



RELEASE NOTES

Version 1.0.0 | January 2015 | 3725-60040-001/A

Polycom[®] RealPresence[®] Video App SDK



What's in Release 1.0

The Polycom® RealPresence® Video App SDK adds real-time, on-demand multipoint audio and video conferencing to enterprise and service provider environments.

The SDK is designed to allow third party application developers to embed Polycom technology within their applications. Applications that include the SDK may be used by customers with Polycom infrastructure providing that the customer has purchased an appropriate SDK use license. Contact your Polycom sales channel, if required, for more details.

Polycom provides the following options in the Polycom RealPresence Video App SDK package:

- Polycom RealPresence Video App SDK Win 32bit
- Polycom RealPresence Video App SDK Mac 32bit
- Polycom RealPresence Video App SDK iOS 32bit
- Polycom RealPresence Video App SDK Android 32bit

The Polycom RealPresence Video App SDK includes the following features:

[Audio and Video Codecs](#)

[Audio and Video Systems](#)

[Protocols](#)

[Content](#)

[Cameras](#)

[APIs](#)

[Additional Features](#)

Audio and Video Codecs

- The Polycom RealPresence Video App SDK supports the following audio codecs:
 - G.711
 - G.722.1
 - G.729
 - G.722.1C
 - Siren-Lost Packet Recovery (Siren-LPR)
- The Polycom RealPresence Video App SDK supports the following video codecs:
 - H.263
 - H.264 AVC and SVC

The H.264 AVC implementation supports the Baseline Profile and the Constrained High Profile. The H.264 AVC implementation also comes with Flexible Macroblock Ordering (FMO) mode both off on the encoder and on the decoder.

Audio and Video Systems

- The Polycom RealPresence Video App SDK receives and mixes multiple audio streams in a single session, up to a maximum of four audio streams.
- The Polycom RealPresence Video App SDK dominant audio channel synchronizes properly with the corresponding video channel.
- The Polycom RealPresence Video App SDK audio sub-system supports:
 - Acoustic Echo Cancellation (AEC)
 - Acoustic Echo Suppression (AES)
 - Automatic Gain Control (AGC)
 - Noise Reduction (NR)
- The Polycom RealPresence Video App SDK audio sub-system supports:
 - Discontinuous Transmission (DTX)
 - Comfort Noise Generation (CNG)
 - Voice Activity Detection (VAD)
- Polycom RealPresence Video App SDK supports Dual Tone Multi-frequency (DTMF) generation (RFC 2833).
- The Polycom RealPresence Video App SDK video sub-system supports:
 - Picture Loss Indication (PLI) (request for comment (RFC) 4585)
 - Temporary Maximum Media Bit-rate Request (TMMBR) (RFC 5104)
 - Full Intra Request (FIR) (RFC 5104)
- The Polycom RealPresence Video App SDK collects call statistics, including, but not limited to, packets received/sent, packets lost, fps received/sent, jitter, Round Trip Time (RTT). Depending on how the Video App SDK is configured, it might be able to register callbacks and receive call statistics at regular intervals.
- The Polycom RealPresence Video App SDK video sub-system can dynamically adjust outgoing video quality, including, but not limited to, frame rate, bit rate and video resolution.
- Based on dynamic bandwidth management the Polycom RealPresence Video App SDK video sub-system can dynamically control incoming video quality, including, but not limited to, frame rate, bit rate and video resolution. The system also detects and communicates with the far side to reduce the video as necessary to maintain the best experience possible.
- The Polycom RealPresence Video App SDK video sub-system can display incoming video in a specified rectangle on a graphic canvas, with an option to either use native resolution or to resize and maintain aspect ratio.
- The Polycom RealPresence Video App SDK video sub-system can display local video on a graphic canvas, either as an overlay on another video Picture in Picture (PIP) or in a separate window.
- The Polycom RealPresence Video App SDK supports multi-line appearance, enabling users to engage in up to two audio/video sessions at a time. This includes, but is not limited to, the ability to switch back and forth between active calls.
- The Polycom RealPresence Video App SDK can dynamically change the delivery of audio and video layers to adapt to the environment, including, but not limited to, network and endpoint capacity, device capabilities.

- The Polycom RealPresence Video App SDK supports multiple video layout formats including voice-activated switching, continuous presence, and presentation based on pre-made layouts.
- The Polycom RealPresence Video App SDK provides options to enable the application to display local video as part of the continuous presence layout instead of as an overlay.
- The Polycom RealPresence Video App SDK continuous presence format includes an active speaker indicator with different arrangements, where the active speaker might be pinned to a larger area than the rest or tiled with the rest of the participants.
- The Polycom RealPresence Video App SDK maintain the video aspect ratio when displaying in the provided canvas area.
- The Polycom RealPresence Video App SDK supports Audio to Video escalation in point-to-point calls.
- The Polycom RealPresence Video App SDK supports AudioStreamCallback on Windows® and Macintosh® operating systems. For supported operating systems refer to [Software Requirements](#).
- The Polycom RealPresence Video App SDK displays a set static image when the local video is muted.
- The Polycom RealPresence Video App SDK support Video Rotate on Android® and iOS mobile devices. For supported operating systems refer to [Software Requirements](#).
- The Polycom RealPresence Video App SDK supports Scalable Audio Codecs (SAC).
- The Polycom RealPresence Video App SDK supports H.264 SVC.

Protocols

- The Polycom RealPresence Video App SDK supports Session Initiation Protocol (SIP) as a signaling protocol. This include compliance with all relevant standards, including, but not limited to, RFC 3261, RFC 3264, RFC 4566, RFC 4568, and RFC 5626.
- The Polycom RealPresence Video App SDK supports the transmission of SIP over User Datagram Protocol (UDP), Transmission Control Protocol (TCP), and Transport Layer Security (TLS).
- The Polycom RealPresence Video App SDK supports the transmission of media using Real Time Protocol (RTP) and Real Time Control Protocol (RTCP) (RFC 3550 and others) over UDP.
- The Polycom RealPresence Video App SDK supports the use of TLS for the secure transmission of all forms of signaling.
- The Polycom RealPresence Video App SDK supports the use of SRTP and Secure RTCP (SRTCP) for the secure transmission of media. Media forms include Security Descriptions (SDS) (RFC 4568) and encryption keys.
- The Polycom RealPresence Video App SDK supports the ability to mark media packets with Differentiated Services Code Point (DSCP) on all supported platforms. DSCP can be externalized for administrative configuration.

Content

- The Polycom RealPresence Video App SDK provides support for Binary Floor Control Protocol (BFCP) content.
- The Polycom RealPresence Video App SDK provides video content sharing based on BFCP control.

Cameras

- The Polycom RealPresence Video App SDK enumerates available devices including cameras and headsets and uses system default selections or enables external selections.
- The Polycom RealPresence Video App SDK the ability to pan and zoom the local and remote camera when the required services are available.

APIs

- The Polycom RealPresence Video App SDK provides APIs to control the real-time user experience. This includes, but is not limited to, mute/unmute audio functions, pause/resume video functions, and hide local video functions.
- The Polycom RealPresence Video App SDK provides an API to enable the application to select the last recent number of active speakers - a variable number of speakers. The default is to display four remote channels.
- The Polycom RealPresence Video App SDK provides API documents and training materials, including table of error codes, error messages, explanations and possible remediation.

Additional Features

- Polycom RealPresence Video App SDK supports IPv4 on all applicable client and server platforms.
- The Polycom RealPresence Video App SDK provides configurable multi-level logging and tracing at all toolkit layers for support as exemplified by log4j
<http://logging.apache.org/log4j/1.2/apidocs/org/apache/log4j/Level.html>.
- The Polycom RealPresence Video App SDK is provided as an integrated part of the basic media engine and does not require any separate install or packaging.

Release History

The following table shows the release history of the Polycom RealPresence Video App SDK:

Release History

<i>Release</i>	<i>Release Date</i>	<i>Features</i>
1.0	December, 2014	First release of the Polycom RealPresence Video App SDK.

Software Requirements

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

[Operating Systems](#)

[Internet Browser Versions](#)

Operating Systems

The following operating systems are supported:

- Windows® 7 and 8
- Mac OS® 10.7, 10.8, 10.9, and 10.10
- iOS 6, 7, and 8
- Android 4.x, and 5.0

Internet Browser Versions

The following internet browser versions are supported:

- Windows® Internet Explorer 8, 9, and 10
- Mozilla Firefox® 15 and later
- Apple® Safari® 6, 7, and 8

Products Tested with this Release

The Polycom RealPresence App SDK is tested extensively with a wide range of 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.



Note: Supported products

You are encouraged to upgrade all your Polycom systems with the latest software before contacting Polycom support to ensure the issue has not already been addressed by vendor software updates.

Go to [Polycom Support Service Policies](#) to find the current *Polycom Interoperability Matrix*.

Products Tested with this Release

<i>Product</i>	<i>Tested Versions</i>
Polycom® RealPresence® Access Director™	4.0.1 and 4.1
Polycom® RealPresence® Distributed Media Application™ 7000	6.1.0 and 6.2.0
Polycom® RealPresence™ Collaboration Server 1800	8.4
Polycom® RealPresence™ Collaboration Server 2000	8.4 and 8.5
Polycom® RealPresence™ Collaboration Server 4000	8.4 and 8.5
Polycom® RealPresence® Capture Server	1.7 and 1.8
Polycom® RSS™ 4000	8.5
Polycom HDX® Series	3.1.5
Polycom® RealPresence® Mobile iOS	3.2.0
Polycom® RealPresence® Mobile Android	3.2.0
Polycom® RealPresence® Desktop Windows	3.2.0 and 3.3.0
Polycom® RealPresence® Desktop MacOS	3.2.0 and 3.3.0
Polycom® RealPresence® Group Series	4.1.5 and 4.2.0

Known Issues

The following table lists all known issues in all releases of Polycom Video App SDK.

Known Issues

<i>Category</i>	<i>Release</i>	<i>Description</i>	<i>Workaround</i>
Operating System	1.0	When the SDK client is sharing content, if the content file exceeds 70 Megabytes, because of iOS memory limitations, the client might shut down.	
Interoperability	1.0	When the SDK client is in a call and pauses or starts a video recording using Capture Server Pause and Start Recording Video , the video recording sometimes contains artifacts.	
Interoperability	1.0	When the SDK client is sharing or receiving content in a call and places a call on hold, the call sometimes gets hung up by the server.	
Interoperability	1.0	When the SDK client is in an encrypted call with a Polycom® RealPresence® Group Series and places a call on hold, the client sometimes cannot resume the call.	
Interoperability	1.0	When the SDK client is in an encrypted call with a Polycom® HDX® system and places a call on hold, the client sometimes cannot resume the call.	
Interoperability	1.0	When the SDK Android client is in a call with an HDX system, the video and content is sometimes distorted on the HDX system.	
Interoperability	1.0	Sometimes remote video cannot be displayed.	
Interoperability	1.0	When the SDK Android client is in a 384k mixed AVC video conference, sometimes far-end video is distorted.	

Get Help

For more information about installing, configuring, and administering Polycom products, refer to Documents and Downloads at [Polycom Support](#).

To find all Polycom partner solutions, see [Polycom Global Strategic Partner Solutions](#).

For more information on solution with this Polycom partner, see the partner site at [Polycom Global Strategic Partner Solutions](#).

The Polycom Community

The [Polycom Community](#) gives you access to the latest developer and support information. Participate in discussion forums to share ideas and solve problems with your colleagues. To register with the Polycom Community, create a Polycom online account. When logged in, you can access Polycom support personnel and participate in developer and support forums to find the latest information on hardware, software, and partner solutions topics.

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