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About This Guide

This guide provides information to help you understand the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Multipoint Control Unit (MCU), and provides information to perform following tasks:

- Prepare for Installation
- Install the RealPresence Collaboration Server (RMX) 1500
- Install the RealPresence Collaboration Server (RMX) 1800
- Install the RealPresence Collaboration Server (RMX) 2000
- Install the RealPresence Collaboration Server (RMX) 4000
- Select Collaboration Server Web Client Language
- Start Conferences Using Default Profiles

The product names, RealPresence® Collaboration Server 1500, 1800, 2000, 4000 and RMX® 1500, 1800, 2000, 4000 are used interchangeably throughout this Guide.

The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide provides more in-depth information on configuring and managing the system.

Prerequisites

This guide assumes the user has the following knowledge:

- Familiarity with Windows® XP, Windows® 7, and Windows® 8 operating systems and interface.
- Familiarity with 32-bit Microsoft® Internet Explorer® version 7, 8, 9, and 10.
- Basic knowledge of video conferencing concepts and terminology.

Who Should Read This Guide?

System administrators and network engineers should read this guide to learn how to properly install and set up Polycom Collaboration Server systems. Chairpersons and system operators should read this guide to learn how to use the RealPresenceCollaboration Server Web Client or RMX Manager to run conferences.

Chairpersons and Operators (users who start and manage conferences on the MCU) please read:

- About This Guide
- About the RealPresence® Collaboration Server (RMX®) 1500/1800/2000/4000 System
- Select Collaboration Server Web Client Language
- Start Conferences Using Default Profiles

System Administrators please read:
## How This Guide is Organized

The following typographic conventions are used in this guide to distinguish types of in-text information.

<table>
<thead>
<tr>
<th>Convention</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bold</strong></td>
<td>Highlights interface items such as menus, soft keys, flag names, and directories. Also used to represent menu selections and text entry to the Collaboration Server Web Client or the RMX Manager.</td>
</tr>
<tr>
<td><strong>Italics</strong></td>
<td>Used to emphasize text, to show example values or inputs, file names and to show titles of reference documents available from the Polycom Support Web site and other reference sites.</td>
</tr>
<tr>
<td><strong>Underlined Blue</strong></td>
<td>Used for URL links to external Web pages or documents. If you click on text in this style, you will be linked to an external document or Web page.</td>
</tr>
<tr>
<td><strong>Blue Text</strong></td>
<td>Used for cross referenced page numbers in the same or other chapters or documents. If you click on blue text, you will be taken to the referenced section. Also used for cross references. If you click the italic cross reference text, you will be taken to the referenced section.</td>
</tr>
<tr>
<td><code>&lt;variable name&gt;</code></td>
<td>Indicates a variable for which you must enter information specific to your installation, endpoint, or network. For example, when you see <code>&lt;IP address&gt;</code>, enter the IP address of the described device.</td>
</tr>
<tr>
<td><code>&gt;</code></td>
<td>Indicates that you need to select an item from a menu. For example, <strong>Administration &gt; System Information</strong> indicates that you need to select <strong>System Information</strong> from the <strong>Administration</strong> menu.</td>
</tr>
</tbody>
</table>

Unless specified differently, all screen captures, diagrams and figures included in this guide apply to RealPresence Collaboration Server (RMX) 1500/1800/2000/4000.
The RealPresence® Collaboration Server (RMX®) 1500/1800/2000/4000 is a high performance, scalable, IP (H.323 and SIP) and ISDN/PSTN MCU that provides feature-rich and easy-to-use multipoint voice and video conferencing. The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 meets International Telecommunication Union—Telecommunication Standardization Sector, (ITU-T, formerly CCITT) standards for multipoint multimedia bridging devices, and meets ETSI standards for telecommunication products. In addition, it has been designed in compliance with IETF (Internet Engineering Task Force).

The MCU can be used as a standalone device to run voice and video conferences or it can be used as part of a solution provided by Polycom. This solution may include the following components:

- Polycom® RSS™ 4000 or Polycom® RealPresence® Capture Server—provides one-touch recording and secure playback on telepresence and video conferencing systems, tablets and smartphones, or from your Web browser.
- Polycom® RealPresence® Distributed Media Application™ (DMA™) system—provides call control and MCU virtualization with carrier-grade redundancy, resiliency and scalability.
- Polycom® RealPresence® Resource Manager—centrally manages, monitors and delivers Cloud based Video as a Service (VaaS) and enterprise video collaboration.
- Polycom® RealPresence® Access Director™ (RPAD)—removes communication barriers and enables internal and external teams to collaborate more easily and effectively over video.

The following diagram describes the multipoint video conferencing configuration with the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 as a standalone MCU system.
Multipoint video conferencing using a RealPresence Collaboration Server (RMX) 1500/1800/2000/4000

The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 can be controlled through LAN (s) as below:

- In the RealPresence Collaboration Server (RMX) 1500/2000, MCU management and IP conferencing are performed through a single LAN port. The networks can be separated in Maximum Security Environments.
- In the RealPresence Collaboration Server (RMX) 1800/4000, MCU management and IP conferencing are performed through two different LAN ports. The networks can be separated in Maximum Security Environments. Management and IP Service can be combined in one LAN port or can be separated to different ports.
The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 provides connections to ISDN/PSTN networks through PRI (E1/T1) ports:

- RealPresence Collaboration Server (RMX) 1500 supports one ISDN card with up to four E1/T1 PRI lines. RealPresence Collaboration Server (RMX) 1800-3 supports one built-in ISDN module with up to four E1/T1 PRI lines.
- RealPresence Collaboration Server (RMX) 2000 and RealPresence Collaboration Server (RMX) 4000 support a maximum of two RTM ISDN cards, each providing connection for up to either seven E1 or nine T1 PRI lines.

On the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000, E1 and T1 connections cannot be used simultaneously.

The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 can be controlled through the LAN, by the RMX Web Client application, using Internet Explorer installed on the user’s workstation or the RMX Manager application. The RMX Manager can control several MCUs. For more information about the RMX Manager, see *RMX Manager Application* in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide*. 

Polycom, Inc. 9
Workstation Requirements

The Collaboration Server Web Client and RMX Manager applications can be installed in an environment that meets the following requirements:

- **Minimum Hardware**—Intel® Pentium® III, 1 GHz or higher, 1024 MB RAM, 500 MB free disk space.
- **Workstation Operating System**—Microsoft® Windows® XP, Windows® 7 and Windows® 8.
- **Network Card**—10/100/1000 Mbps.
- **Web Browser**—32-bit Microsoft® Internet Explorer® Version 7, 8, 9, and 10.
- Collaboration Server Web Client and RMX Manager are optimized for display at a resolution of 1280 x 800 pixels and a magnification of 100%.

The following table lists the Web Browsers and Operating Systems with which the Collaboration Server Web Client and RMX Manager applications are supported.

**Collaboration Server Web Client/ RMX Manager Environment Interoperability**

<table>
<thead>
<tr>
<th>Web Browser</th>
<th>Operating System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Explorer 7</td>
<td>Windows Vista™ / Windows 7</td>
</tr>
<tr>
<td>Internet Explorer 8</td>
<td>Windows 7</td>
</tr>
<tr>
<td>Internet Explorer 9</td>
<td>Windows 7/ Windows 8</td>
</tr>
<tr>
<td>Internet Explorer 10*</td>
<td>Windows 8</td>
</tr>
</tbody>
</table>

**Windows 7™ Security Settings**

Before running the Collaboration Server Web Client or RMX Manager applications in Window 7 operation system or in other operation systems, following system factors need to be considered:

- Internet Explorer 10 has been tested on the RealPresence Collaboration Server (RMX) 1800. If for any reason it fails to run, right-click the Internet Explorer icon and select **Run As Admin**.
- In Windows 8, it is recommended to run Internet Explorer as an administrator by holding the shift key and right-clicking on the IE icon, and then select **Run as Administrator**.
- **.Net Framework 2.0** is required and installed automatically.
- If ActiveX installation is blocked please see **ActiveX Bypass** in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide.
- The RMX Web Client does not support larger Windows text or font sizes. It is recommended to set the text size to 100% (default) or normal, otherwise, some dialog boxes may not appear properly. To change the text size, click **Control Panel > Display**.
  - For Windows XP, click the **Appearance** tab, select **Normal** for the Font size and click **OK**.
  - For Windows 7, click the **Smaller - 100%** option and click **OK**.
- When installing the RMX Web Client, **Windows Internet Explorer > Internet Options > Security Settings** must be set to **Medium** or less.
- It is not recommended to run Collaboration Server Web Client and Polycom Resource Manager applications simultaneously on the same workstation.
If Windows 7 is installed on the workstation, protected mode must be disabled before downloading the software to the workstation. To disable protected mode:

1. In the Internet Options dialog box, click the Security tab.
2. Clear the Enable Protected Mode check box for each of the following tabs:
   - Internet
   - Local intranet
   - Trusted sites

3. After successful connection to Collaboration Server, the Enable Protected Mode check boxes can be selected to enable Protected Mode for the following tabs:
   - Internet
About the RealPresence® Collaboration Server (RMX®) 1500/1800/2000/4000 System

♦ Local intranet
Internet Explorer 8 Configuration

When using Internet Explorer 8 to run the Collaboration Server Web Client or RMX Manager applications, it is important to configure the browser according to the following procedure.

To configure Internet Explorer 8:

1. Close all browsers running on the workstation.
2. Use the Windows Task Manager to verify that no iexplore.exe processes are running on the workstation. If iexplore.exe processes are found, end the process.
3. Open Internet Explorer but do not connect to the MCU.
4. In the Internet Explorer menu bar, select Tools > Internet Options.
5. In the Browsing history area of the General tab, click Delete button.
   The Delete Browsing History dialog box is displayed.

   ![Delete Browsing History dialog box](image)

6. In the Delete Browsing History dialog box, select the Temporary Internet files and Cookies check boxes, then click the Delete button.
   The Delete Browsing History dialog box closes and the files are deleted.
7 Again, in the Browsing history field of the General tab, click Settings button, The Temporary Internet Files and History Settings dialog box is displayed.

8 In the Temporary Internet Files and History Settings dialog box, click the View objects button. The Downloaded Program Files folder containing the installed program files is displayed.
About the RealPresence® Collaboration Server (RMX®) 1500/1800/2000/4000 System

9 Delete the EMAClassLoader.dll file.
10 Close the Downloaded Program Files folder and the Temporary Internet Files and History Settings dialog box.
11 In the Internet Options dialog box, click the OK button to save the changes and close the dialog box.
Prepare for Installation

The section provides information about preparations required before installing RealPresence Collaboration Server (RMX) 1500/1800/2000/4000. Perform the following steps for the preparations:

- Gather Network Address Information
- Prepare the Hardware Installation Site
- Unpack RealPresence Collaboration Server (RMX) 1500/1800/2000/4000
- Verify the Accessories Kits
- Install the Telescopic Rail Runners on the Rack

Gather Network Address Information

This section summarizes the information you need to gather from your Network administrator.

IP Services

The IP addresses and network parameters which enable communication among the RealPresence Collaboration Server, its management application and the conferencing devices.

The following three types of IP addresses need to be allocated to each RealPresence Collaboration Server.

- Control Unit IP Address—enables communication between the RealPresence Collaboration Server and the RMX Web Client, and is used to manage the MCU.

  The configuration of the Management Network can be through either USB Key or Direct connection:

  - USB Key (recommended method)
    The system is shipped with a USB Key containing the default Control Unit IP Address and Shelf Management IP Address. The two IP addresses need to be provided by your network administrator and modified to fit in your local network.

  - Direct connection—creates a private network between the RealPresence Collaboration Server and the computer, and modifying the management network parameters using Fast Configuration Wizard through the RMX Web Client.

    For more information, see Appendix G - Configuring Direct Connections to the Collaboration Server in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide.

    DHCP is not supported for the Control Unit IP Address.

- Signalling Host IP Address—configures and manages communications between the RealPresence Collaboration Server and conferencing devices. The configuration of Signalling Host IP Address is through Fast Configuration Wizard.

- Media Card IP Address—each MPMx or MPMRx media card needs to be allocated an IP address.
The following table lists the required network information to set up a RealPresence Collaboration Server. All default IP addresses need to be modified to fit in your local network.

### RealPresence Collaboration Server Network Address Information

<table>
<thead>
<tr>
<th>Required IP Addresses</th>
<th>RMX 1500</th>
<th>RMX 1800</th>
<th>RMX 2000</th>
<th>RMX 4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Unit IP Address</td>
<td>192.168.1.254 (default)</td>
<td>192.168.1.254 (default)</td>
<td>192.168.1.254 (default)</td>
<td>192.168.1.254 (default)</td>
</tr>
<tr>
<td>Shelf Management IP Address</td>
<td>192.168.1.252 (default)</td>
<td>NA</td>
<td>192.168.1.252 (default)</td>
<td>192.168.1.252 (default)</td>
</tr>
<tr>
<td>Signaling Host IP address</td>
<td>Mandatory</td>
<td>Same as the Media Card IP Address and defined by the Media Card IP address</td>
<td>Mandatory</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Media Card 1 IP Address</td>
<td>Mandatory</td>
<td>Mandatory</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Media Card 2 IP Address</td>
<td>NA</td>
<td>NA</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Media Card 3 IP Address</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Optional</td>
</tr>
<tr>
<td>Media Card 4 IP Address</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Optional</td>
</tr>
<tr>
<td>Control Unit Subnet Mask</td>
<td></td>
<td></td>
<td></td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Default Router IP Address</td>
<td></td>
<td></td>
<td>192.168.1.1 (Default)</td>
<td></td>
</tr>
<tr>
<td>Gatekeeper IP address</td>
<td></td>
<td></td>
<td></td>
<td>Optional</td>
</tr>
<tr>
<td>DNS IP address</td>
<td></td>
<td></td>
<td></td>
<td>Optional</td>
</tr>
<tr>
<td>SIP Server IP address</td>
<td></td>
<td></td>
<td></td>
<td>Optional</td>
</tr>
</tbody>
</table>

### ISDN/PSTN Services

The ISDN/PSTN Network Service is used to define the properties of the ISDN/PSTN switch and the ISDN lines running from the ISDN/PSTN switch to the ISDN card installed in the Collaboration Server, which also can be initially configured through Fast Configuration Wizard.

Before configuring the ISDN/PSTN Network Service, obtain the following information from your ISDN/PSTN Service Provider:

*Note: version 8.1*

From Version 8.1 and later, MPM+ media cards are not supported.
• Switch Type
• Line Coding and Framing
• Numbering Plan
• Numbering Type
• Dial-in number range

Note: Connection to public ISDN network
If the RealPresence Collaboration Server is connected to the public ISDN Network, an external CSU or similar equipment is needed.
Prepare the Hardware Installation Site

This section describes the requirements your site must meet for the safe installation and operation of the system.

Safety Requirements

For your protection, please read these safety instructions completely before operating the equipment.

- Look carefully for potential hazards in your work area: moist floors, ungrounded power cables, frayed power cords, missing safety grounds and so forth.
- Locate the main circuit breaker within the room.
- Locate the emergency power OFF switch within the room.
- Never assume that power is disconnected from a circuit.
- Use only the power cord supplied with the system.
- Each power cord should only be connected to a power outlet that has a protective ground contact.
- Ensure that the power cord is easily accessible from the back of the system at all times.
- Place the equipment in a well-ventilated area where the vents are free from obstruction.
- Do not place heavy objects directly on top of the RealPresence Collaboration Server unit.
- Do not use liquids around your equipment.

Rack Mount Safety Precautions

The following precautions should be followed with regards to rack mount safety:

- Keep the area around the RealPresence Collaboration Server clean and free of clutter.
- Decide on a suitable location for the equipment rack that will hold the RealPresence Collaboration Server unit. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet.
- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In a single rack installation, stabilizers should be attached to the rack.
- In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a component from the rack.
- You should extend only one component at a time - extending two or more simultaneously may cause the rack to become unstable.
- Before you install the rails, determine the placement of each component in the rack.
- Install the heaviest components on the bottom of the rack first, and then work up.
- Allow the power supply units to cool before touching them.
- Always keep the rack’ trays and card’s slots closed when not servicing, to maintain proper cooling.
Installation Precautions

The RealPresence Collaboration Server 2000 can weigh up to 16.5 kg, and the RealPresence Collaboration Server 4000 can weigh up to 40 kg when all slots are occupied. Two people are required to lift the MCU out of the box and also when installing it in a rack.

**Warning: When handling electronic components, standard anti-static precautions must be observed**
- Wear a grounding strap
- Handle cards by their edges only and do not touch their components or connector pins
- Keep components in anti-static bags when not installed in the RealPresence Collaboration Server.

The following precautions should be followed with regards to installation of the Collaboration Server:

- Use a regulating uninterruptable power supply (UPS) to protect the RealPresence Collaboration Server from power surges and voltage spikes, to keep your MCU operating in case of a power failure. The RealPresence Collaboration Server 4000 requires either two DC or three AC power supply cables, each connected to a power supply.
- Place the RealPresence Collaboration Server on a hard, flat surface such as a desktop or mount it on 19” rack.
  The RealPresence Collaboration Server 4000 can also be mounted on a 23” rack.
- The RealPresence Collaboration Server 4000 has a height of 6U. Ensure this space is available on the rack.
- The airflow of the RealPresence Collaboration Server 1500/1800 is from front to back. Be sure that the areas in the front and rear side of the system are clear for proper ventilation.
  The airflow of the RealPresence Collaboration Server 2000/4000 is from right to left. Be sure that the areas in the right and left side of the system are clear for proper ventilation.

**Warning: Breaking the seal voids the warranty**
The RealPresence Collaboration Server 1800 is a sealed system, breaking the seal and opening the chassis voids the warranty.
Prepare for Installation

Unpack RealPresence Collaboration Server (RMX) 1500/1800/2000/4000

Perform the following procedures when unpacking the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000.

To unpack and lift the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000:

1. When you receive the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 packing case, inspect the equipment for damage and verify that the components match the packing slip.

2. The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 is shipped in a packing case with Stratocell® packaging, and the top cover must be unlocked and lifted. Boxes are placed on the top Stratocell and contain installation accessory kit, Telescopic rail runners accessory kit, and optional ISDN card package.

3. Write down the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 serial number that is on a sticker on the back of the unit. It will be needed for product registration later.

4. Holding the handle on each side, lift the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 from the box, and place it on a flat surface or in a rack. Remove and packaging materials prior to positioning the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000.
Verify the Accessories Kits

The following tables list accessories in the installation accessory kit and Telescopic rail runner accessory kit of the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 boxes.

In the box of RealPresence Collaboration Server (RMX) 1500/2000/4000, an optional ISDN package with ISDN card and printed ISDN license is available.

In the box of RealPresence Collaboration Server (RMX) 1800-3, an optional ISDN printed ISDN license is available.

### Installation Accessory Kit

<table>
<thead>
<tr>
<th>RMX 1500</th>
<th>RMX 1800</th>
<th>RMX 2000</th>
<th>RMX 4000</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 power cable</td>
<td>1 AC power cable</td>
<td>1 power cable</td>
<td>3 power cables</td>
</tr>
<tr>
<td>3 Ethernet cables</td>
<td>2 Ethernet cables</td>
<td>1 Ethernet cable</td>
<td>4 Ethernet cables</td>
</tr>
<tr>
<td>1 USB Key</td>
<td>1 USB Key</td>
<td>1 USB Key</td>
<td>1 USB Key</td>
</tr>
<tr>
<td>NA</td>
<td>1 Serial Cable</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

### Telescopic Rail Runners Accessory Kit of RealPresence Collaboration Server (RMX) 1500/2000/4000

<table>
<thead>
<tr>
<th>Part/Kit no.</th>
<th>Item</th>
<th>Item no.</th>
<th>Item Sample</th>
<th>Item Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASY2716A-L0</td>
<td>Rail runner (two types available: item (a) with or (b) without rail runner clip</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The rail runner clip is designed to attach and clip onto the chassis runner frame.

**Note:** rail runner end views

| Right rail runner (two types available: item (a) with or (b) without rail runner clip | 2 | See previous figure | 1 |

**Note:** The rail runner clip is designed to attach and clip onto the chassis runner frame.
<table>
<thead>
<tr>
<th>Part/Kit no.</th>
<th>Item</th>
<th>Item no.</th>
<th>Item Sample</th>
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<tr>
<td>Rack spacer assembly kit</td>
<td>Rack spacer</td>
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<td>Front &amp; Rear</td>
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<td></td>
<td>Flat head screw - M5*10mm</td>
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<td>Rail runner assembly kit</td>
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<tr>
<td>chassis assembly kit</td>
<td>Flat washer M5</td>
<td>9</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
Install the Telescopic Rail Runners on the Rack

Rack Rail Runners require a minimum of 48 cm and a maximum of 80 cm within the rack for installation.

To install the Telescopic rail runners on the rack:

1. Determine the location of the Collaboration Server on the rack:
   - Allow for a 1U gap above and below the system for ventilation.
   - Use the Rack Spacer (item no. 3) to predetermine its position on the rack post, making sure that square studs of the spacer fit into the rack post’s square/rounded mounting holes. Mark the spacer’s location on the rack post. Repeat this process for the 3 remaining vertical posts ensuring that the system can be horizontally seated.

   Front view of RealPresence Collaboration Server (RMX) 1500/2000/4000 rail runner assembly

2. Position the Rack Spacer (3) onto the marked rack post together with left rack rail runner (item no. 1 which is labeled LEFT) and fasten the flat head screws 3*10 mm (4) as shown in the following figure.
Detail of front rack spacer assembly for RealPresence Collaboration Server (RMX) 1500/2000/4000

*RMX 1500 rack assembly view without rail runner clip*

*RMX 1500 rack assembly view with rail runner clip*

*RMX 2000 rack assembly view without rail runner clip*

*RMX 2000 rack assembly view with rail runner clip*
Prepare for Installation

- On the RealPresence Collaboration Server (RMX) 1500 the center hole on the Rack Spacer must be left clear as it is required for fixing the Collaboration Server to the rack post.
- On the RealPresence Collaboration Server (RMX) 2000/4000 the top hole on the Rack Spacer must be left clear as it is required for fixing the Collaboration Server to the rack post.

3 Adjust the telescopic rack rail runner to the rack opening and mount it onto the marked position of the rear post as described in step 2.

**Detail of rear rack spacer assembly for RealPresence Collaboration Server (RMX) 1500/2000/4000**

4 Repeat steps 2 and 3 for the right rack rail runner.

5 Install the flat head screw (5), flat washer (6) and nut spring (7) in the middle of the telescopic rack rail runner for added stability.

The number of screws to install depends on the rack width.
6 Repeat step 5 for the right rack rail runner.
Install the RealPresence Collaboration Server (RMX) 1500

The following procedures have to be performed to install the RealPresence Collaboration Server (RMX) 1500 in your site:

- (Optional) Install RTM ISDN Card on the RealPresence Collaboration Server (RMX) 1500
- Mount the RealPresence Collaboration Server (RMX) 1500 in a Rack
- Connect the RealPresence Collaboration Server (RMX) 1500 to a Power Source
- Connect Cables to the RealPresence Collaboration Server (RMX) 1500

**Note:** Considerations for installing RealPresence Collaboration Server (RMX) 1500

To maximize conferencing performance, especially in high bit rate call environments, a 1Gb connection is recommended for RealPresence Collaboration Server (RMX) 1500. The equipment must be installed by a trained service person.

(Optional) Install RTM ISDN Card on the RealPresence Collaboration Server (RMX) 1500

If the ISDN option was purchased with your RealPresence Collaboration Server (RMX) 1500, the ISDN card is shipped separately and must be manually installed into the rear of the RealPresence Collaboration Server (RMX) 1500. It is recommended to install the ISDN card before the RealPresence Collaboration Server (RMX) 1500 is placed in a rack.

An RMX Software License is included with the ISDN card and must be registered as part of the Product. For more information, see Register Product .

To remove the blank cover from the rear of the RealPresence Collaboration Server (RMX) 1500:

1. Ensure that the power switch on the Collaboration Server is turned OFF (O).
2. Remove the cover or RTM ISDN 1500 card by unscrewing the captive screws that fasten the card to the MCU.
3. Slide out the cover or RTM ISDN 1500 card.

To install the RTM ISDN 1500 card:

1. Slide in the RTM ISDN 1500 card.
2 Insert the card into the slot and tighten the captive screws on each side of the rear panel of the card, securing the RTM ISDN card to RealPresence Collaboration Server (RMX) 1500.

Mount the RealPresence Collaboration Server (RMX) 1500 in a Rack

There are two methods for installing the Collaboration Server in a 19" rack:

- Using the rack rail runners on the rack
  - Install the telescopic rail runners, as described in Install the Telescopic Rail Runners on the Rack.
  - Mount the RealPresence Collaboration Server (RMX) 1500 on top of the rail runners.
  - Fasten the RealPresence Collaboration Server (RMX) 1500 to the rack spacers using the flat head screw (8) with the flat washer (9) through the two holes in the Collaboration Server front mounting brackets.
Refer to Detail of front rack spacer assembly for RealPresence Collaboration Server (RMX) 1500/2000/4000 for installation instructions.

- **Using a shelf**
  - Install the shelf, supplied by the rack manufacturer, in the rack.
  - Mount the Collaboration Server unit on the shelf.
  - Fasten the Collaboration Server unit to the rack with screws through the four holes in the Collaboration Server front mounting brackets.

---

**Connect the RealPresence Collaboration Server (RMX) 1500 to a Power Source**

The following restrictions apply to the conductors and connectors that may be used to ground the unit when rack mounted:

- When using bare conductors, they must be coated with an appropriate antioxidant compound before crimp connections are made. Tinned, solder-plated or silver-plated connectors do not have to be prepared in this manner.
- The same bolt assemblies should not secure multiple connectors.
Listed fastening hardware must be compatible with the materials being joined and must be preclude loosening, deterioration and electrochemical corrosion of the hardware and joint materials.

To connect the RealPresence Collaboration Server (RMX) 1500 to AC power:

1. Make sure that the power (push) button is switched OFF on the RealPresence Collaboration Server (RMX) 1500.

2. Insert the power cable into the power connector on the rear panel of the RealPresence Collaboration Server (RMX) 1500.
   - Do not connect the green or green-yellow wire to the system single-point ground screw.
   - Only the AC Power cable supplied by Polycom should be used.
   - The size of the protective earthing conductor should be a minimum of 10 AWG.
   - The outlet intended for connecting the power cord must be protected with an external overcurrent protection device either in building or in the rack with the rating not higher than 20Amp.
   - Do not use an extension cord with the cable.

Connect Cables to the RealPresence Collaboration Server (RMX) 1500

Perform following steps to connect cables to RealPresence Collaboration Server (RMX) 1500.

To connect the cables to the RealPresence Collaboration Server (RMX) 1500:

- Connect the Media cable to LAN 2 port.
  - Optional. If LAN Redundancy or Multiple Networks options are used, connect the LAN cable to LAN 1.
    - For more information, see LAN Redundancy and Multiple Network Services in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator's Guide.
- Connect the Network cables to:
  - the MNG (Signaling) port
  - the MNGB (Management Network) port.
Optional. Connect the Shelf Management cable to the Shelf port. When an NTP Server is used for the RMX time, the Shelf Management cable must be connected to the shelf port.

Optional. For ISDN/PSTN connections, connect the E1/T1 cables to their PRI (1-4) ports.

Caution: Do not remove the plastic caps covering the ports which are not in use.

The LAN 1, LAN3, LAN4 and Modem ports are not be used and the plastic caps covering those ports should not be removed.
Install the RealPresence Collaboration Server (RMX) 1800

Perform following procedures to install the RealPresence Collaboration Server (RMX) 1800 in your site:

- Mount the RealPresence Collaboration Server (RMX) 1800 on a Shelf
- Connect the RealPresence Collaboration Server (RMX) 1800 to a Power Source
- Connect Cables to the RealPresence Collaboration Server (RMX) 1800

**Note: Considerations for installing RealPresence Collaboration Server (RMX) 1800**

To maximize conferencing performance, especially in high bit rate call environments, a 1Gb connection is recommended for RealPresence Collaboration Server (RMX) 1800. The equipment must be installed by a trained service person.

Mount the RealPresence Collaboration Server (RMX) 1800 on a Shelf

Perform the following steps to mount the RealPresence Collaboration Server (RMX) 1800 on a shelf.

To mount the system on a shelf:

1. Install the shelf, supplied by the rack manufacturer, in the rack.
3. Fasten the RealPresence Collaboration Server (RMX) 1800 to the rack with screws through the four holes in front mounting brackets of the RealPresence Collaboration Server (RMX) 1800.
Install the RealPresence Collaboration Server (RMX) 1800

Connect the RealPresence Collaboration Server (RMX) 1800 to a Power Source

The following restrictions apply to the conductors and connectors used to ground the unit when it is rack-mounted:

- Bare conductors, must be coated with an appropriate antioxidant compound before crimp connections are made. Tinned, solder-plated or silver-plated connectors do not have to be prepared in this manner.
- The same bolt assemblies should not secure multiple connectors.
- Listed fastening hardware must be compatible with the materials being joined and must prevent loosening, deterioration and electrochemical corrosion of the hardware and joint materials.

To connect RealPresence Collaboration Server (RMX) 1800 to AC power:

» Insert the power cable into the power connector on the rear panel of the RealPresence Collaboration Server (RMX) 1800 system.

**Warning: Use only the Polycom-supplied AC power cable**

- Only the AC power cable supplied by Polycom should be used.
- The size of the protective earthing conductor should be a minimum of 10 AWG.
- The outlet intended for connecting the power cord must be protected with an external overcurrent protection device, either in building or in the rack, with the rating not higher than 20 AMP.
- Do not use an extension cord with the cable.

Connect Cables to the RealPresence Collaboration Server (RMX) 1800

This section outlines the way to connect the cables to the RealPresence Collaboration Server (RMX) 1800.

To connect the cables to the RealPresence Collaboration Server (RMX) 1800:

1. Connect the management network cable to **LAN 1** port.
   
   When LAN redundancy is enabled, LAN 1 is used for both the management and the media and signaling network connection.

2. Connect the media and signaling cable to **LAN 2** port.
   
   By default this port is used for signaling, but when LAN redundancy is enabled, LAN 2 is the backup of LAN 1 port.

3. Connect the PRI cable into any **PRI** port.

**Note: PRI ports on RealPresence Collaboration Server (RMX) 1800-3**

Only the RealPresence Collaboration Server (RMX) 1800-3 with built-in ISDN module provides PRI ports, as shown next.
RealPresence Collaboration Server (RMX) 1800-3 rear panel
Install the RealPresence Collaboration Server (RMX) 2000

The following procedures have to be performed to successfully install the RealPresence Collaboration Server (RMX) 2000 in your site:

- (Optional) Install RTM ISDN Card on the RealPresence Collaboration Server (RMX) 2000
- Mount the RealPresence Collaboration Server (RMX) 2000 in a Rack
- Connect Cables to the RealPresence Collaboration Server (RMX) 2000

Note: Considerations for installing RealPresence Collaboration Server (RMX) 2000
To maximize conferencing performance, especially in high bit rate call environments, a 1Gb connection is recommended for RealPresence Collaboration Server (RMX) 2000. The equipment must be installed by a trained service person.

(Optional) Install RTM ISDN Card on the RealPresence Collaboration Server (RMX) 2000

If the ISDN option was purchased with your RealPresence Collaboration Server (RMX) 2000, the ISDN card is shipped separately and must be manually installed into the rear of the RealPresence Collaboration Server (RMX) 2000. It is recommended that you install the ISDN card before the RealPresence Collaboration Server (RMX) 2000 is placed in a rack.

As a first installation, the RTM ISDN card must be installed in the top slot of the RMX chassis. The RTM ISDN card must be seated opposite to an MPMx/MPMRx card located in the top slot on the front of the RMX. An RMX Software License is included with the ISDN card and must be registered as part of the Product Registration and Product Activation. See Register Product in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Getting Started Guide.

To remove the blank cover from the rear of the RealPresence Collaboration Server (RMX) 2000:

1. Ensure that the power switch/circuit switch on the RealPresence Collaboration Server (RMX) 2000 is turned OFF (O).
2. Unscrew the captive screws on the rear panel of the RealPresence Collaboration Server (RMX) 2000 that secure the blank panel.
3. Use the metal ejector levers to pull off the blank panel.
To install RTM ISDN 2000 Card on RealPresence Collaboration Server (RMX) 2000

1. On the new RTM ISDN card, move the ejector levers to their fully open position.
   An RTM ISDN card must connect directly to an MPMx/MPMRx card in the opposite-facing front slot.
3. Push the card into the slot until the ejector levers touch the front edge of the card cage.
4. Push the ejector levers to their fully closed position.
5. Tighten the captive screws on each side of the rear panel of the card, securing the RTM ISDN card to the Collaboration Server.

Mount the RealPresence Collaboration Server (RMX) 2000 in a Rack

The RealPresence Collaboration Server (RMX) 2000 must be lifted into the rack by two people. There are two methods for installing the RealPresence Collaboration Server (RMX) 2000 in a 19" rack (which must be lifted by two people):

- Using rack rail runners on the rack
- Install the telescopic rail runners, as shown in Install the Telescopic Rail Runners on the Rack.
- Mount the RealPresence Collaboration Server (RMX) 2000 on top of the rail runners.
- Fasten the RealPresence Collaboration Server (RMX) 2000 to the rack spacers using the flat head screw (item 8) with flat washer (item 9) through the two holes in the RealPresence Collaboration Server (RMX) 2000 front mounting brackets.

- **Using a shelf**
  - Install the shelf, supplied by the rack manufacturer, in the rack.
  - Fasten the RealPresence Collaboration Server (RMX) 2000 to the shelf with screws through the four holes in the RealPresence Collaboration Server 2000 front mounting brackets.
Connect Cables to the RealPresence Collaboration Server (RMX) 2000

Do not remove the protective caps from LAN1, LAN3 and ShMG ports when you connect the cables to RMX 2000.

Connect the following cables to the back panel:

- **Required.** Power cable.
- **Required.** On the RTM IP card, connect the LAN cable to LAN 2.
  
- **RTM LAN card connections in MPMRx Card mode:**
  
  In MPMRx Card mode, an MPMRx card on the front of the RMX must always be seated or connected opposite to either an RTM LAN-4 ports or RTM ISDN card on the rear of the chassis. The RTM LAN-2 port card is not supported with MPMRx card.
  
  If the RTM LAN-4 ports card is selected to install with the MPMRx card, perform following steps to finish the LAN connections on the RTM LAN card:
  
  - **Required.** Install an RTM LAN-4 port card and connect the LAN cable to LAN 2.
    
    Optional. With Multiple Networks and LAN Redundancy configurations, connect the LAN cable to LAN 1.
    
    An RTM LAN type card is always required with Multiple Networks and LAN Redundancy configurations.
- **RTM LAN card connections in MPMx card mode:**
  
  In MPMx Card mode, an MPMx card on the front of the RMX must always be seated or connected opposite to either an RTM LAN-2 ports card or an RTM LAN-4 ports card or RTM ISDN card on the rear of the chassis.
  
  If either an RTM LAN-2 ports card or an RTM LAN-4 ports card is selected to install with the MPMRx card, perform following steps to finish the LAN connections on the RTM LAN card:
  
  - **Required.** When an RTM LAN-2 port card is installed, connect the LAN cable to LAN 2.
    
    Optional. With Multiple Networks and LAN Redundancy configurations, connect LAN cable to LAN 1.
    
    When RTM LAN-4 port card is installed, connect the LAN cable to LAN 4.
    
    Optional. With Multiple Networks and LAN Redundancy configurations, connect the LAN cable to LAN 3.
    
    An RTM LAN type card is always required with Multiple Networks and LAN Redundancy configurations.
- **Optional.** RTM ISDN card connections:
  
  If either RTM ISDN card is selected to install with MPMx or MPMRx card, perform following steps to finish the cable connections on the RTM ISDN card:
  
  - **Required.** When the one LAN port RTM ISDN card is installed:
    
    ♦ Connect the E1/T1 cables to PRI ports.
    
    ♦ Connect the LAN cable to LAN 1.
    
  - **Required.** When the four LAN ports RTM ISDN card is installed:
Install the RealPresence Collaboration Server (RMX) 2000

- Connect the E1/T1 cables to PRI ports.
- In MPMRx card mode, connect the LAN cable to LAN1 and LAN 2.
- In MPMx card mode, connect the LAN cable to LAN 3 and LAN 4.

RealPresence Collaboration Server (RMX) 2000 rear panel view with cables-MPMRx card(s)

RealPresence Collaboration Server (RMX) 2000 rear panel view with cables-MPMx card(s)
Install the RealPresence Collaboration Server (RMX) 4000

The following procedures have to be performed to install the RealPresence Collaboration Server (RMX) 4000 at your site:

- (Optional) Install the RTM ISDN Card on the RealPresence Collaboration Server (RMX) 4000
- Install the RealPresence Collaboration Server (RMX) 4000 as a Standalone System
- Mount the RealPresence Collaboration Server (RMX) 4000 in a Rack
- Connect the RealPresence Collaboration Server (RMX) 4000 to Power Sources
- Connect Cables to the RealPresence Collaboration Server (RMX) 4000

Note: Considerations for installing RealPresence Collaboration Server (RMX) 4000
To maximize conferencing performance, especially in high bit rate call environments, a 1Gb connection is recommended for RealPresence Collaboration Server (RMX) 4000. The equipment must be installed by a trained service person.

(Optional) Install the RTM ISDN Card on the RealPresence Collaboration Server (RMX) 4000

If the ISDN option was purchased with your RealPresence Collaboration Server (RMX) 4000, the ISDN card is shipped separately and must be manually installed into the rear of the RealPresence Collaboration Server (RMX) 4000. It is recommended that you install the ISDN card before the RealPresence Collaboration Server (RMX) 4000 is placed in a rack.

The RTM ISDN card must be seated opposite to an MPMx/MPMRx card located in the top slot on the front of the RealPresence Collaboration Server (RMX) 4000.

An RMX Software License is included with the ISDN card and must be registered as part of the Product Registration and Product Activation. For more information, see Register Product in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Getting Started Guide.

To remove an RTM LAN or existing ISDN card:

1. Ensure that the power switch on the Collaboration Server is turned OFF (O).
2. Remove the RTM LAN or blank cover by unscrewing the captive screws that fasten the card or the cover to the Collaboration Server. When removing a card, use the metal ejector levers to pull the RTM LAN card out of its slot from the backplane.
3 Slide out the RTM LAN or RTM ISDN card.

To install a new or replacement RTM ISDN card:

1 On the RTM ISDN card move the ejector levers to their fully open position.
2 Push the card into the slot until the ejector levers touch the front edge of the card cage. Push the ejector levers to their fully closed position.
3 Tighten the captive screws on each side of the rear panel of the card, securing the RTM ISDN card to the MCU.

Install the RealPresence Collaboration Server (RMX) 4000 as a Standalone System

» Place the RealPresence Collaboration Server (RMX) 4000 on a flat surface or desktop.
The RealPresence Collaboration Server (RMX) 4000 must rest on the four feet at the base of the MCU and must be shifted or moved into position using the two handles attached to the front.

Mount the RealPresence Collaboration Server (RMX) 4000 in a Rack

Perform the following steps to mount the RealPresence Collaboration Server (RMX) 4000 in a Rack.

Rack Mount Preparations

• Optional. Depending on the rack installed in your site, you may need to remove the handles if they are attached to the RealPresence Collaboration Server (RMX) 4000.
Optional. If the opening in the rack that is allocated to the RealPresence Collaboration Server (RMX) 4000 is exactly 6U, the feet must be removed from the RealPresence Collaboration Server (RMX) 4000 to install it in the rack.

Optional feet and handle removal

To install the RealPresence Collaboration Server (RMX) 4000 in a 19" rack:

- Using rack rail runners on the rack
  - Install the telescopic rail runners, as described in Install the Telescopic Rail Runners on the Rack.
  - Mount the RealPresence Collaboration Server (RMX) 4000 on top of the rail runners.
Install the RealPresence Collaboration Server (RMX) 4000

Install chassis runners and the RealPresence Collaboration Server (RMX) 4000 in a rack

- Fasten the Collaboration Server to the rack spacers using the flat head screw (item 8) with flat washer (item 9) through the eight holes in the Collaboration Server front mounting brackets.

Rack mounting screws must be supplied by the rack manufacturer.

The airflow of the RealPresence Collaboration Server (RMX) 4000 is from right to left. Be sure that the areas on the left and right side of the system are clear for proper ventilation.

**Warning: Ground connection**

When the unit is installed on a rack, the rack must be properly grounded to the central office ground. The rack must be grounded with two-hole compression-type connectors using copper conductors (tinned or untinned). Wire, bus bar or braided strap connectors are acceptable.
Using a shelf

- Install the shelf, supplied by the rack manufacturer, in the rack.
- Mount the RealPresence Collaboration Server (RMX) 4000 on the shelf.
- Fasten the RealPresence Collaboration Server (RMX) 4000 to the rack with screws through the eight holes in the front mounting brackets of RealPresence Collaboration Server (RMX) 4000.

To install the RealPresence Collaboration Server (RMX) 4000 in a 23” rack:

1. Mounting the RealPresence Collaboration Server (RMX) 4000 on a 23” rack requires that first the handles and then the 19” brackets be removed from the MCU, as shown in the figure below.

   Removing and attaching 19” and 23” brackets

2. After removal, attach the 23” brackets as provided in the Rack Installation Accessories kit, and re-install the handles to the 23” brackets, as shown in the figure below.

   Installing the handles and brackets & detailed rear view of 23” bracket attachment

3. Mount the RealPresence Collaboration Server (RMX) 4000 on top of the rack brackets using the blades or place it on a rack mount shelf with chassis runners.

4. Fasten the RealPresence Collaboration Server (RMX) 4000 to the rack with eight screws into the holes provided on the RealPresence Collaboration Server (RMX) 4000 front as shown in figure above.

   Rack mounting screws must be supplied by the rack manufacturer.
The airflow of the RealPresence Collaboration Server (RMX) 4000 is from right to left. Be sure that the areas on the left and right side of the system are clear for proper ventilation.

**Warning: Ground connection**
When the unit is installed on a rack, the rack must be properly grounded to the central office ground. The rack must be grounded with two-hole compression-type connectors using copper conductors (tinned or untinned). Wire, bus bar or braided strap connectors are acceptable.

The procedures of reverse mounting RealPresence Collaboration Server (RMX) 4000 from 23” brackets to 19” brackets are the same with the procedures described above.

### Connect the RealPresence Collaboration Server (RMX) 4000 to Power Sources

You can connect either an AC or a DC power according to the power system required at your site:

- **For systems with AC Power**, up to three power supplies can be installed with one being redundant (n+1).
- **For systems with DC Power**, up to two power supplies can be installed with one being redundant (n+1), and each power supply has a built in circuit breaker. With DC power, slot 10 (the center slot) must remain unoccupied.

The following restrictions apply to the conductors and connectors that may be used to ground the unit when rack mounted:

- When using bare conductors, they must be coated with an appropriate antioxidant compound before crimp connections are made. Tinned, solder-plated or silver-plated connectors do not have to be prepared in this manner.
- The same bolt assemblies should not secure multiple connectors.
- Listed fastening hardware must be compatible with the materials being joined and must be preclude loosening, deterioration and electrochemical corrosion of the hardware and joint materials.

### To connect the Collaboration Server 4000 to AC power

1. Make sure that the power button is switched OFF on the RealPresence Collaboration Server (RMX) 4000.
2 Insert the power cables into the power connectors on the rear panel of the RealPresence Collaboration Server (RMX) 4000.

**Warning: AC power**
- Do not connect the green or green-yellow wire to the system single-point ground screw.
- Customers are required to only use AC power cables supplied by Polycom.
- The size of the protective earthing conductor should be a minimum of 10 AWG.
- All three outlets intended for connection of the three power cords must be protected with an external overcurrent protection device either in building or in the rack with the rating not higher than 20 Amp.
- Do not use an Extension cords with any of the cables.

**To connect the RealPresence Collaboration Server (RMX) 4000 to -48DC SELV power**

Perform the following steps to connect the RealPresence Collaboration Server (RMX) 4000 to -48CD SELV power.

1. On the DC PEMs, set the two circuit breakers to OFF.
2. Ensure that the cables from the Main that supplies electricity to the DC power units are OFF or disconnected.
3. Remove the transparent plastic caps on the terminal block.
4. Using the two wires of an 10 AWG cable running from the DC power distribution unit, connect the black wire into the -48 VDC terminal block and the red wire to the RTN terminal block.

**Warning: DC power**
- A 10 AWG cable must be used to connect the mains with the RealPresence Collaboration Server (RMX) 4000 DC PEM.
- The supply wires for DC version must be terminated using quick connectors.
- Extension cords may not be used.
Install the RealPresence Collaboration Server (RMX) 4000

The center PEM slot/module is fitted with a blank panel and the slot cannot be used on a system with DC Voltage.

5 Connect the green or green-yellow wire to the system single-point M6x15 “Ground” bolt

**Warning: Protective earthing conductor**
The rating of the protective earthing conductor should be a minimum of 10 AWG.

If the unit is rack mounted, the single-point ground on the MCU must be connected to the rack with a single conductor and fixed as to prevent loosening. When using bare conductors, they must be coated with an appropriate antioxidant compound before crimp connections are made. Tinned, solder-plated or silver plated connectors do not have to be prepared in this manner.

6 Replace the transparent plastic cap on the terminal block.

7 Turn ON the circuit breaker on each of the DC PEMs.

On the RealPresence Collaboration Server (RMX) 4000, two types of circuit breakers can be installed:

- ON/OFF circuit breaker-Type A
- ON/OFF circuit breaker with locking mechanism-Type B
Connect Cables to the RealPresence Collaboration Server (RMX) 4000

Write down the serial number of the Collaboration Server, located on a sticker on the back of the unit. It will be needed for product registration later in the process. Perform following steps to connect cables to RealPresence Collaboration Server (RMX) 4000.

To connect the cables:

- **RTM-IP 4000:**
  - Connect the Management Network cable to **LAN 2**.
  - Connect the Signaling cable to **LAN 3**. This port is also available for Signaling and Management Redundancy.
    
    For more information, see *LAN Redundancy and Multiple Network Services* in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide*.
  - Connect the Shelf Management cable to **LAN 6**.

When an NTP Server is used for the RMX Time, the Shelf Management cable must be connected to the shelf port.

- **RTM LAN Card:**
  - When an **RTM LAN-4 port** card is installed on the RealPresence Collaboration Server (RMX) 4000, connect the LAN cable to **LAN 2***.
    
    With LAN Redundancy and Multiple Network Services configurations, connect the LAN cable to **LAN 1**.
    
    ♦ An MPMRx card on the front of the RMX must always be seated or connected opposite to either an RTM LAN - 4 ports or RTM ISDN card on the rear of the chassis.
    
    ♦ *When using an MPMx card with the RTM LAN - 4 ports, connect the LAN cable to **LAN 4**. With Multiple Networks and LAN Redundancy configurations, **LAN 3** port is used.
    
    ♦ The RTM LAN type card is always required with Multiple Networks and LAN Redundancy configurations.

  - When an **RTM LAN-2 port** card is installed on the Collaboration Server 4000, connect the LAN cable to **LAN 2**.

    With LAN Redundancy and Multiple Network Services configurations, connect the LAN cable to **LAN 1**.
    
    ♦ An MPMx card on the front of the RealPresence Collaboration Server (RMX) 4000 must always be seated or connected opposite to either an RTM LAN - 2 ports or RTM ISDN card on the rear of the chassis.
    
    ♦ The RTM LAN type card is always required with Multiple Networks and LAN Redundancy configurations.

For more information, see *LAN Redundancy and Multiple Network Services* in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide*.

- **Optional. RTM ISDN Card:**

  If either RTM ISDN card is selected to install with MPMx or MPMRx card. Perform following steps to finish the cable connections on the RTM ISDN card:
When the one LAN port RTM ISDN card is installed: Connect the E1/T1 cables to PRI Ports.
Connect the LAN cable to **LAN 1**.
When LAN redundancy is enabled, LAN 1 is used for both management, media and signaling network connection. Connect the media and signaling cable to LAN 2 port. By default this port is used for signaling, but when LAN redundancy is enabled, LAN 2 is the backup of LAN 1 port.

When the four LAN ports RTM ISDN card is installed:
- Connect the E1/T1 cables to PRI ports.
- In MPMRx card mode, connect the LAN cable to **LAN1** and **LAN 2**.
- In MPMx card mode, connect the LAN cable to **LAN 3** and **LAN 4**.

*RealPresence Collaboration Server (RMX) 4000 rear panel with AC powers and communication cables*
First Entry Power-up and Configuration

There are five procedures necessary for setup of the new RealPresence Collaboration Server 1500/1800/2000/4000. It is important that they are performed in the following sequence:

1. Modify Network Settings in USB Key
2. First Time Power Up
3. Register Product
4. Connect to MCU
5. Modify the Default IP Service and ISDN/PSTN Network Service Settings

Modify Network Settings in USB Key

The USB Key contains a text file, `lan.cfg`, which holds the factory default IP address parameters. These parameters must be modified to your local network settings using the LAN Configuration Utility in the USB Key.

**Note: LAN configuration utility**
The RealPresence Collaboration Server (RMX) 1800 must use the LAN configuration utility in a USB Key to change the IP address.

To modify the USB Key settings:

1. Take the USB Key from the Installation Accessories kit and insert it into the PC workstation.
   - In Windows XP:
     ▶ The Polycom Documentation option is automatically selected. Click OK.
   - In Windows 7:
     ▶ Select Open Folder to view files using Windows Explorer.
2. Double-click the `index.hta` file.
3. In the Language Menu window, click the documentation language hyperlink, for example English.
4. In the Polycom End User Licenses Agreement window, read the agreement and click the Accept Agreement button.
5. In the Product Type Selection window, click the RealPresence Collaboration Server type hyperlink, for example RMX 2000.
6. Under the Initial Setup Utility, click the LAN Configuration Utility hyperlink.
7. In the LAN Configuration Utility window, modify default IP addresses to IP addresses in your local network provided by your network administrator.
   ▶ Control Unit IP Address (the Management IP address for the MCU)
   ▶ Shelf Management IP Address (only for RMX 1500/2000/4000)
First Entry Power-up and Configuration

- Subnet Mask
- Default Router IP Address

Click OK.
First Time Power Up

When inserting the USB in the RealPresence Collaboration Server, then powering up the server, the modified network configurations in USB will upload to the server.

To power-up for the Collaboration Server first time using the USB Key:

1. Insert the USB Key containing the modified IP addresses in USB port on the RealPresence Collaboration Server (RMX) 1500 front panel or the RealPresence Collaboration Server 1800/2000/4000 back panel.

2. Power the Collaboration Server ON.
   - RealPresence Collaboration Server 1500
     Press on the ON/OFF button on the rear panel, the ON/OFF button is light.
   - RealPresence Collaboration Server 1800
     Press on the ON/OFF button on the front panel, the ON/OFF button is light.
   - RealPresence Collaboration Server 2000
     Switch on the ON/OFF switch on the rear panel, the FAN STATUS and PWR STATUS LEDs are light.
   - RealPresence Collaboration Server 4000 with AC power supply
     Switch on the ON/OFF switch on the rear panel, the FAN STATUS and PWR STATUS LEDs are light.
First Entry Power-up and Configuration

- RealPresence Collaboration Server 4000 with DC power supply
  
  Switch on the ON/OFF switch on the rear panel, then turn ON each of the DC PEMs, the FAN STATUS and PWR STATUS LEDs are light.
  
  When the system is powered on, the configurations in the *lan.cfg* file are uploaded from the USB key to the memory of Collaboration Server and applied during the power-up sequence. System power-up sequence may take up to five minutes.

3 Wait for the upload process to complete by observing following LED status.

- Initially, all the READY/IN USE/ERROR LEDs on the RealPresence Collaboration Server (RMX) 1500 or ERR/RDY/ACT LEDs on the RealPresence Collaboration Server (RMX) 2000/4000 flicker and flash.

- Upload is completed when all the LEDs turn off and only the red ERROR/ERR LED on the CTNL unit of the RealPresence Collaboration Server 2000/4000 remain ON.

- When the configuration of the Collaboration Server is completed including the Management and IP Network Services, and if there are no System Errors, the STATUS LED on the front panel of Collaboration Server turns green.

- On the MPMx/MPMRx card of the RealPresence Collaboration Server (RMX) 2000/4000, initially, the ERR/RDY/ACT LEDs all flicker and flash, until only the RDY LED turns ON on the media card, while the ERR LED on the CTNL unit is still ON.

Do not remove the USB Key from the RealPresence Collaboration Server until the connection with the MCU is established and the Login screen of the RMX Web Client is displayed. For more details, see Connect to MCU.
Register Product

Before the Collaboration Server can be used, it is necessary to register the product and the various software licenses, and obtain an Activation Key.

During first-time power-up, the **Product Activation** dialog box is displayed in the RMX Web Client, requesting an Activation Key.

**To obtain the Activation Key:**

2. Log in with your email address and password or register as a new user.
3. Select **Product Registration**.
4. Follow the on-screen instructions for Product Registration and Product Activation.
   - The MCU serial number on the product sticker on the back of the unit. For more information, refer to the Collaboration Server Software Licence document you received with your shipment.
   - Register all Polycom Software Licences that you have purchased when obtaining the Activation Key. For example, ISDN, Encryption and Multiple Networks each have different Polycom Software Licenses.
   - From Version 8.1 onwards, a license is required for SVC conferencing.
5. When the Product Activation Key is displayed, write it down or copy it for later pasting into the Activation Key field of the **Product Activation** dialog box.
Connect to MCU

If Windows 7™ is installed on the workstation, Protected Mode must be disabled before connecting to the MCU running Version 7.0 software. For more information, see Windows 7™ Security Settings.

To connect to MCU:

1. Start the RMX Web Client application on the workstation.
   a. In the browser address bar, enter the IP address of the Control Unit IP Address in the format:
      http://<Control Unit IP Address>, as defined in the USB Key.
   b. Press Enter on the Keyboard.

2. In the RMX Web Client Login window, enter the default account information as below, and click Login.
   - Username: POLYCOM
   - Password: POLYCOM

The RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 is shipped with a default Administrator user called POLYCOM. Once you have defined other authorized administrator users, it is recommended to add a new administrator User and then remove the default User to prevent unauthorized users from logging into the system.
The RMX Web Client opens and the **Product Activation** dialog appears with the serial number filled in:

3 Check the **I accept the license agreement** check box to enable online registration of your product.
4 In the **Activation Key** field, enter or paste the Product Activation Key obtained earlier. 
   If you did not register your product earlier in the process and you do not have an Activation Key, click **Polycom Resource Center** to access the Service & Support page of the Polycom Support website.
5 Click OK.
   A message displays indicating that the Product Activation Key was loaded successfully. If it fails to load, please contact your vendor.
6 Click OK.

**Note: Product Activation dialog box**
If the **Product Activation** dialog box does not appear, go to **Setup > Product Activation** to display the dialog box.
Modify the Default IP Service and ISDN/PSTN Network Service Settings

The Fast Configuration Wizard is automatically started when no default IP Network Service is defined and it assists you in configuring the default IP Network Service. The wizard is triggered in following situations:

- First time power-up
- IP Network Service is deleted, followed by a Collaboration Server restart
- Restore Factory Default is selected, followed by a Collaboration Server restart

The IP Management Service tab in the Fast Configuration Wizard is enabled only if the factory default Management IP addresses were not modified.

To configure Fast Configuration Wizard

1. In the IP Signalling dialog box, enter the required IP information shown next.
To set the Collaboration Server to Secured Communication, first complete the Fast Configuration Wizard and reset the Collaboration Server. After Login, install the Certificate and then enable Secured Communication Mode.

The IP Network Service configured using the Fast Configuration Wizard will be saved only if Media cards are installed in the Collaboration Server.

2  Click Next.
3 In the **Routers** dialog box, enter **Default Router IP Address**.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Default Router IP Address | Enter the IP address of the default router.  
  **Note:** Ensure the IP address of the router and IP addresses of Collaboration Server are in the defined Network subnet. |

4 Click **Next**.
5  In the DNS dialog box, enter the required DNS information.

### Fast Configuration Wizard–DNS

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCU Host Name</td>
<td>Enter the name of the MCU on the network. Default name is Polycom MCU.</td>
</tr>
<tr>
<td>DNS</td>
<td>Select:</td>
</tr>
<tr>
<td></td>
<td>- Off—If DNS servers are not used in the network.</td>
</tr>
<tr>
<td></td>
<td>- Specify—To enter the IP addresses of the DNS servers.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The IP address fields are enabled only if <strong>Specify</strong> is selected.</td>
</tr>
<tr>
<td>Register Host Names</td>
<td>Select this option to automatically register the MCU Signaling Host and Shelf Management with the DNS server.</td>
</tr>
<tr>
<td>Automatically to DNS Server</td>
<td></td>
</tr>
<tr>
<td>Local Domain Name</td>
<td>Enter the name of the domain where the MCU is installed.</td>
</tr>
<tr>
<td>Primary DNS Server IP</td>
<td>The static IP address of the primary DNS server.</td>
</tr>
<tr>
<td>Address</td>
<td></td>
</tr>
</tbody>
</table>

6  Click Next.

7  In the Network Type dialog box, select the IP Network Type as H.323, SIP or H.323 & SIP.
The Collaboration Server supports SVC-based conferencing, which is based on the SIP protocol. If SVC-based conferencing is required in your organization, select SIP as one of your IP Network Type.

8. Click **Next**.

9. If you selected **SIP** only, go to **Step 13**.

10. In the **Gatekeeper** dialog box, enter the required Gatekeeper information.

**Fast Configuration Wizard–Gatekeeper**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatekeeper</td>
<td>Select <strong>Specify</strong> to enable configuration of the gatekeeper IP address.</td>
</tr>
<tr>
<td></td>
<td>When <strong>Off</strong> is selected, all gatekeeper options are disabled.</td>
</tr>
</tbody>
</table>
**Fast Configuration Wizard–Gatekeeper**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Gatekeeper</strong></td>
<td></td>
</tr>
<tr>
<td>IP Address or Name</td>
<td>Enter either the gatekeeper’s host name (if a DNS Server is used) or IP address.</td>
</tr>
<tr>
<td>MCU Prefix in Gatekeeper</td>
<td>Enter the string with which the MCU registers itself with the gatekeeper. The gatekeeper uses this string to identify the MCU when forwarding calls to it. H.323 endpoints use this number as the first part of their dial-in string when dialing the MCU.</td>
</tr>
<tr>
<td><strong>Aliases</strong></td>
<td></td>
</tr>
<tr>
<td>Alias</td>
<td>The alias that identifies the Collaboration Server Signaling Host within the network. Up to five aliases can be defined for each Collaboration Server. Note: When a gatekeeper is specified, at least one alias must be entered in the table. Additional aliases or prefixes may also be entered.</td>
</tr>
<tr>
<td>Type</td>
<td>The type defines the format in which the card’s alias is sent to the gatekeeper. Each alias can be of a different type:</td>
</tr>
<tr>
<td></td>
<td>• H.323 ID (alphanumeric ID)</td>
</tr>
<tr>
<td></td>
<td>• E.164 (digits 0-9, *, and #)</td>
</tr>
<tr>
<td></td>
<td>• Email ID (email address format, for example, <a href="mailto:abc@example.com">abc@example.com</a>)</td>
</tr>
<tr>
<td></td>
<td>• Participant Number (digits 0-9, *, and #)</td>
</tr>
<tr>
<td>Note:</td>
<td>Although all types are supported, the type of alias to be used depends on the gatekeeper’s capabilities.</td>
</tr>
</tbody>
</table>

11 Click **Next**.

12 If you selected **H.323**, click **Next** and go to **Step 14**.

13 In the **SIP Server** dialog box, enter the required SIP Server information.
### Fast Configuration Wizard–SIP Server

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIP Server</td>
<td>Select:</td>
</tr>
<tr>
<td></td>
<td>• <strong>Specify</strong>–to manually configure SIP servers.</td>
</tr>
<tr>
<td></td>
<td>• <strong>Off</strong>–if SIP servers are not present in the network.</td>
</tr>
<tr>
<td>SIP Server IP Address or Name</td>
<td>Enter either the IP address of the preferred SIP server or its host name (if a DNS server is used).</td>
</tr>
<tr>
<td>Server Domain Name</td>
<td>Enter the name of the <strong>SIP domain</strong>.</td>
</tr>
<tr>
<td>Transport Type</td>
<td>Select the transport type and protocol that is used for signaling between the MCU and the SIP Server or the endpoints according to the protocol supported by the SIP Server:</td>
</tr>
<tr>
<td></td>
<td>• <strong>UDP</strong>–Select this option to use UDP for signaling.</td>
</tr>
<tr>
<td></td>
<td>• <strong>TCP</strong>–Select this option to use TCP for signaling.</td>
</tr>
<tr>
<td></td>
<td>• <strong>TLS</strong>–The Signaling Host listens on secured port 5061 only and all outgoing connections are established on secured connections. Calls from SIP clients or servers to non secured ports are rejected. The following protocols are supported:</td>
</tr>
<tr>
<td></td>
<td>• TLS 1.0</td>
</tr>
<tr>
<td></td>
<td>• SSL 2.0</td>
</tr>
<tr>
<td></td>
<td>• SSL 3.0.</td>
</tr>
</tbody>
</table>

14 Click **Next**.
In the **Security** dialog box, enter the required Security information.

### Default IP Network Service–Security

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SIP Authentication</strong></td>
<td>Click this check box to enable SIP proxy authentication. Select this check box only if the authentication is enabled on the SIP proxy, to enable the Collaboration Server to register with the SIP proxy. If the authentication is enabled on the SIP proxy and disabled on the Collaboration Server, calls will fail to connect to the conferences. Leave this check box cleared if the authentication option is disabled on the SIP proxy.</td>
</tr>
<tr>
<td><strong>User Name</strong></td>
<td>Enter the user name the Collaboration Server will use to authenticate itself with the SIP proxy. This name must be defined in the gatekeeper.</td>
</tr>
<tr>
<td><strong>Password</strong></td>
<td>Enter the password the Collaboration Server will use to authenticate itself with the gatekeeper. This password must be defined in the SIP proxy.</td>
</tr>
</tbody>
</table>
First Entry Power-up and Configuration

Default IP Network Service—Security

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H.323 Authentication</td>
<td>Click this check box to enable H.323 server authentication. Select this check box only if the authentication is enabled on the gatekeeper, to enable the Collaboration Server to register with the gatekeeper. If the authentication is enabled on the gatekeeper and disabled on the Collaboration Server, calls will fail to connect to the conferences. Leave this check box cleared if the authentication option is disabled on the gatekeeper.</td>
</tr>
<tr>
<td>User Name</td>
<td>Enter the user name the Collaboration Server will use to authenticate itself with the gatekeeper. This name must be defined in the gatekeeper. These fields can contain up to 64 ASCII characters.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the password the Collaboration Server will use to authenticate itself with the gatekeeper. This password must be defined in the gatekeeper.</td>
</tr>
</tbody>
</table>

16 Click **Save & Continue**.

The IP Network Service is created and confirmed.

![IP Network service created.png](image)

17 Click **OK**.

The IP Network Service cannot be saved if no Media cards are installed in the Collaboration Server.

During the initial Collaboration Server setup, if the system detects the presence of the RTM ISDN card (or module for RealPresence Collaboration Server (RMX) 1800), the **ISDN /PSTN** tab is activated.

If there is no RTM ISDN card in the Collaboration Server or if you do not want to define an ISDN/PSTN Network service, go to **Step 33**.

A new ISDN/PSTN Network Service can be defined even when there is no RTM ISDN card installed in the system (for RMX 1800 is an embedded module) by configuring in **ISDN/PSTN Network Service > New ISDN/PSTN Service**.

18 In the **ISDN/PSTN** dialog box, configure ISDN/PSTN service.
Fast Configuration Wizard–ISDN Service Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Service Name</td>
<td>Specify the service provider’s (carrier) name or any other name you choose, using up to 20 characters. The Network Service Name identifies the ISDN/PSTN Service to the system. Default name: ISDN/PSTN Service. <strong>Note:</strong> This field is displayed in all ISDN/PSTN Network Properties tabs and can contain character sets that use Unicode encoding.</td>
</tr>
</tbody>
</table>
| Span Type             | Select the type of spans (ISDN/PSTN) lines, supplied by the service provider, that are connected to the Collaboration Server. Each span can be defined as a separate Network Service, or all the spans from the same carrier can be defined as part of the same Network Service. Select either:  
  • **T1** (U.S.–23 B channels + 1 D channel)  
  • **E1** (Europe–30 B channels + 1 D channel)  
  Default: T1  
  **Note:** Only one Span Type (E1 or T1) is supported on the Collaboration Server. If you define the first span as type E1 all other spans that you may later define must also be of type E1. |
| Service Type          | PRI is the only supported service type. It is automatically selected.                                                                         |

19 Click **Next**.

20 In the **PRI Settings** dialog box, configure PRI settings.
Fast Configuration Wizard–PRI Settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Default Num Type   | Select the Default Num Type from the list. The Num Type defines how the system handles the dialing digits. For example, if you type eight dialing digits, the Num Type defines whether this number is national or international. If the PRI lines are connected to the Collaboration Server via a network switch, the selection of the Num Type is used to route the call to a specific PRI line. If you want the network to interpret the dialing digits for routing the call, select Unknown. Default: Unknown  
**Note:** For E1 spans, this parameter is set by the system. |
| Num Plan           | Select the type of signaling (Number Plan) from the list according to information given by the service provider. Default: ISDN  
**Note:** For E1 spans, this parameter is set by the system. |
| Net Specific       | Select the appropriate service program if one is used by your service provider (carrier). Some service providers may have several service programs that can be used. Default: None |
| Dial-out Prefix    | Enter the prefix that the PBX requires to dial out. Leave this field blank if a dial-out prefix is not required. The field can contain be empty (blank) or a numeric value between 0 and 9999. Default: Blank |

21 Click Next.
22 In the **Span Definition** dialog box, define the Span.

![Fast Configuration Wizard—Spans Definition](image)

### Fast Configuration Wizard—Spans Definition

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framing</td>
<td>Select the Framing format used by the carrier for the network interface from the list.</td>
</tr>
<tr>
<td></td>
<td>• For T1 spans, default is SFSF.</td>
</tr>
<tr>
<td></td>
<td>• For E1 spans, default is FEBE.</td>
</tr>
<tr>
<td>Side</td>
<td>Select one of the following options:</td>
</tr>
<tr>
<td></td>
<td>• User side (default)</td>
</tr>
<tr>
<td></td>
<td>• Network side</td>
</tr>
<tr>
<td></td>
<td>• Symmetric side</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If the PBX is configured on the network side, then the Collaboration Server unit must be configured as the user side, and vice versa, or both must be configured symmetrically.</td>
</tr>
<tr>
<td>Line Coding</td>
<td>Select the PRI line coding method from the list.</td>
</tr>
<tr>
<td></td>
<td>• For T1 spans, default is B8ZS.</td>
</tr>
<tr>
<td></td>
<td>• For E1 spans, default is HDB3.</td>
</tr>
<tr>
<td>Switch Type</td>
<td>Select the brand and revision level of switch equipment installed in the service provider's central office.</td>
</tr>
<tr>
<td></td>
<td>• For T1 spans, default is AT&amp;T 4ESS.</td>
</tr>
<tr>
<td></td>
<td>• For E1 spans, default is EURO ISDN.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> For T1 configurations in Taiwan, Framing must be set to <strong>ESF</strong> and Line Coding to <strong>B8ZS</strong>.</td>
</tr>
</tbody>
</table>

23 Click **Next**.

24 In the **Phones** dialog box, add phone numbers.
25 Click **Add** to define dial-in number ranges. The **Add Phone Number** dialog box opens.

A range must include at least two dial-in numbers, but not exceed 1000 numbers.

26 Click **OK**. The new range is added to the **Dial-in Phone Numbers** table.

27 **Optional.** Repeat **Step 25** to define additional dial-in ranges.

28 In the **Phones** dialog box, enter the **MCU CLI** (Calling Line Identification).

   With dial-in connections, the **MCU CLI** indicates the number of MCU dialed by the participant. In a dial-out connection, indicates the **MCU CLI** number as seen by the participant.

---

**Fast Configuration Wizard–Add Phone Numbers**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Number</td>
<td>The first number in the phone number range.</td>
</tr>
<tr>
<td>Last Number</td>
<td>The last number in the phone number range.</td>
</tr>
</tbody>
</table>

---

Polycom, Inc. 71
29 Click **Save & Continue**.

After clicking **Save & Continue**, you cannot use the **Back** button to return to previous configuration dialog boxes.

The ISDN/PSTN Network Service is created and is added to the **ISDN/PSTN Network Services** list. If the system cannot create the ISDN/PSTN Network Service, an error message is displayed indicating the cause and allowing you access the appropriate dialog box in the Fast Configuration Wizard for corrective action.

30 Click **OK** to continue the configuration.

31 The **Spans** dialog box opens displaying the following read-only fields:

- **ID**—the connector on the *RTM ISDN* card (*PRI1* to *PRI12*).
- **Slot**—the MPMx/MPMRx card that the RTM ISDN / RTM ISDN 1500 card is connected to RealPresence Collaboration Server (RMX) 2000: MPM 1/MPM2, RealPresence Collaboration Server (RMX) 4000: MPM1/MPM2/MPM3/MPM4.

On the RealPresence Collaboration Server (RMX) 1500, the **Slot** field does not appear.
- **Service**—the ISDN/PSTN Network Service to which the span is assigned.
- **Clock Source**—indicates if ISDN signaling synchronization is being supplied by the Primary or Secondary clock source. The first span to synchronize becomes the Primary clock source.
- **State**—the System Alert level of the span (Major, Minor). If there are no span related alerts, this column contains no entries.
32 Click the check boxes in the Attached field to attach spans (E1 or T1 PRI lines) to the network service named in the Network Service Name field.

The Spans Table displays the configuration of all spans and all ISDN network services in the system. When using the Fast Configuration Wizard during First Entry Configuration, you are defining the first ISDN/PSTN Network Service in the system. Spans can only be attached to this service.

Additional ISDN/PSTN Network Services can be defined by using the ISDN/PSTN Network Services > New ISDN/PSTN Service button in the RMX Web Client.

Spans can be attached to, or moved between ISDN network services by using the ISDN/PSTN Network Services > ISDN Properties > Spans tab in the RMX Web Client.

- **RealPresence Collaboration Server (RMX) 2000/4000**—Each ISDN RTM card can support either seven E1 or nine T1 PRI lines.

- **RealPresence Collaboration Server (RMX) 1500/1800**—Either four E1 or four T1 PRI lines are supported.

E1 and T1 connections cannot be used simultaneously.

33 Click Next.

34 In the RMX Time dialog box, configure RMX time.

Set the RMX Time using one of the three available options: setting the RMX Time manually, clicking the Retrieve Client Time button, or configure Use NTP Server.

### Fast Configuration Wizard-Collaboration Server Time

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMT Date</td>
<td>The date at Greenwich, UK.</td>
</tr>
<tr>
<td>Local Time</td>
<td>The MCU’s local time settings, are calculated from the GMT Time and the GMT Offset.</td>
</tr>
<tr>
<td>GMT Time</td>
<td>Displays the MCU’s current GMT Time settings.</td>
</tr>
</tbody>
</table>

**Option 1:** Manually setting the Collaboration Server time:

- Using the Up or Down arrows alter the GMT Time and the GMT Offset to set the Collaboration Server time.
Fast Configuration Wizard—Collaboration Server Time

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GMT Offset</td>
<td>The time zone difference between Greenwich and the MCU’s physical location.</td>
</tr>
<tr>
<td></td>
<td>• Using the Up or Down arrows manually modify the GMT Offset time on the</td>
</tr>
<tr>
<td></td>
<td>Collaboration Server.</td>
</tr>
<tr>
<td>Retrieve Client Time</td>
<td>Option 2: Automatically setting the MCU time:</td>
</tr>
<tr>
<td></td>
<td>• Click this button to automatically update the MCU’s GMT Date, Time and</td>
</tr>
<tr>
<td></td>
<td>Offset to match that of the workstation.</td>
</tr>
<tr>
<td>Use NTP Server</td>
<td>Option 3: Setting the MCU time by synchronizing with external NTP servers via</td>
</tr>
<tr>
<td></td>
<td>rest REST API:</td>
</tr>
<tr>
<td></td>
<td>• Select this check box to synchronize the time with up to three external</td>
</tr>
<tr>
<td></td>
<td>NTP servers. Once selected, you must enter the IP address of at least one</td>
</tr>
<tr>
<td></td>
<td>external NTP server to implement this mode.</td>
</tr>
<tr>
<td></td>
<td>• Enter the IP addresses of the required NTP servers in order of precedence.</td>
</tr>
<tr>
<td>Notes:</td>
<td>• When this option is selected, the manual GMT Date and GMT Time setting</td>
</tr>
<tr>
<td></td>
<td>options are disabled. The GMT Offset fields are still active.</td>
</tr>
<tr>
<td></td>
<td>• The Status fields in Settings &gt; RMX Time indicate whether time retrieval</td>
</tr>
<tr>
<td></td>
<td>from the NTP Server(s) succeeded or failed.</td>
</tr>
</tbody>
</table>

35 Click Next.

36 In the Administrator User dialog box, configure Administrator’s account and password.
Fast Configuration Wizard-Administrator User

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New User Name</td>
<td>Enter the new user name of the new administrator user.</td>
</tr>
<tr>
<td>New Password</td>
<td>Enter the password for the new administrator user.</td>
</tr>
<tr>
<td>Confirm Password</td>
<td>Enter the same password again to confirm its accuracy.</td>
</tr>
</tbody>
</table>

37 Click **Next**.

38 In the **System Flags** dialog box, configure system information.
First Entry Power-up and Configuration

Fast Configuration Wizard–System Flags

<table>
<thead>
<tr>
<th>Field</th>
<th>Description / Default</th>
<th>Note: Selecting 2 digits limits the number of simultaneous ongoing conferences to 99.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conference ID Length (MCU)</td>
<td>The number of digits of the Conference ID to be assigned by the MCU.  Range: 2-16 (Default: 5)</td>
<td></td>
</tr>
<tr>
<td>Minimum Conference ID Length (User)</td>
<td>The minimum number of digits that the user must enter when manually assigning a numeric ID to a conference.  Range: 2-16 (Default: 4)</td>
<td></td>
</tr>
<tr>
<td>Maximum Conference ID Length (User)</td>
<td>The maximum number of digits that the user can enter when manually assigning a Numeric ID to a conference.  Range: 2-16 (Default: 8)</td>
<td></td>
</tr>
<tr>
<td>MCU Display Name</td>
<td>The MCU name is displayed on the endpoint's screen.  Default name: RealPresence Collaboration Server (RMX) 1500/2000/4000</td>
<td></td>
</tr>
<tr>
<td>Terminate Conference when Chairperson Exits</td>
<td>When Yes is selected (default), the conference ends when the chairperson exits even if there are other participants connected.  When No is selected, the conference automatically ends at the predefined end time, or when all the participants have disconnected from the conference.</td>
<td></td>
</tr>
<tr>
<td>Auto Extend Conferences</td>
<td>When Yes is selected (default), allows conferences running on the Collaboration Server to be automatically extended as long as there are participants connected and there are available resources.  The maximum extension time allowed by the MCU is 30 minutes.</td>
<td></td>
</tr>
</tbody>
</table>

These flags can be modified later, if required, by selecting the System Configuration option from the Setup menu. For more information, see Modifying System Flags in the RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide.

39 Click Save & Close.
The system confirms successful configuration.

40 In the Success Message box, click OK.

41 In the Reset Confirmation dialog box, click Yes.

42 In the Please wait for system reset message box, click OK.
System restart may take up to five minutes.

43 Refresh the browser periodically until the login screen is displayed.
44 When the Login screen is displayed, enter your **Username** and **Password** and click **Login**. For first time powering up or restoring factory default operations, enter the default user name (POLYCOM) and password (POLYCOM).

In the RMX Web Client Main Screen an MCU State indicator displays a progress indicator showing the time remaining until the system start-up is complete.

If the default User (POLYCOM) remains or the Collaboration Server time was not set, the active alarm is not deleted and the system status remains in **Major**.

For system security reasons the system is not fully configured until the default user is deleted.

45 The system is now fully configured and if there are no other system errors, the green READY/RDY LED (on the 2000/4000 the LEDs are on the CNTL module) turns ON and the ERROR/ERR LED is OFF.

**Note: Default IP network service**

The Fast Configuration Wizard configures the Default IP Network Service with common parameters. Specific or additional settings (for example, for ICE, or Secured Mode) should be performed once the initial configuration is complete.


---

**Change IP Network Server from IPv4 to IPv6**

On the Collaboration Server, IPv4 is the default protocol for setting the Network Service in the Fast Configuration Wizard. If IPv6 addressing is required, complete the Fast Configuration Wizard for IPv4 and then:

1. Modify the **Management Network** to use IPv6 addressing or IPv4 and IPv6 addressing.
2. Restart the Collaboration Server.
3. Modify the properties of the **IP Network Service**, which will now include IPv6 addressing or IPv4 & IPv6 addressing options to configure the Network Service.

Select Collaboration Server Web Client Language

By default, the Collaboration Server Web Client interface is displayed only in English. However, the system administrator can choose the languages available for selection on the Login screen. These languages are represented by flags.

To choose the languages for selection in the Login screen:

1. On the Collaboration Server menu, click Setup > Customized Display Settings > Multilingual Setting. The Select Language window is displayed as below:

   ![Select Language Window](image)

2. Click the check boxes of the languages, then click OK.
   If the selected language is not supported by the browser or the workstation Operating System, the Collaboration Server Web Client is displayed in English.

3. Log out and reconnect to the Collaboration Server.
   The Login screen will display the flags of the selected languages.

For more information see Multilingual Setting in the related Administrator’s Guide.
Start Conferences Using Default Profiles

In the RealPresence CloudAxis Solution, the conferencing parameters are defined in the RealPresence CloudAxis suite using its RealPresence Virtualization Manager (DMA) component.

Your RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 is shipped with default conference profiles allowing you to immediately start conferences.

Predefined conference profiles are:

- **Factory_Video_Profile**—Immediately start standard ongoing AVC CP only conferences.
- **Factory_SVC_Video_Profile**—Immediately start standard ongoing SVC Only conferences
- **Factory_Mix_Video_Profile**—Immediately start a standard ongoing mixed AVC CP and SVC conference.

For how these profiles are applied to different conferencing entities as the default conferences, see Default Conferencing Settings.

**Note: More options available to set up and dial in to a conference**

You can set up a conference in many ways, such as using your own profiles, meeting rooms, entry queues, and reservations. The dialing strings vary per the conferencing methods, conferencing network, and participant end point types.

For more information, refer to your system's Administrator's Guide.

**To start a New Conference using a default profile:**

1. In the **Conferences** pane, click **New Conference** ( ).
   
   The **New Conference—General** dialog box opens.

   **RealPresence Collaboration Server (RMX)1500/1800/2000/4000 New Conference**
2 Select a conference profile from the Profile drop-down list.

3 If you know the IP address of your participants, you can add them to your conference: click the Participants tab > New. Enter a name and the IP address for the participant and click OK.

   By default, the RealPresence Collaboration Server dials out to these specified participants when the conference starts.

   You can also send the meeting dialing string to your participants so they can dial in to the conference themselves. For more information, see Join a Conference Using Dialing Strings.

4 Click OK to accept default settings.

5 The conference starts immediately and appears in the Conferences list.

   Your meeting participants appear in the Participants pane.
Note: Starting from version 8.1
- A license is required for SVC conferencing.
- In mixed AVC/SVC conferences, participants with SVC-enabled endpoints and AVC endpoints can participate in the same conference.

Join a Conference Using Dialing Strings

When you set up a conference, you can add participants so the RealPresence Collaboration Server can dial out to these participants when the conference starts. You can also send dialing strings to participants so they can dial in to the conference. Dialing string formats vary per different conferencing scenarios.

Example of dialing Strings for H.323 Participants (AVC CP Only and Mixed Conferences)

For H.323 participants, the dialing string can be of the following formats:

- `<MCU Prefix in gatekeeper>`<Conference ID>
- `<MCU Signaling Host IP address>`##<Conference ID>

If your conference has the following parameters:

- MCU Prefix in gatekeeper: 2014
- Conference ID: 43602
- MCU Signaling Host IP address: 172.21.126.100

H.323 participants can dial one of the following strings to join the conference:

- 201443602
- 172.21.126.100##43602

Example of dialing Strings for SIP Participants (All Conferences)

For SIP participants, the dialing string can be of the following formats:

- `<Conference routing name>`@<MCU domain name>
- `<Conference routing name>`@<MCU Signaling Host IP address>

If your conference has the following parameters:

- MCU Signaling Host IP address: 172.21.126.100
- Conference routing name: test_25248795
- MCU domain name: polycom.com

SIP participants can dial one of the following strings to join the conference:

- test_25248795@polycom.com
- test_25248795@172.21.126.100
To view your conference ID:

» Conference IDs appear in the Conferences pane.

To view your MCU signaling host IP address or MCU prefix in gatekeeper:

1. In the RMX Management pane, click **IP Network Services**.
2. Your **Singling Host IP address** and **MCU Prefix in Gatekeeper** appear in the IP Network Service row.

To view your conference routing name:

1. In the Conferences pane, right-click your conference and select **Conference Properties**.
2 Your routing name can be found in the **General** tab.

You can also set your routing name when you create a conference. If not specified, the default routing name is the same as the **Display Name**.

Gathering Phase (AVC CP Only Conferencing)

The Gathering Phase of a conference is the time period during which participants are connecting to a conference. It is enabled by default for AVC CP only conferences.

During the Gathering Phase, a mix of live video from connected endpoints is combined with both static and variable textual information about the conference into a slide which is displayed on all connected endpoints.
All connected participants are kept informed about the current conference status including names of connected participants, participant count, participant type (video/audio) etc.

During the Gathering Phase, the audio of all participants can be heard, and the video of active speakers is displayed in the video windows as they begin talking.

**Default Conferencing Settings**

The RealPresence Collaboration Server (RMX) 1500/2000/4000 is shipped with default pre-configured conferencing entities set to CP (AVC) Conferencing Mode, which allows the MCU users and participants to start CP Only ongoing conferences without further configuration.
For RealPresence Collaboration Server (RMX) 1800, the default pre-configured conferencing entities are set to CP and SVC Conferencing Mode, which allows the MCU users and participants to start CP and SVC ongoing conferences without further configuration.

**Default Conferencing Entities**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting Rooms</td>
<td>Conferences saved on the MCU without using resources. They are activated when the first participant dials in.</td>
</tr>
<tr>
<td></td>
<td>There are four default Meeting Rooms ready for use:</td>
</tr>
<tr>
<td></td>
<td>Name ID</td>
</tr>
<tr>
<td></td>
<td>Maple_Room 1001</td>
</tr>
<tr>
<td></td>
<td>Oak_Room 1002</td>
</tr>
<tr>
<td></td>
<td>Juniper_Room 1003</td>
</tr>
<tr>
<td></td>
<td>Fig_Room 1004</td>
</tr>
<tr>
<td></td>
<td>• On RealPresence Collaboration Server (RMX) 1500/2000/4000, each Meeting Room uses the default Conference Profile called Factory_Video_Profile set to CP (AVC) Only Conferencing Mode, running at 384Kbps and has a default duration of one hour.</td>
</tr>
<tr>
<td></td>
<td>• On RealPresence Collaboration Server (RMX) 1800, each Meeting Room uses the default Conference Profile called Factory_Mix_Video_Profile set to mixed CP and SVC Conferencing Mode, running at 1920Kbps and has a default duration of one hour.</td>
</tr>
<tr>
<td>Conference Profile</td>
<td>Default Conference Profile Name:</td>
</tr>
<tr>
<td></td>
<td>• Factory_Video_Profile on RealPresence Collaboration Server (RMX) 1500/2000/4000</td>
</tr>
<tr>
<td></td>
<td>• Factory_Mix_Video_Profile on RealPresence Collaboration Server (RMX) 1800</td>
</tr>
<tr>
<td></td>
<td>A default Conference Profile is assigned to a new Conference, a new Meeting Room or a new Entry Queue to define its Conferencing Mode, conferencing parameters, such as line rate and video resolution.</td>
</tr>
<tr>
<td></td>
<td>The Factory_Video_Profile contains video parameters with a bit rate of 384Kbps, Auto Layout and Polycom Skin. The Profile uses an IVR Service called Conference IVR Service.</td>
</tr>
<tr>
<td></td>
<td>Including the default Conference Profile, the system is shipped with following three pre-configured factory Conference Profiles:</td>
</tr>
<tr>
<td></td>
<td>• Factory_SVC_Video_Profile—Contains the parameters of an SVC conference.</td>
</tr>
<tr>
<td></td>
<td>• Factory_Mix_Video_Profile—Contains the parameters of a mixed CP and SVC conference.</td>
</tr>
<tr>
<td></td>
<td>• Factory_Video_Profile—Contains the parameters of a CP conference.</td>
</tr>
<tr>
<td>Conference IVR Service</td>
<td>The Conference IVR Service includes an optional video slide and all the voice messages played during the participant's connection process and during the conference.</td>
</tr>
<tr>
<td></td>
<td>The Conference IVR Service contains a set of voice prompts in English and an optional video slide.</td>
</tr>
<tr>
<td></td>
<td>It automates the participant's connection to a conference.</td>
</tr>
</tbody>
</table>
Start Conferences Using Default Profiles

Using an Entry Queue enables one dial-in number to be used for all AVC-based connections. In the Entry Queue, AVC participants are prompted for information to enable routing to their destination conferences.

The default Entry Queue is also set to Ad Hoc conferencing which allows participants to start new conferences without prior definition by entering a Conference or Meeting Room ID that is not used by any ongoing conference currently running on the MCU. It uses an Entry Queue IVR Service called Entry Queue IVR Service.

The default Welcome Slide displayed at the participants endpoint upon connection to the Entry Queue and lists the default Meeting Rooms. The participant can select one of these Meeting Rooms or enter another ID to start a new conference.

If no Transit Entry Queue is defined, DefaultEQ is the default Transit Entry Queue. For more information of Entry Queue, refer to Entry Queues in related Administrator’s Guide.

**Note:** An ISDN/PSTN dial-in number is not assigned to the Entry Queue as the number depends on the dial-in numbers range defined in the Network Service. It must be manually assigned to enable ISDN or PSTN participant connections to this Entry Queue. For more information, refer to Defining ISDN/PSTN in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide*.

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description</th>
</tr>
</thead>
</table>
| Entry Queue (AVC endpoints) | Default Display Name: DefaultEQ  
Default ID: 1000  
Default Profile:  
• Factory_Video_Profile on RealPresence Collaboration Server (RMX) 1500/2000/4000  
• Factory_Mix_Video_Profile on RealPresence Collaboration Server (RMX) 1800.  
Using an Entry Queue enables one dial-in number to be used for all AVC-based connections. In the Entry Queue, AVC participants are prompted for information to enable routing to their destination conferences.  
The default Entry Queue is also set to Ad Hoc conferencing which allows participants to start new conferences without prior definition by entering a Conference or Meeting Room ID that is not used by any ongoing conference currently running on the MCU. It uses an Entry Queue IVR Service called Entry Queue IVR Service.  
The default Welcome Slide displayed at the participants endpoint upon connection to the Entry Queue and lists the default Meeting Rooms. The participant can select one of these Meeting Rooms or enter another ID to start a new conference.  
If no Transit Entry Queue is defined, DefaultEQ is the default Transit Entry Queue. For more information of Entry Queue, refer to Entry Queues in related Administrator’s Guide.  
**Note:** An ISDN/PSTN dial-in number is not assigned to the Entry Queue as the number depends on the dial-in numbers range defined in the Network Service. It must be manually assigned to enable ISDN or PSTN participant connections to this Entry Queue. For more information, refer to Defining ISDN/PSTN in the *RealPresence Collaboration Server (RMX) 1500/1800/2000/4000 Administrator’s Guide*. |
| Entry Queue IVR Service | Includes all the voice messages and video slides used to guide AVC participants through their connection process to the MCU and route them to their destination conference.  
Entry Queue IVR Service is the default Entry Queue IVR Service provided for the default Entry Queue. |