Introducing Polycom® Pano™

The Polycom® Pano™ system provides an easy way to connect and share content. From the moment users walk into the meeting room, Polycom Pano invites them to connect their personal device or system with a simple touch using native support for Miracast® or AirPlay® screen sharing, Polycom Pano™ App, or an HDMI connection. Once connected, users can simultaneously share content and collaborate on their organization’s high-fidelity content monitors.
Ease-of-use value isn’t limited to the end user. Polycom Pano also delivers high-value to the business through easy installation with existing investments in display and video conferencing technology. Turn any regular display into a collaborative solution in minutes, and manage the deployment from anywhere.

The Polycom Pano system allows you to do the following:

- Quickly and easily connect using a personal device.
- Wirelessly share content and more to any size display and in 4K resolution.
- Access and share documents from a personal Microsoft® OneDrive® for Business account.
- Securely manage your organization’s deployment from anywhere using a browser interface.
- Integrate with existing Polycom videoconferencing systems for sharing over distance.
- Experience automatic touch capability when you upgrade your deployment to use a touch display.
- Manipulate, annotate, create, and save important content details.
- Brainstorm on an integrated and infinite blackboard to express, and discuss ideas of just about any size.

**Getting Started**

An administrator should set up the Polycom Pano system for users to start collaborating.

**Note:** The Polycom Pano system is designed to be always powered on, so it has no power button.

**To get started with the Polycom Pano system:**

1. Connect the Polycom Pano cables and monitor using the instructions on the setup sheet.
2. Perform any additional setup or configuration that is required.

Once the system is up and running, users can start sharing content from personal devices that support Miracast or AirPlay screen mirroring, Polycom Pano App, or an HDMI cable.

For details about setting up and configuring a Polycom Pano system, see the *Polycom Pano Administrator Guide*.
For information about how to use the Polycom Pano system, refer to the Polycom Pano User Guide. Instructions for installing the Polycom Pano App are provided in the Polycom Pano User Guide.

Features

The Polycom Pano system version 1.0 delivers the following features (each described in the following sections):

Wireless and Wired Content Display
Non-Touch Configuration
Optional Touch Capability
Integrated Blank Canvas Options
Infinite Blackboard or Whiteboard
Integrated Toolbar
Annotations
Gestures for Content Interaction
Administrative Web Interface
Integration with Polycom Video Systems
Polycom Cloud Service
Polycom Pano App

Wireless and Wired Content Display

The Polycom Pano system supports wired and wireless content display methods.

Wired:

- HDMI input
- Application and screen sharing using Polycom Pano App
- Cloud content sharing from Microsoft OneDrive for Business using Polycom Pano App

Wireless:

- AirPlay
- Miracast

The Polycom Pano home screen, shown in the following figure, is a constant reminder of all the content display methods.
Non-Touch Configuration

The Polycom Pano system can connect to a variety of non-touch displays. The system provides the following user experience:

- The Polycom Pano system automatically configures the layout of the shared content using the aspect ratio of the connected devices and systems.
- Users interact with shared content from their personal device or system.
- When a user disconnects a smart device, Polycom Pano App, or an HDMI cable to end a content sharing session, the Polycom Pano system returns to the home screen.

Optional Touch Capability

The Polycom Pano system has touch user interface capability when connected to an optional touch display or a pointing device with a USB interface, such as a USB mouse. This feature allows users to interact with shared content using gestures and the integrated toolbar.

If a touch monitor or pointing device is connected, the Polycom Pano system is automatically configured for a touch experience, as described below:

- The integrated toolbar, content tray, and panel control bar are available.
- Maximizing and minimizing content is supported.
- Ending a content session is possible by closing the content window.
**Integrated Blank Canvas Options**

The Polycom Pano system allows you to present your ideas on an integrated blackboard or whiteboard canvas.

For details about using a blackboard or whiteboard, see the *Polycom Pano User Guide*.

**Infinite Blackboard or Whiteboard**

You can extend the canvas in a blackboard or whiteboard session to a virtually endless size, and then zoom in and out of that canvas as needed. This feature is beneficial when you need a large collaboration space to describe numerous connected ideas.

For details about creating an infinite blackboard or whiteboard, see the *Polycom Pano User Guide*.

**Integrated Toolbar**

The integrated toolbar becomes available when you share content with the Polycom Pano system or tap the home screen to create a blackboard. You can do the following with the toolbar elements:

- Toggle (enter and exit) full-screen presentation mode
- Adjust ink colors and line widths for annotations
- Highlight content
- Erase annotations
- Navigate Polycom Cloud Service content
- Undo annotations
- Take a snapshot of content
- Create a blackboard or whiteboard
- Access help tips
- End a content sharing session

For details about the toolbar elements, see the *Polycom Pano User Guide*.

**Annotations**

The Polycom Pano system includes an advanced “inking” capability that provides a real-time annotation and blackboard or whiteboard writing experience.

For detailed information about annotations, see the *Polycom Pano User Guide*.

**Gestures for Content Interaction**

The Polycom Pano system includes intelligent multi-finger gesture detection for erase, zoom, pan, and panel moving capabilities to provide users flexibility when interacting with content.

For details about how to interact with shared content, see the *Polycom Pano User Guide*.
Administrative Web Interface

You can access the Polycom Pano administrative web interface from a supported web browser and use it to configure network settings, security options, and general settings such as system date and time. You can also access the Polycom Cloud Service registration.

The web interface also includes a Diagnostics tab that provides troubleshooting features and options.

For details about the web interface, see the Polycom Pano Administrator Guide.

Integration with Polycom Video Systems

A Polycom Pano system can pair with a Polycom video system that is in the same room. Once administrators perform the minimal setup required, meeting participants can present content displayed on the Polycom Pano system to the Polycom video system. Polycom® RealPresence® Group Series 310, 500, 550, and 700 systems and Polycom® RealPresence Centro™ systems are supported.

For details about connecting to a Polycom video system, including required equipment, see the Polycom Pano Administrator Guide.

Polycom Cloud Service

The Polycom Pano system provides connectivity to the Polycom Cloud Service, which offers the following functionality and features:

- Quick access to nearby Polycom Pano devices using only room name as the search criterion.
- Users can share documents from their Microsoft OneDrive for Business folders for display on a Polycom Pano using the Polycom Pano App.
- Navigation control of shared content from the Polycom Pano display, in addition to control from the Polycom Pano App (when connected to a touch-enabled display).

The Polycom Cloud Service supports the following enterprise authentication providers:

- Microsoft Active Directory® Federation Services (ADFS) 3.0 with Auth2 Integration
- Microsoft® Office 365™ (Microsoft Azure® Active Directory) with Auth2 Integration

The Polycom Cloud Service supports the following files as content from Microsoft Office 365 OneDrive for Business:

- Microsoft Word
- Microsoft PowerPoint®
- Microsoft Excel®
- Microsoft OneNote®
- Adobe® PDF
- Image: .jpg, .jpeg, .png, .gif, and .webp
- Text: .txt and .rtf

For details about sharing cloud documents, see the Polycom Pano User Guide.
For details about updating software for Polycom Pano systems that are registered to the Polycom Cloud Service, see the Polycom Pano Administrator Guide.

Related Links
Polycom Cloud Service Content Sharing on page 9

**Polycom Pano App**

You can use Polycom Pano App to share content with a Polycom Pano system. Descriptions of key features of Polycom Pano App are provided in the following sections:

*Note:* Polycom Pano App is available for download from the Polycom Pano page at support.polycom.com.

Content Sharing Options
Save Snapshots
Command-Line Installation

**Content Sharing Options**

Users can share up to four content sources simultaneously from Polycom Pano App in the following combinations:

- One local screen or application and up to three files from the Polycom Cloud Service and up to three files from the user's OneDrive for Business folders
- Four files from the user's OneDrive for Business folders.

For more information about Polycom Pano App, see the Polycom Pano User Guide.

Related Links
Polycom Cloud Service Content Sharing on page 9

**Save Snapshots**

Polycom Pano App allows you to save screenshots of the content created or casted to the Polycom Pano system during a content sharing session.

For details about saving snapshots, see the Polycom Pano User Guide.

**Command-Line Installation**

An administrator can distribute the latest version of the Polycom Pano App to multiple managed systems using the command line. A distribution file is available at the Polycom Support Center:

- The .msi file is intended for experienced Windows administrators to support 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 Installation Files

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

For details about Polycom Pano App installation options, see the Polycom Pano User Guide.

Polycom Pano App Versus Polycom People+Content™ IP

People+Content™ IP is another application that Polycom offers for you to share content from your computer to a connected Polycom video system. The following tables help you determine the best solution for your environment.

The following table lists the feature differences between these two content sharing methods.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Polycom Pano App</th>
<th>People+Content™ IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto detecting Polycom video systems</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Manual connecting to a Polycom video system</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sharing local content</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sharing files in Microsoft OneDrive</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Content resolution</td>
<td>Up to 1080p</td>
<td>Up to 720p</td>
</tr>
<tr>
<td>Content frame rate</td>
<td>Up to 20 fps with 1920x1080 screen resolution</td>
<td>Up to 15 fps with 1280x720 screen resolution</td>
</tr>
</tbody>
</table>

Polycom recommends that you pair the content sharing applications with Polycom video systems according to the following:

<table>
<thead>
<tr>
<th>Content Sharing Application</th>
<th>System for Sharing Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polycom Pano App</td>
<td>• Polycom® Pano™</td>
</tr>
<tr>
<td></td>
<td>• Polycom® RealPresence® Group Series</td>
</tr>
<tr>
<td></td>
<td>• Polycom® RealPresence Debut™</td>
</tr>
<tr>
<td></td>
<td>• Polycom® RealPresence Centro™</td>
</tr>
<tr>
<td></td>
<td>• Polycom® RealPresence Immersive Studio™</td>
</tr>
<tr>
<td></td>
<td>• Polycom® RealPresence® OTX® Studio</td>
</tr>
<tr>
<td>People+Content IP</td>
<td>• Polycom® RealPresence Trio™</td>
</tr>
</tbody>
</table>
Polycom Labs Features

Polycom occasionally releases features to provide early access to an area of new innovation and capability within the Polycom solution ecosystem.

The Polycom Pano system version 1.0 delivers the following Polycom Labs feature (described in the following section):

Polycom Cloud Service Content Sharing

Polycom Cloud Service Content Sharing

In this release, sharing content from Microsoft OneDrive for Business is provided as a Polycom Labs feature (denoted as LABS). This feature lets Polycom Pano App users securely share content from their Microsoft OneDrive for Business folders to a Polycom Pano that is registered with the Polycom Cloud Service. This feature is an early glimpse at the rich, cloud-based collaboration capabilities coming from Polycom in the future.

Polycom Cloud Service Content Sharing is fully tested and supported as a production feature and can be used and evaluated in production environments. As a Polycom Labs feature, we encourage you to provide feedback on its utility and behavior as we continue to evolve, enhance, and enrich collaboration offerings in the Polycom Cloud Service. Send your feedback to labssupport@polycom.com.

Software Version History

Polycom Pano System Software Version History

<table>
<thead>
<tr>
<th>Software Version</th>
<th>Release Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>June 2017</td>
<td>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 Polycom Pano App. This release also includes Polycom Cloud Service Content Sharing, a Polycom Labs feature.</td>
</tr>
</tbody>
</table>
Supported Displays

Polycom Pano systems can present content streams on user-supplied, non-touch or touch displays that support up to 4K (UHD) 60 frames per second (FPS) RGB444 output over HDMI 2.0. Polycom recommends that you use a display that supports the same input and visual output.

Recommendations for Using an Optional Touch-Capable Monitor

The Polycom Pano system supports single and multi-touch input from the USB port of an HID-compliant device.

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

Tested Touch-Capable Monitors

<table>
<thead>
<tr>
<th>Size (inches)</th>
<th>Touch Technology</th>
<th>Brand</th>
<th>Model/Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>InGlass</td>
<td>Volanti</td>
<td>VD-6500/VD-6500-0B0C-1154</td>
</tr>
<tr>
<td>70</td>
<td>IR</td>
<td>Sharp</td>
<td>PN-L703B</td>
</tr>
</tbody>
</table>

Supported Web Browsers

The Polycom Pano web interface is supported in the following browsers:

- Apple® Safari® 9 and above
- Google Chrome™ 46.0.2490.86 and above
- Mozilla® Firefox® 42.0 and above
- Microsoft Edge™ (all versions)
Supported Miracast-Certified Devices

Polycom cannot guarantee connectivity with all Miracast-certified devices but has validated that there is connectivity with Samsung smartphones and tablets running Android 4.4+ and Microsoft Surface Pro 3 and Surface Pro 4 systems running Microsoft Windows 10. A device must also have built-in hardware to receive and transmit Miracast.

Depending on your device, additional software may be required to use the Polycom Pano Miracast-compatible feature.

Supported AirPlay Certified Devices

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

Products Tested with Polycom Pano App

Polycom Pano App 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.

<table>
<thead>
<tr>
<th>Type</th>
<th>Product</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endpoint</td>
<td>Polycom® RealPresence® Group Series</td>
<td>6.1.1</td>
</tr>
<tr>
<td></td>
<td>Polycom® HDX® Series</td>
<td>3.1.11</td>
</tr>
<tr>
<td></td>
<td>Polycom® Pano™ system</td>
<td>1.0</td>
</tr>
<tr>
<td></td>
<td>Polycom® RealPresence Debut™</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>Polycom® RealPresence Centro™</td>
<td>6.1.1</td>
</tr>
<tr>
<td></td>
<td>Polycom® RealPresence Trio™</td>
<td>5.4.5</td>
</tr>
<tr>
<td></td>
<td>Polycom® Open Telepresence Experience™ 300 (with ITP)</td>
<td>3.1.4</td>
</tr>
</tbody>
</table>

Note: When Polycom Pano App is connected to a Polycom RealPresence OTX 300 or RealPresence Group Series system, you can only use Polycom Pano App to start content sharing. You cannot do this using the Touch Pad of the OTX or RealPresence Group Series system. However, you can stop content sharing using the Touch Pad.

Language Support

The Polycom Pano user interfaces provide support for the following languages:

- Chinese (Simplified)
- Chinese (Traditional)
- British English
System Constraints and Limitations

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

**Polycom Cloud Service**

Polycom Pano systems that are shipped to China, Mexico, Brazil, and Argentina are bundled with a service feature that must be activated on the Polycom Support Center before you can register a system from one of these countries with the Polycom Cloud Service.

**AirPlay**

Connecting to a Polycom Pano system from a device with iOS 9.x version installed is only supported when the two systems are on the same subnet.

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

For some AirPlay certified devices and systems, the behavior of the security code differs from what is expected when connecting to a Polycom Pano system. The following variances may be important to note, depending on your organization's security plan:

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

For some Miracast-certified devices and systems, the behavior of the security code differs from what is expected when connecting to a Polycom Pano system. The following variances may be important to note, depending on your organization's security plan:

- Android devices that require an eight-digit security code are not able to connect to a Polycom Pano system since its security code contains only four digits.
- Some Android devices or operating systems may only prompt the user for a security code the first time the user attempts to connect to a Polycom Pano system. To force their personal device to prompt for a security code after the initial attempt, a user can remove Polycom Pano from the list of connected devices (also referred to as “forget” a device).
- Systems running the Windows operating system will only prompt the user for a security code during the first connection attempt. To force their personal device to prompt for a security code after the initial attempt, a user can remove Polycom Pano from the list of connected devices (also referred to as “forget” a device).
- 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 Polycom Pano system has changed. A user must now press and hold the desired Polycom Pano selection in the list of devices, and then select the option to send the entered security code to the Polycom Pano.

**Polycom Pano App**

Internet Explorer version 11 or later must be installed on a system using the Windows version of Polycom Pano App to access a shared component that does not exist in previous versions of Internet Explorer.

To prevent unexpected results when connecting to the Polycom Cloud Service, make sure the time clock of the system on which Polycom Pano App is installed matches the current local time.

Users can share image files from their OneDrive for Business folders that are in .jpg, .jpeg, .png, .gif, or webp file format. Polycom recommends that shared image files be less than 20 MB in size to ensure acceptable download and rendering time.

The Polycom Pano system displays a blank panel or screen when the last Polycom Pano App content source is disconnected.

When Bluetooth® detection is enabled, Polycom Pano App can search for nearby Polycom Pano systems that have enabled Bluetooth broadcasting and that are registered to the same Polycom Cloud Service account (when you are signed in to the service). This feature is available to users of Microsoft Windows® 10 and Apple Mac® OS X® 10.8 (Mountain Lion) or later, with hardware supporting Bluetooth version 4.0 or higher.

**Note:** If you prefer to limit the knowledge of room names, consider using a different naming convention for your Polycom Pano systems other than room name.

**Related Links**

Polycom Cloud Service Content Sharing on page 9
**HDCP Support**

High-bandwidth digital content protection (HDCP) is not supported. The Polycom Pano system displays a blank screen or default non-HDCP screen provided by the source.

**Integration with Polycom Video Systems**

In order to integrate a Polycom Pano system with a Polycom video system, be sure that both systems are connected to networks that allow connectivity between them. For example, if the Polycom Pano system is connected to the Internet and the Polycom video system is on a trusted network, the Polycom Pano system would not be able to detect and pair with the Polycom video system and functionality may be limited.

Polycom Pano systems do not support receiving content from a Polycom video system.

**Security Updates**

For information about known and resolved security vulnerabilities, refer to the Polycom Security Center.

**Known Issues**

The following table lists the known issues for this release. If a workaround is available, it is noted in the table.

<table>
<thead>
<tr>
<th>Issue ID</th>
<th>Description</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN-12087</td>
<td>When performing application or screen sharing using Polycom Pano App, power consumption is higher than typical applications and may consume battery capacity quickly on lower-end mobile devices.</td>
<td>For best results when used on a low performing laptop, always connect using your AC power source.</td>
</tr>
<tr>
<td>EN-14662</td>
<td>The frame rate is low for application or screen sharing from Polycom Pano App on devices configured for 4K display resolution.</td>
<td>Lower the device's display resolution if a higher frame rate is required.</td>
</tr>
<tr>
<td>EN-17320</td>
<td>Changing the Room Name for a Polycom Pano system that is paired with a Polycom video system fails when the value provided exceeds 40 characters.</td>
<td>Use 40 characters or fewer when entering a value for Room Name.</td>
</tr>
<tr>
<td>EN-19020</td>
<td>Device Name or Room Name are not updated for a Polycom Pano device when the values are more than 40 characters. The provided name appears on the Device Management page in the Polycom Cloud Administration portal.</td>
<td>Use a device or room name that is fewer than 40 English characters and 13 Chinese/Japanese/Korean letters.</td>
</tr>
<tr>
<td>EN-19567</td>
<td>Occasionally, while the Polycom Pano App is sharing content with a Polycom RealPresence Group Series system, the content flashes and is partially scrambled.</td>
<td>Switch to a wired network or connect to a steady Wi-Fi network.</td>
</tr>
</tbody>
</table>
## Other Known Issues

### Previous Polycom Pano App Installation

If you previously installed Polycom Pano App, you must uninstall it before you install the current Polycom Pano App software update.
To uninstall Polycom Pano App (Windows Users Only):
1. Select Start, then choose Polycom > Polycom Pano App from All Programs.
2. Select Uninstall Polycom Pano App; when asked to confirm the operation, select Yes.
3. Select No when asked “Do you want to keep current configurations and logs?”.

To uninstall Polycom Pano App (Mac Users Only):
1. Log in to your Mac with an administrator account.
2. Open your Applications folder and select Polycom Pano App.
3. Drag the program to the Trash.
4. Right-click on the Trash icon, select Empty Trash, and then click Empty Trash to confirm.

To install Polycom Pano App:
   » Double-click the installation package and follow the on-screen instructions to install it.

Note: When using a system running Microsoft Windows with Polycom Pano App, you must set the display color depth to 32-bit.
Copyright and Trademark Information

Copyright© 2017, Polycom, Inc. All rights reserved. No part of this document may be reproduced, translated into another language or format, or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Polycom, Inc.

6001 America Center Drive
San Jose, CA 95002
USA

Trademarks Polycom®, the Polycom logo and the names and marks associated with Polycom products are trademarks and/or service marks of Polycom, Inc. and are registered and/or common law marks in the United States and various other countries.

All other trademarks are property of their respective owners. No portion hereof may be reproduced or transmitted in any form or by any means, for any purpose other than the recipient's personal use, without the express written permission of Polycom.

Disclaimer While Polycom uses reasonable efforts to include accurate and up-to-date information in this document, Polycom makes no warranties or representations as to its accuracy. Polycom assumes no liability or responsibility for any typographical or other errors or omissions in the content of this document.

Limitation of Liability Polycom and/or its respective suppliers make no representations about the suitability of the information contained in this document for any purpose. Information is provided "as is" without warranty of any kind and is subject to change without notice. The entire risk arising out of its use remains with the recipient. In no event shall Polycom and/or its respective suppliers be liable for any direct, consequential, incidental, special, punitive or other damages whatsoever (including without limitation, damages for loss of business profits, business interruption, or loss of business information), even if Polycom has been advised of the possibility of such damages.

End User License Agreement BY USING THIS PRODUCT, YOU ARE AGREETING TO THE TERMS OF THE END USER LICENSE AGREEMENT (EULA) AT: http://documents.polycom.com/indexes/licenses. IF YOU DO NOT AGREE TO THE TERMS OF THE EULA, DO NOT USE THE PRODUCT, AND YOU MAY RETURN IT IN THE ORIGINAL PACKAGING TO THE SELLER FROM WHOM YOU PURCHASED THE PRODUCT.

Patent Information The accompanying product may be protected by one or more U.S. and foreign patents and/or pending patent applications held by Polycom, Inc.

Open Source Software Used in this Product This product may contain open source software. You may receive the open source software from Polycom up to three (3) years after the distribution date of the applicable product or software at a charge not greater than the cost to Polycom of shipping or distributing the software to you. To receive software information, as well as the open source software code used in this product, contact Polycom by email at OpenSourceVideo@polycom.com.

Customer Feedback We are striving to improve our documentation quality and we appreciate your feedback. Email your opinions and comments to DocumentationFeedback@polycom.com.