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Polycom® RealPresence® Access Director™ System

Polycom announces the release of the Polycom RealPresence Access Director system, version 4.0. This document provides the latest information about this release.

Contents

- New Features in Version 4.0 on page 1
- Software Version History on page 4
- Overview of the Polycom RealPresence Access Director System on page 6
- Documentation on page 7
- Installation and Upgrades on page 8
- Products Tested with this Release on page 10
- Resolved Issues on page 11
- Known Issues on page 12
- Where to Get the Latest Information on page 13

New Features in Version 4.0

The RealPresence Access Director system, version 4.0 offers new functionality and support, as described in the sections that follow:

- Deploying RealPresence Access Director, Virtual Edition with RealPresence Platform Director on page 2
- Content Streaming for HTTP Tunnel Proxy Users on page 2
- Single Interface and Port for HTTPS Proxy and HTTP Tunnel Proxy on page 2
- Firewall Port Mapping Not Required for Two-system Tunnel Deployment on page 2
- REST API on page 2
- HTTP Tunnel Proxy Auto-Discovery on page 3
- Support for all H.323 Incoming and Outgoing Location Requests on page 3
- Other System Enhancements on page 3

Deploying RealPresence Access Director, Virtual Edition with RealPresence Platform Director

Polycom RealPresence Platform products such as the RealPresence Access Director system now require the RealPresence Platform Director™ solution to deploy the software and manage licensing. The RealPresence Platform Director system provides the flexibility to deploy, license, and monitor the RealPresence Platform, Virtual Edition products using general purpose hardware in an organization's data center or in the cloud.

The RealPresence Platform Director system is available at no charge on Polycom's support website (http://support.polycom.com).

The RealPresence Platform Director solution requires VMware® vCenter Server™.

Content Streaming for HTTP Tunnel Proxy Users

This version of the RealPresence Access Director system enables RealPresence CloudAXIS Suite external and internal enterprise users to share content in calls connected through the HTTP tunnel proxy. Content streaming is supported through use of the Binary Floor Control Protocol (BFCP) over the TCP connection used in HTTP tunnel proxy calls.

Once a RealPresence CloudAXIS Suite SIP guest connects to a meeting via the HTTP tunnel proxy, the RealPresence Access Director system tunnels all TCP traffic – SIP signaling, media, and BFCP content.

Single Interface and Port for HTTPS Proxy and HTTP Tunnel Proxy

The RealPresence Access Director system version 4.0 supports use of the same interface and port (443) for both HTTPS proxy traffic and HTTP tunnel proxy traffic. This enables you to configure only one open port for both functions on your external firewall.

Firewall Port Mapping Not Required for Two-system Tunnel Deployment

Two RealPresence Access Director systems can be deployed in a tunnel configuration. In version 4.0 of the RealPresence Access Director system, port mapping on the firewall between the tunnel server and the tunnel client is not required. Instead, when you enable the tunnel feature on the tunnel server, the tunnel port is open and listening for communication from the tunnel client. When you enable the tunnel feature on the tunnel client, the client then registers to the tunnel server through the listening tunnel port.

REST API

The RealPresence Access Director, Virtual Edition provides an Application Programming Interface (API). The RealPresence Platform Director system uses the API to:

- Configure the license server
- Monitor license status
- Configure system time

The API uses XML encoding over HTTPS transport and adheres to a Representational State Transfer (REST) architecture.

HTTP Tunnel Proxy Auto-Discovery

The HTTP tunnel proxy auto-discovery feature ensures that a RealPresence CloudAXIS Suite SIP guest call is routed through the HTTP tunnel proxy when necessary. When a RealPresence CloudAXIS Suite SIP guest user attempts to join a meeting, auto-discovery determines if standard SIP and media ports are available for the call. If not, the RealPresence CloudAXIS Suite SIP guest user attempts to join the meeting through the HTTP tunnel proxy.

Support for all H.323 Incoming and Outgoing Location Requests

In this version, you can configure the RealPresence Access Director system to forward any incoming gatekeeper neighboring Location ReQuest (LRQ) to your enterprise's gatekeeper (DMA system) without validating whether the source IP address belongs to a neighbored division or enterprise. Additionally, the RealPresence Access Director system can forward any outgoing gatekeeper neighboring LRQ from your enterprise's gatekeeper (DMA system) without validating whether the destination address belongs to a neighbored division or enterprise.

Federations with Trusted Enterprises

Version 4.0 offers the ability to create up to 100 federated connections with external divisions or enterprises. Additionally, a dial prefix can now be configured for each federation, enabling simplified dialing from your enterprise users to users within federated enterprises.

Other System Enhancements

Version 4.0 of the RealPresence Access Director system provides the following enhancements:

- The RealPresence Access Director operating system has been upgraded from CentOS 5.7 to CentOS 6.4 2.6.32-358.23.2.el6.
- The system no longer redirects access proxy traffic on ports 389 and 443 to ports 65100 and 65101. Ports 65100 and 65101 are closed.

Software Version History

The following table lists system software and API versions for each release of the RealPresence Access Director system.

Software Version History

Version	API Version	System	Release Date	Features
4.0.0	2.4.0	CentOS 6.4 Postgres 9.2 Java 7u21	June 2014	• Upgrade operating system to CentOS 6.4 • Deploy and manage licenses using Polycom RealPresence Platform Director (Virtual Edition only) • Single interface and port for access proxy services and HTTP tunnel proxy • Firewall port mapping not required for two-system tunnel deployment • Support for BFCP/TCP content sharing through HTTP tunnel proxy • HTTP tunnel proxy auto-discovery • REST API (Virtual Edition) to support integration with the RealPresence Platform Director • License key to enable encryption of the tunnel in a two-system deployment • Other system enhancements
3.1.1	NA	CentOS 5.7 Postgres 9.1 Java 7u21	April 2014	• Support for Tandberg endpoints
3.1.0	NA	CentOS 5.7 Postgres 9.1 Java 7u21	January 2014	• 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. • 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 • Increased flexibility of Access proxy services to support multiple reverse proxy configurations • License key to enable strong encryption of the tunnel between the tunnel server and tunnel client in a two-box tunnel deployment. • Support for the LDAP v3 extension StartTLS • Support for Polycom® CMA® Desktop Systems

Software Version History

Version	API Version	System	Release Date	Features
3.0.0	NA	CentOS 5.7 Postgres 9.1 Java 7u21	August 2013	• Support for split interfaces for SIP and H.323 signaling traffic • Tunnel deployment of two RealPresence Access Director Systems • Support of H.460 endpoints • Support of default destination alias for H.323 guest users • Access control lists • Call history and registration history • Port ranges • TCP reverse proxy for Polycom® RealPresence® CloudAXIS™ Suite clients • Interoperability with Cisco VCS Expressway™ • Enhanced security features
2.1.1	NA	CentOS 5.7 Postgres 9.1 Java 6u30	June 2013	• Resolved some known issues
2.1.0	NA	CentOS 5.7 Postgres 9.1 Java 6u30	March 2013	• Support for SNMP v2c and v3 for monitoring system status • Static route configration • H.323 guest policy to limit destinations for inbound H.323 calls from the Internet • Support of both SVC and AVC endpoints for calls between federated enterprises
2.0.4	NA	CentOS 5.7 Postgres 9.1 Java 6u30	January 2013	• Support for additional Polycom® RealPresence® products, including Content Sharing Suite, Collaboration Server 800s, Virtual Edition, and Group Series 300/500 • User interface updates • SIP and H.323 call disposition descriptions
2.0.3	NA	CentOS 5.7 Postgres 9.1 Java 6u30	December 2012	• SIP Back-to-Back User Agent (B2BUA) • H.323 signaling proxy for guest users and enterprise-to-enterprise federated calling • Media relay, including RTP and SRTP passthrough and SVC support for SIP remote users • Access proxy for management, presence, and directory traffic • DMZ deployment • Support for managed endpoints (Polycom HDX systems, RealPresence Mobile, RealPresence Desktop

Overview of the Polycom RealPresence Access Director System

The RealPresence Access Director system securely routes communication, management, and content traffic through firewalls without requiring special dialing methods or additional client hardware or software. Specifically, the RealPresence Access Director system supports SIP and H.323 calls from registered users, guests, and federated enterprises or divisions from both AVC and SVC endpoints. The system provides secure communication between remote users and offices, and among guest users and organizations outside of the client's enterprise network.

The RealPresence Access Director system provides the key features described below.

SIP and H.323 Signaling

The RealPresence Access Director system provides connectivity for SIP (both SVC and AVC) or H.323 users, enabling them to securely collaborate over video from different locations and devices. Specifically, the RealPresence Access Director system enables:

- SIP and H.323 remote users (registered/provisioned endpoints) to securely connect to your enterprise network as managed users, with the same functionality they would have if they were inside your enterprise network firewall
- SIP and H.323 guest users (unregistered/unprovisioned endpoints, such as customers, partners, and vendors) to securely connect to your enterprise network
- SIP and H.323 B2B calling through trusted (federated or neighbored) connections to other enterprises' networks
- Open SIP and H.323 calling to and from users outside your network
- SIP CloudAXIS suite guest users with browser-based clients to connect to CloudAXIS suite services within your enterprise network
  (The HTTP tunnel proxy does not support SVC video conferencing.)

Media Relay

The RealPresence Access Director system supports the media connection between external users and enterprise users. This connection enables audio, video, and content relay over UDP media channels.

Access Proxy

The access proxy feature provides reverse proxy functionality that enables external endpoints to access services inside your enterprise network. Registered (remote) users can access the following services:

- Management and provisioning (HTTPS/TLS)
- Presence (XMPP/TLS)
- Directory (LDAP/TLS)

Additionally, an HTTP tunnel can be configured to enable RealPresence CloudAXIS suite SIP guest users to join meetings inside the enterprise network (through the RealPresence CloudAXIS suite Services Portal)

Note: Use of Passthrough reverse proxy

Although not recommended, the RealPresence Access Director system also supports use of a Passthrough reverse proxy to servers not supported by other access proxy protocols.

Security

- Deployable behind outside firewalls that use Network Address Translation (NAT)
- Secured communications (TLS and certificates)
- Secure management (Syslog, LDAP authentication, and role-based access control)
- Server-side authentication
- Server-side session management
- Robust SIP TLS cipher
- OS hardening

Operating System

- CentOS 6.4 (2.6.32-358.23.2.el6)

Performance

- 1,000 simultaneous calls
- 600-700 MB throughput
- 5,000 concurrent registrations
- 20 call attempts per second for SIP and H.323 calls

Endpoints (AVC and SVC)

- HDX systems
- RealPresence Group Series 300/500
- RealPresence Mobile
- RealPresence Desktop
- Cisco C20 and C40 Codecs, EX60 and EX90 Desktop Systems, and 1700 MXP Desktop System (AVC only)

Documentation

For installation and deployment information, refer to the following documents:

- *Polycom RealPresence Access Director System, Appliance Edition Getting Started Guide*
- *Polycom RealPresence Access Director System, Virtual Edition Getting Started Guide*
- *Polycom RealPresence Access Director System Administrator's Guide*
- *Polycom Unified Communications in RealPresence Access Director System Environments Solution Deployment Guide*

Installation and Upgrades

Installation of new RealPresence Access Director systems is managed through Polycom Global Services. For more information, please contact your Polycom representative.

Note: Confirm you have the latest software installed
Visit the Polycom Global Services (http://support.polycom.com) to verify that you have the latest software release and release information for the product.

Upgrade to Version 4.0 of the RealPresence Access Director, Appliance Edition

RealPresence Access Director systems running version 3.1.x of the software can be upgraded to version 4.0. If your system is not currently running version 3.1.x, you must perform interim upgrades before upgrading to version 4.0.

The following table describes the interim upgrade scenarios:

System Upgrade Paths

Version	Upgrade to
2.0.3 or 2.0.4	2.1.0
2.1.0	2.1.1
2.1.x	3.0.0
3.0.0	3.1.x
3.1.x	4.0.0

Complete these tasks to upgrade to version 4.0 of the RealPresence Access Director, Appliance Edition:

1. Create a backup of your current system and download it to your local computer.
   - Polycom recommends that you create a system backup before upgrading to a new version.
2. Upload the version 4.0 upgrade file (*.bin file) from the Polycom support site (http://support.polycom.com).
3. Install the upgrade file.
4. Request a license activation key code.
   - Version 4.0 requires a new license activation key.
5. Activate your license.

See the *Polycom RealPresence Access Director System Administrator's Guide* or the online help in the system's Web user interface for upgrading and licensing procedures.

Caution: Cannot roll back to a previous version
After you upgrade to version 4.0, you cannot roll back your system to version 3.1.x.

Upgrade to Version 4.0 of the RealPresence Access Director, Virtual Edition

The RealPresence Access Director, Virtual Edition now requires the RealPresence Platform Director solution for deploying, monitoring, and licensing instances of the system. Before upgrading your RealPresence Access Director, Virtual Edition system, install the RealPresence Platform Director solution and verify that your product is licensed. For complete instructions, see the *Polycom RealPresence Platform Director System Administrator's Guide*.

Caution: Virtual machine disk must be at least 64 GB

Before you install version 4.0 of the RealPresence Access Director, Virtual Edition, ensure that the disk size on the virtual machine is at least 64 GB. See *Polycom RealPresence Access Director System, Virtual Edition Getting Started Guide* for additional capacity planning information.

The operating system for the RealPresence Access Director system, version 4.0 has changed to CentOS v6.4. Due to this change, instead of upgrading, you must complete a new installation of version 4.0 from the RealPresence Platform Director system. To preserve data from your current version, you must create a backup of your system and, after installing version 4.0, migrate your backed-up configuration data to version 4.0. Note that before you create a system backup, you must upgrade to version 3.1.x of the RealPresence Access Director, Virtual Edition.

The following table describes the installation and data migration steps for the RealPresence Access Director system, Virtual Edition version 4.0.

Installation and Data Migration

Starting Version	Steps	Use the Following Documentation
3.1.x	**1** Create a backup of version 3.1.x and download it to a local computer. **2** From the RealPresence Platform Director, install an instance of the RealPresence Access Director, Virtual Edition version 4.0. ➢ If you already use the RealPresence Platform Director solution to manage a RealPresence Access Director, Virtual Edition instance, delete the previous instance before adding the new v4.0 instance. **3** Verify that version 4.0 of the RealPresence Access Director, Virtual Edition is available and operating correctly. **4** From the RealPresence Access Director, Virtual Edition version 4.0 user interface, migrate the application and configuration data from the version 3.1.x backup file.	• *Polycom RealPresence Access Director System Administrator's Guide* • *Polycom RealPresence Platform Director System Administrator's Guide*

Caution: Cannot roll back to a previous version

After you install version 4.0, you cannot roll back your system to version 3.1.x.

Products Tested with this Release

Polycom RealPresence Access Director systems are tested extensively with a wide range of products. The following table lists the products that have been tested for compatibility with this release. The table does not include a complete inventory of compatible systems.

Note: Upgrade all Polycom systems with the latest software

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 to find the Polycom Current Interoperability Matrixes.

Products Tested with Version 4.0

Product	Version
NAT, Firewall, Session Border Controllers	
Polycom RealPresence Access Director	4.0
Polycom Video Border Proxy (VBP) 5300E	11.2.16
Acme Packet® Net-Net ESD 3820	6.3
Management Systems and Recorders	
Polycom RealPresence Resource Manager	8.1 8.2
Polycom RealPresence Content Sharing Suite	1.3.0
Microsoft Active Directory	
Gatekeepers, Gateways, and MCUs	
Polycom RealPresence Collaboration Server (RMX) 1500, 2000, and 4000	8.3 8.4
Polycom RealPresence Distributed Media Application (DMA) 7000	6.0.x 6.1
Endpoints	
Polycom HDX 7000, 8000, and 9000 series	3.1.3
Polycom RealPresence Mobile	3.0 3.1
Polycom RealPresence Desktop	3.1 3.2
Polycom RealPresence Group Series 300/500	4.1.3
Cisco C20 Codec	TC7.1.1
Cisco C40 Codec	TC7.1.1

Products Tested with Version 4.0

Product	Version
Cisco EX60 Desktop System	TC7.1.1
Cisco EX90 Desktop System	TC7.1.1
Cisco 1700 MXP Desktop System	F9.3.1
Polycom Solutions	
Polycom RealPresence CloudAXIS Suite	1.6.0
Polycom RealPresence Platform Director VMware vCenter Server (required by RealPresence Platform Director)	1.7

Resolved Issues

The following table lists the resolved issues in the version 4.0 release of the RealPresence Access Director system.

Issue ID	Description
EDGE-915	When Online Certificate Status Protocol (OCSP) is enabled in the RealPresence Access Director system, OCSP does not check the server certificate unless mutual TLS for SIP signaling is configured between an endpoint and the RealPresence Access Director system.
EDGE-931	When creating a certificate signing request, up to 20 Subject Alternative Names (SANs) can be specified. If a SAN entry is entered and then deleted, leaving a blank line in the SAN list, the list of SANs does not update after clicking OK.
EDGE-937	In Admin > SNMP Settings, the Local engine ID field is blank.
EDGE-1060	During a call from a Cisco EX90 Desktop System to a RealPresence Desktop client, the port assigned for external content does not display on the Diagnostics > Active Call page in the RealPresence Access Director system.

Known Issues

The following table lists the known issues of the RealPresence Access Director system, version 4.0, and of other products that affect use of the RealPresence Access Director system.

Category	Issue ID	Description	Workaround
Polycom® RealPresence® Group Series 300/500 endpoints **Note:** This is a Group Series issue and not a RealPresence Access Director system issue.	EDGE-489	When remotely upgrading a RealPresence Group Series 300/500 endpoint through the RealPresence Access Director system, the upgrade fails. The RealPresence Group Series 300/500 endpoints use the HTTP protocol to upgrade. For secure border management, the RealPresence Access Director system supports the HTTPS protocol. When RealPresence Group Series 300/500 endpoints support HTTPS upgrades, this issue will be resolved.	
Cisco VCS Expressway **Note:** This is a Cisco VCS Expressway issue and not a RealPresence Access Director system issue.	EDGE-749	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 DMA system. Cisco VCS Expressway currently does not support SIP enterprise-to-enterprise calls.	
Open SIP TLS	EDGE-989	An open SIP TLS call fails from an endpoint in a network with a RealPresence Access Director system to an endpoint in a different network that also has a RealPresence Access Director system. The first RealPresence Access Director system reports an alert when there is no root CA for the second RealPresence Access Director system.	
User Interface	EDGE-1109	After an upgrade file has been uploaded, user must click Complete to close the status bar indicator. Without clicking Complete, the upload does not display in the Operation History table on the Software Upgrade page.	

Category	Issue ID	Description	Workaround
H.323 Calls **Note:** This is a Group Series issue and not a RealPresence Access Director system issue.	GS-18088	H.323 calls from an external Cisco C40 codec through the RealPresence Access Director system to an internal RealPresence Group Series 300/500 endpoint have high video latency, large video packet loss, and audio loss.	

Where to Get the Latest Information

To view the latest Polycom RealPresence Access Director system product documentation, visit the Support page of the Polycom website at http://support.polycom.com.

Trademark Information

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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.

End User License Agreement

Use of this software constitutes acceptance of the terms and conditions of the Polycom RealPresence Access Director system end-user license agreement (EULA).

The EULA for this product is available on the Polycom Support page for the RealPresence Access Director system.

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