



DEPLOYMENT GUIDE

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# **Polycom<sup>®</sup> Unified Communications Deployment Guide for Avaya Aura<sup>®</sup> and Avaya IP Office Environments**



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# Getting Started with Avaya

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## Audience, Purpose, and Required Skills

This deployment guide is intended for administrators integrating Avaya with Polycom products and for support personnel working with customers to set up the solutions described in this guide. Integrating Polycom infrastructure and endpoints with Avaya Aura environments requires planning and familiarity with Polycom video conferencing administration.

Polycom assumes readers of this guide have a basic understanding of Session Initiation Protocol (SIP) and Telepresence Interoperability Protocol (TIP), as well as Avaya and Polycom component base functions. Administrators should have previous knowledge of and experience with Polycom products as well as access to Avaya and Polycom product documentation and relevant software. Users should be comfortable navigating and configuring Avaya components and other infrastructure components.

## Getting Started with Avaya Aura®

Avaya Aura® is a suite of SIP-based central communications platform components that supports voice, video, messaging, and presence solutions for midsize to large enterprises. You can use Avaya Aura to simplify complex networks and enable members of an organization at any location to interconnect instantly in real time and on any type of infrastructure the endpoints reside on. This solution guide shows you how to integrate Polycom products in an Avaya Aura environment.

This section describes the Avaya Aura hardware components for use with this solution and their respective operating environments. To interoperate successfully, diverse communications products require a standard signaling protocol such as Session Initiation Protocol (SIP) or H.323. For example, Avaya Aura Session Manager is a SIP-only routing and integration tool, while Avaya Aura Communication Manager version 6 and higher can operate as a SIP/H.323 gateway.

## Frequently Asked Questions

Refer to the frequently asked questions (FAQs) to help answer questions you may have about the solution before you begin.

### **What network protocols are required?**

This solution requires that you use a SIP or H.323 protocol. A full list of hardware and software dependencies is provided in the Polycom Unified Communications in Avaya Aura Environments Release Notes.

### **What network configurations are available?**

This solution allows you to set up two network scenarios to interoperate Avaya and Polycom devices: a direct registration to Avaya or a neighbored/trunked scenario. All of the Polycom video and audio components used in this guide can register directly to the Avaya gatekeeper or SIP registrar. Alternatively, you can neighbor or trunk Avaya Aura to the Polycom® RealPresence® Distributed Media Application™ (DMA®), which you can use to manage the Polycom network. A full list of hardware and software dependencies is provided in the Polycom Unified Communications in Avaya Aura Environments Release Notes.

### **What Polycom hardware components have interoperability with this solution?**

This solution enables you to use the Polycom HDX family, the Polycom RealPresence Collaboration Server (RMX) family, soft clients, and mobility components. It has interoperability with the Immersive Telepresence Platforms and the Video Border Proxy E-series. Not all of the products in the Polycom portfolio interoperate directly with the Avaya call control platforms and may not be referenced in this document. A full list of hardware and software dependencies is provided in the Polycom Unified Communications in Avaya Aura Environments Release Notes.

### **What Avaya hardware components have interoperability with this solution?**

This solution requires different hardware compatible with different versions of Avaya. If you want to integrate Polycom products with Avaya Aura v6, you require a Communication Manager, a Session Manager, and a System Manager. You can use each of these as separate servers or you can incorporate them all into a single midsize enterprise server. Virtual editions of these platforms are not yet fully supported. A full list of hardware and software dependencies is provided in the Polycom Unified Communications in Avaya Aura Environments Release Notes.

## Getting Started with Avaya IP Office

The Avaya IP Office brings together calls, messaging, conferencing, and customer management into a single system. It's an expandable, unified communications solution, which enables sending email, voicemail, and text to the same inbox for small to midsize businesses. This solution guide shows you how to integrate Polycom products in an Avaya IP Office environment.

## Get Help

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

## ***Polycom and Partner Resources***

To find all Polycom partner solutions, see Strategic Global Partner Solutions on [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, simply 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.

# Configuring Polycom Systems with Avaya Aura Session Manager

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This reference section provides an overview of how to set up and configure Avaya Aura Session Manager to interoperate with Polycom products. For more detailed information about configuring Avaya Aura Session Manager, refer to the [Avaya Support site](#).

## Avaya Aura Session Manager Overview

The Avaya Aura Session Manager provides a core communication service that you can use to build on existing equipment and add a SIP-based architecture. An enterprise network can support up to six Session Manager instances. A Session Manager instance consists of one server that supports up to 50,000 SIP entities on a SIP enterprise network. Administrators can install Session Manager instances in the same data center or in multiple data centers, and in geographically redundant locations with virtually unlimited distance restrictions.

The Session Manager provides the following benefits:

- A simplified, network-wide feature deployment
- Centralized routing, SIP trunking, and user profiles
- Cost-effective scalability from small to very large deployments
- High availability with geographic redundancy
- A secure environment that conforms to specific SIP standards and practices

Avaya Aura Session Manager integrates all of your organization's SIP devices across an enterprise network, enabling you to manage individual locations, branches, and applications as a single enterprise. System Manager and Session Manager work together as follows: Session Manager is the software component for all enterprise SIP sessions. System Manager is the single, centralized management point of control.

Use Session Manager to connect to any of the following network components:

- Avaya Aura Communication Manager as a SIP-only Feature Server or as a SIP and non-SIP Evolution Server
- Avaya enterprise private branch exchange (PBX) and small-key PBX systems within branch offices
- Third-party PBX systems
- Gateways
- Session Border Controllers (SBCs)
- SIP-enabled adjuncts
- SIP and non-SIP phones

Session Manager supports the following audio and video endpoints:

- Polycom HDX series video endpoints
- Polycom® RealPresence® Group Series video endpoints

Session Manager supports the following SIP entities:

- Avaya Aura Session Manager
- Avaya Aura System Manager private branch exchanges
- Avaya Aura Communication Manager Feature Server
- Public Switched Telephone Network (PSTN) service providers
- SIP-enabled adjuncts that work with PBX systems to provide services
- Desksets

The following table describes SIP entities supported by the Avaya Session Manager:

### Supported SIP Entities

<i>SIP Entity</i>	<i>Description</i>
SIP Gateways	SIP gateways work with the non-SIP service provider network. These include non-Avaya SIP systems, SIP-enabled PBXs, and Avaya Aura Communication Manager. Such SIP gateways are supported both for trunking services or line-side services. SIP gateways include trunk gateways, such as the Avaya G860 Media Gateway.
SIP PSTN Service Providers	Service providers operate as SIP peer network elements with which Session Manager maintains a trunking relationship. Foreign domain PBX systems or SIP switching equipment operate in essentially the same way as the SIP service providers, as an SIP peer network element over an SIP trunk. Supported service providers include AT&T and Verizon.
SIP-Enabled Adjuncts	SIP-enabled adjuncts provide supplemental services to PBX systems, such as voicemail and conferencing capabilities. The supported Avaya products include Avaya Voice Portal 5.2 and 6.x, Avaya Modular Messaging 5.x, Avaya Aura Messaging 6.x, and Avaya Meeting Exchange 6.x and 5.x. The supported Polycom products include the RealPresence Collaboration Server (RMX) 1500, 2000, and 4000 series.
SIP Devices	SIP devices, particularly the Avaya 96XX handsets R2.6, can register to the Session Manager core. Session Manager can support up to 50,000 Avaya SIP devices. Session Manager provides SIP proxy, registrar, location services, and more to this initial set of devices.

## Verify System Capabilities and Licenses

Before you set up your Polycom system deployment, verify that the correct system capabilities and licenses have been configured on your Session Manager system. If there is insufficient capacity or a required feature is not available, contact an authorized Avaya sales representative to make the appropriate changes.

### To verify the Avaya Aura Session Manager system capabilities and licenses:

- 1 Verify that an adequate number of SIP trunk members are licensed for the system, by entering the `display system-parameters customer-options` command and looking at the **Maximum Administered SIP Trunks** information on page 2.
- 2 Verify that **ARS** is enabled on page 3 of the `display system-parameters customer options` information.

- 3 To enable Private Numbering, use the `change system-parameters customer-options` command to verify that **Private Networking** is enabled on page 5.
- 4 Enter the `change node-names ip` command to add the IP node name and IP address for the Session Manager's software asset on page 1, if not previously added.
- 5 Enter the `change ip-codec-set n` command, where *n* is the next available number. Enter the following values on page 1:
  - Enter **G.711MU** and **G.729** as supported types of Audio Codecs.
  - Retain the default value of *n* in the Silence Suppression field.
  - Enter **2** in the Frames Per Pkt field.
  - Enter **20** in the Packet Size (ms) field.
  - If your system uses media encryption, enter the required value in the Media Encryption field.
- 6 Enter the `change ip-network-region 1` command to set the Authoritative Domain. Verify that the Intra-region IP-IP Direct Audio and Inter-region IP-IP Direct Audio fields on page 1 are set to **yes**.
- 7 Enter the `add signaling-group n` command, where *n* is an available signaling group number for one of the SIP trunks to the Session Manager. Fill in the requested fields on page 1. For the remaining fields, you can use the default values.
  - Enter **sip** in the Group Type field.
  - Enter **tcp** in the Transport Method field.
  - Enter **y** in the IMS Enabled? field.
  - Enter **y** in the IP Video? field.
  - Enter **y** in the Peer Detection Enabled? field.
  - Use the default value in the Peer Server field. The default value is replaced with SM after the SIP trunk to Session Manager is established.
  - Enter **proc** in the Near-end Node Name field.
  - Enter **Session Manager** node name in the Far-end Node Name field.
  - Enter **5060** in the Near-end Listen Port field.
  - Enter **5060** in the Far-end Listen Port field.
  - Enter the Authoritative Domain in the Far-end Domain field.
  - Enter **y** in the Enable Layer 3 Test field.
  - Enter **y** in the Direct IP-IP Early Media? field.

# Configuring Polycom Systems with Avaya Aura System Manager

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The Avaya Aura System Manager Common Console is the management interface for Session Manager. To perform any administration or configuration tasks, you must log on to the System Manager Common Console.

Avaya Aura System Manager manages Avaya Aura Session Manager. Polycom HDX systems configured as SIP endpoints use the Avaya Aura Session Manager User Registration feature, and require that Avaya Aura Communication Manager operates as a Feature Server.

The Avaya Aura Communication Manager Feature Server only supports IP Multimedia Subsystem (IMS) SIP users that are registered to Avaya Aura Session Manager. The Communication Manager Feature Server is connected to Session Manager through an IMS enabled SIP signaling group and associated SIP trunk group.

System Manager includes the following shared management services.

## Shared Management Services in System Manager

<i>Service</i>	<i>Description</i>
Elements	Provides features for managing individual components of System Manager including Session Manager element administration.
Events	Provides features for administering alarms and logs that System Manager and some of its components generate. Views and changes the status of alarms. View logs, harvest logs for System Manager and its components, and manage loggers and appenders.
Licenses	Provides features for administering licenses for individual components of the Avaya Aura solution.
Routing	Provides features to manage routing applications. Creates and manages routing applications that include domains, adaptations, SIP entities, entity links, time ranges, policies, dial patterns, and regular expressions to configure your network configuration.
Security	Provides features for configuring certificates.
System Data	Provides features for these tasks: <ul style="list-style-type: none"><li>• Backing up and restoring System Manager configuration data.</li><li>• Monitoring and scheduling jobs.</li><li>• Replicating data from remote nodes.</li><li>• Configuring data retention settings and profiles for various services provided by System Manager.</li></ul>
User Management	Provides a central user administration of all user properties.

## Log On to the System Manager Web Interface

To get started, you must log on to the System Manager web interface, which is the main user interface used to perform management tasks in an Avaya Aura system. You must have a user account to access the System Manager Web Interface; contact your system administrator to create an account if you do not already have one. Once you have access to the web interface, you can configure Communication Manager objects such as endpoints and templates.

### To log on to the System Manager web interface:

- 1 Open a web browser and access the System Manager web interface: ([https://<SERVER\\_NAME>/SMGR](https://<SERVER_NAME>/SMGR)).
- 2 Enter your user name in the **User ID** field.
- 3 Enter your password in the **Password** field.
- 4 Click **Log On**.

If your user name and password match an authorized Avaya Aura System Manager user account, the System Manager home page appears with the System Manager version number. The System Manager dashboard displays a navigation menu that provides access to shared services. The tasks you can perform depend on your user role.

## Manage Communication Manager Objects

Avaya Aura System Manager displays a collection of Communication Manager objects under Communication Manager. System Manager allows you to directly add, edit, review, or delete these objects through Communication Manager.

### Avaya Aura Communication Manager Objects

The objects and object types used by Avaya Aura Communication Manager are in the following table.

#### Avaya Aura Communication Manager Objects

<i>Object Type</i>	<i>Objects</i>
Call Center	Agents Announcements Audio Group Best Service Routing Holiday Tables Variables Vector Vector Directory Number Vector Routing Table Service Hours Tables

<i>Object Type</i>	<i>Objects</i>
Coverage	Coverage Answer Group Coverage Path Coverage Remote Coverage Time of Day
Endpoints	Alias Endpoint Intra Switch CDR Manage Endpoints Off PBX Endpoint Mapping Site Data Xmobile Configuration Groups Group Page Hunt Group Intercom Group Pickup Group Terminating Extension Group Trunk Group
Network	Automatic Alternate Routing Analysis Automatic Alternate Routing Digit Conversion Automatic Route Selection Analysis Automatic Route Selection Digit Conversion Automatic Route Selection Tool Data Modules IP Interfaces IP Network Regions Node Names Route Pattern Signaling Groups
Parameters	System Parameters—CDR Options System Parameters—Customer Options System Parameters—Features System Parameters—Security System Parameters—Special Applications

<i>Object Type</i>	<i>Objects</i>
System	Abbreviated Dialing Enhanced Abbreviated Dialing Group Abbreviated Dialing Personal Authorization Code Class of Restriction Class of Service Class of Service Group Dialplan Analysis Dialplan Parameters Feature Access Codes Locations Uniform Dial Plan

## Templates

You can use templates to specify the parameters of an endpoint or a subscriber. The system provides non-editable default templates, or you can add your own custom templates. More information about custom templates is available on the [Avaya support site](#).

## Endpoint Management

You can create and manage endpoints through the System Manager web console. Endpoint management provides support for Communication Manager endpoint objects, and helps you add endpoint data.

### Add Supported Set Type Endpoints

You can add endpoints that are part of the supported set type using the default templates.

#### To add an endpoint with a supported set type:

- 1 Navigate to on the System Manager console **Elements > Communication Manager**.
- 2 Click **Endpoints > Manage Endpoints** in the left navigation pane.
- 3 Select a Communication Manager from the Communication Manager list.
- 4 Click **Show List**.  
The system displays the available Endpoints list on the Communication Manager that you selected.
- 5 Click **New**, and select the template based on the set type you want to add.  
The system displays all the sections on the **Add Endpoint** page.
- 6 Complete the **Add Endpoint** page by filling in the mandatory fields (marked with \*) in the following sections:
  - General Options

- Feature Options
- Site Data
- Data Module/Analog Adjunct
- Abbreviated Call Dialing
- Enhanced Call Fwd
- Button Assignment

**7** Click **Commit** to add the endpoint.

# Configuring Polycom Systems with Avaya Aura Communication Manager

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This section describes how to configure Polycom systems when interoperating with Avaya Aura Communication Manager.

## Avaya Aura Communication Manager as a Feature Server

When configured as a Feature Server, Avaya Aura Communication Manager provides features available in the Communication Manager to SIP endpoints using the IP Multimedia Subsystem (IMS) half-call model, which enables full application sequencing. You can connect the Communication Manager server to Session Manager with a SIP-IMS Service Control (ISC) interface that uses an IMS-enabled SIP signaling group and associated SIP trunk group. The feature server supports only those SIP endpoints that are registered to the Avaya Aura Session Manager.

The following limitations apply when using Communication Manager as a Feature Server:

- The dial plan for IMS users must route all PSTN calls back to the Session Manager over the IMS trunk group. Routing of such calls directly to ISDN trunks is not supported.
- IPSI port networks are not supported.
- Traditional phones such as DCP, H.323, ISDN, and analog are not supported.

## Avaya Aura Communication Manager as an Evolution Server

When you use the Communication Manager as an Evolution Server you can use features available in the Communication Manager with SIP and non-SIP endpoints using the full call model with Communication Manager as the only supported application.

When you configure Communication Manager as an Evolution Server:

- H.323, digital, and analog endpoints register with Communication Manager
- SIP endpoints register with Session Manager
- All endpoints receive service from Communication Manager

The Session Manager routes calls from and to SIP endpoints. The connection from the Evolution Server to the Session Manager server is a non-IMS signaling group, a SIP-ISC interface. You administer Communication Manager as an Evolution Server by disabling IMS on the signaling group to Session Manager. Session Manager then handles call routing for SIP endpoints and allow endpoints to communicate with other endpoints that are connected to the Evolution Server.

The following table describes the half-call and full-call models.

## Session Manager Call Models

<i>Model</i>	<i>Description</i>
Half-Call	<p>The half-call model separates the processing of a call request into two phases:</p> <ul style="list-style-type: none"> <li>• <b>Origination</b> services are applied to the originator of the call</li> <li>• <b>Termination</b> services are applied to the call recipient</li> </ul> <p>The origination and termination phases of the call are separate operations and might be performed by different feature servers.</p> <p>Application sequencing works only when all the servers in a sequence support the half-call model. The number of originating sequenced applications may be different from the number of terminating sequenced applications.</p>
Full-Call	<p>In the full-call model, a call request is processed in one step. The origination and termination parts of the call are processed without a break. Traditional Communication Manager adheres to the full-call model.</p> <p>Application sequencing has significant limitations when at least one of the servers in a sequence adheres to the full-call model. When Communication Manager administered as an Evolution Server, Communication Manager is the only supported application.</p> <p>For the full-call model, the <b>IMS-enabled</b> field on the SIP signaling group form must be disabled.</p>

## Configuring Polycom HDX Systems

For detailed information about setting up and configuring HDX Systems to interoperate with Avaya products, refer to the *Administrator's Guide for Polycom HDX Systems* for your HDX model on [Polycom Support](#).



Note: To register your system to the Avaya Aura Communication Manager as an H.323 gatekeeper, first install an Avaya option license key. This license key is available at no charge from your Polycom representative. Installing the license key enables your system to register to the gatekeeper using authentication, which results in an extra field displaying on the interface, and allows communication with the Avaya H.323 stack.

## System Functionality

Polycom HDX systems running H.323 and registered to the Avaya H.323 Gatekeeper with an Avaya option key can use the features listed in the following table on an Avaya telephony network. Some features require multiple buttons to be manipulated, because the Polycom HDX systems do not have dedicated telephone function controls.



Note: AES Encryption is not supported for systems registered to an Avaya H.323 gatekeeper.

## Polycom HDX with Avaya H.323 Features

<i>Feature</i>	<i>Function</i>
Call forwarding (all, busy, no answer)	Configured by the Avaya Aura Communication Manager administrator and implemented by the user
Call coverage	Configured by the Avaya Aura Communication Manager administrator
Transfer	Implemented using flash hook and dialing digits
Audio conference	Implemented using flash hook and dialing digits
Call park	Place a call on a separate call orbit where anyone can retrieve the call
DTMF tones for Avaya functions	Touch tones for key presses

Refer to the Avaya documentation and *User's Guide for Polycom HDX Systems* on [Polycom Support](#) for information about these features.

## SIP Considerations

If you plan to configure the HDX system to use the Avaya Aura Session Manager, refer to the *Administrator's Guide for Polycom HDX Systems* for detailed information about setting up and registering to the Session Manager and configuring for SIP.

The SIP protocol has been widely adapted for Voice over IP (VoIP) communications and basic video conferencing. However, many of the advanced video conferencing capabilities are not yet standardized. Many capabilities also depend on the SIP server.

## Configuring Integration with Avaya Networks

The Polycom HDX system will integrate with the Avaya network when you install an option key and configure the system.

### Install the Option Key

You can install an option key to enable the HDX system to register correctly and use the Avaya communications protocols.

#### To install the Avaya option key:

- 1 Obtain an Avaya key code from your Polycom account representative.
- 2 On the Polycom HDX system go to **System > Admin Settings > General Settings > Options** and enter the key code for the Avaya option.

## Configure the Polycom HDX System

You can configure the Polycom HDX system to use Avaya network features after you install the Avaya option key.

To configure the Polycom HDX system to use Avaya network features:

- 1 Do one of the following:
  - In the local interface, go to **System > Admin Settings > Network > IP > H.323 Settings** (select  if necessary).
  - In the web interface, go to **Admin Settings > Network > IP Network**.
- 2 Set **Use Gatekeeper to Specify with PIN**.
  - a Enter the **H.323 Extension (E.164)** provided by the Avaya Aura Communication Manager administrator.
  - b Enter the Avaya Aura Communication Manager IP address for **Gatekeeper IP Address**.
  - c Enter the **Authentication PIN** provided by the Avaya Aura Communication Manager administrator.
- 3 Do one of the following:
  - In the local interface, go to **System > Admin Settings > Network > IP > Call Preference** (select  if necessary).
  - In the web interface, go to **Admin Settings > Network > IP Network > Call Preference**.
- 4 Set **Enable H.239**.

## Configuring RealPresence Collaboration Server (RMX) Systems

For detailed information about setting up and configuring RealPresence Collaboration Server (RMX) systems to interoperate with Avaya products, refer to the RealPresence Collaboration Server (RMX) documentation on [Polycom Support](#).

## Configuring RealPresence Group Series Systems

For detailed information about setting up and configuring RealPresence Group Series systems to interoperate with Avaya products, refer to the RealPresence Group Series documentation on [Polycom Support](#).

## Configuring Polycom® RealPresence Trio™ Systems

For detailed information about setting up and configuring RealPresence Trio systems to interoperate with Avaya Communication Manager, refer to the Avaya DevConnect Application Notes for RealPresence Trio 8800 with Avaya Aura Session Manager and Avaya Aura Communication Manager on [Avaya DevConnect](#) and RealPresence Trio Administrator Guide on [Polycom Support](#).

## System Functionality

Polycom RealPresence Trio systems running Avaya Aura Session Manager and Communication Manager can use the following SIP features listed in the following table on an Avaya telephony network.

### Polycom RealPresence Trio 8800 with Avaya Aura Session Manager & Communication Manager SIP features

<i>Feature</i>	<i>Function</i>
Make and accept calls	Making and accepting calls
Hold/resume call	Holding or resuming calls
Call transfer (attended)	Transferring attended calls
Call forwarding (all, busy, no answer)	Using Feature Access Code (FAC)
Call Pickup	Using Feature Access Code (FAC)
Audio conference	Using flash hook and dialing digits
Call park/unpark	Using Feature Access Code (FAC)
Voicemail	Using Communication Manager Messaging (CMM)
Message Waiting Indicator (MWI)	Using MWI
DTMF tones for Avaya functions	Using touch tones for key presses

# Configuring Polycom Systems with Avaya IP Office 500 and IP Office Server Edition

The Avaya IP Office 500 and IP Office Server Edition can both be configured to interoperate with RealPresence Trio.

## System Functionality

Polycom systems running Avaya IP Office 500 and IP Office Server Edition can use the following SIP features listed in the following table on an Avaya telephony network.

### Polycom Avaya IP Office 500 with Avaya IP Office SIP features

<i>Feature</i>	<i>Function</i>
Make and accept calls	Making and accepting calls
Hold/resume call	Holding or resuming calls
Call transfer	Using flash hook and dialing digits
Audio conference	Using flash hook and dialing digits
Short codes	Using Feature Access Code (FAC)
Message Waiting Indicator (MWI)	Illuminating MWI lamps indicate new messages
Voice mail	Using Communication Manager Messaging (CMM)
DTMF tones for Avaya functions	Using touch tones for key presses

## Configuring Polycom Systems with Avaya IP Office Manager

The Avaya IP Office Manager is the management interface for IP Office. To perform any administration or configuration tasks, you must log on to the IP Office Manager.

For detailed information about setting up and configuring Avaya IP Office to interoperate with RealPresence Trio systems, refer to the Avaya DevConnect Application Notes for RealPresence Trio 8800 and Avaya IP Office on [Avaya DevConnect](#).



Note: In IP Office deployments where 3rd Party IP Phone Licenses are shared, Polycom recommends you select Reserve Avaya IP endpoint license on the Trio Extension. For more information, refer to IP Office H.323 Telephone Installation on [Avaya IP Office](#).

## Configuring Polycom RealPresence Trio Systems

For detailed information about setting up and configuring RealPresence Trio systems to interoperate with Avaya IP Office, refer to the Avaya DevConnect Application Notes for RealPresence Trio 8800 and Avaya IP Office on [Avaya DevConnect](#) and RealPresence Trio Administrator Guide and RealPresence Trio Release Notes documentation on [Polycom Support](#).

# Interoperability Scenarios

There are several ways to interoperate with Avaya systems: direct registration using H.323 and SIP, neighbored gatekeeper with Avaya Aura, and using a SIP proxy. Interoperability testing were performed between:

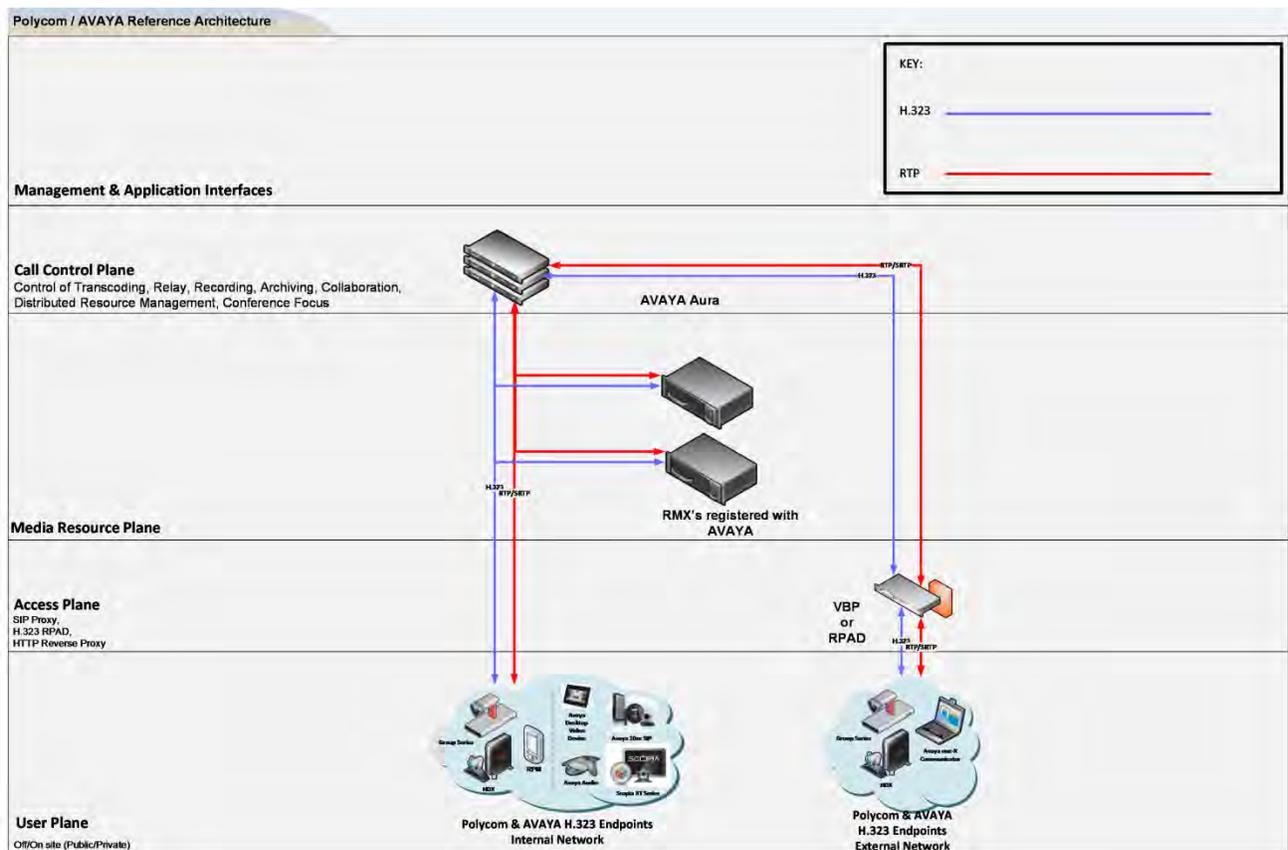
- Polycom RealPresence DMA, RealPresence Collaboration Server (RMX), and Avaya Aura
- RealPresence Trio 8800 and Avaya IP Office

## Avaya Aura Test Scenarios

This section illustrates and describes Avaya Aura test scenarios. You can register endpoints directly to the Avaya platform using SIP with the Session Manager or using H.323 and the Communication Manager Evolution Server.

The following figure shows Polycom systems operating in an Avaya Aura Communication Manager H.323 environment in a direct registration scenario. Devices registered to Communication Manager can connect to any devices and into a multipoint conference or dial out to an external system.

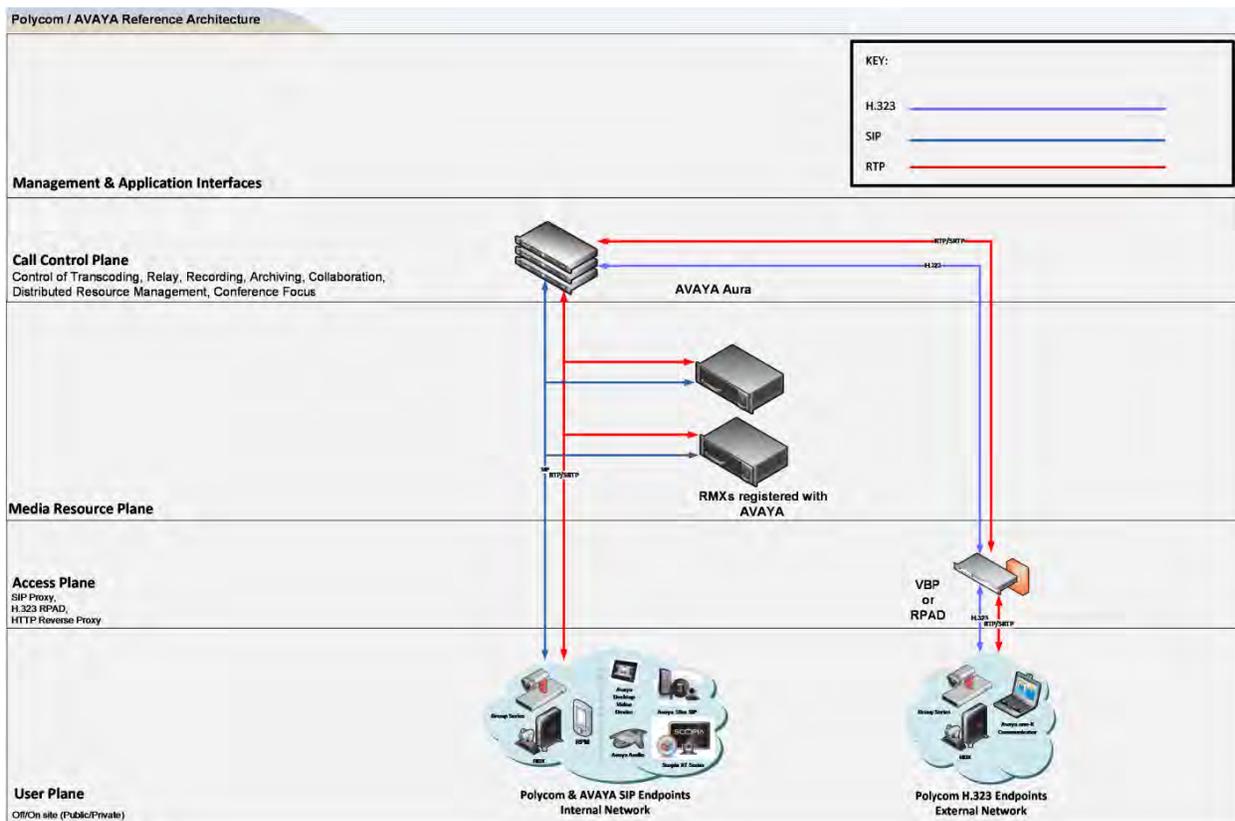
### Avaya Aura H.323 direct registration scenario



The following figure shows a direct connect scenario using Avaya Aura. It shows Polycom and Avaya devices registered to the SIP registrar in Session Manager. If the Communication Manager operates as a SIP/H.323 gateway, it can also interoperate with the Video Border Proxy, which can neighbor its embedded gatekeeper to the gatekeeper in the Communication Manager (Evolution Server).

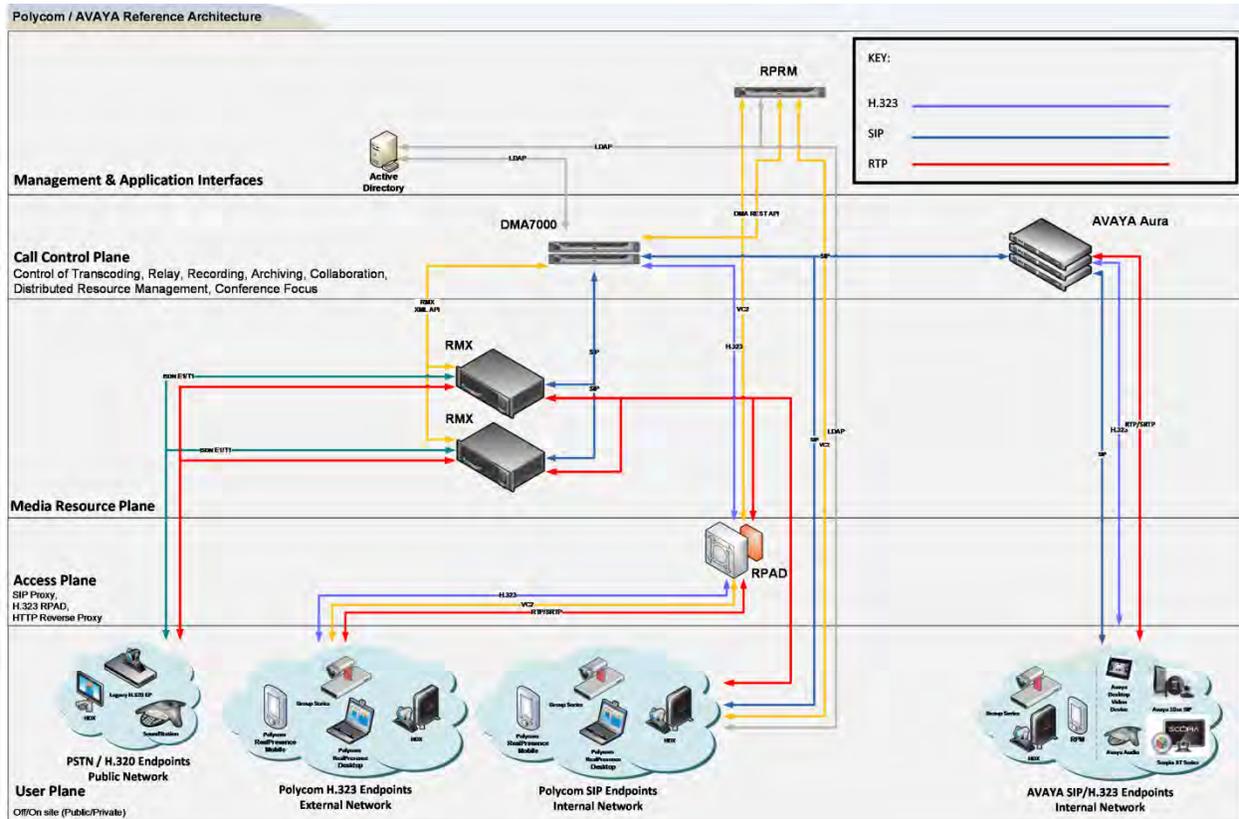
Note that in this diagram, the RealPresence Collaboration Server (RMX) shows connections to both H.323 and SIP, which is not a recommended configuration. This scenario, a direct connect scenario, is not representative of a real deployment model. Typical environments consist predominantly of SIP-only or H.323-only devices. In some cases, you may have the entire telephony environment as SIP-based, while the video devices may be running H.323. In that case, run the VBP in LAN using subscriber-side gatekeeper mode and point it to the Communication Manager Evolution Server (CMES).

**Avaya Aura mixed protocol direct connect scenario (for testing only)**



The following figure shows the Polycom RealPresence DMA interoperating with the Avaya Aura Session Manager, working as a SIP proxy. When the dial plans are built correctly, any-to-any dialing is possible. In this environment, the RealPresence DMA operates as a SIP/ H.323 gateway, able to pass H.323 calls from outside of the Video Border Proxy.

### Avaya Aura proxy scenario



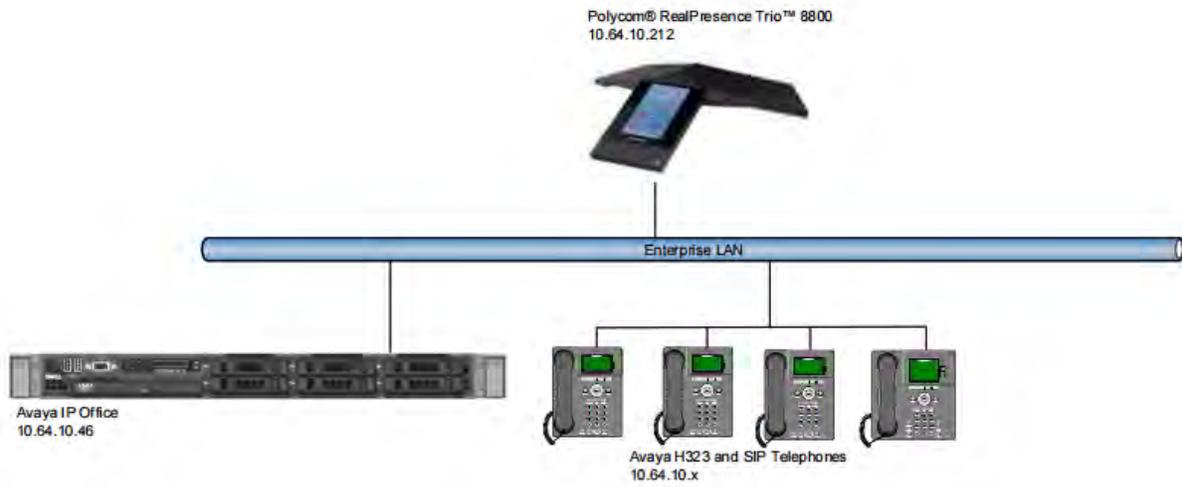
## Avaya IP Office Test Scenarios

This section illustrates and describes Avaya IP Office test scenarios. You can register endpoints directly to the Avaya platform using SIP.

The following figure shows Polycom systems operating in an Avaya IP Office SIP environment in a direct registration scenario. Devices registered to Avaya IP Office can connect to any devices and into a multipoint conference or dial out to an external system.

For completeness, Avaya 9600 Series H.323 IP Telephones and Avaya 1200 Series SIP IP Telephones are included in the following figure to demonstrate calls between the SIP-based Trio 8800 and Avaya SIP and H.323 Telephones.

### Avaya IP Office direct registration scenario



# Troubleshooting

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Use the following list as a guide to resolving issues you may encounter while deploying this solution.

## **Why do I need an option key? Where can I get the Avaya option key for my HDX systems so I can register them directly to the Communication Manager?**

The Avaya option key used to be a chargeable item that you could obtain from Avaya. The Avaya option key is now a no-cost option issued by Polycom. You can request an Avaya option key from your reseller partner, Polycom Global Services, or send an email to [support@polycom.com](mailto:support@polycom.com).

You will need the serial number of your system to generate a key code.

Avaya uses a slightly modified H.323 stack and Avaya's registration procedure requires endpoint devices to register with authentication to operate properly. The Avaya license key enables both of these capabilities and the gatekeeper registration options on the HDX will display an additional choice **Register with Authentication**. This code is created on the Communication Manager, and assigned to you by your administrator.