Polycom Pano

Polycom announces the release of the Polycom Pano device software version 1.2.4. This document includes the latest information about new and updated features available on the Pano device, including relevant features on the Polycom Cloud Service.

Contents

Related Documentation

Refer to the following documents located at Poly Online Support Center for more information on the new features described in these release notes.

- *Polycom Deployment Guide*
- *Polycom Pano Administrator Guide*
- *Polycom Pano User Guide*

What's New

The Pano 1.2.4 release includes the following features:

- Support for enabling or disabling 4K HDMI content input
- Bug fixes

Security Updates

Please refer to the Poly Online Support Center for information about known and resolved security vulnerabilities.

Version History

This following table lists the release history of Polycom Pano.

Pano System Software Version History

Software Version	Release Date	Description
1.2.4	August 2021	Includes the following new features: ▪ Support for enabling or disabling 4K HDMI content input ▪ Bug fixes
1.2.3	June 2020	Includes the following new features: ▪ Miracast over infrastructure ▪ Support for YouTube URL playback ▪ Support for turning off Pano home screen instructions ▪ Bug fixes
1.2.2	September 2019	Includes the following new features: ▪ Miracast mirroring improvements ▪ Control of DFS channels for the secondary network ▪ Airplay library update for better Airplay stability ▪ Bug fixes
1.2.1	July 2018	Includes the following new features: ▪ Guest network support ▪ Able to disable content saving ▪ Customize your Pano home page ▪ Dropped support for cloud content sharing
1.1.1	March 2018	(Pano only) Bug fixes, security updates, and wireless support in additional countries.
1.1	December 2017	Release includes the following new features: 802.1X authentication and PKI certificate support; TLS 1.0 disabled; provisioning service support; new option for integrating with Polycom video systems; LLDP support for PoE+; new administrative user roles for the Polycom Cloud Service; and a built-in Office 365 authentication provider for accessing the Polycom Cloud Service Administration portal.
1.0.1	August 2017	Includes upgraded Pano system firmware that increases international support for wireless capability.

Software Version	Release Date	Description
1.0	June 2017	Initial release that includes support for wired and wireless content display; non-touch and touch display capabilities; integrated blank canvas options for sharing and collaborating; infinite blackboard or whiteboard canvas size; an integrated toolbar for interacting with content (including real-time annotation tools); multi-finger gesture detection for content interaction (e.g., erase, zoom, pan, and move); an administrative web interface; integration with Polycom video systems; connectivity to the Polycom Cloud Service; and the ability to share content with the Content App.
		This release also includes Polycom Cloud Service Content Sharing, which is a Polycom Labs feature.

Resolved Issues

The following table lists resolved issues for the Pano system in this release.

Resolved Issues

Issue ID	Description
EN-195063	If you enable a security code, each time you start miracast mirroring, it asks for the security code.
EN-191275, EN-177034	You can't mass disable TLS 1.0 or 1.1 on Pano devices.
EN-180120	Pano crashes if you attempty to send four sessions of Content App to the device.
EN-171680	Sometimes, Miracast mirroring fails on Windows 10 hosts.
EN-147428	Pano doesn't respond to mDNS requests from Aruba if you attempt to add the latter as an Airgroup Server.

Known Issues

The following table lists known issues and suggested workarounds for the Pano system 1.2.3 and previous versions.

Note: 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.

Known Issues

Category	Issue ID	Description	Workaround
Application	EN-35220	(Windows 10 users only) When you share the Windows Media Player application, if another window (such as a notification window or other application) covers the shared application, the content sharing hangs.	Make sure the shared application is always on top, or share your desktop instead.
Application	EN-53049	(Windows users only) When your device has two displays in duplicate mode and you are sharing a PowerPoint deck, starting Slide Show may cause truncated content.	Do one of the following: ▪ Change the display setting to **Extend these displays**. ▪ Remove or disable the second monitor.
Application	EN-57340	If your laptop runs on battery only and you share 1080p content for over an hour, your laptop may power off automatically because of power exhaust.	Plug in the power supply during prolonged sharing.
Application	EN-58795	(Windows users only) Audio shared with the Content App from a Lenovo™ T420 system may have poor quality.	Stop the content and share it again.
Application	EN-85138	You can't register to Polycom Cloud Service if you are connected to only the secondary network (Wi-Fi).	Connect also to the primary network.

Category	Issue ID	Description	Workaround
Application	EN-87106	To use the Content App to cast content on the Pano device over the Secondary network (Wi-Fi), you must enable the Administrator Access for the Secondary network.	Use AirPlay or Miracast to cast content instead.
Application	EN-92241	In the Pano web interface, if you enable the Secondary network (Wi-Fi) but uncheck the **Enable Administrator Access to This Network** option, Content App users can't connect to the Pano device and cast content on it.	None.
Application	EN-96203	While using a RealPresence Resource Manager for provisioning, if the provisioning fails, the provisioning status icon shown in the Pano web interface **Diagnostics** > **System Status** isn't grayed out as expected.	Refresh the web page.
Content	EN-35262	Content on the Pano system sometimes does not display in a call when other content is already shared to a paired RealPresence Group Series system using Polycom People+Content. This occurs when the systems are connected with an HDMI splitter or HDMI USB adapter.	Share content to the paired Pano system using the Content App.
Content	EN-93212	If you stream content from multiple Miracast devices to the same Pano device, you may observe video delay.	None. Miracast is a best-effort protocol that uses UDP over Radio Frequency signal and packet loss is subject to the device and operating system that is sending the traffic.
Content	EN-93543	If you are mirroring content using Miracast from a Microsoft Surface Pro 5 with other miracast-certified devices, you may see frozen content.	Don't mirror content using Miracast from Microsoft Surface Pro 5 devices.

Category	Issue ID	Description	Workaround
Content	EN-146825	Miracast users with certain Wi-Fi modules may have difficulty discovering or connecting to Pano. For example, Realtek Wi-Fi modules have connection problem to either the Pano system or other Miracast sinks in the market.	Perform a driver upgrade for your Wi-Fi module, or contact the Wi-Fi module provider.
Content	EN-155013	When Pano is connected to Poly Trio (with VisualPro) via an HDMI cable, if you cast content from Trio to Pano wirelessly , the content has lip-sync delays.	None.
Content	EN-177851	If you enable the Pano **Require PIN Every Connection** option, a Windows Miracast user can't reconnect to Pano using the Windows **Reconnect** button after the connection to Pano is broken.	Reconnect via the Windows Action Bar (shortcut: Windows Key + K).
Configuration	EN-17320	Changing the **Room Name** for a Pano system that is paired with a Polycom video system fails when the value provided exceeds 40 characters.	Use 40 or fewer characters when entering a value for the **Room Name**.
Integration	EN-35762	When a RealPresence Group Series system is unpaired from a Pano system, its monitor profile does not revert to **Content, then Far, then Near** as expected.	In the RealPresence Group Series system interface, reconfigure the monitor profile settings after unpairing.
Integration	EN-49285	If a Pano system is paired to a new RealPresence Group Series system, the name of the one it was previously paired to still displays in the **Connected to** field on the **General Settings** > **Pairing** page of the Pano system web interface.	Disconnect then reconnect the Pano system to the newly paired RealPresence Group Series system. The correct name should display.

Category	Issue ID	Description	Workaround
Integration	EN-60925	When connecting the Pano system to a RealPresence Group Series system using an HDMI USB adapter, pairing fails if the RealPresence Group Series system is in sleep mode.	Wake the RealPresence Group Series system, reconnect it to the Pano system, and complete the pairing process again.
Integration	EN-90388	After you pair with a Polycom Group Series server using its IP address (from the Pano web interface **General Settings** > **Pairing**), if the Polycom Group Series changes its IP address, or is powered off, you may have problem unpairing from it.	Use DHCP reservation or a static IP to configure your Polycom Group Series IP.
Maintenance	EN-59501	Sometimes the software update status on RealPresence Resource Manager indicates a Pano system update is in progress when it's not. This occurs when manually checking for available updates from RealPresence Resource Manager in the Pano system web interface.	No workaround currently available.
Security	EN-60037	Updating the Pano system software with RealPresence Resource Manager fails when TLS is enabled.	No workaround currently available.

Limitations

Topics:

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

Polycom Cloud Service

If you did not provide an email address with your purchase, or your Pano device is shipped to China, Mexico, Brazil, or Argentina, you must activate your Pano device maintenance service on Polycom Support and provide an email address before your Polycom Cloud Service account can be created.

HDMI I/O

Notes the following when you use the HDMI I/O.

- The system supports only HDMI-to-HDMI connections and doesn't support display conversions, such as VGA-to-HDMI or HDMI-to-DVI cable converters.
- The HDMI specifications don't provide maximum cable length definitions. The requirements defined in the specification implicitly give rise to length limitations that are based on the cable's construction.
- As with other Polycom hardware, the HDMI ports on your system meet HDMI specification requirements. HDMI signal quality is dependent on every cable and connector in the HDMI path. Passive HDMI extenders, female-female couplers, and wall plates are potential points of failure and signal loss.
- A high-quality passive cable of minimum length provides the most repeatable solution. As the power level of HDMI output devices can vary greatly, keep the distance from the HDMI source to the system input as short as possible.

Poly recommends working with your A/V integrator or partner who understands the unique requirements in your environment.

Poly claims no responsibility or liability for the quality, performance, or reliability of third-party HDMI cables, HDMI splitters, or HDMI USB adapters.

Miracast Video

When you cast content using Miracast mirroring, the content may be blurry on the far end due to limitations on your Miracast device. For example:

- **The Miracast device lacks resource to encode the mirrored content**

  This may happen when your device screen refreshes too quickly. For example, when you browse a dense Excel sheet. To solve this problem, lower your device screen resolution, or close unnecessary applications or processes.

- **The Miracast device can't send the mirrored content out**

  This may happen when the Pano **Operating Channel** and the WLAN Access Point (AP) channel that your Miracast device uses to access the internet are working on different frequency bands. To solve this problem, set them to the same channel. For example, if your device accesses the internet from a WLAN AP using 5 GHz channel ID 36, then set your Pano **Operating Channel** to the same channel.

Miracast Audio

Audio transmission in Miracast mirroring is best-effort. For Windows 10 or Android devices, Miracast audio-video synchronization isn't guaranteed.

Miracast-Certified Devices

For some Miracast-certified devices, the behavior of the security code differs from what is expected when connecting to the Pano device.

The following variances may be notable depending on your organization's security plan:

- Android devices that require an eight-digit security code are not able to connect to the Pano device since its security code contains only four digits.

- Some Android devices or operating systems may only require a security code during the first attempt to connect. To force their personal device to prompt for a security code after the initial attempt, a user can remove the Pano device from the list of connected devices (also referred to as "forget" a device).

- Systems running the Windows operating system only require a security code during the first attempt to connect. To force personal device to prompt for a security code after the initial attempt, a user can remove the Pano device from the list of connected devices (also referred to as "forgetting" a device).

- Huawei® devices may only require a security code during the first attempt to connect.

- As of the December 15, 2016, release of the Samsung software update, the method to send a security code from a Samsung device to a Pano system has changed. A user must press and hold the desired Pano system selection in the list of devices, then select the option to send the entered security code to that system.

AirPlay-Certified Devices

Connecting to a Pano device with an AirPlay-certified device running iOS version 9.x installed is only supported when the devices are on the same subnet.

The Pano device does not support casting from direct streaming sources such as web links, YouTube™, or Google Chromecast™ when sharing content using an AirPlay-certified device. If you share content that streams by sending direct links to the Pano device, the content is not shown.

For some AirPlay-certified devices, the behavior of the security code differs from what is expected when connecting to a Pano device. The following variances may be notable depending on your organization's security plan:

- The security code is not highlighted on the Pano device when the device or system attempting to connect is running iOS 9 and in charging mode.
- If a user attempts to connect to a previously connected Pano device, and the security code has not changed, the user is not prompted for a security code and the connection is unsuccessful.

Polycom® RealPresence® Resource Manager

If you're using a Polycom RealPresence Resource Manager for your device management, before you can receive automatic software updates, you must enable **Network Provisioning Profiles** > **Enable Pano Updates via HTTP** on your Polycom Resource Manager.

This enables HTTP transfer for Pano software updates. If you disable this option, HTTPS transfer is used for Pano updates. In this case, you need to install an official certificate to allow HTTPS connection for Pano updates.

Capacity

The following table helps answer questions about the Pano system's capacity (e.g., content sharing activity and number of connected devices).

Pano System Capacity Frequently Asked Questions

Question	Answer
How many blackboards and whiteboards can be open at the same time (including in the content tray) during a session?	The maximum is 70.
How many content snapshots can be open at the same time (including in the content tray) during a session?	Average 100. This depends on the pixel complexity and resolution of the content background.
How many Content App users can connect (but not sharecontent) at the same time?	If the devices are on the same network, up to four can connect directly.
Is there a limit to how many content saves can occur simultaneously with the Content App?	Up to four (the same number of devices that can directly connect to a Pano system at the same time).

Question	Answer
How many AirPlay-certified devices can share content at the same time?	Four (only three if HDMI is also used to share).
How many Miracast-certified devices can share content at the same time?	Four (only three if HDMI is also used to share).
Is capacity affected by the quality (e.g., resolution) or type of content shared?	No.
How long can a session last?	Sessions do not end if there is active content. A session could end if the sharing device's connection through the Content App times out due to inactivity (e.g., sleep mode) or network issues.

HDCP Not Supported

The High-bandwidth Digital Content Protection (HDCP) standard does not support the use of HDCP by a Pano system. If you connect a content source that sends HDCP-encrypted content, the Pano device displays a blank screen or default non-HDCP screen provided by the source. To ensure that content displays correctly, send content in a format other than HDCP.

Note: Due to a policy established by Apple Computer, Inc., you cannot disable the HDCP encryption service onthe DVI or HDMI outputs of a computer that is manufactured by Apple Computer, Inc.

Downloading Certificate Signing Requests

Downloading a certificate signing request (CSR) from the Pano system web interface using the Safari browser may not save the file with the correct extension (`.pem`).

Polycom recommends updating to at least Safari version 10.1.1 and macOS version 10.12.5 or using another browser.

Downloading System Logs

On iOS devices, you can only download Pano system logs using the Safari browser. The log files are named `unknown.dms`, which you must rename with a `.tgz` extension to view.

Integrating with Polycom Video Systems

To integrate your Pano system with a Polycom video system, make sure that the systems are connected to networks that allow connectivity between them.

For example, if the Pano system is connected to the Internet, while the Polycom video system is on a trusted network, the Pano system would not be able to detect and pair with the Polycom video system and functionality may be limited.

For more information on how to integrate with a Polycom video system, refer to the *Polycom Pano Deployment Guide* available on Polycom Support.

Products Tested with this Release

Topics:

- [Supported Displays](#)
- [Supported Browsers](#)
- [Supported Miracast-Certified Devices](#)
- [Supported Miracast Resolutions](#)
- [Supported AirPlay-Certified Devices](#)
- [Notes on Screen Mirroring Quality](#)
- [Language Support](#)

Refer to the following for devices tested, or compatible with Polycom Pano.

Supported Displays

The Pano device can present content streams on user-supplied, non-touch or touch monitors that support up to 4K (UHD) 60fps RGB444 output over HDMI 2.0.

Tested Touch-Capable Monitors

The Pano device supports single- and multi-touch input from a HID-compliant device.

The following touch-capable monitors have been tested with the device and provide an optimal touch experience.

Tested Touch-Capable Monitors

Size (inches)	Touch Technology	Brand	Model/Part Number
23	Capacitive	Acer	T232HL
22	Capacitive	Elo®	E497001
46	Capacitive	Elo®	ET4602L
55	InGlass™	Dell	C5518QT (black)
65	InGlass™	Volanti	VD-6500-0B0C-1100 (black)
65	InGlass™	Volanti	VD-6500-0Q0C-16P3 (white)
65	InGlass™	Avocor	AVF-6550
70	IR	Sharp	PN-L703B (black)
75	InGlass™	Dell	C7520QT

Size (inches)	Touch Technology	Brand	Model/Part Number
86	InGlass™	Dell	C8618Q7

Supported Browsers

You can access the Pano system web interface using the following browsers:

- Apple® Safari® 9 and later
- Google Chrome™ 46.0.2490.86 and later
- Mozilla® Firefox® 42.0 and later
- Microsoft Edge™ (all versions)

Supported Miracast-Certified Devices

You can display content from your Miracast-certified Android or Windows device to the Polycom Pano system monitor.

Windows or Android devices can discover and connect directly with the Polycom Pano system and do not have to be on the same network.

The Polycom Pano system supports content sharing from the following Android and Windows devices:

- Miracast-certified devices running Windows 10
- Samsung Galaxy smartphones and tablets running Android version 4.4 or later

Note: Polycom cannot guarantee connectivity with all Miracast-certified devices, but connectivity has been validated to work well with Samsung smartphones and tablets using Android version 4.4 or later and the Microsoft Surface® 3 Pro and Surface® 4 Pro running Windows 10. Check your device documentation on how to enable and use its screen mirroring feature.

Supported Miracast Resolutions

Pano is only supporting the following 30fps resolutions:

- CEA (TV Resolutions)
  - 1080p
  - 720p
- VESA (Monitor Resolutions)
  - 1920x1200
  - 1680x1024
  - 1680x1050
  - 1600x1200
  - 1600x900
  - 1400x1050

- ◦ 1400x900
- ◦ 1360x768
- ◦ 1280x1024
- ◦ 1280x864
- ◦ 1280x800
- ◦ 1280x764
- ◦ 1152x864
- ◦ 1024x768
- ▪ HH (Hand Held Resolutions)
  - ◦ 960x540
  - ◦ 864x480
  - ◦ 854x480
  - ◦ 848x480
  - ◦ 800x480
  - ◦ 640x360

It is possible, on Windows 10 clients, once you have a Miracast connection, to change the Miracast display resolution separately from the client's own display resolution. It may take a few seconds before the Display settings shows the newly casted display, but once it does, select it and change the resolution and see the change on the Pano.

Supported AirPlay-Certified Devices

You can share the screen and audio of an AirPlay-certified iPhone®, iPad®, or Mac® computer.

Polycom cannot guarantee connectivity with all these devices but has validated the following:

- ▪ iPhone 6 and newer running at least iOS® version 10
- ▪ iPad Air and newer running at least iOS version 10
- ▪ Mac computers running at least macOS® version 10.12

Notes on Screen Mirroring Quality

In many poor video quality situations, a reboot of the Airplay or Miracast device resolves the issue. Too many opened applications can negatively affect the performance of the client device and closing out applications can increase performance.

Polycom Miracast implementation uses peer-to-peer Wi-Fi connections and is subject to the same environmental factors as typical Wi-Fi connections are. Multiple factors can impact Miracast performance. For example, your OS version, Wi-Fi or video card driver versions, and your computer performance level.

Audio transmission in Miracast mirroring is best-effort. For Windows 10 or Android devices, Miracast audio-video synchronization isn't guaranteed.

Language Support

The Pano device user interface provides support for the following languages:

- Arabic
- Chinese (Simplified)
- Chinese (Traditional)
- British English
- American English
- French
- German
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Brazilian)
- Russian
- Spanish