone mode, you can now use the Polycom® People+Content™ IP content sharing technology and SmartPairing feature with or without a valid license.

Audio Enhancements

Audio experience is enhanced by adopting audio codecs per call bit rates. To improve calls that connect with low bit rates, RealPresence Desktop now supports low bit rate Polycom® Siren™ Lost Packet Recovery technologies, including Polycom® Siren™ 32 and Polycom® Siren™ 24. This enables the RealPresence Desktop application to accept incoming Siren Lost Packet Recovery streams of any bit rate.

Video Enhancements

Outgoing H.264 video is enhanced to offer better video experience for high-resolution video streams in low bit rate environments, such as 720p video streams.

Release History

The following table shows the release history of Polycom RealPresence Desktop.

Release	Release Date	Features
3.6	June 2016	Free access to Polycom® People+Content™ IP and SmartPairing in standalone mode Audio enhancements Video enhancements
3.5.1	April 2016	Windows 10 Tablet mode support Constant Bitrate (CBR) adopted for video codecs Bug fixes and feature enhancements
3.5	January 2016	Polycom® Concierge Solution Support TLSv2 support MusicMode support Windows 10 support SmartPairing Support for Polycom® RealPresence Debut™ Systems
3.4	June 2015	Profile Photo and Virtual Business Card Support for Audio Mute Shortcut Keys Support for Polycom NoiseBlock™ In-call Toolbar User Interface Enhancements Provision the migration of CMA Desktop to RealPresence Desktop using RealPresence Resource Manager Mid-string Search of Favorites Windows Platform Support Changes Silent Installation of RealPresence Desktop with Options Enabled

Release	Release Date	Features
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.
3.2.1	July 2014	Support for DTMF with keyboard input. You can enter a DTMF password using your keyboard without showing the DTMF keypad during a call. Fixed an OpenSSL security vulnerability (CVE-2014-0224).
3.2	June 2014	Support for user profile import and export Support for Quality of Service (QoS) in managed mode Support for setting dialing preference Support for the Czech language Directory enhancements as follows: Support for selected test features Operation system and device support changes

Hardware and Software Requirements

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

Hardware and Software Requirements

Hardware or Software	Requirement
Windows	Windows 7: 32-bit and 64-bit Windows 8 and 8.1 Standard, Pro, and Enterprise: 32-bit and 64-bit Windows 10
Software	Microsoft .Net Framework version 4.0 Polycom® RealPresence® Resource Manager version 8.1 or later

Hardware and Software Requirements

Hardware or Software	Requirement
Processor	<p>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.</p> <p>Recommended CPU: Intel Core i5, 2.5GHz or higher.</p> <p>Basic Video Transmit (Up to QVGA 30fps send, up to 720P 15fps receive)</p> <ul style="list-style-type: none">• single core• dual cores, lower than 2.0 GHz• quad cores, lower than 1.3 GHz <p>Premium Video Transmit (Up to VGA 30fps send, up to 720P 30fps receive)</p> <ul style="list-style-type: none">• dual cores, 2.0 GHz or higher• quad cores, 1.3 GHz or higher <p>HD Transmit</p> <ul style="list-style-type: none">• dual cores, 2.5 GHz or higher (Up to 720p 15fps send, up to 720P 30fps receive)• quad cores, 1.6 GHz or higher (Up to 720p 15fps send, up to 720P 30fps receive)• quad cores, 2.0 GHz or higher (Up to 720p 30fps send, up to 720P 30fps receive)
RAM	4 GB
Video memory	Minimum: 256 MB
Hard drive space	200 MB
Camera	Integrated or external
Audio devices	Standard PC97 audio devices
Monitor	Recommended: 16:9, 1920 x 1080 Minimum: 1280 x 720

Products Tested with This Release

RealPresence Desktop is tested extensively with a wide range of products. The following list indicates the products that have been tested for compatibility with this release, but is not a complete inventory of compatible equipment.



Polycom recommends that you upgrade all of your Polycom systems with the latest software Versions, as compatibility issues may already have been addressed by software updates. Go to the [Polycom Support](#) site to see the Current Polycom Interoperability Matrix.

Type	Product	Version
Gatekeeper, Gateways, External MCU, Bridges, Call Managers	Polycom® Distributed Media Application™ (DMA®) 7000	6.2, 6.3
	Polycom® RealPresence® Resource Manager	9.0, 10.0
	Polycom® RealPresence® Collaboration Server (RMX®) 4000/2000	8.6, 8.7
	Polycom® RealPresence® Collaboration Server (RMX®) 1500	8.6
	Polycom® RealPresence® Collaboration Server (RMX®)1800	8.5, 8.6
	Polycom® RealPresence® Collaboration Server (RMX®) 1000C	2.5.1
	Polycom® RealPresence® Media Suite	2.1, 2.5
	Broadsoft SIP Server	r21
	Polycom® RealPresence® Web Suite	2.0, 2.1
Endpoints	Polycom® HDX® Series	3.1.7, 3.1.9
	Polycom® RealPresence® Mobile	3.5, 3.5.1 (iOS) 3.5, 3.5.1 (Android)
	Polycom® VVX®	5.3.0
	Polycom® RealPresence® Desktop	3.5.1, 3.6 (Windows) 3.5.1, 3.6 (Mac)
	Polycom® RealPresence® Group Series	5.0, 5.1
NAT/Firewall/Border Controller	ACME Packet Net-Net 3820	Firmware SCX6.3.0 MR-5 Patch 2
	Polycom® VBP® 7301	14.2.5
	Polycom® RealPresence® Access Director™	4.1, 4.2
Other	Polycom® People+Content IP	1.3 (PC only)
	Broadsoft environment	r21

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.

The RealPresence Desktop installation file is available from the [Polycom Support](#) in two formats:

- The .exe file is intended for easy, interactive installation by end users in standalone mode.
- The .msi file is intended for use by experienced Windows administrators to support provisioned and silent installations in managed mode.

Installation Notes

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

- Installation of the RealPresence Desktop application requires that you have Microsoft .Net Framework version 4.0 installed. You can view your Microsoft .Net Framework version in `C:\Windows\Microsoft.NET\Framework`.
- 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.
- When installing RealPresence Desktop for the first time, you can select one of the supported languages. The language selected here affects the language display during installation process
- The RealPresence Desktop installation user interface does not support Kazakh because the Windows InstallShield does not support Kazakh.
- You can view the license number of the RealPresence Desktop by clicking  **Polycom RealPresence Desktop** on the application's title bar and selecting the **About** option.

Importing Data from Polycom® CMA® Desktop With Easy Upgrade

When you install RealPresence Desktop for the first time, it can detect if there is a previously installed Polycom® CMA® Desktop version 5.2.2 or greater.



RealPresence Desktop supports this easy upgrade feature only on Windows XP and Windows 7.

If RealPresence Desktop finds CMA Desktop, RealPresence Desktop displays a message to confirm the back up and to import the application and user data of CMA Desktop. RealPresence Desktop also confirms the uninstall of the CMA Desktop.

If you choose yes, RealPresence Desktop will back up and import the following CMA Desktop data:

- Auto-answered incoming calls
- Mute auto-answered calls
- Always check (Call to/H.323/SIP) RealPresence Desktop will import this data on Windows systems
- Specify sign-in server
- Automatically start Polycom CMA Desktop at system start

-
- Sign in using network login credentials RealPresence Desktop will not import the network login credentials unless you have chosen this option
 - Maximum call rate
 - Local contacts



- If RealPresence Desktop and CMA Desktop are running on the same computer and you use the same account to sign in to both applications, the local contacts may not be synchronized between the two applications. XMPP contacts will be synchronized if they are downloaded from the RealPresence Resource Manager or CMA system.
- After you uninstall CMA Desktop, your CMA Desktop settings will be retained. If you want to install CMA Desktop again, you can import the previous settings on Windows.
- Silent installation for enterprise IT: RealPresence Desktop will import CMA Desktop settings and user data automatically when you install RealPresence Desktop for the first time and the CMA Desktop version is higher than 5.2.2. RealPresence Desktop will not uninstall CMA Desktop. Enterprise IT can uninstall CMA Desktop using other software deployment tools.

Install RealPresence Desktop in Standalone Mode


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

The `.exe` file is intended for easy, interactive installation by end users.

To install RealPresence Desktop using the `.exe` file:

- 1 Download the `.exe` file from [Polycom Support](#).
- 2 Open the file and follow the instructions in the installation procedure.

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** 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 `.msi` file is intended for use by experienced Windows administrators to support managed, provisioned, and silent installations. These procedures use methods such as group policy objects (GPOs). You should already be familiar with these methods to use the `.msi` installation file.



About the `.msi` file

- Centralized distribution is used by corporate system administrators for software installation or upgrades.
- When you save the `.msi` file to your local disk, do not rename it.
- Silent installation needs administrator level permission.
- The name of the `.msi` in your command line should be consistent with the installation package.

To install RealPresence Desktop using code commands:

- 1 Save the downloaded Polycom `.msi` installation file to a directory (for example, `C:\temp`) on the user's local system.
- 2 Build a desktop management or group policy object that will write the `.exe` installation file to a directory (for example, `C:\temp`) on the user's local system
- 3 Create the Windows Installer to perform a command line installation of the program.

The following is an example of using the installer from the directory where the Polycom RealPresence Desktop `.msi` file resides:

```
msiexec /qn /l* RPD_install.txt /i "RPDesktop.msi"
```

When running the installation from a directory other than the directory where the executable file resides, include the full path in the command:

```
msiexec /qn /l* RPD_install.txt /i "c:\temp\ RPDesktop.msi"
```

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 upgrade RealPresence Desktop using the .msi file

» Run this command:

```
msiexec /qn /i <setup>.msi REINSTALLMODE=vomus REINSTALL=ALL /l logfile
```

When you upgrade the RealPresence Desktop application from an older version, you must include this line to your command: `REINSTALLMODE=vomus REINSTALL=ALL`.

You should not include this line for the first-time installation.

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.

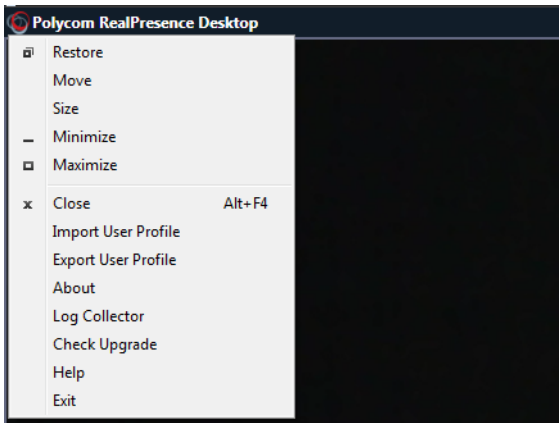
For more information on upgrading managed RealPresence Desktop systems, see the *Using Dynamic Software Updates Applications* topic in the *Polycom RealPresence Resource Manager Operations Guide*.



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.

To upgrade RealPresence Desktop:

- 1 Log in to RealPresence Desktop.
- 2 Click the RealPresence Desktop logo on the application's title bar.



3 Click Check Upgrade.

If an upgrade is available, you will be prompted to perform the upgrade.

4 Click Yes to perform the upgrade.

The RealPresence Desktop application will be upgraded to the latest version available on the management system.

Uninstall RealPresence Desktop Using Code Commands

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

To uninstall RealPresence Desktop using the .msi file:

- » Run this command:

```
msiexec /qn /x <setup>.msi
```

Configuring RealPresence Desktop Using Code Commands

You can use code commands to configure some system settings.

Set Default Call Rate

The call rate acts as a limit on the maximum rate at which a call will connect. If the far end imposes a lower rate, then the lower rate will be the one in effect. The call rate impacts both incoming and outgoing calls.

To set default call rate:

- » For example, to set 512 kbps as your default call rate, run this command:

```
msiexec /qn /i <setup>.msi DEFAULT_CALL_RATE=CALLRATE512
```

Enable SmartPairing

You can enable SmartPairing feature to share your monitor or application with a paired system, or use your device as the paired system's remote controller.

Enable SmartPairing:

- » Run this command:

```
msiexec /qn /i <setup>.msi ENABLE_PPCIP=true
```

Enable Short Session Description Protocol (SDP) Size

You can enable the short SDP size feature to avoid call failure caused by SDP size limitation for some users.

To enable short SDP size:

- » Run this command:

```
msiexec /qn /i <setup>.msi SUPPORT_SIMPLE_SDP=true
```

Enable Single Sign-On (SSO)

You can enable SSO to let the RealPresence Desktop application sign in using your network login credentials.

To enable SSO:

- » Run this command:

```
msiexec /qn /i <setup>.msi CMDLINE="ENTRANCE_MODE=1;  
ENABLE_CMA=true;CMA_SERVER_ADDRESS=<provisioning_server_address>;  
CMA_INTEGRATED_LOGIN=true
```

System Capabilities and Constraints

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

Protocols

The following table lists the supported protocols.

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

Resolutions

The following table lists the supported resolutions.

Resolution and Frame Rate

Resolution and Frame Rate	Source
Up to 720p / 30 fps	Video sent from camera
Up to 720p / 30 fps	Video received from far end
Up to 720p (1280x720) / 5 fps	Content showing from the computer
Up to 720p (1280x720) / 5 fps	Content received from far end

Algorithms

The following table lists the supported algorithms.

Algorithm Type	Description
Audio	G.711 μ 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

Port	Function
1720 (TCP)	H.323 Call Signaling (H.225)
1719 (UDP)	H.323 Registration, Admission, and Status (RAS)
3230 - 3250 (TCP)	H.323 Call Control (H.245)
3230 - 3250 (UDP)	Media (RTP/RTCP)
3238 (UDP and TCP)	BFCP
5060 (UPD and TCP)	SIP

Outbound Ports

Port	Function
443 (TCP)	Provisioning, Monitoring, Help Files, HTTPS
389 (TCP)	LDAP

Outbound Ports

Port	Function
5060 (UDP and TCP)	SIP
5061 (TCP)	SIP TLS signaling
5222 (TCP)	XMPP
1720 (TCP)	H.323 Signaling (H.225)
1719 (UDP)	H.323 Registration, Admission, and Status (RAS)
3230 - 3250 (TCP)	H.323 Call Control (H.245)
3230 - 3250 (UDP)	Media (RTP/RTCP)
3238 (UDP and TCP)	BFCP

Interoperability Issues

You may encounter the following issues when using RealPresence Desktop with other products or on specific operating systems.

Interoperability Issues

Limitation Type	Description	Solution
Limitations Related to Operating System and Third-party Software	On a 64-bit Windows 7 operating system, selecting Polycom CX5000 Panoramic Video as video device displays a blue screen.	On 64-bit Windows 7, use other video device.
	On 32-bit Windows 7, when you share a Microsoft PowerPoint 2007 file and expand it to full screen, the content share control bar is covered by the RealPresence Desktop application. To display the content control bar, you need to minimize or restore the screen.	To display the content control bar, you need to minimize or restore the screen.

Interoperability Issues

Limitation Type	Description	Solution
Limitations Related to Other Polycom Products	In a motion mode conference, RealPresence Desktop receives video with a large delay because the video is 60 fps.	Set a conference with sharpness mode on MCU.
	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.	In this case, you need to do the following: <ul style="list-style-type: none"> Change the RealPresence Collaboration Server (RMX) Content Settings to Graphics, and Content Protocol to H.263 & H.264 Auto Selection. Set the call rate on RealPresence Mobile to above 384 kbps.
	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.	Use English user names and passwords.
	If you use an MPM+ media card in a call with a RealPresence Collaboration Server (RMX) system, a blue edge is displayed at the bottom of the video window.	Use only an MPMX media card with the RealPresence Collaboration Server (RMX) system.
	When RealPresence Desktop and m100 are not in the same local network, RealPresence Desktop fails to call m100.	Let m100 call RealPresence Desktop.
	When you enable mutual TLS (Transport Layer Security) from RealPresence Resource Manager, RealPresence Desktop will fail to upgrade from RealPresence Resource Manager.	Disable mutual TLS.
	With NoiseBlock on, when a participant speaks after a long period of silence, the participant's first syllables may not be heard.	None
	In some MCU conference templates, the virtual business card is truncated.	None
	RealPresence Desktop SIP call transfers by VVX systems may fail when the endpoints are not registered with a RealPresence DMA system.	Register the endpoints

Known Issues

The following table lists the known issues for this release.

Issue ID	Description	Workaround
SWEP-9474	When in an SVC call using Microsoft Surface Pro, if you frequently double-click a people video cell to enable and disable its full-screen view (for example, twice per second) the application may crash.	None.
SWEP-9364	While sharing content with a RealPresence Group Series system, if the RealPresence Group Series system holds and then resumes the call, you may not see your local self-view.	None.
SWEP-9363	In case of poor network connection, you may experience severe packet loss and see a green video window in Polycom RealPresence DMA VMR calls.	None.
SWEP-9285	If RTP Traffic Shaping is enabled on the hosting Polycom RealPresence Collaboration Server, the video of the current speaker is blurry, or shows lip-sync problems.	None.
SWEP-9280	After upgrading from Polycom RealPresence Desktop version 3.0 to 3.5, you cannot log in to Polycom RealPresence Resource Manager if your user name contains Russian characters.	Use a user name with no Russian characters.
SWEP-9181	If you share the Microsoft Lync application during a meeting, your far ends see green borders around the Lync window.	None.
SWEP-9170	If your PC has Symantec® anti-virus application running, you cannot update the RealPresence Desktop application from version 3.5 to 3.5.1.	Do one of the following: <ul style="list-style-type: none"> • Ask your IT administrator to add the RealPresence Desktop application to the Symantec white list. Then retry the upgrade. • Upgrade your RealPresence Desktop application manually.
SWEP-9067	While using Microsoft Surface Book with an extended display (monitor 2), if you share content on your monitor 1, the content received by your far end always has a horizontal green line in the middle.	None.
SWEP-9066	If you are using Microsoft Surface Book with an extended display, you cannot share content on the extended display.	None.
SWEP-8966	(Microsoft Surface Pro only) If you speak with your PC loud speaker turned on, your far ends hear an echo.	Workaround: Adjust your speaker volume to 60% or lower.
SWEP-8929	(Microsoft Surface Pro only) Occasionally, when you share a Microsoft Excel 2016 file created using the template "Class Schedule", the file appears to the far end only partially for the first few seconds.	None.

Issue ID	Description	Workaround
SWEP-8816	After someone invited you to an SIP call using Polycom RealPresence DMA SIP dial-out feature, if you mute and then unmute your video, your video is still shown as muted to your far ends.	None.
SWEP-8747	Polycom RealPresence Desktop application V3.5 or later cannot register with a VBP server that is using a Diffie-Hellman (DH) key smaller than 768 bit.	Increase your VBP server DH key to 768 bit or above.
SWEP-8912	(Microsoft Surface Pro only) Occasionally, if you share an application and drag the application window to the top of your screen, an upper section of the application is hidden behind a green bar and becomes inaccessible.	None.
SWEP-8716	When you place an H.323 point-to-point call from the RealPresence Desktop application, the video protocol shown in the call statistics shows H264SVCHigh.	This is the designed behavior. To improve user experience in bad network environments, people and content video are both encoded as SVC/SVC high instead of H264/H264 high for H.323 point-to-point calls.
SWEP-8487	After you scale your RealPresence Desktop application screen down to 720 p, the content quality sent from you is poor.	None.
SWEP-7958	This problem exists for some PCs using Lenovo sound cards only. If you device has only one built-in microphone, changing the microphone volume may not be effective during a call.	This is a driver problem. Update your audio driver.
SWEP-7846	When you are in a call with MusicMode enabled, if both sides talk, the audio quality is poor.	This is the designed behavior. Disable MusicMode if you don't want to reproduce the far end music. For example, in distance music learning or concert.
SWEP-7605	The video mute picture is distorted in mixed conferences.	None.

Known Limitations for Windows 10

The following table lists the known limitations for Windows 10 in this release.

Issue ID	Description	Workaround
SWEP-8227	If you share content, the content borders appear on other virtual desktops instead.	None.
SWEP-7802	When you share Microsoft Edge content, the application icon doesn't appear on the left of the application name in the Share Application section.	None.

Resolved Issues

The following table lists the resolved issues in this release.

Issue ID	Description
SWEP-9265	When connected to an AT&T MCU, the RealPresence Desktop application cannot send or receive content in H.323 calls.
SWEP-9412	After being in a call for 5 – 10 minutes, the RealPresence Desktop application disconnects from the call automatically.

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

SVC Mode	AVC Mode
Each participant in the conference call is received by the client as a separate video stream.	The composite video image is determined by the bridge based on administrator configuration.
A Caller ID is indicated by text in the appropriate window, which remains on display throughout the call.	Caller ID information is displayed intermittently.
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.	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.

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.

Value	Description
Call Type	SIP or H.323 call type.
Call Encryption	Indicates whether your call is encrypted.
Far Site Name	Name of the far site.
Far Site System	Type of video conferencing system at the far end and the software version.
Call Speed	Negotiated speed (bandwidth) for the call, which is usually the combined video and audio speeds in the call.
Video Protocol	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.
Video Format	Picture size currently in use.
Audio Protocol	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.
Audio Rate	Bandwidth specified for the audio portion of the call. The proportion of the audio rate to the video rate depends on the protocol used.
Video Rate	Bandwidth specified for the video portion of the call. The proportion of the video rate to the audio rate depends on the protocol used.
Video Rate Used	Actual bandwidth being used for the video portion of the call. This is a real-time measurement, which normally fluctuates.
Video Frame Rate	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.
Video Packets Loss Percentage	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.
Video Jitter	Percentage of variation in the video transmission rate.
Audio Packet Lost	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.
Audio Packets Loss Percentage	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.
Audio Jitter	Percentage of variation in the audio transmission rate.
Content Protocol	Format used for the recording, compression, and distribution of the content.
Content Format	Display resolution of the content.
Content Rate	Rate your system uses in content transmission.

Value	Description
Content Rate Used	Actual bandwidth being used for the content transmission.
Content Frame Rate	Rate your system uses in content frame transmission.
Content Packets Lost	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.
Content Packets Loss Percentage	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.

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 on a PC:

- 1 Make sure you have OpenSSL installed and configured.

- 2 Open the CMD console window from your PC.

- 3 Generate the private key *client.key*. For example:

```
C:\OpenSSL-Win32\bin> openssl genrsa -out client.key 1024
```

- 4 Generate the certificate request *client.csr*. For example:

```
C:\OpenSSL-Win32\bin> openssl req -new -key client.key -out client.csr
```

```
For som-----
```

```
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 [Notel]
```

```
An optional company name []:poly
```

- 5 Submit the certificate request to your CA:

- a View the content of the file *client.csr* using the following command: Select and copy its content (from ---BEGIN CERTIFICATE REQUEST to END CERTIFICATE REQUEST---):

```
C:\OpenSSL-Win32\bin> type client.csr
```

- b Go to your CA's web interface <http://<CA's IP address>/certsrv/>, and then choose **Request a certificate**.

- c Click **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* to the text field in the **Saved Request** text field, and click **Submit**.
 - f Choose **Base 64 encoded** and click **Download certificate**.
The file is saved as *certnew.cer* by default in the **Downloads** folder.
 - 6 Move the generated *certnew.cer* file to your current directory.
 - 7 Convert the file *ccertnew.cer* to a *.p12* file by using the OpenSSL tool. The export password should be the same as the challenge password you set in Step 4. For example:

```
C:\OpenSSL-Win32\bin> openssl pkcs12 -export -in certnew.cer -inkey client.key -out client.p12 -name testp12
```


Enter Export Password:

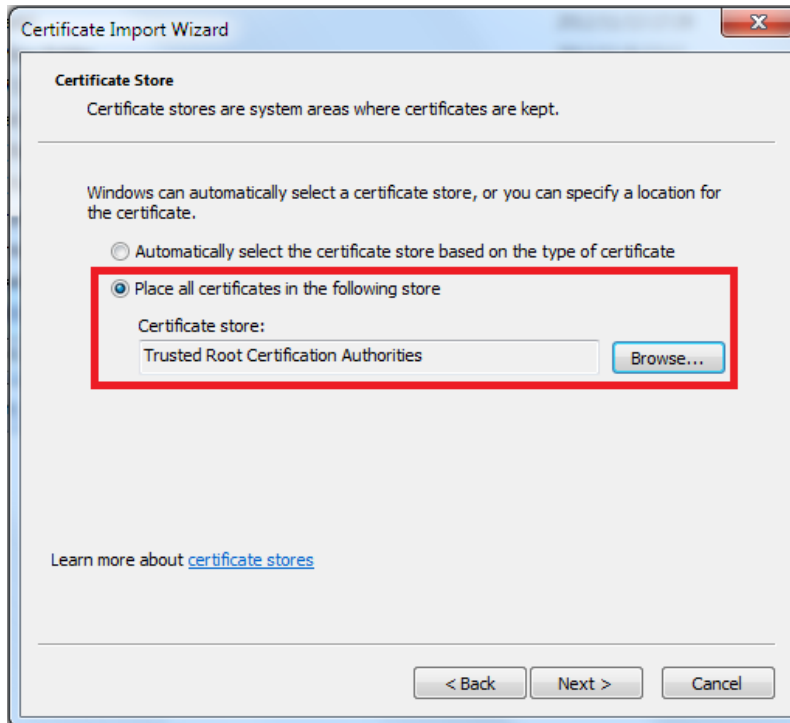
Verifying - Enter Export Password:
 - 8 Encrypt the challenge password you set in Step 4:
 - a Go to **Convert String**.
 - b Enter the challenge password in the text field, and click **Base64 Encode!**.
 - c Copy the encoded text from the following text field, and save it as a *.pwd* file. For example:
client.pwd.
 - 9 Open the RPD appdata folder **%appdata%\RealPresence Desktop**, and then copy the files *client.p12* and *client.pwd* to the folder.

Import the Root Certificate of Your CA

To establish MTLS connections, the client and server need to hold the root certificate of your CA also.

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 Right-click the CA file, and select **Install Certificate**. Follow the Certificate Import Wizard.
Be sure to install it to **Trusted Root Certificate Authorities**.



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