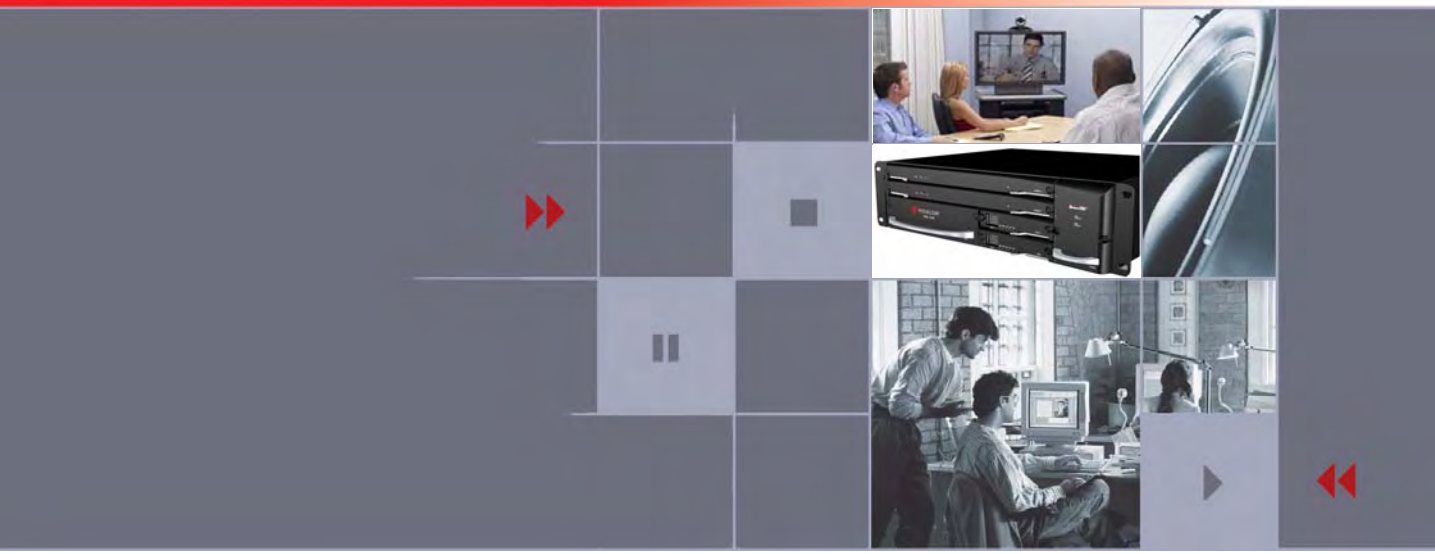

RMX 2000
Getting Started Guide

Version 1.1

POLYCOM®

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Version 1.1

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Notice
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Regulatory Notices

United States Federal Communication Commission (FCC)

Part 15: Class A Statement. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. Test limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio-frequency energy and, if not installed and used in accordance with the instruction manuals, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

United States Safety Construction Details:

- Unit is intended for RESTRICTED ACCESS LOCATION.
- Unit is to be installed in accordance with the National Electrical Code.
- The branch circuit overcurrent protection shall be rated 20 A for the AC system.
- This equipment has a maximum operating ambient of 40°C, the ambient temperature in the rack shall not exceed this temperature.

To eliminate the risk of battery explosion, the battery should not be replaced by an incorrect type. Dispose of used batteries according to their instructions.

CE Mark R&TTE Directive

Polycom Inc., declares that the Polycom RMX 2000 is in conformity with the following relevant harmonized standards:

EN 60950-1:2001

EN 55022: 1998+A1:2000+A2:2003 class A

EN 300 386 V1.3.3: 2005

Following the provisions of the Council Directive 1999/CE on radio and telecommunication terminal equipment and the recognition of its conformity.

Canadian Department of Communications (EC)

This Class [A] digital apparatus complies with Canadian ICES-003.

Notice: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunication network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations. Repairs to certified equipment malfunctions, may give the telecommunications company causes to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Regulatory Notices

Chinese Communication Certificate

声　明

此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰。在这种情况下，可能需要用户对其干扰采取切实可行的措施。

Table of Contents

1

System Overview

This Getting Started Guide provides information on the installation and basic operation of your RMX system. For more information on managing the system, refer to *RMX Administrator's Guide* included with the system.

RMX 2000

The Polycom RMX 2000 Multipoint Control Unit (MCU) is a high performance, scalable, IP-network (H.323 and SIP) solution that provides the user with feature-rich, and easy-to-use multipoint voice and video conferencing.

The RMX MCU meets International Telecommunication Union - Telecommunication Standardization Sector, (ITU-T, formerly CCITT) standards for multipoint multimedia bridging devices, and meets ETSI standards for telecommunication products.

The RMX unit has, in addition, been designed in compliance with IETF (Internet Engineering Task Force) – a large open international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet.

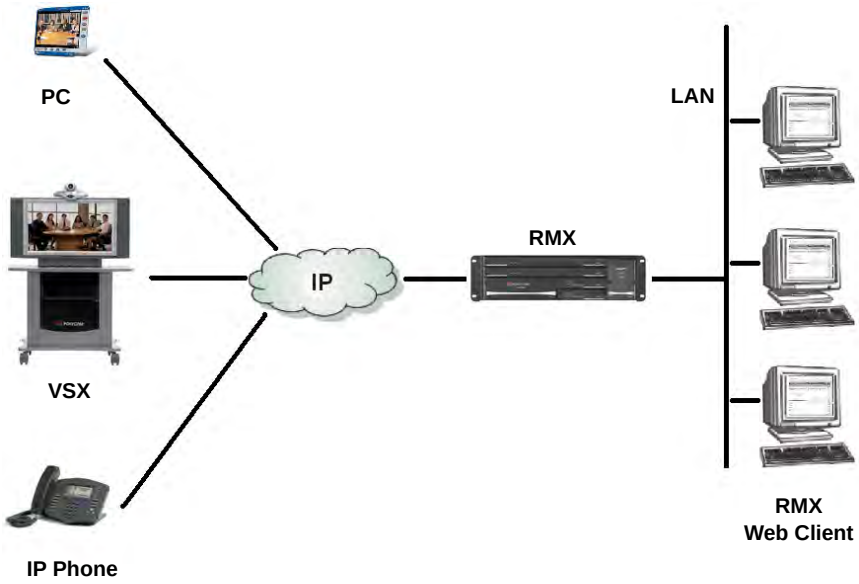


Figure 1-1 *Multipoint Video Conferencing using an Polycom RMX 2000*

The Polycom RMX 2000 unit is controlled, via the LAN, by the Polycom RMX 2000 Web Client application, using Internet Explorer® installed on the user's workstation.

RMX Main Features

Video Display

Dynamic Continuous Presence

The dynamic Continuous Presence capability of the RMX system enables viewing flexibility by offering multiple viewing options and window layouts for video conferencing. The Continuous Presence mode offers 24 layouts to accommodate different numbers of participants and conference settings.

Table 1-1 *Continuous Presence – Video Layouts*

Standard Definition (SD)

SD is a high quality video protocol which uses the H.264 video algorithm. It enables HD compliant endpoints to connect to conferences at resolutions of 720X576 for PAL systems and 720X480 for NTSC systems. Bit rates for SD range from 256Kbps to 2Mbps.

High Definition (HD)

HD is an ultra-high quality video resolution enabling compliant endpoints to connect to conferences at resolutions of 1280x720 (720p) and at bit rates ranging from 384kbp to 4Mb.

Setting a video conference to HD resolution forces all conference participants to connect using the same conference line rate and HD capabilities. Endpoints that are unable to meet these requirements connect as Secondary (audio only).

Multiple Switching Modes

If the number of participants is higher than the number of video windows in the selected layout, switching between video participants can be performed in one of these modes:

- Voice activation
- RMX user forces participants to selected video window
- Lecture Mode - The lecturer is viewed in full screen by all conference participants, while the audience is "time-switched" in the speaker's view
- Presentation Mode - When the speaker's presentation extends beyond a predefined time, he/she becomes the current lecturer and the conference switches to Lecture Mode

H.239 / People+Content

The H.239 protocol allows compliant endpoints to share content. By default, all Conferences, Entry Queues, and Meeting Rooms launched on the RMX have H.239 capability.

People+Content is Polycom's proprietary equivalent of H.239.

Media Encryption

Encryption is available at the conference and participant levels, based on AES 128 Media Encryption and DH 1024 Key Exchange standards.

IVR-Enabled Conferencing

Interactive Voice Response (IVR) is a software module that automates the connection process and lets participants perform various operations during ongoing conferences. The participants use their endpoints' keypads and remote control to interact with the conference's menu-driven scripts using DTMF codes.

Operations that can be performed by participants during a conferences include:

- Manually terminate the conference
- Mute or unmute the participant's audio channel
- Adjust the participant's broadcasting and listening audio volume
- Play the Help Menu
- Mute or unmute undefined dial-in participants upon their connection to the conference
- Request a Roll Call and stop the Roll Call names review

Entry Queue

An Entry Queue is a special routing lobby for video and audio participants. After dialing the Entry Queue ID, voice prompts from an IVR service are used to connect the participants to the appropriate conference.

This service also enables the system to verify the participant's right to start an Ad Hoc conference or to join an on going conference.

Conferencing Capabilities and Options

On Demand Conferencing

The following options are available when setting up conferences:

- New Conference – setup once, use once
  The conference is deleted from the MCU after it ends
- Meeting Rooms – setup once, use many times
  Meeting Rooms are saved in memory (using no resources) and can be activated as many times as needed
- Ad Hoc Entry Queue – no setup, a new conference is created when a user dials in

Connection Methods

- Dial-out: automatically, to pre-defined participants (line rate detection is automatic)
- Dial-in:
  - for participants defined in advance
  - for undefined participants directly to a conference
  - for undefined participants via a single dial Entry Queue

Conference Management and Monitoring Features

The Polycom RMX 2000 Web Client provides capabilities for management and monitoring of participants and conferences, including the following:

- Lecture Mode or Presentation Mode in Continuous Presence conferences
- Far End Camera Control (FECC/LSD) in video conferences
- Automatic termination of idle (no participants) conferences
- Automatic extension of conference duration
- Control of listening and broadcasting audio volume for individual participants
- Auto Gain Control (AGC) noise and audio volume regulation for individual participants
- Conference control via DTMF codes from participant's endpoint or telephone
- Entry, exit and end-of-conference indications
- Media encryption
- Active display of all conferences and participants
- Real-time monitoring of each participant's connection status and properties
- Multiple drag & drop of participants
- Easily accessed Call Detail Records (CDR) for administrator
- Active display of all system resources

2

First Time Installation and Configuration

First Time Installation and Configuration of the Polycom RMX 2000 consists of the following procedures:

1 **Hardware Installation and Setup**

— Mount the RMX in a rack.

— Connect the necessary cables.

2 **Gather Network Equipment and Address Information**

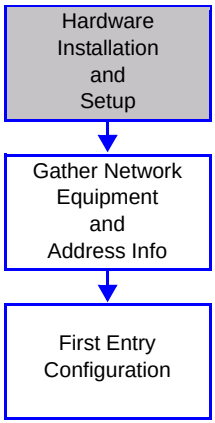
— Get the information needed for integrating the RMX into the local network.

3 **First Entry Configuration**

— Power up and register the RMX.

— Modify the *Management Network*.

— Configure the *Default IP Service*.



Hardware Installation and Setup

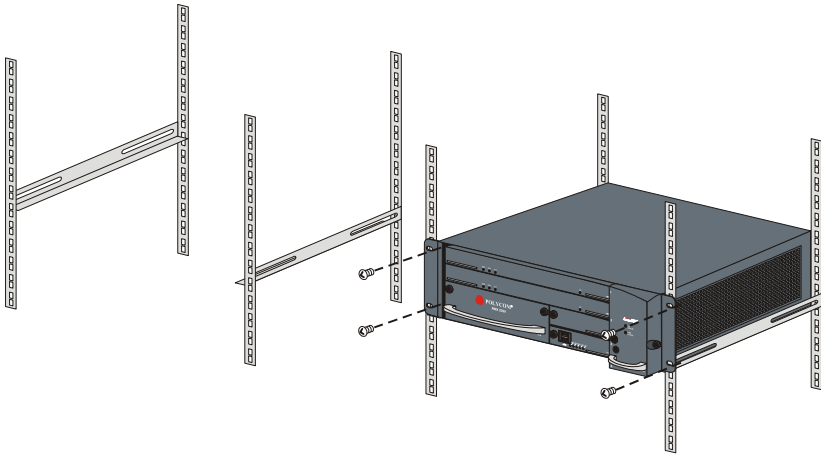
The RMX unit should be mounted in a 19″rack in a well ventilated area. It is important to adhere to the *Site Requirements* as described in the *RMX 2000 Hardware Guide, "Site Requirements"* on page 1-3.

Mounting the RMX in a Rack

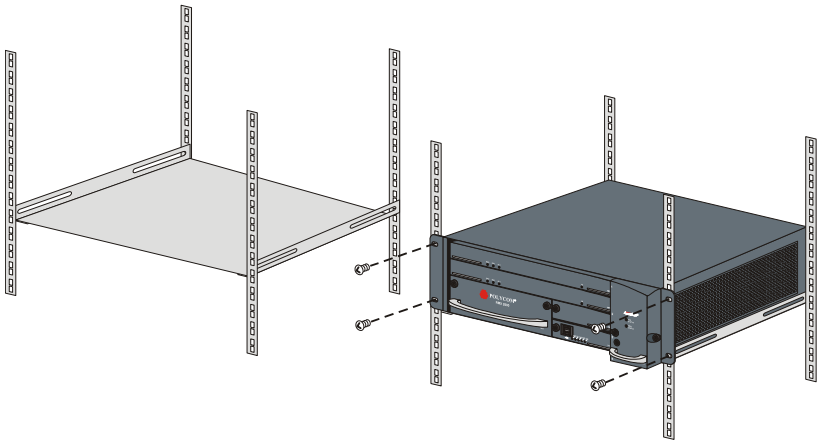
There are two methods for installing the RMX in a rack:

- **Using rack brackets** – Install rack brackets, supplied by the rack manufacturer, in the rack. Mount the RMX on top of the rack

brackets. Fasten the RMX to the rack with screws through the four holes in the RMX's front mounting brackets.



- **Using a shelf** – Install the shelf, supplied by the rack manufacturer, in the rack. Mount the RMX on the shelf. Fasten the RMX to the rack with screws through the four holes in the RMX's front mounting brackets.

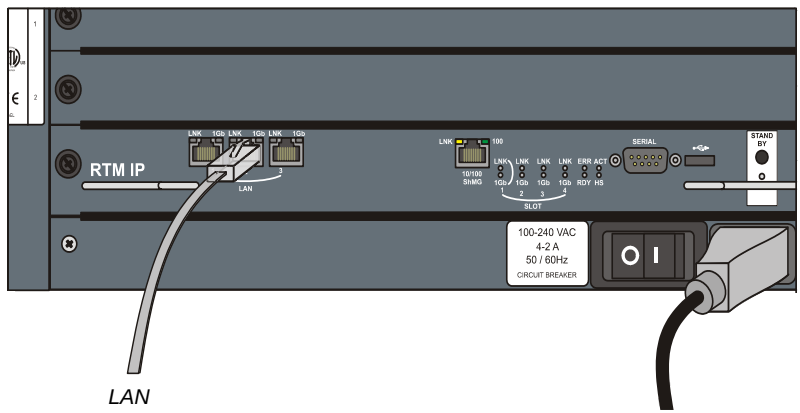


Connecting Cables

Prior to connecting cables, remove all protective caps from their port jacks.

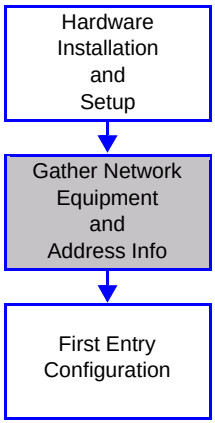
Connect the following cables to the back panel:

- Power cable
- LAN cable to LAN 2 Port.



Gather Network Equipment and Address Information

IP Services



The IP addresses and network parameters which enable communication between the RMX, its management application and the conferencing devices are organized in two IP services:

- **Management Network (Control Unit)**
- **Default IP Service (Conferencing Service)**

During the *First Entry Configuration,* the parameters of these two network services are modified to comply with your local network settings.

Management Network

The *Management Network* enables communication between RMX *Control Unit* and the *RMX Web Client* and is used to manage the RMX.

Default IP Service (Conferencing Service)

The *Default IP Service (Conferencing Service)* is used to configure and manage communications between the RMX and conferencing devices.

The RMX is shipped with default IP addresses as listed in Table 2-1.

When installing an RMX unit, these default IP addresses must be modified to your local network settings. Therefore it is important that before powering the RMX unit up for the first time, that you obtain the information needed to complete the **Local Network Settings** section of the table from your network administrator.

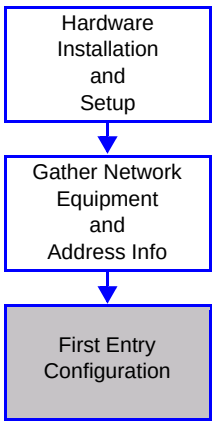
Table 2-1 *Network Equipment and Address Information*

Parameter	Factory Default	Local Network Settings
Control Unit IP Address	192.168.1.254	
Control Unit Subnet Mask	255.255.255.0	

Table 2-1 *Network Equipment and Address Information (Continued)*

Parameter	Factory Default	Local Network Settings
Control Unit Default Gateway	192.168.1.1	
Shelf Management IP Address	192.168.1.252	
Signaling Host IP address	–	
Media Board IP address (MPM 1)	–	
Media Board IP address (MPM 2)	–	
Gatekeeper IP address (optional)	–	
DNS IP address (optional)	–	
SIP Server IP address (optional)	–	

First Entry Configuration



There are four procedures necessary for setup of the new RMX. It is important that they are performed in the following sequence:

1. Product Registration.
2. Modifying the Factory Default Management Network Settings.
3. First-time Power-up and connection to MCU.
4. Modifying the Default IP Service Settings (Fast Configuration Wizard).

Procedure 1: Product Registration

Before the RMX can be configured and used, it is necessary to register the product and obtain a *Product Activation Key*.

During first-time power-up, a dialog box appears requesting you to enter a *Product Activation Key*.

Obtain the Product Activation Key

1. Access the *Support Page* of the Polycom website: **www.polycom.com/support**
2. In the **Resource Center** section, click the **Register Your Product** link.
3. If required, select **New User Account** or enter your **User ID** and **Password** and then click **Sign In.**
4. Follow the on-screen instructions for *Product Registration* and *Product Activation*. (The RMX's serial number is on a sticker on the back of the unit, if needed.)
5. Write down the *Product Activation Key* or **copy/paste** it for later use.

Procedure 2: Modifying the Factory Default Management Network Settings

Management Network Definition

Management Network Definition can be done by two methods:

- **USB key –** The system is shipped with a USB key containing the default IP addresses for the control unit and the shelf management.

  These defaults are first modified in the PC and then uploaded to the RMX.
- **Direct connection –** Creating a private network between the Polycom RMX 2000 and the computer and modifying the management network parameters using the *Polycom RMX 2000 Web Client*.

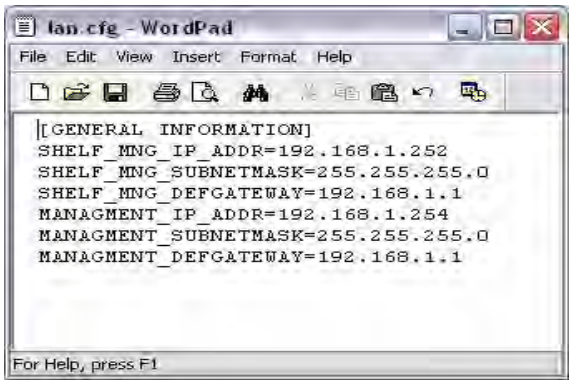
For more information about the direct connection method, see *RMX 2000 Administrators's Guide, Appendix F: "Configuring Direct Connections to RMX"* on page **F-1**.

Modifying the USB key settings

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.

To modify the USB key settings:

1. Plug the *USB key* into the PC.
2. Use a text editor program (WordPad, Notepad, etc.) to **Open** *lan.cfg*.



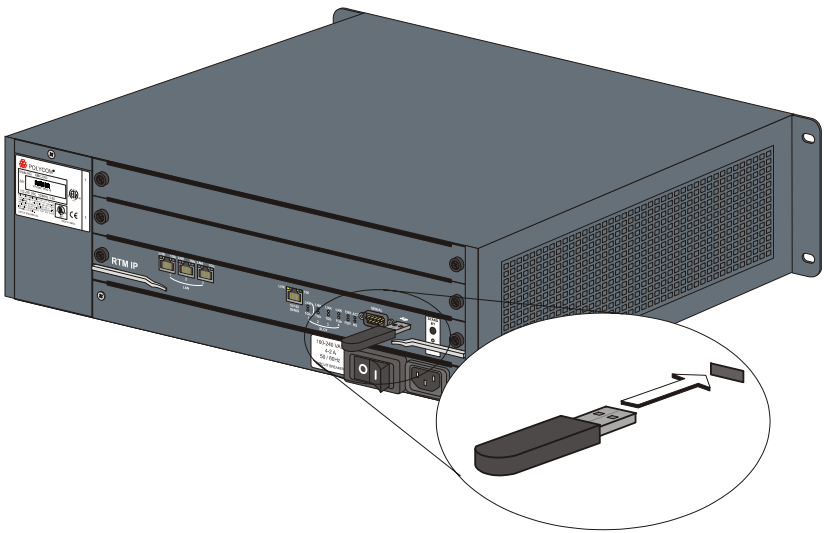
3 In the *lan.cfg* file, modify the following parameters using the information supplied by your network administrator. Make sure that there are no extra spaces at the end of each line.
   - *Management (Control Unit) IP Address*
   - *Management (Control Unit) Subnet Mask*
   - *Management (Control Unit) Default Gateway*
   - *Shelf Management IP Address (Switch)*
   - *Shelf Management Subnet Mask*
   - *Shelf Management Gateway*

4 **Save** the file.

Procedure 3: First-time Power-up and Connection to MCU

To power-up for the first time using the USB key:

1 Insert the *USB key* containing the modified IP addresses in USB port on the RMX's back panel.



2 Power the RMX **On**.

   The parameters in the *lan.cfg* file are uploaded from the USB key to the RMX's memory and applied during the power-up sequence.

   Power-up is complete when the red *HD Active* LED starts blinking.

3 Remove the *USB key*.

4 Start the *RMX Web Client* application on the workstation, by entering **`http://<Control Unit IP Address>`** as defined in the *USB key* in the browser's address line and pressing **Enter**.

5 In the *RMX Welcome Screen*, enter the default *Username* (**`POLYCOM`**) and *Password* (**`POLYCOM`**) and click **Login**.

The *RMX Web Client* opens and the *Product Activation* dialog box appears with the serial number filled in:

6 Enter the *Product Activation Key* retrieved earlier (or **paste** it) and click **OK.**

The *Fast Configuration Wizard* appears.

Procedure 4: Modifying the Default IP Service Settings

The *Fast Configuration Wizard* enables you to configure the *Default IP Service*. It starts automatically whenever one or both of the following conditions occurs:

- The RMX cannot access the *Default IP Service*. This happens during **First Time Power-up,** before the service has been defined.
- The *Default IP Service* has been deleted, followed by an RMX reset.

Fast Configuration Wizard

1 Enter the required **IP** information in the dialog box.

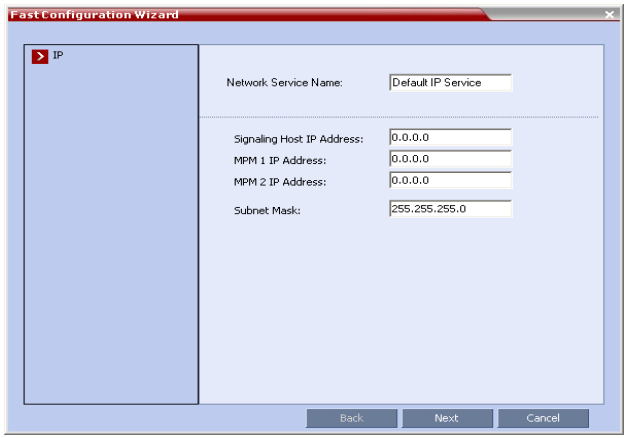


Table 2-2 *Fast Configuration Wizard – IP*

Field	Description
Network Service Name	The name of the Default IP Service, assigned by the Fast Configuration Wizard. **Note:** This field is displayed in all dialog boxes.
Signaling Host IP Address	Enter the IP address of the Signaling Host. This is the address used by endpoints for dialing in to the MCU.
MPM 1 IP Address	Enter the IP addresses of the media boards. Endpoints connect to conferences via these addresses.
MPM 2 IP Address	
Subnet Mask	Enter the subnet mask of the MCU. Default value: 255.255.255.0.

2 Click the **Next** button.

3 Enter the required **Routes** information in the dialog box.

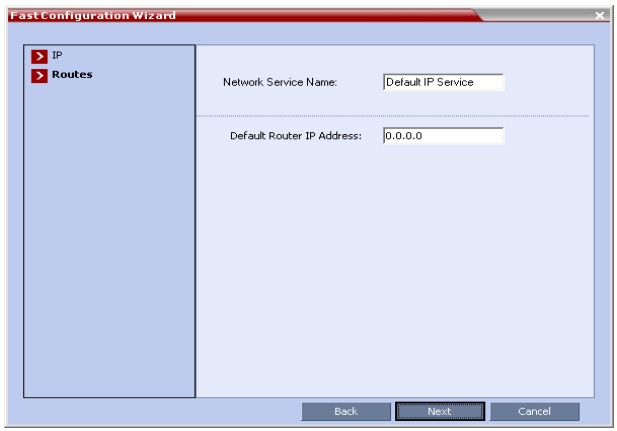
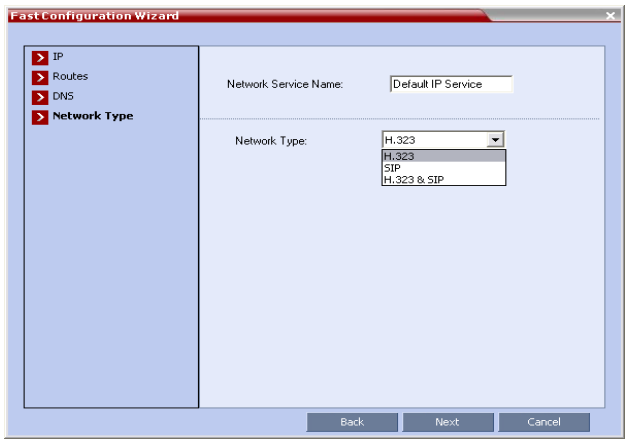


Table 2-3 *Fast Configuration Wizard – Routes*

Field	Description
Default IP Router Address	Enter the IP address of the default router.

4 Click the **Next** button.

5 Select the ***Network Type***: **H.323, SIP** or **H.323** & **SIP**.



6 Click the **Next** button.

7 If you selected **SIP**, skip the following steps and go to **Step 11.**

8 Enter the required **Gatekeeper** information in the dialog box.

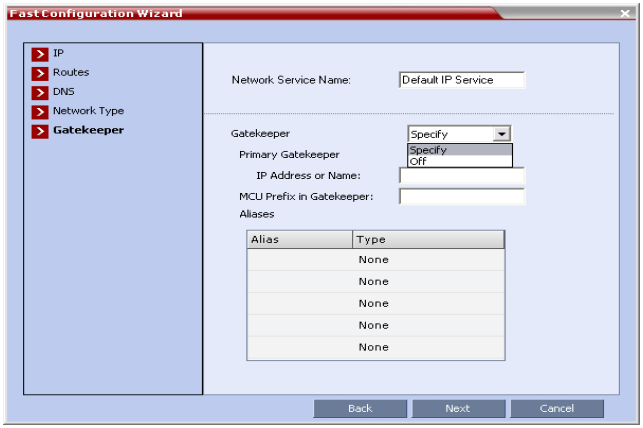


Table 2-4 *Fast Configuration Wizard – Gatekeeper*

Field	Description
Gatekeeper	Select **Specify** to enable configuration of the gatekeeper IP address. When **Off** is selected, all gatekeeper options are disabled.
Primary Gatekeeper	
IP Address or Name	Enter either the gatekeeper's host name (if a DNS Server is used) or IP address.
MCU Prefix in Gatekeeper	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.

Table 2-4 *Fast Configuration Wizard – Gatekeeper (Continued)*

Field	Description
Aliases	
Alias	The alias that identifies the RMX's Control Unit within the network. Up to five aliases can be defined for each RMX. **Note:** When a gatekeeper is specified, at least one prefix or alias must be entered in the table.
Type	Select the type that defines the format in which the card alias is sent to the gatekeeper. • H.323 ID (alphanumeric ID) • E.164 (0-9, * #) • URL ID (URL style address) • Transport ID (IP address: port number) • Email ID (email address format) • Party Number (identical to the E.164 format) **Note:** Although all alias types are supported (with H.323 and E.164 being the most common), the type to be used depends on your gatekeeper's capabilities.

9 Click the **Next** button.

10 If you selected **H.323** only, skip the following steps and go to **Step 13.**

11 Enter the required **SIP Server** information in the dialog box.

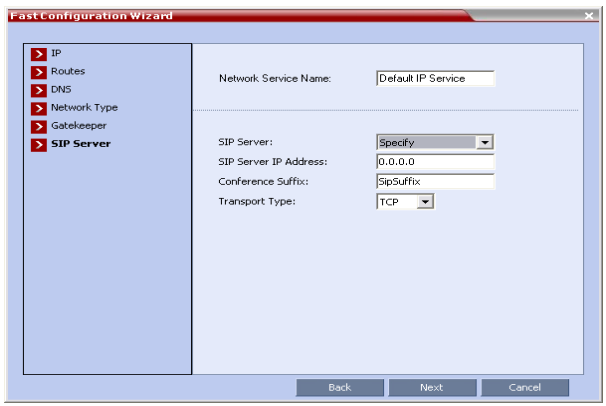


Table 2-5 *Fast Configuration Wizard – SIP Server*

Field	Description
SIP Server	Select **Specify** to enable SIP Server configuration. When **Off** is selected, all SIP options are disabled.
SIP Server IP Address	Enter either the IP address of the preferred SIP server or its host name (if a DNS server is used).
Transport Type	Select the 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: **UDP –** Select this option to use UDP for signaling. **TCP –** Select this option to use TCP for signaling.

12 Click the **Next** button.

13 Enter the required **System Flags** information in the dialog box.

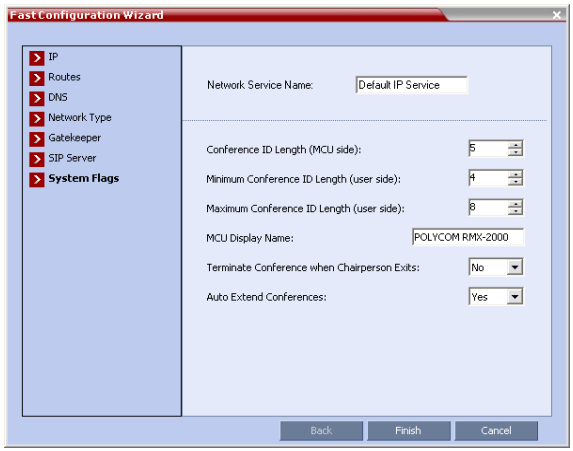


Table 2-6 *Fast Configuration Wizard – System Flags*

Flag	Description / Default	
Conference ID Length (MCU)	The number of digits of the Conference ID to be assigned by the MCU. Range: 2-16 (Default: 5)	**Note:** Selecting 2 digits limits the number of simultaneous ongoing conferences to 99.
Minimum Conference ID Length (User)	The minimum number of digits that the user must enter when manually assigning a numeric ID to a conference. Range: 2-16 (Default: 4)	
Maximum Conference ID Length (User)	The maximum number of digits that the user can enter when manually assigning a Numeric ID to a conference. Range: 2-16 (Default: 8)	
MCU Display Name	The MCU name is displayed on the endpoint's screen. Default name: *Polycom RMX 2000*	
Terminate Conference when Chairperson Exits	When **Yes** is selected (default), the conference end when the chairperson exits even if there are other participants connected.	
Auto Extend Conferences	When **Yes** is selected (default), allows conferences running on the RMX 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.	

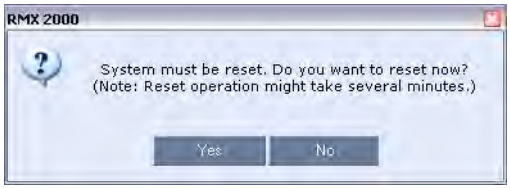
These flags can be modified later, if required, via the *Setup* menu's *System Configuration* option. For more details, see the *RMX 2000 Administrator's Guide, "System Configuration"* on page **11-5**.

14 Click the **Finish** button.

The RMX confirms successful configuration.

15 In the *Success Message* box, click **OK.**

The RMX requests confirmation of reset.



16 Click **Yes.**

17 Wait for the system to reset.

18 Click **OK.**

19 Log out of the *RMX Web Client* and log in again with the new IP address.

The RMX is now ready for use – no further configuration is required.

RMX's Default Conferencing Settings

The RMX is shipped with default conferencing entities, which allow RMX users and participants to start ongoing conferences without further configuration.

The default conferencing entities are:

Table 2-7 *Conferencing Entities*

Entity	Description
Meeting Rooms	Conferences saved on the MCU without using resources.They are activated when the first participant dials in. There are four Meeting Rooms ready for use: **Name** **ID** *Maple_Room* *1001* *Oak_Room* *1002* *Juniper_Room* *1003* *Fig_Room* *1004* Each Meeting Room uses the default *Conference Profile* called *DefaultVideo384* running at 384Kbps and has a default duration of one hour.
Conference Profile	**Name:** *DefaultVideo384* A Conference Profile is assigned to a Meeting Room to define its conferencing properties. The *DefaultVideo384* Profile contains the video conference parameters with a bit rate of 384Kbps, *Auto Layout* and Polycom *Skin*. The Profile uses an IVR Service called *Conference IVR Service*.
IVR Service	**Name:** *Conference IVR Service* The Conference IVR Service contains a set of voice prompts in English that automates the participant's connection to a conference. The IVR Service includes all the voice messages played during the participant connection process and during the conference.

Table 2-7 *Conferencing Entities (Continued)*

Entity	Description
Entry Queue	**Name:** **ID** *DefaultEQ* *1000* A single dial Routing Lobby for all conferences (optional). A default Entry Queue called *DefaultEQ* is provided for routing calls from undefined participants to conferences. It uses Entry Queue IVR Service called *RMX EQ Service.*
Entry Queue Service	**Name:** *Entry Queue IVR Service* Includes all the voice messages and video slides used to guide participants though their connection process and route them to their destination conference. *Entry Queue IVR Service* is the default IVR Service provided for the default Entry Queue. The Entry Queue is also set to Ad Hoc conferencing which allows participants to start new conferences without prior definition by entering a Conference ID that is not used by any on going conference currently running on the MCU, or Meeting Room. The default *Welcome Slide* displayed at the participants endpoint lists the default Meeting Rooms. The participant can select on of these Meeting Rooms or enter another ID to start a new conference.

Customizing the RMX's Default Conferencing Settings

You can customize the conferencing entities to your organization's requirements:

- **To customize the Voice Prompts and Video Slides** to different organizations, users, languages etc. – first record the required messages and create the video slides and then create the appropriate conference IVR Service or Entry Queue IVR Service.

  These services must be assigned to the appropriate conference profile or Entry Queue.

  For more details about IVR Services, see the *RMX 2000 Administrator's Guide*, "*IVR Services*" on page **9-1**.

- **To modify the conference bit rate** – select a specific video layout for the conference or the background that is used for the video display (skin), create a new conference Profile.

  This Profile can be used for defining new ongoing conferences, Meeting Rooms and Single-dial Entry Queues.

  For more details about Conference Profiles, see the *RMX 2000 Administrator's Guide*, "*Defining Profiles*" on page **1-6**.
- **To allow participants to connect to a single dial Entry Queue** at a line rate other than 384 Kbps (as in the default Entry Queue) or play voice messages in different languages – create a new Entry Queue.

  For more details about defining Entry Queues, see the *RMX 2000 Administrator's Guide*, "*Defining a New Entry Queue Service*" on page **9-24**.
- **You can personalize Meeting Rooms** for people in your organization with predefined conference and chairperson passwords (for added security) and allow only authorized people to start on going conferences.

  For more details about Meeting Room definition, see the *RMX 2000 Administrator's Guide*, "*Meeting Rooms*" on page **2-1**.
- The conferencing entities are designed mainly for dial in participants.

  Without prior definition of participants **you can create your own Address Book** containing a list of participants to be dialed by the MCU. Once defined, these participants can be added to ongoing conferences saving the need to define them again.

  For more details about the Address Book, see the *RMX 2000 Administrator's Guide*, "*Address Book*" on page **4-1**.

3

Basic Operation

The most common operations performed via the *RMX Web Client* are:

- Starting, monitoring and managing conferences
- Monitoring and managing **participants** and **endpoints** as individuals or **groups**.
  - **Participant –** A person using an endpoint to connect to a conference. When using a *Room System*, several participants use a single endpoint.
  - **Endpoint –** A hardware device, or set of devices, that can call, and be called by an MCU or another endpoint. For example, an endpoint can be a phone, a camera and microphone connected to a PC or an integrated *Room System* (conferencing system).
  - **Group –** A group of participants or endpoints with a common name.

Starting the RMX

Before you begin you need to get the following information from your system administrator:

- User name
- Password
- MCU IP Address

To start RMX:

1 In your browser address line, enter **http://<Control Unit IP Address>** and press the **Enter** key.
The *Login* dialog box appears.

2 Enter your *Username* and *Password* and click the **Login** button.
On first entry, the default *Username* and *Password* are both **POLYCOM**.
The RMX main screen opens.

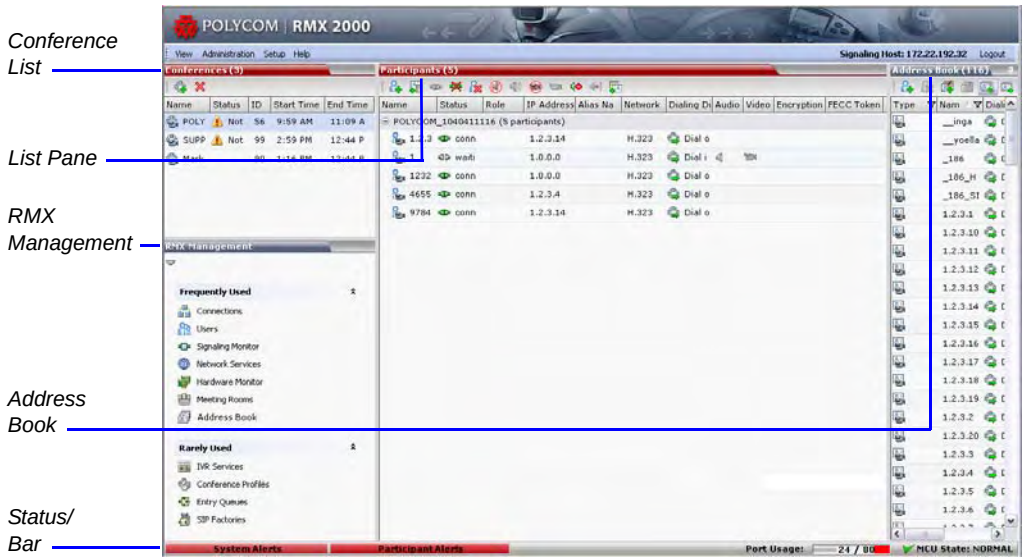
RMX Screen Components

The *RMX Web Client's* main screen consists of five panes:

- *Conference List*
- *List Pane*
- *RMX Management*
- *Status Bar*
- *Address Book*

You can **Login** as a *Chairperson*, *Operator* or *Administrator*. Your **Login** level determines your viewing and system permissions.

The *Administrator's* view is show below:



The main screen can be customized. For more information, see "*Customizing the Main Screen"* on page **3-9**.

Viewing and System Permissions

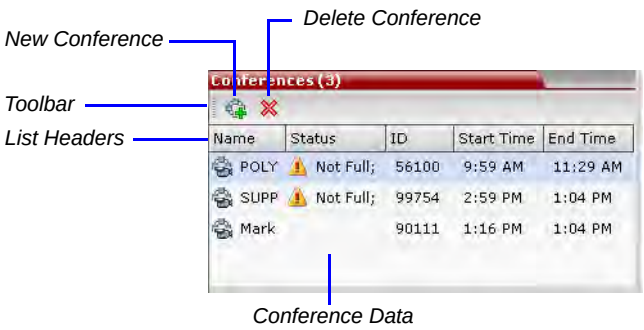
The *RMX Web Client* user's viewing and system permissions depend on the **Login** level as summarized in the table below:

Table 3-1 *Viewing and System Permissions*

	Viewing Permissions		
	Chairperson	**Operator**	**Administrator**
Conference List	✔	✔	✔
List Pane	✔	✔	✔
Address Book	✔	✔	✔
Status Bar		✔	✔
RMX Management		✔	✔
Conference Alarms		✔	✔
Conference Status		✔	✔
Configurations		✔	✔
	System Permissions		
Start Conferences	✔	✔	✔
Monitor Conferences	✔	✔	✔
Monitor Participants	✔	✔	✔
Solve Basic Problems		✔	✔
Modify MCU Config			✔

Conference List

The *Conference List* pane lists all the conferences currently running on the MCU along with their *Status*, *Conference ID*, *Start Time* and *End Time* data. The number of ongoing conferences is displayed in the pane's title.

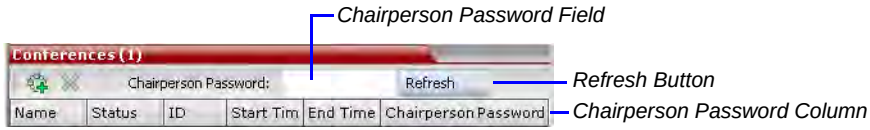


The *Conference List* toolbar contains two buttons:

- **New Conference** – to start a new ongoing conference.
- **Delete Conference** – delete the selected conference(s).

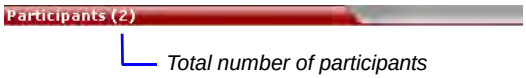
If you are logged in as a *Chairperson:*

- You can monitor a list of conferences for which you have entered the password or that don't have a *Chairperson Password* assigned.
- A *Chairperson Password* entry field and a list **Refresh** button are displayed.
- A *Chairperson Password* column is included in the conference data.



List

The *List* pane displays a list and number of the participants or the system management items selected in the *Conference List* or *RMX Management* pane. The title of the pane changes according to the selected item.



RMX Management

Viewing Permissions		
Chairperson	Operator	Administrator
	✔	✔

The *RMX Management* pane lists the parameters that need to be configured to set up and run conferences.

The *Configuration Pane* is divided into two sections:

- **Frequently Used** – parameters often configured monitored or modified.
- **Rarely Used** – parameters configured during initial system set-up and rarely modified afterward.

Only administrators can modify these parameters.

Status Bar

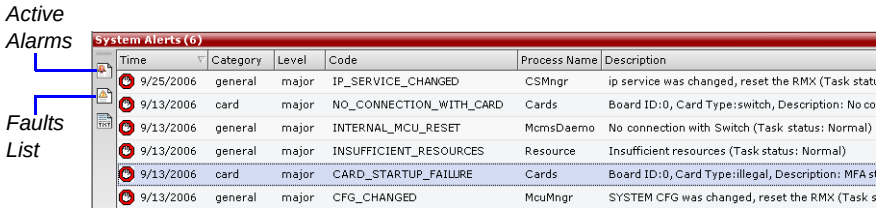
The Status Bar at the bottom of the RMX screen contains *System* and *Participant Alerts* tabs as well as a *Port Usage Gauge* and an *MCU State* indicator.

Viewing Permissions		
Chairperson	Operator	Administrator
	✔	✔

System Alerts

This is a list of system problems. The alert indicator flashes red when at least one system problem exists. The flashing continues until an operator or administrator reviews the list.

Open the *System Alerts* pane by clicking the **System Alerts** button in the left corner of the *Status Bar*.



For more information about **Active Alarms** and **Faults List,** see the *RMX 2000 Administrator's Guide, "System and Participant Alerts"* on page **11-1**.

Close the *System Alerts* pane by clicking the **System Alerts** button again.

Viewing Permissions		
Chairperson	Operator	Administrator
✔	✔	✔

Participant Alerts

It is a list of participants that are experiencing connection problems. It is sorted by conference.

Open the *Participant Alerts* pane by clicking the **Participant Alerts** button on the left side of the *Status Bar*.

Close the *Participant Alerts* pane by clicking the **Participant Alerts** button again.

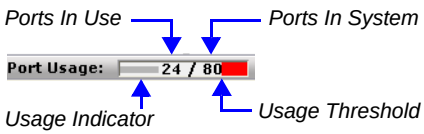
Viewing Permissions		
Chairperson	Operator	Administrator
✔	✔	✔

Port Usage Gauge

The *Port Usage Gauge* indicates the number of ports in use. It also indicates the number of ports licensed for the system.

The red area indicates the capacity usage threshold. The usage threshold represents a percentage of the total number of ports available. The red area flashes and a *System Alert* is generated when port usage reaches or exceeds the threshold.

The default port usage threshold is 80% and can be set by the system administrator.



Viewing Permissions		
Chairperson	Operator	Administrator
✔	✔	✔

MCU State

The *MCU State* indicator displays one of the following:

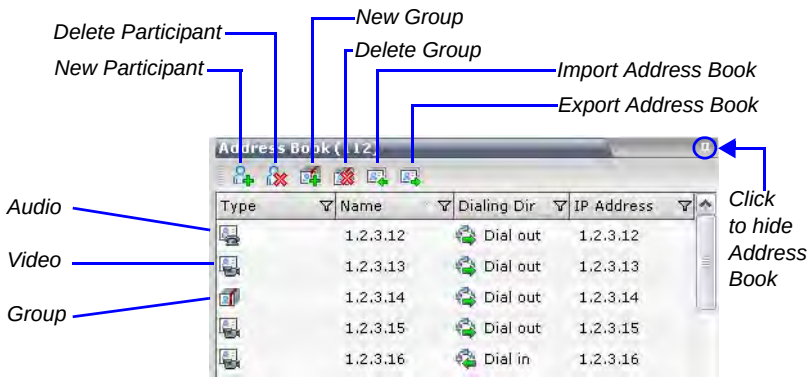
- MCU State: NORMAL – The MCU is functioning normally.
- MCU State: MINOR – The MCU has a minor problem but users can keep working.
- MCU State: MAJOR – The MCU has a major problem. MCU behavior could be effected and attention is required.

Address Book

The *Address Book* is a list of *Participants* and *Groups* that have been defined on the RMX. The information in the address book enables RMX users to easily assign participants to conferences.

The *Address Book* toolbar contains six buttons:

- New Participant
- Delete Participant
- New Group
- Delete Group
- Import Address Book
- Export Address Book



Address Book entries are listed according to:

- **Type –** whether an individual *Participant* or a *Group* of participants.
- **Direction –** Dial-in or Dial-out.
- **Name –** of the participant or group.
- **IP Address –** of the participant.

Displaying and Hiding the Address Book

The first time you access the *RMX Web Client*, the *Address Book* pane is displayed. You can hide it by clicking the anchor pin ( ) button.

The *Address Book* pane closes and a tab appears in the top right corner of the screen.

Click the tab to re-open the *Address Book*.

Customizing the Main Screen

You can customize the main screen according to your preferences. Pane sizes can be changed, column widths can be adjusted and data lists can be sorted.

Customization settings are automatically saved for each logged-in user. The next time the *RMX Web Client* is opened, the settings appear as they were when the user closed the application.

To re-size a pane:

➲ Move the pointer over the pane border and once the pointer becomes a ⇹ click and drag the pane border to the required size and release the mouse button.

To adjust column width:

1 In the column header row, place the pointer on the vertical field-separator bar of the column.

2 Once the pointer becomes a ✢, click and drag the field separator bar to the required column size and release the mouse button.

To sort the data by any field:

1 In the *Conference List* or *Main List View* pane, click on the column heading of the field to be used for sorting.

A ▽ or △ symbol appears in the column heading indicating the sort order and that the list is sorted by this field.

2 Click on the column heading to toggle its sort order.

To change the order of columns in a pane:

➲ Click the heading to be moved and drag it to the new position. When a set of red arrows appears indicating the column's new position, release the mouse button.

To restore the RMX window to its default configuration:

➲ In the RMX menu, click **View > Restore RMX Display Defaults.**

Customizing the *RMX Management* Pane

The *RMX Management* pane can be viewed either as a list or as a toolbar.

To switch between Toolbar and List Views:

➲ In the *RMX Management* pane, click the **Toolbar View** button to switch to *Toolbar View.*

➲ In *Toolbar view,* click the **List View** button to switch back to *List View.*

You can move items between the *Frequently Used* and *Rarely Used* sections depending on the operations you most commonly perform and the way you prefer to work with the *RXM Web Client*.

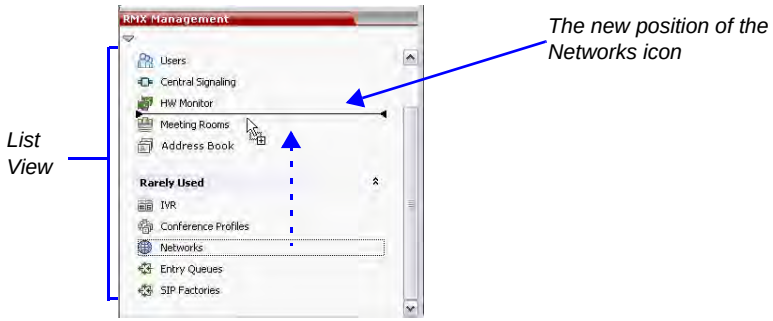
This only works in *List View* because in *Toolbar* view, all items are represented by icons.

To move items within and between the Frequently Used and Rarely Used sections:

1. In the *RMX Management* pane click and drag the icon of the item that you wish to move.

   An indicator line (——————) appears indicating the new position of the icon.

2. Release the mouse button when the icon is in the desired position.



The *Frequently Used* and *Rarely Used* sections can be expanded or collapsed by clicking the « and » buttons.

Starting a Conference

There are several ways to start a conference:

- Clicking the *New Conference* button in the *Conferences* pane,.
- Dialing in to a Meeting Room.
  - A Meeting Room is a conference that is saved in the MCU. It remains in passive mode until it is activated by the first participant, or the meeting organizer, dialing in.

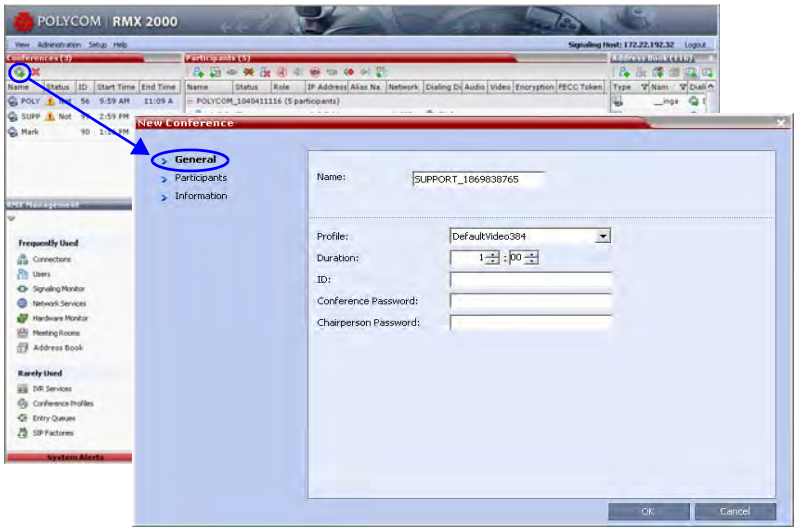
  For more information about Meeting Rooms, see the *Polycom RMX 2000 Administrator's Guide*, "*Meeting Rooms*" on page **2-1**.
- Dialing in to an Ad Hoc Entry Queue which is used as the access point to the MCU.

  For a detailed description of Ad Hoc Entry Queues, see the *RMX 2000 Administrator's Guide*, "*Entry Queues*" on page **3-1**.

Starting a Conference from the Conference Pane

To start a conference from the Conference pane:

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



The system displays the conference's default *Name*, *Duration* and the default *Profile*, which contains the conference parameters and media settings.

The RMX automatically allocates the conference *ID*, upon conference start.

In most cases, you can accept the default conference *ID* and click **OK**, or you can change the conference *ID* and click **OK** and the conference is launched.

If you are the meeting chairperson or organizer using the *RMX Web Client* to start your own meeting, you need to communicate the default conference ID (or the one you created) to the other conference participants so they can dial in.

You can use the *General* dialog box to modify the conference parameters. If no defined participants are to be added to the conference, or you do not want to add additional information, click **OK**.

General Tab

2 Define the following parameters:

Table 3-2 *New Conference – General Options*

Field	Description
Name	The system automatically generates a unique conference name. To modify it, enter a unique conference name, using up to 80 characters.If the same name is already used by another conference, Meeting Room or Entry Queue, the RMX displays an error message requesting you to enter a different name. **Note:** This field is displayed in all tabs.
Profile	The system displays the name of the default Conference Profile. Select the required Profile from the list. The Conference Profile includes the Conference line rate, media settings and general settings.For a detailed description of Conference Profiles, see the *RMX 2000 Administrator's Guide*, "*Conference Profiles*" on page **1-1**.

Table 3-2 *New Conference – General Options (Continued)*

Field	Description
Duration	Define the duration of the conference in hours using the format HH:MM (default 01:00).
ID	Enter the unique-per-MCU conference ID. If left blank, the MCU automatically assigns a number once the conference is launched. This ID must be communicated to conference participants to enable them to dial in.
Conference Password	Enter a password to be used by participants to access the conference. If left blank, no password is assigned to the conference. This password is valid only in conferences that are configured to prompt for a conference password.
Chairperson Password	Enter a password to be used by the RMX to identify the *Chairperson* and grant him/her additional privileges. If left blank, no chairperson password is assigned to the conference. This password is valid only in conferences that are configured to prompt for a chairperson password.

3 If all participants are undefined, dial-in and no additional information is required for the new conference, click **OK**.

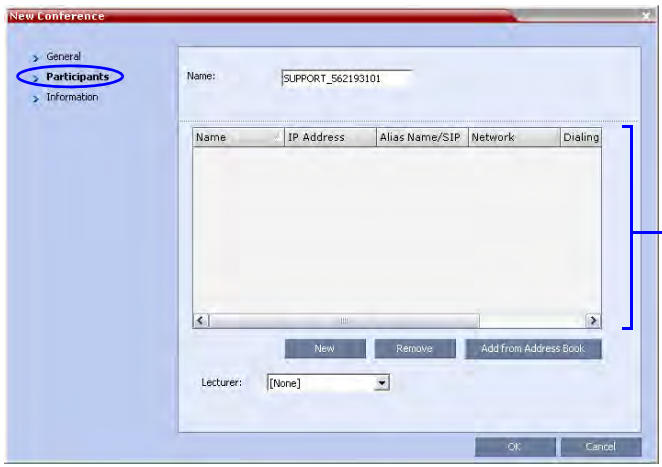
4 To add participants from the *Participants Address Book* or to define participants (mainly dial-out participants) click the *Participants* tab.

Participants Tab

This procedure is optional.

5 Click **Participants.**

The *Participants* tab opens.



6 Define the following parameters:

Table 3-3 *New Conference – Participants Options*

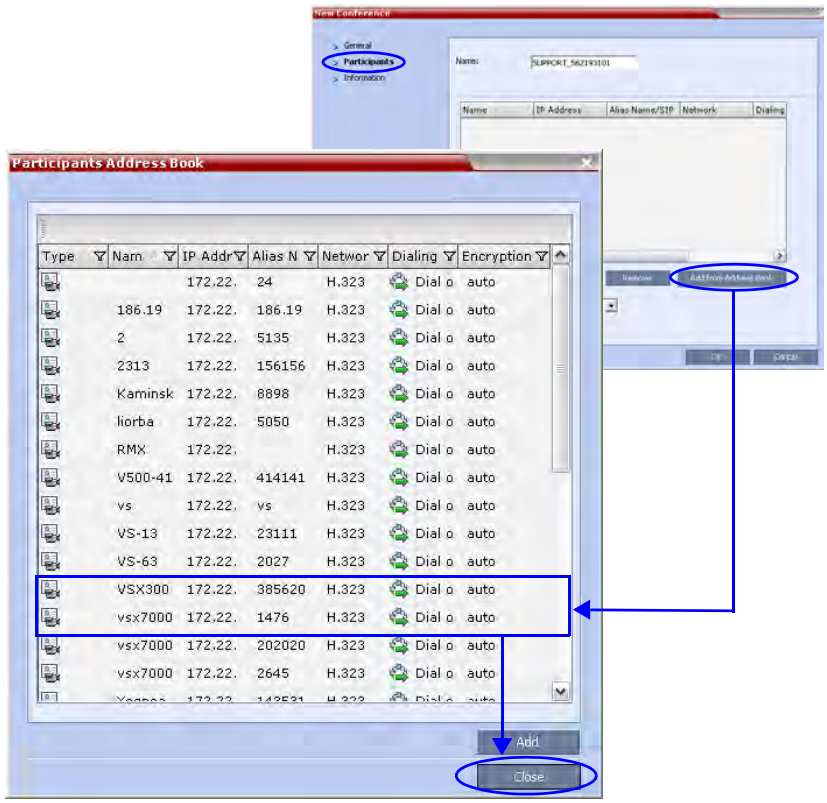
Field / Button	Description
Participants List	
Name	Displays the participant's name and an icon representing the endpoint type: *Audio Only* or *Video*.
IP Address	Indicates the IP address of the participant's endpoint. • For dial-out connection, displays the IP address of the endpoint called by the Polycom RMX 2000. • For dial-in connection, displays the participant's IP address used to identify and route the participant to the appropriate conference.

Table 3-3 *New Conference – Participants Options (Continued)*

Field / Button	Description
Alias Name/SIP Address	Displays the alias name of an H.323 endpoint or the SIP URL.
Interface	The network communication protocol used by the endpoint to connect to the conference: *H.323* or *SIP*.
Connection	**Dial-in** – The participant dials in to the conference. **Dial-out** – The RMX dials out to the participant.
Encryption	Displays whether the endpoint uses encryption for its media. **Auto** (default setting) indicates that the endpoint must connect according to the conference encryption setting.
New	Define a new participant.For more information on *Participant* definition, see the *RMX 2000 Administrator's Guide*, "*Adding a new participant to the Address Book*" on page **4-4**.
Remove	Click to remove the selected participant from the conference.
Add from Address Book	Click to add a participant from the *Address Book* to the conference.
Lecturer	This option is used to activate the *Lecture* mode. Select the participant you want to designate as *Lecturer* from the drop-down menu list of conference participants.

To add participants from the Address Book:

7 In the *Participants List,* click the **Add from Address Book** button to open the *Participants Address Book*.



8 In the *Address Book*, select the participants that you want to add to the conference and click the **Add** button.

Standard Windows multiple selection techniques can be used in this procedure.

9 The selected participants are assigned to the conference and appear in the *Participant List*.

10 Select additional Participants or click **Close** to return to the *Participants* tab.

Using Drag & Drop to add Participants from the Address Book:

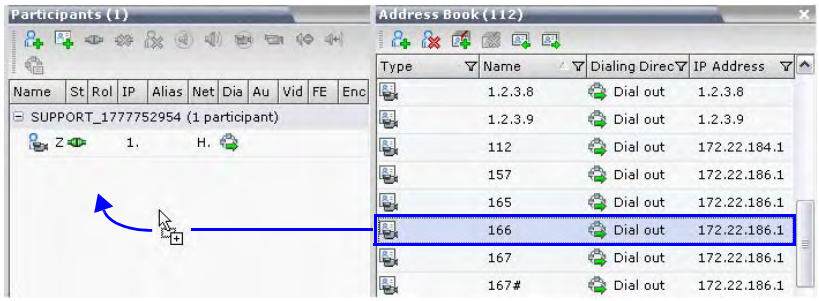
You can add participants to a conference directly from the *Participants Address Book* without having to use the *New Conference – Participants* tab.

To drag & drop participants into the Participants List:

11 Open the *Address Book*.

12 Select, drag and drop the participant that you wish to add to the conference directly from the *Participant Address Book* into the *Participant List*.

Standard Windows multiple selection techniques can be used in this procedure.



Info Tab

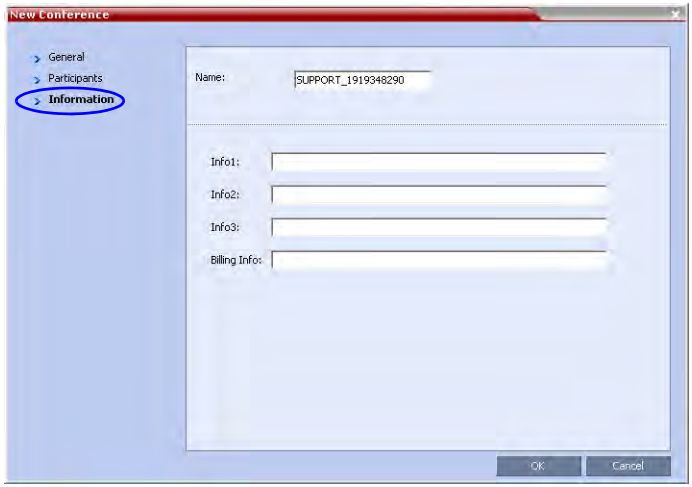
This procedure is optional.

To add information to the conference:

This information is written to the *Conference Data Record (CDR)* when the conference is launched. Changes made to this information once the conference is running are **not** saved to the *CDR*.

13 Click **Info.**

The *Information* tab opens.



14 Enter the following information:

Table 3-4 *New Conference – Info Options*

Field	Description
Info1, 2, 3	There are three information fields that allow you to enter general information for the conference such as company name, contact person etc...
Billing	Enter the conference billing code if applicable.

15 Click **OK**.

The conference appears in the *Conferences* pane.

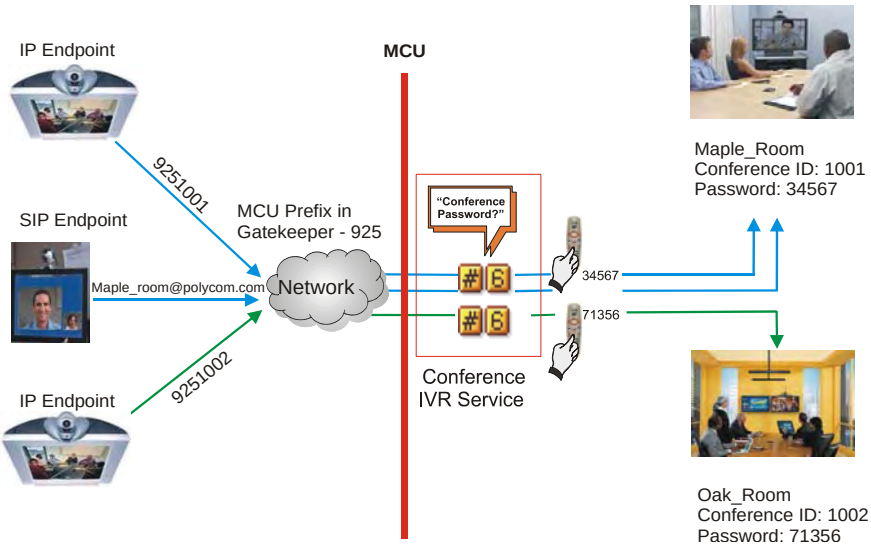
If no participants were defined or as long as no participants are connected the conference's Status is listed as empty and a warning icon ( ) appears in the *Status* column.

The status changes when participants connect to the conference.

Connecting to a Conference

To dial into a conference or Meeting Room, participants must be provided with a dialing string which can vary according to your network type, conference password and chairperson password.

Participants dial the conference dial-in string and are connected to the conference IVR Service. Once the correct information, such as the conference password and chairperson password are entered, the participants are connected to the conference.



Dial-in Connection via IVR System

The chairperson can use the chairperson password as the conference password and does not need to enter the conference password.

Participant connecting to an HD conference must have HD capabilities and use the same bit rate as defined for the conference, otherwise they will be connected as Secondary (audio only participants).

Dial-in H.323 Participants

For H.323 participants, the dialing string is composed of the MCU prefix in the Gatekeeper and the conference ID.

For example:

Gatekeeper Prefix	925
Conference ID	1001
Conference Name	Maple_Room
➲ The participant dials	`9251001` or `925Maple_room`

If there is no gatekeeper defined for the network, H.323 participants dial the MCU's signaling host IP address and the conference ID, separated by `##`.

For example:

MCU (Signaling Host) IP address	172.22.30.40
Conference ID	1001
➲ The participant dials	`172.22.30.40##1001`

Dial-in SIP Participants

For SIP participants the dialing string is composed of the conference name and domain name in the following format:

`conference_name@domain_name`

For example:

`Maple_room@polycom.com`

Conference Access Via an Entry Queue

Access via an Entry Queue allows all participants to dial the same entry point that acts as a routing lobby. Once in the Entry Queue, participants are guided to the conference according to the conference ID they enter.

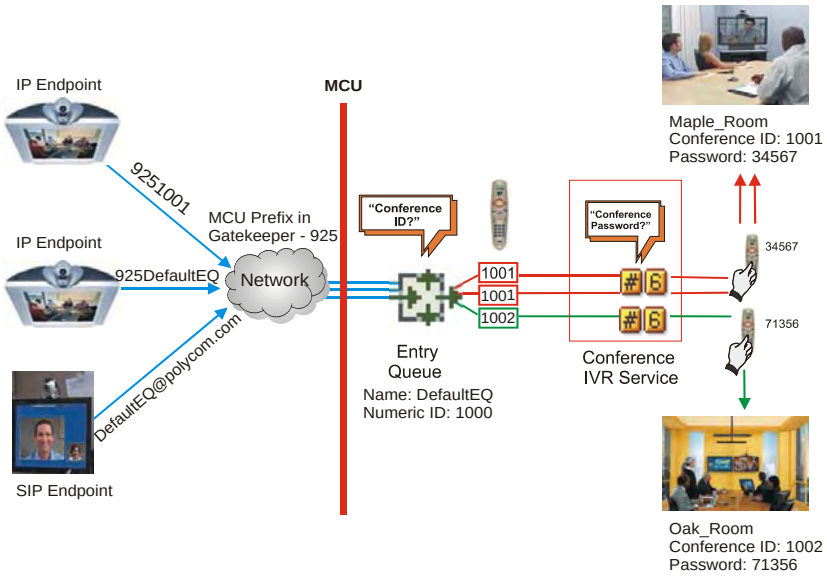


Figure 3-1: Dial-in Connection via Entry Queue

Dialing is done in the same way as for conferences, where the Entry Queue ID/Name replaces the Conference ID/Name.

H.323 Participants

H.323 participants dial `[Gatekeeper Prefix][Entry Queue ID/Name]`.

For example:

Gatekeeper Prefix	925
Entry Queue ID	1000
➲ H.323 participants dial	`9251000`

H.323 participants can bypass the Entry Queue voice messages by adding the correct Conference ID of destination conference to the initial dial string:

`[Gatekeeper Prefix][EQ ID][##Destination Conference ID]`

For example:

Conference ID	1001
➲ H.323 participants dial	`9251000##1001`

H.323 participants can also add the Conference Password to the initial dial string:

`[Gatekeeper Prefix][EQ ID][##Destination Conference ID][##Password]`

For example:

Conference ID	1001
Conference Password	34567
➲ H.323 participants dial	`9251000##1001##34567`

SIP Participants

Using an Entry Queue minimizes the number of conferences that require registration with the SIP server and enables using one URI address for all dial-in connections, using the format:

`<Entry Queue name>@<domain name>`

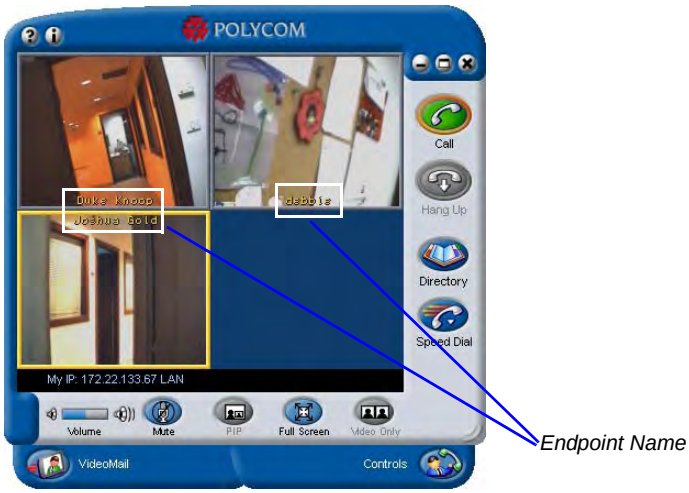
For example:

Entry Queue Name	DefaultEQ
Domain Name	polycom.com
➲ SIP participants dial	DefaultEQ@polycom.com

Endpoint Names in the Video Layout

During conferences you can view the endpoint name in the endpoint's video layout windows. The MCU can display up to 33 characters of the endpoint's name, depending on the window's layout (size).

The following is an example of endpoint name display in the *Polycom ViaVideo* endpoint window:



The displayed name is determined as follows:

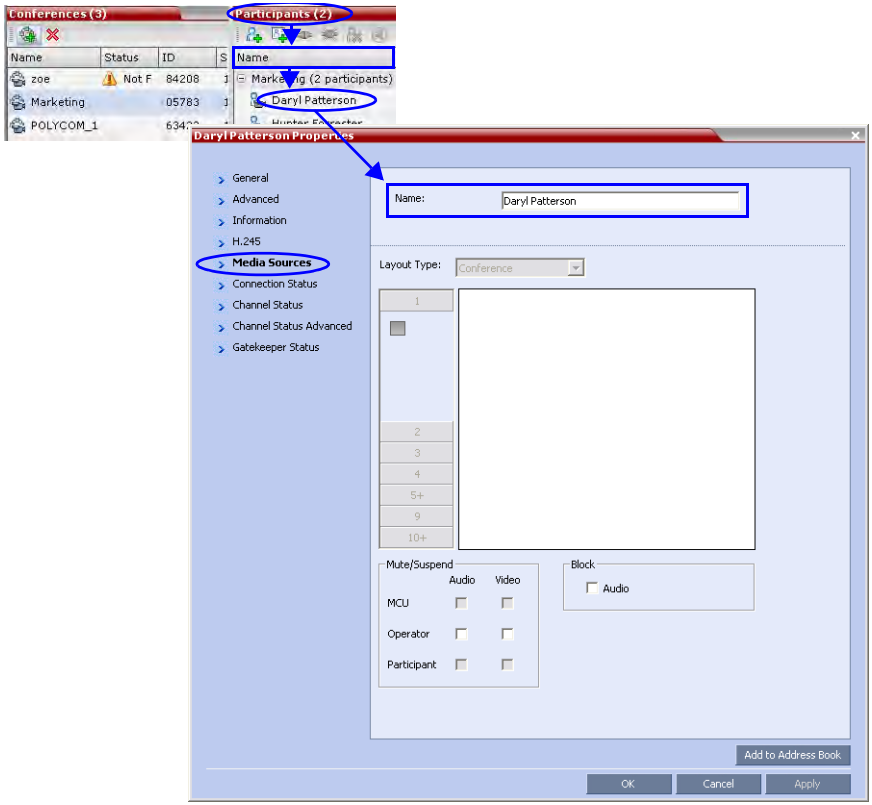
- The system displays the name that is defined at the endpoint.
- If the endpoint does not send its name:
  - — For a defined participant:
    - The system displays the name from the participant definition
  - — For an undefined H.323 participant:
    - Display the *H.323 ID* alias
      or display the *E.164* alias
      or display nothing if all the fields are empty
  - — For a SIP undefined participant:
    - Display the SIP *DisplayName* field
      or display the SIP *Address* (SIP application server)
      or display the SIP *ContactDisplay* field
      or display nothing if all the fields are empty

- If the endpoint's display name is changed in the *RMX Web Client*, it overrides all the above.

To change the Display Name:

1 In the *Participants* list, double click the participant or right-click the participant and select **Participant Properties** from the drop-down menu.

The *Participant Properties – Media Sources* dialog box opens:



2 Enter the new Display Name in the *Name* field and click **OK**.

Monitoring On Going Conferences

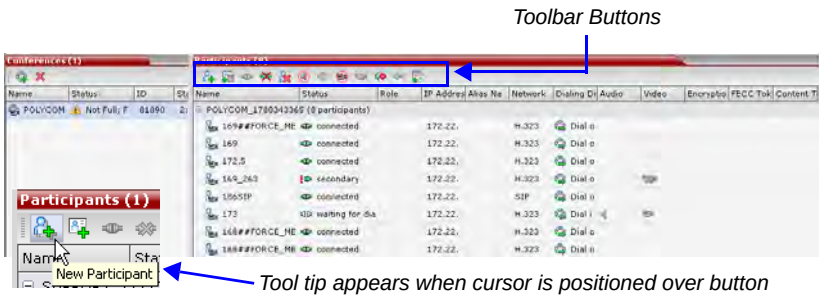
Conference monitoring enables you to keep track of conferences and their participants: if all its participants are correctly connected and whether errors or faults have occurred.

Monitoring and Operations Methods

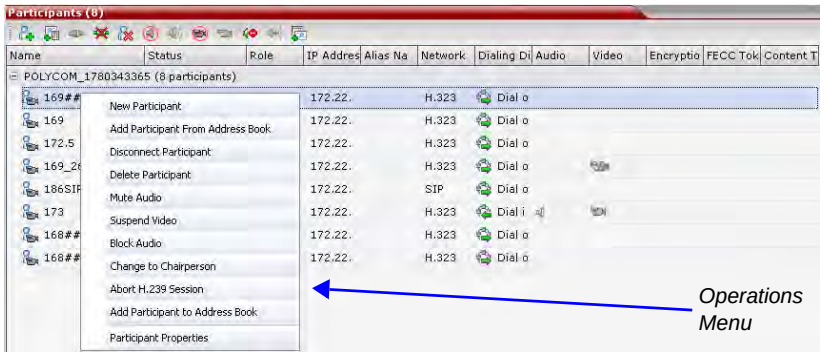
Operation Selection

All Monitoring and Operations procedures performed during on going conferences can be performed by either of two methods:

- **Using the buttons** in the toolbars.



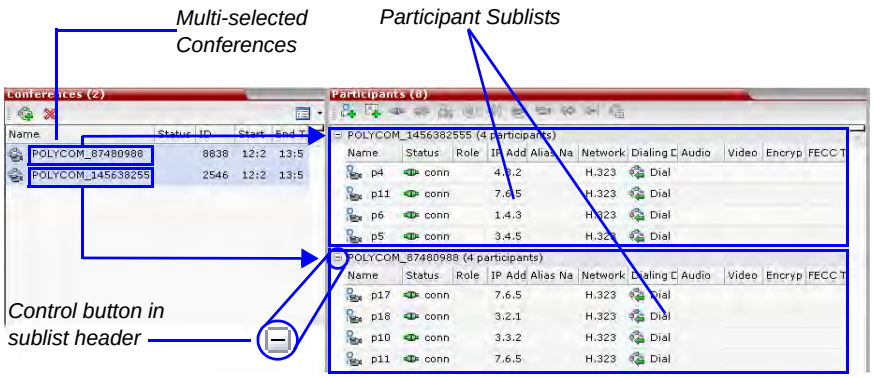
- **Right-clicking** anywhere in the relevant pane and selecting an operation from the menu.



Using **multi-select**, you can monitor and perform simultaneous operations on multiple participants in multiple conferences.

Multi-selected conferences are displayed as sublists in the *Participants List* pane.

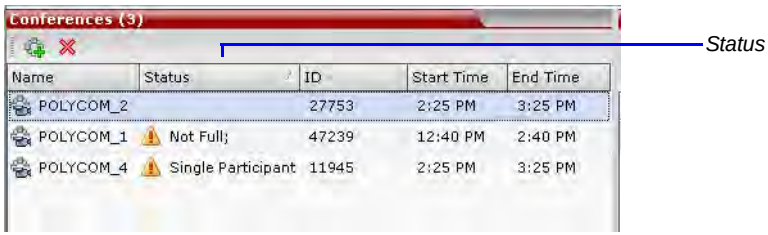
The sublists can be expanded and collapsed by clicking the + and − sublist control buttons that appear next to the conference name in the sublist headings.



Conference Level Monitoring

Conference level monitoring is available to the administrator, operator and chairperson.

The *Conference List* pane displays information about ongoing conferences.



One or more of the status indicators listed in Table 3-5 may appear in the *Status* column.

No status indicator means that the conference is running without problems.

Table 3-5 *Conferences – Monitoring Information*

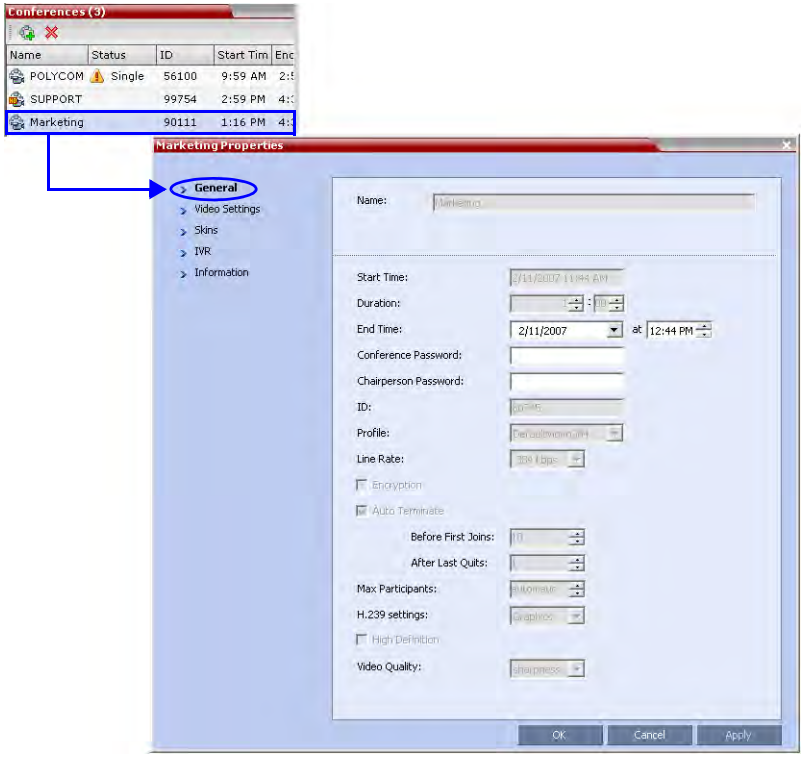
Field	Description
Name	Displays conference name and type of conference: • – Video Conference • – High Definition Video Conference
Status	Displays the status of the ongoing conference.If there is no problem with the participant's connection no indication is displayed.If one of the following statuses occur, the appropriate indication, proceeded by a warning icon ( ). • **Audio** – There is a problem with the participant's audio. • **Empty** – No participant are connected. • **Faulty Connection** – Participants are connected, but the connection is problematic. • **Not Full** – Not all the defined participants are connected. • **Partially Connected** – The connection process is not yet complete; the video channel has not been connected. • **Single Participant** – Only one participant is connected. • **Video** – There is a problem with the participant's video.
ID	The Conference ID assigned to the conference.
Start Time	Conference start time.
End Time	The time the conference is expected to end.

Additional information about the conference can be viewed when accessing the conference properties.

To monitor a conference:

In the *Conference List* pane, double click the name of the conference you wish to monitor or right-click the conference and then click **Conference Properties**.

The *Conference Properties* dialog box appears with the *General* tab open.



You can view all the conference's properties but those that appear with a gray background cannot be modified.

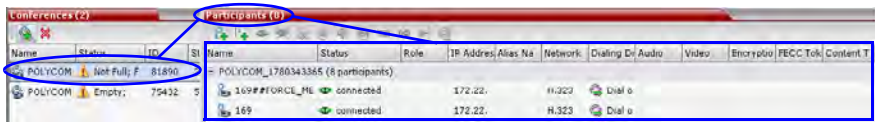
For a detailed description of *Conference Level Monitoring*, see the *Polycom RMX 2000 2000 Administrator's Guide, "Conference Level Monitoring"* on page **5-3**.

The Conferences pane displays the HD icon () to indicate that the conference is running in HD mode.

Participant Level Monitoring

Participant Connection Monitoring

When a conference is selected in the *Conference List*, details of its participants appear in the *List* pane.



The following participant indicators and properties are displayed:

Table 3-6 *Participant Monitoring – Indicators and Properties*

Field	Description	
Name	Displays the name and type of the participant:	
		**Audio Participant** – Connected via IP phone.
		**Video Participant** – Connected with audio and video channels.
Status	Displays the connection status of the participant:If there is no problem with the participant's connection no indication is displayed.	
		**Connected** – The participant is successfully connected to the conference.
		**Disconnected** – The participant is disconnected from the conference. This status applies only to defined participants.
		**Waiting for Dial-in** – The system is waiting for the defined participant to dial into the conference.
		**Partially Connected** – The connection process is not yet complete; the video channel has not been connected.
		**Faulty Connection** – The participant is connected, but problems occurred in the connection, such as synchronization loss.

Table 3-6 *Participant Monitoring – Indicators and Properties*

Field	Description	
Status (cont.)		**Secondary Connection** – The endpoint's video channel cannot be connected to the conference and the participant is connected only via audio.
Role	Displays the participants role or function in the conference:	
		**Chairperson** – The participant is defined as the conference chairperson. The chairperson can manage the conference using touch-tone signals (DTMF codes).
		**Lecturer** – The participant is defined as the conference Lecturer.
		**Lecturer and Chairperson** – The participant is defined as both the conference Lecturer and Chairperson.
IP	The participant's IP address.	
Alias Name/ SIP Address	The participant's Alias Name or SIP URI.	
Network	The participant's network connection type – H.323 or SIP.	
Direction		**Dial-in** – The participant dialed the conference.
		**Dial-out** – The MCU dialed the participant.
Audio	Displays the status of the participant's audio channel:If there is no problem with the participant's audio connection and the channel is neither muted or blocked, no indication is displayed.	
		**Muted** – Audio channel is muted.
		**Blocked** – Transmission of audio from the conference to the participant is blocked.

Table 3-6 *Participant Monitoring – Indicators and Properties*

Field	Description	
Video	Displays the status of the participant's video channel:If there is no problem with the participant's video connection and the channel is neither suspended or secondary, no indication is displayed.	
		**Suspended** – Video transmission from the endpoint to the conference is suspended.
		**Secondary** – Participant is connected only through the audio channel due to problems with the video channel.
Encryption		Indicates that the endpoint is using encryption for its connection to the conference.
FECC Token	✔	Participant is the holder of the FECC token and has Far End Camera Control capabilities.The FECC token can be allocated to only one participant at a time and remains un-allocated if no participant requests it.
Content Token	✔	Participant is the holder of the Content token and has content sharing permission.The Content token can be allocated to only one participant at a time and remains un-allocated if no participant requests it. For more information about Content Sharing, see the *RMX 2000 Administrator's Guide*, "*H.239*" on page **6-7**.

For more information, see the *RMX 2000 Administrator's Guide, "Participant Level Monitoring"* on page **5-7**.

Operations Performed During On Going Conferences

Conference Level operations

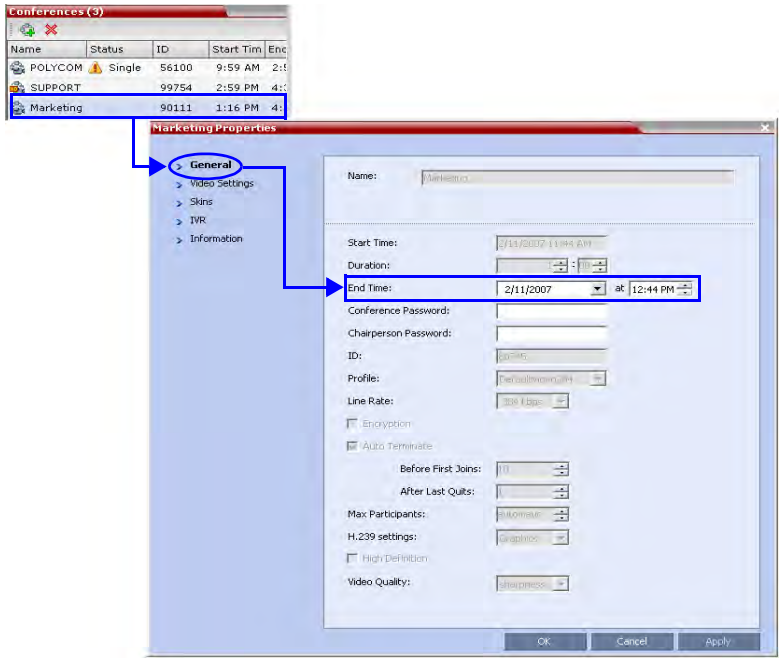
Changing the Duration of a Conference

The duration of a conference is set when the new conference is created. The default duration of a conference is 1 hour. All conferences running on the Polycom RMX 2000 are automatically extended as long as there are participants connected to the conference.

While a conference is running, it is possible to lengthen or shorten its *Duration* by modifying its scheduled *End Time*.

To extend a conference manually:

1. In the *Conference List* pane, double-click the conference **Name**.
2. In the *General* tab, modify the *End Time* fields and click **OK**.

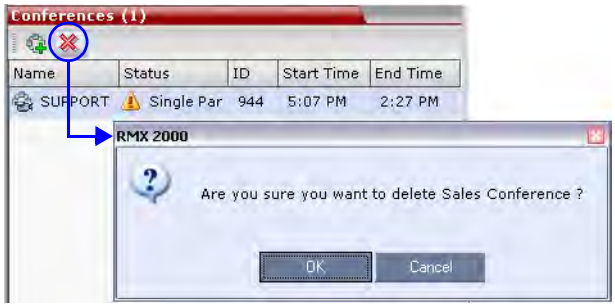


The *End Time* is changed and the *Duration* field is updated.

To terminate a conference manually:

1 In the conference list, select the conference you wish to delete and click the **Delete Conference** ( ) button.

You are prompted for confirmation.



2 Click **OK** to terminate the conference.

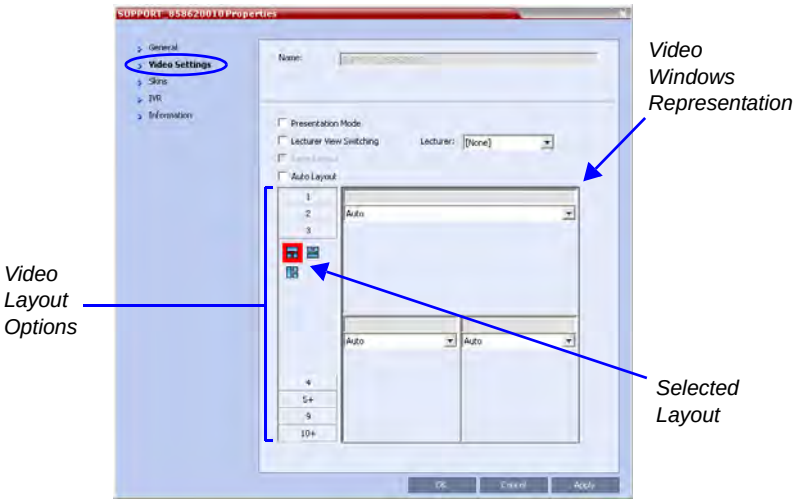
Changing the Video Layout of a Conference

While the conference is running you can change the video layout and select one of 24 video layouts supported by the RMX.

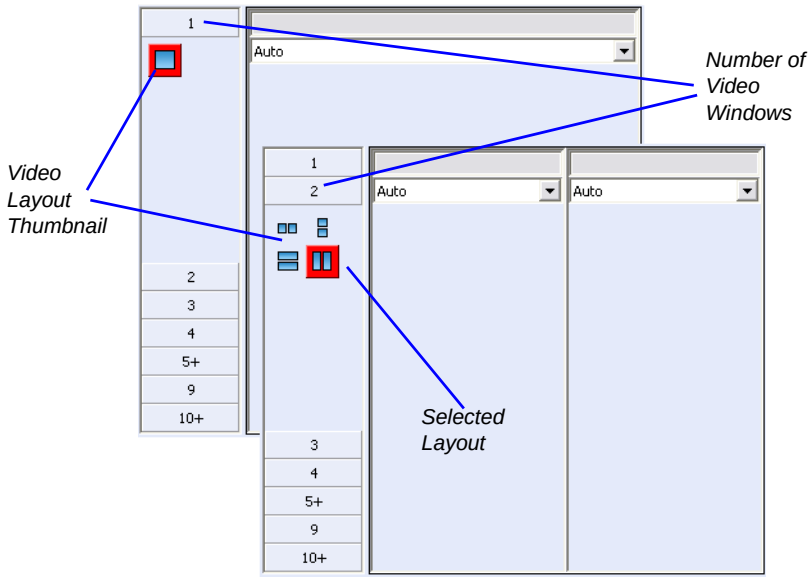
The initial video layout is selected in the conference *Profile*.

To change the video layout of a conference:

1 In the *Conference Properties* dialog box, select **Video Settings**.



2 From the *Video Layout* options, select the *Number of Windows* to display and the *Video Layout* thumbnail required and click **OK**.



Video Forcing

The chairperson or operator can select which participant appears in each of the video layout windows for any participant by using *Video Forcing*.

Conferences start with the layout defined in the *Conference Profile*.

Video Forcing applies to Dynamic Continuous Presence conferences.

Video Forcing works on two levels:

- **Conference Level –** Applies to all conference participants. All participants have the same video layout.
- **Participant Level –** The participant's video layout is changed. All other conference participants' video layouts are not affected.

Video Forcing can be cancelled by individual participants via *Personal Layout Control* without affecting other participants.

For more information see *"Personal Layout Control"* on page **3-40**.

Video Forcing Guidelines:

- A participant cannot appear in two or more windows at the same time.

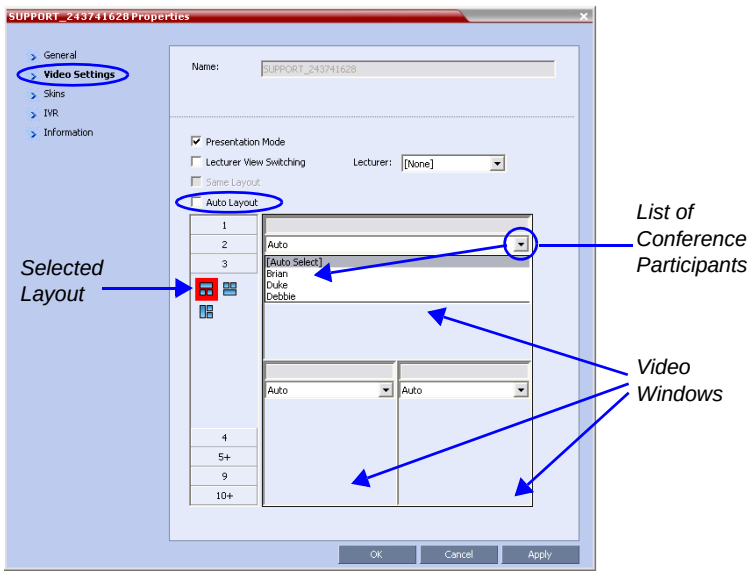
- Participant level video forcing overrides conference level video forcing.
- A participant can view him/herself in a layout window, by selecting the *Same Layout* option.
- When different size *video windows* are used in *video layouts* such as 1+2, 1+3, 1+4, etc., a participant can only be forced, in *Personal Layout*, to a *video window* of the same size as that selected for him/her in *Conference Layout*.
- When changing the *Video Layout* at the conference level, the video forcing settings are not applied to a new layout, and video switching is audio-activated. The video forcing setting are saved and applied the next time the layout is selected.
- Windows that are not assigned any participant display the current speaker and last speakers.

To video force a participant to a window:

1 In the *Conference Properties* dialog box, select the **Video Settings** tab.

2 Un-check the **Auto Layout** box.

3 In the window to which you want to force a participant, select the participant's name from the list of conference participants.



4 Repeat step 3 to force participants to other windows.

5 Click **OK**.

To cancel Video Forcing for a window:

➲ In the window's *Participants* list, select **Auto Select**.

In such a case, switching between participants is audio activated.

Participant Level Operations

Participant Level Operations enable you to modify and control the connections and statuses of participants in on going conferences.

Table 3-7 lists the Participant Level Operations that can be performed.

Table 3-7 *Participant Level Operations*

Menu Option	Button	Description
New Participant		Define a new participant.For more information about the *New Participant* dialog box tab, see Table 3-3 on page **3-15**.
Add Participant From Address Book		Open the *Address Book* to select the participant for the conference.For more information about the *Address Book*, see *RMX 2000 Administrator's Guide*, "*Address Book"* on page **4-1**.
Connect Participant		Connect a disconnected defined dial-out participant to the conference.
Disconnect Participant		Disconnect the participant from the conference.
Delete Participant		Delete the selected participants from the conference.
Mute Audio		Mute the audio transmission from the participant to the conference.The *Audio Muted* indicator appears in the *Participants List* and the *Unmute Audio* button () becomes active.
Unmute Audio		Participant's audio transmission to the conference resumes. The *Mute Audio* button () becomes active.

Table 3-7 *Participant Level Operations (Continued)*

Menu Option	Button	Description
Suspend Video		Suspend the video transmission from the participant to the conference. The suppressed participant's video is not transmitted to the conference but the participant still receives conference video.The *Suspend Video* indicator appears in the *Participants List* and the *Resume Video* button () becomes active.
Resume Video		Participant's video transmission to the conference resumes.The *Suspend Video* button becomes active ().
Block Audio		To block the audio transmission from the conference to the participant. When blocked, the participant can still be heard by the conference.The *Audio Blocked* indicator appears in the *Participants List* and the *Unblock Audio* button () becomes active.
Unblock Audio		Conference audio transmission to the participant resumes.The *Block Audio* button () becomes active.
Add Participant to Address Book		Add selected participant's details to the *Participant Address Book*.
Abort H.239 Session		Select to withdraw the Content Token from the participant.
Change to Chair-person		Define the selected participant as the conference leader/chairperson.
Change to Regular Participant		Define the chairperson as a regular participant without chair privileges.

Table 3-7 *Participant Level Operations (Continued)*

Menu Option	Button	Description
Participant Properties		Select for a detailed view of all *Participant Properties*. For more information about *Participant Properties*, see the *RMX 2000 Administrator's Guide*, "*Participant Level Monitoring*" on page **5-7**.

Video Forcing

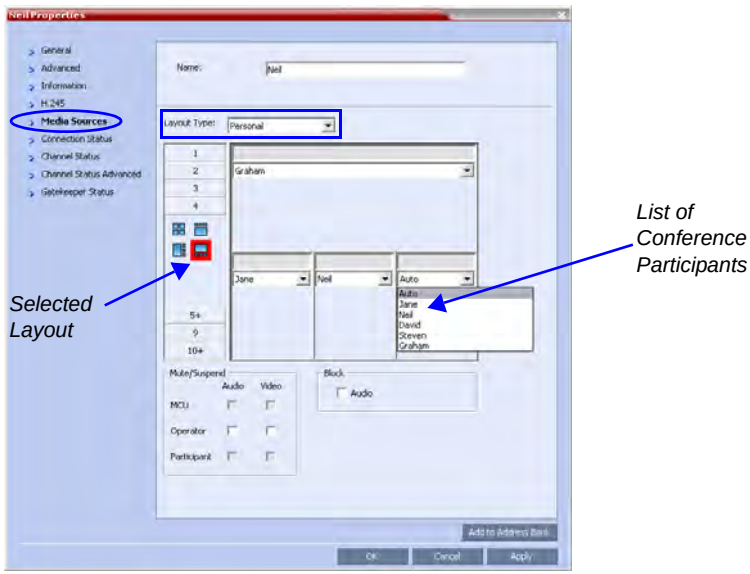
Video Forcing Guidelines:

See "*Video Forcing Guidelines:*" on page **3-35**.

To video force a participant to a window:

1 In the *Participants* list, double click the participant or right-click the participant and select **Participant Properties** from the drop-down menu.

The *Participant Properties – Media Sources* dialog box opens:



2 In the *Layout Type* menu, select **Personal**

3 In the window to which you want to force a participant, select the participant's name from the list of conference participants.

4 Repeat step 3 to force participants to other windows.

5 Click **OK**.

To cancel Video Forcing for a window:

➲ In the *Layout Type* menu, select **Conference**.

In such a case, switching between participants is audio activated.

Personal Layout Control

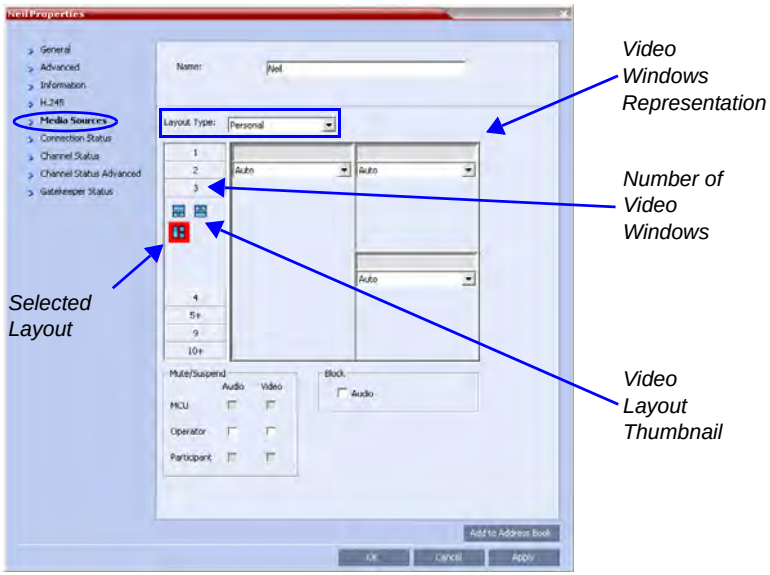
Personal Layout Control With the *RMX Web Client*

RMX users can use the *RMX Web Client* to the change the Video Layouts of individual participants without affecting the Video Layouts of other participants.

To change a participant Video Layout:

1 In the *Participants* list, double click the participant or right-click the participant and select **Participant Properties** from the drop-down menu.

The *Participant Properties – Media Sources* dialog box opens:



2 In the *Layout Type* drop-down menu, select **Personal**

3 Select the number of Video Windows.

4 Select the Video Layout

5 Click **OK**.

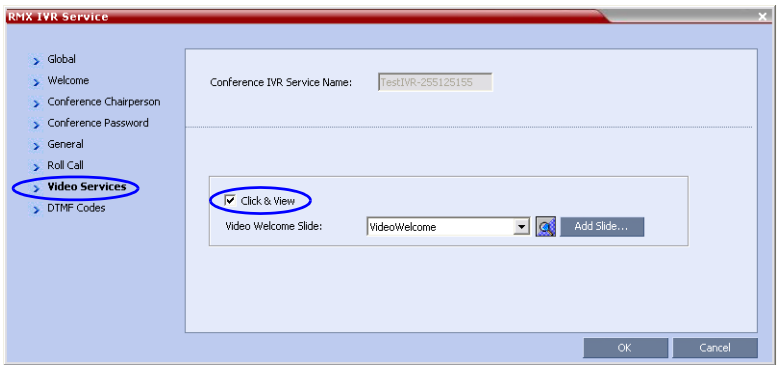
To cancel Video Forcing for a window:

➲ In the *Layout Type* menu, select **Conference**.

The participants Video Layout reverts to that of the conference.

Personal Layout Control With *Click&View*

With the **Click&View** application, participants can change their Personal Layouts via *DTMF* codes entered from their endpoints. This option is available only if the **Click&View** option is selected in the *IVR Service* used in the conference.



To change Personal Layout with Click&View:

1 **Enable Click&View** – on the endpoint's keypad, enter * *.

The *Click&View* application is displayed on the screen.

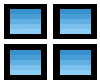
When using a *Polycom VSX* endpoint a * must be entered to enable the keypad. The full *Click&View* entry sequence is: *, * *.

The *Personal Layout* options menu is displayed on the video screen.

2 On the endpoint's keypad, press the number corresponding to the number of video squares you wish to select.

For example, if you want a four-square video layout, press 4.

The video window layout of your screen changes to the first four-window layout as follows:



Repeated presses of the 4 key, within eight seconds, cycles through the following series of four-square layout options:
options:

Pressing # an any multi-square layout forces the current speaker to the top left window.

Pressing # in full view forces the next participant to full view.

Pressing 0 returns the video layout to the conference layout.

The following table summarizes the *Video Layout* options available via *Click&View*.

Table 3-8 *Video Layout Options*

DTMF Code	Layout Options
1	
2	
3	
4	
5	
6	
8	
9	

Conference Control Using DTMF Codes

Participants and chairpersons can manage their connection to ongoing conferences from their endpoints, using touch-tone signals (DTMF codes) from their endpoints.

Chairpersons can also control an ongoing conference using DTMF codes.

Permissions for DTMF actions to be performed by all conference participants or by chairperson only are configured in the *Conference IVR Service* assigned to the conference.

For more information about IVR Services see "*Defining a New IVR Service*" on page **9-9**.

Table 3-9 below contains a list of DTMF Codes.

.

Table 3-9 *Conference IVR Service Properties - DTMF Codes*

Operation	DTMF String	Permission
Mute My Line	*6	All
Unmute My Line	#6	All
Increase Broadcast Volume	*9	All
Decrease Broadcast Volume	#9	All
Mute All Except Me	*5	Chairperson
Cancel Mute All Except Me	#5	Chairperson
Change Password	*77	Chairperson
Mute Incoming Participants	*86	Chairperson
Unmute Incoming Participants	#86	Chairperson
Play Help Menu	*83	All
Enable Roll Call	*32	Chairperson
Disable Roll Call	#32	Chairperson
Roll Call Review Names	*33	Chairperson
Roll Call Stop Review Names	#33	Chairperson
Terminate Conference	*87	Chairperson
Start Click&View	**	All
Change To Chairperson	*78	All
Increase Listening Volume	*76	All
Decrease Listening Volume	#76	All
Override Mute All	Configurable	All

Appendix A

Glossary

This appendix lists the terms and abbreviations that are related to the Polycom RMX 2000, and are commonly used in the RMX 2000 documentation.

Abbreviation/ Term	Explanation
Bandwidth	Defines the information carrying capacity of a channel. In analog systems, it is the difference between the highest frequency that a channel can carry and the lowest, measured in hertz. In digital systems, bandwidth is measured in bits per second. The larger a connection's bandwidth, the more data can be transmitted in a given amount of time, allowing for greater video resolution and more sites in a conference. For more information, see Line Rate.
Bps, Kbps	Bits and kilobits per second; a unit of bandwidth, that is the amount of data that can flow during one second over a communications line (using a transmission medium). 1 Kbps=1000 Bps
Carrier	A telephone or other company that provides telecommunication transmission services.
CIF, 4CIF, QCIF	Common Intermediate Format, an optional part of the ITU-T's H.261 and H.263 standards. CIF specifies 288 non-interlaced luminance lines, that contain 176 pixels. CIF can be sent at frame rates of 7.5, 10, 15, or 30 per second. When operating with CIF, the amount of data to transmit cannot exceed 256 K bits (where K equals 1024).The CIF video format has the capacity to transmit video images of 352x288 pixels at 36.45 Mbps and 30 frames per second. A 4CIF format has four times the capacity of CIF; QCIF has quarter the capacity of CIF.

Abbreviation/ Term	Explanation
Codec	Coder-decoder. A device that converts voice and video into digital code, and vice versa. Refers to the endpoint video camera and video board that are used for videoconferencing.
Conference	Connection between two or more endpoints exchanging video and audio information. If only two endpoints are involved, a conference is called *point-to-point* and no MCU is required. If more than two endpoints are involved, it is called a *multipoint* conference, and an MCU (Multipoint Control Unit) is required as the management system. For more information, see MCU.
DTMF	Dual Tone Multi Frequency. A system of coded signals used by touch-tone telephones in which a specific sound, frequency or tone is assigned to each key so that the signal can be easily recognized by a computer. The codes enable data input and control of voice-processing systems. DTMF signals can pass through the entire connection to the destination device and therefore are used for remote control after the connection with the MCU is established.
Endpoint	A hardware device, or set of devices, that can call, and be called by an MCU or another endpoint. For example, an endpoint can be a phone, a camera and microphone connected to a PC or an integrated Room System (conferencing system).
FECC	Far End Camera Control. In certain video cameras, the accompanying software that enables a participant to control a remote camera. Used in Continuous Presence video conferences in conjunction with the LSD option. For more information, see LSD.
Frame	A group of bits that make up an elementary block of video data for transmission by certain protocols.
Frame Rate	The number of video frames displayed on-screen during one second, measured in fps (frames per second).
G.711	ITU-T audio algorithm, 64Kbps, 3.4 kHz.

Abbreviation/ Term	Explanation
G.722	ITU-T audio algorithm, 64Kbps, 7 kHz.
G.728	ITU-T audio algorithm, 16Kbps, 3.4 kHz.
Gatekeeper	A type of server that performs two main functions: translates LAN alias addresses of terminals and gateways to IP addresses and provides bandwidth management.
H.221	ITU-T standard that defines how to multiplex video, audio, control, and user data into one serial bit stream.
H.230	ITU-T standard that defines simple multipoint control systems procedures and describes network maintenance functions.
H.231	ITU-T standard that defines a set of MCU functions and operational requirements.
H.242	ITU-T standard that defines initiation of communications between systems and capabilities negotiation procedures.
H.243	ITU-T standard that defines initiation of communications between systems and capabilities negotiation procedures in multipoint conferences.
H.261	ITU-T standard that defines the Px64 video coding algorithm.
H.263	ITU-T standard that provides improved compression and quality of video images at a line rate lower than 384 Kbps. This standard is not supported by all codecs.
*H.264**	A proprietary Polycom Video compression standard.
H.264	ITU-T standard that provides improved compression and quality of video images in lower line rate connections and is part of the Highest Common mechanism in Video Switching conferences.
H.320	ITU-T standard that defines how the H-series video conferencing recommendations work together.
H.323	ITU-T standard for audio, video and data communications across IP-based (LAN) networks, including the Internet.

Abbreviation/ Term	Explanation
IP	Internet Protocol. The working protocol that forms the basis of the internet.
ISDN	Integrated Services Digital Network. A set of protocol and interface standards (voice, video and data) that comprise a telephone network. There are two types of ISDN lines: BRI and PRI.
ITU-T Standard	International Telecommunications Union, Telecommunication Standardization Sector (formerly CCITT). An international group that produces official standards for telecommunications.
LAN	Local Area Network. A group of computers and other devices linked via a network's operating system.
Line Rate	The amount of bandwidth used by a communication device, measured in Kbps (kilobits per second).
LDAP	Lightweight Directory Access Protocol.
MCU	Multipoint Control Unit. Device which allows more than two sites to be connected in a video conference.
Null modem cable	A serial cable designed to eliminate the need for communication equipment when two digital devices are directly connected to each other.
Participant	A person using an endpoint to connect to a conference. When using a Room System, several participants use a single endpoint.
QCIF	Quarter CIF. A video format with image size of 176x144 pixels that transmits 9.115 Mbps at 30 frames per second (a quarter of the capacity of CIF). For more information, see CIF.
QoS	Quality of Service. QoS defines the performance of a network service, such as the average delay between packets.
RS-232	A standard for serial interface connection.

Abbreviation/ Term	Explanation
SIP	Session Initiation Protocol. An application-layer protocol designed to work over IP networks. A SIP service defines the properties and the IP addresses of the SIP network components.
T1 Line	An 1.5 Mb digital switched line used in the United States.
ToS	Type of Service. ToS defines optimization tagging for routing audio and video packets.
WAN	Wide Area Network. A communications network that services a geographical area larger than the LAN.
Whiteboard	An on-screen shared notebook for placement of shared documents.