



Getting Started Guide

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# **Polycom<sup>®</sup> RealPresence<sup>®</sup> Resource Manager System, Virtual Edition**



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6001 America Center Drive  
San Jose, CA 95002  
USA



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# About This Guide

This guide provides the first time setup information you need to configure a Polycom® RealPresence® Resource Manager system, Virtual Edition. Once you've completed first time setup, see Chapter 2 of the *Polycom RealPresence Resource Manager System Operations Guide* for additional configuration and customization tasks you can perform.

## RealPresence Resource Manager System Editions

The RealPresence Resource Manager system is available in an Appliance Edition (packaged with a system server) and a Virtual Edition (packaged as software only). Most of the functionality described in this document applies to both editions, and so the product references are general—that is, the RealPresence Resource Manager system. However, when information applies to a specific edition, the reference will be specific – that is, RealPresence Resource Manager, Virtual Edition or RealPresence Resource Manager, Appliance Edition.

## Documentation Resources

In addition to this guide, the available documentation that describes the RealPresence Resource Manager system includes:

- *Polycom RealPresence Resource Manager System Release Notes*  
Provides the information users need to know about the specific release of the system you're implementing.
- *Polycom RealPresence Resource Manager System Operations Guide*  
Provides more detailed and specialized configuration, operation, and administration information users need to know when using the RealPresence Resource Manager system.
- *Polycom RealPresence Resource Manager System Web Scheduling Guide*  
Gives schedulers detailed information on scheduling and monitoring conferences.

The RealPresence Resource Manager system also has online help available through the user interface.

## System Administrator Required Skills

This guide is written for a technical audience. You will be configuring system networking, and certificates as well as integrating with a time server, and directory server.

This guide assumes that you are starting with a RealPresence Resource Manager system that has never been previously configured.

# Polycom® RealPresence® Resource Manager System Server Setup

The sections that follow describe the steps required to perform the initial installation and setup of a Polycom® RealPresence® Resource Manager system including:

- [Installation Prerequisites](#) on page 5
- [Capacity Planning Guidance](#) on page 5
- [Complete the First Time Setup Worksheet](#) on page 6
- [Set up DNS Host and Service Records](#) on page 8
- [Request Certificates](#) on page 9
- [Pre-stage a Computer Account](#) on page 9
- [Prepare Client Systems](#) on page 10

## Installation Prerequisites

You will need to do the following in order to install the RealPresence Resource Manager system, Virtual Edition in your virtual environment.

Ensure that your host machine has the capacity for your planned RealPresence Resource Manager system deployment, see [Capacity Planning Guidance](#) on page 5.

- Install the RealPresence Platform Director system and verify your licensing, [Deploying with RealPresence Platform Director](#) on page 6
- Review the *Polycom RealPresence Resource Manager System Release Notes*.

## Capacity Planning Guidance

The RealPresence Resource Manager system supports three hardware profiles when installed in a virtual environment. Each profile supports a maximum number of endpoints.

Hardware Profile	Supported Number of Endpoints
2-physical-core Nehalem, 2.5 GHz or more CPU clock; e.g. 2 x Xeon E5506, Memory 8G	400
4-physical-core Nehalem, 2.5 GHz or more CPU clock; e.g. 2 x Xeon E5506, Memory 8G	4000
8-physical-core Nehalem, 2.5 GHz or more CPU clock; e.g. 2 x Xeon E5506, Memory 8G	10000

## Deploying with RealPresence Platform Director

Virtual Editions of Polycom RealPresence Platform products such as RealPresence Resource Manager system require the RealPresence Platform Director system to monitor the software and manage licensing. The RealPresence Platform Director 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.

Before upgrading or installing your product software, be sure that you have already installed RealPresence Platform Director system and verified that your product are licensed.

RealPresence Platform Director system requires VMware® vCenter Server™.

The RealPresence Platform Director is available at no charge from Polycom's support website < *x-ref link*>.

For complete instructions on how to deploy RealPresence Resource Manager system, Virtual edition, see the *RealPresence Platform Director System Administrator's Guide*.

## Complete the First Time Setup Worksheet

Before you begin system setup, fill out the **My System Values** column of this worksheet.

Item	My System Values	Factory-Set Default Values	Description
<b>System Network Settings (from Admin &gt; Server Settings &gt; Network)</b>			
System Name		PLCM_RPRM	System name of the RealPresence Resource Manager system. Can be up to 32 characters long; dashes and underscores are valid characters.
DSCP Marker			Allows the administrator to configure the Quality of Service level of the RealPresence Resource Manager. Set the level between 0 - 63.
IPv6 Address			IPv6 global address.
IPv6 Prefix length			Within IPv6 networks, the prefix length is the equivalent of the subnet mask in IPv4 networks. Should be 1-128.
IPv6 Default Gateway			The IPv6 address of the gateway server/router. For IPv6 networks only.
IPv6 Link Local Address			Read-only field. The RealPresence Resource Manager system generates a value for this field when IPv6 is enabled.
IPv4 Address		192.168.1.254	Static, physical IP address for the system server on an IPv4 network.  192.168.1.254 is the default value that needs to be changed according to your own network.
IPv4 Subnet Mask		255.255.255.0	Network subnet mask of the system server. For IPv4 networks only.

Item	My System Values	Factory-Set Default Values	Description
IPv4 Default Gateway		192.168.1.1	IP address of the gateway server/router. For IPv4 networks only.  192.168.1.1 is the default value. You need to change this to match the gateway IP for your network.
DNS Domain			This is the DNS domain name suffix for the network in which the domain name server and the system server reside. For example <code>polycom.com</code> , not the fully qualified path of <code>&lt;hostname&gt;.polycom.com</code> .
Preferred DNS Server			IP address of the domain name server.
Alternate DNS Server			IP address of an alternate domain name server. The alternate IP address can does not have to match the network type of the preferred server. For example, the preferred DNS server can be IPv4, while the alternate DNS server can be IPv6.
<b>Enable 802.1.x</b>		Disabled	Enable 802.1.x if your network requires this type of authentication. 802.1.x is commonly required in maximum security environments.
User Name			The user name for the 802.1.x account.
Password			The password for the 802.1.x account
Confirm Password			Confirm the password for the 802.1 x account.
Key Management Protocol			Select the appropriate Key Management Protocol for your environment.
EAP Method			Select the appropriate EAP Method for your environment.
Phase2 Protocol			Select the appropriate Phase2 Protocol for your environment.
<b>System Time Information (from Admin &gt; Server Settings &gt; System Time)</b>			
System Time Zone			
Current Date			
Current Time			

Item	My System Values	Factory-Set Default Values	Description
External NTP Server			For Appliance Editions, IP address of external NTP time server (optional). For Virtual Editions, the value for NTP server is inherited from the RealPresence Platform Director system.
<b>Information Required for Polycom Customer Support (from Admin &gt; Server Settings &gt; Licenses)</b>			
Serial number			
License number			

## Set up DNS Host and Service Records

Before installing a RealPresence Resource Manager system, you should consider configuring your DNS servers to:

- Resolve queries for the RealPresence Resource Manager system by host name.
- Resolve reverse lookup queries for the RealPresence Resource Manager system
- Identify the RealPresence Resource Manager system as a service on the network.

The first function requires a DNS host record and optionally a reverse lookup pointer record. The second function requires a DNS service record.

The DNS should also have entries for your Active Directory server, mail server, and H.323 gatekeepers (if H.323 is deployed).

### DNS Host Record

To allow your DNS servers to resolve queries for the RealPresence Resource Manager system by host name, you must enter a DNS host record in your DNS file. The format of this record depends on the format of your network addressing.

- If you use IPv4 addressing, enter a DNS A record in the required format.
- If you use IPv6 addressing, enter a DNS AAAA record in the required format.

To allow your DNS servers to resolve queries for the Resource Manager system by reverse lookup, you must enter a DNS pointer (PTR) record in your DNS file.

## Request Certificates

If you are using certificates, you should use the same certificates that you used for the initial installation of the system. If that information is not available, use the information below to set them up.

Certificates and certificate chains are a security technology that allows networked computers to determine whether to trust each other.

By default, to support encrypted communications and establish a minimal level of trust, the system includes a default key and self-signed certificate. However, to implement a full certificate chain to a root certificate authority (CA), the system requires a root CA certificate, an identity server certificate signed by the root



signing CA and a Sub CA certificate. Therefore, at some time you must request these certificates from your CA.

You must install the root CA and intermediate certificates during first time setup, therefore we recommend you obtain them from your CA before beginning first time setup. However, with regard to the identity server certificate you have two options:

- The RealPresence Resource Manager system First Time Setup Wizard supports the function of creating a certificate signing request (CSR). Therefore, you may choose to create the CSR for the identity server certificate during first time setup and suspend the process while you wait for your CA to provide the certificate.
- You can also request the identity server certificate in advance of first time setup, but to do this you must have extensive knowledge of certificates, certificate templates, and CSR structures.

## Pre-stage a Computer Account

To enable the **Use Single Signon** option, which allows endpoint users who are included in the Active Directory to securely log into their dynamically- managed endpoints without typing in credentials, an Active Directory administrator must first pre-stage an Active Directory computer account for the RealPresence Resource Manager system.

This procedure can be done at any time before running first time setup.

### To pre-stage a computer account

- 1 On the Active Directory system, use the Microsoft **Active Directory Users and Computers** MMC snap-in to create a computer account for the RealPresence Resource Manager system. Create the computer account in any desired organizational unit (OU). The computer account object must have **Reset Password** and **Write Account Restrictions** permissions.

For more information on the **Active Directory Users and Computers** MMC snap-in, see Microsoft Technet.

- 2 From a command window on the Domain Controller, type:

```
net user <computer account name>$ <Password> /domain
```

Where *<computer account name>* is the name of the computer account created in step 1 on page 4-9, *<Password>* is the desired password, and */domain* is literally */domain* (i.e., do not substitute with a domain name). For more information on the `net user` command, see the Microsoft Knowledge Base.

You have now created a computer account that you can use for integrated Windows authentication.

## Prepare Client Systems

To log into the RealPresence Resource Manager system, you need a client system with the following applications.

- Microsoft Internet Explorer® 8.0, 9.0, 10.0
- Adobe® Flash® Player 11.0.x.

If you will be working in a closed network environment, make sure these applications are installed on the client system before beginning First Time Setup.



The RealPresence Resource Manager system's management interface requires Adobe Flash Player. For stability and security reasons, we recommend always using the latest version of Flash Player.

Even so, be aware that your browser's Flash plugin may hang or crash from time to time. Your browser should alert you when this happens and enable you to reload the plugin. In some cases, you may need to close and restart your browser.

# Polycom® RealPresence® Resource Manager System Software Setup

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The sections that follow describe the Polycom® RealPresence® Resource Manager system software First Time Setup Wizard.

## First Time Setup Wizard

When you log into a RealPresence Resource Manager system that has not been configured, the First Time Setup Wizard automatically steps you through a series of ordered configuration pages. You cannot use the system until you've completed the steps in the first time setup.



### Network Connectivity

You perform the first time setup of the RealPresence Resource Manager system when it is not yet on the corporate network. This means you need to manually verify that the network addresses you are using for services such as an NTP, DNS, or OCSP are correct.

The RealPresence Resource Manager system cannot check these addresses until placed on the network. If these network settings are entered incorrectly, the RealPresence Resource Manager system may not start properly or be unreachable.

Note that changing configuration settings on some pages of the First Time Setup Wizard, such as the **System Information** page, will cause the system to reboot. When you log into a system after one of these reboots, the next page in the ordered configuration pages appears.

## Complete the First Time Setup Wizard

The first time setup wizard walks you through setting up the initial configuration of your RealPresence Resource Manager system.

### To complete the first-time setup wizard

- 1 Navigate to the URL of the RealPresence Resource Manager system:

`https://<ipaddress>:8443/flex`

- 2 When the system login screen appears, if necessary select a different **Language**.
- 3 Enter the administrator **Username** and **Password**.

The factory default is `admin/admin`.

- 4 Click **Login**.

Because the system has not previously been configured, the **Licensing** page of the setup wizard appears.

### EULA License Agreement

- 5 Read the end-user license agreement (EULA).  
Please note that the EULA includes important definitions and usage limitations that will apply to your installation.
- 6 To accept the EULA terms and conditions, click **Accept**.

#### Administrator Password

- 7 When the **Change Administrator Password** page appears, enter the **Old Password**.
- 8 For the **New Password**, enter a new password with a length of at least ten characters.
- 9 **Confirm the New Password** and click **Next**.  
The **Network** page appears.

#### Network Settings

- 10 Enter the **Network Settings** information recorded in [Complete the First Time Setup Worksheet](#) on page 6 and click **Next**.  
The **System Time** page appears.

#### System Time

- 11 Configure these settings on the **System Time** page, as necessary.

Field	Description
System Time Zone	The time zone in which the system server resides.
Use Current Time	Select this check box to input the current date and time. Even if you plan on using an NTP server, you should set the proper time during first-time setup to ensure certificate creation works reliably.
Current Date	The system date for the system.
Current Time	The system time for the system.
Use External NTP Server Time Synchronization	(Recommended) Select this check box to synchronize the system date and time with an external NTP server. Do this <b>ONLY</b> after you have first manually set the local system time.
IP address or DNS resolved names separated by spaces	The IP address or fully qualified domain name (ASCII only) of the NTP servers. <ul style="list-style-type: none"> <li>• For Appliance Editions, enter the IP address of external NTP time server (optional).</li> <li>• For Virtual Editions, the value for NTP server is inherited from the RealPresence Platform Director system.</li> </ul>



If you set the system to use an external NTP server without first setting the current date and time, the system time may be wrong until the system's first synchronization.

- 12 Click **Next**.

The **Certificates** page appears. By default the system is configured to use a default self-signed certificate. Click **Yes** to confirm.

### Certificate Management

- 13 You can skip the certificates screen and return to it after you complete first time setup.  
If you have changed the system name of the RealPresence Resource Manager you can generate a new self-signed certificate at this time.
- 14 Click **Next**.

### System Reboot

- 15 When prompted to reboot, click **Commit the Settings and Reboot**.  
The system displays a confirmation message.
- 16 Click **Yes**.  
The system reboots.
- 17 Close your browser and wait at least five minutes. Wait for the system to completely reboot.
- 18 Login using the newly configured local administrator name and password.
- 19 Click Next.

### Enterprise Directory Server Configuration

- 20 To integrate the system with an enterprise Active Directory server so that users can include enterprise groups, users, and rooms in their conferences:
  - a On the **Enterprise Directory** page, select **Integrate with Enterprise Directory Server**.
  - b To have the system auto-discover the server by querying DNS, enable **Auto-discover** in the **Enterprise Directory Server DNS Name** section; otherwise, enter the **DNS Name** for the enterprise directory server.
- 21 As needed, configure these settings.

Setting	Description
Domain\Enterprise Directory User ID	Domain and Enterprise Directory User ID for an account that the RealPresence Resource Manager system can use to access the enterprise directory server and retrieve group, user, and room information. This is the account created when you <a href="#">Pre-stage a Computer Account</a> . This User ID must have read permissions so it can search the entire forest on the enterprise directory server. In non-maximum security environments, this User ID is automatically associated with the RealPresence Resource Manager system administrator role - by default it is the <b>ONLY</b> enterprise directory User ID with this role.
Enterprise Directory User Password	The password for the enterprise directory user account

Setting	Description
Security Level	<p>The level of security on the connection between the RealPresence Resource Manager system and the enterprise directory server. Possible values include:</p> <ul style="list-style-type: none"> <li>• <b>Plain</b>—No security on the connection</li> <li>• <b>LDAPS</b>—The connection is secured over outbound port 3269 using LDAP-S in a manner similar to <code>https</code>. If the “Domain Controller: LDAP Server signing requirements” setting on the Active Directory server is set to “Require Signing”, then you must use LDAPS to secure the connection.</li> <li>• <b>StartTLS</b>—The connection is secured over outbound port 3268 (the same port as <b>Plain</b>), but it then negotiates security once the socket is opened. Some LDAP servers reject any unsecured transactions, so the first command is the <code>StartTLS</code> negotiation command.</li> </ul>
Ignore Disabled Enterprise Directory Users	Check this field to have the RealPresence Resource Manager system ignore disabled enterprise users in its queries.
Enterprise Directory Exclusion Filter	If necessary and you understand the filter syntax, specify other types of user accounts to exclude. Don't edit these expressions unless you understand LDAP filter syntax.
Enterprise Directory Search BaseDN	If necessary and you understand the filter syntax, specify the top level of the enterprise directory tree (referred to as the base DN) to search. Don't edit these expressions unless you understand the filter syntax.

**22** To integrate the system with an Active Directory domain controller for single sign-on authentication:

- a** On the **Enterprise Directory** page, select **Allow Delegated Authentication to Enterprise Directory Server**.

The system can auto-discover the closest logical domain controller and Active Directory servers, but to do this the network DNS server must have a DNS SRV record for these servers.

- b** If your network DNS server has a DNS SRV record for the domain controller, in the **Domain controller name** section enable **Auto-discover**; otherwise, enter the **Fully Qualified Host Name** of the domain controller (for example, `dc1.mydomain.com`). The pre-staged computer account must be within this domain as well.
- c** In the **Computer Account Credentials** section, enter the **Domain\Computer Name** and **Password** for the pre-staged computer account created in step [Pre-stage a Computer Account](#) on page 9.

**23** Click **Next**.

The **Directory Setup** page appears.

#### Directory Configuration

**24** On the **Directory Setup** page:

- a** To allow non-LDAP directory protocols, select the **Allow non-LDAP directory protocols**.
- b** To exclude users with dynamically-managed endpoints from the Global Address Book, clear the **Include dynamically-managed devices in the Global Address Book** option.

Note that VVX system endpoints and CMA Desktop and RealPresence Mobile clients are always dynamically-managed.

**c** To exclude guestbook entries from the enterprise directory, clear the **Show Guestbook Entries in the Directory** option.

**d** Select the **Allow endpoint directories for local users to include enterprise directory user and group information** if you want that option.

You can allow local users to access Enterprise Directory entries when the RealPresence Resource Manager is integrated with an enterprise directory.

**e** If your video network includes LifeSize endpoints, select the **Modify Directory Listings for LifeSize® Endpoint Support** option.

**25** Click **Next**.

The system displays the message that you have completed first time setup. You have the option of logging out of the system or being redirected to the system **Dashboard**.

**26** Click **Next** to go to the system **Dashboard**.

## Complete the System Configuration

Once you've finished first time setup, you will need to perform additional configuration tasks. These tasks are discussed in Chapter 2 of the *Polycom RealPresence Resource Manager System Operation Guide*. For example:

- Set up your site topology.
- As needed:
  - Integrate with a DMA system for gatekeeper, SIP registrar, and virtual meeting room services.
  - Integrate the system with a Microsoft Active Directory.
  - Configure Areas. (Area functionality is a separately licensed feature.)
- Associate users with roles. You will need at least one user with the device administrator role who will be able to create machine accounts for devices. You will also need at least one user assigned to the role of operator or scheduler/advanced schedule so conferences can be scheduled.
- Associate users with endpoints.
- Create provisioning profiles and rules for dynamically managed endpoints.
- Add MCUs.