# Contents

## About This Guide

- RealPresence® Resource Manager System Editions .......................................................... 2
- Audience, Purpose and Required Skills ....................................................................... 2
- Get Help ............................................................................................................................ 2
  - Polycom and Partner Resources ............................................................................. 2
  - The Polycom Community ......................................................................................... 3

## Prepare for System Installation

- Complete the First Time Setup Worksheet ................................................................. 4
- Set up DNS Host and Service Records ........................................................................ 6
  - DNS Host Record ........................................................................................................ 6
- Request Certificates ..................................................................................................... 6
- Pre-stage a Computer Account ................................................................................... 7
- Prepare Client Systems ............................................................................................... 7

## System Installation

- Virtual Edition Installation ............................................................................................ 9
  - Host Installation Guidelines for Virtual Editions ......................................................... 9
  - Install the Virtual Edition Software .......................................................................... 10
  - Log In to the RealPresence® Resource Manager System, Virtual Edition .......... 11
- Appliance Edition Installation ....................................................................................... 11
  - Verify Shipment Contents ......................................................................................... 11
  - Unpack and Install the Hardware ............................................................................... 12
  - Create a DVD for the System Software ...................................................................... 14
  - Install the Appliance Edition Software .................................................................... 14
  - Connect to the RealPresence® Resource Manager System, Appliance Edition .... 16

## Initial Configuration

- Complete the First-time Setup Wizard ........................................................................ 17
- Enabling the License Server for RealPresence® Resource Manager ....................... 20
  - Create a License Server in the Polycom Licensing Center .................................... 20
  - Activate the Available Licenses ................................................................................. 22
- License Your System with a License File ..................................................................... 23
- Additional Configuration ............................................................................................ 23
About This Guide

Topics:

• RealPresence Resource Manager System Editions
• Audience, Purpose and Required Skills
• Get Help

This guide provides the first time setup information that you need to configure a RealPresence® Resource Manager system. Once you've completed first time setup, see 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 (for use with a Polycom Rack 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.

Audience, Purpose and 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 installed or previously configured.

Get Help

For more information about installing, configuring, and administering Polycom products, refer to Documents and Downloads at Polycom Support.

Polycom and Partner 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 needs to know when using the Polycom® RealPresence® Resource Manager System Operations Guide system.
• *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. If you purchased a UC-APL version of the RealPresence® Resource Manager system, no online help is available.

To find all Polycom partner solutions, see [Strategic Global Partner Solutions](#).

**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.
Prepare for System Installation

Topics:

- Complete the First Time Setup Worksheet
- Set up DNS Host and Service Records
- Request Certificates
- Pre-stage a Computer Account
- Prepare Client Systems

This section describes the preparations to complete before the initial installation and configuration of a RealPresence® Resource Manager system.

Complete the First Time Setup Worksheet

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

<table>
<thead>
<tr>
<th>Item</th>
<th>My System Values</th>
<th>Factory-Set Default Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Network Settings (from Admin &gt; Server Settings &gt; Network)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Name</td>
<td></td>
<td>PLCM_RPRM</td>
<td>System name of the RealPresence® Resource Manager system. Can be up to 32 characters long; dashes and underscores are valid characters.</td>
</tr>
<tr>
<td>DSCP Marker</td>
<td></td>
<td></td>
<td>Allows the administrator to configure the Quality of Service level of the RealPresence® Resource Manager. Set the level between 0 - 63.</td>
</tr>
<tr>
<td>IPv6 Address</td>
<td></td>
<td></td>
<td>IPv6 global address.</td>
</tr>
<tr>
<td>IPv6 Prefix length</td>
<td></td>
<td></td>
<td>Within IPv6 networks, the prefix length is the equivalent of the subnet mask in IPv4 networks. Should be 1-128.</td>
</tr>
<tr>
<td>IPv6 Default Gateway</td>
<td></td>
<td></td>
<td>The IPv6 address of the gateway server/router. For IPv6 networks only.</td>
</tr>
<tr>
<td>IPv6 Link Local Address</td>
<td></td>
<td></td>
<td>Read-only field. The RealPresence® Resource Manager system generates a value for this field when IPv6 is enabled.</td>
</tr>
<tr>
<td>Item</td>
<td>My System Values</td>
<td>Factory-Set Default Values</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------</td>
<td>------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>IPv4 Address</td>
<td></td>
<td>192.168.200.11</td>
<td>Static, physical IP address for the system server on an IPv4 network. 192.168.200.11 is the default value that needs to be changed according to your own network.</td>
</tr>
<tr>
<td>IPv4 Subnet Mask</td>
<td></td>
<td>255.255.255.0</td>
<td>Network subnet mask of the system server. For IPv4 networks only.</td>
</tr>
<tr>
<td>IPv4 Default Gateway</td>
<td></td>
<td>192.168.200.1</td>
<td>IP address of the gateway server/router. For IPv4 networks only. 192.168.200.1 is the default value. You need to change this to match the gateway IP for your network.</td>
</tr>
<tr>
<td>DNS Domain</td>
<td></td>
<td></td>
<td>This is the DNS domain name suffix for the network in which the domain name server and the system server reside. For example polycom.com, not the fully qualified path of &lt;hostname&gt;.polycom.com.</td>
</tr>
<tr>
<td>Preferred DNS Server</td>
<td></td>
<td></td>
<td>IP address of the domain name server.</td>
</tr>
<tr>
<td>Alternate DNS Server</td>
<td></td>
<td></td>
<td>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.</td>
</tr>
<tr>
<td>Enable 802.1.x</td>
<td>Disabled</td>
<td></td>
<td>Enable 802.1.x if your network requires this type of authentication. 802.1.x is commonly required in maximum security environments.</td>
</tr>
<tr>
<td>User Name</td>
<td></td>
<td></td>
<td>The user name for the 802.1.x account.</td>
</tr>
<tr>
<td>Password</td>
<td></td>
<td></td>
<td>The password for the 802.1.x account</td>
</tr>
<tr>
<td>Confirm Password</td>
<td></td>
<td></td>
<td>Confirm the password for the 802.1.x account.</td>
</tr>
<tr>
<td>Key Management Protocol</td>
<td></td>
<td></td>
<td>Select the appropriate Key Management Protocol for your environment.</td>
</tr>
<tr>
<td>EAP Method</td>
<td></td>
<td></td>
<td>Select the appropriate EAP Method for your environment.</td>
</tr>
<tr>
<td>Phase2 Protocol</td>
<td></td>
<td></td>
<td>Select the appropriate Phase2 Protocol for your environment.</td>
</tr>
</tbody>
</table>
### 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.

#### 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 RealPresence™ 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

---

**Table: System Time Information**

<table>
<thead>
<tr>
<th>Item</th>
<th>My System Values</th>
<th>Factory-Set Default Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System Time Information</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>System Time Zone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Date</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External NTP Server</td>
<td></td>
<td></td>
<td>For Appliance Editions, IP address of external NTP time server (optional).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>For Virtual Editions, the value for NTP server is inherited from the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RealPresence Platform Director system.</td>
</tr>
</tbody>
</table>

**Table: Information Required for Polycom Customer Support**

<table>
<thead>
<tr>
<th>Item</th>
<th>My System Values</th>
<th>Factory-Set Default Values</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Serial number</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>License number</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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 can install the root CA and intermediate certificates during first time setup or return to this task at a
later time. 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.

Procedure

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,
   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 running Microsoft
Windows with the following hardware and software:

• Hardware
  ◦ 1024x768 (SXGA) minimum display resolution; 1400x1080 (WSXGA+) or greater
    recommended
  ◦ USB and Ethernet ports (Appliance Edition only)

• Software
- Browser: Microsoft Internet Explorer\textsuperscript{®} version 11 or higher, or Google Chrome™
- If you will be using the USB Configuration Utility, please ensure that your Windows client has JRE 1.8 or higher installed
System Installation

Topics:

- Virtual Edition Installation
- Appliance Edition Installation

The RealPresence® Resource Manager system is available in an Appliance Edition and a Virtual Edition. Refer to the following installation instructions based on your edition.

Virtual Edition Installation

Before you install the RealPresence® Resource Manager system in your environment, review the Polycom® RealPresence® Resource Manager System Release Notes and ensure that your host machine has the capacity for your planned Virtual Edition deployment. In addition, ensure that it meets the host guidelines recommended by Polycom.

Host Installation Guidelines for Virtual Editions

Before deploying your Polycom RealPresence Virtual Edition software, review the following planning guidelines for your deployment. Unless otherwise noted, use these guidelines for all Polycom Virtual Editions.

Polycom recommends that a virtual environment administrator install the Virtual Edition software. After the installation of a Virtual Edition, additional configuration should be completed by someone who understands video conferencing.

CPU Allocation

- Leave 2 cores unallocated, regardless of the number of cores present, how many licenses are purchased, and what other virtual machines will be present.
- For VMware, do not allocate CPU core 0. Host operating system performance may be affected if this core is assigned to the virtual machine.
- When possible, allocate cores on one CPU. This will enhance performance by reducing CPU-to-CPU communication times.
- Do not use processor oversubscription; maintain a 2:1 ratio of virtual CPU to physical CPU. For example, a system with 8 physical cores can support up to 16 virtual processors divided up into any combination among the virtual machines running on that host.
- When you are using Hyper-V, Polycom recommends disabling the Virtual Machine Queue of the Network Interface Card (NIC). For more information, see https://support.microsoft.com/en-us/kb/2902166

Note: CPU reservations can only be done after shutting down the virtual machine.

Memory Allocation

In a Microsoft Hyper-V environment, you must not overprovision memory at the hypervisor layer. Dynamic memory for virtual machines is not supported.
Disk
Hypervisors add overhead to disk operations. For best performance, ensure that the virtual machine is able to achieve the recommended IOPS listed in the following table.

<table>
<thead>
<tr>
<th></th>
<th>Lab Environment</th>
<th>Production Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disk Performance</td>
<td>170 Random IOPS (write) 170 Random IOPS (read)</td>
<td>230 Random IOPS (write) 450 Random IOPS (read)</td>
</tr>
<tr>
<td>Network</td>
<td>1GB Shared</td>
<td>1GB Dedicated 10GB Shared</td>
</tr>
</tbody>
</table>

Capacity information such as storage space and memory varies according to Virtual Edition. Please see release notes for your RealPresence Virtual Edition software for the minimum capacity requirements for your product.

Install the Virtual Edition Software

Note: If installing a Hyper-V version, you must use the Copy option.

Procedure
1. Refer to the documentation for your virtual environment tools for instructions on installing a virtual instance.

Assign a Static IP Address
The RealPresence® Resource Manager system requires a static IP address for your system’s instance. If your VM environment is not using DHCP, you must assign a static IP with the console before continuing to configure your system. If your VM environment has a DHCP server, it will assign an IP address to the instance. You can then assign a static IP using the console or assign the static IP from the RealPresence® Resource Manager system’s web interface during initial configuration.

Procedure
1. Power on the newly-installed VM.
2. Access the console.
3. Click in the console window, press Enter if necessary to see the login prompt, and log in with user ID polycom and password polycom.
   A shell interface appears that enables you to configure the network.
4. Choose option 2 and follow the prompts to configure the initial network settings.
   The system reboots.
5. Press CTRL + ALT to release the cursor from the console.
   Then close the console window.
Log In to the RealPresence® Resource Manager System, Virtual Edition

You need to log on to your to the RealPresence® Resource Manager, Virtual Edition system to continue system setup.

Procedure
1. Be sure the RealPresence® Resource Manager system is powered on and running.
2. Open a browser and enter the system IP address in the address bar.
   https://<staticipaddress>:8443/index.html
3. When the system login screen appears, if necessary select a different Language.
4. Enter the administrator Username and Password.
   The factory default is admin/Polycom12#$.
5. Continue to Complete the First-time Setup Wizard on page 17.

Appliance Edition Installation

If you have ordered an Appliance Edition, you need to set up the appliance. If the RealPresence® Resource Manager system software is not pre-installed on your server, you can install the system software using a DVD.

Before beginning your installation, be sure to review the Polycom® RealPresence® Resource Manager System Release Notes.

Verify Shipment Contents

Polycom Rack Server shipments include the server and other contents. You should verify the type of server and other contents of your shipment when you unpack the system.

The following table describes shipment contents based on the type of server you purchased. Note that licensing information and other items may be shipped separately.

<table>
<thead>
<tr>
<th>Item</th>
<th>R620</th>
<th>R630</th>
<th>R220/R230</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Polycom Rack Server</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1 system DVD</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(May be shipped separately)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 blank USB flash drive</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>(RealPresence Resource Manager appliances do not include a blank USB flash drive)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>R620</td>
<td>R630</td>
<td>R220/R230</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------</td>
<td>---------------</td>
<td>---------------</td>
</tr>
<tr>
<td>1 USB flash drive labeled <em>Diagnostics</em> that contains server diagnostics utilities. Use these utilities only under the direction of Polycom Global Services.</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Power cord(s)</td>
<td>May be shipped separately</td>
<td>May be shipped separately</td>
<td>May be shipped separately</td>
</tr>
<tr>
<td>Rail kit</td>
<td>Slide rails with cable management arm</td>
<td>Slide rails with cable management arm</td>
<td>Static rails</td>
</tr>
<tr>
<td>Bezel with Polycom badge</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Polycom warranty letter</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><em>Enterprise Products Safety, Environmental, and Regulatory Information for R230</em></td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Unpack and Install the Hardware**

The RealPresence® Resource Manager system, Appliance Edition, can be installed on the following servers:

- Polycom Rack Server 630 (R630)
- Polycom Rack Server 620 (R620)
- Polycom Rack Server 230 (R230)
- Polycom Rack Server 220 (R220)

You should verify the type of server and other contents of your shipment when you unpack the system.

**Procedure**

1. Examine the shipping container for damage.
   
   If you find damage, file a claim with the delivery carrier. Polycom is not responsible for damage sustained during shipment of this product.
2. Open and review the container packing slips.
3. Open the container and examine the contents for damage.
   
   If you find damage, file a claim with the delivery carrier. Keep all shipping materials in case you need them later.
4. Unpack your system and identify each item.
   
   A single-server RealPresence® Resource Manager system shipment includes the items listed in *Verify Shipment Contents* on page 11.
5. Assemble the rails and install the server in the rack.

To rack-mount a server, see the following instructions:


6. Connect the server’s power cable(s) to the server and connect a VGA cable from the server to the console monitor.

7. Connect all power cables into a grounded electrical outlet or separate power source, such as an uninterrupted power supply (UPS) or power distribution unit (PDU).

8. Connect a keyboard to the server.

9. Press the power button on the server and on the monitor.

   The power indicators should light.

10. Create one access password for the system BIOS.

11. Set the correct system time in the system BIOS.

12. Install the bezel (optional).

13. **For Polycom Rack Server R630 or R620 servers only**: Connect the GB 1 Ethernet port to the enterprise network.

   The GB 1 Ethernet port is the eth0 network interface.

14. **For Polycom Rack Server R220 or R230 servers only**: Connect the Port 0 Ethernet port to the enterprise network.

   The Port 0 Ethernet port is the eth0 network interface. On the R220, it is the port that is furthest left on the back of the server. On the R230, it is the port that is furthest right on the back of the server.

**Port 0 Location for Polycom Rack Server 220**

![Port 0 Location for Polycom Rack Server 220](image)
Create a DVD for the System Software

If your RealPresence® Resource Manager, Appliance Edition does not have the system software pre-installed, you need to download the software ISO image from the Polycom Support site, burn it onto a blank DVD, then use the DVD to install the software onto the RealPresence® Resource Manager server.

Procedure

1. Download the RealPresence® Resource Manager software ISO image from Polycom Support to your Windows client system.
2. Insert a blank, recordable DVD into your DVD-RW drive.
3. Using your DVD recording software, burn the ISO image onto the DVD.
4. Verify that the ISO image burned successfully to the DVD, then remove it from your client system.

Install the Appliance Edition Software

After you install the RealPresence® Resource Manager server, you need to install the system software if it is not pre-installed on the server. You can install the software by using the USB Configuration Utility and the DVD you created, or by using only your DVD.

The USB Configuration Utility enables you to enter your initial system settings and save them to the blank USB flash drive. These settings will then be configured for your system when you install the software with your DVD.

If you install the system software using only the DVD, you will be prompted to enter your initial settings during the installation process.

Before you install the system, complete the First-Time Setup Worksheet to note your general network settings, then follow the instructions for the installation method you choose.

Install the System Software Using the USB Configuration Utility and DVD

Before running the USB Configuration Utility, please ensure that your Windows client has JRE 1.8 or higher installed.

You can install the RealPresence® Resource Manager system software using the USB Configuration Utility and the DVD you created. The USB Configuration Utility enables you to configure your initial system settings and save them to the blank USB flash drive. When you insert the USB flash drive into the server and then install the system software from the DVD, your initial settings will be configured during installation.
Caution: Do not use other USB devices during installation.

When you install the RealPresence® Resource Manager system software on the server, no other USB device can be attached to the server. Ensure that only the USB flash drive with the USB Configuration Utility files is connected to the server before you begin the installation. After the installation is complete, you can connect other USB devices to the server.

Procedure

2. Connect the blank USB flash drive shipped with your system to the Windows client.
   
   Important: Install and run the USB Configuration Utility files only on the blank (unused) USB flash drive included in your RealPresence® Resource Manager server shipment.

3. Unzip the USB Configuration Utility files to the root of the blank USB drive.
   
The USB Configuration Utility files must be located at the root of the flash drive, not in a folder.
4. Double-click USB-gui.jar to start the USB Configuration Utility.
   
The USB Configuration Utility displays with the following fields:
   ▪ IP Address
   ▪ Gateway
   ▪ Subnet Mask
   ▪ Hostname
   ▪ Domain Name
5. Enter your network values.
6. Click Save.
   
   Your configuration settings are saved in a lan-cfg.txt file at the root of the USB flash drive.
7. Remove the USB flash drive from the computer.
8. Turn on the RealPresence® Resource Manager server and insert the DVD.
9. Insert the USB flash drive into one of the server's USB ports and disconnect all other USB devices.
10. Restart the system server.
    
The server boots from the DVD, and the installation starts.
    Installation takes approximately 15 minutes, after which the DVD ejects and the server restarts. During startup, the server reads the network settings from the USB flash drive and applies them to your RealPresence® Resource Manager system.

Install the RealPresence® Resource Manager System Software

You can install the system software using the RealPresence® Resource Manager system DVD.

Procedure

1. Insert the DVD into the server and turn on the server.
2. At the system prompts, configure the following settings for your system and press Enter after you complete each setting.
**Note:** To accept the default settings, press **Enter** at each prompt without changing the default information.

<table>
<thead>
<tr>
<th>Prompt</th>
<th>Default Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter the RealPresence® Resource Manager system host name</td>
<td>PLCM_RPRM</td>
</tr>
<tr>
<td>Enter the system domain name</td>
<td></td>
</tr>
<tr>
<td>Enter the system host IP address</td>
<td>192.168.200.11</td>
</tr>
<tr>
<td>Enter the netmask for the system</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Enter the Default Gateway for the system</td>
<td>192.168.200.1</td>
</tr>
<tr>
<td>Enter a DNS for the system</td>
<td>198.168.1.100</td>
</tr>
<tr>
<td>Enter the profile type</td>
<td>2</td>
</tr>
</tbody>
</table>

**Note:** System default settings can be revised after installation

If you accept the system default settings during the initial installation, you can later revise the settings from the RealPresence® Resource Manager system web user interface.

3. Press **Enter** to start the installation process.
   
   Installation takes approximately 15 minutes, after which the DVD ejects and the server restarts.

**Connect to the RealPresence® Resource Manager System, Appliance Edition**

You need to power on and connect RealPresence® Resource Manager system, Appliance Edition system to the network through a ethernet port and then login to continue system setup.

**Procedure**

To connect to the RealPresence Resource Manager system:

1. Power on the computer and the system server.
2. Open a browser and enter the system IP address in the address bar.
   
   https://<systemipaddress>:8443/index.html
3. Enter the administrator **Username** and **Password**.
   
   The factory default is admin/Polycom12#$.
Initial Configuration

Topics:

- Complete the First-time Setup Wizard
- Enabling the License Server for RealPresence Resource Manager
- License Your System with a License File
- Additional Configuration

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.

Note: Appliance Edition Network Connectivity

You perform the first time setup of the RealPresence® Resource Manager, Appliance Edition, 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 helps you set up the initial configuration of your RealPresence® Resource Manager system. For other configurations you may need, see the Polycom RealPresence Resource Manager Operations Guide.

Procedure

1. Navigate to the URL of the RealPresence® Resource Manager system:
   https://<ipaddress>:8443/index.html
2. When the system login screen appears, select a different Language if necessary.
3. Enter the administrator Username and Password.
   The factory default is admin/Polycom12#$.
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 10 characters.
9. Confirm the New Password and click Next.

You are logged off.

10. Log in again with the password you set in 8 on page 18.
11. Choose the Network Settings page and enter the information recorded in Complete the First Time Setup Worksheet on page 4.

The system reboots and you need to log in again.

12. Configure these settings on the System Time page, as necessary.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Time Zone</td>
<td>The time zone in which the system server resides.</td>
</tr>
<tr>
<td>Use Current Time</td>
<td>Select this check box to input the current date and time.</td>
</tr>
<tr>
<td></td>
<td>Even if you plan to use an NTP server, you should set the proper time during the first-time setup to ensure certificate creation works reliably.</td>
</tr>
<tr>
<td>Current Date</td>
<td>The system date for the system.</td>
</tr>
<tr>
<td>Current Time</td>
<td>The system time for the system.</td>
</tr>
<tr>
<td>Use External NTP Server Time Synchronization</td>
<td>(Recommended) Select this check box to synchronize the system date and time with an external NTP server.</td>
</tr>
<tr>
<td></td>
<td>Do this ONLY after you have first manually set the local system time.</td>
</tr>
<tr>
<td>IP address or DNS resolved names separated by spaces</td>
<td>The IP address or FQDN (ASCII only) of the NTP servers.</td>
</tr>
</tbody>
</table>

**Note:** 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.

13. If you have changed the RealPresence Resource Manager system name, you can generate a new self-signed certificate.

**Active Directory Configuration**

14. Integrate the system with an enterprise Active Directory server so that users can include enterprise groups, users, and rooms in their conferences.

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.

15. As needed, configure the following settings:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain\Enterprise Directory User ID</td>
<td>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 completed Pre-stage a Computer Account on page 7. This user ID must have read permissions so it can search the entire forest on the enterprise directory server. This user ID is automatically associated with the RealPresence® Resource Manager system administrator role—by default it is the ONLY enterprise directory user ID with this role.</td>
</tr>
<tr>
<td>Enterprise Directory User Password</td>
<td>The password for the enterprise directory user account</td>
</tr>
<tr>
<td>Security Level</td>
<td>The level of security on the connection between the RealPresence Resource Manager system and the enterprise directory server. Possible values include:</td>
</tr>
<tr>
<td></td>
<td>- Plain—No security on the connection.</td>
</tr>
<tr>
<td></td>
<td>- LDAPS—The connection is secured over outbound port 3269 using LDAP-S in a manner similar to https.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>- StartTLS—The connection is secured over outbound port 3268 (the same port as Plain), but it then negotiates security once the socket is opened. Some LDAP servers reject any unsecured transactions, so the first command is the StartTLS negotiation command.</td>
</tr>
<tr>
<td>Ignore Disabled Enterprise Directory Users</td>
<td>Enable the check box to have the RealPresence® Resource Manager system ignore disabled enterprise users in its queries.</td>
</tr>
<tr>
<td>Enterprise Directory Exclusion Filter</td>
<td>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.</td>
</tr>
<tr>
<td>Enterprise Directory Search BaseDN</td>
<td>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.</td>
</tr>
</tbody>
</table>

16. Integrate the system with an Active Directory domain controller for single sign-on (SSO) authentication:


      The system can automatically discover the closest logical domain controller and Active Directory servers, but to do so 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, dcl.mydomain.com). The prestaged 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 prestaged computer account created in step **Pre-stage a Computer Account** on page 7.

17. On the **Directory Setup** page, complete the following tasks:

a) To allow non-LDAP directory protocols, enable the **Allow non-LDAP directory protocols** check box.

b) **Note:** VVX business media phones and CMA Desktop and RealPresence Mobile clients are always dynamically managed.

To exclude users with dynamically managed endpoints from the Global Address Book, clear the **Include dynamically-managed devices in the Global Address Book** check box.

c) To exclude guest book entries from the enterprise directory, clear the **Show Guestbook entries in the Directory** check box.

d) To allow local user directories to include endpoint directory information, enable the **Allow endpoint directories for local users to include enterprise directory user and group information** check box.

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

e) If your video network includes LifeSize endpoints, enable the **Modify directory listings for LifeSize® endpoint support** check box.

18. Click **Next**.

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

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

### Enabling the License Server for RealPresence® Resource Manager

Licenses for the RealPresence® Clariti™ systems must be activated and validated before you can use RealPresence® Resource Manager to manage your RealPresence® Clariti™ products (including the RealPresence® Resource Manager system).

### Create a License Server in the Polycom Licensing Center

When your organization purchased licensing for RealPresence® Resource Manager, Polycom sent an email containing a URL and login credentials for the Polycom Licensing Center. Use that information to log into the Polycom Licensing Center, set up RealPresence® Resource Manager as a license server, and manage your Polycom RealPresence licenses.
**Note:** If your RealPresence® Resource Manager instance does not have direct access to the internet, you can log into the Polycom Licensing Center from a computer that does have internet access and then use the offline process to activate the license. With the offline process, you can download a license file from the Licensing Center and then upload it to your RealPresence® Resource Manager system.

**Procedure**

1. In the RealPresence® Resource Manager system, go to **License Management > Setup**.
   A message indicates that the system is not licensed or the license has expired on the **License Setup** page.
2. Write the System Identifier number down or leave this page open. You will need the System Identifier number to activate your licenses.
3. In a different browser window, log into the Polycom Licensing Center using the URL and credentials sent to you.
   A successful login opens the **Polycom Licensing Center** page.

4. On the **Polycom Licensing Center** page, click **Create Server** to open the **Create Server** page.
5. Enter information as outlined in the following table to create a license server for your RealPresence products.

<table>
<thead>
<tr>
<th>Field</th>
<th>Value Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>License Server ID</td>
<td>Copy and paste the System Identifier number from the RealPresence® Resource Manager <strong>License Setup</strong> page.</td>
</tr>
<tr>
<td>Backup Device</td>
<td>Currently not supported. Leave this field blank.</td>
</tr>
<tr>
<td>ID Type</td>
<td>Select PUBLISHER_DEFINED. <strong>Note:</strong> This is a change from previous versions, which required an ID Type of VM_UUID.</td>
</tr>
<tr>
<td>Alias</td>
<td>(Optional) A unique name for your license server. If your organization deploys more than one, aliases make it easier to identify each specific instance.</td>
</tr>
<tr>
<td>Site Name</td>
<td>(Optional) A descriptive name for your Polycom RealPresence license management site.</td>
</tr>
</tbody>
</table>
6. Click **Create**.
After the license server is successfully created, the View Server page displays your valid License Server ID, ID Type, and Site Name.

Next, you map and generate available licenses to your RealPresence systems. See Activate the Available Licenses on page 22.

Activate the Available Licenses

After setting up RealPresence® Resource Manager as your license server, you must activate the available licenses. You can manage licenses for individual components of your RealPresence systems after those components have been added to the system.

Procedure

1. On the Polycom Licensing Center View Server page, click Map Add-Ons to show a list of available units for features your organization has purchased, as shown next.

2. In the Qty to Add column for the available licenses, enter the number to allocate to the RealPresence® Resource Manager instance.

3. Click Map Add-Ons to allocate the licenses.

   The View Server page returns, displaying a list of the server's licenses. The status for newly-allocated licenses is License not generated. A license must be generated (activated on the component) to allow the corresponding system component to operate within your RealPresence environment.

4. If you allocated too many license add-on units to this RealPresence® Resource Manager instance and want to remove some, click Remove Add-Ons.

   The Remove Add-Ons page lists the license add-ons available on this instance.

5. In the Quantity to Remove field of the add-ons you want to change, enter the number of units to remove and click Remove Add-Ons.

   The View Server page returns, displaying a list of the server's licenses. The status for licenses with newly-removed units is Copies decreasing. The removed licenses must be deactivated within your RealPresence® Resource Managersystem.

6. If your RealPresence® Resource Manager instance does not have access to the internet, click Download Capability Response to download a local copy of the license file.

   This download allows you to manage your licenses offline. Note the location of the license file when you download it to your local computer. You will upload this file to the RealPresence® Resource Manager system to activate the licensing.

   If your RealPresence® Resource Manager system has access to the internet, you must use the online method to license the system and its components. The offline method for managing licenses is not an option when internet access is available.
7. Return to the RealPresence Resource Manager License Setup page, and do one of the following:
   - Click **Online** if your virtual environment has access to the Internet and can use the online method for managing licenses.
   - Click **Offline** if your virtual environment does not have access to the Internet and therefore requires use of the offline, file-based method for managing licenses. Prompts guide you through the offline update process using the license file you previously downloaded from the Polycom Licensing Center.

8. Click **Update** to complete the license activation process.

   A successful activation produces an active license notation. After you click **Update**, it may take up to 30 minutes to activate the license, and you may need to refresh the browser window.

   After you have successfully activated your license, the full RealPresence® Resource Manager menu and dashboard become available for managing the system and its components.

After properly activating the RealPresence® Resource Manager license, you must configure your system so that it can begin managing and monitoring instances of supported RealPresence component products.

---

**License Your System with a License File**

If you are not a RealPresence Clariti customer, you need to license your RealPresence® Resource Manager system using an activation key code or license file. See the Polycom® RealPresence® Resource Manager System Operations Guide for instructions.

---

**Additional Configuration**

Additional configuration tasks are discussed in Chapter 2 of the Polycom® RealPresence® Resource Manager System Operations Guide. For example:

- Configure the system for device management of your RealPresence Clariti video infrastructure
- Configure your system for redundancy, if applicable.
- Set up your site topology.
- As needed for conference scheduling:
  - Integrate with a RealPresence 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.)
Add MCUs that you want the prod_name_short to manage.

- As needed for administration:
  - 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.

- As needed for endpoint management:
  - Associate users with endpoints.
  - Create provisioning profiles and rules for dynamically managed endpoints and phones.