

# Polycom® RealPresence® Access Director™ System

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## What's New in Release 4.2.5.2

The Polycom® RealPresence® Access Director™ system version 4.2.5.2 includes the features and functionality of previous releases and provides the following enhancements:

- [Security Updates](#)

## Security Updates

This release includes the following security-related changes:

- Discontinued use of arcfour encryption ciphers.
- Updated versions of VMware tools and VMware hardware in the RealPresence Access Director Virtual Edition to remove vulnerabilities to Spectre and Meltdown.

Please refer to the [Polycom Security Center](#) for information about known and resolved security vulnerabilities.

## Release History

The following table lists the release history of the RealPresence Access Director system.

### Release History

<i>Release</i>	<i>System</i>	<i>Release Date</i>	<i>Features</i>
4.2.5.2	CentOS 6.9 PostgreSQL 9.3.9 OpenJDK 1.7.0.171- 2.6.13.0.el6_9.x86_64	June 2018	<ul style="list-style-type: none"> <li>• Security enhancements</li> <li>• Bug fixes</li> </ul>
4.2.5.1	CentOS 6.8 PostgreSQL 9.3.9 OpenJDK 1.7.0.131- 2.6.9.0.el6_8.x86_64	September 2017	<ul style="list-style-type: none"> <li>• Security enhancements</li> <li>• Bug fixes</li> </ul>
4.2.5	CentOS 6.8 PostgreSQL 9.3.9 OpenJDK 1.7.0.131- 2.6.9.0.el6_8.x86_64	March 2017	<ul style="list-style-type: none"> <li>• Security enhancements</li> <li>• Bug fixes</li> </ul>
4.2.4	CentOS 6.8 PostgreSQL 9.3.6 OpenJDK 1.7.0.101- 2.6.6.4.el6_8.x86_64	November 2016	<ul style="list-style-type: none"> <li>• Enhancements</li> <li>• Bug fixes</li> </ul>

<i>Release</i>	<i>System</i>	<i>Release Date</i>	<i>Features</i>
4.2.3	CentOS 6.7 PostgreSQL 9.3.6 OpenJDK 1.7.0.79-2.5.5.1	March 2016	<ul style="list-style-type: none"> <li>• Support for RealPresence Clariti solution</li> <li>• Support for disabling TLS v1.0</li> <li>• Change to interpretation of VMR ranges</li> <li>• Support for VMware vSphere Platform version 6.0</li> <li>• Resolved some known issues</li> </ul>
4.2.2	CentOS 6.7 PostgreSQL 9.3.6 OpenJDK 1.7.0.79-2.5.5.1	December 2015	<ul style="list-style-type: none"> <li>• Resolved some known issues</li> </ul>
4.2.1.1	CentOS 6.7 PostgreSQL 9.3.6 OpenJDK 1.7.0.79-2.5.5.1	September 2015	<ul style="list-style-type: none"> <li>• Resolved some known issues</li> </ul>
4.2.1	CentOS 6.7 PostgreSQL 9.3.6 OpenJDK 1.7.0.79-2.5.5.1	August 2015	<ul style="list-style-type: none"> <li>• Support for SHA-256 SSL certificates</li> <li>• Security updates</li> <li>• Resolved some known issues</li> </ul>
4.2	CentOS 6.6 PostgreSQL 9.3.6 OpenJDK 1.7.0.79-2.5.5.1	June 2015	<ul style="list-style-type: none"> <li>• High Availability deployment option</li> <li>• STUN and TURN service to support WebRTC video conferencing</li> <li>• Support for Hyper-V virtual environments</li> <li>• Operating system upgraded to CentOS 6.6</li> <li>• Replaced Oracle JDK with OpenJDK</li> </ul>
4.1	CentOS 6.4 Postgres 9.2 Java 7u21	December 2014	<ul style="list-style-type: none"> <li>• Basic Access Control Lists</li> <li>• Enhanced integration with the RealPresence Platform Director System</li> <li>• Support for higher data rate transfer from RealPresence Content Sharing Suite systems</li> <li>• Integration with an F5 load balancer</li> </ul>
4.0.1	CentOS 6.4 Postgres 9.2 Java 7u21	August 2014	<ul style="list-style-type: none"> <li>• Resolved some known issues</li> </ul>

<i>Release</i>	<i>System</i>	<i>Release Date</i>	<i>Features</i>
4.0.0	CentOS 6.4 Postgres 9.2 Java 7u21	June 2014	<ul style="list-style-type: none"> <li>• Operating system upgraded to CentOS 6.4</li> <li>• Deploy and manage licenses using Polycom RealPresence Platform Director (Virtual Edition only)</li> <li>• Single interface and port for access proxy services and HTTP tunnel proxy</li> <li>• Firewall port mapping not required for two-system tunnel deployment</li> <li>• Support for BFCP/TCP content sharing through HTTP tunnel proxy</li> <li>• HTTP tunnel proxy auto-discovery</li> <li>• REST API (Virtual Edition) to support integration with the RealPresence Platform Director</li> <li>• License key to enable encryption of the tunnel in a two-system deployment</li> <li>• Other system enhancements</li> </ul>
3.1.1	CentOS 5.7 Postgres 9.1 Java 7u21	April 2014	<ul style="list-style-type: none"> <li>• Support for Tandberg endpoints</li> </ul>
3.1.0	CentOS 5.7 Postgres 9.1 Java 7u21	January 2014	<ul style="list-style-type: none"> <li>• SIP open business-to-business (B2B) calling, enabling calls to and from external SIP endpoints that are not registered or are not members of a federated enterprise or division</li> <li>• HTTP tunnel reverse proxy that provides firewall traversal for Polycom® integration with RealPresence Platform Director® CloudAXIS™ suite clients making SIP guest calls to video conferences</li> <li>• Increased flexibility of access proxy services to support multiple reverse proxy configurations</li> <li>• License key to enable strong encryption of the tunnel between the tunnel server and tunnel client in a two-box tunnel deployment.</li> <li>• Support for the LDAP v3 extension StartTLS</li> <li>• Support for Polycom® CMA® Desktop Systems</li> </ul>

<i>Release</i>	<i>System</i>	<i>Release Date</i>	<i>Features</i>
3.0.0	CentOS 5.7 Postgres 9.1 Java 7u21	August 2013	<ul style="list-style-type: none"> <li>• Support for split interfaces for SIP and H.323 signaling traffic</li> <li>• Tunnel deployment of two RealPresence Access Director Systems</li> <li>• Support of H.460 endpoints</li> <li>• Support of default destination alias for H.323 guest users</li> <li>• Access control lists</li> <li>• Call history and registration history</li> <li>• Port ranges</li> <li>• TCP reverse proxy for Polycom® RealPresence® CloudAXIS™ Suite clients</li> <li>• Interoperability with Cisco VCS Expressway™</li> <li>• Enhanced security features</li> </ul>
2.1.1	CentOS 5.7 Postgres 9.1 Java 6u30	June 2013	<ul style="list-style-type: none"> <li>• Resolved some known issues</li> </ul>
2.1.0	CentOS 5.7 Postgres 9.1 Java 6u30	March 2013	<ul style="list-style-type: none"> <li>• Support for SNMP v2c and v3 for monitoring system status</li> <li>• Static route configuration</li> <li>• H.323 guest policy to limit destinations for inbound H.323 calls from the Internet</li> <li>• Support of both SVC and AVC endpoints for calls between federated enterprises</li> </ul>
2.0.4	CentOS 5.7 Postgres 9.1 Java 6u30	January 2013	<ul style="list-style-type: none"> <li>• Support for additional Polycom® RealPresence® products, including Content Sharing Suite, Collaboration Server 800s, Virtual Edition, and Group Series 300/500</li> <li>• User interface updates</li> <li>• SIP and H.323 call disposition descriptions</li> </ul>
2.0.3	CentOS 5.7 Postgres 9.1 Java 6u30	December 2012	<ul style="list-style-type: none"> <li>• SIP Back-to-Back User Agent (B2BUA)</li> <li>• H.323 signaling proxy for guest users and enterprise-to-enterprise federated calling</li> <li>• Media relay, including RTP and SRTP passthrough and SVC support for SIP remote users</li> <li>• Access proxy for management, presence, and directory traffic</li> <li>• DMZ deployment</li> <li>• Support for managed endpoints (Polycom HDX systems, RealPresence Mobile, RealPresence Desktop)</li> </ul>

## Products Tested with this Release

RealPresence Access Director systems are tested extensively with a wide range of products. The list in this section is not a complete inventory of compatible systems. Rather, the list includes the products that have been tested for compatibility with this release.

Polycom supports mixed Hyper-V/VMware environments, but has not tested all configurations and combinations.



**Note:** Polycom recommends that you upgrade all of your Polycom systems with the latest software versions. Any compatibility issues may already have been addressed by software updates. Go to [http://support.polycom.com/PolycomService/support/us/support/service\\_policies.html](http://support.polycom.com/PolycomService/support/us/support/service_policies.html) to see the Current Polycom Interoperability Matrix.

### Products Tested with this Release

<i>Product</i>	<i>Tested Versions</i>
<b>NAT, Firewall, Session Border Controllers</b>	
Polycom RealPresence Access Director	4.2.5.2
<b>Management Systems</b>	
Polycom RealPresence Resource Manager	10.1
Microsoft Active Directory	Microsoft Windows Server 2012 R2
<b>Web Browser-Based Solutions</b>	
Polycom RealPresence Web Suite	2.1.2 GA
<b>Gatekeepers, Gateways, and MCUs</b>	
Polycom RealPresence Distributed Media Application (DMA) 7000	6.4.x, 9.0.x
Polycom RealPresence Collaboration Server	8.7.4
Polycom RMX 1500/2000/4000 (MPMx)	8.5.x
<b>Endpoints</b>	
Polycom RealPresence Group Series 500/700; 310; 550	6.0.0-280932
Polycom HDX 7000	3.1.11-53024
Polycom RealPresence Desktop	3.8
Polycom RealPresence Mobile	3.7.1

<i>Product</i>	<i>Tested Versions</i>
<b>RealPresence Platform Virtual Edition Infrastructure</b>	
Polycom RealPresence Platform Director	3.0
<b>Hypervisor Environments for Virtual Editions</b>	
VMware vSphere Platform	5.5, 6.0, 6.5
Microsoft Hyper-V	Microsoft Windows Server 2016, Datacenter edition

## Interoperability Issues

The following table lists potential interoperability issues when using the RealPresence Access Director system, version 4.2.5.2.

### Interoperability Constraints

<i>Product</i>	<i>Description</i>
Cisco VCS Expressway	A Cisco VCS Expressway call from an endpoint in an enterprise using Cisco VCS Control plus VCS Expressway to an endpoint in an enterprise using the RealPresence Access Director system and a RealPresence DMA system fails if SIP authentication is enabled in the RealPresence DMA system. Cisco VCS Expressway currently does not support SIP enterprise-to-enterprise calls.
Sony H.460-enabled endpoint	Video latency occurs in H.323 calls from an external Sony H.460-enabled endpoint to an internal Polycom RealPresence Group Series endpoint.
LifeSize H.460-enabled endpoint	Video latency occurs in H.323 calls from an external LifeSize H.460-enabled endpoint to an internal Polycom RealPresence Group Series endpoint.
Cisco PIX 515E firewall, version 7.1(2)	Rapid network outages may cause the Address Resolution Protocol (ARP) table in the firewall to have an incorrect MAC address for a RealPresence Access Director system configured for High Availability. This situation causes signaling for registrations and calls to that system to fail.  Cisco no longer supports this firewall model.

## System Capabilities and Constraints

The RealPresence Access Director system is available as an Appliance Edition or Virtual Edition.

The system software for the RealPresence Access Director, Appliance Edition, can be installed on the following Polycom servers:

- Polycom Rack Server 220 (R220)
- Polycom Rack Server 230 (R230)

- Polycom Rack Server 620 (R620)
- Polycom Rack Server 630 (R630)

## Appliance Edition

When installed on a Polycom R630, R620, R230, or R220 server, the RealPresence Access Director system supports the maximum capabilities listed in the following table.

### RealPresence Access Director Maximum Server Capabilities

Capability	R220	R230	R620	R630
Registrations	2000	2000	5000	5000
Concurrent calls	200	200	1000*	1000*
HTTPS tunnel calls (Polycom® RealPresence® Web Suite SIP guest calls only)	50	50	50	50
Throughput (Mbps)	700	700	700	700

\* Maximum concurrent call numbers will depend on the overall deployment model, network quality, codecs used, total throughput of all calls, and available bandwidth.

## Virtual Edition

The RealPresence Access Director, Virtual Edition, is available for Virtual Machine (VM)-based deployment in VMware environments and Microsoft Hyper-V environments.

Polycom supports mixed Hyper-V/VMware environments, but has not tested all configurations and combinations.

## Host Installation Guidelines

The following table lists the minimum VM host requirements for each instance of the RealPresence Access Director, Virtual Edition. The table also shows the number of concurrent calls supported for each system size.

### RealPresence Access Director Minimum VM Host Requirements

Component	Small System	Large System
Speed*	14 GHz (for example, 3.5 GHz x 2 cores x 2 for hyperthreading = 14 GHz)	56 GHz (for example, 2.4 GHz x 12 cores x 2 for hyperthreading = 56 GHz)
Memory	8 GB	12 GB
Storage	146 GB	146 GB



<i>Component</i>	<i>Small System</i>	<i>Large System</i>
Number of concurrent calls**	200	1000

\* CPU Affinity & HT Sharing should be set to “None.”

\*\* Maximum concurrent call numbers depend on the overall deployment model, network quality, codecs used, total throughput of all calls, and available bandwidth.

Because of differences in hardware and VM environments, the performance information is provided for guidance purposes and does not represent a guarantee of any kind by Polycom.

## Hardware Requirements

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

To access the management interface, you need a client system running Microsoft® Windows® with the following hardware:

- 1280x1024 (SXGA) minimum display resolution; 1680x1050 (WSXGA+) or greater recommended
- USB and Ethernet ports
- DVD-RW drive or an external DVD burner (Appliance Edition only)

## Software Requirements

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

The client system you use to access the management interface requires the following software:

- A supported web browser:
  - Microsoft Internet Explorer®, version 10 or later
  - Microsoft Edge, current version
  - Google Chrome™, current version (with Adobe Flash plugin, not built-in Flash support)
  - Mozilla® Firefox®, current version
- Java™, version 7
- Adobe® Flash® Player, version 11 or later

## Installation and Upgrade Notes

If you have purchased a new RealPresence Access Director system as a single product or as a component of the RealPresence Clariti solution, see the *Polycom RealPresence Access Director System Getting Started Guide* for instructions on how to install your product.

## ***Ethernet Interface to Network Adapter Mapping in Virtual Edition Installations***

When you deploy any version of a RealPresence Access Director Virtual Edition using an OVA template in a virtual environment, the ethernet interface (in CentOS) to network adapter mapping (in the hypervisor) can sometimes occur in a different order. For example, eth0 will be mapped to network adapter 2, eth1 will be mapped to network adapter 1. This is due to how hypervisors interact with CentOS running inside the RealPresence Access Director system.

The ethernet interface names in CentOS (eth0, eth1, eth2, eth3) are assigned to network adapters in the hypervisor in the alphanumeric order of the MAC addresses of the ethernet interfaces.

### **Assign Networks to Network Adapters**

After deploying the RealPresence Access Director OVA, complete the following steps before you start the virtual machine (VM).

- 1 Go to the VM's Network Settings in the hypervisor.
- 2 Assign your internal management network to all network adapters (1 through 4).
- 3 Note the MAC addresses assigned to all network adapters.
- 4 Start the RealPresence Access Director VM.
- 5 Log in to the RealPresence Access Director user interface and go to **Admin > Network Settings > Advanced network settings**.  
A list displays of all ethernet interfaces and their associated MAC addresses.
- 6 Compare the two lists (from the Network Settings of the hypervisor and the Advanced network settings of the RealPresence Access Director) to determine the mapping of network adapters to ethernet interfaces.
- 7 Go to the VM's Network Settings in the hypervisor.
- 8 Based on the mapping of network adapters to ethernet interfaces you identified, assign the appropriate network to the network adapter 1 through 4.

### ***Supported Upgrade Paths***

For complete instructions on how to upgrade your system, see the *RealPresence Access Director System Administrator Guide*.



Caution: If you have version 2.x or 3.x of the RealPresence Access Director system running on a Dell R620 server (shipped between July 2013 and June 2014), the system cannot be upgraded. You must complete a new installation of version 4.0 of the system. After the installation, you can use the supported upgrade paths to upgrade to version 4.2.5.2.

The upgrade package for this software version allows any version 4.1 or 4.2.x RealPresence Access Director system to be upgraded to version 4.2.5.2. You can download the upgrade package and product documentation from the [RealPresence Access Director support portal](#).

If your system is not currently running version 4.1 or 4.2.x, you need to install intermediate upgrades before upgrading to version 4.2.5.2. Polycom supports the upgrade paths listed in the following table and recommends that you read all relevant Release Notes before upgrading to an intermediate version.

### Upgrade Paths

<i>Current Version</i>	<i>Intermediate Upgrade</i>	<i>Final Version</i>
Prior to version 2.1.x	2.1.x	3.0
3.0		3.1.x
3.1.x	4.0 This version of the RealPresence Access Director System, Virtual Edition, cannot be upgraded from version 3.1.x and instead requires a new installation and data migration.	4.0.1
4.0.x		4.1
4.1		4.2.5.2
4.2.x		4.2.5.2

Consider the following information if you upgrade from a system running version 4.2.0:

- When you start the upgrade, you will not be logged out of the web user interface immediately. It takes time for the upgrade process to unpack the upgrade file.
- Your browser will lose connectivity to the server during the upgrade and may display an "Unexpected Exception Happened" error or the upgrade status page may lose connectivity to the server. If this happens, let the upgrade proceed.

Upgrading from version 4.1 or 4.2.x to version 4.2.5.2 can take approximately 45 minutes and require multiple reboots. After you start the upgrade, allow the process to finish. *Do not start an additional upgrade.*

### To upgrade to version 4.2.5.2 of the RealPresence Access Director system:

- 1 Go to **Maintenance > Backup and Restore** and create a new backup of your current system.
- 2 Download the backup file to your local computer.
- 3 From the [Polycom Support](#) site, download the appropriate version 4.2.5.2 upgrade file and save it on your local computer:
  - a \*.bin file if upgrading from version 4.1
  - b \*.upg file if upgrading from 4.2.x

- 4 Follow the instructions in the *Polycom RealPresence Access Director System Administrator Guide* or the online help to upgrade the system to version 4.2.5.2.

Your browser will lose connectivity to the server during the upgrade and may display an "Unexpected Exception Happened" error or the upgrade status page may lose connectivity to the server. If this happens, let the upgrade proceed.

- 5 After the upgrade is complete, clear the cache of your browser to ensure that the RealPresence Access Director web user interface displays all updated components.
- 6 From your browser, log into the system's web user interface with your administrator credentials.
- 7 Go to **Maintenance > Software Upgrade**.
- 8 Review the **System Version** field and **Operation History** table to confirm the upgrade was successful.
- 9 Go to **Admin > Network Settings** and modify your network settings as needed for your environment. *The upgrade may not maintain all network settings.*



Note: If you configured a call policy in the Basic ACL Settings in your previous version of the system, after you upgrade to version 4.2.5.2, you need to delete your previous settings, disable the call policy, re-enable it, and re-configure your previous settings, such as VMR ranges.

## Upgrades and Network Interface Mapping in VMware Environments and High Availability Configurations

If you upgrade a VMware instance from version 4.2.x to 4.2.5.2, eth0 will incorrectly map to network interface 4. However, if you upgrade a VMware instance from version 4.1 to 4.2.5.2 or install the version 4.2.5.2 VMware OVA file for the first time, eth0 maps correctly to network interface 1.

If you installed the RealPresence Access Director, Virtual Edition, from the version 4.2.0 OVA file, your Ethernet interface and network adapter mapping may not be sequential due to a known issue in VMware and CentOS. For High Availability configurations in a VMware environment, you need to ensure that both virtual machines have identical sequential Ethernet interface-to-network adapter mapping. If not, you can fix the problem by installing the RealPresence Access Director system, version 4.2.1 or higher, from an OVA file.

## Resolved Issues

The following table lists the issues resolved in the RealPresence Access Director system, version 4.2.5.2.

### Resolved Issues

<i>Category</i>	<i>Issue Number</i>	<i>Found in Release</i>	<i>Description</i>
Documentation	EN-64583	4.2.5.1	The Host Installation Guidelines section in the <i>Polycom RealPresence Access Director System Release Notes, version 4.2.5.1</i> contains an incorrect value for the total CPU speed required.
High Availability	EN-62821	4.2.5	When the RealPresence Access Director system is configured for HA, it does not automatically acquire its virtual IP resources from the peer when the network connection on eth0 is restored.
Logs	EN-64151	4.2.4	Log files with names that include "overflow-.log" and "badrecords-.log" do not roll over and fill the entire /opt partition.
SIP	EN-93735	4.2.5.1	When there are multiple SIP proxies, the RealPresence Access Director system uses an incorrect SIP proxy address in the SIP route header on an outbound SIP call, which causes the call to fail
System Performance	EN-57825	4.2.5	A stack array on the RealPresence Access Director system becomes full, which causes the RealPresence DMA system to drop calls.
System Performance	EN-61963	4.2.5.1	The RealPresence Access Director system has a large number of files in the heap dump and the Java garbage collector runs successively, which causes the Java Virtual Machine to run out of memory and possibly cause performance issues.

## Known Issues

The following table lists all known issues in all releases of the RealPresence Access Director system.

### Known Issues

<i>Category</i>	<i>Issue No.</i>	<i>Found in Release</i>	<i>Description</i>	<i>Workaround</i>
Licenses	EN-78645	4.2.5.1	The RealPresence Access Director system cannot be licensed unless an ICMP port is open between the RealPresence Access Director system and the RealPresence Resource Manager system.	Open an ICMP port in the firewall between the RealPresence Access Director system and the RealPresence Resource Manager system.
Static Routes	EN-95003	4.2.5.1	The system does not retain static routes after changes are made to the default gateway.	Add static routes <i>after</i> revising gateway settings.
Upgrades	EN-76864		If the RealPresence Access Director system version 2.x or 3.x runs on a Dell R620 (shipped between July 2013 and June 2014), the system cannot be upgraded. Users must complete a new installation of version 4.0 of the system.	
Time Zone	EN-42562	4.2.4.1	After upgrading the RealPresence Access Director system, the time zone reverts to UTC.	After upgrading from version 4.1 or 4.2.3 directly to 4.2.5.1, log in to the user interface and do the following: <ul style="list-style-type: none"> <li>• Go to <b>Admin &gt; Time Settings</b>.</li> <li>• Change the <b>System time zone</b> from UTC to your local time zone (or the time zone you prefer).</li> </ul>
1Installation	EN-33953	4.2.4	Deploying the RealPresence Access Director system with a static IP address by using the RealPresence Resource Manager system fails.	
Certificates	EN-33928	4.2.0	An error results when uploading some certificate files due to unsupported characters in the file name.	

<i>Category</i>	<i>Issue No.</i>	<i>Found in Release</i>	<i>Description</i>	<i>Workaround</i>
High Availability	EN-33904	4.2.0	High Availability settings cannot be configured if two or more network interfaces for the RealPresence Access Director system are not configured consecutively.	Configure network settings on consecutive network interface cards before enabling High Availability. For example, configure network settings for eth0 and eth1 instead of eth0 and eth3, then configure HA settings.
High Availability	EN-33957	4.2.0	In some situations, after a failover occurs in a High Availability configuration, the RealPresence Access Director system that owns the resources of both systems does not automatically release the resources of the peer system when it requests them.	<p>If resources are not released back to a peer system within a few minutes after it requests them, complete these steps:</p> <ul style="list-style-type: none"> <li>• From the web user interface of the system that owns the resources, go to <b>Diagnostics &gt; High Availability Status</b>.</li> <li>• Click <b>Release Peer Resources</b> to force the release of the peer system's resources.</li> </ul>

## Get Help

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

### ***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.

### ***Polycom Solution Support***

Polycom Implementation and Maintenance services provide support for Polycom solution components only. Additional services for supported third-party Unified Communications (UC) environments integrated with Polycom solutions are available from Polycom Global Services and its certified Partners. These additional services will help customers successfully design, deploy, optimize, and manage Polycom visual communications within their UC environments.

Professional Services for Microsoft Integration is mandatory for Polycom Conferencing for Microsoft Outlook and Microsoft Office Communications Server or Lync 2010 Server integrations. For additional information, please see [http://www.polycom.com/services/professional\\_services/index.html](http://www.polycom.com/services/professional_services/index.html) or contact your local Polycom representative.



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