POLYCOM®

Polycom® RMX® 1500/2000/4000 Release Notes

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Version 7.1 - New Features List

Version 7.1 does not support MPM cards. Do not upgrade to version 7.1 if MPM cards are installed in the RMX and contact Support.

The following table lists the new features in Version 7.1.

Table 1 *Version 7.1 New Features List*

	Category	Feature Name	Card Configuration Mode	Description
1	Hardware	RMX 1500 new card assembly	MPMx	A new card assembly, MPMx-Q was added to the RMX 1500.
2	Video	Layout control via Polycom Touch Control	MPM+, MPMx	Participants connected via HDX endpoints can control their Personal Layouts via the Polycom Touch Control device.
3	Gateway	Automatically generated dial string in GW calls	MPM+, MPMx	Gateway Profiles can be configured to automatically generate and forward the dial string from the RMX Gateway Session to the DMA in order to connect to the required DMA Meeting Room, eliminating the need for PSTN participants to interact with the IVR Service.
4	General	Recording indication	MPMx	A Recording Indication can be displayed to all conference participants informing them that the conference is being recorded. The recording icon is replaced by a Pause icon when the conference recording is paused.
5	General	Content over ISDN Cascading Link	MPM+, MPMx	Content can be sent over an ISDN Cascading Link between two conferences, between a gateway and a conference or between two gateways.
6	IP	Multiple Services	MPM+, MPMx	Media, signaling and Management networks can be physically separated on the RMX system to provide enhanced security. This addresses the requirement in an organization that different groups of participants be supported on different networks.
7	SIP	P+C	MPM+, MPMx	SIP endpoints can send and receive Content in conferences using People+Content, Polycom's proprietary content sharing protocol.
8	Partners	Microsoft	MPM+, MPMx	Integration into Microsoft Lync Server 2010 (Wave 14) environment.

Version 7.1- Changes to Existing Features

The following table lists changes to existing features in Version 7.1.

Table 2 *Version 7.1 changes*

	Category	Feature Name	Card Configuration Mode	Description
1	SIP	SRTP	MPM+, MPMx	Encryption of SIP Media is now supported in MPMx Card Configuration Mode (in addition to the MPM+ Card Configuration Mode).
2	SIP	ICE Environment Integration	MPM+, MPMx	ICE environment is now supported in MPMx Card configuration Mode (in addition to the MPM+ Card Configuration Mode).
3	SIP	Dynamic Port Allocation	MPM+, MPMx	When the system flag SIP_FREE_VIDEO_RESOURCES is set to YES, video ports are dynamically allocated or released according to the in the endpoint capabilities. For example, when an audio Only call is escalated to Video and vice versa2 or when the resolution is changed.
4	SIP	SIP Server Registration	MPM+, MPMx	Registration of conferences, Meeting Rooms, Entry Queues, SIP Factories and Gateway Sessions was moved from the Network Service to the Conference Profile allowing you to individually select the conferencing entities that will register with the SIP server.
5	IP	Default Network Service	MPM+, MPMx	A new field (*Server Type*) was added to the *IP Network Service - SIP Servers* dialog box, letting you select whether this server is a Microsoft server or a general SIP server.
6	General	PCM	MPM+, MPMx	PCM is now supported in MPMx Card Configuration Mode (in addition to the MPM+ Card Configuration Mode). In addition, a new system flag **PCM_FECC** allows the user to determine whether the DTMF Code, ##, the Arrow Keys (FECC) or both will activate the PCM interface, or disable the PCM feature.

Table 2 *Version 7.1 changes*

	Category	Feature Name	Card Configuration Mode	Description
7	General	Diagnostics	MPM+, MPMx	Two diagnostic modes are now available on the RMX 1500/2000/4000: • Basic Mode • Advanced Diagnostic Mode A user must login with Administrator permissions in order to access Diagnostics.
8	General	System Configuration	MPM+, MPMx	A new flag was added to the system configuration: **RMX2000_RTM_LAN**. This flag is for RMX 2000 only. Set the flag to **YES**, when the system is NOT set to Multiple Services and at least one RTM LAN card is installed in the RMX 2000 system. This enables the direct connection of LAN cable to the LAN ports on the RTM LAN card for media transfer. When set to **NO (default)** and the RMX 2000 is NOT set to Multiple Services, the RTM LAN card's LAN ports are disabled for media transfer. This flag should be set to NO when Multiple Services License is installed and the MULTIPLE_SERVICES flag is set to YES as the LAN ports are automatically enabled.

Version 7.1- Interoperability Tables

Devices

The following table lists the devices with which Version 7.1 was tested.

Table 3 *Version 7.1 Device Interoperability Table*

Device	Version
Gatekeepers/Proxies	
Polycom CMA	5.4.0
Polycom PathNavigator	7.0.14
Polycom SE200	3.00.07.ER001
Cisco gatekeeper	12.3
Radvision ECS gatekeeper	3.5.2.5
Iptel proxy	1.0.2
Microsoft OCS Server	2007 R2 3.5.6907
Microsoft Lync Server	4.0.7457.0
Broadsoft proxy	BroadWorks release 14 sp9
Recorder	
Polycom RSS 2000	4.0.0.001 360
Polycom RSS 4000	6.4.0.0-26517
MCUs, Call Managers Network Devices and Add ins	
Polycom MGC 25/50/100 and MGC+50/100	8.0.2 and 9.0.3
RMX 1000	2.1.2
Polycom DMA 7000	2.3
Avaya CM	5.2
Avaya ACM	2.1.016.4-18111, 943
Avaya IP Softphone	R6.0 SP1
Cisco Call Manager	4.1, 8.0.5
Tandberg MCU	D3.11
Tandberg MPS	J3.3
Polycom VBP 5300LF-S25	9.1.5.3
Polycom VBP - E	9.1.5.3
Polycom Conferencing Add in for Microsoft Outlook	1.0.2

Table 3 *Version 7.1 Device Interoperability Table (Continued)*

Device	Version
Endpoints	
Polycom HDX Family	3.0.0, 3.0.1
Polycom Telepresence (ITP) Systems	2.6, 2.7
Polycom VSX and V-Series Family	9.0.6.1
Polycom Viewstation Family	7.5.4
Polycom CMA Desktop	5.1.0.0060
Polycom QDX6000	4.0.1
Polycom VVX1500	3.3.1
SoundPointIP 650	3.2.2
Polycom PVX	8.0.16
Polycom VS Family	7.5.4
Polycom VS FX Family (EX, FX, 4000)	6.0.5
Polycom iPower 9000	6.2.1208
Soundstation IP3000	2.8
Aethra X3	12.1.19
Aethra X7	12.1.7
Aethra VegaStar Gold	6.0.49
Avaya IP Softphone	R6 6.01.48
Avaya 1XC Communicator	R1.020-SP2-1696
LifeSize 200	4.7.11.4
LifeSize Room and Express	4.7.11.4
VVX1500	3.3.1
DST B5	2.0
DST K60	2.0.1
DST K80	4.0
Sony PCS -XG80	2.11
Sony PCS -1	3.42
Sony PCS -G family	2.72
Sony PCS -TL50	2.42
Tandberg 150 MXP	L6.0.2
Tandberg MXP F-Series Family	F9.0.1
Tandberg 6000 B	B10.3
Tandberg Classic E Family	E5.3

Table 3 *Version 7.1 Device Interoperability Table (Continued)*

Device	Version
Tandberg EX90	3.1.3
Tandberg C Family	3.1.3
Tandberg E20	2.2.1
RadVision E.P SCOPIA XT1000	2.0.18
RadVision SCOPIA E.P	RV-VC240-2
Microsoft OC client R2	R2 3.5.6907.196
Microsoft Lync client	v4.0.7577.0
Vidyo Desktop client	2.0.4

Polycom RMX and Avaya Interoperability

For questions and support on the Polycom - Avaya integrated solution, please contact your Avaya Authorized Service Provider.

The Polycom RMX 2000/4000 series of MCUs running software version 7.0.1.16 register to current generally available versions of Avaya Aura Session Manager R6.0 to provide multipoint video calls.

Polycom RMX 4000, RMX 2000 and RMX 1500 can call and receive calls with current generally available versions of Avaya one-X Communicator H.323 video soft clients (R5.2) on Aura Communication Manager R5.2.1, R6.0, and R6.1.

RMX Web Client

The following table lists the environments (Web Browsers and Operating Systems) with which the *RMX Web Client* was tested.

Table 4 *Version 7.0 Environment Interoperability Table*

Web Browser	Operating System
Internet Explorer 6	Windows XP™
Internet Explorer 7	Windows XP™
	Windows Vista™
	Windows 7
Internet Explorer 8	Windows 7

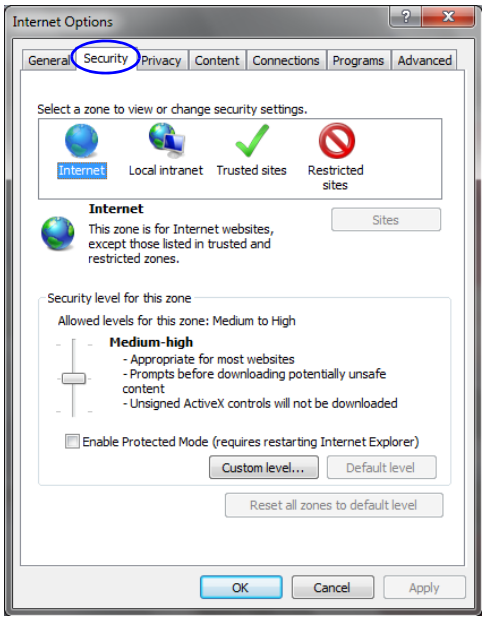
Windows 7™ Security Settings

If *Windows7* is installed on the workstation, *Protected Mode* must be disabled before downloading the Version 7.0 software to the workstation.

To disable Protected Mode:

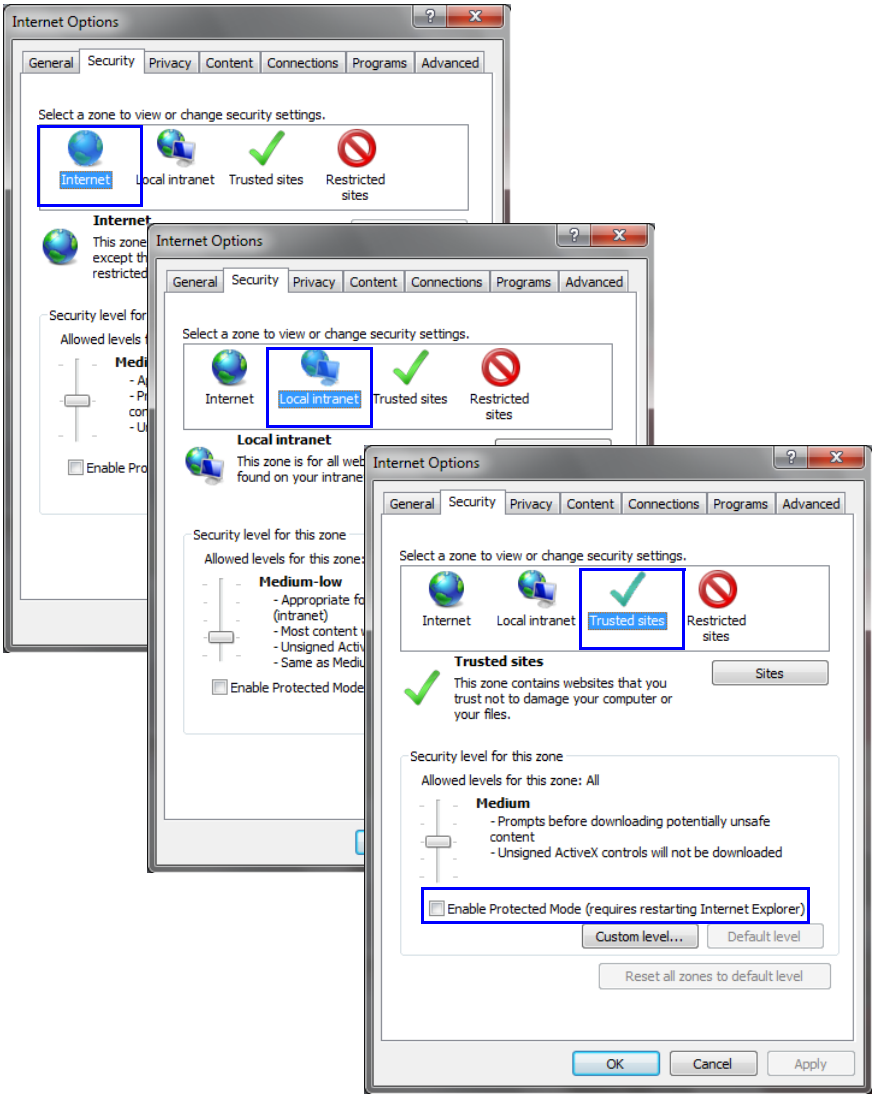
1 In the *Internet Options* dialog box, click the **Security** tab.

The **Security** tab is displayed.



2 Clear the *Enable Protected Mode* check box for each of the following tabs:

— *Internet*
— *Local intranet*
— *Trusted sites*



3 After successful connection to *RMX*, the *Enable Protected Mode* check boxes can be selected to enable *Protected Mode* for the following tabs:

— *Internet*
— *Local intranet*

Internet Explorer 8 Configuration

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

To configure Internet Explorer 8:

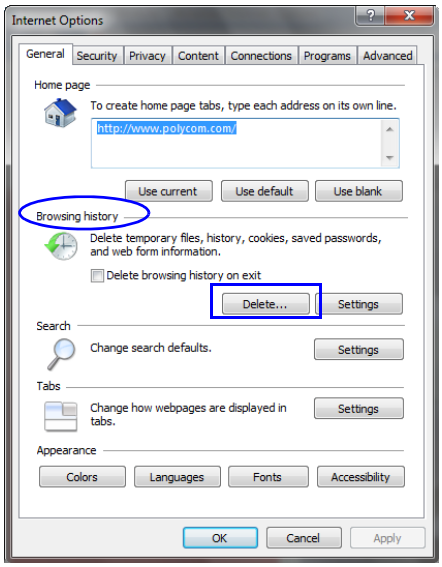
1 Close **all** browsers running on the workstation.

2 Use the *Windows Task Manager* to verify that no *iexplore.exe* processes are running on the workstation. If any processes are found, use the **End Task** button to end them.

3 Open *Internet Explorer* but do **not** connect to the *RMX*.

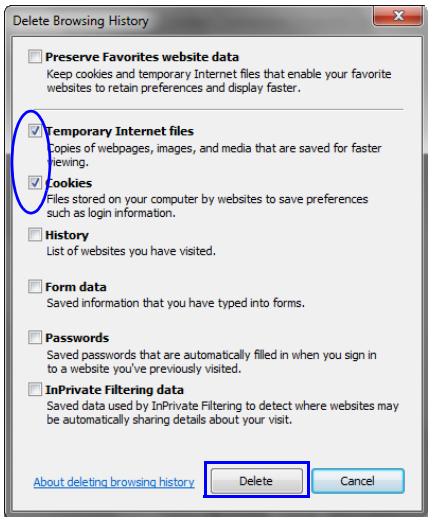
4 In the *Internet Explorer* menu bar select **Tools >> Internet Options**.

The *Internet Options* dialog box is displayed with *General* tab open.



5 In the *Browsing history* section, click the **Delete** button.

The *Delete Browsing History* dialog box is displayed.



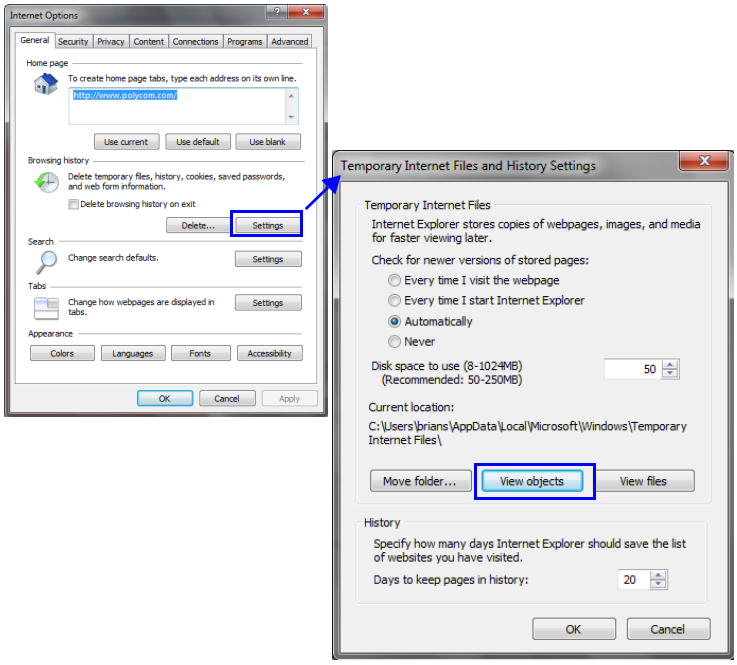
6 Select the **Temporary Internet** files and **Cookies** check boxes.

7 Click the **Delete** button.

8 The *Delete Browsing History* dialog box closes and the files are deleted.

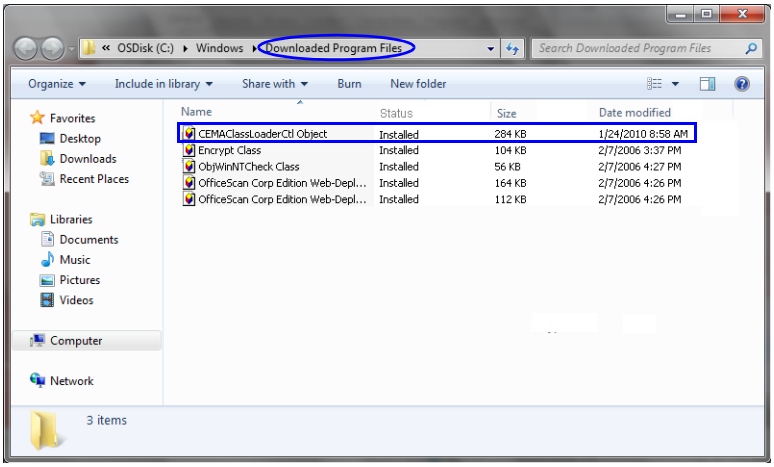
9 In the *Internet Options* dialog box, click the **Settings** button.

The *Temporary Internet Files and History Settings* dialog box is displayed.



10 Click the **View objects** button.

The *Downloaded Program Files* folder containing the installed *Program Files* is displayed.



11 Select the *CEMAClassLoaderCntl Object* file

12 Press the **Delete** key on the workstation.

13 Close the *Downloaded Program Files* folder and the *Temporary Internet Files and History Settings* dialog box.

14 In the *Internet Options* dialog box, click the **OK** button to save the changes and close the dialog box.

Polycom Solution Support

Polycom Implementation and Maintenance services provide support for Polycom solution components only. Additional services for supported third-party Unified Communications (UC) environments integrated with Polycom solutions are available from Polycom Global Services and its certified Partners. These additional services will help customers successfully design, deploy, optimize and manage Polycom visual communications within their UC environments.

Professional Services for Microsoft Integration is mandatory for Polycom Conferencing for Microsoft Outlook and Microsoft Office Communications Server integrations. For additional information and details please see http://www.polycom.com/services/professional_services/index.html or contact your local Polycom representative.

Version 7.1- Upgrade Package Contents

The Version 7.1 upgrade package must be downloaded from the *Polycom Resource Center* and includes the following items:

- lan.cfg file
- LanConfigUtility.exe
- RMX Documentation
  - RMX 1500/2000/4000 Version 7.1 Release Notes
  - RMX 1500/2000/4000 Getting Started Guide
  - RMX 1500/2000/4000 Administrator's Guide
  - RMX 1500/2000/4000 Hardware Guide
  - RMX 1500/2000/4000 Quick Installation Booklet
  - Installation Quick Start Guide for RMX 1500/2000/4000
  - RMX Third Party Licenses
- External DB Tools
  - RMX 1500/2000/4000 External Database API Programmer's Guide
  - Sample Scripts
- RMX XML API Kit Version 7.0
  - RMX 1500/2000/4000 XML API Version 7.0.2 Release Notes
  - RMX 1500/2000/4000 XML API Overview
  - RMX 1500/2000/4000 XML API Schema Reference Guide (version 3.0)
  - MGC to RMX XML API Conferencing Comparison
  - Polycom XML Tracer User's Guide
  - XML Schemas
  - Polycom XML Tracer application
- Translations of RMX 1500/2000/4000 Version 7.0 Documentation:
  - Getting Started Guide:
    French, German, Japanese, Russian, Simplified Chinese, Hebrew and Portuguese
  - Hardware Guide:
    French, German, Japanese, Korean, Russian, Simplified Chinese, Spanish

Where to Get the Latest Product Information

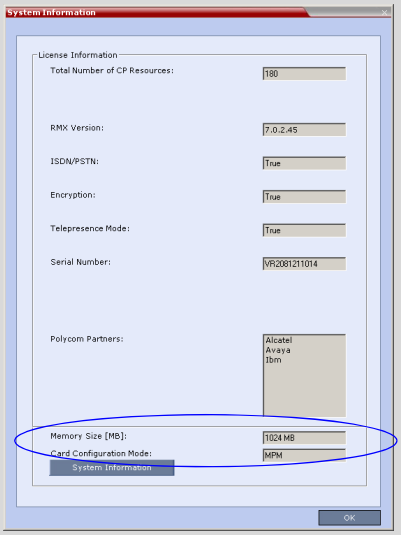
To view the latest Polycom product documentation, visit the **Support** section of the Polycom website at http://support.polycom.com

Version 7.1 - Upgrade Procedure

- Version 7.1 does not support MPM cards. DO NOT upgrade to version 7.1 if MPM cards are installed in the RMX and contact Polycom Support.
- Make sure that media cards are installed in the RMX before upgrading to version 7.1. If your upgrade process includes upgrading the Media cards, please refer to the *RMX® 2000/4000 MPMx Migration Procedure* documentation.
- If upgrading from version 5.x or earlier, you must first make sure that the Control Unit memory size is at least 1024MB. If Memory size is 512MB, DO NOT perform the upgrade procedure and contact Polycom support.

You can check the *Card Configuration Mode* that reflects the cards installed in the RMX and the MCU Memory size.

In the RMX Web Client/RMX Manager go to **Administration > System Information.**



To maximize conferencing performance, especially in high bit rate call environments, a 1 Gb connection is recommended for each LAN connection.

Upgrade Paths to Version 7.1

The upgrade options from previous versions to Version 7.1 are summarized in Table 5. When upgrading from *Versions 2.x* and *3.x*, the upgrades to three intermediate versions must be performed.

Table 5 *Upgrade Paths to Version 7.1*

Current Version	First Intermediate Upgrade		Second Intermediate Upgrade		Third Intermediate Upgrade		New Version	
	Version	Key	Version	Key	Version	Key	Version	Key
7.0.1 / 7.0.2	N/A		N/A		N/A		**7.1**	Yes
7.0	N/A		N/A		N/A		**7.1**	Yes

Table 5 *Upgrade Paths to Version 7.1*

Current Version	First Intermediate Upgrade		Second Intermediate Upgrade		Third Intermediate Upgrade		New Version	
	Version	Key	Version	Key	Version	Key	Version	Key
6.0.2	7.0.2	Yes	N/A		N/A		**7.1**	Yes
6.0 / 6.0.1	6.0.2	No	7.0.2	Yes	N/A		**7.1**	Yes
5.0.2	7.0.2	Yes	N/A		N/A		**7.1**	Yes
5.0 / 5.0.1	5.0.2	No	7.0.2	Yes	N/A		**7.1**	Yes
4.x	5.0.2	Yes	7.0.2	Yes	N/A		**7.1**	Yes
2.x / 3.x	4.1.1	Yes	5.0.2	Yes	7.0.2	Yes	**7.1**	Yes

Upgrading from Version 7.0/7.0.1/7.0.2 to Version 7.1

1 Download the *Version 7.1* software from the *Polycom Resource Center* web site.

If *Windows7™* is installed on the workstation, *Protected Mode* must be disabled before downloading the *Version 7.1* software to the workstation.
For more information see "*Windows 7™ Security Settings*" on page 7.

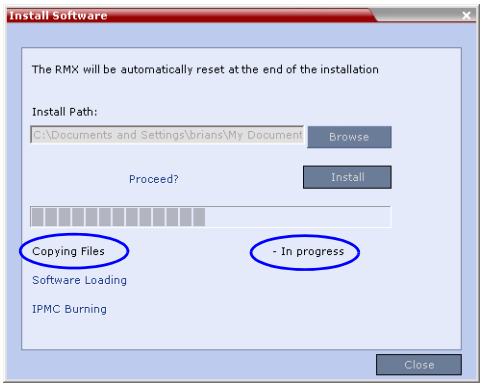
2 Obtain the *Version 7.1 Product Activation Key* from the *Polycom Resource Center* web site. For more information, see the *RMX Getting Stated Guide*, "*Procedure 1: First-time Power-up*" on page 2-21.

3 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide*, "*Software Management*" on page 19-99.

4 Install *MCU* Software *Version 7.1*.
On the *RMX* menu, click **Administration> Software Management > Software Download**.

5 *Browse* to the *Install Path*, selecting the **Version 7.1.x.x.bin** file in the folder where *Version 7.1* is saved and click **Install**.

The *Install Software* information box that the file *Copying files* is *In progress*.

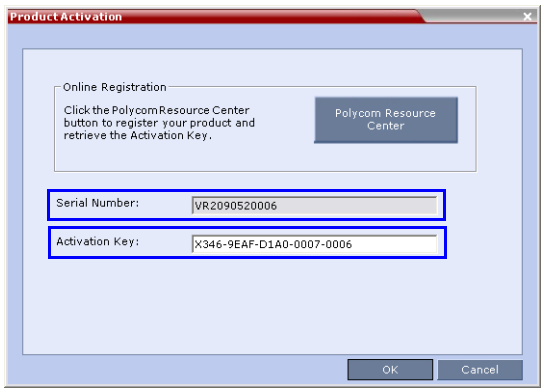


At the end of the installation process the system displays an indication that the software copying procedure is *Completed* and that a new *Activation Key* is required.

6 Click the **OK** button.

7 On the *RMX* menu, click **Setup > Product Activation**.

The *Product Activation* dialog box is displayed with the serial number field completed.

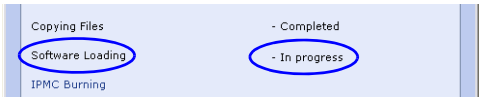


8 In the *Activation Key* field, enter or paste the *Product Activation Key* obtained earlier and click the **OK** button.

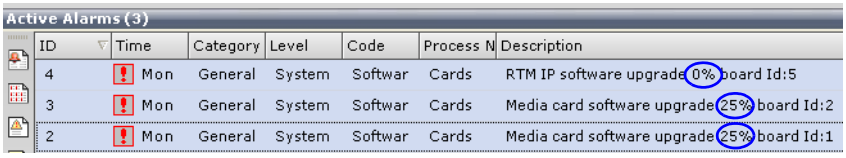
At the end of the *Product Activation* process the system displays an indication that the *Product Activation Key* was successfully installed.

9 Click the **OK** button.

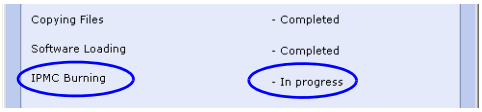
The *Install Software* information box indicates that *Software Loading* is in progress.



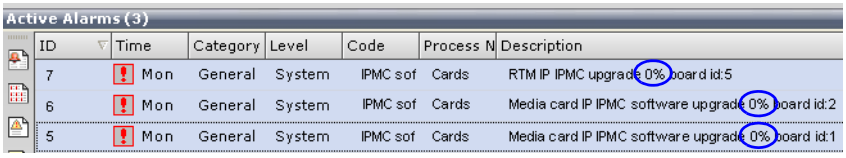
A series of *Active Alarms* are displayed indicating the progress of the upgrade process.



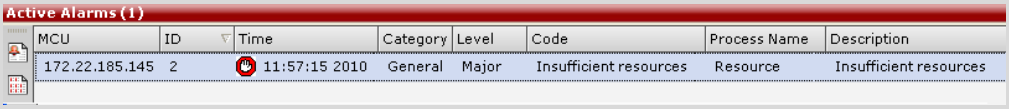
The *Install Software* information box indicates that *IPMC Burning* is in progress.



A further series of *Active Alarms* are displayed indicating the progress of the upgrade process.



Sometimes, when updating the *Version 7.x* license key, the system displays the following active alarm:



Ignore this Active Alarm and complete this installation procedure.

The upgrade procedure takes approximately **20** minutes.

Connection to the *RMX* is terminated and you are prompted to reopen the browser.

10 Approximately 5 minutes after receiving this message, close and reopen the browser.

11 Enter the IP address of the *RMX Control Unit* in the browser's address line and press **Enter** to reconnect to *RMX*.

The browser displays a message indicating that it cannot display the requested page.

The version number in the *Welcome* screen has changed to *7.1*.

12 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator Starting up (15:25) showing the time remaining until the system start-up is complete.

- If the default POLYCOM user is defined in the RMX Web Client, an Active Alarm is created and the MCU status changes to MAJOR until a new Administrator user is created and the default user is deleted.
- If the upgrade process fails, please contact Polycom support.

13 To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Version 6.0.2 to Version 7.1

This upgrade requires an intermediate upgrade from *Version 6.0.2* to *Version 7.0.2*.

Intermediate Upgrade from Version 6.0.2 to Version 7.0.2

1 Download the *Version 7.0.2* software from the *Polycom Resource Center* web site.

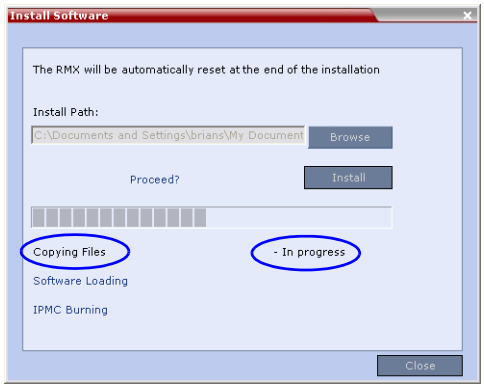
2 Obtain the *Version 7.0.2 Product Activation Key* from the *Polycom Resource Center* web site. For more information, see the *RMX Getting Stated Guide*, "*Procedure 1: First-time Power-up*" on page **2-21**.

3 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide*, "*Software Management*" on page **19-99**.

4 Install *MCU* Software *Version 7.0.2*.
On the *RMX* menu, click **Administration > Software Management > Software Download**.

5 *Browse* to the *Install Path*, selecting the **Version 7.0.2.x.bin** file in the folder where *Version 7.0.2* is saved and click **Install**.

The *Install Software* information box that the file *Copying files* is *In progress*.

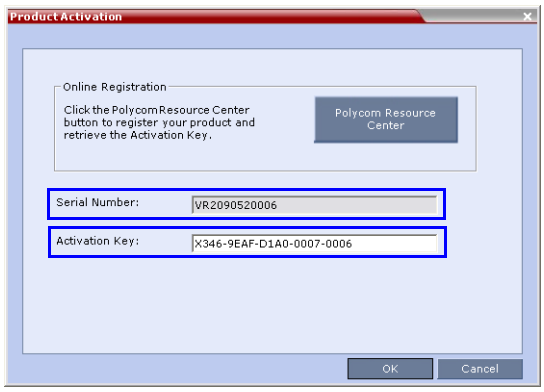


At the end of the installation process the system displays an indication that the software copying procedure is *Completed* and that a new *Activation Key* is required.

6 Click the **OK** button.

7 On the *RMX* menu, click **Setup > Product Activation**.

The *Product Activation* dialog box is displayed with the serial number field completed.



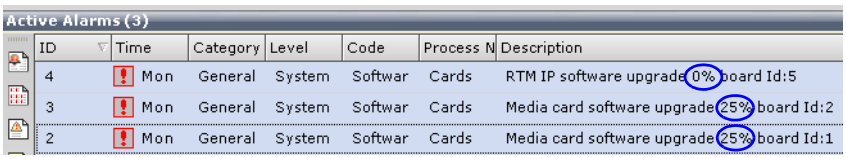
8 In the *Activation Key* field, enter or paste the *Product Activation Key* obtained earlier and click the **OK** button.

At the end of the *Product Activation* process the system displays an indication that the *Product Activation Key* was successfully installed.

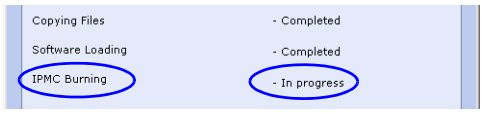
9 Click the **OK** button.

The *Install Software* information box indicates that *Software Loading* is in progress.

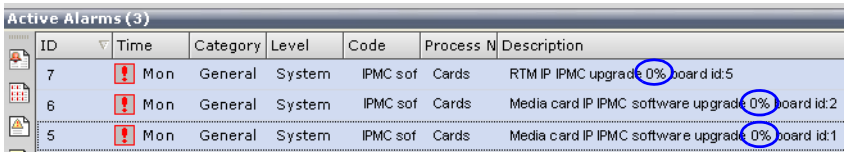
A series of *Active Alarms* are displayed indicating the progress of the upgrade process.



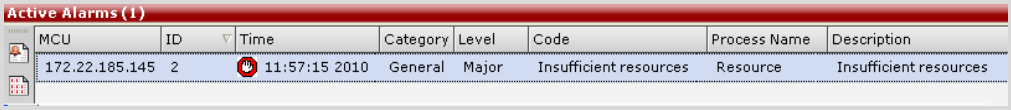
The *Install Software* information box indicates that *IPMC Burning* is in progress.



A further series of *Active Alarms* are displayed indicating the progress of the upgrade process.



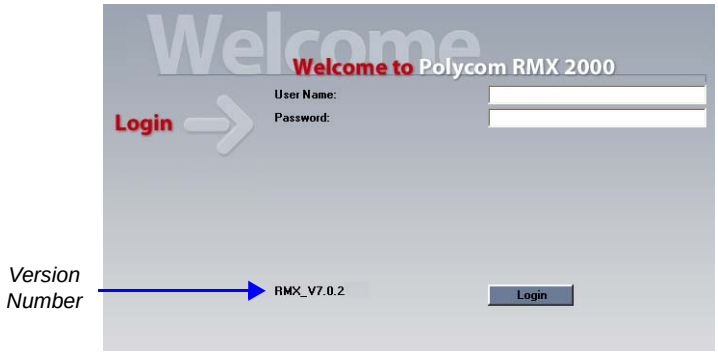
Sometimes, when updating the *Version 7.0.x* license key, the system displays the following active alarm:



Ignore this Active Alarm and complete this installation procedure.

10 After about **30** minutes, **close and reopen the browser** and connect to the *RMX*. If the browser was not closed and reopened, the following error message is displayed: "*Browser environment error. Please reopen the browser*".

The version number in the *Welcome* screen has changed to *7.0.2*.



11 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator Starting up (15:25) showing the time remaining until the system start-up is complete.

- If the default POLYCOM user is defined in the RMX Web Client, an Active Alarm is created and the MCU status changes to MAJOR until a new Administrator user is created and the default user is deleted.
- If the upgrade process fails, please contact Polycom support.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Versions 6.0/6.0.1 to Version 7.1

This upgrade requires the following intermediate upgrade procedures:

1 Upgrade from *Version 6.0./6.0.1* to *Version 6.0.2*.

2 Upgrade from *Version 6.0.2* to *Version 7.0.2*.

Intermediate Upgrade from Version 6.0/6.0.1 to Version 6.0.2

1 Download the *Version 6.0.2* software from the *Polycom Resource Center* web site.

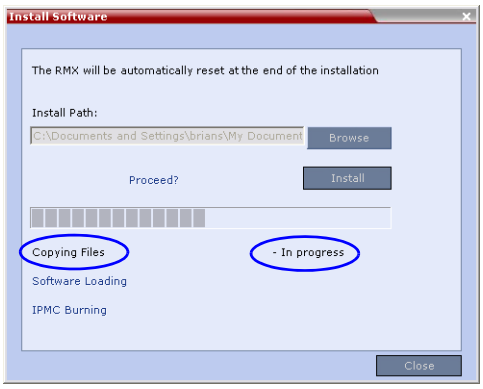
If *Windows7™* is installed on the workstation, *Protected Mode* must be disabled before downloading the *Version 6.0.2* software to the workstation.
For more information see *"Windows 7™ Security Settings"* on page **7**.

2 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide, "Software Management"* on page **19-99**.

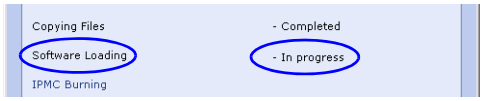
3 Install *MCU* Software *Version 6.0.2*.
On the *RMX* menu, click **Administration > Software Management > Software Download**.

4 *Browse* to the *Install Path,* selecting the **Version 6.0.2.xx.bin** file in the folder where *Version 6.0.2* is saved and click **Install**.

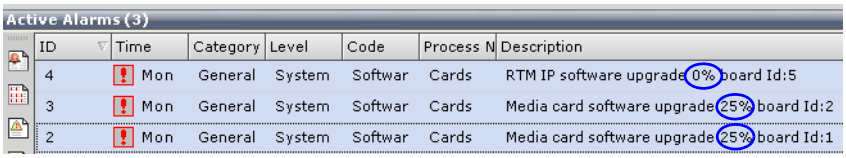
The *Install Software* information box that the file copy is *In progress*.



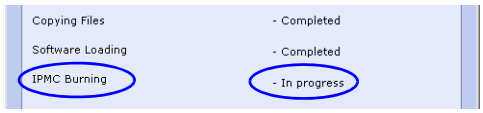
The *Install Software* information box indicates that *Software Loading* is in progress.



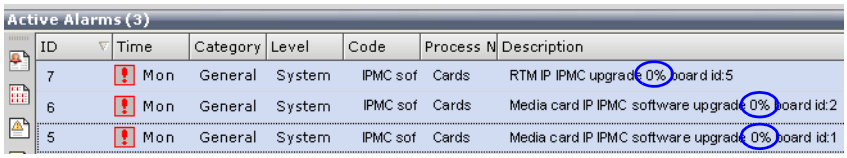
A series of *Active Alarms* are displayed indicating the progress of the upgrade process.



The *Install Software* information box indicates that *IPMC Burning* is in progress.

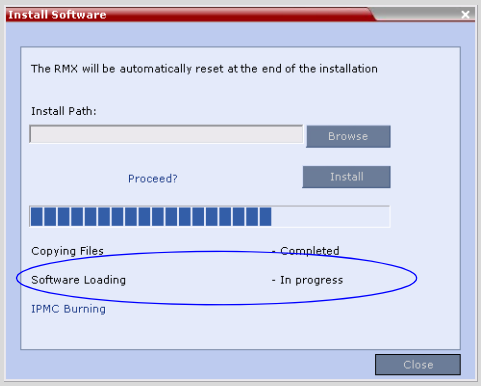


A further series of *Active Alarms* are displayed indicating the progress of the upgrade process.

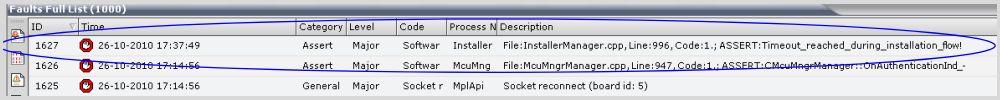


The upgrade procedure takes approximately **20** minutes.

When upgrading from version 6.0.1, if after 20 minutes the system remains in the *Loading Software* stage:



and sometimes the following Active Alarm is displayed:



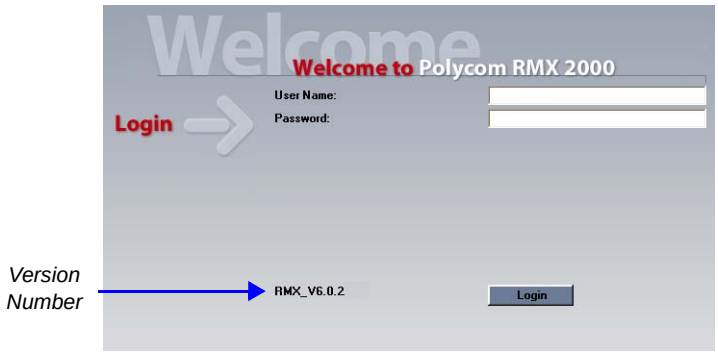
Close the Install Software window, access the **Hardware Monitor** and **Reset** the RMX. After reset, the upgrade process continues as described below.

Connection to the *RMX* is terminated and you are prompted to reopen the browser.

5 After approximately 5 minutes close and reopen the browser.

6 Enter the IP address of the *RMX Control Unit* in the browser's address line and press **Enter** to reconnect to *RMX*.

The *Login* screen is displayed. The version number has changed to *6.0.2*.



7 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator

showing the time remaining until the system start-up is complete.

Intermediate Upgrade from Version 6.0.2 to Version 7.0.2

>> Continue with the upgrade from *Version 6.0.2* to *Version 7.0.2* as described starting on page **17**.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Version 5.0.2 to Version 7.1

This upgrade requires an intermediate upgrade from *Version 5.0.2* to *Version 7.0.2*.

Intermediate Upgrade from Version 5.0.2 to Version 7.0.2

1 Download the software **Version 7.0.2** software from the *Polycom Resource Center* web site.

If *Windows7™* is installed on the workstation, *Protected Mode* must be disabled before downloading the *Version 7.0.2* software to the workstation.
For more information see *"Windows 7™ Security Settings"* on page **7**.

2 Obtain the Version 7.0.2 *Product Activation Key* from the *Polycom Resource Center* web site. For more information, see the *RMX Getting Stated Guide*, *"Procedure 1: First-time Power-up"* on page **2-21**.

3 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide*, *"Software Management"* on page **19-99**.

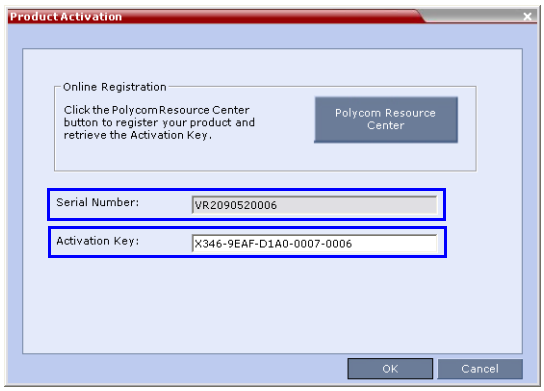
4 Install *MCU* Software Version 7.0.2.
On the *RMX* menu, click **Administration > Software Management > Software Download**.

5 *Browse* to the *Install Path*, selecting the **Version 7.0.2xx.bin** file in the folder where **Version 7.0.2**. is saved and click **Install**.

At the end of the installation process the *Install Software* dialog box indicates that the installed software is being checked. The system then displays an indication that the software was successfully downloaded and that a new activation key is required.

6 On the *RMX 2000/4000* menu, click **Setup > Product Activation**.

The *Product Activation* dialog box is displayed with the serial number field completed.



7 In the *Activation Key* field, enter or paste the *Product Activation Key* obtained earlier and click the **OK** button.

At the end of the *Product Activation* process the system displays an indication that the *Product Activation Key* was successfully installed.

8 When prompted whether to reset the *RMX*, click **Yes** to reset the *RMX*.

Sometimes when upgrading from version 5.0.2 to version 7.0.x the reset process fails. In such a case, you can try to connect to the *MCU* via the Shelf Management and reset the *MCU* from the Hardware Monitor or you can “hard” reset the *MCU* by turning the Power off and on again.

9 When prompted to wait while the *RMX* resets, click **OK**.

The upgrade procedure takes approximately 30 minutes.

Connection to the *RMX* is terminated and you are prompted to reopen the browser.

10 After approximately 30 minutes close and reopen the browser.

11 Enter the IP address of the *RMX Control Unit* in the browser’s address line and press **Enter** to reconnect to *RMX*.

The browser displays a message indicating that it cannot display the requested page.

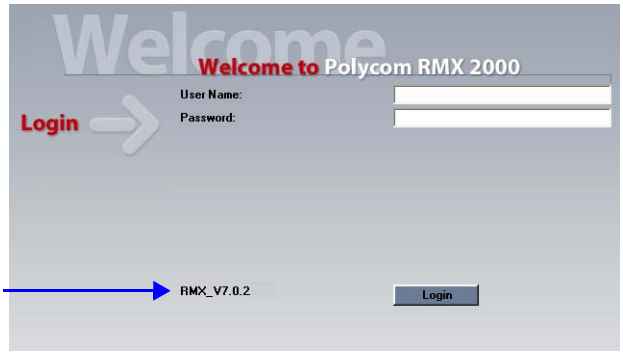
12 Refresh the browser periodically until connection to the *RMX* is established and the *Login* screen is displayed.

You may receive a message stating *Browser environment error. Please reopen the browser*.

13 **Optional.** Close and reopen the browser.

14 Enter the IP address of the *RMX Control Unit* in the browser’s address line and press **Enter** to reconnect to *RMX*.

The *Login* screen is displayed. The version number has changed to *7.0.2*.



15 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator Starting up (15:25) showing the time remaining until the system start-up is complete.

- If the default POLYCOM user is defined in the RMX Web Client, an Active Alarm is created and the MCU status changes to MAJOR until a new Administrator user is created and the default user is deleted.
- If the upgrade process fails, please contact Polycom support.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Versions 5.0/5.0.1 to Version 7.1

This upgrade requires the following intermediate upgrade procedures:

1 Upgrade from *Version 5.0./5.0.1* to *Version 5.0.2*.

2 Upgrade from *Version 5.0.2* to *Version 7.0.2*.

Intermediate Upgrade from Version 5.0/5.0.1 to Version 5.0.2

1 Download the required software *Version 5.0.2* from the *Polycom Resource Center* web site.

If *Windows7™* is installed on the workstation, *Protected Mode* must be disabled before downloading the *Version 5.0.2* software to the workstation.
For more information see *"Windows 7™ Security Settings"* on page **7**.

2 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide, "Software Management"* on page **19-99**.

3 Install *MCU* Software *Version 5.0.2*.
On the *RMX* menu, click **Administration> Software Management > Software Download**.

4 *Browse* to the *Install Path*, selecting the **Version 5.0.2xx.bin** file in the folder where *Version 5.0.2* is saved and click **Install**.

At the end of the installation process the system displays an indication that the software was successfully downloaded and that a new activation key is required.

5 Click **Close** to close the *Install Software* dialog box.

6 When prompted whether to reset the *MCU*, click **Yes** to reset the *MCU*.

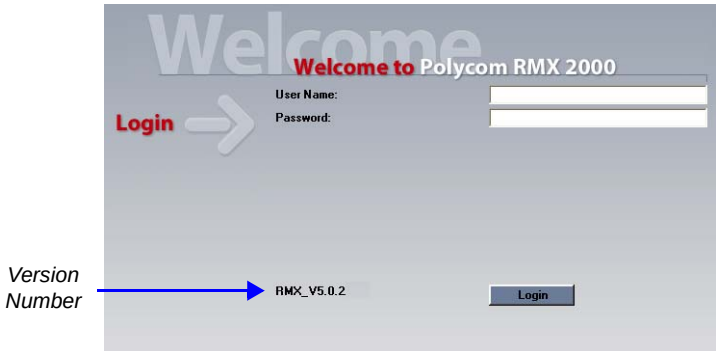
At the end of the installation process the system displays an indication that the software was successfully downloaded.

The upgrade procedure takes about **30** minutes during which time an *Active Alarm - System Upgrade* is displayed.

The RMX resets itself during the upgrade process and connection to the *RMX Web Client* may be lost. If the workstation is logged in to the *RMX Web Client* during the resets, the *MCU State* indicator at the bottom right corner of the *RMX Web Client* screen indicates *STARTUP*.

7 After about **30** minutes, **close and reopen the browser** and connect to the RMX. If the browser was not closed and reopened, the following error message is displayed: "Browser environment error. Please reopen the browser".

The version number in the *Welcome* screen has changed to *5.0.2*.



8 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator

showing the time remaining until the system start-up is complete.

Intermediate Upgrade from Version 5.0.2 to Version 7.0.2

>> Continue with the upgrade from *Version 5.0.2* to *Version 7.0.2* as described starting on page **22**.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Version 4.x to Version 7.1

This upgrade requires the following intermediate upgrade procedures:

1 Upgrade from *Version 4.x* to *Version 5.0.2*.

2 Upgrade from *Version 5.0.2* to *Version 7.0.2*.

Intermediate Upgrade from Version 4.x to Version 5.0.2

1 Download the *Version 5.0.2* software from the *Polycom Resource Center* web site.

2 Obtain the *Version 5.0.2 Product Activation Key* from the *Polycom Resource Center* web site. For more information, see the *RMX Getting Stated Guide*, "*Procedure 1: First-time Power-up*" on page **2-21**.

3 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide*, "*Software Management*" on page **19-99**.

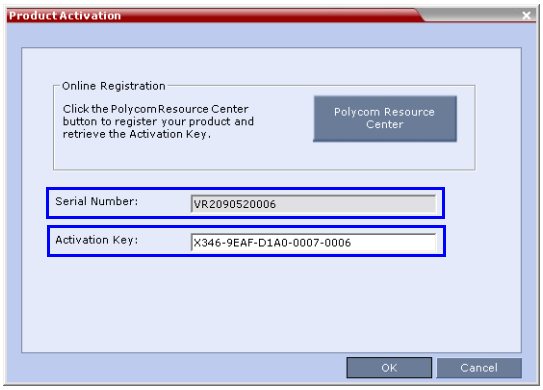
4 Install *MCU* Software *Version 5.0.2*
On the *RMX* menu, click **Administration> Software Management > Software Download**.

5 *Browse* to the *Install Path*, selecting the **Version 5.0.2xx.bin** file in the folder where the downloaded version is saved and click **Install**.

At the end of the installation process the system displays an indication that the software was successfully downloaded and that a new activation key is required.

6 On the *RMX* menu, click **Setup > Product Activation**.

The *Product Activation* dialog box is displayed with the serial number field completed.



7 In the *Activation Key* field, enter or paste the *Product Activation Key* obtained earlier and click the **OK** button.

At the end of the *Product Activation* process the system displays an indication that the *Product Activation Key* was successfully installed.

8 Click the **OK** button.

9 When prompted whether to reset the MCU, click **Yes** to reset the MCU.

At the end of the installation process the system displays an indication that the software was successfully downloaded.

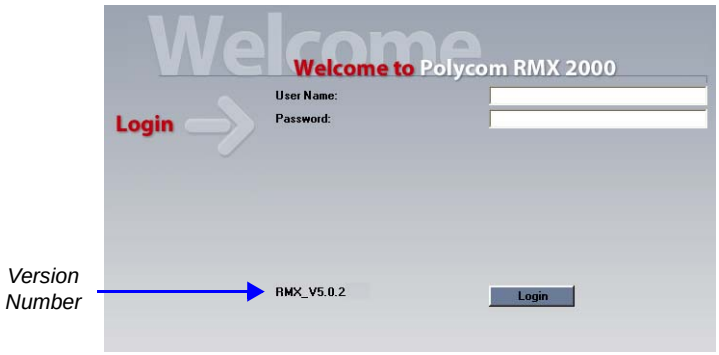
The upgrade procedure takes about **30** minutes during which time an *Active Alarm - System Upgrade* is displayed.

The RMX resets itself during the upgrade process and connection to the *RMX Web Client* may be lost. If the workstation is logged in to the *RMX Web Client* during the resets, the *MCU State* indicator at the bottom right corner of the *RMX Web Client* screen indicates *STARTUP*.

Sometimes when upgrading from version 4.x to version 5.0.x the reset process fails. In such a case, you can try to connect to the MCU via the Shelf Management and reset the MCU from the Hardware Monitor or you can "hard" reset the MCU by turning the Power off and on again.

10 After about **30** minutes, **close and reopen the browser** and connect to the RMX. If the browser was not closed and reopened, the following error message is displayed: "Browser environment error. Please reopen the browser".

The version number in the *Welcome* screen has changed to *5.0.2*.



11 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator Starting up (15:25) showing the time remaining until the system start-up is complete.

If the default POLYCOM user is defined in the RMX Web Client, an Active Alarm is created and the MCU status changes to MAJOR until the POLYCOM User is renamed or a new Administrator User is created and the default User is deleted.

Intermediate Upgrade from Version 5.0.2 to Version 7.0.2

>> Continue with the upgrade from *Version 5.0.2* to *Version 7.0.2* as described starting on page **22**.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Upgrading from Versions 2.x/3.x to Version 7.1

From *Versions 2.x/3.x*, the upgrade to *Version 7.1* requires three intermediate upgrades:

1 Intermediate upgrade to *Version 4.1.1*.

2 Intermediate upgrade from *Version 4.1.1* to *Version 5.0.2*.

3 Intermediate upgrade from *Version 5.0.2* to *Version 7.0.2*.

Intermediate Upgrade 1: From Version 2.x/3.x to Version 4.1.1

1 Download the *Version 4.1.1* software from the *Polycom Resource Center* web site.

2 Obtain the *Version 4.1.1 Product Activation Key* from the *Polycom Resource Center* web site. For more information, see the *RMX Getting Stated Guide*, "*Procedure 1: First-time Power-up*" on page **2-21**.

3 Backup the configuration file. For more information, see the *RMX 1500/2000/4000 Administrator's Guide*, "*Software Management*" on page **19-99**.

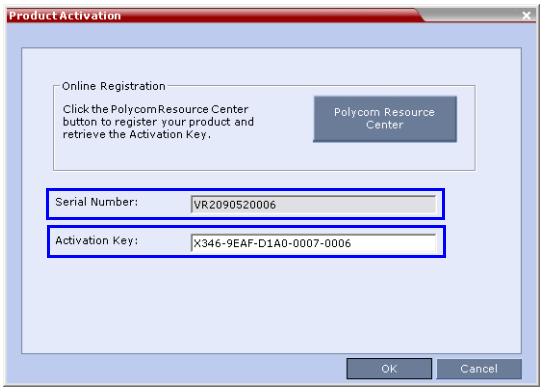
4 Install *MCU* Software *Version 4.1.1*
On the *RMX* menu, click **Administration> Software Management > Software Download**.

5 *Browse* to the *Install Path*, selecting the **Version 4.1.1xx.bin** file in the folder where *Version 4.1.1* is saved and click **Install**.

At the end of the installation process the system displays an indication that the software was successfully downloaded and that a new activation key is required.

6 On the *RMX* menu, click **Setup > Product Activation**.

The *Product Activation* dialog box is displayed with the serial number field completed.



7 In the *Activation Key* field, enter or paste the *Product Activation Key* obtained earlier and click the **OK** button.

At the end of the *Product Activation* process the system displays an indication that the *Product Activation Key* was successfully installed.

8 Click the **OK** button.

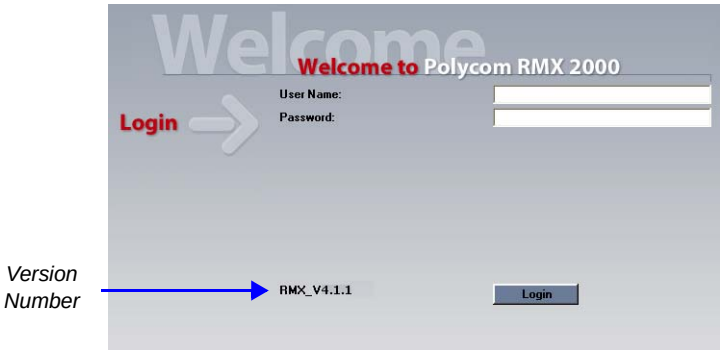
9 When prompted whether to reset the *MCU*, click **Yes** to reset the *MCU*.

The upgrade procedure may take up to 30 minutes during which time an *Active Alarm - System Upgrade* is displayed.

The *RMX* resets itself during the upgrade process and connection to the *RMX Web Client* may be lost. If the workstation is logged in to the *RMX Web Client* during the resets, the *MCU State* indicator at the bottom right corner of the *RMX Web Client* screen indicates *STARTUP*.

10 After 30 minutes, close and re-open the browser and connect to the *RMX*.

The version number in the *Welcome* screen has changed to *4.1.1*



11 In the *RMX Web Client – Welcome* screen, enter your *User Name* and *Password* and click **Login**.

In the *Main Screen* an *MCU State* indicator displays a progress indicator

showing the time remaining until the system start-up is complete.

Intermediate Upgrade from Version 4.1.1 to Version 5.0.2

>> Continue with the upgrade from *Version 4.x* to *Version 5.0.2* as described starting on page **26**.

Intermediate Upgrade from Version 5.0.2 to Version 7.0.2

>> Continue with the upgrade from *Version 5.0.2* to *Version 7.0.2* as described starting on page **22**.

Upgrade from Version 7.0.2 to Version 7.1

>> Continue with the upgrade from *Version 7.0/7.0.1/7.0.2* to *Version 7.1* as described starting on page **14**.

To use the new features such as *Operator Assistance* and *Gateway Sessions* the *IVR Services* must be updated. For more details, see *"Additional/Optional System Updates After Upgrading"* on page **30**.

Additional/Optional System Updates After Upgrading

IVR Services Update

When upgrading from version 4.0 and earlier, *Operator Assistance* and the *Gateway calls* options require that the IVR Service includes specific (new) DTMF Codes and voice messages that are not automatically added to existing IVR Services in order to avoid conflicts with existing DTMF codes. Therefore, to use these options, new Conference and Entry Queue IVR Services must be created.

In Version 6.0, recording can be controlled from the HDX remote control using the designated recording buttons. This is enabled by changing the existing definitions of the DTMF codes of the Roll Call and Recording actions in the Conference IVR Services already defined in the RMX.

In Version 7.x, PCM for ISDN participants is enabled by a DTMF code. The code must be added to the *DTMF Codes* tab to enable the PCM for ISDN participants. Default value is 1.

To modify the Conference IVR Service:

1 In the IVR Services list, double-click the service to modify or right click the service and select Properties.

2 To add the gateway voice messages and dial tones, click the **General** tab and select the appropriate *.wav files.

3 To modify the DTMF codes, click the **DTMF Codes** tab.

4 Modify the DTMF codes as follows:

Table 6 DTMF Code Changes

Action	Existing DTMF Code	New DTMF Code
Enable Roll Call	*32	*42
Disable Roll Call	#32	#42
Roll Call Review Names	*33	*43
Roll Call Stop Review	#33	#43
Start/Resume Recording	*73	*3
Stop Recording	*74	*2
Pause Recording	*75	*1
Request Private Assistance		*0
Request Assistance for the conference		00
PCM (for ISDN participants only)		##

5 To add the Operator Assistance Options, click the **Operator Assistance** tab and select the appropriate options and messages.

For details on modifying the IVR Services, see *RMX 2000 Administrator's Guide*, *"Defining a New Conference IVR Service"* on page **15-9**.

Gathering Settings

When upgrading from earlier versions, the *Enable Gathering* check box in the *Profile Properties - Gathering Settings* dialog box is not selected by default for existing *Profiles*.

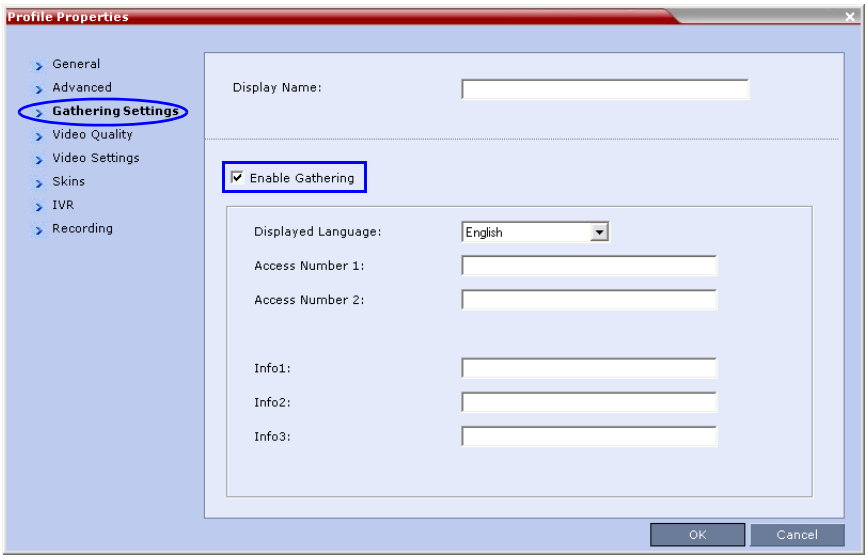
To set Enable Gathering as default:

1 In the *RMX Management* pane, click *Conference Profiles*.

2 In the *Conference Profiles* pane, double-click the **Profile** or right-click the *Profile*, and then click **Profile Properties**.

The *Profile Properties – General* dialog box opens.

3 Click **Gathering Settings**.



4 Select the **Enable Gathering** check box.

5 Click the **OK** Button.

For more information, see the RMX 1500/2000/4000 Administrator's Guide, *"Gathering Phase"* on page **2-45**.

Upgrading the RMX Manager Application

The RMX Manager application can be downloaded from one of the RMX systems installed in your site or from Polycom web site at http://www.polycom.com/support.

To install RMX Manager (downloading the application from the RMX):

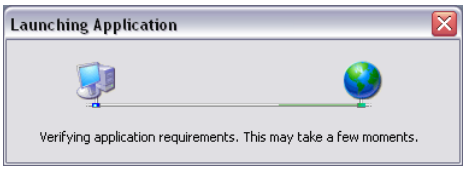
- When upgrading the RMX Manager application, it is recommended to backup the MCU list using the **Export RMX Manager Configuration** option. For more details, see *RMX 1500/2000/4000 Administrator's Guide, "Software Management"* on page **19-99**.
- When upgrading the RMX Manager from a major version (for example, version 7.0) to a maintenance version of that version (for example, 7.x), the installation must be performed from the same MCU (IP address) from which the major version (for example, version 7.0) was installed.
  If you are upgrading from another MCU (different IP address), you must first uninstall the RMX Manager application using **Control Panel > Add or Remove Programs**.

1 Start Internet Explorer and connect to the RMX unit from which the current version was installed.

The *Login* screen is displayed.

2 Click the **Install RMX Manager** link on the upper right corner of the *Login* screen.

The installer verifies the application's requirements on the workstation.



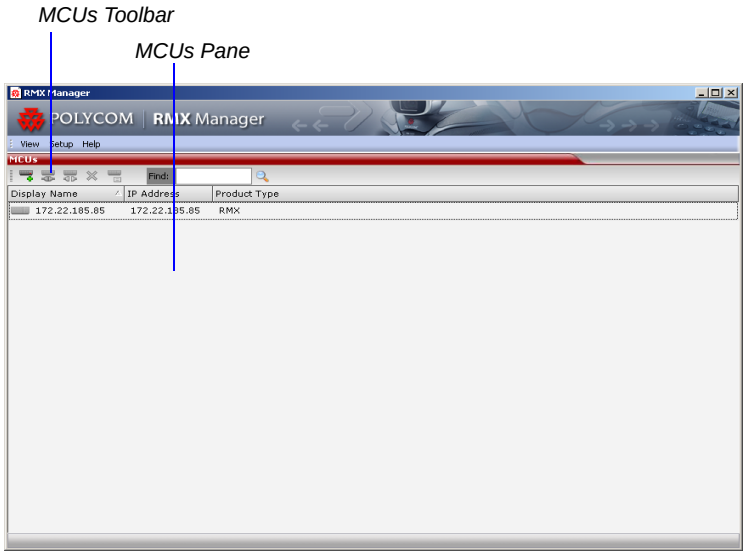
If the following error message is displayed, you are upgrading from an MCU that other than the one used for the installed version (different IP address). In such a case, first uninstall the RMX Manager application using **Control Panel > Add or Remove Programs**.

The *Install* dialog box is displayed.

3 Click the **Install** button.

The installation proceeds.

The installation completes, the application loads and the RMX *Manager - MCUs* screen is displayed.



The list includes the previously defined MCUs.

If the MCUs list is empty, import the backed up list using the **Import RMX Manager Configuration** option. For more details, see *RMX 1500/2000/4000 Administrator's Guide* "*Import/Export RMX Manager Configuration"* on page **18-29**.

Version 7.1 Detailed Description

New RMX 1500 MPMx-Q Card Assembly

The new RMX 1500 MPMx-Q card assembly is the entry level conferencing system that provides the full conferencing functionality with lower capacities.

On the RMX1500 MPMx-Q assembly, the use of HD with Continuous Presence requires an additional license. In the Resource Report and Resolution Configuration HD settings are displayed but are not enabled and if HD is selected the system will enable SD by default.

RMX 1500 System Capacities per Card Assembly

Conferencing Capacities

The following table summarizes the different system capacities.

Table 1-1 *RMX 1500 System Functions and Capacities per Card Assembly*

System Functions	MPMx - Q	MPMx -S	MPMx -D
Maximum number of Video participants in a conference	25	45	90
Maximum number of PSTN participants in a conference	90	120	120
Maximum number of VOIP participants in a conference	90	180	360
Maximum number of Audio calls per second	5	*5*	5
Maximum number of Video calls per second	2	*2*	2
Maximum number of conferences	200	400	400
Maximum number of Meeting Rooms	1000	1000	1000
Maximum number of Entry Queues	40	40	40
Maximum number of Profiles	40	40	40
Maximum number of Conference Templates	100	100	100
Maximum number of SIP Factories	40	40	40
Maximum number of IP Services	2	2	2
Maximum number of ISDN Services	2	2	2
Maximum number of IVR Services	40	40	40
Maximum number of Recording Links	20 (default)	20 (default)	20 (default)
Maximum number of IVR Video Slides	150	150	150
Maximum number of Log Files (1Mb max.)	4000	4000	4000
Maximum number of CDR Files	2000	2000	4000

Table 1-1 *RMX 1500 System Functions and Capacities per Card Assembly*

System Functions	MPMx - Q	MPMx -S	MPMx -D
Maximum number of Fault Files	1000	1000	1000
Number of Participant alerts	Unlimited	Unlimited	Unlimited
Maximum number of concurrent RMX Web Client connections to the MCU	20	20	20
Maximum number Address Book entries	4000	4000	4000
Maximum number of Users	100	100	100
Maximum number of Gateway Profiles	40	40	40
Maximum number of Reservations (internal Scheduler)	2000	2000	2000

Resource Capacities

Table 1-2 *System Resource Capacities per Card Assembly and Resolution in CP Mode*

Resource Type/Video Resolution	MPMx - Q	MPMx -S	MPMx - D
CIF H.263	14	30	60
CIF 30 H.264	25	45	90
CIF 60 H.264	14	30	60
SD 30/ 4CIF H.264	14	30	60
4CIF H.263	7	15	30
720p30/ 4CIF 60/ SD 60	7	15	30
1080p30fps/720p60	3	7	15 (Symmetric)
VOIP	90	180	360
PSTN	90	120	120
ISDN	25	60 (at 128 kbps) - 4 E1/ T1	60 (at 128 kbps) - 4 E1/ T1

Table 1-3 *System Resource Capacities per Line Rate and Card Assembly in VSW*

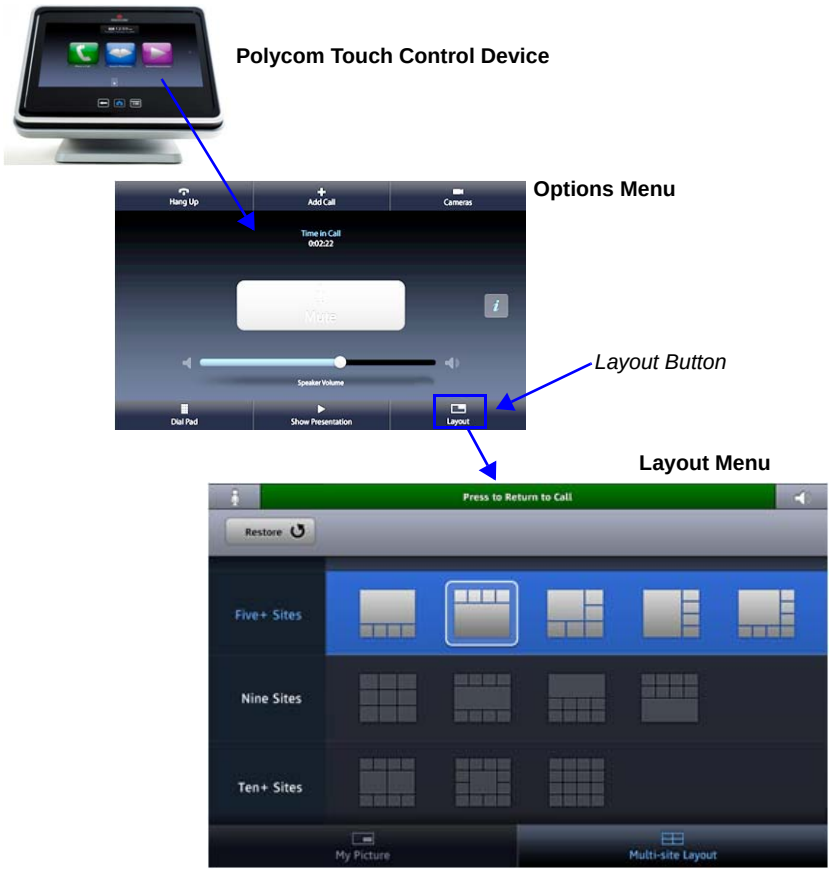
Audio/Video and Resolution	MPMx - Q	MPMx - S	MPMx -D
VSW 2Mb	20	40	80
VSW 4Mb	10	20	40
VSW 6Mb	5	10	20

Table 1-3 System Resource Capacities per Line Rate and Card Assembly in VSW

Audio/Video and Resolution	MPMx - Q	MPMx - S	MPMx -D
ISDN	25 (at 128 kbps)	60 (at 128 kbps)	60 (at 128 kbps)

Personal Layout Control via Polycom Touch Control

Participants connected via *HDX* endpoints can control their *Personal Layouts* via the *Polycom Touch Control* device.



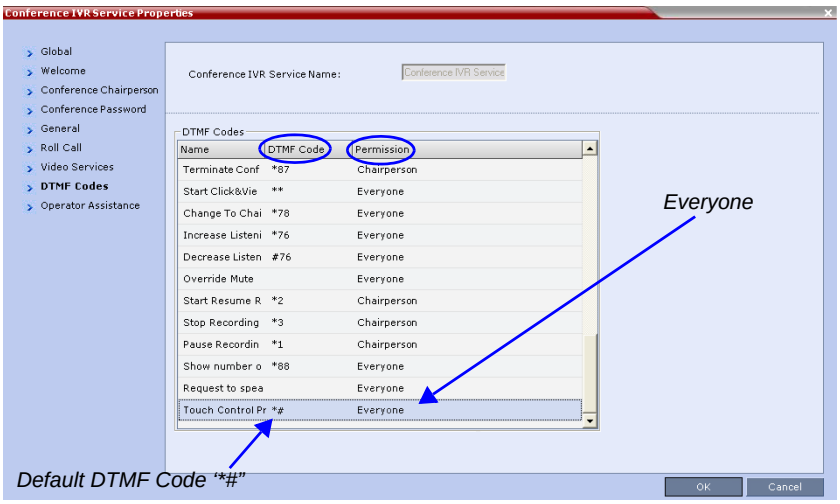
Layout change requests sent by the participant to the *HDX* via the *Touch Control* device result in *DTMF* codes being sent from the *HDX* endpoint to the *RMX*. The *RMX* responds by sending the requested layout to the *HDX* endpoint.

Guidelines

- *Personal Layout* control via the *Touch Control* device is supported in *H.323, SIP* and *ISDN* networking environments.
- By default all *DTMF* codes from the *Touch Control* device begin with *#

- The default value of the*Touch Control* device *Permission* field is **Everyone** and can be modified if required via the *DTMF Codes* tab of the *New Conference IVR Service* or *Conference IVR Se vice Properties* dialog box**.**

It is strongly advised that the *Touch Control Prefix DTMF* code (***#**) not be changed.



The following tables list the available *Regular* and *Immersive Telepresence Specific (ITP)* layouts by *DTMF* code:

Table 2 *Regular Layout by DTMF Code*

DTMF Code	Layout	Layout Name
00	Return to Conference Layout	
01		CP_LAYOUT_1X1
02		CP_LAYOUT_1X2
03		CP_LAYOUT_2X1
04		CP_LAYOUT_2X1HOR
05		CP_LAYOUT_2X1VER
06		CP_LAYOUT_1P2VER
07		CP_LAYOUT_1P2HOR
08		CP_LAYOUT_1P2HOR_UP
09		CP_LAYOUT_2X2
10		CP_LAYOUT_1P3VER

Table 2 *Regular Layout by DTMF Code (Continued)*

DTMF Code	Layout	Layout Name
11		CP_LAYOUT_1P3HOR
12		CP_LAYOUT_1P3HOR_UP
13		CP_LAYOUT_1P5
14		CP_LAYOUT_1P4VER
15		CP_LAYOUT_1P4HOR
16		CP_LAYOUT_1P4HOR_UP
17		CP_LAYOUT_1P7
18		CP_LAYOUT_3X3
19		CP_LAYOUT_1P8CENT
20		CP_LAYOUT_1P8HOR_UP
21		CP_LAYOUT_1P8UP
22		CP_LAYOUT_4X4
23		CP_LAYOUT_1P12
24		CP_LAYOUT_2P8

Table 3 *ITP Specific Layout by DTMF Code*

DTMF Code	Layout	Layout Name
25		CP_LAYOUT_1X2_FLEX
26		CP_LAYOUT_1P2HOR_RIGHT_FLEX
27		CP_LAYOUT_1P2HOR_LEFT_FLEX
28		CP_LAYOUT_1P2HOR_UP_RIGHT_FLEX
29		CP_LAYOUT_1P2HOR_UP_LEFT_FLEX
30		CP_LAYOUT_2X2_UP_RIGHT_FLEX
31		CP_LAYOUT_2X2_UP_LEFT_FLEX

Table 3 *ITP Specific Layout by DTMF Code (Continued)*

DTMF Code	Layout	Layout Name
32		CP_LAYOUT_2X2_DOWN_RIGHT_FLEX
33		CP_LAYOUT_2X2_DOWN_LEFT_FLEX
34		CP_LAYOUT_2X2_RIGHT_FLEX
35		CP_LAYOUT_2X2_LEFT_FLEX

Automatically Generated Dial Strings in Gateway Calls

A second dialing method to destination endpoints without interaction with the IVR of the gateway is available to ISDN/PSTN participants. This dialing method is enabled when the administrator configures the *Gateway Profile* to automatically generate the dial string of the destination endpoint or Meeting Room on the DMA by truncating the dial in string and replacing the truncated digits by other digits that can be used as the destination number.

Calling a DMA Virtual Meeting Room

In this configuration, the gateway session initiator enters one of the dial-in numbers assigned to the gateway profile. This number is truncated by the RMX gateway and the truncated digits are replaced by a prefix that corresponds either to the DMA prefix in the Gatekeeper.

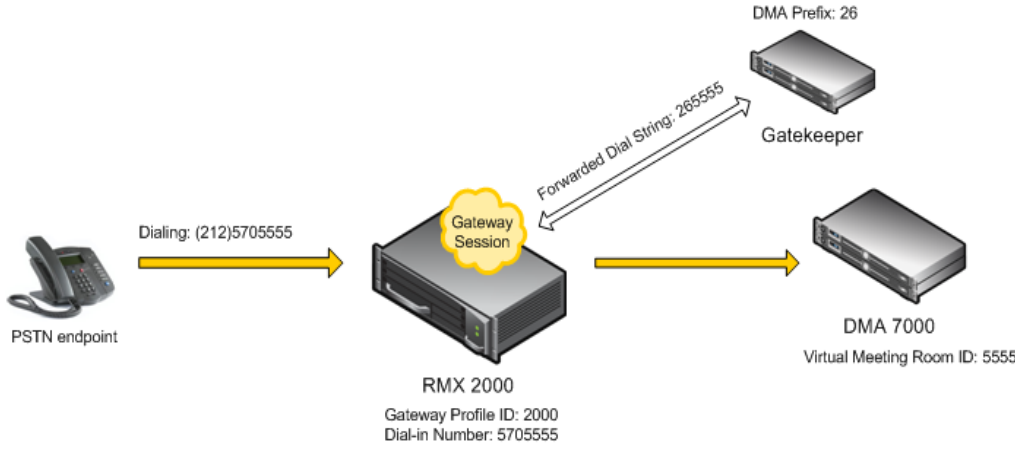


Figure 1 *Call Flow from ISDN Endpoint to Polycom DMA with Automatically Generated Forwarded Dial String*

Example:
Figure 1 shows the call flow assuming the following parameters:

First Dial-in Number	5705550
Last Dial-in Number	5705560
Use Dial-in Numbers as Destination ID	Selected
DMA Meeting Room ID	5555
Destination Prefix (DMA prefix in Gatekeeper)	26
Number of Rightmost Digits to Append	4
PSTN participant dials	(212)5705555
Number that will be used by RMX to forward the call to the DMA	265555

Calling an IP Endpoint via Gateway

If the call destination is an IP endpoint, the endpoints must be registered to the same gatekeeper to which the RMX is registered. There should be a mapping between the dial-in numbers in the range defined for the ISDN Network Service and also assigned to the Gateway Profile and the IP endpoints, in such a way that the alias of each endpoint is the number that will be appended to the ISDN prefix. When the call arrives to the gateway, this prefix is truncated and replaced by digits that correspond to the MCU prefix in the gatekeeper and the call is forwarded to the destination endpoint.

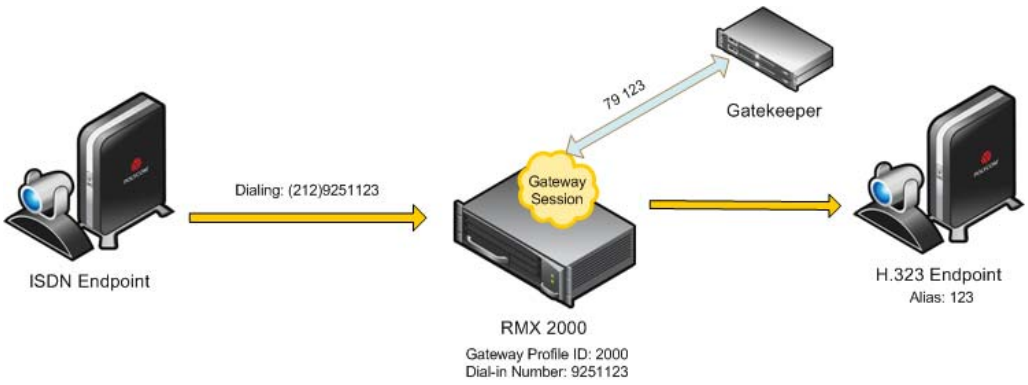


Figure 2 *Call Flow from ISDN Endpoint to H.323 Endpoint with Automatically Generated Forwarded Dial String*

For example:

- The ISDN prefix is 9251.
- The dial in number range defined in the ISDN Network Service can be 100 to 400 (that is, 9251100 to 9251400).
- The dial in numbers assigned to the Gateway Profile can the entire range, or part of the range of other Gateway Profiles are to be used: 100 to 200. (that is 9251100 to 9251200)
- The aliases assigned to the IP endpoints will range between 100 to 200 or 400 (for the full range) as well.
- MCU Prefix in the gatekeeper: 79.
- Number of digits to append (same as the ISDN prefix is this example): 3
- The destination endpoint alias is 123.
- The ISDN endpoint dials 9251123. The RMX truncates the four first digits 9251 replacing them with 79 and appends 123 to 79, to create the destination number 79123 which is sent to the gatekeeper for routing.

Configuring the Gateway Profile

Gateway Profile is described in *RMX 1500/2000/4000 Administrator's Guide, "Defining the Gateway Profile"* on page **16-17**.

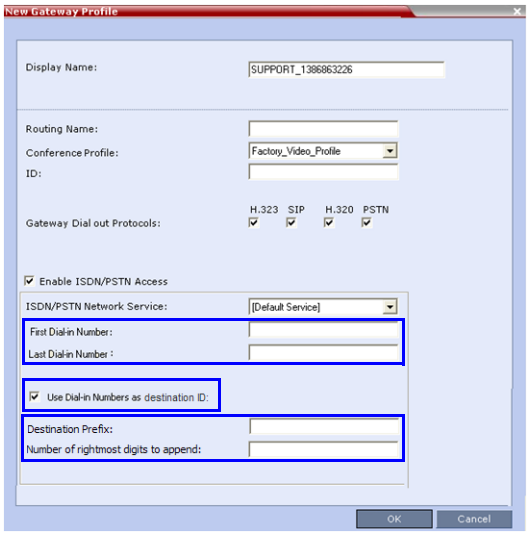
Changes to the Gateway Profile dialog box

- Existing fields have been changed:
  - *Dial-in Number (1)* has been changed to *First Dial-in Number.*

— *Dial-in Number (2)* has been changed to *Last Dial-in Number*.

These fields now define a range of *Dial-in* numbers.

- A new check box, *Use Dial-in Numbers as Destination ID*, enables/disables automatic generation of the forwarded the dial string.
- Two new fields, *Destination Prefix* and *Number of Rightmost Digits to Append*, have been added to the Gateway Profile dialog box. These fields are used in the automatic generation of the forwarded dial string.



The modified and additional fields are defined as follows:

Table 4 *New Gateway Profile Properties*

Option	Description
First Dial-in Number	Enter the first number in the *Dial-in* number range to be used for dialing into the gateway. This number must be part of the dial-in number range defined in the selected *ISDN/PSTN Network Service*. This field cannot be left empty. If left empty an error message, *Please enter the First Dial in Number* is displayed. Length: 0-25 digits. **Note:** This number must be numerically smaller than the *Last Dial-in Number* in the range.
Last Dial-in Number	Enter the last number in the *Dial-in* number range to be used for dialing into the gateway. This number must be part of the dial-in number range defined in the selected *ISDN/PSTN Network Service*. This field cannot be left empty. If left empty an error message, *Please enter the Last Dial in Number* is displayed. Length: 0-25 digits. **Note:** This number must be numerically larger than the *First Dial-in Number* in the range.

Table 4 *New Gateway Profile Properties (Continued)*

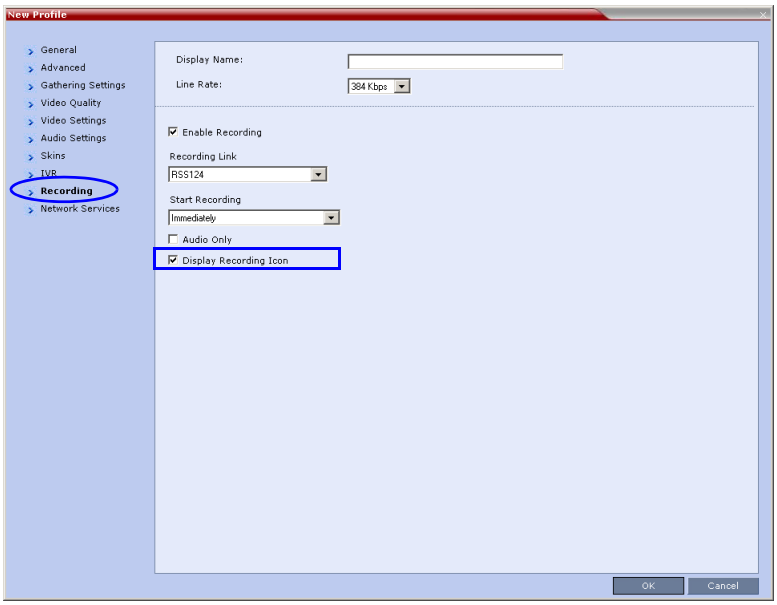
Option	Description
Use Dial-in Numbers as Destination ID	When selected - *Dial-in* numbers are used to automatically generate the dial string of the destination endpoint or DMA Meeting Room, skipping the interaction with the Gateway IVR system for entering the destination ID. When cleared - The participant must interact with the *IVR Service* to enter the ID of the destination endpoint of the DMA Meeting Room.
Destination Prefix	Enter the *DMA prefix or the RMX prefix in the Gatekeeper* for use in automatic dial string generation. This prefix replaces the digits that are truncated from the dial-in strings and to which the remaining dial in digits are appended to create the destination number. For example, if the DMA Prefix in the Gatekeeper is 26, enter this prefix in this field.
Number of Rightmost Digits to Append	Enter the number of rightmost digits of the dialed string to be appended to the Destination Prefix (*DMA/RMX prefix in the gatekeeper)* when automatically generating the forwarded dial string. For example, if the number of digits to append is 4 and the dialing string is 5705555, the system will append the digits 5555 to the DMA prefix (26) and creating the destination number 265555.

Recording Status Indication Display

A *Recording Indication* is displayed to all conference participants informing them that the conference is being recorded.

The *Recording Indication* is displayed in the upper left corner of the participant's video layout while active recording is taking place. When recording is paused, a pause indicator is displayed.

An *Enable Video Indication* check box has been added to the *Recording* tab of the *New Profile* dialog box.



The *Enable Video Indication* check box which enables the recording indication is selected automatically when the *Enable Recording* check box is selected.

Guidelines

- *Recording Indication* is supported with *MPMx* cards.
- If the conference has a *Gathering Phase* enabled, the *Recording* and *Paused* indicators are displayed in the *Gathering Slide*.

Content over ISDN Cascading Link

Cascaded conferences now support sending H.239 Content over ISDN links.

Network Toplogies Enabling H.239 Content Over ISDN Cascaded Links

ISDN Cascaded links that support H.239 Content can be created between two gateways, gateway-to-MCU or between two MCUs in the following network topologies:

- **Gateway to Gateway**

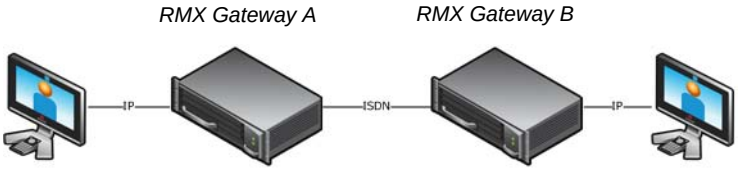


Figure 3 *Gateway to Gateway Topology*

In this topology, an IP participant calls another IP participant over an ISDN link between two gateways.

- **Gateway to MCU**

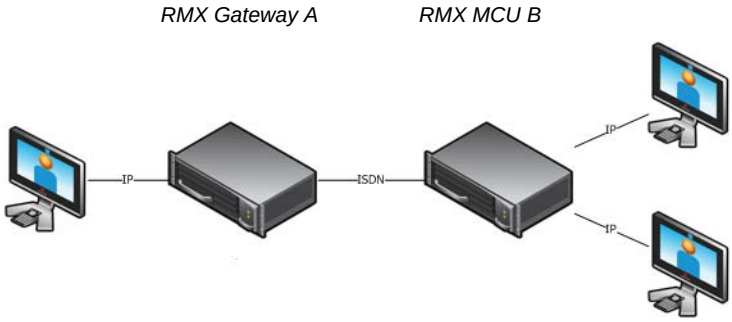


Figure 4 *Gateway to MCU/ MCU to Gateway Topology*

In this topology, an IP participant calls a conference running on an MCU via a gateway and over an ISDN link.

- **MCU to MCU**

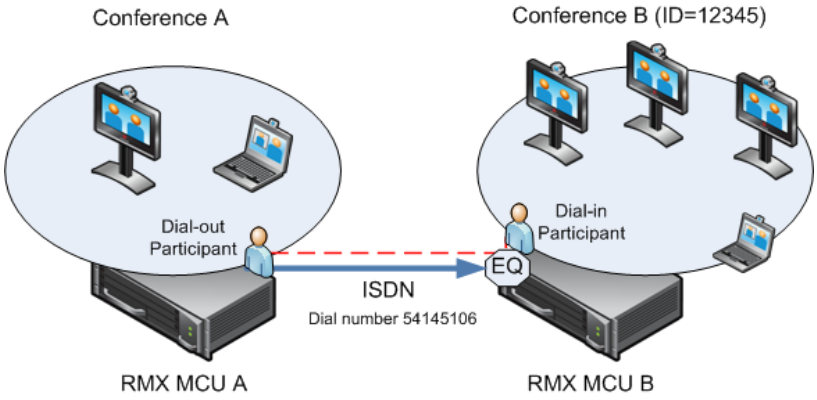


Figure 5 *Cascading Between Two MCUs Using an ISDN Link*

In this topology, an ISDN participant from conference running on MCU A calls a conference running on MCU B over an ISDN link.

Guidelines

- Content is restricted. When another endpoint wants to send content, the first endpoint must stop sending content before the second endpoint can initiate or send content.
- Endpoints that do not support H.239 can receive the Content using the *Send Content to Legacy Endpoints* option.
- When a participant joins a conference with active Content, content cannot be viewed by the new participant. Restart the Content.
- Cascaded MCUs/Gateways must be registered with the same Gatekeeper or neighboring Gatekeepers. MCUs and endpoints must also be registered with Gatekeepers.
- Gateway/MCU calls require definition of IVR Services. For more information see the RMX 1500/2000/4000 Administrator's Guide, *"Defining the IVR Service for Gateway Calls"* on page **17-13**

In version 7.1, H.239 content protocol is H.263 when sent over ISDN or H.323 Cascading link.

Gateway to Gateway Calls via ISDN Cascading Link

When H.323 participants connects to another IP participants via a *Gateway to Gateway* call over an ISDN link, the dialing string includes the following components:

`[GW A prefix in GK]` - the prefix with which the RMX (gateway) is registered to the gatekeeper.

`[GW Profile ID]` - The ID of the Gateway Profile defined on Gateway A to be used for routing the call to the Gateway B.

`[GW Profile ISDN/PSTN number]` - the dial-in number assigned to the Gateway Profile defined on Gateway B, including the required country and area codes.

Information required that is not part of the dialing string:

`[Destination number]` - the destination number as alias, IPv4 address or ISDN/PSTN number of participant B.

The dialing string format:

H.323 Participants connecting to another IP participant via a *Gateway to Gateway* call over an ISDN link enter a dial string using the format:

```
<GW A Prefix in GK><Gateway Profile_ID on GW A>*<Destination
ISDN Dial-in number assigned to the Gateway Session Profile GW
B>*<Destination Number, participant>
```

For example:

GW A prefix in Gatekeeper - (not used with SIP)	22
Gateway Profile ID in GW A	9999

ISDN Dial-in Number assigned to the Gateway Session Profile GW B	4444103
IP Participant Alias	3456

H.323 participant dials: 229999*4444103 and when prompted for the Destination number enters 3456 followed by the pound key (#) using DTMF codes.

SIP Participants connecting to another IP participant via a *Gateway to Gateway* call over an ISDN link enter a dial string using the format:
`<Gateway Profile_ID on GW A>@<Central Signaling IP GW A>*<Destination ISDN Dial-in number assigned to the Gateway Session Profile GW B>*<Destination Number, participant>`

For example:

If Central Signaling IP address of Gateway A is 172.22.177.89, SIP participant dials: 9999@ 172.22.177.89* 4444103 and when prompted for the Destination number enters 3456 followed by the pound key (#) using DTMF codes.

Gateway to MCU Calls via ISDN Cascading Link

When H.323 participants connects to a conference/Meeting Room via a *Gateway to MCU* call over an ISDN link, the dialing string includes the following components:

The dialing string includes the following components:

`[GW A prefix in GK]` - the prefix with which Gateway A is registered to the gatekeeper.

`[GW Profile ID on GW A]` - The ID of the Gateway Profile on GW A to be used for routing the call to the Meeting Room/conference running on MCU B.

`[Conference/Meeting Room/Entry Queue ISDN/PSTN number]` - the dial-in number assigned to the Entry Queue/Meeting Room/Conference defined on MCU B, including the required country and area codes.

Information required that is not part of the dialing string:

`[Destination Conference ID]` - Only if using the Entry Queue on MCU B for routing calls or creating new ad hoc conferences. The ID of the destination conference on MCU B.

The dialing string format:

`<GW A Prefix in GK><Gateway Profile_ID on GW A>*<ISDN Number assigned to the Meeting Room/Conference/Entry Queue>`

For Example:

GW A prefix in Gatekeeper - (not used with SIP)	22
Gateway Profile ID in GW A	9999
ISDN Dial-in Number assigned to the Entry Queue/MR/conference	4444100

H.323 participant dials: 229999*4444100.

SIP participant dials (if Central Signaling IP address of Gateway A is 172.22.177.89): 9999@ 172.22.177.89 IP* 4444100.

If dialing an Entry Queue, when prompted for the Destination number enters 3456 followed by the pound key (#) using DTMF codes to create a new conference or join an ongoing conference with that ID.

MCU to MCU Calls via ISDN Cascading Link

A dial out ISDN participant is defined (added) to conference A running on MCU A. The participant's dial out number is the dial-in number of the Entry Queue or conference running on MCU B (for example 54145106).

MCU A dials out to an Entry Queue or conference B running on MCU B using the Entry Queue number (for example 54145106) or the conference number.

When the participant, who is a dial-in participant in conference B, connects to the Entry Queue, the system plays to all the participants in Conference A the IVR message requesting the participant to enter the destination conference ID (or if connecting to a conference directly, the participant is requested to enter the conference password).

At this point the Conference A organizer or any other participant in the conference can enter the required information for the IVR session using DTMF codes. For example, the meeting organizer enters the destination conference ID - 12345.

Any DTMF input from conference A is forwarded to the Entry Queue on MCU B to complete the IVR session and enable the move of the participant to the destination conference B.

Once the DTMF codes are entered and the IVR session is completed, the participant is connected to the conference and the connection between the conferences is established. The system automatically identifies the calling participant as an MCU and the connection is identified as a cascading link and the cascading link icon is displayed for the participant. ( ).

RMX Configuration Enabling ISDN Cascading Links

To enable Gateway-to-Gateway, Gateway-to-MCU and MCU-to-MCU calls over ISDN Cascading links, the following configurations are required:

- Modifying the IP Network Service to include the MCU Prefix in the Gatekeeper (in the Gatekeepers dialog box). For more details, see "*Modifying the Default IP Network Service*" on page **14-13**.
- Configuring a Gateway Profile and assigning dial-in ISDN/PSTN numbers. For details, see "*Defining the Gateway Profile*" on page **17-18**.
- Defining the dial-in ISDN participant in MCU B and Dial-out ISDN participant in MCU A (for MCU-to-MCU cascading conferences). For details, see "*Basic Cascading using ISDN Cascaded Link*" on page **3-6**.

Conference Profile Definition

The following table lists the recommended Meeting Room/Conference Profile parameters setting when routing ISDN cascaded calls.

Table 1-1 *Recommended Conference Profile Options Setting*

Line Rate	Motion	Sharpness	Encryption	LPR
128	√			
128		√		
128	√			√
128	√		√	√
256	√			

Table 1-1 Recommended Conference Profile Options Setting (Continued)

Line Rate	Motion	Sharpness	Encryption	LPR
256		√		
256	√			√
256	√		√	√
384	√			
384		√		
384	√			√
384	√		√	√
512	√			
512		√		
512	√			√
512	√		√	√
768	√			
768		√		
768	√			√
768	√		√	√

Since the remote participant settings are unknown, it is recommended that the gateway or endpoint be configured to support a higher line rate (for example, 768 kbps) to allow flexibility during endpoint capability negotiations.

MCU Interoperability Table

The following table lists the different MCU and Gateway configurations that are supported or implemented when routing Cascaded ISDN calls.

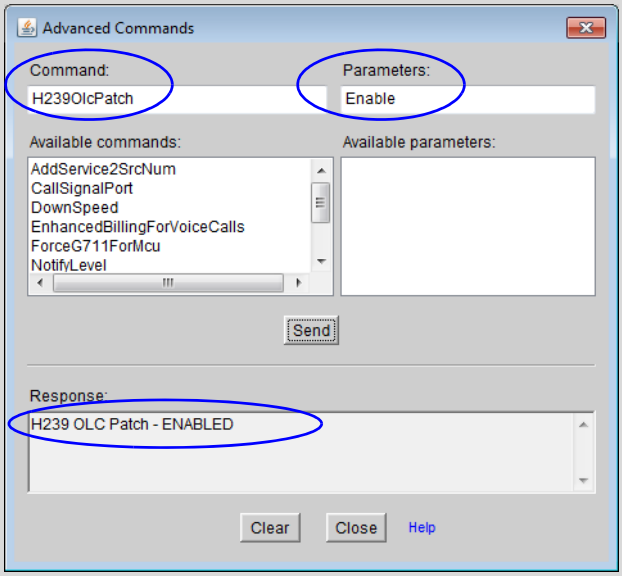
Table 1-2 MCU Interoperability Table

		Scenario	Version(s)
RMX Gateway	RMX MCU	User calls via a Gateway to a Remote Conference (user to conference)	RMX v. 7.1
RMX Gateway	RMX Gateway	User calls via a Gateway to a Remote User behind Gateway (user to user)	RMX v. 7.1
RMX MCU	RMX MCU	A dial out participants calls to a remote conference (conference to conference)	RMX v. 7.1
RMX MCU	RMX Gateway	A dial out participants calls to a remote User behind a Gateway (Conference to User)	RMX v. 7.1

Table 1-2 MCU Interoperability Table (Continued)

		Scenario	Version(s)
Endpoint	RMX Gateway	User calls directly to a remote user behind a Gateway (User to User)	RMX v. 7.1
RMX MCU	Codian Gateway	Dial out participants use a fixed rule behind the Codian Gateway.	RMX v. 7.1 Latest Codian version
RMX Gateway	Codian Gateway	Dial out participants use a fixed rule behind the Codian Gateway.	RMX v. 7.1 Latest Codian version
Codian Gateway	RMX MCU	User calls via a Codian Gateway to a Remote Conference (user to conference)	RMX v. 7.1 Latest Codian version
Codian Gateway	RMX Gateway	User calls via a Codian Gateway to a Remote User behind RMX Gateway (user to user)	RMX v. 7.1 Latest Codian version
RMX MCU	Radvision Gateway	User calls via a Radvision Gateway to a Remote User behind RMX Gateway (user to user)	RMX v. 7.1 Latest Radvision version
RMX Gateway	Radvision Gateway	User calls via a Radvision Gateway to a Remote User behind RMX Gateway (user to user)	RMX v. 7.1 Latest Radvision version
Radvision Gateway	RMX MCU	User calls via a Radvision Gateway to a Remote Conference (user to conference)	RMX v. 7.1 Latest Radvision version
Radvision Gateway	RMX Gateway	User calls via a Radvision Gateway to a Remote User behind RMX Gateway (user to user)	RMX v. 7.1 Latest Radvision version
Endpoint	RMX Gateway	User calls directly to a DMA controlled environment	RMX v. 7.1
RMX MCU	RMX Gateway	A dial out participants calls to a remote conference on a DMA controlled environment	RMX v. 7.1

- On the Codian gateway Content is not supported with line rates of 128kbps and below.
- When using the following topology:
  H.323 endpoint ->Codian Gateway -> ISDN Link -> RMX -> H.323 endpoint, the Codian Gateway is unable to send DTMF and the call is disconnected (VNGFE- 3587).
- Sending Content from a participant over Radvision Gateway to a conference/participant, the GWP20 patch must be installed in the RadVision gateway:
  On the Radvision gateway, open the GWP20 User Interface. Click *Settings/ Advanced Commands*. In the *Command* box enter **H239OlcPatch.** In the **Parameters** box enter **Enable** and then click **Send.**



Multiple Network Services

Media, signaling and Management networks can be physically separated on the RMX system to provide enhanced security. This addresses the requirement in an organization that different groups of participants be supported on different networks. For example, some participants may be internal to the organization while others are external.

Up to four media and signaling networks can be defined for RMX 4000, or two for RMX 2000 and two for RMX 1500. Multiple *IP Network Services* can be defined, one (RMX 2000/4000) or up to two (RMX 1500) for each media and signaling network connected to the RMX. The networks can be connected to one or several Media cards in the RMX unit.

The *Management Network* is logically and physically separated from the media and signaling networks. There can be one *Management Network* defined per RMX system.

Each conference on the RMX can host participants from the different IP Network networks simultaneously.

Figure 6 shows the network topology with three different media and signaling networks and one Management network connected to the RMX 4000.

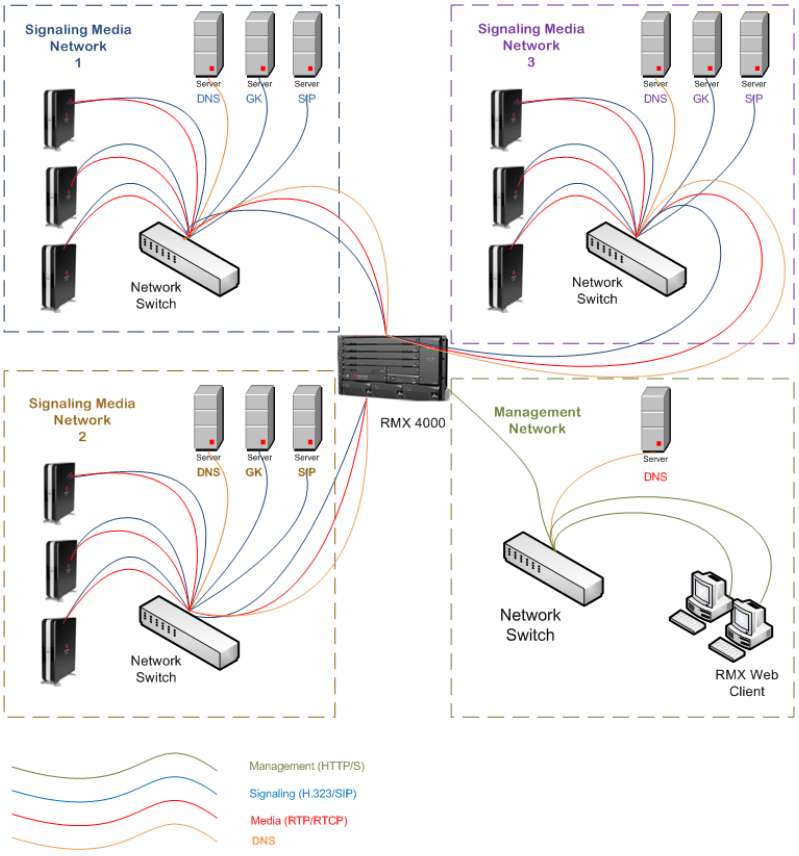


Figure 6 *RMX 4000 - Multiple Network Topology Sample*

Guidelines

- Multiple Services system mode is a purchasable option and it is enabled in the MCU license.
- Multiple Services system mode is enabled when the system configuration flag **MULTIPLE_SERVICES** is added and set to **YES**.
- This option is supported with MPM+ and MPMx media cards.
- Multiple Network Services are supported in MCUs with at least 1024MB memory only. MCU units with memory of 512MB support only one IP Network Service.
- Only IPv4 is supported for the definition of Multiple Network Services.
- In RMX 1500, up to two Network Services, one per LAN port, can be associated with each Media card.
  In RMX 2000/4000 a media card can be associated with only one Network Service.
- On RMX 2000/4000, RTM ISDN or RTM LAN can be used for Multiple Services configuration.
- An IP Network Service can be associated with one or several media cards.
- If more than one card is associated with the same Network Service, the system routes the calls to the appropriate card according to resource availability
- Participants on different networks can connect to the same conference with full audio, video and content capabilities.
- Traffic on one network does not influence or affect the traffic on other networks connected to the same MCU, unless they are connected to the same media card. If one network fails, it will not affect the traffic in the other connected networks, unless they are connected to the same media card and the card fails.
- Maximum Number of services that can be defined per RMX platform:

Table 2 *Maximum Number of IP Network Service per RMX Platform*

RMX Platform	IP Network Services	Management Services
RMX 1500	2	1
RMX 2000	2 (2 RTM ISDN)	1
RMX 4000	4 (2 RTM ISDN and 2 RTM LAN)	1

- Participants are associated with a Network Service and use it resources as follows:
  - Dial-in participants - according to the network used to place the call and connect to the RMX.
  - Dial-out participant - according to the Network Service selected during the participant properties definition by the RMX administrator or during conference definition, according to the Network Service selected as default by the RMX administrator.

Resource Allocation and Capacity

The *Video/Voice Port Configuration* and the *Resolution Configuration* settings are configured per MCU and affect the resource capacity of the MCU. They are reflected in the port gauges displayed on the RMX management application's main screen. In *Multiple Networks* mode, the overall resources as configured in the *Video/Voice Port Configuration* are divided between the Network Services. However, the port gauges do not reflect the resource availability per Network Service.

Fixed and Flexible Resource Allocation Mode

On RMX 2000/4000 resources are divided between services according to the number of media cards associated with each service and the card assembly type (for example, MPM+40 vs. MPM+80). If two identical media cards are installed in the system and each card is assigned to a different Network Service, the resources are split between the services.

If two cards are installed but each card is of different assembly type, the resources are allocated according to the card capacity ratio. For example, in a system with one MPM+40 and one MPM+80, the capacity ratio is 1 to 2, therefore a third of the resources will be assigned to the network service associated with MPM+40 and two thirds will be assigned to the Network Service associated with MPM+80.

On RMX 1500 with two *Network Services* associated with one media card, the resources of the two Network Services associated with one media card are not split between the network services. In such a case, resources are used per their availability by both Network Services equally.

In *Fixed Resource Allocation Mode* if the resources cannot be divided into whole numbers, they will be rounded up to the nearest whole number, assigning that resource to the *Network Service* with the higher capacity (i.e. more media cards or media cards with higher capacity due to a different card assembly).

First Time Installation and Configuration

First Time Installation and Configuration of the RMX 1500/2000/4000 consists of the following procedures:

1 **Preparations**:
   - Gather Network Equipment and Address Information - get the information needed for integrating the RMX into the local network for each of the networks that will be connected to the RMX unit. For a list of required address, see the *RMX 1500/2000/4000 Getting Started Guide*, "*Gather Network Equipment and Address Information*" on page **2-2**.
   - Unpack the RMX. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, Chapter 2.
   - Modify the *Management Network parameters* on the USB Key. For more details see the RMX 1500/2000/4000 *Getting Started Guide*, "*Modifying the Factory Default Management Network Settings on the USB Key*" on page **2-9**.

2 **Hardware Installation and Setup**
   - Mount the RMX in a rack. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, "*Hardware Installation and Setup*" on page **2-12**.
   - Connect the necessary cables. For details, see "*RMX Hardware Configuration*" on page **56**.

3 **First Entry Power-up and Configuration**
   - Power up the RMX. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, "*Procedure 1: First-time Power-up*" on page **2-21**.
   - Register the RMX. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, "*Procedure 2: Product Registration*" on page **2-22**.
   - Connect to the RMX. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, "*Procedure 3: Connection to MCU*" on page **2-23**.
   - Configure the *Default IP Network Service* using the information for one of the networks connected a media card installed in the system. For more details see the *RMX 1500/2000/4000 Getting Started Guide*, "*Procedure 4: Modifying the Default IP Service and ISDN/PSTN Network Service Settings*" on page **2-25**.

— **Optional.** Configure the *ISDN/PSTN Network Service*. For more details see the *RMX 1500/2000/4000 Getting Started Guide*.

4 Modify the required System Flag to enable Multiple Services and reset the MCU.

5 Add the required IP Network Services to accommodate the networks connected to the RMX unit.

6 Select a Network Service to act as default for dial out and gateway calls for which the Network Service was not selected.

7 Place several calls and run conferences to ensure that the system is configured correctly.

Upgrading to Version 7.1 and Multiple Services

1 Gather Network Equipment and Address Information for each of the networks that will be connected to the RMX unit. For a list of required address, see "*Gather Network Equipment and Address Information - IP Network Services Required Information*" on page **56**.

2 Upgrade the software version to Version 7.1 and install the activation key that contains the Multiple Services license as described in "*Upgrade Paths to Version 7.1*" on page **13**.

3 Place several calls and run conferences to ensure that the system upgrade was completed successfully.

4 Modify the required System Flag to enable Multiple Services, DO NOT reset the MCU yet.

5 Connect the additional network cables to the RMX and change existing connections to match the required configuration as described in the "*RMX Hardware Configuration*" on page **56**.

At this point, the Management Network can be modified to match the required local network settings.

If the RMX 2000 you are upgrading does not include RTM ISDN or RTM LAN cards, you must install at least one RTM LAN card to enable the definition of multiple Network Services. If no RTM ISDN or RTM LAN cards are installed, the RMX 2000 works in a single Network Service mode and an alarm is issued by the system. For more details about the installation of RTM LAN cards, see the *RMX 2000 Hardware Guide.*

6 Reset the MCU.

7 Connect to the MCU and Add the required IP Network Services to accommodate the networks connected to the RMX unit.

8 Select a Network Service to act as default for dial out and gateway calls for which the Network Service was not selected.

9 Place several calls and run conferences to ensure that the system is configured correctly.

RMX Hardware Configuration

Gather Network Equipment and Address Information - IP Network Services Required Information

It is important that before connecting multiple networks and implementing Multiple Services in the RMX, that you obtain the information needed to complete the **IP Network Service** configuration for each connected network from your network administrator.

Table 3 *Network Equipment and Address Information per IP Network Service*

Parameter	Local Network Settings	Note
Signaling Host IP address		
Media Board IP address (MPM 1)		
Media Board IP address (MPM 2) ***RMX 2000/4000 only***		If more than one media card is associated with this Network Service
Media Board IP address (MPM 3) ***RMX 4000 only***		If more than one media card is associated with this Network Service
Media Board IP address (MPM 4) ***RMX 4000 only***		If more than one media card is associated with this Network Service
Gatekeeper IP address (optional)		
DNS IP address (optional)		
SIP Server IP address (optional)		

When connecting the LAN cables of the various networks to the RMX it is recommended to use a color system to differentiate between the networks, for example, using colored cables.

RMX 4000 Multiple Services Configuration

Connecting the cables to the RTM IP 4000:

The following cables are connected to the RTM IP on the rear panel of the RMX 4000:

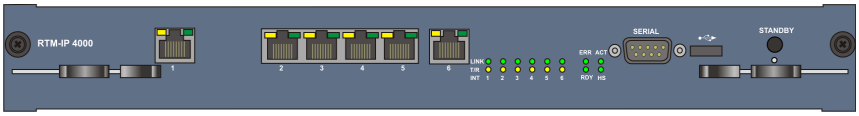


Table 4 *LAN Connections to the RTM IP*

RTM IP Port	Description
LAN 1	Modem
LAN 2	Management
LAN 3	–
LAN 4	–
LAN 5	–
LAN 6	Shelf Management

Connecting the cables to the RTM LAN:

Table 5 *LAN Connections to the RTM LAN*

RTM LAN Port	Description
LAN 1	–
LAN 2	Signaling and Media - Network Service B

Figure 7 shows the cables connected to the RMX 4000 rear panel, when one RTM ISDN and three RTM LAN cards are installed providing IP and ISDN connectivity. The RTM ISDN card can be used for both ISDN and IP calls and only one IP network Service is associated with each RTM LAN card.

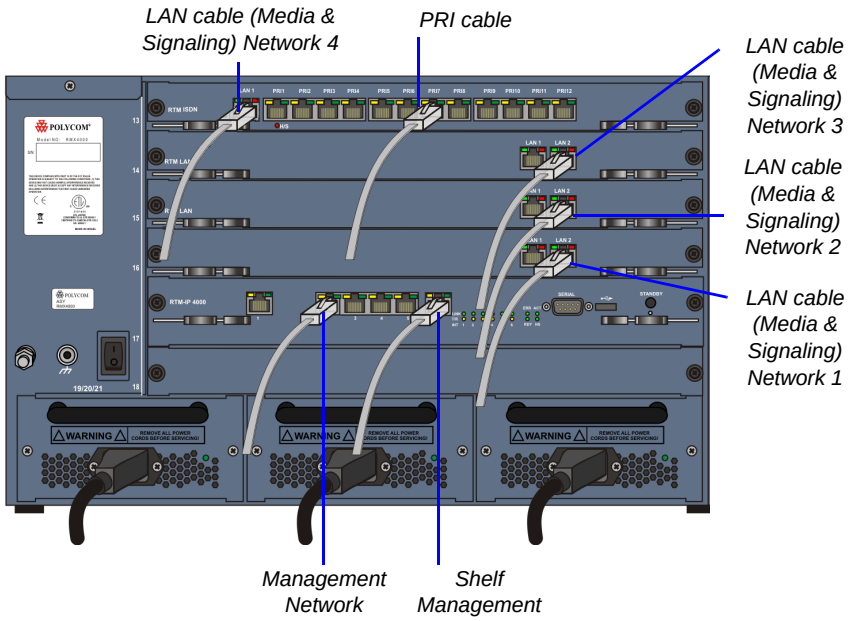


Figure 7 *RMX 4000 Rear Panel with LAN and PRI cables*

In this case, up to four different IP Network Services can be defined - one for each RTM LAN/RTM ISDN cards installed in the system.

Several cards can be assigned to the same IP Network Service. The definition of the network services attached to the RMX unit and which cards are assigned to each network service is defined in the IP Network Service.

RMX 2000 Multiple Services Configuration

Connecting the cables to the RTM IP:

The following cables are connected to the RTM IP on the rear panel of the RMX2000:

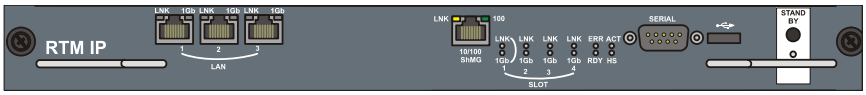


Table 6 *LAN Connections to the RTM IP*

RTM IP Port	Description
LAN 1	–
LAN 2	Management
LAN 3	Modem

Connecting the cables to the RTM LAN:

If RTM LAN or RTM ISDN cards are not installed on the RMX they must be installed before connecting the additional network cables for media and signaling.

Table 7 *LAN Connections to the RTM LAN*

RTM IP Port	Description
LAN 1	–
LAN 2	Signaling and Media - Network Service B (optional)

If one LAN port per RTM ISDN/ RTM LAN card is used, up to two different IP Network Services can be defined - one for each installed RTM LAN/RTM ISDN cards.

Figure 8 shows the cables connected to the RMX 2000 rear panel, when two RTM LAN cards are installed providing IP connectivity.

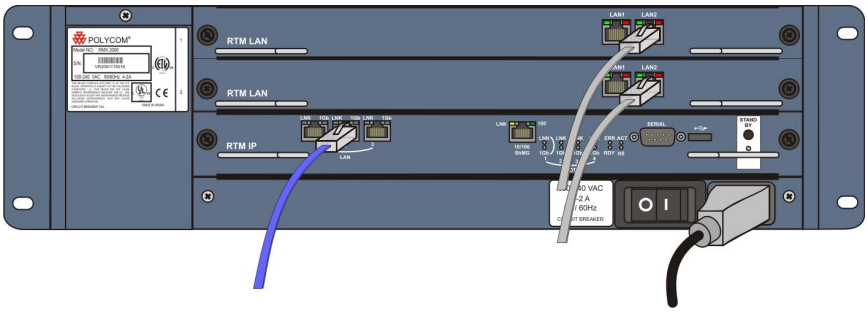


Figure 8 *RMX 2000 Rear Panel with RTM LAN Cables*

RMX 1500 Multiple Services Configuration

Connecting the cables to the RTM IP 1500:

The following cables are connected to the RTM IP on the rear panel of the RMX 1500:

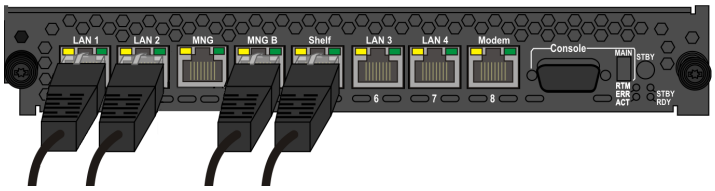


Table 8 *LAN Connections to the RTM IP*

RTM IP Port	Description
LAN 1	Media and signaling - network 1
LAN 2	Media and signaling - network 2
MNG	–
MNG B	Management

Table 8 *LAN Connections to the RTM IP*

RTM IP Port	Description
Shelf	Shelf Management
LAN 3	–
LAN 4	–
Modem	Modem

RMX Configuration

Once the network cables are connected to the RMX unit, you can modify the default IP Network Service and add additional Network Services.

System Flags and License Settings

The **MULTIPLE_SERVICES** System Flag determines whether the Multiple Services option will be activated once the appropriate license is installed. Possible Values: **YES / NO** Default: **NO**

This flag must be manually added to the system configuration and set to YES to enable this option. For more information see the RMX 1500/2000/4000 Administrator's Guide, *"Manually Adding and Deleting System Flags"* on page **19-19**.

If the MULTIPLE_SERVICES System Flag is set to YES and no RTM ISDN or RTM LAN card is installed in the RMX 2000, an Active Alarm is displayed.

IP Network Service Definition

Use this procedure to define Network Services in addition to the Network Service already defined during first entry installation and configuration. Each of the defined Network Service can be associated with one or more media cards installed in the system (depending on the system type).

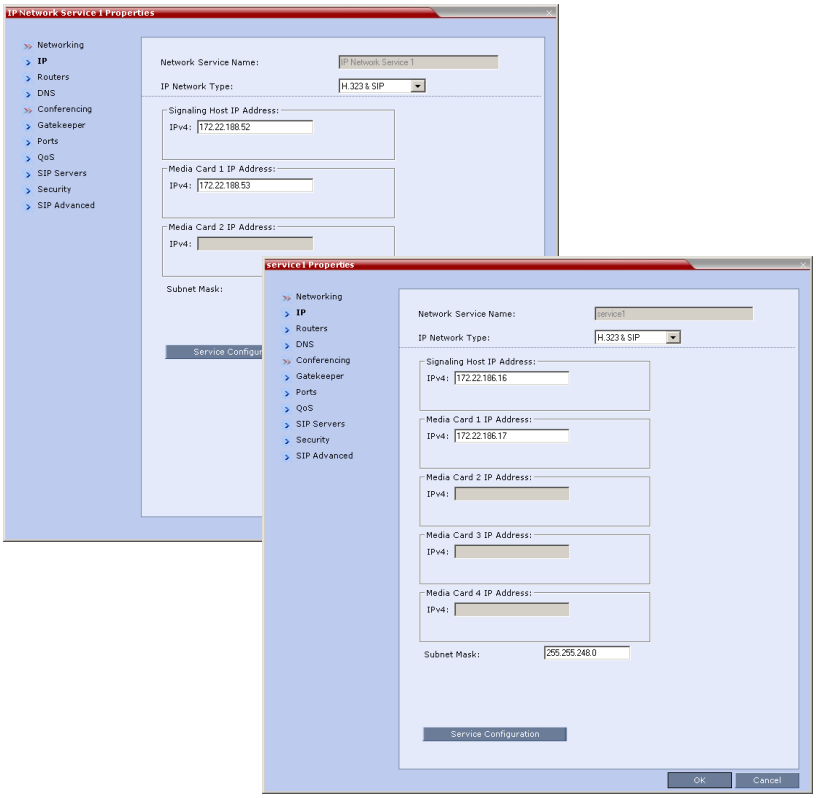
Once a media card is associated with a Network Service it **cannot be** associated with another network service.

To add new/additional Network Services:

1 In the *Device Management* pane, click **IP Network Services** ( ).

2 In the *Network Services* list toolbar, click the **Add Network Service** button.

The *New IP Service - Networking IP* dialog box opens.



3 Define the following fields:

Table 9 *Default IP Network Service – IP*

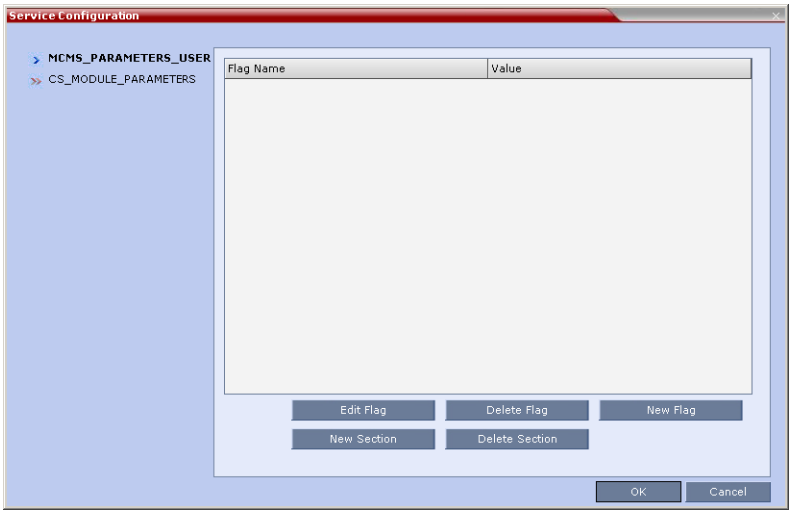
Field	Description
Network Service Name	Enter the IP Network Service name. **Note:** This field is displayed in all IP Signaling dialog boxes and can contain character sets that use Unicode encoding.
IP Network Type	Select the IP Network environment. You can select: • **H.323:** For an H.323-only Network Service. • **SIP:** For a SIP-only Network Service. • **H.323 & SIP:** For an integrated IP Service. Both H.323 and SIP participants can connect to the MCU using this service. **Note:** This field is displayed in all Default IP Service tabs.
Signaling Host IP Address	Enter the address to be used by IP endpoints when dialing into the MCU using this Network Service. Dial out calls of participants to whom this network service will be assigned are initiated from this address. This address is used to register the RMX with a Gatekeeper or a SIP Proxy server residing on this network.

Table 9 *Default IP Network Service – IP (Continued)*

Field	Description
Media Card 1 IP Address	If only one network is connected to this media card, it is enough to assign one media card to this Network Service. In such a case, enter one IP address for the media card according to the LAN Port used for the connection. If each of the LAN ports on one media card is used with two different networks, each port is assigned to its own Network Service. In such a case, enter the IP address of the port to be assigned to this Network Service. A LAN port that is already assigned to a different Network Service, displays the IP Address of the assigned port and it cannot be assigned to this Network Service (it is disabled).
Media Card 2 IP Address ***(RMX 2000/4000)***	If only one network is connected to this media card, it is enough to assign one media card to this Network Service. In such a case, enter one IP address for the media card according to the LAN Port used for the connection, as provided by the network administrator. If each of the LAN ports on one media card is used with two different networks, each port is assigned to its own Network Service. In such a case, enter the IP address of the port to be assigned to this Network Service. **Notes:** • LAN Ports/Media cards that are already associated with another Network Service cannot be associated with this Network Service. • You can define a Network Service without assigning media cards to it. • To change the assignment of a card from one service to another, the card must first be removed from the service to which it is assigned prior to its assignment to another service. **RMX 2000:** If one card was already assigned to another service, only one additional card can be assigned to this service. **RMX 4000:** Depending on the number of media cards installed in the system, you can assign up to 4 media cards to this network service provided that they are not assigned to any other Network Service.
Media Card 3 IP Address ***(RMX 4000)***	
Media Card 4 IP Address ***(RMX 4000)***	
Subnet Mask	Enter the subnet mask of the MCU in that network service. Default value: 255.255.255.0.

4 **Optional.** Some system flags can be defined per Network Service, depending on the network environment.
To modify these flags, click the **Service Configuration** button.

The *Service Configuration* dialog box opens.



All the flags must be manually added to this dialog box. For a detailed description of the flags and how to add them, see the *RMX 1500/2000/4000 Administrator's Guide, "Manually Adding and Deleting System Flags"* on page **19-19**.

Flags defined per Network Service override their general definition in the System Configuration.

The following flags can be defined per service:

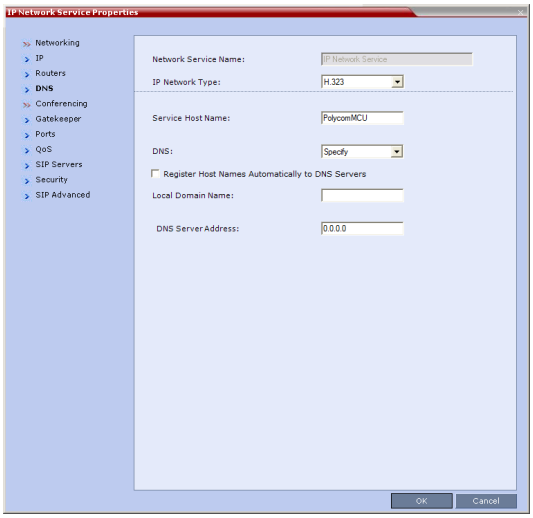
— ALLOW_NON_ENCRYPT_PARTY_IN_ENCRYPT_CONF
— SIP_ENABLE_FECC
— ENABLE_H239
— SIP_ENABLE_FECC
— ENABLE_CLOSED_CAPTION
— ALLOW_NON_ENCRYPT_RECORDING_LINK_IN_ENCRYPT_CONF
— NUMERIC_CONF_ID_LEN
— NUMERIC_CONF_ID_MIN_LEN
— NUMERIC_CONF_ID_MAX_LEN
— ENABLE_CASCADED_LINK_TO_JOIN_WITHOUT_PASSWORD
— MAX_CP_RESOLUTION
— ENABLE_IP_REDIAL
— QOS_IP_AUDIO
— QOS_IP_VIDEO
— ENABLE_CISCO_GK
— SIP_FREE_VIDEO_RESOURCES
— FORCE_CIF_PORT_ALLOCATION
— MS_ENVIRONMENT
— SIP_FAST_UPDATE_INTERVAL_ENV
— SIP_FAST_UPDATE_INTERVAL_EP
— H263_ANNEX_T
— H239_FORCE_CAPABILITIES
— MIX_LINK_ENVIRONMENT
— IP_LINK_ENVIRONMENT
— FORCE_STATIC_MB_ENCODING
— FORCE_RESOLUTION
— SEND_WIDE_RES_TO_IP

— DISABLE_WIDE_RES_TO_SIP_DIAL_OUT
— SEND_SIP_BUSY_UPONRESOURCE_THRESHOLD

5 Click the **Routers** tab.

6 Define the routers used in this network and that are other than the routers defined in the Management Network. The field definitions of the *Routers* tab are the same as for the *Default Management Network*. For more information see the RMX 1500/2000/4000 Administrator's Guide, "*Click the Routers tab.*" on page **14-16**.

7 Click the **DNS** tab.



8 Modify the following fields:

Table 10 *Default Management Network Service – DNS*

Field	Description
Service Host Name	Enter the host name of this network Service. Each Network Service must have a unique Host Name otherwise an error message is displayed.
DNS	Select: • **Off** – if no DNS server is used in this network. • **Specify** – to enter the IP address of the DNS server used by this network service. **Note:** The IP address field is enabled only if **Specify** is selected.
Register Host Names Automatically to DNS Servers	Select this option to automatically register this Network Service Signaling Host with the DNS server.
Local Domain Name	Enter the name of the domain for this network service.
DNS Server Address	Enter the static IP address of the DNS server that is part of this network.

9 Click the **Gatekeeper** tab.

10 Define the *Primary* and *Alternate Gatekeepers* and at least one **Alias** for this network Service. The field definitions of the *Gatekeeper* tab are the same as for the *Default IP*

Network Service. For more information see the RMX 1500/2000/4000 Administrator's Guide, "*Click the Gatekeeper tab.*" on page **14-17**.

In *Multiple Services* mode, an Alias must be defined for the specified gatekeeper.

11 **Optional.** Click the **Ports** tab.

Settings in the *Ports* tab allow specific ports in the firewall to be allocated to multimedia conference calls. If required, defined the ports to be used multimedia conference calls handled by this Network Service. The field definitions of the *Ports* tab are the same as for the *Default IP Network Service*.

For more information see the RMX 1500/2000/4000 Administrator's Guide, "*Click the Ports tab.*" on page **14-20**.

12 If required, click the **QoS** tab.

RMX's implementation of *QoS* is defined per Network Service, not per endpoint.

The routers must support QoS in order for IP packets to get higher priority.

The field definitions of the *QoS* tab are the same as for the *Default IP Network Service*. For more information see the RMX 1500/2000/4000 Administrator's Guide, "*If required, click the QoS tab.*" on page **14-22**.

13 Click the **SIP Servers** tab.

14 Define the *Primary* and *Alternate SIP Server* for this network Service.

- Registration of conferencing entities with the SIP Servers was moved to the conferencing entities and is defined in the Conference Profile.
- If Microsoft Office Communications or Lync server are part of this network service, a certificate must be created for this network service. If each network connected to the RMX includes Microsoft Office Communications or Lync server, separate certificates must be created and sent to the MCU for each of these networks.

The field definitions of the *SIP Servers* tab are the same as for the *Default IP Network Service*. For more information see the *RMX 1500/2000/4000 Administrator's Guide*, "*Click the SIP Servers tab.*" on page **14-25**.

15 Click the **Security** tab.

The field definitions of the *Security* tab are the same as for the *Default IP Network Service*. For more information see the RMX 1500/2000/4000 Administrator's Guide, "*Click the Security tab.*" on page **14-28**.

16 **Optional.** To configure the ICE environment, click the **SIP Advanced** tab.

17 Modify the following fields:

Table 11 *Default IP Network Service – SIP Advanced*

Field	Description
Server User Name	Enter the *User* name for this service as defined in the *Active Directory*. For example, enter *rmxNet2*. This field is disabled if the *ICE Environment* field is set to *None*.

Table 11 Default IP Network Service – SIP Advanced (Continued)

Field	Description
ICE Environment	Select **MS** (for *Microsoft ICE* implementation) to enable the *ICE* integration. This field is disabled if the *RMX* is not running in *MPM+ Card Configuration Mode*.

18 Click the **OK** button.
The new Network Service is added to the *IP Network Services* list pane.

Setting a Network Service as Default

The default Network Service is used when no Network Service is selected for the following:

- Dial out participants
- Reserving resources for participants when starting an ongoing conference
- Gateway calls

In addition, the Signaling Host IP address and the MCU Prefix in GK displayed on the RMX Web Client main screen are taken from the default H.323 Network Service.

One IP Network Service can be defined as default for H.323 connections and another Network Service as default for SIP connections. If the IP Network Service supports both H.323 and SIP connections, you can set the same Network Service as default for both H.323 and SIP, or for H.323-only or for SIP-only.

To designate an IP Network Service as the default IP Network Service:

1 In the *Device Management* pane, click **IP Network Services** ( ).

2 In the *Network Services* list pane right-click the IP Network Service to be set as the default, and then click **Set As H.323 Default,** or **Set As SIP Default**.

The next time you access this menu, a check mark is added next to the network service type to indicate its selection as default.

To set this IP Network Service for both H.323 and SIP connections, repeat step 2 and select the option you need.

The following icons are used to indicate the default IP Network Service type:

Table 1-1: Default IP Network Service Icons

Icon	Description
	This Network Service supports both SIP and H.323 connections and is designated as default for both SIP and H.323 connections.
	This Network Service supports both SIP and H.323 connections and is designated as default for H.323 connections.
	This Network Service supports both SIP and H.323 connections and is designated as default for SIP connections.
	This Network Service supports only H.323 connections and is set as default for H.323 connections.

Table 1-1: Default IP Network Service Icons

Icon	Description
	This Network Service supports only SIP connections and is set as default for SIP connections.

Ethernet Settings

The RMX 2000 is set to automatically identify the speed and transmit/receive mode of each LAN ports located on the RTM LAN or RTM ISDN cards that are added to the system. These port settings can be manually configured if the specific switch requires it, via the **Ethernet Settings** as for RMX 1500/4000. For more details, see RMX 2000/4000 Administrator's Guide, "*Ethernet Settings*" on page **14-30**.

RMX 1500: The *Port* numbers displayed in the dialog box do not reflect the physical *Port* numbers as labeled on the *RMX 1500* MCU.

Signaling Host IP Address and MCU Prefix in GK Indications

The RMX Web Client displays the *Signaling Host IP Address* and *MCU Prefix in GK* parameters as defined in the **Default H.323 Network Service**.

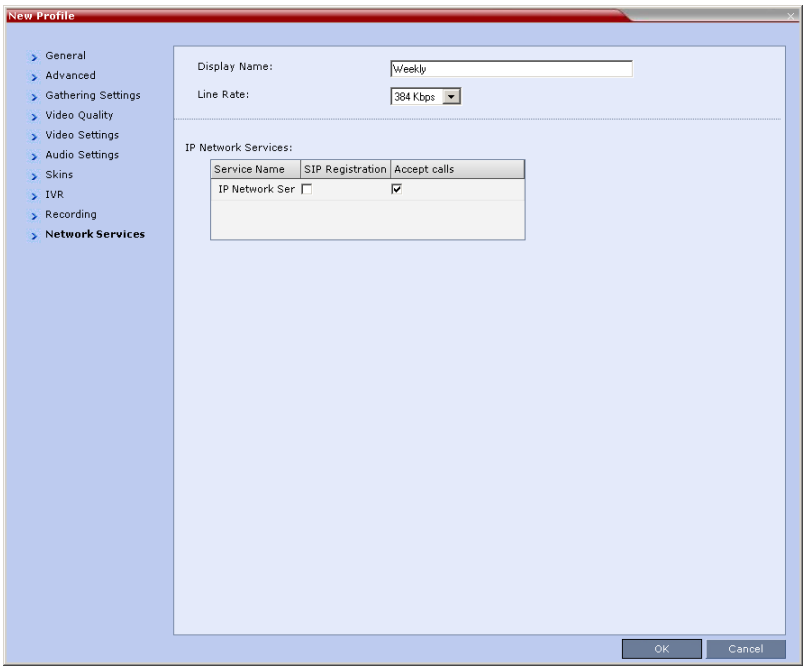
Video/Voice Port Configuration and Resolution Configuration

These configurations are set for the system and are applied to all the Network Services.

Conference Profile

Registration of conferencing entities such as ongoing conferences, Meeting Rooms, Entry Queues, SIP Factories and Gateway Sessions with SIP servers is done per conferencing entity. This allows better control on the number of entities that register with each SIP server by selecting for each of the conferencing entities whether it will register with the SIP server.

The registration is defined in the *Conference Profile - Network Services* tab.



In the *IP Network Services* table, the system lists all the defined Network Services (one or several depending on the system configuration).

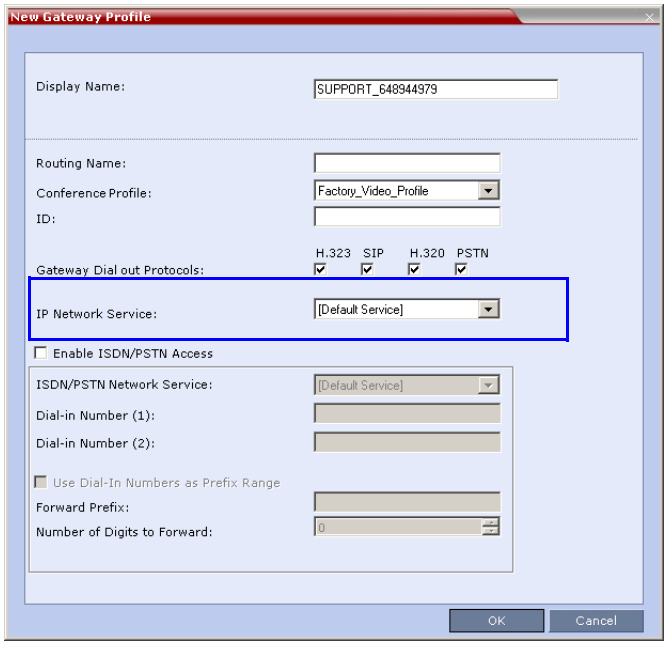
- To register the conferencing entity to which this profile is assigned to a Network Service, in the *Registration* column click the check box of that Network Service.
- You can also prevent dial in participants from connecting to that conferencing entities when connecting via a Network Service.
  In the *Accept Calls* column, clear the check box of the Network Service from which calls cannot connect to the conference.

Gateway Profiles

To enable the RMX to call the destination endpoint/MCU via IP connection, the Network Service for the call must be selected in the Gateway Profile dialog box.

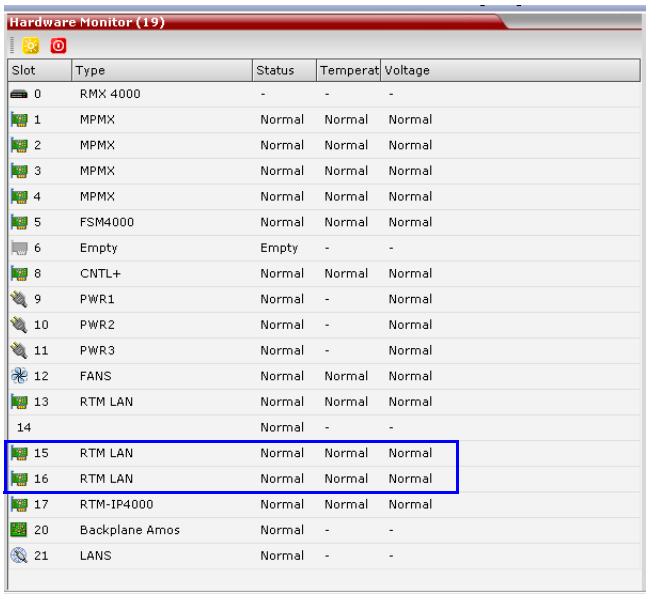
The Network Service set as default is used if no other Network Service is selected.

If the same Network Service is used for H.323 and SIP calls, the *Network Service Environment* must include both **H.323** and **SIP** settings.



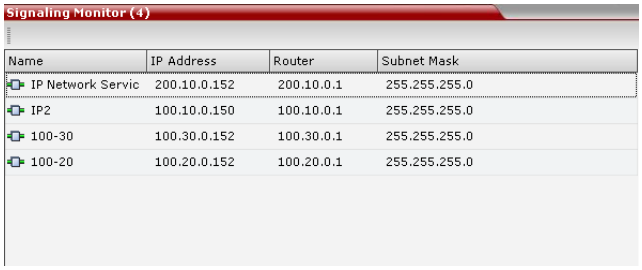
Hardware Monitor

The Hardware Monitor pane includes the status of the LAN ports on the RTM LAN cards.



Signaling Monitor

The Signaling Monitor pane includes the list of the IP Network Services defined in the system (up to two in RMX 1500/2000 and up to four in RMX 4000). Double-clicking a Network Service, displays it properties and status.



Conferencing

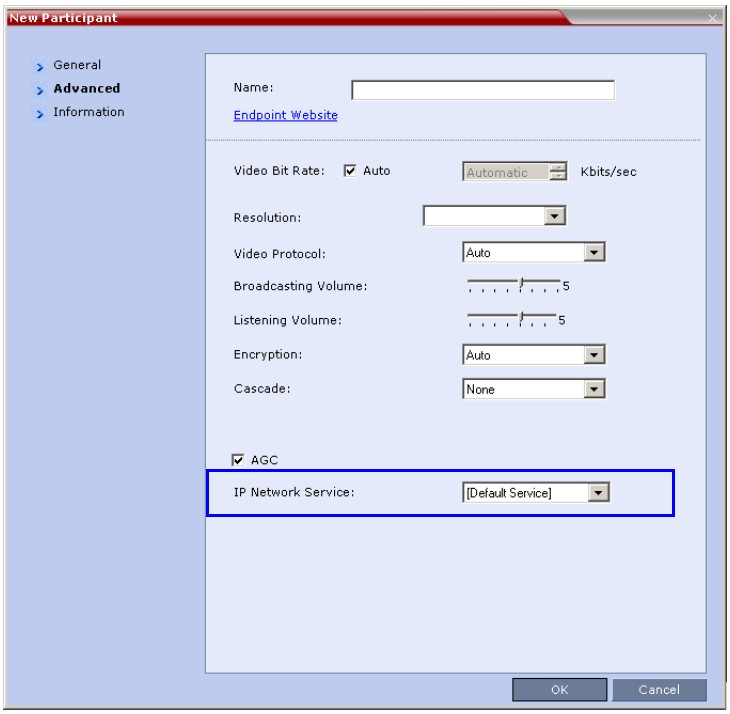
Each conference on the RMX can host participants from the different IP Network networks simultaneously.

Defining Dial Out Participants

When defining dial out participants, you can select the Network Service to place the call according to the network to which the endpoint pertains. If the endpoint is located on a network other than the selected network, the participant will not be able to connect.

If no Network is selected, the system uses the IP Network Service selected for reserving the conference resources, and if none is set for the conference it uses the Network Service set as default.

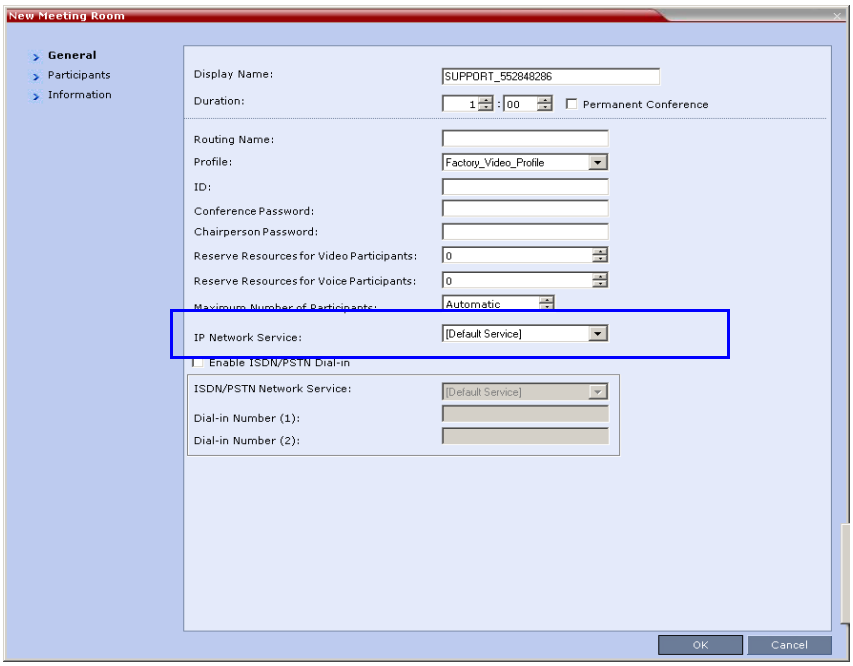
The IP Network Service is selected in the *New Participant - Advanced* dialog box.



Reserving Video Resources for a Conference

When defining a new ongoing conference or a conference reservation, you can select the Network Service that will be used to reserve the required resources. If no Network Service is selected, the default Network Service is used. Therefore, make sure that not all conferences are reserving resources from the same Network Service, otherwise you may run out of resources for that Network Service.

The IP Network Service is selected in the *New Conference/New Meeting Room/New Reservation - General* dialog box.



Monitoring Conferences

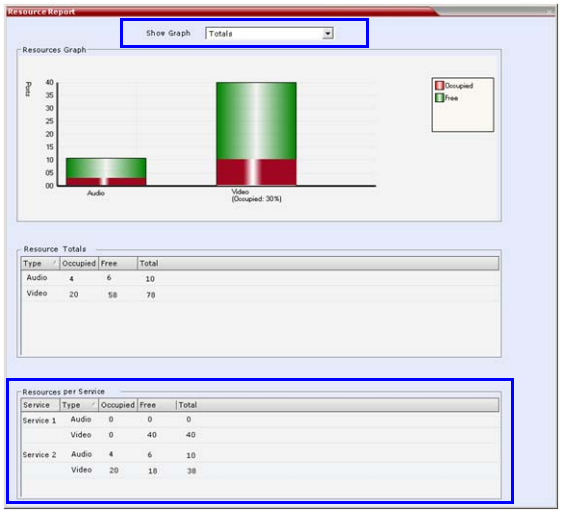
The *Conference Properties - Network Services* dialog box shows for each Network Service with which Network Service's SIP proxy the conference should be registered and if the dial in call will be connected to the conference.

In the *Participant* pane, a new column - *Service Name* was added, indicating the name of Network Service used for the participant's connection.

Resource Report

The *Resource Report* displays the resource usage in total and per Network Service in a table format. The Resources per Service table provides the actual information on resource usage and availability per network Service and provides an accurate snapshot of resources usage in the system.

You can select the graph to display: select either **Totals** (default) or the Network Service.



Port Gauge Indications

The port Gauges displays the total resource usage for the RMX and not per Network Service. Therefore, it may not be an accurate representation of the availability of resources for conferencing, as one Network Service may run out of available resources while another Network Service may have all of it resources available. In such a case, the port gauges may show that half of the system resources are available for conferencing, while calls via the Network Service with no available resources will fail to connect.

SIP People+Content

SIP endpoints can send and receive *Content* in conferences using *People+Content*, *Polycom's* proprietary content sharing protocol.

Guidelines

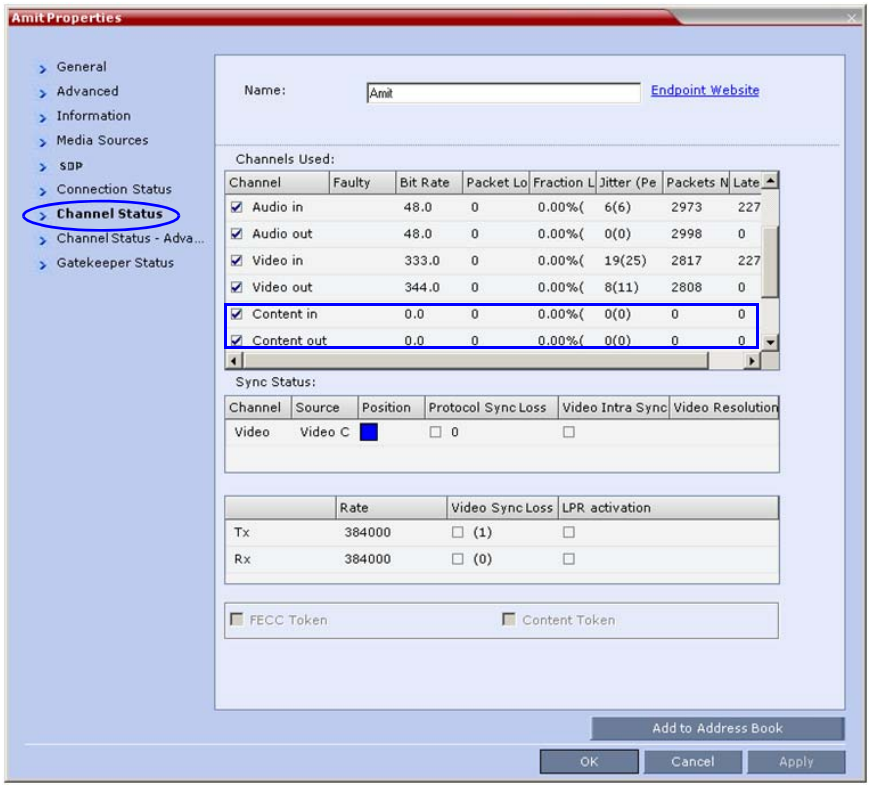
- *SIP People+Content* is supported with *MPM*, *MPM+* and *MPMx* cards.
- *SIP People+Content* is supported in *CP*, *VSW*, and *Event Mode*.
- A mix of *H.323* and *SIP* endpoints can share content.
- *SIP* endpoints using *People +Content* behave in the same manner as *H.323* endpoints with regard to:
  - Content transmission modes.
  - Content protocol.
  - Sending content to legacy endpoints.
  - Interoperability with *Polycom CMA* and *DMA*.

  For more information see the *RMX 1500/2000/4000 Administrator's Guide* "*People+Content*" on page **2-27**.
- The content management control (*BFCP*) utilizes an unsecured channel even when *SIP TLS* is enabled. If security is of higher priority than *SIP* content sharing, *SIP People+Content* can be disabled by setting the **ENABLE_SIP_PEOPLE_PLUS_CONTENT** *System Flag* to **NO**. The default value of the flag is **YES**.

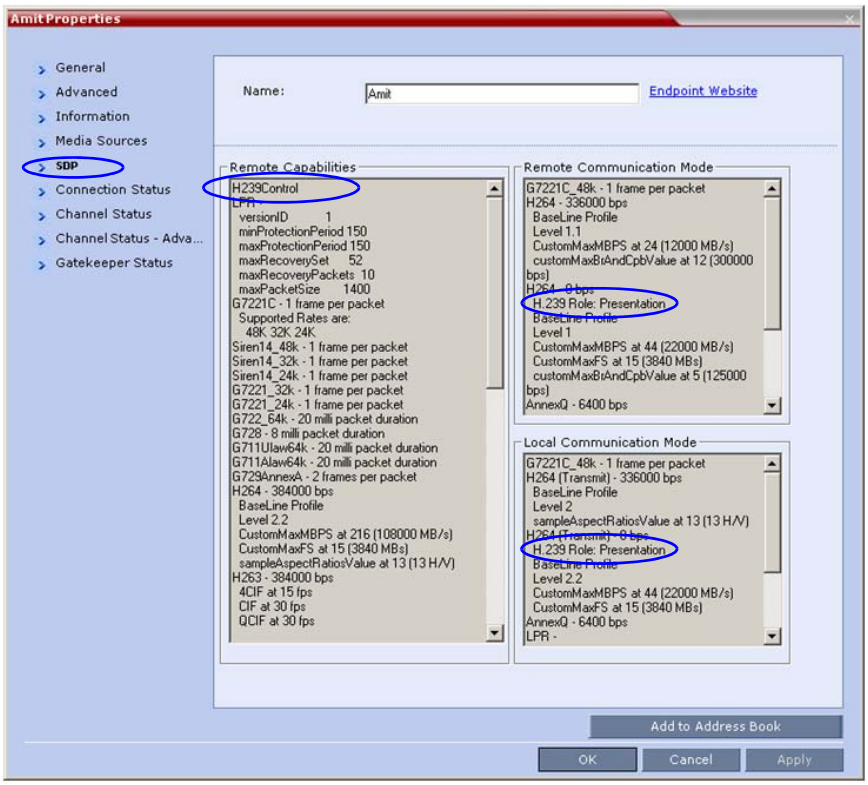
  This *System Flag* must be added to the *System Configuration* file before it can be modified. For more information see the *RMX 1500/2000/4000 Administrator's Guide*, "*Modifying System Flags*" on page **19-5**.

Monitoring SIP People+Content

Two new *Content Channels* (in and out) have been added to the *Participant Properties - Channel Status* tab.



SIP People+Content information appears in all three panes of the *Participant Properties* - SDP tab.



In the *Channel Status - Advanced* tab, three channels can be selected for viewing additional information:

- Content In
- Content Out
- BFCP TCP

RMX Integration into Microsoft Lync Server 2010 Environment

Version 7.1 enables the integration of RMX systems into the Microsoft Lync Server 2010 (Wave 14) environment.

In the Lync Server 2010 environment, only the Matched URI dialing (using the SIP URI address) is available as the call routing method.

This section describes how to configure the RMX system and the Microsoft Lync server 2010 to enable routing of video calls to conferences running on the RMX system.

This section does not describe or provide full administration or maintenance processes or procedures for Lync Server 2010. For any questions or assistance on Lync Server 2010, see the Microsoft documentation and/or Microsoft Support Services.

To enable the integration, the following tasks have to be performed:

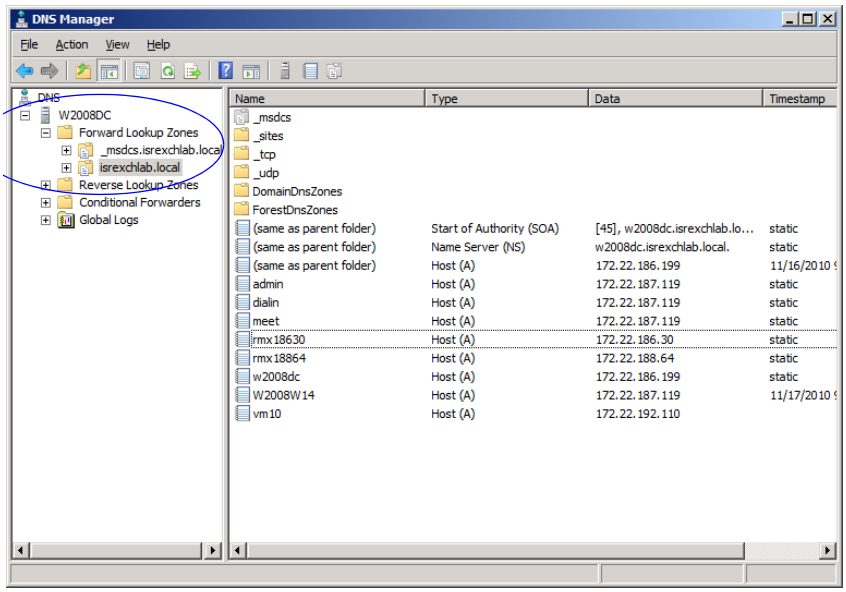
- Configure the Polycom RMX FQDN Name in the DNS
- Set the Routing for the Polycom RMX System in the Lync Server

In addition, a certificate has to be created/purchased and sent to the RMX.

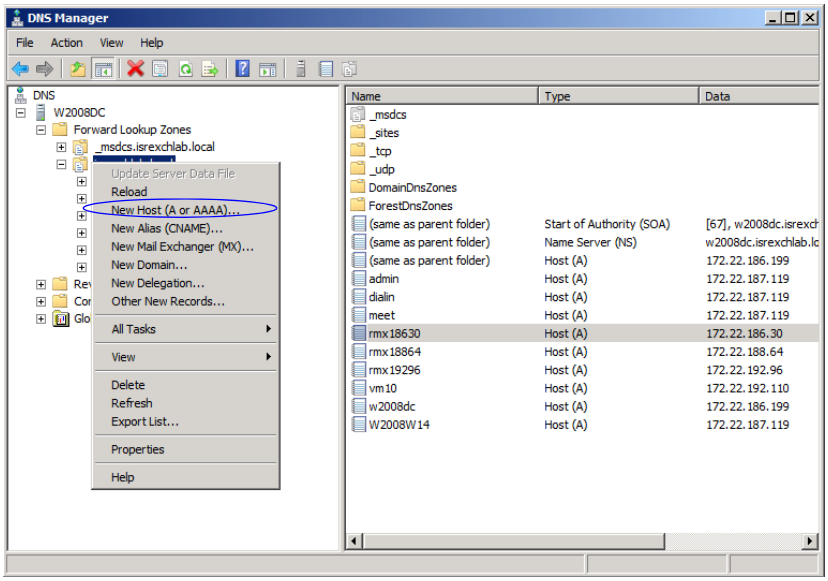
Configure the Polycom RMX FQDN Name in the DNS

Perform the following procedure to enable the Polycom RMX system to receive Lync Server calls.

1 On the computer with the DNS installation, open the **DNS Manager** and expand the **Forward Lookup Zone**.



2 Right-click the **<local domain zone>** and then click **New Host**.



The *New Host* dialog box opens.

3 Define the following parameters:

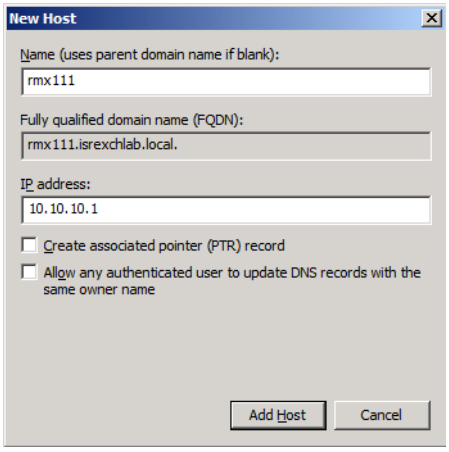


Table 2 *New Host Parameters*

Field	Description
Name	Enter the RMX name that will be used for its FQDN name. The *Fully Qualified Domain Name (FQDN)* is listed accordingly using the previously defined domain name. For example, if you have entered **rmx111**as the name, the system displays `rmx111.isrexchlab.local` as its FQDN.
IP Address	Enter the IP address of the RMX signaling Host.

4 Click the **Add Host** button.

5 Click **OK** on the *Add Host* confirmation message and then click **Done**.

Setting the Routing for the Polycom RMX System

Polycom recommends using Lync Powershell commands to perform the following tasks. For detailed documentation for Lync Powershell, see http://blogs.technet.com/b/csps/.

There are two methods to set the routing for the Polycom RMX System:

- Using *Lync Topology Builder* to define your application pool and then using the *Lync Powershell* to set the Polycom RMX system as a trusted host with a static route.

  This is the recommended method as it simplifies the setting of the routing for the RMXand it also allows you to add additional RMX systems or DMA systems at a later time.

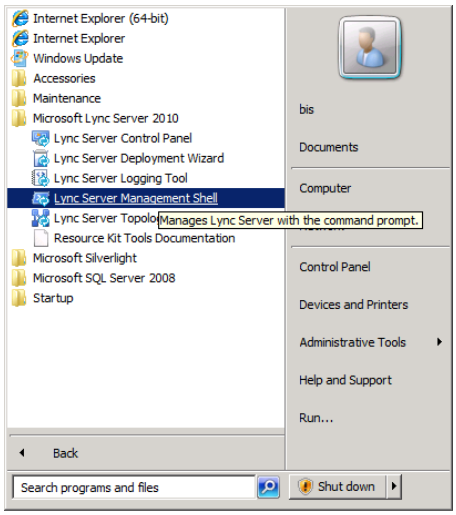
  In addition, it allows you to define a friendly domain name for the MatchURI that can be used as the SIP URI for virtual meeting rooms without the need to know the FQDN of the SIP signaling domain.

  This method is detailed in the Polycom Unified Communications Deployment Guide for Microsoft Environments, *Polycom-enabled Unified Communications for Microsoft Lync Server 2010, Task 2: Set the Routing for the Polycom RMX System.*
- Using the *Lync Powershell* to set the RMX as Static Route and as a trusted host.

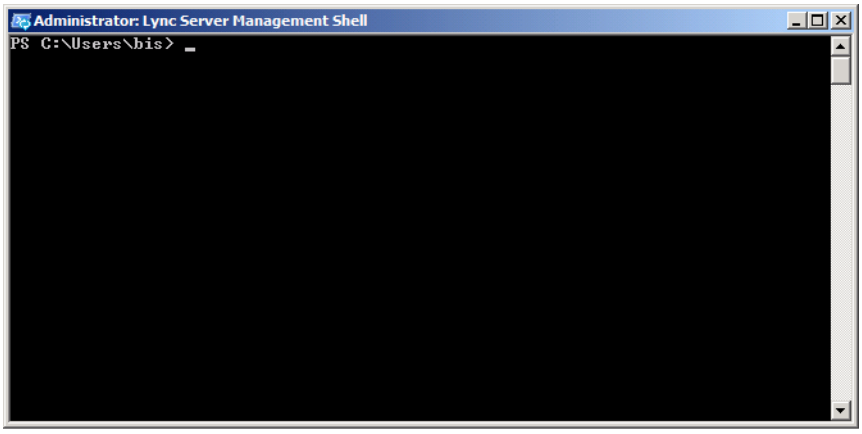
This section describes how to set the Polycom RMX system as a static route using the the *Lync Powershell* commands only.

To set the Polycom RMX system as a static route:

1 Navigate to **Start > All Programs > Microsoft Lync Server 2010 (RC) > Lync Server Management Shell** to open the Lync Powershell terminal.



The *Administrator Lync Server Management Shell* terminal opens.



2 Enter the following command to set up a static route for the RMX system:

`$route = New-CsStaticRoute -TLSRoute -destination "RMX FQDN" -port 5061 -matchuri "RMX FQDN" -usedefaultcert $true`

For example, if the RMX FQDN is rmx111.isrexchlab.local, enter:

```
$route = New-CsStaticRoute -TLSRoute -destination
"rmx111.isrexchlab.local" -port 5061 -matchuri
"rmx111.isrexchlab.local" -usedefaultcert $true
```

For a detailed description of the New-CsStaticRoute command, see: http://technet.microsoft.com/en-us/library/gg398265.aspx

3 To set the route to be global, enter:

`Set-CsStaticRoutingConfiguration -identity global -route @{Add=$route}`

For a detailed description of the Set-CsStaticRoutingConfiguration command, see: http://technet.microsoft.com/en-us/library/gg425811.aspx

4 **Optional.** To check that the commands were entered correctly in the Powershell, enter:
`Get-CsStaticRoutingConfiguration`.

If the command were entered correctly, the Lync server returns the RMX FQDN.

For a detailed description of the Get-CsStaticRoutingConfiguration command, see: http://technet.microsoft.com/en-us/library/gg398754.aspx

Optional. To remove a static route, use the following command:
`Remove-CsStaticRoutingConfiguration`

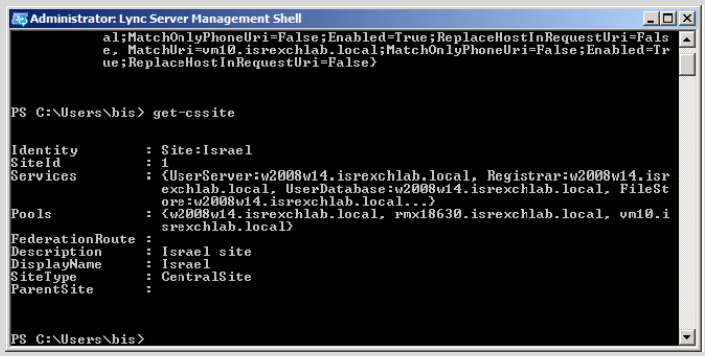
Make sure that you enter the appropriate parameters of the static route to be removed, otherwise all the defined static routes will be removed.

For a detailed description of the Remove-CsStaticRoutingConfiguration command, see: http://technet.microsoft.com/en-us/library/gg398668.aspx

Creating a Trusted Application Pool and Setting the RMX as Trusted Application

To set the Polycom RMX system as a trusted host with a static route:

In the used to create a new trusted application pool, the Registrar FQDN must be entered. If you do not know the Registrar FQDN it can be retrieved by entering the command: **`Get-CsSite.`**



The system displays the site parameters with the following required information:

- Identity and Computer - RMX FQDN
- Registrar - registrar (Lync Server) FQDN

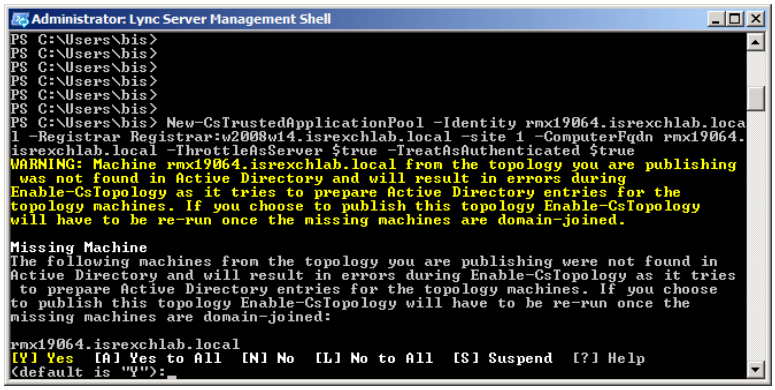
1 In the *Administrator Lync Server Management Shell* terminal, enter the command: **`New-CsTrustedApplicationPool -Identity <FQDN> -Registrar Registrar:<registrar FQDN> -site 1 -ComputerFqdn <FQDN> -ThrottleAsServer $true -TreatAsAuthenticated $true`**

For example if the <*FQDN*> is mx111.isrexchlab.local and the <*registrar FQDN*> is w2008w14.isrexchlab.local the command entered:

```
New-CsTrustedApplicationPool -Identity
rmx111.isrexchlab.local -Registrar
Registrar:w2008w14.isrexchlab.local -site 1 -ComputerFqdn
rmx111.isrexchlab.local -ThrottleAsServer $true
-TreatAsAuthenticated $true
```

For a detailed description of the New-CsTrustedApplicationPool command, see: http://technet.microsoft.com/en-us/library/gg425804.aspx

A warning message is displayed.



2 Enter **Y** to continue.

3 To define the RMX as trusted application enter the command:

`New-CsTrustedApplication -ApplicationId <string> -TrustedApplicationPoolFqdn <RMX FQDN> -Port 5061`

Using the following variables:

— **ApplicationId <string>** - The name of the application. This must be a string that is unique within the pool that is specified in the TrustedApplicationPoolFqdn parameter. For example: VideoBridge

— **TrustedApplicationPoolFqdn**- The FQDN of the trusted application pool on which the application will reside. For example: rmx111.isrexchlab.local

For example:

```
New-CsTrustedApplication -ApplicationId VideoBridge
-TrustedApplicationPoolFqdn rmx111.isrexchlab.local -Port
5061
```

For a detailed description of the New-CsTrustedApplication command, see: http://technet.microsoft.com/en-us/library/gg398259.aspx

4 To enable all the changes made to the trusted application pool and trusted application, enter the command:
`Enable-CsTopology`.

Optional. Configuring the Lync Server Registrar for Encryption

Encrypted calls can be supported by the Lync Server 2010 registrar (formerly a server pool with Office Communications Server) .

To change the registrar encryption setting:

1 Use the following Lync Powershell command to determine the current encryption setting for Lync Server 2010.

```
Get-CsMediaConfiguration
    Identity : Global
    EnableQoS : False
    EncryptionLevel : RequireEncryption
    EnableSiren : False
    MaxVideoRateAllowed : VGA600K
```

2 If needed, use the following Lync Powershell command to change your encryption setting to support encryption.

```
set-CsMediaConfiguration -EncryptionLevel supportencryption
```

3 Verify your encryption settings:

```
Get-CsMediaConfiguration
    Identity : Global
    EnableQoS : False
    EncryptionLevel : SupportEncryption
    EnableSiren : False
    MaxVideoRateAllowed : VGA600K
```

Creating a Security Certificate for the Polycom RMX System

Polycom RMX system uses TLS transport in Microsoft environments. Therefore you must install a security certificate on the Polycom RMX system that is trusted by the Lync Server.

This can be accomplished in two ways:

- Purchase and install a certificate from a commercial Trusted Root Certificate Authority (CA) such as VeriSign or Thawte.
- Request and obtain a certificate from your enterprise CA. If your organization permits the submission of certificate requests directly to the enterprise's CA server, use the Lync Server Certificate Wizard. From it, you can then download an export file of the certificate to your PC for later installation on the Polycom RMX system. This procedure is described below.

Before you proceed, make sure that:

- You have all the fully qualified domain names (FQDNs) of the system for which you are creating a certificate.
- These host names are in the primary DNS server of the environment and resolve correctly to the Polycom RMX system.

If the host information in DNS is wrong, the certificates will not work.

Methods for Creating the Certificates

- *Method I* - Using IIS Manager 7 to create the certificate request and the Microsoft Management Console to export the created certificate.
  This is the recommended method.
- *Method II* - Using Administrator Lync Server Management Shell for creating the certificate request and exporting it. This is an alternative method if Method I cannot be performed.

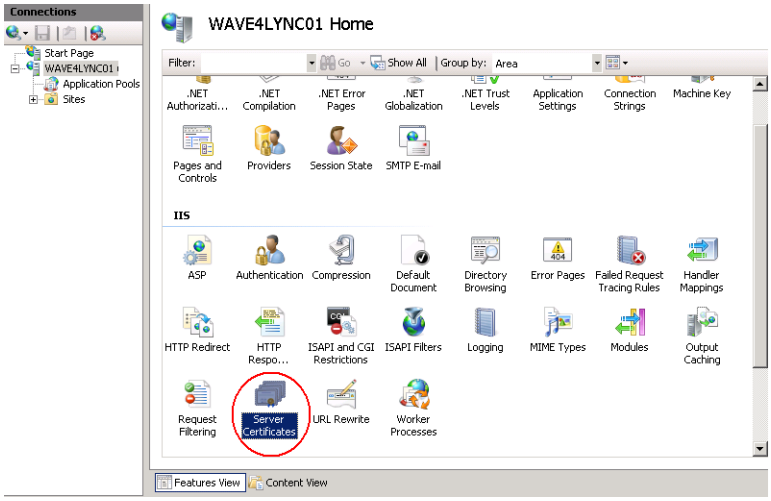
Method I: Using IIS Manager 7 and Microsoft Management Console

Creating the Certificate Request for the Polycom RMX System using IIS Manager 7

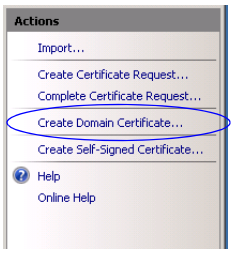
1 On the Lync Server, select **Start > All Programs > Administrative Tools Internet Information Services (IIS) Manager (7.0)** to open IIS 7.

2 Under *Connections*, double-click the server name.

3 In the *Features View*, under **IIS**, double-click **Server Certificates**.

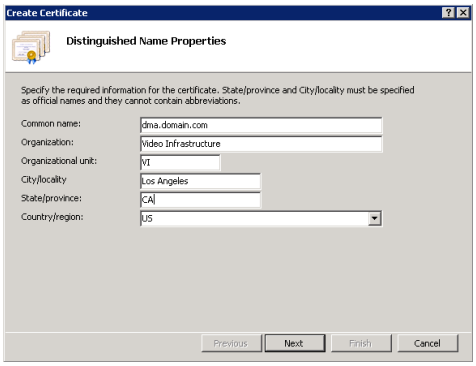


4 In the *Actions* pane (far right), select the **Create Domain Certificate** action.



The *Create Certificate* wizard opens.

5 In the *Distinguished Name Properties* window, complete all fields. Do not leave any fields blank.



— In the *Common Name* field, enter the FQDN of RMX.

6 Click **Next**.

7 In the *Online Certification Authority* window, select a *Certificate Authority* from the list and enter a friendly name.

8 Click **Finish**.

Your certificate is created.

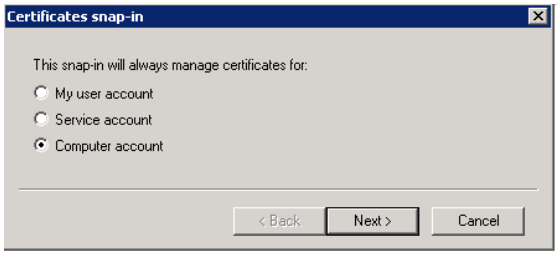
To use the Microsoft Management Console to Export the Created Certificate

1 Open *Microsoft Management Console* and add the Certificates snap-in, if it has not been added already.

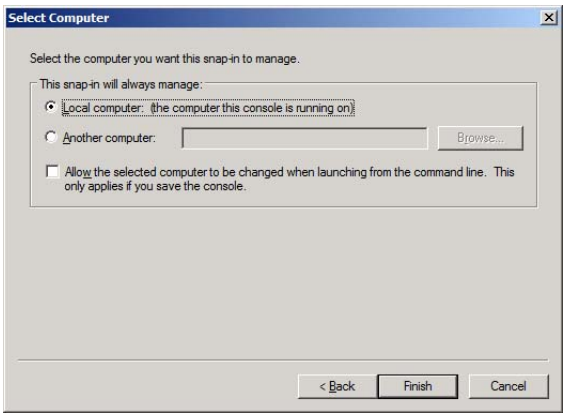
a Choose **File > Add/Remove Snap-in**.

b In the *Available Snap-ins* pane, select **Certificates** and click **Add**.

c On the *Certificates snap-in* page, select **Computer Account** and click **Next**.



d In the *Select Computer* window, select **Manage Local Computer**.



e Click **Finish**.

2 Click **OK**.

3 Browse to **Certificates (Local Computer) > Personal > Certificates**.

4 Right-click the created certificate and select **All Tasks > Export…** to open the *Certificate Export* wizard.

5 In the *Certificate Export* wizard, do the following:

a In the *Export Private Key* window, select **Yes, export the private key**.

b Click **Next**.

c In the *Export File Format* window, select **Include all certificates in the certification path if possible**.

d Click **Next**.

e In the *Password* window, enter a simple password, e.g., polycom.

f Click **Next**.

g In the *File to Export* window, enter a path where you want to save the new file, for example, c:\temp\rmxcert.pfx.

Method II: Creating the Certificate Request in Microsoft Lync Server

This task is performed in two steps:

- Creating a temporary certificate file which is used to check that the process was executed correctly.
- Creating the certificate file to be used with the RMX system.

Creating a Temporary Certificate File

To create the certificate request:

To enter the Request-CsCertificate command the CA Account name is required. If the CA Account is unknown, it can be retrieved by performing the procedure "*Retrieving the CA Account Information*" on page **1-91**.

1 In the *Administrator Lync Server Management Shell* terminal, enter the command:

```
Request-CsCertificate -New <SwitchParameter> -Type
<CertType[]> [-CA <String>] [-CaAccount <String>]
[-CaPassword <String>] [-City <String>] [-ClientEKU <$true |
$false>] [-ComputerFqdn <Fqdn>] [-Confirm
[<SwitchParameter>]] [-Country <String>] [-DomainName
<String>] [-Force <SwitchParameter>] [-FriendlyName
```

```
<String>] [-GlobalCatalog <Fqdn>]
[-GlobalSettingsDomainController <Fqdn>] [-KeyAlg <RSA |
ECDH_P256 | ECDH_P384 | ECDH_P521>] [-KeySize <Int32>]
[-Organization <String>] [-OU <String>] [-Output <String>]
[-PrivateKeyExportable <$true | $false>] [-Report <String>]
[-State <String>] [-Template <String>] [-WhatIf
[<SwitchParameter>]]
```

For a detailed description of the Request-CsCertificate command, see http://technet.microsoft.com/en-us/library/gg425723.aspx

The command shown in the example below creates a new offline certificate request that includes the computer FQDN is `rmx111.isrexchlab.local and` its location is Los Angeles, California and the CA account is `w2008dc.isrexchlab.local\isrexchlab-W2008DC-CA` and the path to the certificate file, for example: -Output C:\Certificates\`rmx111`.pfx. That will create a certificate request file that can then be emailed to a certification authority for processing. When the *PrivateKeyExportable* parameter is set to True, the request creates an exportable certificate's private key.

```
Request-CsCertificate -New -Type Default -KeyAlg RSA -CA
w2008dc.isrexchlab.local\isrexchlab-W2008DC-CA -City LA
-State CA -ComputerFqdn rmx111.isrexchlab.local -Country US
-DomainName isrexchlab.local -FriendlyName
rmx111.isrexchlab.local -Organization 'Polycom '
-PrivateKeyExportable $true -Output C:\rmx18630.pfx
<CertType[]> enter Default
```

2 Check that the certificate file (*.pfx) file was created in the location specified in the create certificate command.

Creating the Certificate File for the RMX

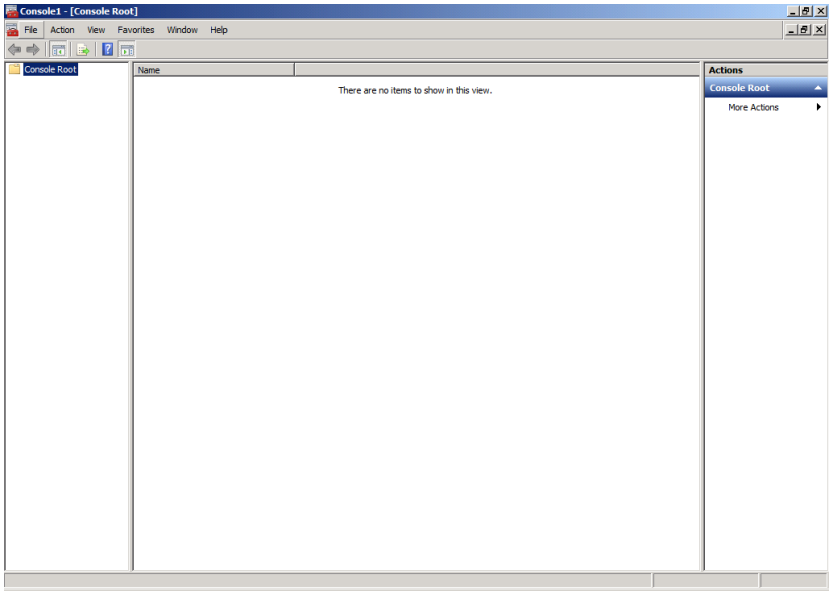
Repeat steps 1 and 2 in the procedure "Creating a Temporary Certificate File" to create the certificate that will be used for the RMX.

Once the certificate file is created, it can be exported using the following procedure:

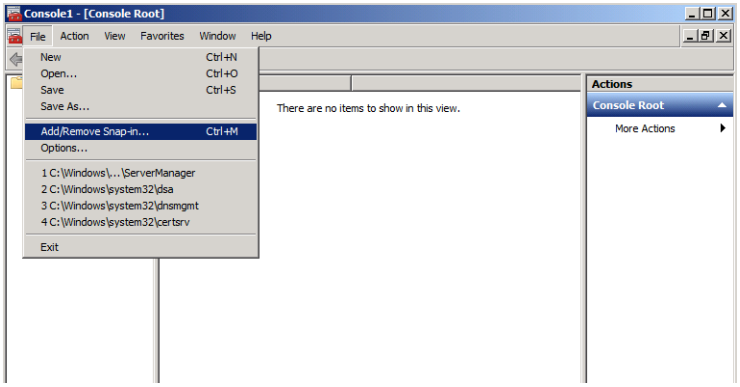
1 On the computer with the installed Certificate Authority, click **Start > Run**.

2 In the *Run* window, enter **MMC** and click **OK**.

The *Console* window opens.

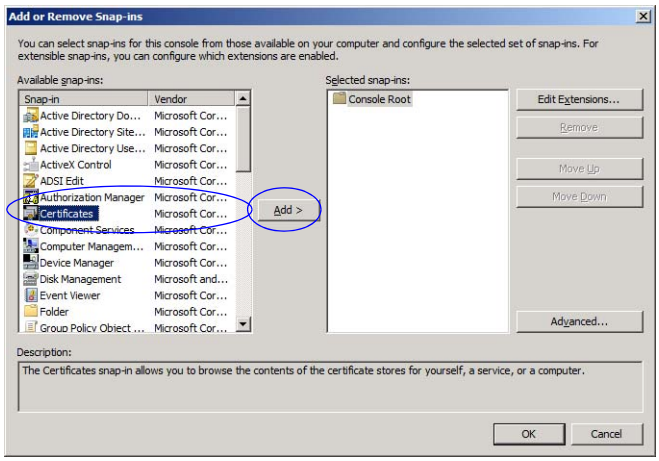


3 On the **File** menu, click **Add/Remove Snap-in**.



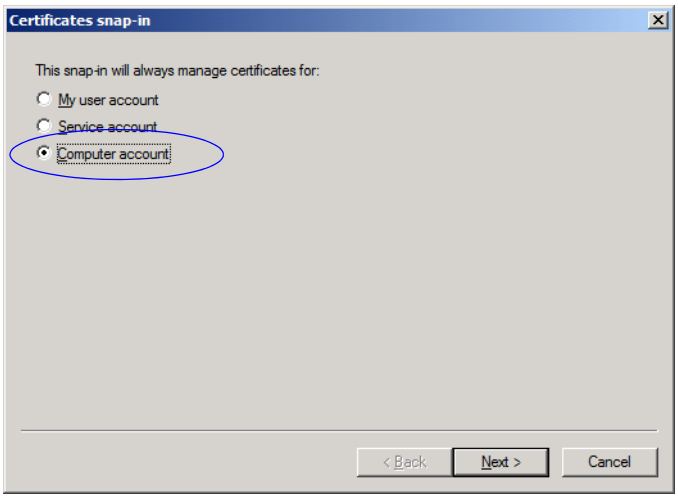
The *Add/Remove Snap-in* dialog box open.

4 In the *Available snap-ins* list, select **Certificate** and then click the **Add** button.



The *Certificate Snap-in* dialog box opens.

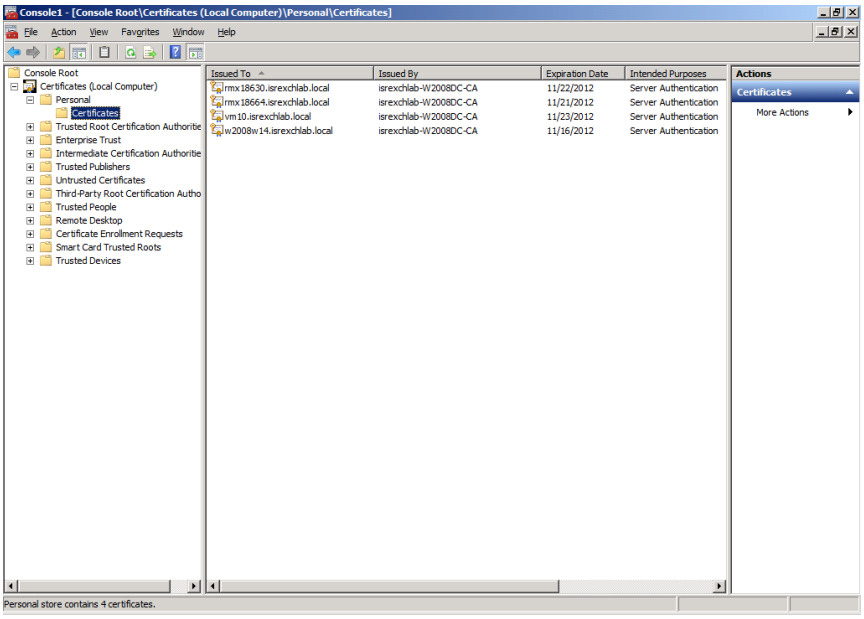
5 Select **Computer Account**.



The *Select Computer* dialog box open.

6 Select **Local Computer** and click the **Finish** button.
The Certificate is added to the *Console* window.

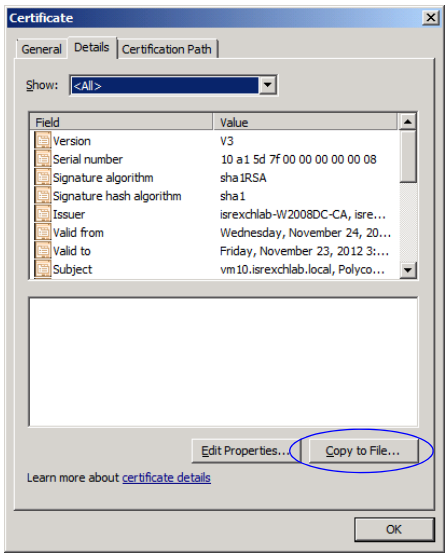
7 Expand the **Certificates > Personal** tree and then click the **Certificates** entry to list the certificate files created.



8 In the certificate list, double-click the temporary certificate created in the previous procedure.
The *Certificate - General* dialog box opens.

9 Click the **Details** tab.

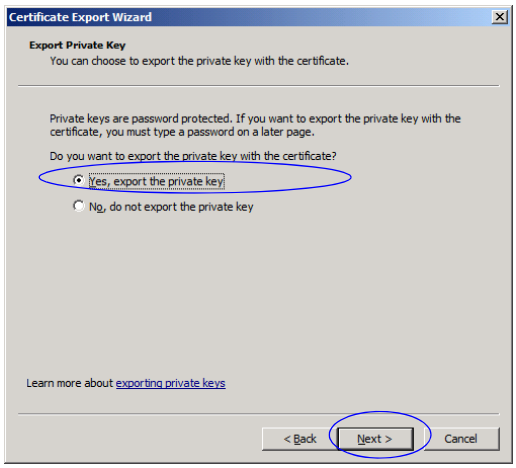
10 Click the **Copy to File** button.



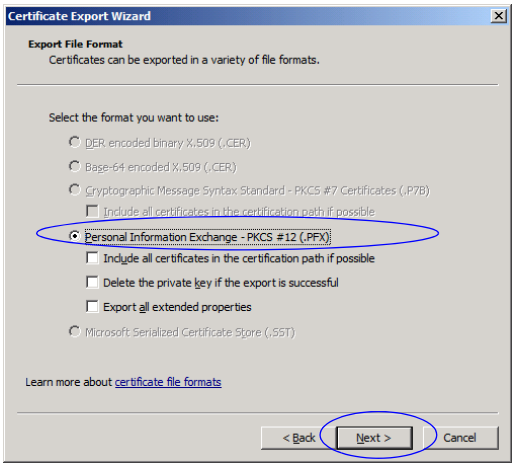
The *Certificate Export* wizard is activated.

11 Click **Next**.

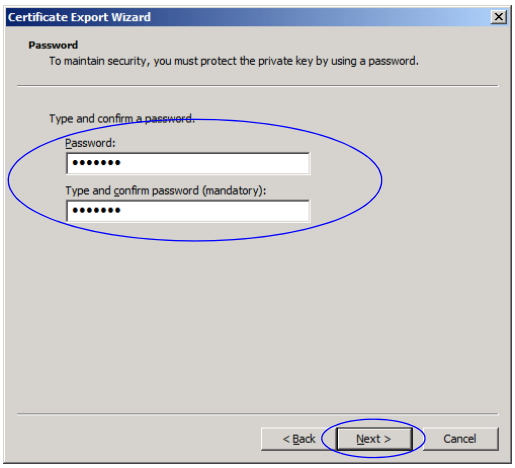
12 In the *Export Private Key* wizard window, select **Yes, export the Private key** option and click **Next**.



13 In the *Export File Format* wizard window, make sure that the **Personal Information Exchange** option (default) is selected and click **Next**.

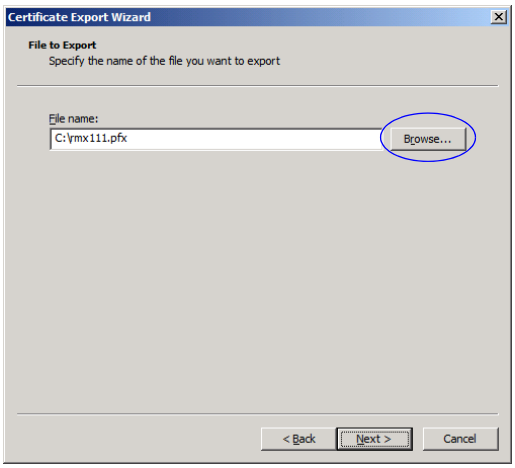


14 In the *Password* wizard window, enter a password, confirm it and click **Next**. For example, enter *Polycom*.



Write down this password, as it will be used later to create the certPassword file that is sent to the RMX together with the certificate file.

15 In the *File To Export* wizard window, click the **Browse** button.



16 Enter the certificate file name and select the export destination and click OK. The selected file name and destination are listed in the *File to Export* window.

17 Click **Next**.

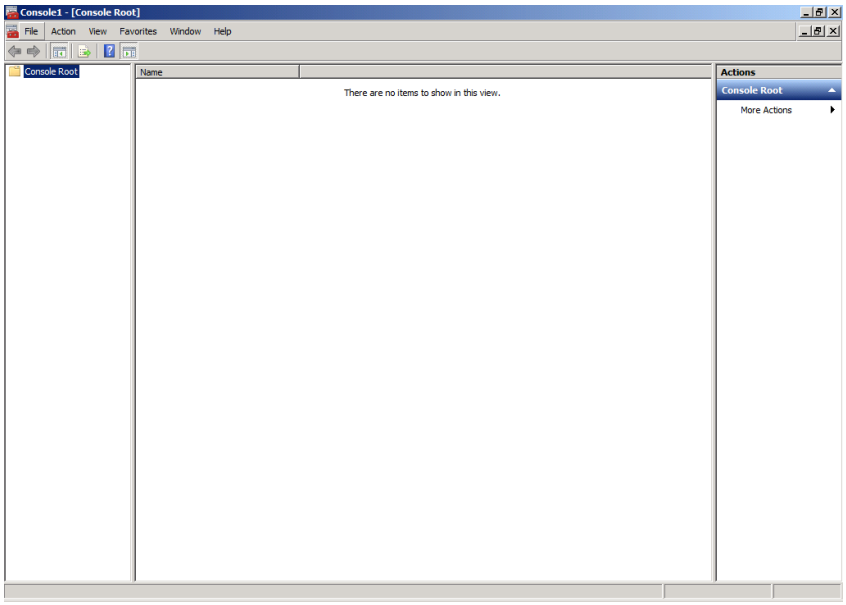
18 Click **Finish**.

Retrieving the CA Account Information

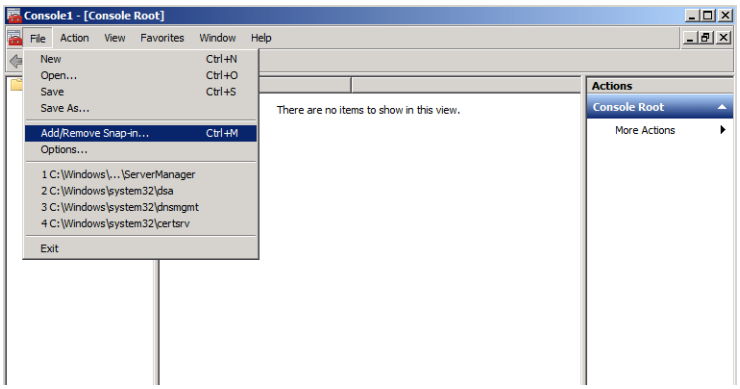
One of the parameters that are required for the `Request-CsCertificate is the CA Account.` The CA account can be retrieved by performing the following procedure:

1 On the computer with the installed Certificate Authority, click **Start > Run**.

In the *Run* window, enter **MMC** and click **OK**.
The *Console* window opens.

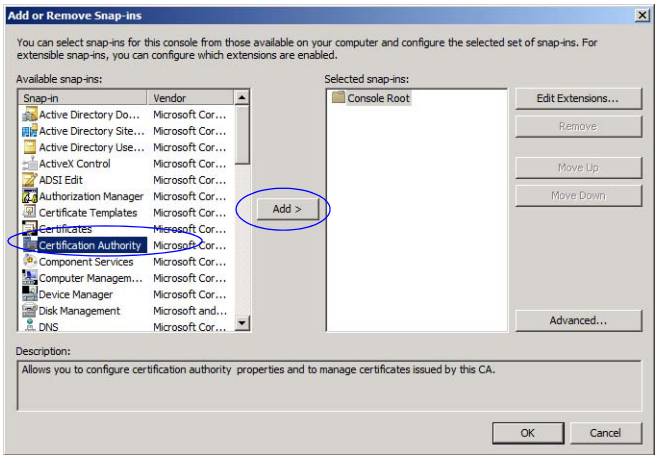


2 On the **File** menu, click **Add/Remove Snap-in**.



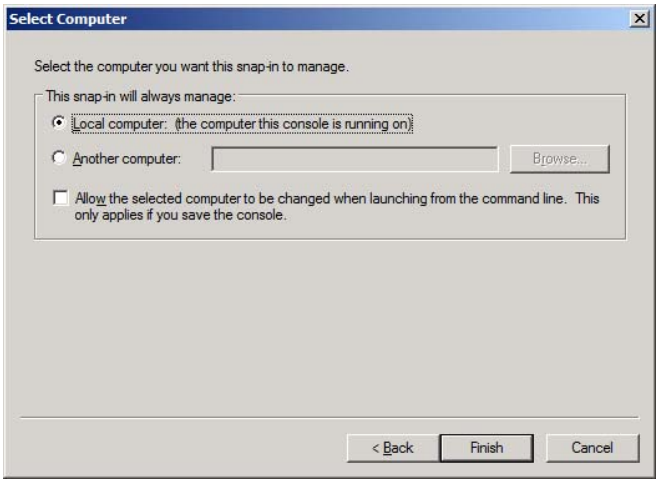
The *Add/Remove Snap-in* dialog box open.

3 In the *Available snap-ins* list, select **Certificate Authority** and then click the **Add** button.



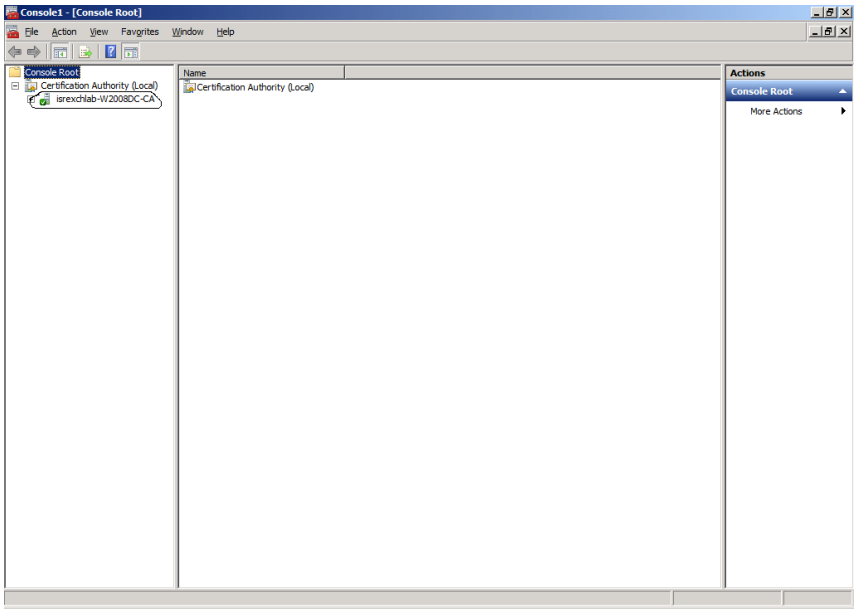
The *Select Computer* dialog box open.

4 Select the **Local Computer** option and click **Finish**.



5 In the *Available snap-ins* list, click **OK**.
The Certificate Authority appears in the *Console* window.

6 Expand the Certificate Authority tree and look for the CA Account name.



7 Write down the CA account so you will be able to use it when creating the certificate account.

Sending the Certificate File to the RMX

If ICE dialing is part of the environment, this procedure can be performed as part of the setting of the RMX for ICE Dialing. For more details, see "" on page 1-102.

This procedure assumes that the IP Network Service is already defined and includes SIP in its environment.

Optional. Creating the Certificate Password File (certPassword.txt)

If you have used a password when creating the certificate file (*.*pfx*), you must create a **certPassword.txt** file. This file will be sent to the RMX together with the *.*pfx* file.

To create the certPassword.txt file:

1 Using a text editor application, create a new file.

2 Type the password as you have entered when creating the certificate file. For example, enter *Polycom*.

3 Save the file naming it **certPassword.txt** (file name must be exactly as show, the RMX is case sensitive).

Sending the Certificate file to the RMX

To Send the *.pfx Certificate file:

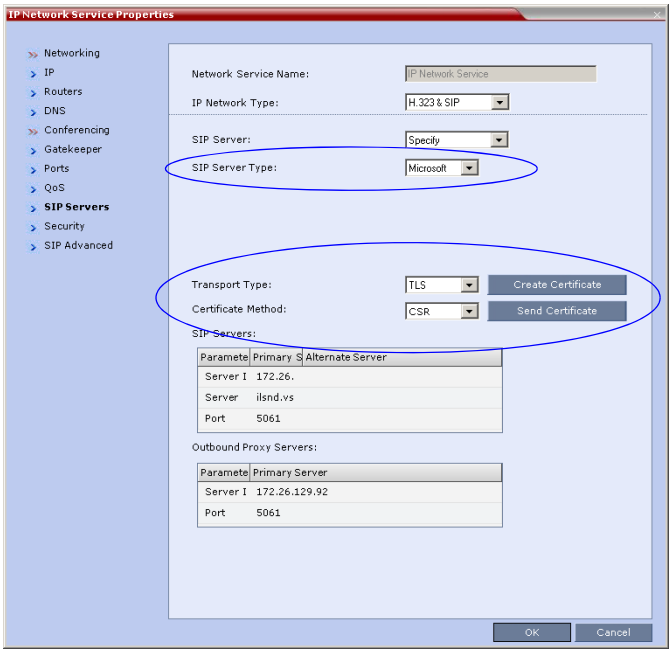
1 Using the Web browser, connect to the RMX.

2 In the *RMX Management* pane, expand the **Rarely Used** list and click **IP Network Services** ( ).

3 In the *IP Network Services* pane, double-click the **Default IP Service** (, , or) entry.

The *Default IP Service - Networking IP* dialog box opens.

4 Click the **SIP Servers** tab.

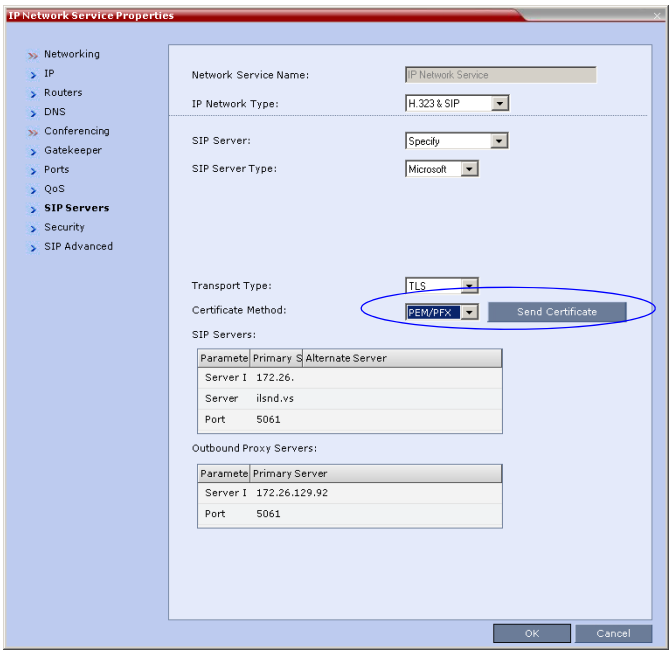


5 In the *SIP Server Type*, select **Microsoft.**

6 In the *Transport Type* field, select **TLS**.

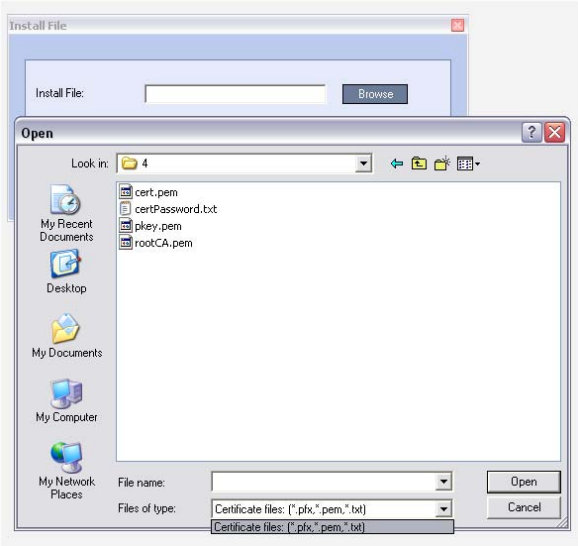
7 In the *Certificate Method* field, select **PEM/PFX**.

8 Click the **Send Certificate** button.



The *Install File* dialog box opens.

9 Click the **Browse** button.
The *Open* dialog box appears, letting you select the certificate file(s) to send to the MCU.



10 In the file browser, select all files to be sent in one operation according to the contents of the set:

Two files: one ***.pfx** file and **certPassword.txt**.
The file *certPassword.txt* is manually created if the **.pfx* file was created by the Lync Server 2010 using a password.

11 Click **Open**.
The selected file(s) appear in the *Install Files* path.

12 Click **Install**.
The files are sent to the RMX and the *Install File* dialog box closes.

13 In the *Default IP Service - Networking IP* dialog box, click **OK**.

14 In the *Reset Confirmation* dialog box, click **No** to modify the required system flags before resetting the MCU, or click **Yes** if the flag was already set**.**

- Reset can be performed after setting the system flags (for example, setting the MS_ENVIRONMENT flag). After system reset the RMX can register to the Lync server 2010 and make SIP calls.
- Sometimes the system fails to read the *.pfx file and the conversion process fails, which is indicated by the active alarm “SIP TLS: Registration server not responding” and/or “SIP TLS: Registration handshake failure”. Sending *.pfx file again, as described in this procedure and then resetting the system may resolve the problem.

Supporting Remote and Federated Users in Microsoft Lync Server 2010 ICE Environment

You can support federated or remote users by including a Lync Server edge server in your environment. The Lync Server with an access edge server role supports the Interactive Connectivity Establishment (ICE) protocol which allows devices outside an organization’s network to call other devices that are also part of the Polycom-enabled

unified communications solution. This functionality is supported in both the Lync Server 2010, the Polycom video infrastructure, and Polycom HDX systems. This functionality is similar to is support with Microsoft Office Communications Server (Microsoft Wave 13 release).

Deployment Considerations

- TLS is required for both federated environments and for remote users.
- Polycom devices use the Access Edge Server IP address to register to a Lync Server edge server.
- Numeric dialing is not supported between federated environments.

Deployment Process for the RMX Systems

To enable the remote and Federation connections the following operations must be performed:

- Task 1: Ensuring SIP Signaling Domains are Allowed
- Task 2: Creating an Active Directory account for the RMX that will be used for registering and operating in the MS ICE environment
- Task 3: Enabling the RMX User Account for Lync Server 2010
- Task 4: Enabling the RMX Account for Remote Access and Federation
- Task 5: Configuring the RMX for ICE dialing

To place federated calls between Domain A and Domain B in ICE environment sub domains must be federated to the main domain or the RMX system must be installed on a main domain.

Task 1: Ensuring SIP Signaling Domains are Allowed

When federating with another Lync Server environment that includes a Polycom RMX system, you need to ensure that both the Lync Server edge server domain and the SIP signaling domain are allowed on the federated Lync Server edge server.

For example, if companyB wants to connect to calls managed by an RMX system on companyA, companyB must add the companyA domains to its list of allowed SIP domains in the Lync Server edge server.

Likewise if companyA wants to connect to calls managed by an RMX system on companyB, companyB's SIP domains must be on the allowed SIP domain list of companyA's edge server.

To federate a Lync Server edge server with another Lync Server environment:

1. On the Lync Server edge server, navigate to the Computer Management console. For example, right-click **My Computer** and choose **Manage**.
2. In the console tree, expand **Computer Management > Services and Applications >** Office Communications Server 2007 and right-click Office Communications Server 2007 and then click **Properties**.
3. Click the **Internal** tab.
4. In the *Internal SIP Domains support by Office Communications Servers in your organizations: area*, click **Add Domain**.
5. In the *Add SIP Domain* dialog box, add each SIP domain to be supported in your Microsoft Lync deployment. In the box, type the FQDN of the SIP domain, and then click **Add**. After adding all SIP domains to be supported, click **Next**.

You need to add the following SIP domains:

— Microsoft Lync edge server with which you want to federate. For example, LYNC.companyB.com.

— The FQDN of the of the SIP signaling domain of the RMX system in companyB in the following format: RMX_NAME.LYNC_EDGE_SERVER_NAME.DOMAIN.COM

The RMX system must also be configured as a static route for the Lync Server on the network where it resides.

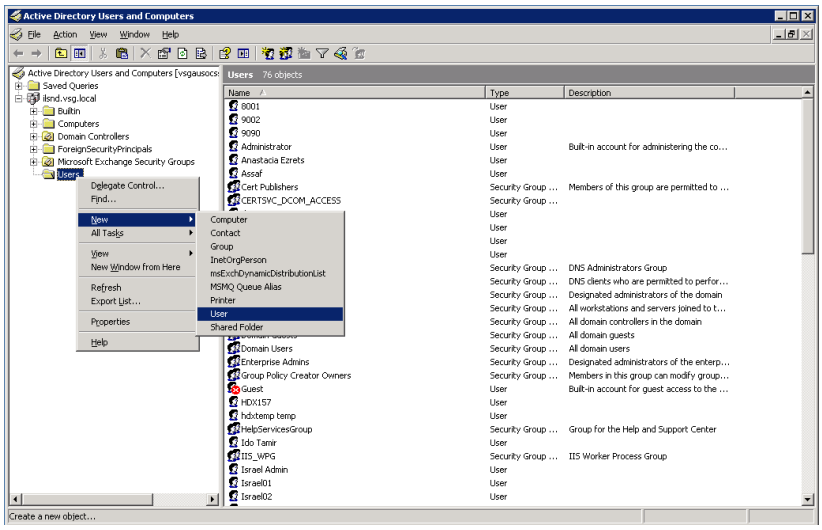
Task 2: Creating an Active Directory Account for the RMX

The User account created for the RMX is used for registration in the Lync Server and to automatically synchronize with the STUN and relay (Edge) servers.

To add the RMX user to the Active Directory:

1 Go to **Start > Run** and enter **dsa.msc** to open the *Active Directory Users and Computers* console

2 In the console tree, select **Users > New > User**.



3 In the *New User* wizard, define the following parameters:

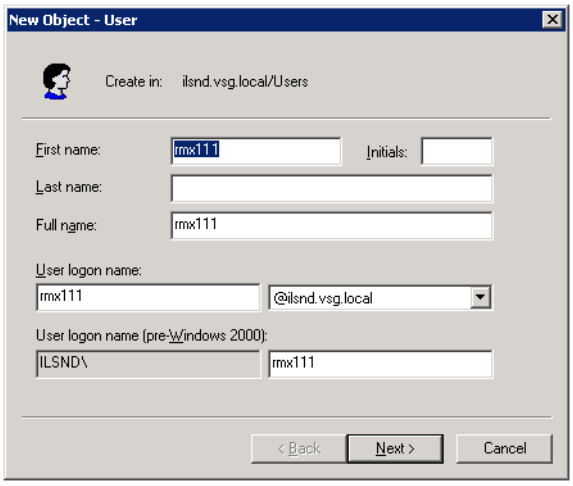


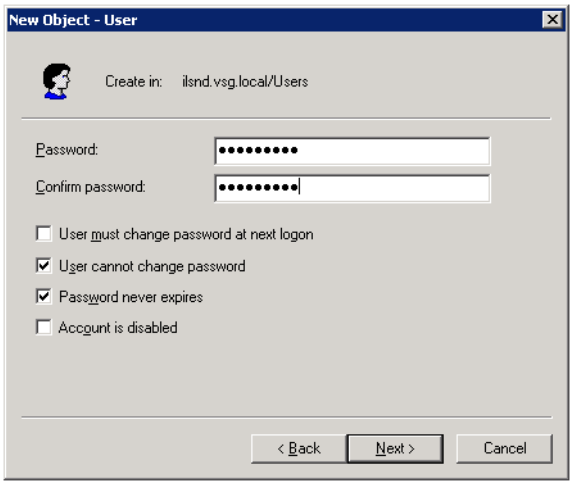
Table 3 *Active Directory - New User Parameters for the RMX*

Field	Description
First Name	Enter the name for the RMX user. This name will be used in the configuration of the ICE environment in the RMX.
Full Name	Enter the same name as entered in the *First Name* field.
User Login Name	Enter the same name as entered in the *First Name* field and select from the drop down list the domain name for this user. It is the domain name defined for the Office Communication Server.

A unique user name must be defined for each RMX system installed in the Microsoft environment.

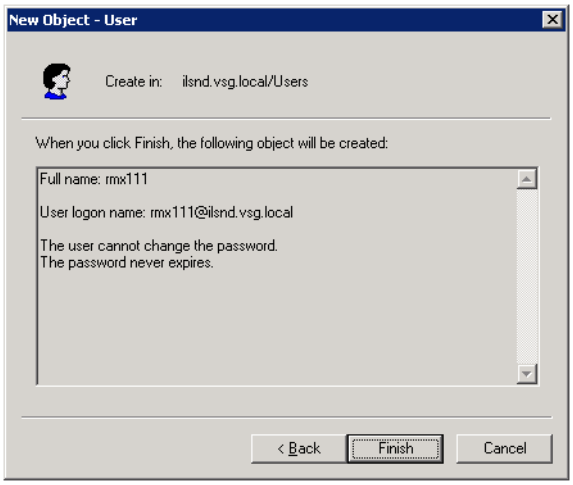
4 Click **Next**.

5 Enter the password that complies with the Active Directory conventions and confirm the password.



6 Select the options: **User cannot change password** and **Password never expires**. Clear the other options.

7 Click **Next**.
The system displays summary information.



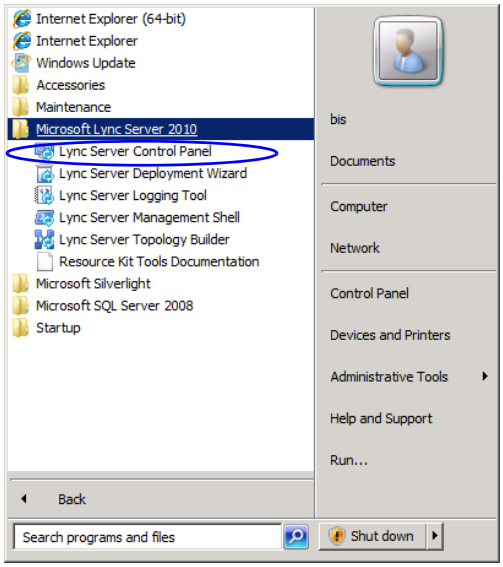
8 Click **Finish**.
The new User is added to the Active Directory *Users* list.

Task 3: Enabling the RMX User Account for Lync Server

The new RMX user must be enabled for registration with the Lync Edge Server.

To enable the RMX User Account for Lync Server:

1 On the computer running the Lync Server 2010, go to **Start->All Programs->Microsoft Lync Server 2010>Lync Server Control Panel**.

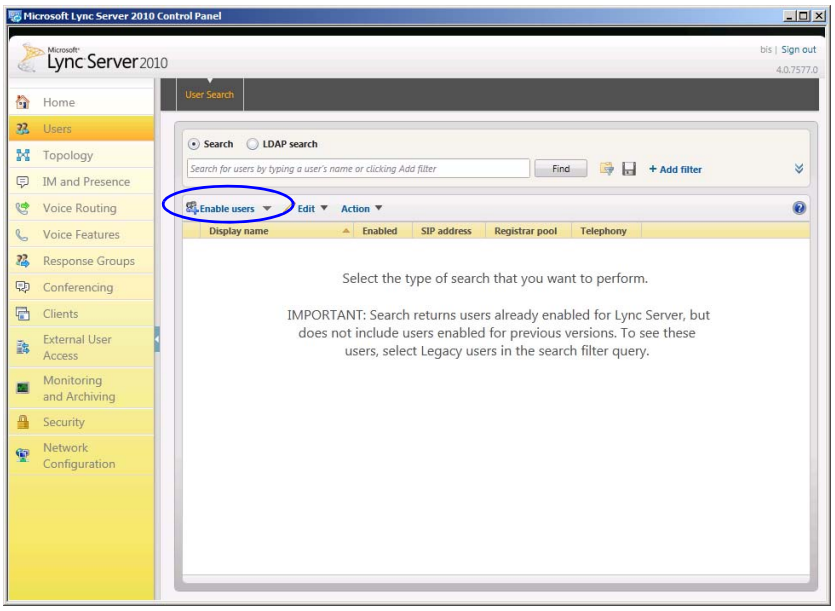


Windows Security window opens.

2 Enter your User name and Password as configured in the Lync Server and click OK.
The *Microsoft Lync Server 2010 Control Panel* window opens.

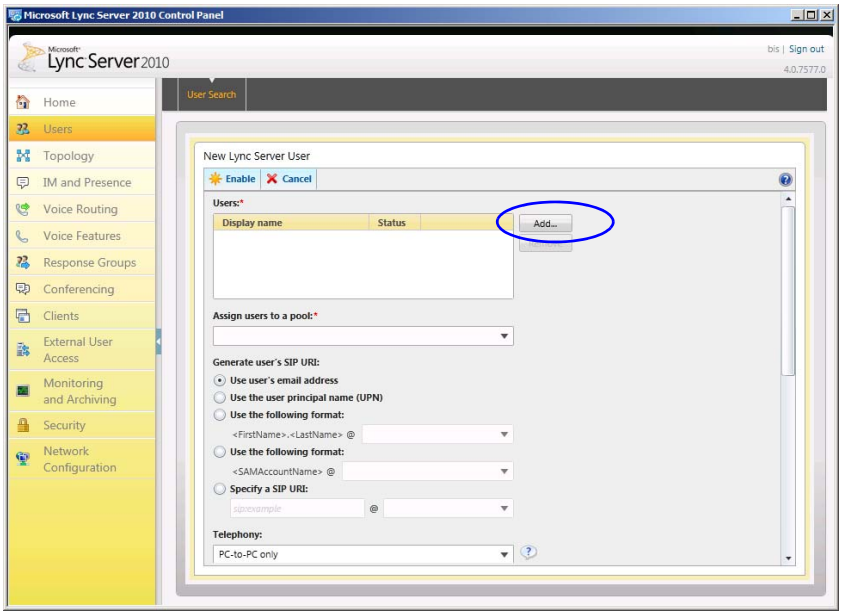
3 Click the **Users** tab.

4 In the *User Search* pane, click the **Enable Users** heading.



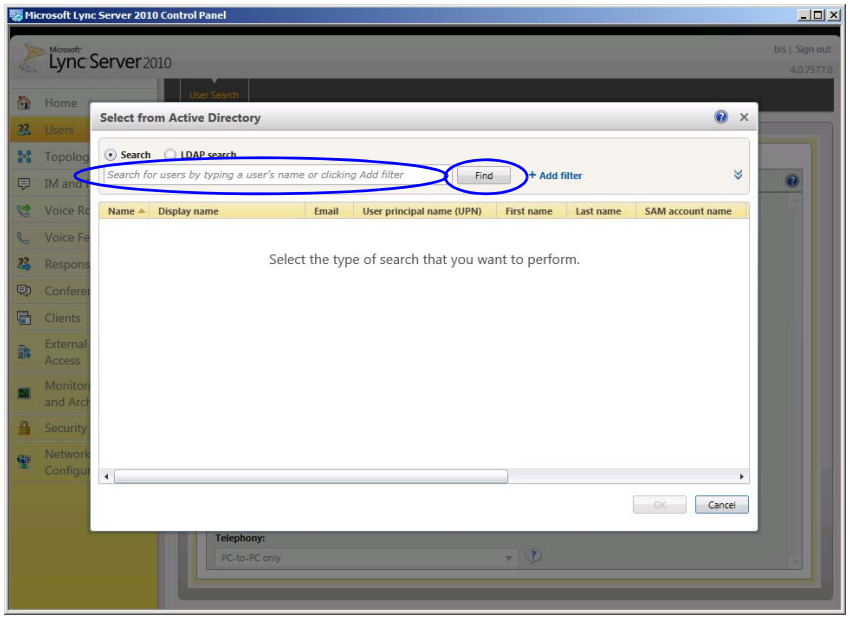
The *New Lync Server User* pane opens.

5 Click the **Add** button.



The *Select from Active Directory* dialog box opens.

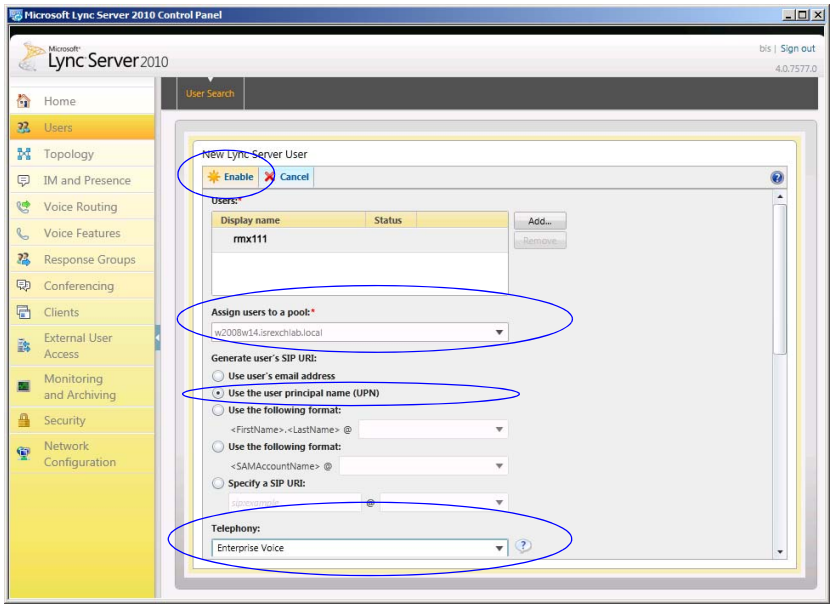
6 Enter the RMX user name as defined in the Active Directory, and then click the **Find** button.



The requested user is listed in the Select From Active Directory dialog box.

7 Select the listed user (RMX user) and click OK.
The selected user appears in the *New Lync Server User* pane.

8 Select the following parameters:



— In *Assign users to a pool* field, select the required pool.

— In the *Generate user SIP URI*, select the **Use the user principal name (UPN)** option.

— In the *Telephony* field, select **Enterprise Voice**.

9 Click the **Enable** button.
The selected user appears as enabled in the *User Search* pane.

Task 4: Enable the RMX Account for Remote Access and Federation

You need to configure the RMX user account for remote access and federation. The following instructions assume you have configured a Lync Server edge server.

To configure the RMX account for federation and remote user access:

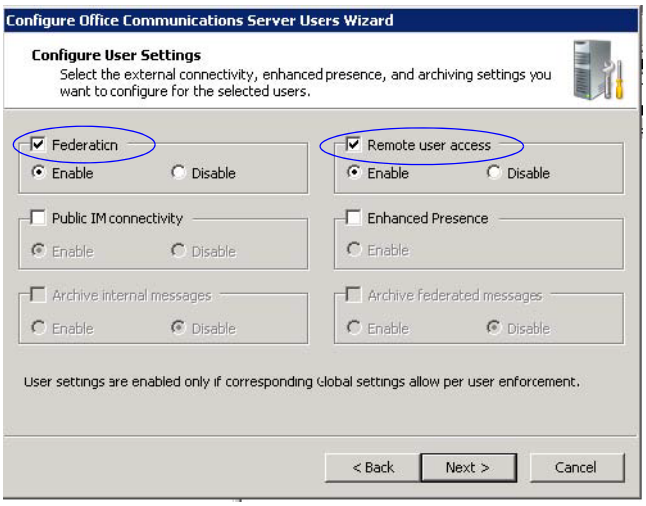
1 Go to **Start > Run.**

2 Enter **dsa.msc** and click **OK.**
The *Active Directory Users and Computers* console opens.

3 Right-click the RMX user, and select **Configure Communications Server Users**.

4 In the *Configure Communications Server Users* wizard, click **Next**.

5 In the *Configure User Settings* page, select the **Federation** and **Remote user access** check boxes.



— **Remote user access** is required for all deployments that include remote or federated users.

— **Federation** is only required when you are supporting federated users.

6 Click **Next** and select any additional configuration settings for your deployment.

7 When complete, click **Finish**.

Task 5: Configuring the RMX for ICE Dialing

To enable ICE dialing, the Default IP Network Service must be configured to work with the Lync Server 2010 as the SIP Server and the RMX user defined in the Active Directory must also be defined in the RMX ICE environment parameters.

The procedure described here assumes that the RMX is configured to work in Microsoft environment; the MS_ENVIRONMENT flag is set to YES, the IP Network Service is set to work with Office Communications Server as the SIP Server and the TLS certificate is installed. For a detailed description of these settings, see the *RMX 1500/2000/4000 Administrator's Guide, Appendix H*.

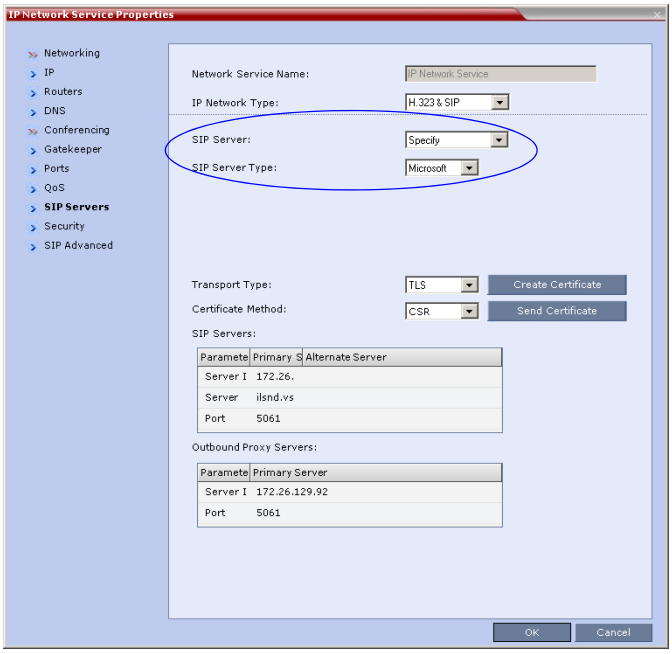
To configure the RMX for ICE Dialing:

1 In the RMX Web browser, in the *RMX Management* pane, expand the **Rarely Used** list and click **IP Network Services** ( ).

2 In the *IP Network Services* pane, double-click the **Default IP Service** (, , or) entry.

The *Default IP Service - Networking IP* dialog box opens.

3 Click the **SIP Servers** tab.



4 Make sure that the *SIP Server* is set to **Specify.**

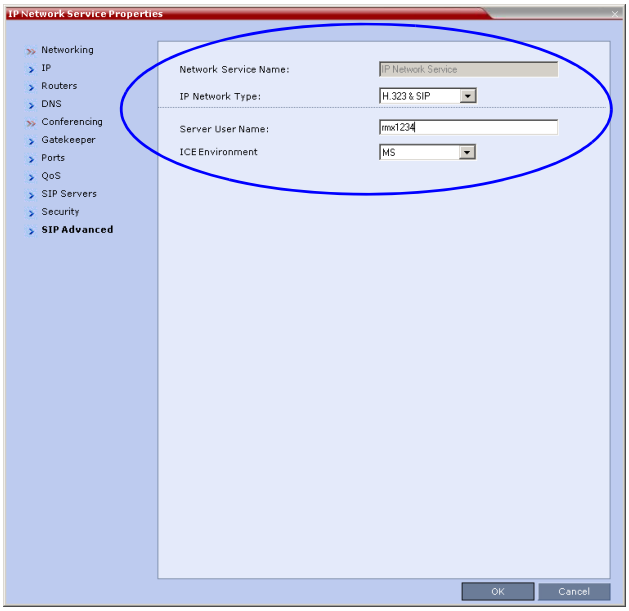
5 Make sure that the *SIP Server Type* is set to **Microsoft**.

6 Make sure that the IP address of the Office Communications Server 2007 or Lync Server 2010 is specified and the *Server Domain Name* is the same as defined in the OCS/Lync Server and in the *Management Network* for the DNS.

7 Make sure that the IP address of the Lync Server 2010 is specified and the *Server Domain Name* is the same as defined in the Lync Server and in the *Management Network* for the DNS..

If the certificate file was not sent to the RMX previously, you can send it now. For more details, see "*Sending the Certificate file to the RMX"* on page **1-93**

8 Click the **SIP Advanced** tab.



9 In the *ICE Environment* field, select **MS** (for Microsoft ICE implementation) to enable the ICE integration.
This field is disabled if the RMX is running in *MPM Card Configuration Mode*.

10 In the *Server User Name* field, enter the RMX User name as defined in the Active Directory. For example, enter **rmx1234**.
This field is disabled if the *ICE Environment* field is set to **None**.

11 **Optional** if the **Fixed Ports** options was selected previously.
Click the **Ports** tab to modify the number of UDP Ports allocated to the calls to accommodate the number of ports required for ICE dialing.

12 In the *UDP Port Range*, modify the number of UDP ports by enter the first and last port numbers in the range. When ICE environment is enabled, the number of ports defined in the range should be **2024**.

13 Click **OK**.
The RMX will register with the OCS enabling automatic retrieval of the STUN server and Relay server parameters for ICE dialing.

These parameters can be viewed in the *Signaling Monitor - ICE Servers* dialog box.

Version 7.1 Detailed Description - Feature Changes

Personal Conference Manager (PCM)

The *Personal Conference Manager* (*PCM*) interface enables the conference chairperson to control various conference features using his/her endpoint's remote control device.

The following conference operations can be performed:

- Initiate **Polycom's Click&View™** application to change the local screen layout.
- Invite a participant to connect to the conference.
- View and control the audio and video of each connected endpoint.
- Camera Control - control the camera of a remote endpoint using (*FECC*).
- Control the camera of a connected endpoint.
- Video Force a specific participant to a specific window of the video layout.
- Initiate and control recording of the conference.
- Disconnect a participant.
- Terminate the conference.

Guidelines

- *PCM* is supported with *MPM+* and *MPMx* cards.
- *PCM* is supported in *H.323, SIP,* and *H.320* network environments.
- *PCM* is only available in *CP* conferences.
- Although the *RMX* can host up to a maximum of 800 conferences (depending on the *RMX* model) *PCM* can only be activated from 4 conferences per *MPM+* or *MPMx* card.
  - An *RMX 2000* with 2 *MPM+* or 2 *MPMx* cards installed can host a total of 8 *PCM* sessions while an *RMX 4000* with 4 *MPM+* or 4 *MPMx* cards installed can host a total of 16 *PCM* sessions.
  - If 4 *PCM* sessions are active on an *MPM+* /MPMx card and a chairperson of another conference, hosted on the same *MPM+/MPMx* card, attempts to start an additional *PCM* session, a message is displayed indicating that the requested *PCM* session cannot be activated because the maximum number of concurrent *PCM* sessions are already activated. *FECC* is then activated.
  - When *PCM* is active, *FECC* can only be performed by the chairperson using *PCM's Camera Control* menu.
- *FECC* is available to all *IP* participants in the conference with the exception of the chairperson that has an active *PCM* session.
- If enabled, *Message Overlay* is not displayed while *PCM* is active.
- Normal conference video is resumed after **4** seconds of inactivity within the *PCM* menu.
- If a chairperson with active *PCM* session is moved to another conference, the *PCM* session is automatically terminated.

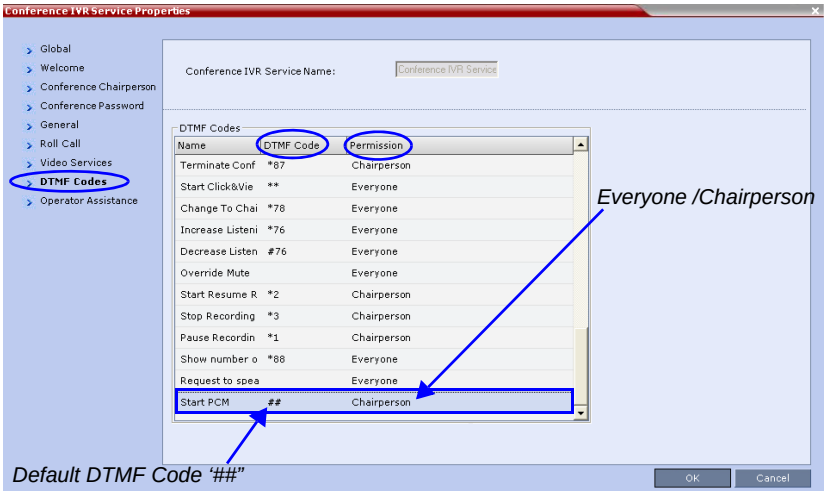
- The **PCM_LANGUAGE** *System Flag* determines the language of the *PCM* interface.

  Possible Values: ENGLISH, CHINESE_SIMPLIFIED, CHINESE_TRADITIONAL, JAPANESE, GERMAN, FRENCH, SPANISH, KOREAN, PORTUGUESE, ITALIAN, RUSSIAN, NORWEGIAN

  Default: Current *RMX Web Client* language.

- The *Start PCM DTMF* code for initiating *PCM* is configured in the *DTMF Codes* tab of the *New Conference IVR Service* or *Conference IVR Service Properties* dialog box. The default *DTMF Code* is **##** and can be modified or if required.

  The default value of the *Permission* field is **Everyone**. It can be modified to **Chairperson.**



System Flag

The **PCM_FECC** *System Flag* determines whether the DTMF *Code*, **##**, the *Arrow Keys (FECC)* or both will activate the *PCM* interface. In addition, this flag can be used to disable the PCM.

Possible Values: YES / NO

Default: YES.

Table 4 summarizes the combined effect of the *DTMF Code* and **PCM_FECC** *System Flag* settings on the system.

Table 4 *PCM_FECC / DTMF Code*

PCM_FECC=	DTMF Code	Effect on System
YES	**Defined**	Both *DTMF Codes* and *Arrow Keys* will activate *PCM*.
	Deleted	Only the *Arrow Keys* can activate *PCM*. Once *PCM* is activated the *Arrow Keys* lose their *FECC* functionality.

Table 4 *PCM_FECC / DTMF Code*

PCM_FECC=	DTMF Code	Effect on System
NO	Defined	Only the *DTMF Code* can activate *PCM*. Once *PCM* is activated the *Arrow Keys* lose their *FECC* functionality.
	Deleted	*PCM* is disabled.

This *System Flag* must be added to the *System Configuration* file before it can be modified. For more information see the *RMX 1500/2000/4000 Administrator's Guide*, *"Modifying System Flags"* on page **19-5**.

PCM Interface

Initiating PCM

For IP endpoints: *PCM* is activated by pressing the *Far* key ( ) followed by any of the *Arrow Keys* on the *Remote Control Device*.

For ISDN/PSTN endpoints: *PCM* is activated by pressing **##** on the *Remote Control Device*.

When *PCM* becomes active, the top level of the *PCM Main Menu* is displayed on the conference chairperson's endpoint:

Main Menu - Level 1

Arrow Indicator:
There are more menu options on the next page

Arrow Indicator:
There are menu options on the previous page

Main Menu - Level 2

Right Arrow:
Corresponds to the Remote Device's Right Arrow Key
Action:
Go to Sub-Menu of Selected Option (Click&View)

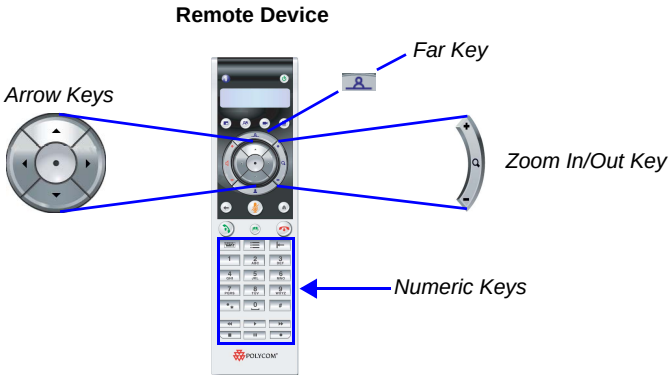
PCM Main Menu - Level 2 can only viewed and accessed by *ISDN* endpoints by using *DTMF Codes* **7** and **8**.

Remote Control Device Keys

PCM facilitates user interaction with the *RMX* using *DTMF Codes* and the *Arrow* (*FECC*) keys of the endpoint's remote control device.

Menu Navigation - Arrow and Zoom Keys

The *PCM Menu* is navigated using the *Remote Device's Arrow Zoom Keys* which are defined as follows:



They are defined as follows:

Table 5 *PCM - Menu Navigation*

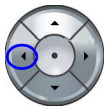
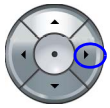
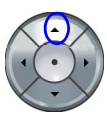
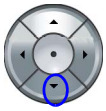
Arrow Key	Description
Left 	• Go up one menu level. • Delete the character to the left of the cursor when entering data. • Exit the PCM menu and return to normal conference video (from PCM the top level menu.) • Select the video window to the left when navigating a video layout. • Initiate PCM from a conference.
Right 	• Go down one menu level. • Confirm current selection in the PCM menu. • Select the video window to the right when navigating a video layout. • Initiate PCM from a conference.
Up 	• Cycle upward through the displayed menu options. • Select the video window above when navigating a video layout. • Initiate PCM from a conference.

Table 5 *PCM - Menu Navigation*

Arrow Key	Description
Down 	• Cycle downward through the displayed menu options. • Select the video window below when navigating a video layout. • Initiate PCM from a conference.
Zoom in (+)	• Confirm current selection in the PCM menu. • Zoom in on the remote camera when using FECC.
Zoom out (-)	• Exit PCM Menu. • Zoom out on the remote camera when using FECC.

DTMF Codes - Numeric Keys

Before using the shortcut number keys 0-9, enable the DTMF function of the endpoint according to that endpoint's configurations.

DTMF codes are entered using the *Remote Device Numerics Keys* and are defined as follows:

Table 6 *PCM - DTMF Codes*

Numeric Key	Description
0	• Number input. • Shortcut key to a numbered menu option - when conference video or the PCM menu is displayed. • Return to the conference - when in FECC mode.
1-9	• Number input. • Shortcut key to a numbered menu option - when the conference video or the PCM menu is displayed. • Initiate PCM session on ISDN/PSTN endpoint (**1** is the default for the *Start PCM* DTMF Code).
*	• Initiate DTMF mode (with Polycom endpoints) - during a conference or when the PCM menu is displayed. • Enter a period "**.**" - while entering an IP address.
#	Confirm selection and send information to the RMX.

PCM Main Menu - Level 1

Click&View

With the *Click&View* application, participants can change their *Personal Layouts* using the *Arrow Keys* or *DTMF* codes entered using the *Numeric Keys* of their endpoints.

Invite Participant

This function is not available to chairpersons using *PCM* with *ISDN* endpoints.

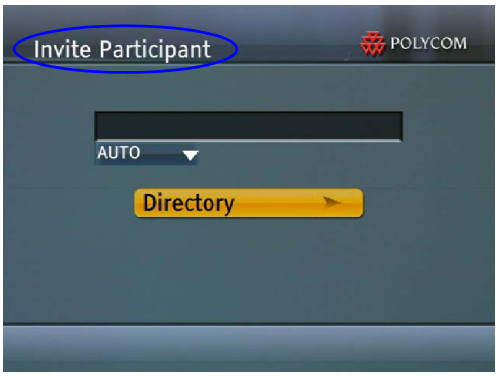
To invite a participant to connect to the conference:

1 Use the **Up/Down** arrow keys to select **Invite Participant** in the *Main Menu* and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **2** key on the *Remote Device*.

The *Invite Participant* sub menu is displayed.



2 Use the *Numeric Keys* to enter the number of the participant's endpoint.

3 Press the **#** key to initiate the call.

4 **Optional**.

a Use the **Down** arrow to select the **Auto** button to select from the following dialing methods:

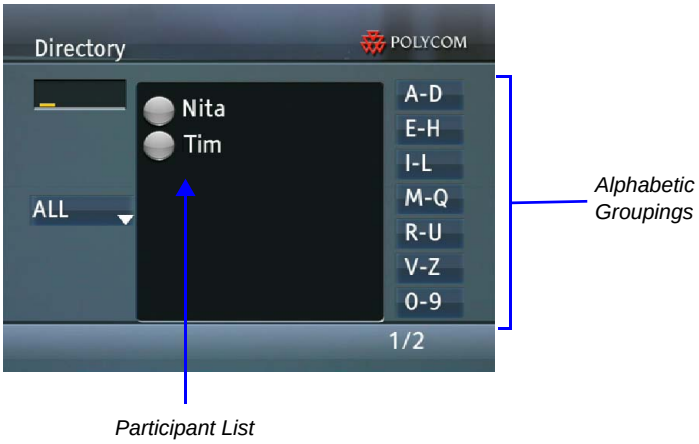
- H.323
- SIP
- VoIP
- ISDN
- PSTN

b Press the **#** key to initiate the call.

5 **Optional.**

a Use the *Arrow Keys* to select the **Directory** button to select the *Alphabetic Grouping* sub menu.

The *Local Directory* is displayed.



b Use the *Numeric Keys* to enter the number of the participant's endpoint.

c Press **#** or the **Zoom In** key to initiate the call.

or

d Use the **Up/Down** arrow keys to select a **Participant** from the displayed list or use the **Up/Down** and **Left /Right** arrow keys to display other directory listings**.**

A message, *Press # or Zoom In to select,* is displayed.

e Press **#** or the **Zoom In** key to initiate the call.

Optional. To display all participants:

— Use the **Down** arrow and the to select the **ALL** button.
— Use the **Zoom In** key to display the global directory.
— Use the **Up/Down** and **Left /Right** arrow keys to select a **Participant.**
— Press **#** or the **Zoom In** key to initiate the call.

Participants Mute/Status

This function is not available to chairpersons using *PCM* with *ISDN* endpoints.

The chairperson can view and control the audio and video status of each participant's endpoint. The chairperson can:

- View the audio and video status of participants.
- Mute, block, unmute, unblock participant audio.
- Suspend or allow participant video.
- Mute all (except chairperson and lecturer).

To view and change the Participants Mute/Status:

1 Use the **Up/Down** arrow keys to select **Participants Mute/Status** in the *Main Menu* and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **3** key on the *Remote Device*.

The *Participants Mute/Status* sub menu is displayed.

The sub menu displays the *Muted, Blocked* and *Video Suspended* status of all participants' endpoints. **ALL** can be selected to mute and unmute all participant endpoints with the exception of the conference chairperson and lecturer.

2 Use the **Up/Down/Left/Right** arrow keys to select a *Mute, Block* or *Suspend* status icon.

3 Use the **Zoom In** key to toggle the state of the audio and video channels of the participants' endpoints.

The status icons are summarized in Table 7.

Table 7 *Participants Mute/Status - Icons*

Status Icon	Description
	Audio output from this endpoint is allowed. Other conference participants can hear the audio from this endpoint.
	The endpoint is muted. Other conference participants will not hear audio from this endpoint.
	The audio input to this endpoint is allowed. This endpoint can hear the conference audio.
	The audio output to this endpoint is blocked. This endpoint cannot receive the conference audio.
	Video output from the endpoint is allowed. Other conference participants can see video from this endpoint.
	Video output from the endpoint is suspended. Other conference participants cannot see video from this endpoint.
	The endpoint is neither muted nor blocked.
	The endpoint is both muted and blocked.

Camera Control

This function is not available to chairpersons using *PCM* with *ISDN* endpoints.

The endpoint to be controlled must support *Far End Camera Control* (FECC).

Using the arrow keys of the remote control device, the chairperson can control the direction, zoom and focus of a remote endpoint's camera.

To control a far camera:

1 Use the **Up/Down** arrow keys to select **Camera Control** in the *Main Menu* and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **4** key on the *Remote Device*.

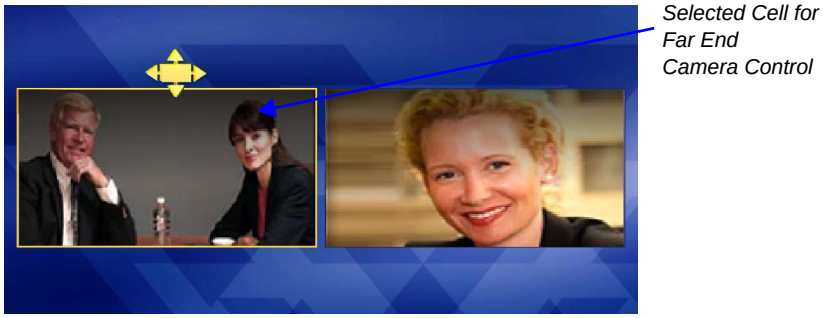
The *Camera Control* sub menu is displayed.

2 Use the **Up/Down/Left/Right** arrow keys to select the far camera to be controlled.

A colored frame is displayed around the selected cell in the video layout.

3 Use the **Zoom In** key to activate *FECC*.

Following a 10 second delay, the *FECC* active icon ( ) is displayed in the video image of the selected site.



4 Use the **Up/Down/Left/Right/Zoom In/Zoom Out** arrow keys to control the remote camera.

5 Press the **0** key on the remote control to exit FECC.

6 Use the **Zoom Out** key on the remote control to return to the conference video.

Video Force

This function is not available to chairpersons using *PCM* with *ISDN* endpoints.

Video Force enables the chairperson to force the video of a specific participant to a specific window of the video layout.

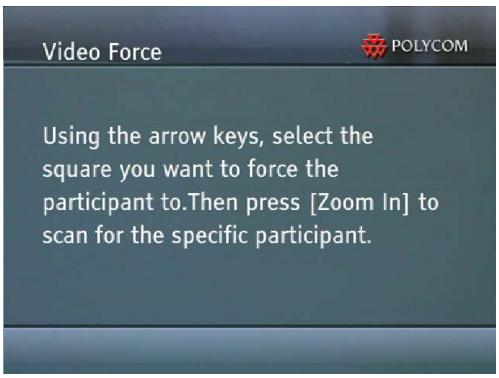
To Video Force a participant's video:

1 Use the **Up/Down** arrow keys to select **Video Force** in the *Main Menu* and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **5** key on the *Remote Device*.

The *Video Force* sub menu is displayed.



2 Use the **Up/Down/Left/Right** arrow keys to select the window of the video layout that you want the specific participant to be displayed in.

3 Press the **Zoom In** key to cycle the display of all participants in the selected video window until the participant you want to be displayed appears.

4 Press the **Right** arrow or **#** key to confirm your selection.

Recording

This function is not available to chairpersons using *PCM* with *ISDN* endpoints.

If a *Recording Link* has been set up in the *Conference Profile*, the conference chairperson can use the *PCM* interface to start, pause, resume and stop recording. If no *Recording Link* exists, this function appears grayed out and cannot be selected.

To use the recording functions:

1 Use the **Up/Down** arrow keys to select **Recording** in the *Main Menu* and then press the **Right arrow or #** key to confirm your selection.

or

Press the **6** key on the *Remote Device*.

The *Recording* sub menu is displayed.

To start recording:

>> Use the **Up/Down** arrow keys to select **Start Recording** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **1** key on the *Remote Device*.

To pause recording:

>> While recording is in progress, use the **Up/Down** arrow keys to select **Pause** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **2** key on the *Remote Device*.

To resume recording:

>> While recording is paused, use the **Up/Down** arrow keys to select **Resume** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **2** key on the *Remote Device*.

To stop recording:

>> While recording is in progress, use the **Up/Down** arrow keys to select **Stop Recording** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **3** key on the *Remote Device*.

PCM Main Menu - Level 2

Drop Participant

To disconnect a participant from the conference:

1 Use the **Up/Down** arrow keys to navigate to the second page of the *Main Menu*

2 Use the **Up/Down** arrow keys to select **Drop Participant** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **7** key on the *Remote Device*.

The *Drop Participant* sub menu is displayed.

3 Using the **Up/Down** arrow keys, select the participant to be disconnected and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the *Numeric Key* on the *Remote Device* corresponding to the participant entry.

Terminate Conference

Although this function can be accessed and viewed by chairpersons using *PCM* with *ISDN* endpoints, conference termination cannot be executed.

Although this function can be accessed and viewed by chairpersons using *PCM* with *ISDN* endpoints, conference termination cannot be executed.

To terminate a conference:

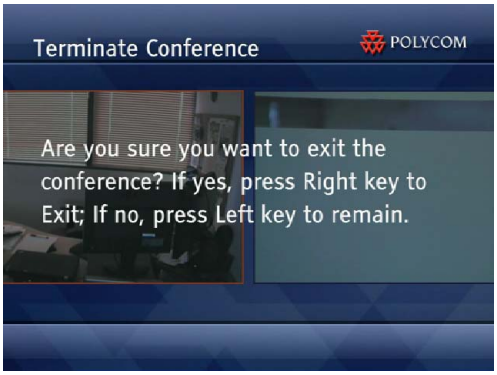
1 Use the **Up/Down** arrow keys to navigate to the second page of the *Main Menu*

2 Use the **Up/Down** arrow keys to select **Terminate Conference** and then press the **Right** arrow or **#** key to confirm your selection.

or

Press the **8** key on the *Remote Device*.

The *Terminate Conference* sub menu is displayed.



3 Press the **Right** arrow key to confirm termination of the conference.

or

Press the **Left** arrow key to cancel termination of the conference.

Diagnostics Mode Changes

Two types of Diagnostic Modes are available:

- Basic Mode
- Advanced Mode

A user using an Administrator Login, will be able to view and access the *Basic Mode*. However, a Administrator "user" with Administrator permissions must be defined on the RMX system. For more information see "*Adding a New User*" on page **13-3**. A SUPPORT user can access both the *Basic Mode* and *Advanced Mode* Diagnostics.

When Diagnostic Mode is initialized, the MCU is reset and upon restarting, the MCU will enter Diagnostic Mode. Entering this mode causes the MCU to terminate all active conferences and prohibits conferences from being established.

Diagnostic Mode is only enabled when connecting directly to the Shelf Management server.

Connecting to the Shelf Management Server:

When accessing the Shelf Management server, the content displayed will be available in English only.

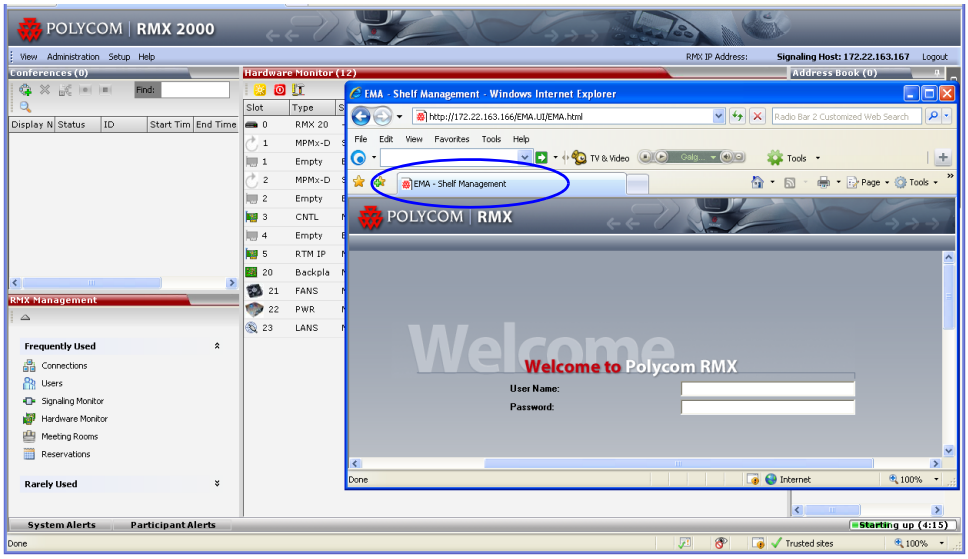
To run Diagnostics you are required to Login with **Administrator** permissions. A user with *Administrator* permissions must be defined on the RMX.

Access the RMX browser and click **Hardware Monitor**. The Hardware Monitor pane opens.

On the Hardware Monitor toolbar click the *Shelf Manager* icon.

Type in the URL address of the Shelf Management (IP address).

For example; 172.22.189.51. You must also *Login* as a "Administrator" user to run diagnostics



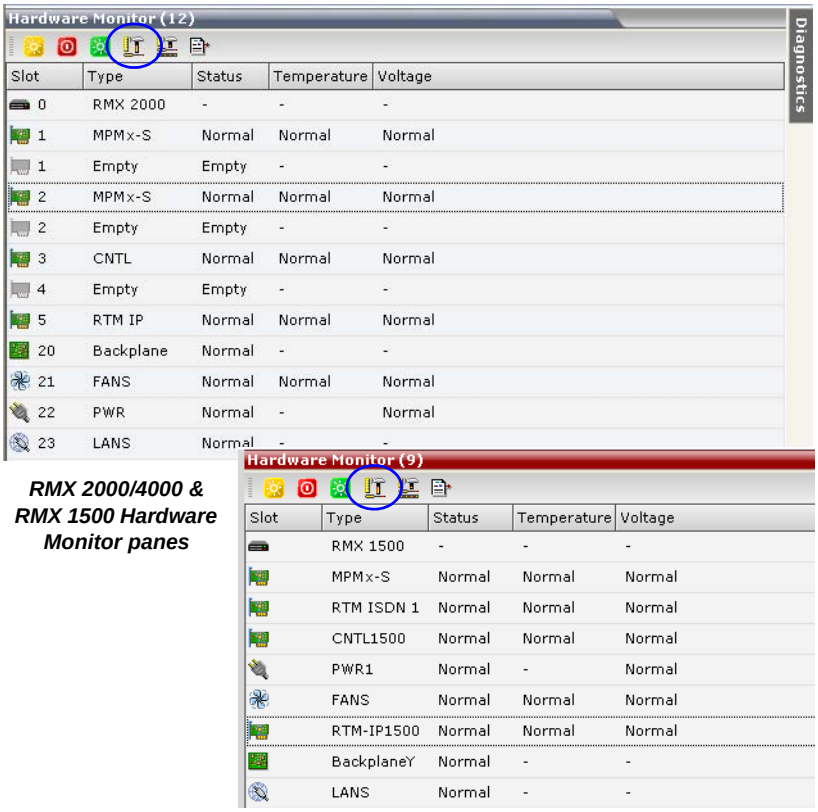
Login to the *Shelf Manager*.
On the *Hardware Monitor* toolbar select either the **Basic Mode** or **Advanced Mode** diagnostics. Depending on your selection proceed with one of the following sections:

Performing Basic Mode Diagnostics

To run Basic Mode Diagnostics on a Hardware Component:

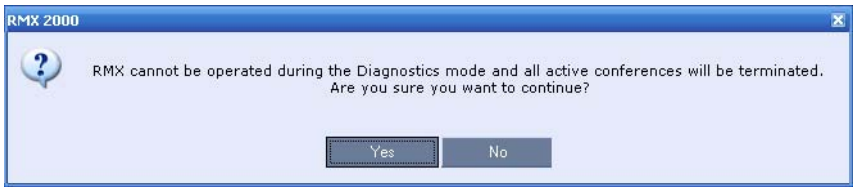
- Most of the user interfaces illustrated in this section show the RMX 2000 with MPMx cards. The *Basic Mode* for other RMXs with MPM+ card(s) are identical.
- On the RMX 1500 less "slots" are used and the module naming conventions used on elements are different.

1 In the list pane tool bar, click the **Basic Mode** ( ) button.



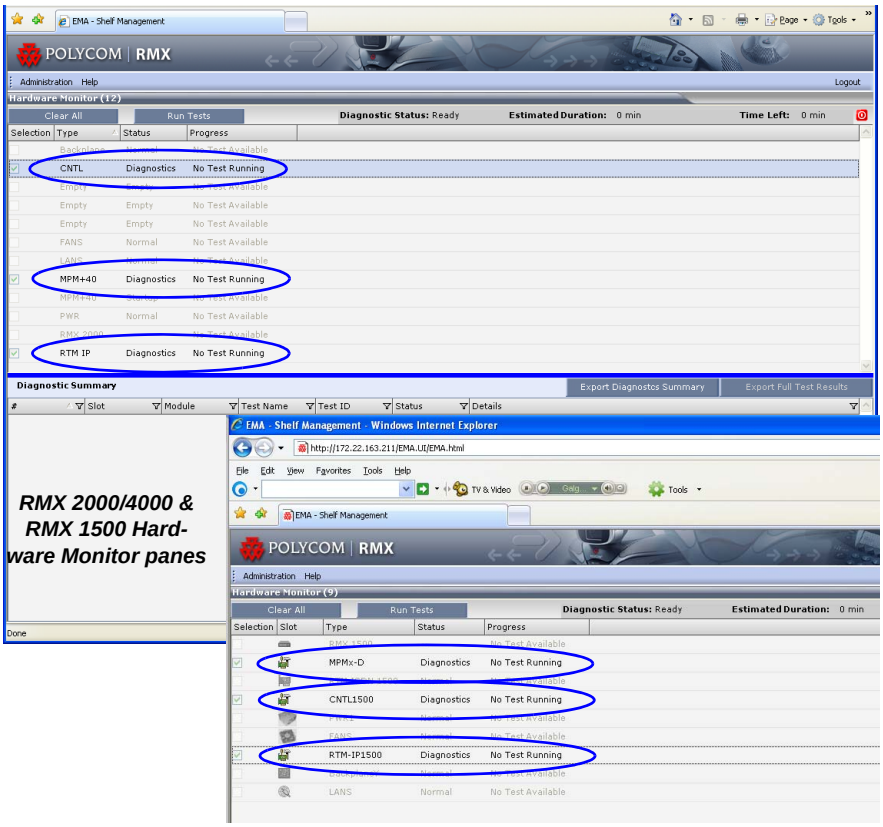
RMX 2000/4000 & RMX 1500 Hardware Monitor panes

2 In the *Reset Confirmation* dialog box, click **Yes**.



3 The RMX resets. Re-enter the *Shelf Manager IP address* in the browser and Login under **POLYCOM** or with an "Administrator" Login. After login the following screen appears. The MPM+/MPMx cards indicate "Resetting" and later switch to "Diagnostics". The status of RTM-IP/RTM IP 1500/RTM-IP 4000 and CNTL/

CNTL 1500/CNTL 4000 components change to “Diagnostics”.



4 You can select any one of the Hardware components indicating “Diagnostics/Normal” in the status column and right-click **Properties** from the menu. The card’s *General Info/Event Log/Active Alarms* properties are displayed.

5 Run Diagnostic Tests & Tests Monitoring by clicking the **Run Tests** button. In the *Hardware Monitor* pane, the toolbar and card statuses change to *Tests in progress*.

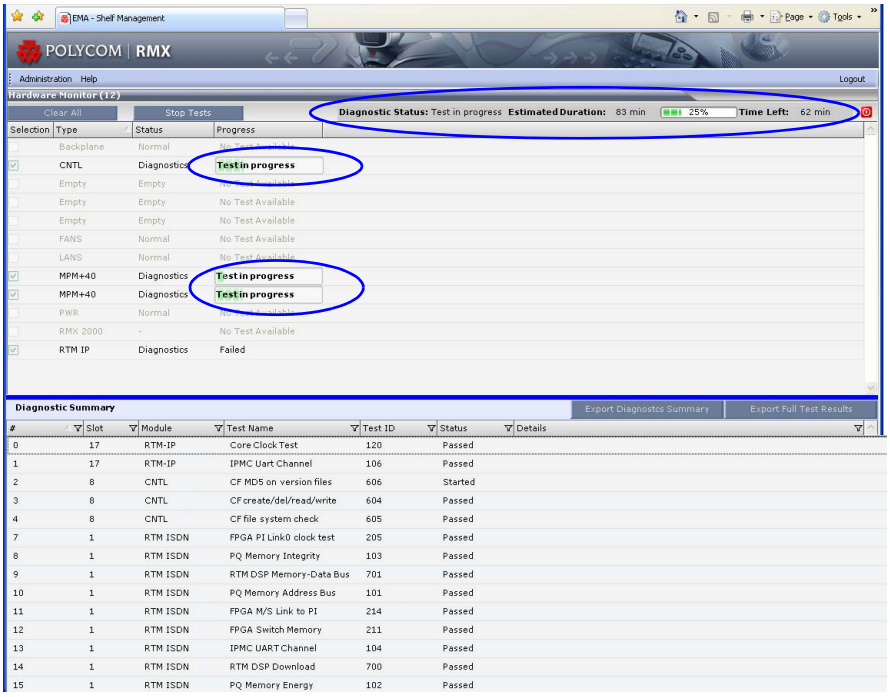


Table 1-1 *Run Tests - Parameters*

Parameter	Description
Diagnostic Status	*Basic Diagnostic Status*: • Ready - ready to run diagnostics • Test in Progress - running diagnostics • Passed/Failed - Passed/Failed the diagnostics tests
Estimated Duration	Estimated time needed to run *Basic Diagnostic* tests.
Time Left	Estimated time to complete *Basic Diagnostic* tests.

When the RMX enters "*Diagnostics Mode*", the status MPM+/MPMx, CNTL/CNTL 1500/CNTL 4000 and RTM IP/RTM IP 1500/RTM IP 4000 changes to "*Diagnostics*"

6. The *Diagnostics Summary* pane is displayed at the bottom of the *Hardware Monitoring* pane.

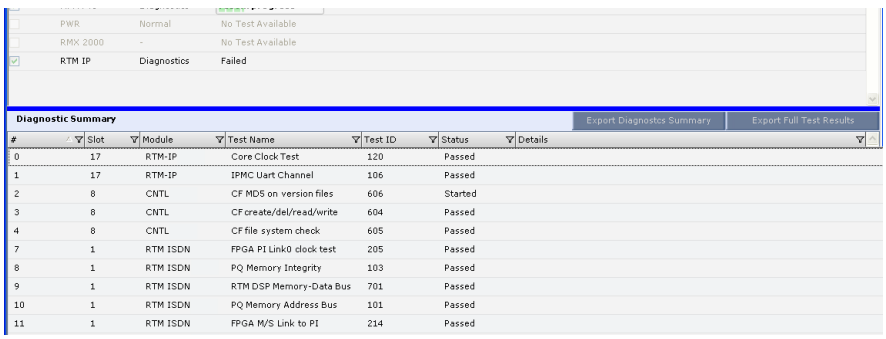


Figure 1-1 *RMX 2000/4000 Diagnostics Tests & Monitoring Tests*

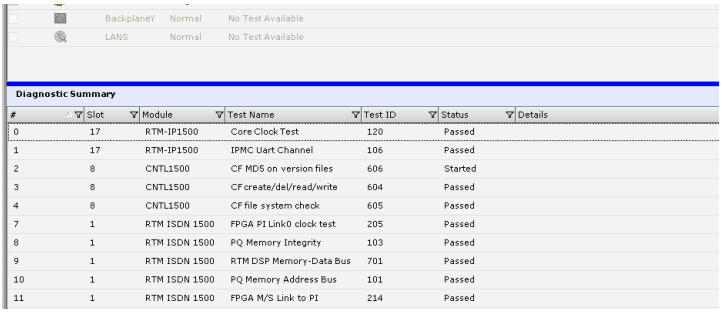


Figure 1-2 *RMX 1500 Diagnostics Tests & Monitoring Tests*

7 Select the *Run all Tests* box and then click **Run Selected Tests**.

Table 1-2 *Tests Selection - Additional Test Parameters*

Parameter	Description
Loop Test	Enter the amount of times the test is to repeat itself in succession.
Stop On Failure	Stops tests upon a failure.
Run All Test	Runs all tests listed in the *TestActive* column for the hardware component.

8 The selected tests are initialized. In the *Tests Monitoring* pane there is an indication of the *Status* of the Tests.

9 This process may take some time. Click *Stop Running Test* to end all the diagnostic tests. The MCU completes the current test running and then stops all remaining tests.

10 When the Test are completed, you have the option to download in Excel format two types of reports for analysis by your next level of support:

— Export Diagnostic Summary
— Export Full Tests Results

11 The Diagnostics Mode can be exited by pressing the red *System Reset* icon.

12 The RMX then resets.

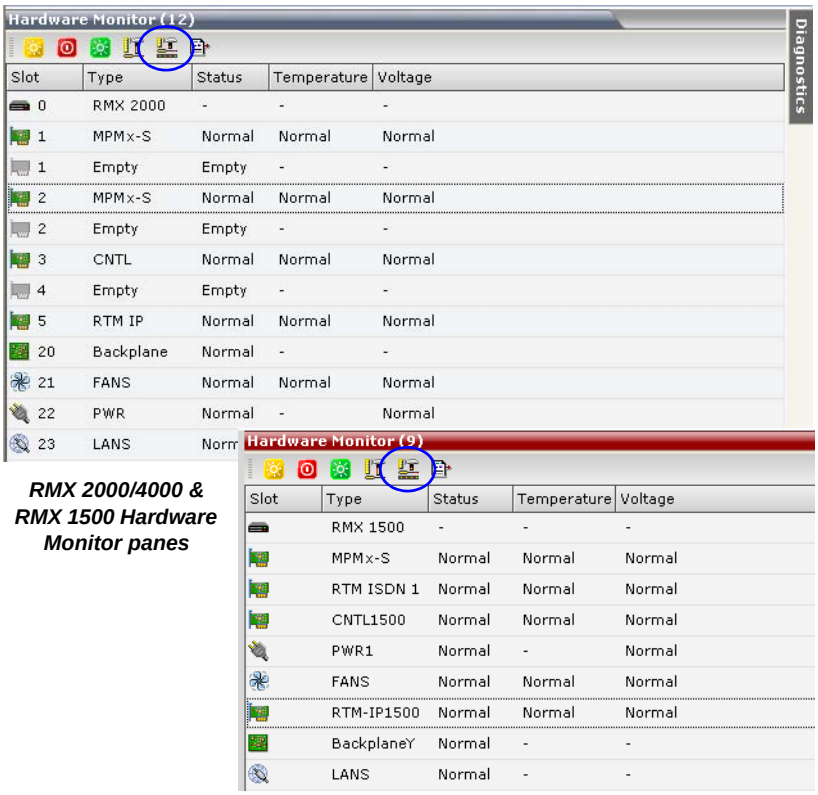
Performing Advanced Mode Diagnostics

To run Diagnostics you are required to Login with **administrator** permissions.

To run Advanced Mode Diagnostics on a Hardware Component:

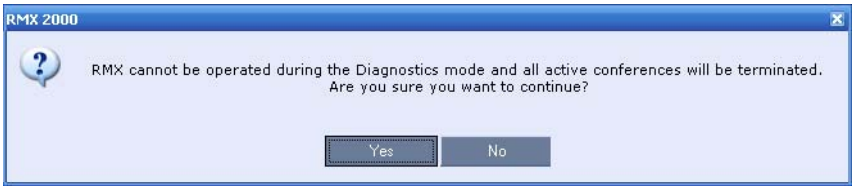
- Most of the user interfaces illustrated in this section show the RMX 2000 with MPMx cards. The *Advanced Mode* for other RMXs with MPM+ card(s) are identical.
- On the RMX 1500 less “slots” are used and the module naming conventions used on elements are different.
- Before running Advanced Mode Diagnostic testing on the CNTL module, you must insert a formatted FAT32 USB key in any one of the CNTL panel USB ports of the RMX 2000/4000. On the RMX1500 insert the USB key in the front panel mouse or keyboard slot.

1 In the list pane tool bar, click the **Advanced Mode** ( ) button.



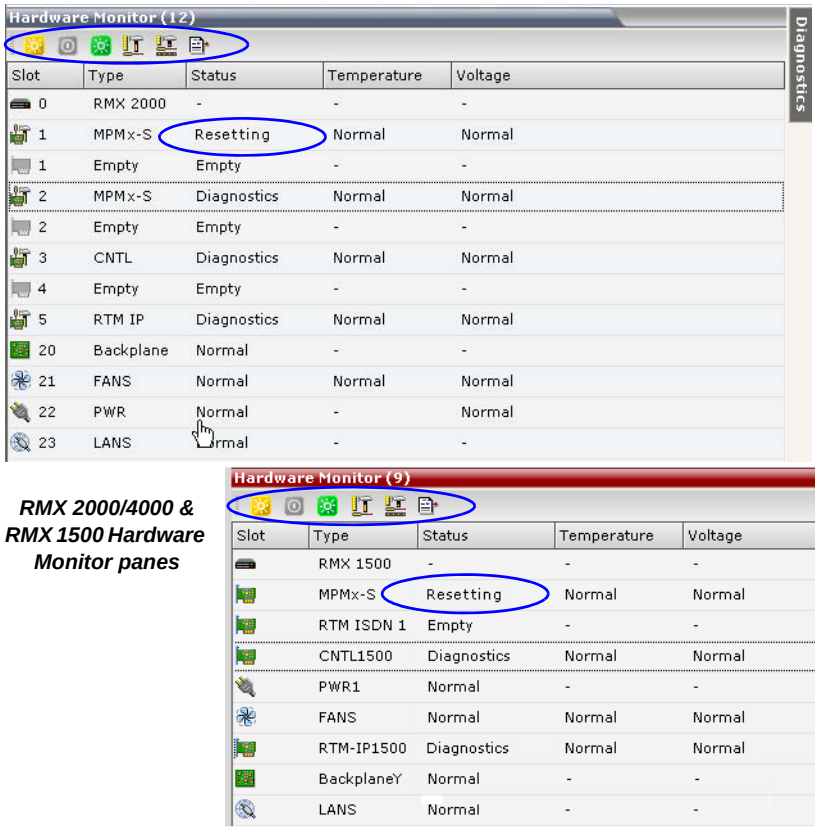
RMX 2000/4000 & RMX 1500 Hardware Monitor panes

2 In the *Reset Confirmation* dialog box, click **Yes**.



3 The RMX resets. Re-enter the *Shelf Manager IP address* in the browser and Login using an "Administrator" Login.

The MPM+/MPMx cards indicate "Resetting" and later switch to "Diagnostics". The status of RTM-IP/RTM IP 1500/RTM-IP 4000 and CNTL/CNTL 1500/CNTL 4000 components change to "Diagnostics".

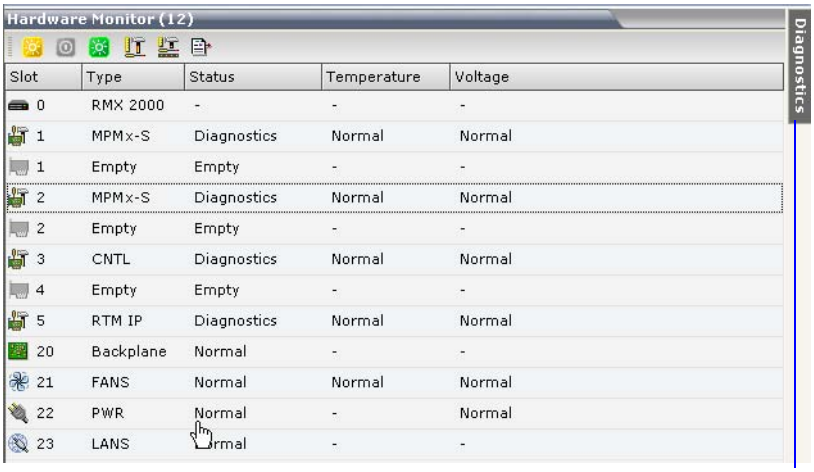


RMX 2000/4000 & RMX 1500 Hardware Monitor panes

4 You can select any one of the Hardware components indicating "Diagnostics/Normal" in the status column and right-click **Properties** from the menu. The card's *General Info/Event Log/Active Alarms* properties are displayed.

You can view Diagnostic Tests & Tests Monitoring by clicking the **Advanced Diagnostics** Tab.

When you click the **Advanced Mode** the RMX enters a "Diagnostics Mode". The *Advanced Mode* can be exited by pressing the yellow *System Reset* icon. The RMX then resets.



Advanced Diagnostics

The *Diagnostics Tests & Monitoring Tests* panes are displayed on the right side of the window pane.

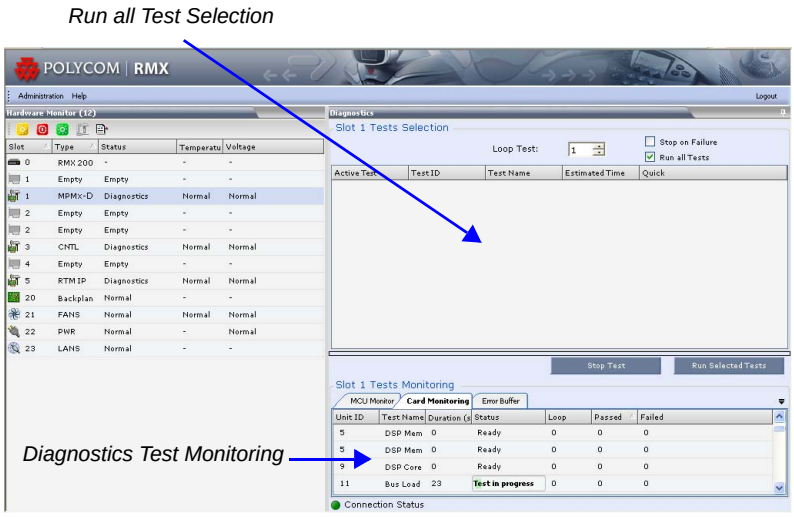


Figure 1-3 *RMX 2000/4000 Diagnostics Tests & Monitoring Tests*

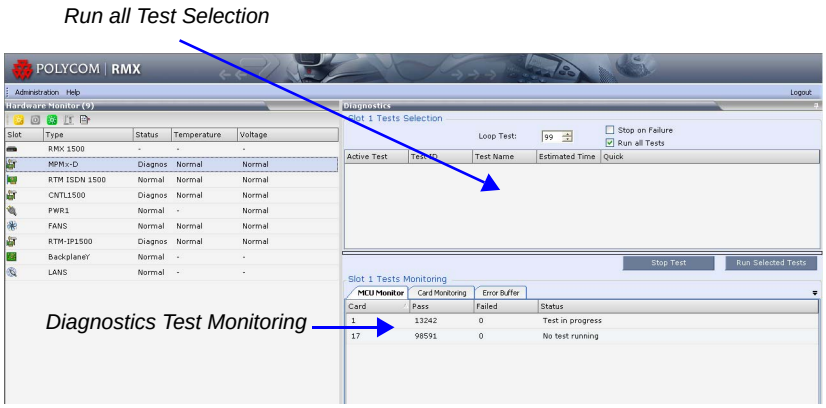


Figure 1-4 *RMX 1500 Diagnostics Tests & Monitoring Tests*

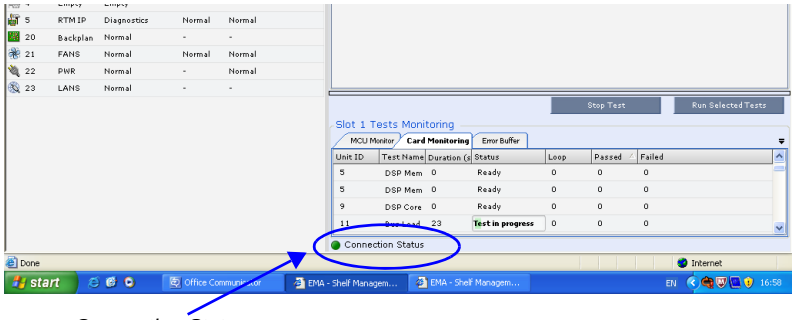
5 When the RMX enters "*Diagnostics Mode*", the status MPM+/MPMx, CNTL/CNTL 1500/CNTL 4000 and RTM IP/RTM IP 1500/RTM IP 4000 changes to "*Diagnostics*"
You can run "*Diagnostics*" test on a card by double clicking any one of the hardware components indicating "Diagnostics" in the status column.

6 Select the *Run all Tests* box and then click **Run Selected Tests**.

Table 1-3 *Tests Selection - Additional Test Parameters*

Parameter	Description
Loop Test	Enter the amount of times the test is to repeat itself in succession.
Stop On Failure	Stops tests upon a failure.
Run All Test	Runs all tests listed in the *TestActive* column for the hardware component.

7 The selected tests are initialized. In the *Tests Monitoring* pane there is an indication of the *Connection Status* of the Tests.



Connection Status

8 This process may take some time. Click *Stop Running Test* to end all the diagnostic tests. The MCU completes the current test running and then stops all remaining tests.

9 The Diagnostics Mode can be exited by pressing the yellow System *Reset* icon. The RMX then resets.

Version 7.0 Detailed Description - SIP

SRTP

Encryption of SIP Media is supported using SRTP (Secured Real-time Transport Protocol) and the AES key exchange method.

SRTP Guidelines

- Encryption of SIP Media requires the encryption of SIP signaling - TLS Transport Layer must be used.
- Encryption of SIP Media is supported in CP and VSW conferences.
- All media channels are encrypted: video, audio and FECC.
- Encryption of SIP Media is available in MPM+ Card Configuration Mode (Version 7.0 and later) and MPMx Card Configuration Mode (Version 7.1 and later).
- RMX SRTP implementation complies with Microsoft SRTP implementation.
- LPR is not supported with SRTP.
- Mixing encrypted and non-encrypted endpoints in one conference is possible, based on system flag settings:
  ALLOW_NON_ENCRYPT_PARTY_IN_ENCRYPT_CONF.
  The behavior is the same as for H.323 participants, as shown in Table 2 and Table 3.

  For more information, see *RMX 2000/4000 Administrator's Guide*, *"Closed Captions"* on page **2-49**.

Conference Access:

***Table 2** Defined SIP/H.323 Participant Connection to the Conference Based on the Encryption Settings*

ALLOW_NON_ ENCRYPT_PARTY_ IN_ENCRYPT_CONF	Conference Encryption Setting	Participant Encryption Setting	Participant Connection Permitted
NO	Yes	Auto	Yes (encrypted)
NO	Yes	No	No
NO	Yes	Yes	Yes (encrypted)
NO	No	Auto	Yes (non-encrypted)
NO	No	No	Yes (non-encrypted)
NO	No	Yes	No
YES	Yes	Auto	Yes (encrypted)
YES	Yes	No	Yes (non-encrypted)
YES	Yes	Yes	Yes (encrypted)
YES	No	Auto	Yes (non-encrypted)
YES	No	No	Yes (non-encrypted)

Table 2 Defined SIP/H.323 Participant Connection to the Conference Based on the Encryption Settings (Continued)

ALLOW_NON_ ENCRYPT_PARTY_ IN_ENCRYPT_CONF	Conference Encryption Setting	Participant Encryption Setting	Participant Connection Permitted
YES	No	Yes	No

Entry Queue Access:

Table 3 Encryption: Flag vs. Conference and Entry Queue Settings When SIP/H.323 Participant Encryption is set to Auto

ALLOW_NON_ ENCRYPT_PARTY_ IN_ENCRYPT_CONF	Entry Queue Encryption Setting	Destination Conference Encryption Setting	Enable Participant Move from EQ to Conference
NO	Yes	No	No
NO	Yes	Yes	Yes
NO	No	No	Yes
NO	No	Yes	No
YES	Yes	No	No
YES	Yes	Yes	Yes
YES	No	No	Yes
YES	No	Yes	Yes

Enabling Encryption

In the Profile

Encryption for the conference is in the Profile and cannot be changed once the conference is running. For more details, see *RMX 2000/4000 Administrator's Guide*, *"Enabling Encryption in the Profile"* on page **2-66**.

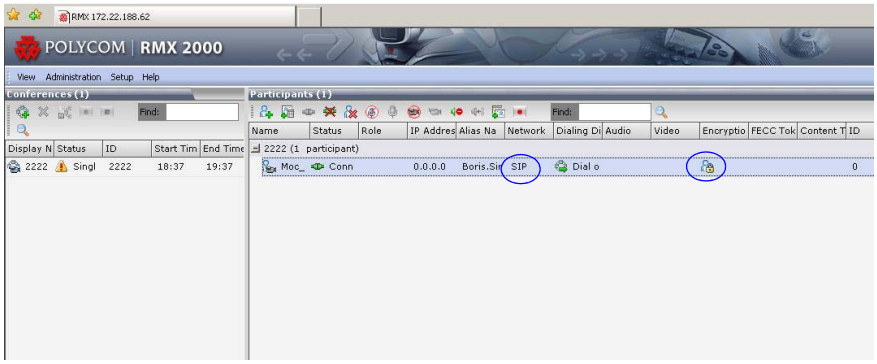
At the Participant Level

You can select the encryption mode for each of the defined participants as for H.323 participants. Encryption options are affected by the settings of the flag in the system configuration. Undefined participants are connected with the Participant *Encryption* option set to **Auto**, inheriting the conference/Entry Queue encryption setting. For more details, see *RMX 2000/4000 Administrator's Guide*, *"Enabling Encryption at the Participant Level"* on page **2-67**.

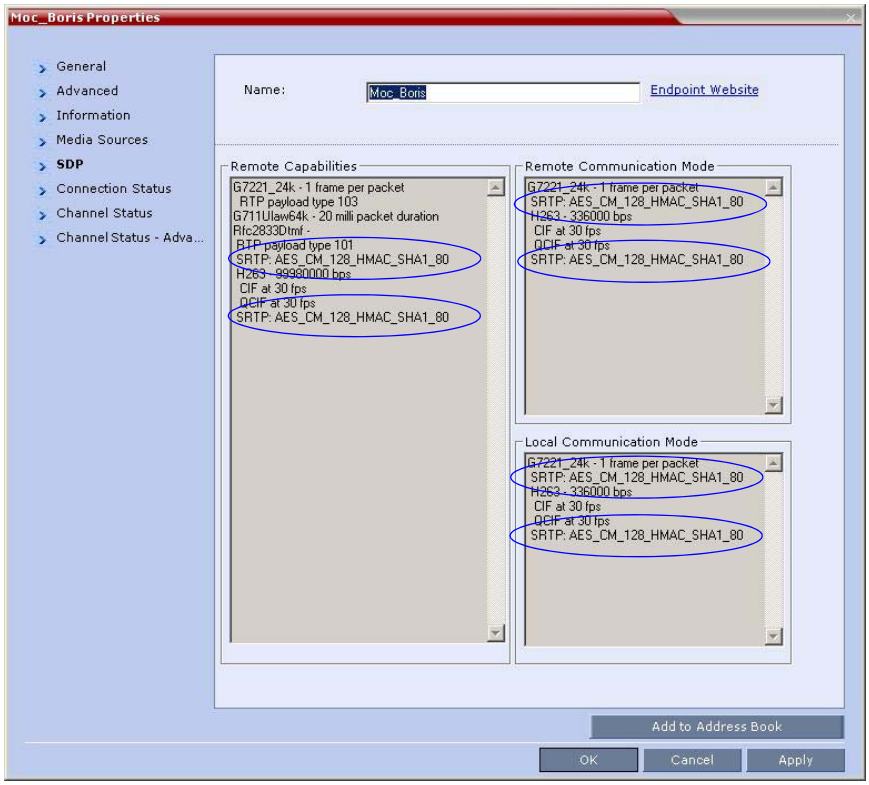
Monitoring the Encryption Status

The conference encryption status is indicated in the *Conference Properties - General* dialog box.

The participant encryption status is indicated by a check mark in the *Encryption* column in the *Participants* list pane.



The participant encryption status is also indicated in the *Participant Properties – SDP* tab, where SRTP indication is listed for each encrypted channel (for example, audio and video).



An encrypted participant who is unable to join a conference is disconnected from the conference. The disconnection cause is displayed in the *Participant Properties – Connection Status* tab, *Security Failure* indication, and the *Cause* box identifies the encryption related situation.

For more information about monitoring, see the *RMX 1500/2000/4000 Administrator's Guide* "*Conference and Participant Monitoring*" on page **11-1**.

ICE Environment Integration

Interactive Connectivity Establishment (ICE) provides a structure/protocol to unify the various NAT Traversal techniques that are used to cross firewalls.

It enables SIP based endpoints to connect while traversing a variety of firewalls that may exist between the calling endpoint (local) and the MCU or called endpoint (remote). It is the only way for remote Microsoft Office Communicator/Lync users to call into the enterprise without a VPN.

ICE Guidelines

- ICE is available in *MPM+ Card Configuration Mode* (Version 7.0 and later) and *MPMx Card Configuration Mode* (Version 7.1 and later).
- RMX ICE implementation complies with Microsoft ICE implementation.
- ICE is available only in IPv4 environment.
- ICE can be implemented in an environment that includes a STUN server and a Relay server (for example, Microsoft AV Edge server).
- The firewall must be UDP enabled.
- The RMX must have a unique account in the Active Directory and must be registered with the Office Communications/Lync server.

Connecting to the RMX in ICE Environment

The dialing methods that can be used by an endpoint to connect to another endpoint depends on the ICE environment: Local, Remote or Federation.

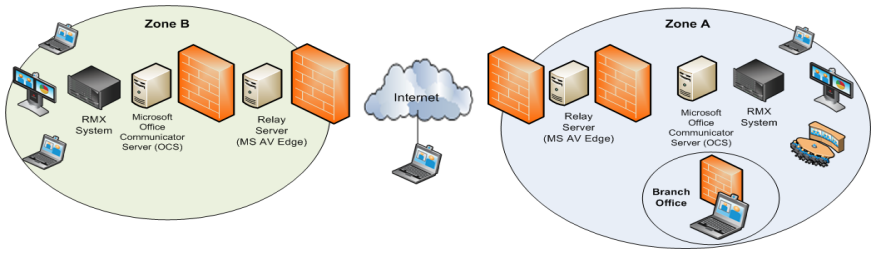


Figure 2 *ICE Environment*

Local connection - a connection between the RMX and endpoints that reside within the same organization. For example, an endpoint in Zone A calls the RMX in Zone A.

Branch Office - a connection between an endpoint that is behind a firewall and the RMX that reside in the same zone. The user in the Branch Office can also place and receive calls from other enterprises and remote users. For example, Enterprise A also contains a branch office, which in this example is a Polycom HDX user who is behind more than one firewall.

Remote - a connection between RMX that resides within the organization and an endpoint that resides outside of the organization (on a WAN). For example, an endpoint on the internet that calls the RMX in Zone A. In such a case, the call has to traverse at least one firewall.

Federation - a connection between RMX that resides within one organization and an endpoint that resides within another organization. For example, an endpoint in Zone A calls the RMX in Zone B. The call has to traverse two or more firewalls.

Dialing Methods

The ICE protocol enables remote and federation connections using the registered user name for dialing. The endpoint connects to the RMX by entering the RMX registered user name in the following format:

[RMX registered user name]@[OCS/Lync server domain name]

For example: **rmx111@ilsnd.vsg.local**

The call reaches the Transit Entry Queue of the RMX and via IVR is routed to the destination conference.

This method is added to the local connections and *Matched URI* and *Numerical Dialing* methods available in Microsoft Office Communication environment and the *Numerical Dialing* method available in the Lync server environment.

The following table summarizes the dialing methods and its availability in the various configurations.

Table 1-1 *Available dialing methods per Connection Type*

	Matched URI Routing	Numerical Dialing	Registered User Name
Local	√	√	√
Branch office	√*	X	√
Remote	√*	X	√
Federation	√*	X	√

***** To enable the *Matched URI dialing* in the federated environment to be able to connect to the RMX SIP signaling domain, you must also configure the Office Communications Server/Lync Server.

When federating an Office Communications Server/Lync Edge server with another Office Communications Server/Lync server environment, you need to include the FQDN of the Office Communications Server/Lync Edge server as well as the SIP signaling domain for federated environment. The SIP signaling domain is the FQDN of the Polycom DMA system or a Polycom RMX system (when your deployment does not include a DMA system).

For example, if company B wants to set up federation with company A and receive and send SIP calls that will be handled by the Polycom SIP signaling domain in company A, you need to add the FQDN of the company A Office Communications Server domain as well as the SIP signaling domain of company A to the list of internal SIP Server domains supported by the company B Office Communications Server/Lync Server environment.

For more information, see the Microsoft documentation and the Visual Communications Deployment Administration Guide.

Supporting Remote and Federated Users in Office Communications Server ICE Environment

To enable the remote and Federation connections the following operations must be performed:

- Create an Active Directory account for the RMX that will be used for registering and operating in the MS ICE environment
- Enable the RMX User Account for Office Communication Server
- Configure the RMX for ICE dialing

To place federated calls between Domain A and Domain B in ICE environment sub domains must be federated to the main domain or the RMX system must be installed on a main domain.

The RMX can also be set for Matched URI Routing and/or Numerical Dialing to Meeting Rooms. For more details, see *RMX Administrator's Guide, Appendix H*.

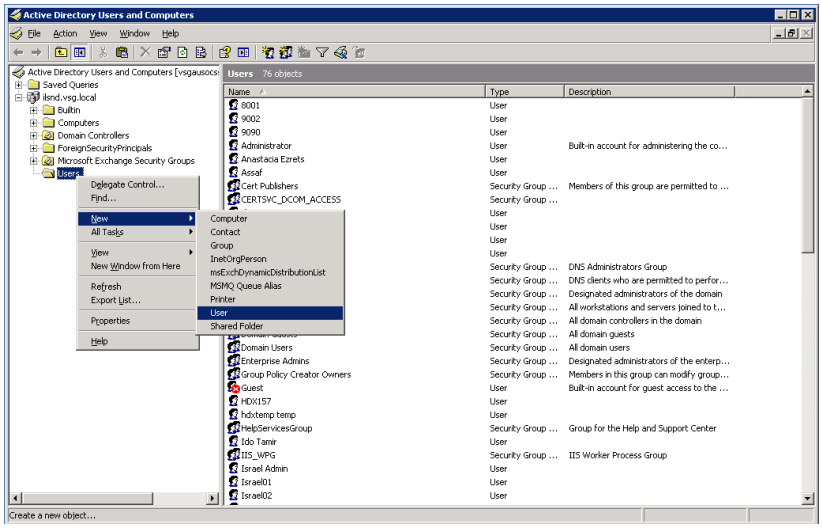
Creating an Active Directory Account for the RMX

The User account created for the RMX is used for registration in the Office Communication Server and to automatically synchronize with the STUN and relay (Edge) servers.

To add the RMX user to the Active Directory:

1 Go to **Start > Run** and enter **dsa.msc** to open the *Active Directory Users and Computers* console

2 In the console tree, select **Users > New > User**.



3 In the *New User* wizard, define the following parameters:

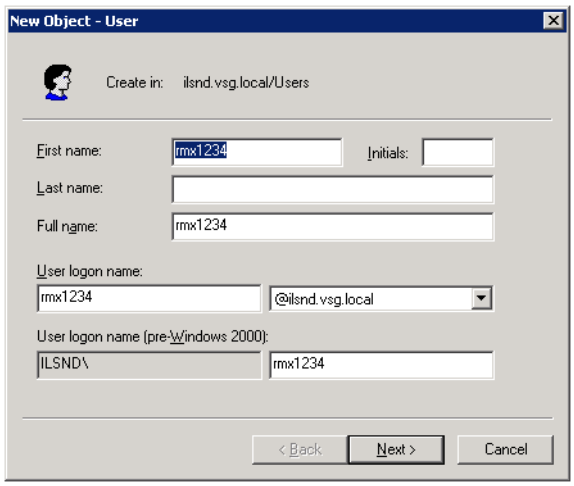
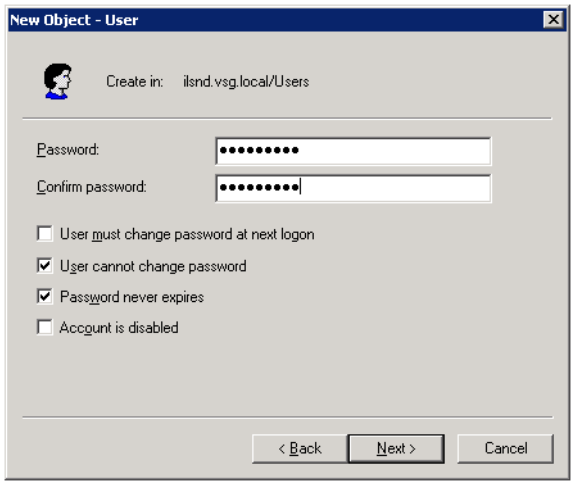


Table 2 *Active Directory - New User Parameters for the RMX*

Field	Description
First Name	Enter the name for the RMX user. This name will be used in the configuration of the ICE environment in the RMX.
Full Name	Enter the same name as entered in the *First Name* field.
User Login Name	Enter the same name as entered in the *First Name* field and select from the drop down list the domain name for this user. It is the domain name defined for the Office Communication Server.

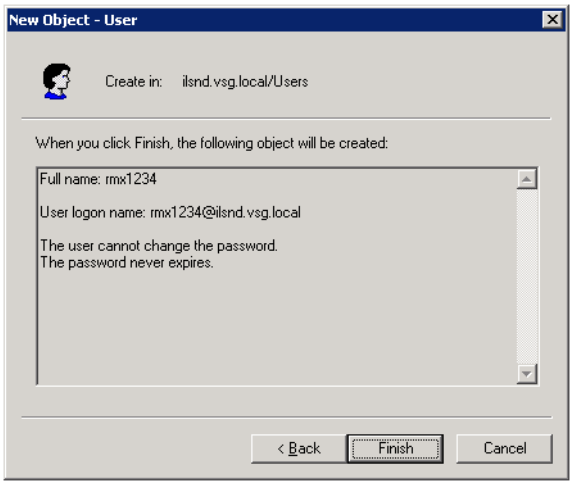
4 Click **Next**.

5 Enter the password that complies with the Active Directory conventions and confirm the password.



6 Select the options: **User cannot change password** and **Password never expires**. Clear the other options.

7 Click **Next**.
The system displays summary information.



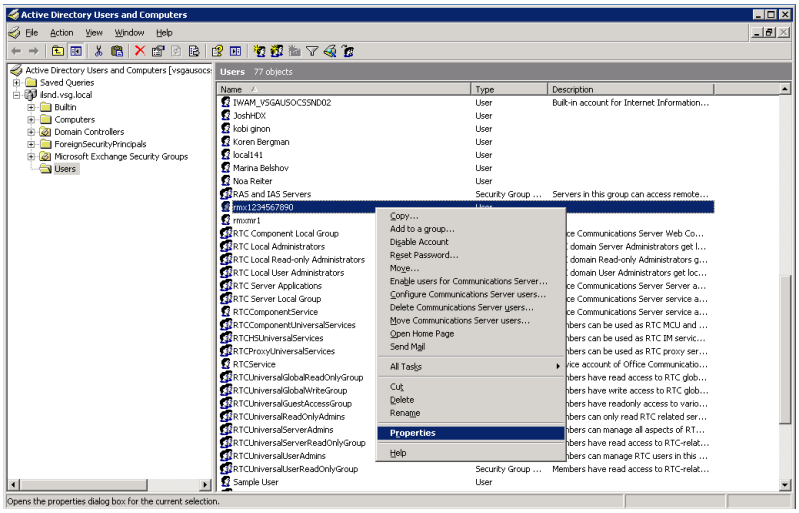
8 Click **Finish**.
The new User is added to the Active Directory *Users* list.

Enabling the RMX User Account for Office Communication Server

The new RMX user must be enabled for registration with the Office Communications Server.

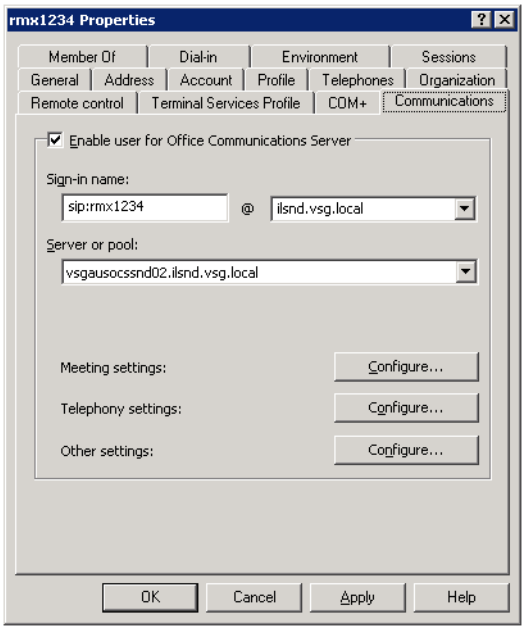
To enable the RMX User Account for Office Communication Server:

1 In the *Active Directory Users and Computers* window, right-click the RMX user and then click **Properties**.



2 In the *Properties* dialog box, click the **Communications** tab.

3 In the *Sign in name* field, enter the RMX user name in the format **SIP:rmx user name** (for example sip:rmx1234) and select the domain name (for example, ilsnd.vsg.local) as entered in the *New User* dialog box.



4 Select the *Server or Pool* from the list.

5 Click **Apply** and then **OK**.

Configuring the RMX for ICE Dialing

To enable ICE dialing, the Default IP Network Service must be configured to work with the Office Communication Server as the SIP Server and the RMX user defined in the Active Directory must also be defined in the RMX ICE environment parameters.

The procedure described here assumes that the RMX is configured to work in Microsoft environment; the MS_ENVIRONMENT flag is set to YES, the IP Network Service is set to work with Office Communications Server as the SIP Server and the TLS certificate is installed. For a detailed description of these settings, see the *RMX 1500/2000/4000 Administrator's Guide*, *Appendix H*.

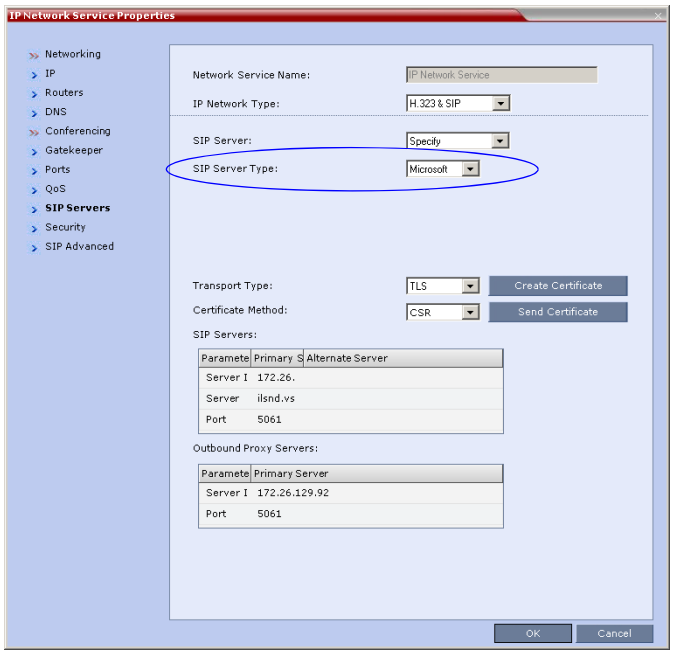
To configure the RMX for ICE Dialing:

1 In the RMX Web browser, in the *RMX Management* pane, expand the **Rarely Used** list and click **IP Network Services** ( ).

2 In the *IP Network Services* pane, double-click the **Default IP Service** (, , or) entry.

The *Default IP Service - Networking IP* dialog box opens.

3 Click the **SIP Servers** tab.

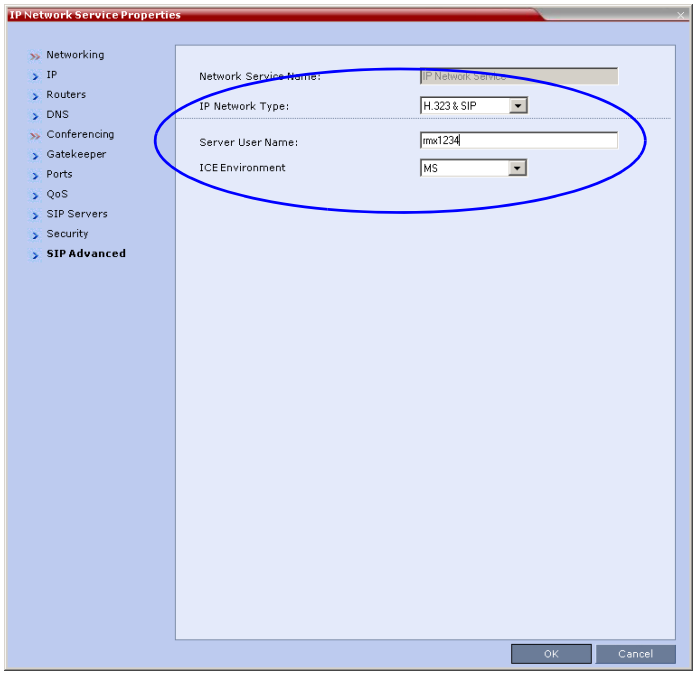


4 Make sure that the *SIP Server* is set to **Specify.**

5 Make sure that the *SIP Server Type* is set to **Microsoft**.

6 Make sure that the IP address of the Office Communications Server 2007 or Lync Server 2010 is specified and the *Server Domain Name* is the same as defined in the OCS/Lync Server and in the *Management Network* for the DNS.

7 Click the **SIP Advanced** tab.



8 In the *ICE Environment* field, select **MS** (for Microsoft ICE implementation) to enable the ICE integration.
This field is disabled if the RMX is running in *MPM Card Configuration Mode*.

9 In the *Server User Name* field, enter the RMX User name as defined in the Active Directory. For example, enter **rmx1234**.
This field is disabled if the *ICE Environment* field is set to **None**.

10 **Optional** if the **Fixed Ports** options was selected previously.
Click the **Ports** tab to modify the number of UDP Ports allocated to the calls to accommodate the number of ports required for ICE dialing.

11 In the *UDP Port Range*, modify the number of UDP ports by enter the first and last port numbers in the range. When ICE environment is enabled, the number of ports defined in the range should be **2024**.

12 Click **OK**.
The RMX will register with the OCS/Lync Server enabling automatic retrieval of the STUN server and Relay server parameters for ICE dialing.

These parameters can be viewed in the *Signaling Monitor - ICE Servers* dialog box.

Monitoring the Connection to the STUN and Relay Servers in the ICE Environment

1 In the RMX Web browser, in the *RMX Management* pane, click **Signaling Monitor**.

2 In the *Signaling Monitor* pane, click the **IP Network Service** entry.

3 Click the **ICE Servers** tab.

The system lists the ICE servers to which it is connected and the status of the connection of each of the RMX media cards (status 1, status 2, etc) to ICE servers. (One status is displayed for RMX 1500, two statuses are displayed for RMX 2000 and four statuses are displayed for RMX 4000).

It addition, the system indicates the status of the firewall detection in the RMX.

Monitoring the Participant Connection in ICE Environment

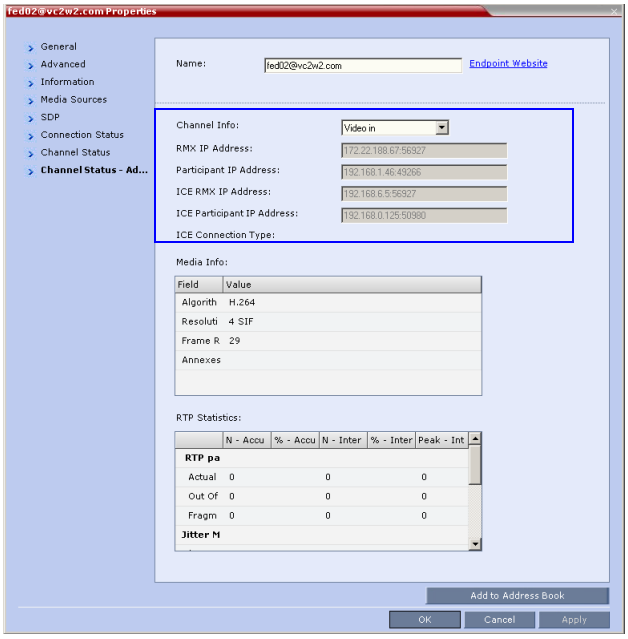
For each participant in the conference running in ICE environment, you can view the local and the external IP addresses and the type of connection between the RMX and the participant (remote).

The ICE information is displayed only for the media channels and not the signaling channel.

To view the channel properties of the participant:

1 In the participants pane, double-click the participant entry or right-click the participant entry and then click **Properties**.

2 Click the **Channel Status - Advanced** tab.



The following connection information is displayed:

Table 1-1: Participant Properties - ICE Connection Parameters

Field	Description
RMX IP Address	The local IP address and port (in the format IP address:Port) of the RMX.
Participant IP Address	The local IP address and port (in the format IP address:Port) of the endpoint.

Table 1-1: Participant Properties - ICE Connection Parameters

Field	Description
ICE RMX IP Address	The IP address and the Port number of the RMX used to pass through the media. This information changes according to the *ICE connection type:* • When *ICE connection type* is **local**, it is identical to the IP address:Port displayed in the *RMX IP Address.* • When *ICE connection type* is **relay**, the system displays the IP address and port number of the relay server used to pass the media from the RMX to the participant. • When *ICE connection type* is **firewall**, the system displays the public IP address and port of the RMX as seen outside the private network.
ICE Participant IP Address	The IP address and the Port number of the endpoint used to pass through the media. This information changes according to the *ICE connection type:* • When *ICE connection type* is **local**, it is identical to the IP address:Port displayed in the *Participant IP Address.* • When *ICE connection type* is **relay**, the system displays the IP address and port number of the relay server used to pass the media from the participant to the RMX. • When *ICE connection type* is **firewall**, the system displays the public IP address and port of the endpoint as seen outside the private network.
ICE Connection Type	Indicates the type of connection between the RMX and the participant in the ICE environment: • **Local** (or Host) - The endpoint (Remote) is on the same network as the RMX and the media connection is direct, using local addresses. • **Relay** - Media between the RMX and the participant passes through a media relay server. • **Firewall** - Media connection between the RMX and the participant is done using their external IP addresses (the IP addresses as seen outside of the local network).

ICE Active Alarms

When ICE environment is enabled in the RMX, failure to communicate with a required component triggers the display of an Active Alarm in the System Alerts pane.

The following table lists these active alarms:

Table 2 *ICE Environment - RMX Active Alarms*

Active Alarm	Phase	Alarm Displayed When	Troubleshooting
ICE failure: Failed to register with OCS. Check the RMX Server Name.	Registration	The RMX did not receive a confirmation response from the OCS to the Registration request.	• Check that the RMX Server Name in IP Network Service - SIP Advanced is identical to the User name defined for the RMX in the OCS Active Directory. • Make sure that the RMX user is defined in the OCS Active Directory.
ICE failure: Failed to subscribe with the OCS, therefore the A/V Edge Server URI was not received.	Subscribe	The RMX did not receive a confirmation response from the OCS to the Subscription request. The Subscription is required for obtaining the A/V Edge Server URI which is followed by the notify message containing the credentials).	
ICE failure: The Notify message containing the A/V Edge Server URI was not received	Notify	The Notify message containing the A/V Edge Server URI was not received by the RMX.	
ICE failure: Received Notification does not contain URI.	Notify	The notify message that was sent from the A/V Edge Server does not contain the A/V Edge server URI.	Verify the A/V Edge server is configured in the OCS.

Table 2 *ICE Environment - RMX Active Alarms*

Active Alarm	Phase	Alarm Displayed When	Troubleshooting
ICE failure: No response from the A/V Edge Server to the RMX Service Request	Service	The RMX did not receive a confirmation response from the A/V Edge Server to the Service request.	
ICE failure: Received Service message does not contain the Credentials.	Service	The Service message response does not contain the Credentials.	
ICE failure: A/V Edge server URI cannot be resolved	Service	The RMX failed to resolve The remote address of the Edge server URI.	
ICE failure: Service credential denied. A/V Edge server credentials rejected by the OCS.	Service	This alarm indicates that the OCS does not configure with the. Generated by the ICE stack.	

Corrections and Known Limitations

Corrections Between Version 7.0.2 and Version 7.1

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
1	VNGR-19113	*RMX Manager*	When an HDX endpoint with a 384 kbps Gateway Profile dials to a Gateway using ISDN, after accessing the IVR the call is dropped.	V7.1
2	VNGR-18961	*General*	On an RMX with MPM+ cards and a 768 kbps H.323 conference, the Message Overlay continuously jumps.	V7.1
3	VNGR-18785	*RMX Manager*	When monitoring conferences on the RMX Manager, occasionally the monitoring pane displays the wrong conference.	V6.0
4	VNGR-18773	*Documentation*	Incorrect flag values are listed in Release Notes and Administrator Guide: 7200 seconds is not 60 minutes; 3600 seconds is not 30 minutes.	V7.0.2
5	VNGR-18660	*ISDN*	On an RMX 2000 during an ISDN call, frequently audio clicks can be heard during the conference.	V5.0.2
6	VNGR-18581	*Software Version*	Log Analyzer output from RMX 1500/ 2000 with MPMx contains numerous CRT ART errors.	V7.0
7	VNGR-18451	*Interoperability*	In an MS Lync (RTM) environment, the ICE functionality is deficient as the RMX sends an incorrect service request to the Lync registrar.	V7.1
8	VNGR-18278	*Upgrade Process*	No access to RMX 2000 after software upgrade from version 7.0.2.61 to version 7.0.2.64.	V7.0.2
9	VNGR-18272	*Upgrade Process*	When downgrading an RMX 4000 with 4 MPMx cards from version 7.0.2.64 to version 7.0.1.16, the IMPC is burnt on only three out of four cards and the fourth card appears with voltage problem.	V7.0.2
10	VNGR-18257	*Diagnostics*	Software verification failure is indicated when running diagnostics on RMX 1500 (MPMx card).	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
11	VNGR-18242	*Upgrade Process*	When upgrading RMX4000 with 4 MPM+ cards from Version 7.0.0.162 to Version 7.0.2.61 two of the MPM+ cards remain in startup mode and do not complete the upgrade.	V7.0.2
12	VNGR-18167	*General*	When using a conference Profile set to VSW 1080p at line rate of 6MB, the conference is started at a line rate of 4MB instead.	V7.0.2
13	VNGR-18135	*Interoperability*	When running a conference with mixed endpoints, video can be seen on the 1XC endpoint, but the video on the HDX endpoint is blank.	V7.1
14	VNGR-18106	*Video*	Empty cells are displayed in the video layout when connecting 30 HDX 8006 endpoints at a line rate of 4MB and resolution of 1080p to a conference running on RMX 2000 with 2 MPMx-D cards.	V7.0.2
15	VNGR-18106	*Video*	Empty cells are displayed in the video layout when connecting 30 HDX 8006 endpoints at a line rate of 4MB and resolution of 1080p to a conference running on RMX 2000 with 2 MPMx-D cards.	V7.0.2
16	VNGR-18032	*RMX Manager*	On the RMX Manager an internal error; 65012 appears, cause unknown.	V6.0
17	VNGR-17926	*Gateway*	When video layout changes in a Gateway call, the HDX endpoint disconnects.	V5.0.2
18	VNGR-17887	*ISDN*	Sometimes, HDX9006 2.7.0-5547 and VSX7000 9.0.6 endpoints connecting over ISDN to a conference running at 384kbps do not receive video.	V7.0.2
19	VNGR-17881	*Hardware*	RTM IP does not reconnect to logger port.	V7.0.2
20	VNGR-17857	*Video*	Sometimes the Gathering text is not displayed when connecting SIP and H.323 endpoints to a conference running on RMX 2000 with MPMx at a line rate of 1920kbps.	V7.0.2
21	VNGR-17851	*Hardware*	Sometimes connection with RTM ISDN is lost.	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
22	VNGR-17843	*General*	HDX H323 endpoints are unable to remain connected to a CP conference running on RMX1500 at a line rate of 1920kbps with LPR, Video Clarity and Send Content to Legacy Endpoint options enabled. The disconnect status displays MCU internal problem 32212.	V7.0.2
23	VNGR-17841	*Video*	Lip sync occurred when an endpoint connected at 512kbps to a conference running at line rate of 2MB on RMX 2000 with 2 MPM+80 cards, and LPR enabled and active due to packet loss.	V7.0.2
24	VNGR-17833	*IVR*	RadVision Scopia XT1000 and Lifesize Room 200 remain in the IVR Welcome stage when connecting to a CP conference running at 4096kbps with Encryption and LPR enabled. Other endpoints connected normally.	V7.0.2
25	VNGR-17800	*Recording*	On an RMX2000 with a conference that is started from a reservation, when dialing out manually the RSS2000 recorder does not start.	V5.0.2
26	VNGR-17778	*RMX 4000*	When trying to connect 180 V500/VSX to each of the two conferences running simultaneously on RMX 4000 with 4 MPMx-D cards, both conferences running at a line rate of 384, Video Quality set to Motion and Max CP resolution set to CIF, 180 participants connected to the first conference, while several participants out of the 180 could not connect to the second conference.	V7.0.2
27	VNGR-17768	*Upgrade Process*	When upgrading the RMX 1500 software version and adding the activation key, the RMX Web Client disconnects from the RMX.	V7.0.2
28	VNGR-17753	*Partners - Microsoft*	In Microsoft Lync environment with ICE enabled, when the RMX 4000 with MPM+80 dials out to two Lync Clients (MOC1 with Creative Camera connected and MOC2 with CX5000 RoundTable connected), MOC1 does not receive video from MOC2.	V7.0.2
29	VNGR-17749	*Interoperability*	Flickering video is displayed for a few seconds on Lifesize Room 200 screen when connecting to a conference running on RMX 4000 at 4MB with Encryption and LPR enabled.	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
30	VNGR-17742	*Video*	Poor video quality due to low frame rate is viewed on HDX systems when connecting to a CP conference running on RMX 2000 with MPMx at a line rate of 6MB, with LPR, Video Clarity and Gathering options enabled.	V7.0.2
31	VNGR-17732	*Interoperability*	An RMX registered with the corporate OCS server, however after restart the connection to OCS was broken and the RMX could not provision the ICE.	V6.0.1
32	VNGR-17714	*General*	Occasionally, RMX 4000 with MPM+ automatically resets when running conferences. The system displays the Active Alarm: NEW_VERSION_INSTALLED. A new version was installed. Reset the MCU, although a new version was not installed.	V7.0.2
33	VNGR-17708	*IVR*	HDX8006 and HDX9006 remain in the IVR Welcome stage when connecting to a Video Switching conference running at 4MB with Video Quality set to Motion and video resolution set to 720p 60 fps.	V7.0.2
34	VNGR-17671	*Content*	VSX cannot send Content when connected over H.323 to a conference with 9 H323 VSX endpoints running on RMX4000 with the MPM+ at a line rate of 768kbpskbps and LPR, Video Clarity and Send Content To Legacy Endpoint options enabled.	V7.0.2
35	VNGR-17657	*Video*	The VVX takes over a minute to resume live video on other endpoints in conference after releasing the hold when connected over H.323 to a conference running on RMX 1500 at a line rate of 128kbps.	V7.0.2
36	VNGR-17652	*Interoperability*	After resuming the call that was placed on hold, VVX 1500 display does not return to Auto Layout and remains small in the top right corner of the display. The VVX is connected via H.323 to a conference running at 128kbps.	V7.0.2
37	VNGR-17646	*Video*	H.261 participant video is not seen by other conference participants and the Gathering text did not appear on the H.261 participant's screen when connected to a conference running at 512kbps. The H.261 participants sees the conference video correctly.	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
38	VNGR-17645	*ISDN*	Video artifacts (video stream is superimposed on the IVR Welcome slide) when an ISDN participant connects to a conference running on RMX 2000 with MPMx at a line rate of 384kbps.	V7.0.2
39	VNGR-17636	*Interoperability*	VVX is displayed in two conference video layout cells when connected over H.323 to a conference that includes two VVX endpoints when the VVX comes off hold while in the gathering screen. One cell is live video and the other cell is frozen video.	V7.0.2
40	VNGR-17633	*SIP*	Incorrect display name of the RMX is displayed on SIP endpoints. RMX Display name includes additional characters and not just the URI.	V7.0.2
41	VNGR-17631	*Partners - Microsoft*	RMX does not identify the OC/4 version (Lync Server 2010/OCS-W14), hence the wrong video settings are used (4CIF instead of CIF).	V7.0.2
42	VNGR-17628	*SIP*	High Profile enabled SIP endpoint connected at a resolution of SD60 instead of 720p60 when connecting to a conference running on RMX 4000 at a line rate of 1024kbps with LPR enabled and Video Quality set to Motion.	V7.0.2
43	VNGR-17627	*SIP*	High Profile enabled SIP endpoint connected at a resolution of SD30 instead of SD60 when connecting to a conference running on RMX 4000 at a line rate of 512kbps with LPR enabled and Video Quality set to Motion.	V7.0.2
44	VNGR-17626	*SIP*	SIP endpoint (no High Profile) connected at a resolution of SD30 instead of SD60 when connecting to a conference running on RMX 4000 with MPMx at a line rate of 1024kbps with LPR enabled and Video Quality set to Motion.	V7.0.2
45	VNGR-17615	*IVR*	iPower 9000 remains in the IVR Welcome stage when connecting to a CP conference running at 384kbps with Video Quality set to Motion and Video Clarity, Encryption, LPR and Send Content to Legacy Endpoint options enabled.	V7.0.2
46	VNGR-17587	*General*	Several participants are deleted from a conference template when editing the conference template name.	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
47	VNGR-17581	*Audio*	During an audio only conference echo occurs randomly on PSTN endpoints.	V5.0.0
48	VNGR-17580	*Video*	Site names are blinking when connecting H.261/263 participants to the conference.	V7.0.2
49	VNGR-17574	*ISDN*	Internal ISDN\PSTN Audio Only calls get a loud noise (static/pop) prior to the start of the IVR message.	V7.0.2
50	VNGR-17571	*Video*	Rainbow bar appears when changing the conference layout from CP_LAYOUT_1X2 or from CP_LAYOUT_1X2HOR to CP_LAYOUT_1X2VER or CP_LAYOUT_2X1 in a conference running on RMX 2000 with MPMx, at a line rate of 4096kbps, Video Quality set to SHARPNESS and Video Clarity, Encryption, LPR and Echo Suppression options enabled.	V7.0.2
51	VNGR-17562	*SIP*	The QDX6000 SIP endpoint is connected with problem to a conference running on RMX 4000 with MPM+ at a line rate of 768kbps and LPR, Video Clarity and Send Content To Legacy Endpoint options enabled.	V7.0.2
52	VNGR-17559	*Interoperability*	Sony PCS-XG80 cannot connect to RMX 2000/1500 with MPMx over SIP.	V7.0.2
53	VNGR-17547	*Interoperability*	An FX endpoint dialing in to an RMX with MPMx cards will receive content using People + Content. An FX endpoint dialed out from an RMX with MPMx cards will only receive content via the video channel using People + Content if Send Content to Legacy Endpoints is enabled in the Conference Profile.	V7.0.2
54	VNGR-17542	*Video*	VSX8000 sees frozen video of the Gathering slide when connected over H.323 or ISDN to a conference running on RMX 1500 at a line rate of 1024kbps and LPR, encryption and Send Content to Legacy Endpoint options enabled.	V7.0.2
55	VNGR-17539	*Video*	Objects in video sent from VSXs are displayed stretched horizontally on HDXs screens when all are connected to a conference running on RMX 1500 over H323 and SIP.	V7.0.2

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
56	VNGR-17520	*General*	In MPMx Card Configuration Mode, the High Profile Sliders in the Resolution Configuration dialog box are set to the minimum and do not show the actual values for the predefined Resolution Configurations.	V7.0.2
57	VNGR-17436	*General*	Unit recovery of unit 14, board 1 occurred.	V7.0.1
58	VNGR-17433	*HD*	In 2MB/4MB HD CP 720p conferences and a combination H.323/SIP dial-out/ dial-in endpoints, an assert “MCU internal problem” appears.	V7.0.2
59	VNGR-17411	*Upgrade Process*	Sometimes, the error message “Socket reconnected” is displayed after downgrading from V7.0.2.11 to V6.0.2.2.	V7.0.2
60	VNGR-17397	*RMX Manager*	On a RMX 2000 with heavy traffic on the MCU, the RMX Manager and RMX Web Client take a long time to load and appear on the workstation.	V6.0.1
61	VNGR-17377	*Video*	High Profile enabled HDX 8000 remains in the Gathering layout with frozen video inside the cells after blast dial out to several endpoints of type HDX 8000/ HDX 9004 / HDX 4000/ VSX 8000/ VSX 3000 from a CP conference at a line rate of 512kbps and LPR enabled.	V7.0.2
62	VNGR-17363	*Video*	Endpoint connects at a higher resolution than expected according to the Resolution Slider configuration when line rate of the endpoint is forced to a lower rate than the conference rate. For example, if the conference line rate is 1024kbps and the endpoint line rate is forced to 512kbps, the endpoint resolution upon connection will be 720p instead of SD (as if it was connected at 1024kbps).	V7.0.2
63	VNGR-17346	*Video*	Striped video image of all other participants occurs on HDX8000 endpoint after dialing via DMA to RMX4000 running V7.0.1.16 with, 4*MPM+80 cards.	V7.0.1
64	VNGR-17320	*Audio*	When dialing in from several endpoints to a Meeting Room started by the DMA, audio was lost for several seconds on the HDX9006 endpoint.	V7.0.1

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
65	VNGR-17296	*Interoperability*	On an RMX2000 the Microsoft OCS R2 client cannot send DTMF tones when a dialed out call is placed from RMX to MOC. The MOC receives an error message “There was a problem sending the tone”.	V6.0
66	VNGR-17194	*Hardware*	Board recovery failure occurs after all units on board 2 stop sending data after 3 recovery attempts on RMX2000 running V7.0.0.162 with MPMx cards.	V7.0
67	VNGR-17157	*Hardware*	DSP did not automatically recover after failure.	V7.0.1
68	VNGR-17148	*Video*	Participant is seen blurred when connecting with QVGA resolution to a conference layout of 1+7.	V7.0.1
69	VNGR-17127	*Software Version*	On RMX 1500 Message Overlay is blurred on SIP and H.323 endpoints.	V7.0
70	VNGR-17100	*Video*	In a 2Mb conference with mixed HDX endpoints, video flickered.	V7.0
71	VNGR-17099	*General*	Extraneous “Total Number of Event Mode Resources” field is displayed in the System Information properties box.	V7.0
72	VNGR-17079	*HD*	In an HD VSW conference endpoint, after about 20 minutes endpoints suddenly disconnect from the conference. The CDR lists asserts; “MCU internal problem.	V6.0
73	VNGR-17073	*Interoperability*	Loss of lip sync occurs on HDX9004 endpoint talking to an HDX9000 endpoint in 2Mbps conference with the following mix of endpoints: H323, PSTN, PVX, CMAD, HDX, dialed in via DMA with LPR on, Gathering Off, Echo suppression on.	V7.0
74	VNGR-17009	*General*	On both the RMX 2000/4000 when running conference on an MPMx card with a minimum of 8 participants and viewing content, the conference terminates due an MPMx disconnection.	V7.0
75	VNGR-16960	*Software Version*	Call on RMX 2000 with MPMx using HDX endpoint connects at 128kbps with resolution HD720p even if RMX call rate is set for 8Mb.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
76	VNGR-16952	*Video*	During a 1472kbps conference with LPR, AES, Gathering, Send Content to Legacy Endpoint, Auto Layout enabled, VSX7000 and HDX8006 endpoints Video does not appear in the conference layout.	V7.0
77	VNGR-16950	*Interoperability*	When RMX dials out from an encrypted conference running at 768kbps, video quality set to Sharpness and with LPR enabled to H.323 HDX-A, the call connects OK. Then, H.323 HDX-B dials into HDX-A and the call connects OK. When HDX-B disconnects from HDX-A, the video freezes on HDX-A and RMX shows HDX-A as connected with problem.	V7.0
78	VNGR-16947	*Recording*	In a conference running at 384kbps and Gathering is enabled, recording is set to “Upon request” the recording is started once the gathering phase ends, resulting in the display of the Gathering slide and layout without text details and after 15 seconds the Gathering slide and layout remain and appear in the recording.	V7.0
79	VNGR-16946	*ISDN*	Video freezes on ISDN endpoints in a fully loaded RMX 2000 with MPMx when connecting, disconnecting and reconnecting all the endpoints at a line rate of 256kbps.	V7.0
80	VNGR-16945	*Hardware*	On the RMX2000 and RMX4000, when performing diagnostics using the Power on Self Tests (POST) you cannot access the Shelf Manager.	V7.0
81	VNGR-16943	*Interoperability*	The Gathering slide turns green after changing layout on ViewStations when ViewStation SP Release 7.5.4.16 SP and ViewStation 512k Release 7.5.4.17 are connected to a conference running on RMX2000 with MPM+ at a Line Rate of 384kbps, LPR, Same Layout and Auto Layout are enabled.	V7.0
82	VNGR-16936	*Hardware*	On an RMX 4000 when viewing the Signaling Monitor window, the Active Alarms pane shows no link between Fabric Switch Module and MPMx card in slot 1.	V7.0
83	VNGR-16934	*Software Version*	When a H.323 call is released without lobby conn_id parameter, call memory is possibly not released.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
84	VNGR-16925	*Interoperability*	Avaya 1XC Softphone intermittently partially connects to conference RMX when connecting as 2nd or subsequent participant.	V7.0
85	VNGR-16921	*Interoperability*	On an RMX with version 7.0, when an Avaya 1XC Softphone dials Avaya 1XC Softphone when pressing the “Conference” button on the Avaya 1XC Softphone the Ad hoc conference on the RMX does not start.	V7.0
86	VNGR-16903	*Software Version*	RMX 2000 with MPMx stops receiving calls from DMA. Subsequent calls disconnect with disconnection cause cited as Resources Deficiency.	V7.0
87	VNGR-16896	*RMX Manager*	On an RMX2000 when monitoring the RMX Manager with multiple MCUs and active conferences, the Operator User commands are not implemented in the Participants pane.	V6.0
88	VNGR-16892	*Hardware*	On an RMX4000 with MPMx_D cards in the Hardware Monitor the RTM_LAN card is not listed.	V7.0
89	VNGR-16890	*Software Version*	Log Analyzer output from RMX 1500/ 2000 with MPMx contains numerous CRT ART errors.	V7.0
90	VNGR-16879	*ISDN*	In a 384kbps H.320 conference with Video Clarity, Auto Terminate, Sharpness, Echo Suppression, Auto Layout, Gathering, and Send Content to Legacy Endpoints enabled, when the RMX dials-out to VS4000, FX, EX, VSX7000A and HDX9004 endpoints, flickering and video artifacts are seen.	V7.0
91	VNGR-16868	*Interoperability*	On RMX 1500 audio interruptions are experienced by CMAD endpoints.	V7.0
92	VNGR-16865	*Software Version*	MCU INTERNAL fault received on RMX 1500: “UnitId 20 (board 1) didn't return ACK for H323_RTP_UPDATE_PORT_OPEN_CHANNEL_REQ."	V7.0
93	VNGR-16863	*ISDN*	On RMX 1500, ISDN endpoint is listed with “Connected With Problem” status.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
94	VNGR-16858	*Video*	On an RMX2000 with MPM+ cards, in a 4096kbps conference with Encryption, LPR, Auto Termination, Sharpness, Auto Brightness, Audio Clarity and a 1x1 conference Layout enabled, when connecting to 10 HDXs, the Welcome screen on one of the endpoints partially fuzzy.	V7.0
95	VNGR-16857	*Software Version*	On RMX 1500 metallic audio is heard periodically on PVX endpoint.	V7.0
96	VNGR-16856	*Interoperability*	Artifacts displayed on ISDN endpoints connected to RMX 1500 when content is started or stopped.	V7.0
97	VNGR-16849	*PCM*	When H.263 participant uses PCM on RMX 2000 with MPM+, additional Video Windows appear in the Video Layout and the PCM menu appears with large letters on a blurred, colored display.	V7.0
98	VNGR-16830	*Content*	In a mixed H.323 & SIP 1152kbps conference with Video Clarity, Auto Terminate, Sharpness, Echo Suppression, Auto Layout, Gathering and Send content to Legacy endpoints enabled, HDX endpoint's content is fragmented.	V7.0
99	VNGR-16820	*Interoperability*	VSX8000 endpoint connected to RMX 1500 with MPMx in 1920kbps conference, transmits green video to all endpoints but correctly displays all connected participants' video.	V7.0
100	VNGR-16812	*Video*	On an RMX 1500 with a 2Mb HD720p conference and IVR, Gathering, High Profiles and Audio Clarity enabled, when connecting 15 PVX, HDX, VSX 300, 7000 CMAD endpoints and changing the conference layout from 1x1 to 4x4 (10+) small video stills occur.	V7.0
101	VNGR-16797	*Interoperability*	In H.323 and SIP calls to RMX with MPMx, Aethra X7 endpoint displays blurred, tiled video.	V7.0
102	VNGR-16796	*Software Version*	On RMX with MPMx, Intra request from endpoint connected via H.264 CIF stream can sometimes take almost 1 second to be answered.	V7.0
103	VNGR-16735	*Interoperability*	LifeSize endpoints transmits CIF instead of HD 720p resolution in a SIP1920kbps conference call located on an MPMx card.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
104	VNGR-16726	*ISDN*	On an RMX2000 with MPMx cards running an 383 kbps ISDN conference when connecting 10 endpoints by blast dial-out the endpoints video showed black screens.	V7.0
105	VNGR-16725	*Software Version*	Blinking video occurs during ISDN blast dial-out at 384kbps on RMX 2000 with MPMx.	V7.0
106	VNGR-16695	*Video*	Using MPMx, frame rate in motion conference is less than 60fps on HDX endpoints that connect at HD resolution at 1920kbps and are not allocated on the Turbo DSP.	V7.0
107	VNGR-16677	*RMX Manager*	Progress bar missing in RMX manager during upgrade.	V7.0
108	VNGR-16621	*General*	Run two conferences that support Content for Legacy Endpoints, connect all types of endpoints to each conference and then send content from a non Legacy endpoint to each conference. The conference layout on the Legacy endpoint is changed to the flag's CP_LAYOUT_1P4VER configuration, the default layout. Move one legacy EP to the second conference - the layout of it changes to conference layout	V7.0
109	VNGR-16618	*Video*	On an RMX with MPM+ cards, when configuring the resolution of Configuration Slider to HD 1080p60/ HD 720p60 - in the participant properties you should not be able to select HD1080/HD 720p as the Maximum Resolution (People Video Definition).	V7.0
110	VNGR-16599	*Interoperability*	On an RMX 2000 in a H.261 video conference, when a Tandberg MXP6000 connects using H.261 there is no video.	V7.0
111	VNGR-16519	*Interoperability*	In an 512kbps CP conference with AES and Sharpness enabled, when Dial-in endpoints view the Gathering slide the CMAD video freezes.	V7.0
112	VNGR-16506	*Interoperability*	Lip sync is noticeable on HDX 7000 rev. B that dials into a conference running at a line rate of 1Mbps.	V7.0
113	VNGR-16474	*Hardware*	On RMX 1500 with MPMx-S, MCU internal problem 32112 occurs repeatedly in 2Mbps VSW or CP conference using HDX 8000 endpoint. Problem did not occur after reset.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
114	VNGR-16408	*Interoperability*	In a 4096kbps conference with Auto Layout enabled, when dialing out to 3 HDX and 3 VSX endpoints, video freezing occurs.	V7.1
115	VNGR-16390	*Interoperability*	In a 768kbps Telepresence conference when connecting to a TPX using a 1x7 layout, the HDX8000 video looks elongated in the large cell.	V7.0
116	VNGR-16384	*Video*	On an RMX 2000 with the MPMx card with a conference running, when HDX endpoints connect, sometimes in some of the video cells the Aspect ratio is incorrect when the source is 4:3 - and destination is 16:9.	V7.0
117	VNGR-16338	*General*	In a 4MB HD CP conference set to 720p with 3 participants, 1 endpoint disconnected due to the following message: “MCU internal problem.	V7.0
118	VNGR-16337	*Video*	On an RMX 4000 in a 4096kbps conference with Auto Terminate, Sharpness, Encryption, LPR, Echo Suppression, Auto Layout enabled, when dialing out to 40 HDX endpoints video corruption occurred.	V7.0.2
119	VNGR-16322	*Interoperability*	On an RMX 1500 running a 1920 kbps Telepresence conference, endpoints have the top part of their video screen cropped off.	V7.0
120	VNGR-16272	*Audio*	RMX 4000 using HDX endpoints in 2048Kpbs HD Video Switching conference using Siren22Stereo exceeds conference bit rate by sending data to endpoints at 2112kpbs.	V7.0
121	VNGR-16230	*General*	In a Meeting Room with five participants all endpoints receive periods of frozen audio and video.	V7.0
122	VNGR-16194	*Interoperability*	On an RMX4000 version 7.0, with four VVX 1500s and an 1 HDX 9000 endpoints connected on multiple occasions loss of video and audio for several seconds.	V7.0
123	VNGR-16192	*Interoperability*	In 2MB Conference with Sharpness enabled when connecting RPX 400, TPX 306 and RPX 200 endpoints not all endpoints can connect.	V7.0
124	VNGR-16170	*General*	On an RMX 4000 with MPM+ cards, endpoints are in the wrong locations in layout 1+7.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
125	VNGR-16166	*Hardware*	On an RMX 2000 with two MPM+ cards, after several minutes participants could not connect due to MCU Internal Problem 32112.	V7.0
126	VNGR-16142	*Diagnostics*	On the RMX1500/2000 when running the “Diagnostic - RTM ISDN”, test ID 717 RTM TDM FALC1 Diag, the test fails. Reason for the test failure: “RTM Timeout - RTM didn't send Test Completed”.	V7.0
127	VNGR-16058	*Hardware*	After upgrading RMX4000, an error message appears: “No RTM-LAN or RTM-ISDN installed” on slots 13, 14, 15. In fact no RTM-ISDN card is installed in slot 13.	V7.0
128	VNGR-16050	*Video*	When using the MPMx card to run a conference with Auto Brightness enabled, no difference can be seen in the video between a light and darkened room.	V7.0
129	VNGR-15938	*Audio*	RMX 4000 using HDX endpoints in 2048Kpbs HD Video Switching conference using Siren22Stereo exceeds conference bit rate by sending data to endpoints at 2112kpbs.	V7.1
130	VNGR-15909	*Upgrade Process*	When upgrading RMX4000 MPM+ from version 6.0.0.105 to version 7.0.0.91, the RMX Type (RMX4000) does not appear in the Hardware Monitor window.	V7.0
131	VNGR-15907	*Upgrade Process*	When upgrading RMX4000 MPM+ from version 6.0.0.105 to version 7.0.0.91, the Fabric Switch name is missing from the Hardware Monitor.	V7.0
132	VNGR-15904	*Upgrade Process*	When upgrading RMX4000 MPM+ from version 6.0.0.105 to version 7.0.0.91, the fault “Card voltage problem” is displayed for all installed cards.	V7.0
133	VNGR-15812	*Multilingual*	Japanese translation is missing in some of the IVR Service dialog boxes.	V7.0
134	VNGR-15789	*Interoperability*	RMX4000 using 4Mb, Same Layout, Sharpness, Video Clarity in profile and Entry Queue becomes inaccessible when called via an Entry Queue from H.323 LifeSize endpoint.	V6.0
135	VNGR-15763	*Video*	A conference started from a Profile set to “Motion” and Video Resolution “HD 1080" after connecting HDX endpoints, resources used are incorrect.	V7.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
136	VNGR-15750	*General*	In a conference set to 512kbps with Auto Layout enabled, when starting PCM from several endpoints, - you will receive an Message Overlay: “no available PCM resources. The message overlay cannot be closed.	V7.0
137	VNGR-15722	*Video*	On an RMX 4000 with MPM+ cards, when trying to view the Video Preview window, video is occasionally absent.	V7.0
138	VNGR-15709	*Video*	In a 2MB CP conference with LPR, Gathering, Sharpness, Video Clarity and Auto Brightness enabled, when connecting SIP & H.323 PVX/HDX endpoints, when starting PCM and selecting 1*1 Layout, the conference video has video artifacts.	V7.0
139	VNGR-15554	*General*	Numerous missing Japanese translations in the RMX Web Client.	V7.0
140	VNGR-15495	*Video*	Connect to a conference with HDX 8000 & 9000 endpoints, FECC on some of the endpoints starts only after 10 seconds.	V7.0
141	VNGR-15129	*Interoperability*	In a conference set to a line rate of 4096kbps with Sharpness, 1+5 layout, with a number of endpoints present, when a H.323 HD720p30 Tandberg 1700MXP endpoint dial-outs, Video In & Out freeze. Tandberg endpoints receive a lot of intra, it is like breathing video.	V7.0
142	VNGR-15096	*IVR*	In a 384kbps conference with no LPR, when connecting HDX 8000, PVX endpoints the lower segment of the welcome's slide is missing/smudged.	V7.0
143	VNGR-14800	*Multilingual*	The translation of the Create Certificate button in the IP Network Service - SIP Server tab is missing.	V6.0
144	VNGR-14672	*Gateway*	When a Gateway call is placed through the RMX 4000 to various HDX8006 endpoints, SIP endpoints connected using G.722.1C while the H.323 endpoints connected using Siren22.	V7.0.2
145	VNGR-14567	*Multilingual*	Translation of some of the fields in the Upgrade windows and dialog box are missing.	V6.0
146	VNGR-14338	*Multilingual*	Translation of the entries Copy Conference and past Conference in the Conference right-click menu is missing.	V6.0

Table 3 *Corrections Between Version 7.0.2 and Version 7.1*

Key	Key	Category	Description	Detected in Version
147	VNGR-14336	*Multilingual*	Translations of some of the fields in the New Conference dialog box are missing.	V6.0
148	VNGR-14335	*Multilingual*	Several fields in the Conference Profile dialog box have not been translated.	V6.0
149	VNGR-14333	*Multilingual*	Translation of the Exchange Integration Configuration dialog box is missing.	V6.0
150	VNGR-14332	*Multilingual*	The stop monitoring option (in right click on MCU) in the RMX manager is not translated to Japanese. VNGBE-851	V6.0
151	VNGR-13686	*Calendaring*	On the RMX 4000 in a 1080p H.323 Video Switching conference with a line rate of 6Mb, the IVR welcome screen can freeze on the HDX8006 and HDX 9006 endpoints.	V6.0, V5.0.0
152	VNGR-12240	*General*	Endpoints are disconnected after extended time period (8 hrs +) when all MPM+ resources are used. Error message is displayed: “Unit not responding.”	V5.0.0
153	VNGR-12181	*General*	Sometimes an assert may appear when terminating a conference while running 10 conferences at a line rate of 768kbps and changing the layout for H.323 & SIP participants.	V4.6
154	VNGR-11491	*Content*	In a conference with a line rate of 384kbps, when H.323 participant connect to the conference using FECC, incorrect data is displayed in the Participant Properties - FECC and Content channels of the RMX Web Client. The information is updated correctly once the participant is fully connected.	V4.1
155	VNGR-11422	*General*	When the RMX is set to Flexible Allocation Mode and more than 14 endpoints are connected to a single MPM+80 card in line rates above 2Mbps, video artifacts may appear.	V4.1

Corrections Between Version 7.0.1 and Version 7.0.2

Table 4 *Corrections Between Version 7.0.1 and Version 7.0.2*

#	Key	Category	Description	Detected in Version	Workaround
1	VNGR-17472/ 17379	*Video*	Striped video image of all other participants occurs on HDX8000 endpoint after dialing via DMA to RMX4000 running V7.0.1.16 with, 4*MPM+80 cards.	V7.0.1	
2	VNGR-17454	*General*	An MCU internal problem occurred: “ConfPartyMcuInternalProblem - Party:2467 Conf:744 receives Failure Status for opcode: CONFPARTY_CM_OPEN_UDP_PORT_REQ Req:799954. “	V7.0.1	
3	VNGR-17384	*Interoperability*	Loss of lip sync occurs on HDX8000 endpoint that dialed via DMA with higher line rate than the conference (512) to RMX2000 running V7.0.1.16 with 2*MPM+80 cards.		
4	VNGR-17426/ 17324/ 17319	*Video*	Periodic momentary freezing of video sent from ISDN endpoint is observed on H.323 endpoint when connected to a CP conference running on RMX 2000 with MPMx at a line rate of 1920kbps and AES and LPR options enabled.	V7.0.1	
5	VNGR-17195	*Video*	Colored stripes and video freeze occurs in 512 kbps calls dialed via DMA to RMX4000 running V7.0.0.162 with MPM+ cards.	V7.0	
6	VNGR-17086	*Video*	Video is frozen after 2-3 seconds when using CMA-D with VBP 4350 on RMX 2000 running V7.0.0.162 with MPMx.	V7.0	

Table 4 *Corrections Between Version 7.0.1 and Version 7.0.2*

#	Key	Category	Description	Detected in Version	Workaround
7	VNGR-16902	*Interoperability*	RMX with MPMx connected via H.320 to Tandberg 6000 B endpoint is listed with "Connected With Problem" status.	V7.0	
8	VNGR-16866	*RMX 1500 General*	On RMX 1500 Message Overlay is blurred on SIP and H.323 endpoints.	V7.0	
9	VNGR-16848	*RMX 1500 General*	On RMX 1500, Media port is listed in the Ethernet Settings dialog box but not in the LAN List pane of the Hardware Monitor.	V7.0	
10	VNGR-16833	*Partners - Microsoft*	When using RMX with MPM+ with ICE enabled in a Federation dialing configuration, the Microsoft Office Communicator Client is disconnected. Call Disconnection Cause is listed as "sip hw internal MCU problem - 0".	V7.0	
11	VNGR-16829	*Interoperability*	Blurred and highly color saturated video, followed by a black screen is displayed on HDX ISDN endpoint connected to RMX 2000 with MPMx at 1152kbps.	V7.0	
12	VNGR-16789	*Video*	Connecting three HDX8006, six HDX9004 and nine V500 endpoints to a 1024 kbps, HD 1080p conference running on an RMX1500, with Video Clarity, Echo Suppression and Auto Layout enabled, poor video motion was observed.	V7.0	
13	VNGR-16766	*RMX 1500 Video*	On RMX 1500 with MPMx, strobe effect appears in video during H.323 call to HDX endpoints at 1080p at 4Mbps.	V7.0	

Table 4 *Corrections Between Version 7.0.1 and Version 7.0.2*

#	Key	Category	Description	Detected in Version	Workaround
14	VNGR-16760	*Video*	On an RMX1500, when connecting seven HDX8006 endpoints to a 4096 kbps & HD 1080p conference with Video Clarity, Sharpness, Echo Suppression and Auto Layout enabled, stripes appeared in the endpoints video.	V7.0	
15	VNGR-16723	*Interoperability*	On an RMX 1500 running an mixed (H.323, SIP & ISDN) 1024kbps conference, after connecting the ISDN endpoint and changing the layout, after a few minutes the ISDN endpoint views a black screen and the video frame rate is 0.	V7.0	
16	VNGR-16684	*Video*	On an RMX 2000 with MPM+ cards running a 1920 kbps conference using the following settings LPR, Sharpness and Video Clarity, when connecting ISDN endpoints metallic background noises can be heard. Connect an H.323 endpoint, then ISDN endpoints view their own video.	V7.0	
17	VNGR-16661	*Content*	On an RMX 1500 running an 1024kbps HD720p conference with Video Clarity, Auto Terminate, Sharpness, Encryption, LPR, Echo Suppression and Auto Layout enabled, when sending content some dial-out HDX9004 endpoints had bad video.	V7.0	
18	VNGR-16647	*Interoperability*	On an RMX 2000 in a 384kbps H.323 CP conference with Sharpness and LPR enabled, when the RMX dials-out to an Tandberg 6000E, an empty video frame appears.	V7.0	

Table 4 *Corrections Between Version 7.0.1 and Version 7.0.2*

#	Key	Category	Description	Detected in Version	Workaround
19	VNGR-16603	*Gateway*	When the endpoint that initiates a Gateway call disconnects, the Gateway session is not terminated while others are still in the conference. The Gateway session should terminate.	V7.0	
20	VNGR-16565	*Upgrade Process*	After upgrading to the RMX1500 to Ver 7.0.0.123 the following error message appears: “CardsComponent Type:switch, Description: Temperature problem - Major”.	V7.0	
21	VNGR-16533	*Gateway*	Intermittent blurred video or green blocks displayed on HDX H.320 call connected via 1024kbps Gateway call via RMX 2000 with MPMx.	V7.0	
22	VNGR-16457	*General*	Critical fan alert is displayed in the RMX Hardware Monitor in Event Log properties box while in the Hardware Monitor pane the system status is displayed correctly as Normal.	V7.0	
23	VNGR-16382	*Video*	During a video conference on the RMX2000 with an MPMx card, bitrate overflow occurs when there's a lot of motion in the video.	V7.0	
24	VNGR-15745	*General*	When you try to add the flag: "REDIAL_INTERVAL_IN_SECONDS" in the System Configuration an error code appears: 30432.	V7.0	
25	VNGR-15557	*Video*	On the RMX 4000 with a VSW conference set to 1080p30, when the RMX dials out to 3 HDX and 2 LifeSize endpoints, the HDX endpoints remain stuck in their splash screen.	V7.0	

Corrections Between Version 7.0 and Version 7.0.1

Table 5 *Corrections Between Version 7.0 and Version 7.0.1*

#	Key	Category	Description	Detected in Version	Workaround
1	VNGR-17732	*SIP*	In ICE environment, if QoS is enabled in the IP Network Service, the connection to the OCS is broken and the RMX cannot provision ICE and cannot see the connection to the edge server.	V7.0/7.0.1	
2	VNGR-17027	*Content*	Black screen or frozen content displayed when endpoints dial into the conference via DMA.	V7.0	
3	VNGR-17007	*RMX 4000*	No content display and several endpoints disconnected from the conference when content is sent during a conference running on RMX 4000 at a line rate of 1920kbps and Send Content to Legacy Endpoints option enabled. Faults list indicated that the link between FSM 4000 and the media card was lost.	V7.0	
4	VNGR-16959	*Interoperability*	On RMX running H.323, 384kbps conference with MPM+ or MPMx with Send Content to Legacy Endpoints enabled. When HDX9004 sends content iPower9000 endpoint receives content while FX endpoint does not.	V7.0	
5	VNGR-16957	*RMX 1500 general*	On RMX 1500 with MPMx High System CPU Usage fault occurs.	V7.0	
6	VNGR-16931	*General*	RMX 2000 with MPM+ displays empty video window in layout in ISDN + IP mixed conference during load test.	V7.0	

Table 5 *Corrections Between Version 7.0 and Version 7.0.1*

#	Key	Category	Description	Detected in Version	Workaround
7	VNGR-16930	*Video*	When connecting 15 HDX8006 endpoints to a 1024kbps & HD 720p conference with Video Clarity, Sharpness, Echo Suppression and Auto Layout enabled, running on an RMX1500, the endpoints had low frame rates, frozen video, packet loss and incorrect video resolutions.	V7.0	
8	VNGR-16910	*Video*	On RMX with MPMx, High-Profile endpoints (HDX 8006) display green flash in video window of layout. Attempts to send content result in "MFA error" followed by shaking video on HDX 9004 endpoints.	V7.0	
9	VNGR-16904	*Multilingual*	Incorrect Japanese translation of “Restore Last Version”.	V7.0	
10	VNGR-16898	*Hardware*	On an RMX 4000 with MPMx_D cards in the Diagnostic mode, when running card monitoring tests on the RTM_ISDN card the tests fail.	V7.0	
11	VNGR-16893	*Diagnostics*	On an RMX2000 with MPM cards, when implementing the Diagnostic mode the MPM card status remains in a "startup" phase.	V7.0	
12	VNGR-16888	*Video*	When starting a conference from the default profile with 20-30 endpoints connected on an RMX 4000 with MPMx cards, changing the conference layout causes video freezes and empty layout cells appear.	V7.0	

Table 5 *Corrections Between Version 7.0 and Version 7.0.1*

#	Key	Category	Description	Detected in Version	Workaround
13	VNGR-16884	*Upgrade Process*	On an RMX2000/4000 when upgrading to version 7.0 build 139, the MPMx card on Hardware Monitor appears normal, but the MPMx card blinking LEDs indicate the card is still "startup" mode.	V7.0	
14	VNGR-16882	*Hardware*	On an RMX 1500 in the Diagnostic mode, when viewing the MCU Monitor section, the card slot numbering is incorrect.	V7.0	
15	VNGR-16811	*Video*	On RMX 1500 MPMx - S, when the HDX8006 endpoint at 720p resolution using High-Profile at 512kbps connect to the conference the participant experiences welcome slide flash in video or endpoint freezes with welcome slide displayed.	V7.0	
16	VNGR-16732	*Content*	When sending content, the line rate of the sender endpoint decreases and when content is stopped, the line rate increases, above the conference line rate. For example, if the conference line rate is set to 512kbps, it decreases to 300kbps when sending content and it increases to 700kbps when the content is stopped.	V7.0	
17	VNGR-16711	*Video*	On an RMX 2000 with MPMx cards, when dialing in at 384kbps using VSX endpoints to a Meeting Room, the video transfer rate was 800kbps instead of 384kbps.	V7.0	
18	VNGR-16707	*Interoperability*	An RMX 2000 running an 1920kbps CP conference with LPR, Gathering and Sharpness enabled, when the RMX dials-out to an H.323 HDX endpoint, the HDX displays blue patchy video.	V7.0	

Table 5 *Corrections Between Version 7.0 and Version 7.0.1*

#	Key	Category	Description	Detected in Version	Workaround
19	VNGR-16691	*General*	In ICE environment, when a local endpoint connects to the conference, the connection type in the Participant Properties should be Local instead of Host.	V7.0	
20	VNGR-16633	*Diagnostics*	On an RMX 2000/4000 when accessing the Diagnostic mode and clicking the "run all tests" option, the confirmation window only appears minimized in the Windows Toolbar at the bottom of the screen.	V7.0	
21	VNGR-16616	*Interoperability*	CMAD negotiates G.711u instead of G.719 when connecting to a conference running at a line rate of 64kbps, video quality is set to sharpness, and auto layout is enabled.	V7.0	
22	VNGR-16502	*Content*	In a 1920kbps conference with H.264 content, after HDXs view and receive content, then when an VSX3000 endpoint connects the content halts and an error message appears: "0x80c7a4cCMfaTask::OnBadSpontIndFromMFA reason: 1, description: Decoder resource allocation error! Closing decoder port! “	V7.0	
23	VNGR-16430	*Upgrade process*	On RMX 2000, MPL failure occurs after upgrading Version 7.0.	V7.0	
24	VNGR-16423	*RMX 1500 General*	On RMX 1500, changing the port speed setting from Auto to 100F is ignored with Auto remaining selected after reset.	V7.0	
25	VNGR-16166	*Hardware*	On an RMX 2000 with two MPM+ cards, after several minutes participants could not connect due to MCU Internal Problem 32112.	V7.0	

Table 5 *Corrections Between Version 7.0 and Version 7.0.1*

#	Key	Category	Description	Detected in Version	Workaround
26	VNGR-15543	*Video*	On an RMX 4000 with a CP conference with Auto Layout and Sharpness enabled, Sony PCS-1 endpoints do not transmit video in H.320 calls.	V7.0	

Corrections Between Version 6.0 and Version 7.0

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
1	VNGR-16917	*Video*	On an RMX2000 with MPMX cards, when connecting HDX8000 endpoints with 720p and 1080p resolutions using a 1+7 layout, green artifacts and stripes appear in the video.	V7.0	
2	VNGR-16915	*Software Version*	On RMX 1500, Encryption Key Server can cause the MCU to display High CPU Usage alert after restart.	V7.0	
3	VNGR-16913	*PCM*	On RMX 4000 with MPM+, PCM on certain H.323 endpoints does not respond to arrow keys.	V7.0	
4	VNGR-16855	*ISDN*	Video freezes on ISDN endpoints in a fully loaded RMX 1500 when connecting, disconnecting and reconnecting all the endpoints.	V7.0	
5	VNGR-16845	*Software Version*	When using RMX with MPMx, MplApiSocket disconnects for 10 seconds resulting in disconnection of all participants.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
6	VNGR-16828	*Upgrade Process*	When upgrading RMX4000 7.0.0.136 with MPM+ to Version 7.0.0.142 or 7.0.0.145, MPL Failure was indicated and the RTM-IP still shows "in upgrade" while the RMX exits the "startup" indication.	V7.0	
7	VNGR-16818	*Software Version*	On RMX 2000 with MPM, after upgrading the RMX restarted with "no utilizable unit for audio controller" requiring hard reset (switch off and then on).	V7.0	
8	VNGR-16804	*Partners - Microsoft*	On RMX with MPMx, Microsoft Office Communicator Client connected at 384kbps doesn't recover and disconnects after Packet Loss after dial-in MOC Client changes LAN configuration to 100 Half Duplex during ongoing conference.	V7.0	
9	VNGR-16803	*Software Version*	On RMX 1500 with MPMx High System CPU Usage fault occurs.	V7.0	
10	VNGR-16743	*Video*	On an RMX 1500 running a 2048kbps conference with LPR, Gathering, Sharpness, Send Content to Legacy Endpoints, Auto Layout, Echo Suppression and Audio Clarity enabled, when connecting all the endpoints together, after the gathering slide closes all HDX endpoints display low quality video.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
11	VNGR-16734	*Content*	On an RMX 1500 running an 768kbps conference with LPR, Gathering, Sharpness, Auto Layout, Echo Suppression, Audio Clarity and Send Content to Legacy Endpoints enabled, when sending content from the Sony XG80 endpoint, HDX7600 endpoints do not view content.	V7.0	
12	VNGR-16642	*ISDN*	On RMX 1500 running a conference started from a conference profile, when a Viewstation MP512 ISDN endpoint connects, an error message appears: "Connected With Problem".	V7.0	
13	VNGR-16548	*IVR-RMX 4000*	On the RMX 4000 & MPMx card, when running an 4MB CP conference, the Welcome slide does not appear.	V7.0	
14	VNGR-16421	*General*	When a HDX (A) endpoint dials the following string: "Prefix_ID of the Gateway Profile *ISDN", to the number of the second HDX using an IP to ISDN call and starts a 384kbps conference with IVR enabled, if HDX A sends content to HDX B, the HDX views a black screen.	V7.0	Connect both HDXs directly to a regular conference that is using the same profile as the GW profile.
15	VNGR-16400	*General*	When a conference is active on the RMX 1500, in the Hardware Monitor - LAN Properties there is an "Status" indication that the LAN Media is "Inactive". It should state "active".	V7.0	
16	VNGR-16398	*Interoperability*	In a 1920kbps conference with LPR enabled, when connecting 3 HDX endpoints bad video appears.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
17	VNGR-16397	*General*	On the RMX 1500, in the IP Network Service > Management Network > the Lan Ports tab appears. It should be the IP tab.	V7.0	
18	VNGR-16348	*General*	On an RMX with the MPM card and version 7.0, when a conference is started from a Template with ViewStation 512/EX endpoints, the system restarts unexpectedly.	V7.0	
19	VNGR-16293	*General*	On an RMX 4000 with the MPM+ card, a "CureDump ConfParty" file is created and saved on file.	V7.0	
20	VNGR-16289	*Video*	On the RMX2000 running a conference based on the default Profile, when the RMX dials-out in SIP to the LifeSize endpoint, the call connects but the LifeSize endpoint does not view video.	V7.0	
21	VNGR-16266	*General*	In RMX Web Client, when viewing the Restore Factory Defaults window the "Select the Backup & Continue button to save the current configuration and restore factory defaults" field is not translated properly in Japanese.	V7.0	
22	VNGR-16075	*General*	On an RMX 2000 with a 384kbps conference started from a Profile with three endpoints connected, when the last endpoints disconnects an assert appears: 32112.	V7.0	
23	VNGR-16038	*Audio*	On an RMX with two MPMx cards, when connecting two dial-out PSTN participants, there is no audio between them.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
24	VNGR-15954	*SIP*	After creating a new SIP Factory and then deleting it, you cannot create another new SIP factory. A message alert appears: "fail to add SIP factory."	V7.0	
25	VNGR-15952	*General*	When viewing the properties of the Entry Queue when selecting "IVR service provider only" and clicking [OK], when re-opening the Entry Queue properties, the "IVR service provider only" is not selected.	V7.0	
26	VNGR-15951	*General*	When Dialing in from a PSTN participant to an EQ when entering the DTMF the participant cannot connect.	V7.0	
27	VNGR-15950	*General*	In the Management Network Properties - IP tab, when selecting ON [Secured Communication] and clicking OK, the popup message states RMS instead of RMX.	V7.0	
28	VNGR-15949	*General*	After upgrading the RMX to version 7.0, RMX IP address is not displayed.	V7.0	
29	VNGR-15936	*Interoperability*	When using Japanese characters in the display name of VVX1500-175/ VVX1500-176 endpoints, the endpoints display only a number.	V7.0	
30	VNGR-15934	*General*	In the RMX Web Client, when creating a new gateway profile and clicking OK, a wrong message appears: "Conference name already exists". The message should be: "Failed to add Gateway Profile: Display name already exists".	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
31	VNGR-15933	*General*	When accessing the English version of the RMX Web Client, when viewing properties of the conference profile, some of the fields are in Japanese.	V7.0	
32	VNGR-15932	*General*	In the Web Client set to Japanese, when selecting Software download, click "Browse" you cannot view the binary download file.	V7.0	
33	VNGR-15808	*General*	After modifying settings in the IP Network Services, the "Reset MCU" message did not appear, nor was the IP Network Service updated.	V7.0	
34	VNGR-15801	*Hardware*	After upgrading RMX4000, an error message appears: "No RTM-LAN or RTM-ISDN installed" on slots13, 14, 15". In fact no RTM-ISDN card is installed in slot 13.	V7.0	
35	VNGR-15744	*General*	In the Ping Dialog box, when clicking Ping an error message appears instead of receiving an IP address.	V7.0	
36	VNGR-15743	*General*	In the Ping Dialog box, when clicking Ping an error message appears instead of receiving an IP address.	V7.0	
37	VNGR-15741	*General*	When modifying the Port Gauge usage percentage from the default value ("80%") to a lower value ("40%" or "60%"), an error message is displayed. The error message is not translated into the UI language.	V7.0	
38	VNGR-15740	*General*	After updating the Exchange Integration Configuration window and clicking OK, a Message alert "31006" does not provide you with any information as to the cause of the error.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
39	VNGR-15728	*General*	When Auto Layout is enabled in a conference, the Auto Layout function does not select the appropriate layout for number of participants present in the conference.	V7.0	
40	VNGR-15727	*Video*	A 1024kbps conference with maximum resolution forced to H720p, when connecting HDX endpoint with a resolution set to CIF, the endpoint connects with 4CIF thereby using more resources.	V7.0	
41	VNGR-15726	*General*	The "Display repetition" option should be disabled when in Static Mode.	V7.0	
42	VNGR-15723	*General*	When a conference is created with the same name as another conference already running, an incorrect error message appears: "Failed to add conference: 2501".	V7.0	
43	VNGR-15717	*Video*	In a 1MB conference with 2 HDX endpoints one with High Profile and the other without High Profile, corrupted video is viewed in the High Profile HDX endpoint.	V7.0	
44	VNGR-15663	*IVR*	An IVR slide with1080p resolution was uploaded successfully to the RMX but cannot be viewed with the preview button nor could be seen in the IVR welcome slide.	V7.0	
45	VNGR-15648	*General*	In a conference started from the default "Factory_Video_Profile" and with "Send Contents to Legacy Endpoint" enabled, Legacy & ViewStation Endpoints cannot view content.	V7.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
46	VNGR-15629	*General*	When you start a conference from an existing conference template, a popup message appears: "The conference ID already in use". Conference does not start.	V7.0	
47	VNGR-15626	*Video*	During a video conference audible clicks & popping sounds are heard during when the following endpoints are connected: CMAD, VSX3000, HDX6000 and HDX7000.	V7.0	
48	VNGR-15506	*General*	In the RMX Web Client, login as Administrator and create a new user "KANSA" with Auditor permissions. Logout and login using the new Auditor user, an error message appears.	V7.0	
49	VNGR-15374	*General*	On an RMX with MPMx cards, when a number of endpoints with different line rates dial-out, some endpoints do not connect.	V7.0	
50	VNGR-15023	*Cascading*	Content cannot be sent via cascade link. Video Disconnection Cause of the link participant is displayed as: "Content media was not established because the remote endpoint does not support the conference content protocol."	V6.0	
51	VNGR-14844	*Upgrade Process*	The Faults List is empty when upgrading the RMX 2000 from V5.01 build 24 to v6.0 build 86.	V6.0	
52	VNGR-14837	*Video*	Gathering slide info is cut off for dial-out VSX and CMAD MAC endpoints that receive video at a resolution of 480x352. The gathering screen displays correctly on the HDX endpoints	V6.0	

Table 6 *Corrections Between Version 6.0 and Version 7.0*

#	Key	Category	Description	Detected in Version	Workaround
53	VNGR-14673	*Video*	In a 4MB Immersive Telepresence conference with Sharpness enabled, cracking and popping sounds are heard.	V6.0	
54	VNGR-14276	*General*	When the MCU is in start up mode, the upgrade status bar does not appear.	V6.0	
55	VNGR-12136	*SIP*	No video or low quality video is seen by a SIP HDX endpoint that connects to a conference set to 384 kbps at much higher line rate, such as 4Mb.	V4.6	
56	VNGR-11703	*General*	Sometimes participants do not connect when the RMX is running under load. The disconnection cause is stated as "MCU internal problem 32121".	V4.5	

Version 7.1 System Limitations

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
1	VNGFE-3763	*Reservation*	The scheduled start time Recurring reservations that span over different daylight saving periods move by one hour when the time changes. This is due to reservations being saved in GMT time only.	V7.1	Modify the Reservations start time after the implementation of daylight saving changes.
2	VNGR-19599	*Upgrade Process*	When downgrading from version 7.0.2.68 to version 5.0.2.9, the following Active Alarm is displayed: "IPMCInterfaceFAILED READING IPMC version from CHIP, err = 6:eIpmcRcvHexResponseFail"	V7.0.2	
3	VNGR-19597	*Interoperability*	An empty video cell is shown for a second in the Personal video layout displayed on the VVX system that is connected to a conference running on RMX 2000 with MPMx card at a line rate of 1920Kbps and Send Content to Legacy Endpoint option enabled, when the speaker changes while content is sent.	V7.1	
4	VNGR-19595	*IP*	In Multiple Services mode, after restoring the RMX to its factory defaults the option to define more than one IP Network Service (Add Network Service button) is disabled.	V7.1	
5	VNGR-19564	*IP*	In Multiple Services mode, the name of one IP Network Service cannot be contained in the another IP Network Service name, otherwise all the calls will be routed to the same Network Service. For example, IP Network Service named IPService and IPServiceNew.	V7.1	Add digits to the names, such as IPService 1 and IPService 2.
6	VNGR-19541	*Interoperability*	Tandberg C20 and C90 endpoints version TC4.0.1.240265 connect as audio only to a VSW HD conference running on RMX version 7.1. Issue is not reproduced when Tandberg release 3.1.2 is installed on the endpoints.	V7.1	
7	VNGR-19536	*General*	The Default IP Network Service configured using the Fast Configuration Wizard is not saved if no media cards are installed in the RMX during the configuration process.	V7.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
8	VNGR-19477	*General*	Occasionally, a DSP failure occurs followed by the following fault: 0x80cd73cCMfaTask::OnBadSpontIndFromMFA reason: 1, description: Crashing Dsp - [Decoder26x] ERROR (H263).	V7.1	
9	VNGR-19466	*Upgrade Process*	When upgrading an RMX 1500 with Multiple Services option enabled from version 7.1.0.115 to version 7.1.0.117, several asserts are displayed in the Faults list when the system is restarted: ASSERT:MplApi_FAILED_to_start_during_Startup_!!! ASSERT:RtmIsdnMngr_FAILED_to_start_during_Startup_!!! ASSERT:Installer_FAILED_to_start_during_Startup_!!!	V7.1	Reset the RMX.
10	VNGR-19459	*General*	When the workstation's screen resolution is set to 1280 x 720, the *Accept Agreement* button in *RMX Documentation and Utilities* screen provided on the Polycom USB key is cut and the screen becomes corrupted when enlarging the display using Ctrl, +, +.	V7.1	
11	VNGR-19455	*General*	Layout.CPP assert is displayed when changing the conference layout via Conference Properties dialog box of a conference running on RMX 1500 at a line rate of 512Kbps with 20 ISDN/H.323 and SIP endpoints connected to the conference.	V7.1	
12	VNGR-19432	*Interoperability*	When RMX 4000 with MPM+ dials out to CX700 over SIP connection, the call is disconnected after the CX700 accepted the call.	V7.1	
13	VNGR-19364	*General*	Changing the font size display of the workstation monitor does not change the size of the fonts displayed in the *RMX Documentation and Utilities* screens provided on the Polycom USB key shipped with the RMX.	V7.1	
14	VNGR-19288	*General*	When two dial-out H.323 endpoints connect to a conference running on RMX 1500 at a line rate of 384kbps and Gathering enabled, and press DTMF code *88, the transparent Gathering pane does not appear.	V7.1	
15	VNGR-19265	*Content*	In VSW and CP conferences started from a template with two HDX8000 endpoints, when sending content the content rate exceeds the conference line rate.	V7.0.2	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
16	VNGR-19262	*ISDN*	On an RMX 2000 with MPMx cards, the maximum capacity of 40 ISDN participants could not be attained when participants connected at 256Kpbs to a conference running at a line rate of 512kbps as downspeeding of the conference line rate is not supported.	V7.1	Set the Conference Profile line rate to 256kbps.
17	VNGR-19240	*RMX 1500Q*	When resetting the RMX 1500 MPMx-Q from the Hardware Monitor (soft Reset), the IE7 Web Browser window remains open and an error message is displayed after a while instead of disconnecting from the RMX.	V7.1	
18	VNGR-19237	*RMX 1500Q*	When installing the Activation Key with a license of 10 CIF resources on RMX 1500 with MPMx-Q card, only 5 CIF resources are listed in the System Information and 6 resources are displayed in the Port Usage.	V7.1	
19	VNGR-19128	*Interoperability*	VVX does not resume video after being placed on hold when connected to a conference managed by the DMA.	V7.1	
20	VNGR-19114	*ISDN*	In an 1472 kbps CP ISDN conference with Encryption, Gathering, LPR, Sharpness and Video Clarity enabled, when sending content from an VSX7000A endpoint, VSX8000 endpoints cannot view content.	V7.1	
21	VNGR-19109	*SIP*	In an 768 kbps CP conference with Auto Layout, Gathering, LPR, Sharpness Graphics and Video Clarity enabled, the SIP call negotiates H.263 instead of H.264.	V7.1	
22	VNGR-19108	*Video*	>> In an dial-out 384kbps conference using the Factory Video Default profile, an DST H323 Broad 5 endpoint views corrupt video when another video participant joins the conference.	V7.1	
23	VNGR-19087	*Video*	On an RMX 1500 in a Real Life conference, all endpoints have their audio and video halted for 10 seconds.	V7.1	

Table 7 *Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
24	VNGR-19085	*Content*	In an conference with mixed H.323 and ISDN endpoints, when content switches between participants, the ISDN participant can receive the content token but cannot resend it. As a result all participants view black screen for a few seconds, and then the view returns to normal video.	V7.1	
25	VNGR-19083	*General*	After creating a new conference and adding participants, when attempting to save the conference to a template a "failure status" active alarm appears.	V7.1	
26	VNGR-19077	*Content*	In a ISDN cascaded conference that places a call using the Codian Gateway, after sending Content the call disconnects.	V7.1	
27	VNGR-19076	*Gateway*	When an IP call is forwarded from the RadVision Gateway to RMX over ISDN, bad video can be seen.	V7.1	
28	VNGR-19075	*Gateway*	In an ISDN cascaded conference that places a call using the Codian Gateway, after switching the Content sender, a black screen can be seen.	V7.1	
29	VNGR-19068	*H.323*	In an 512 kbps SIP/H.323 VSW conference with LPR, Sharpness, Graphic Auto Layout and Video Clarity enabled, when sending content from an HDX endpoint, VSX endpoints cannot view content.	V7.1	
30	VNGR-19065/ 19156	*General*	If setting the Gatekeeper prefix to the digits that are used for Conference ID (for example prefix is set to 10 and the conference ID is 1001), the system will not be able to dial to the destination conference as the prefix digits are truncated from the conference ID, preventing the system from locating it. When the gatekeeper configuration changes to “off” in the IP Network Service, the RMX is still implementing the previous gatekeeper configuration and uses the Gatekeeper Prefix for routing.	V7.1	Do not use the alias for dialing in.
31	VNGR-19058	*Video*	On the RMX1500Q in the IVR Services you cannot upload a new Video Welcome Slide.	V7.1	
32	VNGR-19057	*Video*	On the RMX1500Q, in H.323 & SIP dial-in and dial -out calls you do not view the Video Welcome Slide.	V7.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
33	VNGR-19050	*Recording*	In a RSS recorded conference with 2x2 layouts, when starting and pausing the recorder from an HD endpoint, the pause icon disappeared.	V7.1	
34	VNGR-19045	*Content*	In a mixed H.323, SIP, ISDN, PSTN conference with 20 HDX, VSX, Tandberg, LifeSize and CMAD endpoints, when an ISDN endpoint stops and re-sends Content endpoints view a black screen.	V7.1	
35	VNGR-19033	*Video*	In a 512 kbps H.323 conference with AES, LPR and single layout enabled, when HDX one endpoint uses PCM the other HDX endpoint's video becomes blurred.	V7.1	
36	VNGR-18990	*Video*	On an RMX 2000 with MPM+ cards and a 4Mb conference with Motion enabled, 2 OTX-306, 1 RPX-400 endpoints, horizontal black lines appear.	V7.1	
37	VNGR-18985	*Content*	When Serial endpoint sends content, the H.323 endpoint views a black screen, when serial endpoint stops content, content remains frozen for 10-20 seconds and then endpoints view frozen video.	V5.1	
38	VNGR-18975	*FECC*	In an dial-in H.323 VSW conference, HDX SIP endpoints cannot use FECC.	V7.1	
39	VNGR-18973	*Interoperability*	In an encrypted conference, LYNCH endpoints cannot use DTMF.	V7.1	
40	VNGR-18947	*CMA*	In a 832 kbps H.323 conference registered with the CMA, when connecting CUPC, CMA-D and HDX endpoints the video is bad.	V7.1	
41	VNGR-18943	*Interoperability*	In a 4096 kbps CP conference with Auto Layout, LPR and Graphics enabled, when an Sony XG80 endpoint sends content, HDX endpoints do not see video.	V7.1	
42	VNGR-18942	*Interoperability*	In a 384 kbps H.323 conference with AES and LPR enabled, when the RMX dials through a Gateway connection the HDX endpoint views garbled text with video.	V7.1	
43	VNGR-18918	*Recording*	With an RMX in the MPM+ mode, when starting an RSS recording there is no pause icon present on the UI.	V7.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
44	VNGR-18917	*Video*	In a 1920 kbps H.323 conference with AES and LPR enabled, when an HDX endpoint views the Welcome Slide there is no video in the background.	V7.1	
45	VNGR-18889	*Cascading*	In Cascaded conferences with an identical profile, when the conference starts you are connected to an Entry Queue instead of the Slave conference.	V7.1	
46	VNGR-18888	*Interoperability*	Two identical conferences with Legacy content enabled with both Legacy and non-Legacy endpoints, when non-Legacy endpoints send content and an Legacy endpoints joins the other conference, the new content cannot be viewed.	V7.1	
47	VNGR-18754	*Multilingual*	When displaying participant names in the participant properties, the Kazakhstan language is not supported.	V7.0.2	
48	VNGR-18679	*Interoperability*	When GAB processes address book information sent to it by the CMA server, you can only call using H.323 and not ISDN.	V7.1	
49	VNGR-18668	*Multilingual*	The words “Enable Gathering Phase” are not translated into Simplified Chinese.	V7.1	
50	VNGR-18637	*Interoperability*	When content is sent from an ISDN HDX7006 endpoint, Lifesize Room 200 endpoint cannot view the content.	V7.1	
51	VNGR-18626	*Interoperability*	On an RMX 4000 with a 128 kbps H.323 conference, when a VVX1500 endpoint views dials another VVX1500 endpoint the call disconnects.	V7.1	
52	VNGR-18606	*Interoperability*	An RMX 2000 and endpoints are registered with a Broadsoft proxy, when the dial-in conference starts from an LPR enabled Profile, HDX endpoints connect with problems.	V7.1	
53	VNGR-18588	*Upgrade Process*	During the upgrade from version 4.7 an unexpected reset occurred on a media card.	V4.7	
54	VNGR-18554	*CMA*	On an RMX registered to the IOS/CMA, when an VVX endpoint connects to the conference, no video is seen.	V7.1	
55	VNGR-18537	*Content*	In a 512 kbps H.323 conference with LPR, Gathering, Auto Layout and Send Content to Legacy Endpoint enabled, when sending content from VSX endpoints to Legacy endpoints a green or pixilated screen appears.	V7.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
56	VNGR-18528	*FECC*	When using PCM to use FECC when pressing the exit button “0”, there is no response.	V7.1	
57	VNGR-18522	*Interoperability*	When using PCM to use Click & View, the menu appears in the middle of the screen.	V7.1	
58	VNGR-18510	*Video*	On the RMX 2000/4000 with MPMx cards and H.261 endpoints connected, when there is motion in the video, video artifacts can be seen.	V7.1	
59	VNGR-18378	*Recording*	After creating a new profile with a recording link, and a new conference initiates the recording link does not activate.	V7.1	
60	VNGR-18374	*Interoperability*	When using DTMF keys with PCM, after pressing '8' to terminate the conference, the pound (#) shortcut key does not work.	V7.1	
61	VNGR-18357	*Multilingual*	When the PCM menu is set to the Japanese language, part of the menu appears in English.	V7.1	
62	VNGR-18349	*RMX Manager*	Following a Comprehensive Restore to Factory Defaults of RMX 2000, the CDR file containing 1000 CDR logs cannot be restored from the Backup Configuration.	V7.0.2	
63	VNGR-18279	*Video*	The video display is “jumpy” when endpoints connect to a conference running on RMX with MPMx at a line rate of 512kbps and SD resolution.	V7.0.2	
64	VNGR-18276	*Upgrade Process*	When upgrading an RMX 2000 with one MPM card from version 7.0.1.16 to version 7.0.2.64, the MPM card appears to be in normal state in the Hardware Monitor but with no available units. The status LED on the card is green as in normal status. The upgrade procedure takes longer to complete, and until it does the audio controller units cannot be used.	V7.0.2	
65	VNGR-18211	*RMX Manager*	On RMX2000 with MPMx-S, when two ViewStation endpoints connect to the conference using H.263, the Video Port Usage display on the RMX Manager displays 3 ports used. The Administrator guide states 4 ports.	V7.0	
66	VNGR-18186	*Cascading*	During an ISDN Cascaded conference when connecting an IP HDX endpoints with 16:9 screen formats, the video changes to 4:3 format instead of 16:9.	V7.1	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
67	VNGR-18170	*RMX Manager*	Video Preview cannot be activated in RMX Manager application.	V7.0.2	
68	VNGR-18116	*Interoperability*	In a 384 kbps CP conference with LPR and AES enabled, when Touch Control changes the layouts, HDX endpoints hear a string of DTMF tones after each change.	V7.1	
69	VNGR-18111	*General*	An unclear message “No utilizable unit for audio controller” is displayed when removing all Media cards from the RMX.	V7.1	
70	VNGR-18026	*Interoperability*	When connecting to a Meeting Room with a desktop endpoint, when ST clients connect and terminate the conference, one participant remains in a “disconnecting“ status. Neither the conference nor the client can be deleted from the RMX.	V7.1	
71	VNGR-18021	*Interoperability*	In DMA, when a SIP endpoint is connected to a certain MCU, and the user chooses to stop using it, the call is routed to a different MCU while the call rate is reduced by 64k.	V7.0	
72	VNGR-17944	*ISDN*	When a conference starts using the default conference profile, after about 15 minutes ISDN HDX endpoints suddenly disconnect from the conference.	V7.1	
73	VNGR-17914	*Interoperability*	When two IBM Sametime clients connect to a conference, the ST client connecting from a desktop views video artifacts.	V7.1	
74	VNGR-17889	*RMX Manager*	The Logger statues link with the RMX Manager failed repeatedly. A manual reset was required to reestablish the link.	V7.1	
75	VNGR-17888	*Video*	Full screen layout is displayed instead of 3x3 layout when the 3x3 layout is selected using Click&View from HDX9004 version 2.7.0-5547. Conference is running on RMX 2000 with either MPM+ or MPMx.	V7.0.2	
76	VNGR-17869	*Hardware*	When inserting a Control Unit in Slot 4, in Hardware Monitor it is shown as inserted in slot 3	V7.0.2	
77	VNGR-17861	*RMX Manager*	RMX Manager failed to install from login page and the request was aborted due to the following message: “Could not create SSL/TLS secure channel”.	V7.5	1. Install prior to moving to initiating the Secure Mode 2. Install from a network 3. Install locally from RMX Manager folder

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
78	VNGR-17823	*Interoperability*	No cropping, no border and shrunken video is displayed on the VVX endpoint when connecting a VVX endpoint, HDX endpoint and a Telepresence endpoint to a conference set to Telepresence mode that is running on RMX 2000 with MPMx cards.	V7.0.2	
79	VNGR-17818	*General*	Video Preview cannot be disabled.	V7.0	
80	VNGR-17807	*Interoperability*	Radvison Scopia XT1000 does not transmit video when connected at a line rate of at 1920kbps to a CP conference running on RMX 2000 with MPMx and its Resource Configuration set for “Video Quality Optimized”.	V7.0.2	
81	VNGR-17796	*Video*	A thin gray line is present at the bottom of the cells when connecting TPX and RPX endpoints to a conference running on RMX 2000/4000 with MPMx cards at a line rate of 3MB or higher and video quality is set to sharpness.	V7.0.2	
82	VNGR-17791	*General*	DTMF Tones (Click&View) are heard by all conference participants in a conference running on RMX 2000 with MPMx.	V7.0.2	
83	VNGR-17762	*Content*	Sometimes Content is sent during the gathering phase and is shown through the gathering phase slide background (it is displayed as a layer underneath it) when the Sent Content to Legacy Endpoint option is enabled in a conference running at 384kbps.	V7.0.2	
84	VNGR-17757	*Partners - Microsoft*	In Microsoft Lync environment with ICE enabled, when a Lync client dials an Entry Queue running on RMX 4000 with MPM+80, the Lync client is not given enough time to enter the meeting room ID and is disconnect from the Entry Queue.	V7.0.2	
85	VNGR-17746	*Partners - Microsoft*	In an environment that includes the Microsoft Lync server and RMX 4000 MPM+80 with ICE enabled, when the Lync client escalates to video after connecting as Audio Only to a Meeting Room that is running at 384kbps, with Encryption and LPR enabled, artifacts appears at the start of the video.	V7.0.2	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
86	VNGR-17743	*Partners - Microsoft*	In an environment that includes the Microsoft Lync server and RMX 4000 MPM+80 with ICE enabled, when the RMX dials out to two Lync clients with HDX connected, the second Lync client is disconnected from the conference that is running at 384kbps, with Encryption and LPR enabled due to a SIP HW internal MCU problem.	V7.0.2	
87	VNGR-17731	*Gateway*	RMX Gateway calls status messages do not appear on HDX endpoint after the RMX version was upgraded from 5.xx to 7.01	V7.0	
88	VNGR-17729	*Content*	Video freeze was experienced by many participants when content was sent from a PC to 160 CIF participants connected to a conference running on RMX 2000 with MPM+80 at a line rate of 384kbps and LPR and Encryption options enabled.	V7.0.2	
89	VNGR-17724	*General*	After Comprehensive Restore to Factory Defaults, an active alarm displayed, indicating voltage problem on MPM-f - card.	V7.0.2	
90	VNGR-17689	*ISDN*	Blurred (Predator) video is displayed on the HDX endpoint that is in self view when a movement occurs while the endpoint is connected via ISDN to a conference running at a line rate of 1472kbps, with encryption enabled.	V7.0.2	
91	VNGR-17668	*Interoperability*	Sony PCS-XG80 receives video at a resolution of 432x240 instead of 720p when connected to a CP conference running on RMX 2000 with MPM+ at a line rate of 1920kbps with LPR, Video Clarity and Send Content to Legacy Endpoint options enabled.	V7.0.2	
92	VNGR-17640	*Video*	Video freeze occur when connecting the 74th HD 720p participants (out of 80) to a conference running on RMX 4000 with 4 MPM+80 cards at a line rate of 1MB, Video Quality set to Sharpness and Video Clarity, encryption and LPR options enabled.	V7.0.2	
93	VNGR-17616	*Audio*	HDX H.323 endpoint receives G.722 audio instead of Siren22 (as the SIP endpoints) when connected to a conference running at a line rate of 384kbps on RMX4000 with MPM+ and the CS_ENABLE_EPC flag is set to YES.	V7.0.2	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
94	VNGR-17611	*Video*	Video seen on HDX8006/7006 screen looks superimposed and blotchy after changing the video layout to full screen when connected via H.323 to a conference running on RMX 2000 with MPMx at a line rate of 384kbps and Encryption and LPR options enabled.	V7.0.2	
95	VNGR-17606	*Interoperability*	LifeSize systems are sometimes locking up and disconnecting when connected to a CP conference running on RMX 4000 with MPM+ at a line rate of 1920kbps, video quality set to Sharpness and LPR, Video Clarity and Send Content To Legacy Endpoint options enabled.	V7.0.2	
96	VNGR-17602	*RMX Manager*	Double clicking on a card in Hardware monitor of the RMX Manager application displays the Card Properties dialog instead on the Processor Properties dialog box.	V7.0.2	
97	VNGR-17596	*Recording*	When an Audio Only conference starts, the recording link does not activate.	V7.0	
98	VNGR-17589	*Interoperability*	RadVision Scopia XT1000 is connected with a problem to a conference running on RMX 2000 with MPMx at a line rate of 4MB and LPR and Encryption enabled after viewing the IVR Welcome slide.	V7.0.2	
99	VNGR-17586	*RMX Manager*	Selecting to save the Alarms and Faults to a text file when “Group by MCU” is selected in RMX Manager results in an empty text file.	V7.0.2	* Choose “Group by MCU” again. This time the text is saved to the file. * Save the file as XML.
100	VNGR-17566	*Content*	Chroma shift viewed on Legacy endpoints when sending content in a conference running on RMX 2000 with MPMx at a line rate of 512kbps and the Send Content to Legacy Endpoint option enabled.	V7.0.2	
101	VNGR-17558	*Content*	Legacy endpoint that connect to a conference in which Content is already sent, and the conference layout is set to Auto Layout the does not see the Legacy Layout and does not receive content.	V7.0.2	
102	VNGR-17525	*Video*	A black vertical line is displayed between cells where usually there is a border when OTX and RPX 400 endpoints are connected to a conference running on RMX system with MPMx at a line rate of 4MB and video Quality set to Sharpness.	V7.0.2	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
103	VNGR-17514	*Video*	An empty cell is displayed in the video layout when muting and then unmuting individual endpoints that are connected to the conference as follows: 10 ISDN at a line rate of 128kbps, 7 HDX 8006 at a line rate of 4096kbps, 15 HDX 9004at a line rate of 1024kbps and 15 VSX 384kbps.	V7.0.2	
104	VNGR-17509	*Hardware*	During a Real Life 512 kbps conference an error message appears “no LAN connection”, although the MPM card with endpoints remains connected.	V7.0.2	
105	VNGR-17496	*Software Version*	DSP recoveries and asserts occur, endpoints are disconnected or lose both audio and video on RMX4000 running V7.0.1.16 with 4*MPM+80 cards.	V7.0.1	
106	VNGR-17495	*Interoperability*	QDX6000 connects with a problem over H323 to a conference running on RMX 2000 with MPMx at a line rate of 192kbps or 128kbps, and LPR, Video Clarity and Send Content to Legacy Endpoints options enabled.	V7.0.2	
107	VNGR-17484	*Video*	Periodic video freezes on H.323 endpoints when connected to a CP conference running on RMX 1500 at a line rate of 4096kbps and AES and LPR options enabled.	V7.0.2	
108	VNGR-17471	*Audio*	Loss of audio for 2-3 seconds or bursts of static noise on HDX6000 endpoint in calls dialed via DMA to RMX4000 running V7.0.1.16 with, 4*MPM+80 cards.	V7.0.1	
109	VNGR-17409	*Upgrade Process*	On an RMX 2000 with two MPM cards when upgrading from version 6.0.2 to 7.0.2, the Software Loading process remains stuck at 22%.	V7.0.2	
110	VNGR-17395	*Interoperability*	During a video conference between 3 ST client s and a video Desktop endpoint, zebra video artifacts appear on the conference layout of all endpoints.	V7.1	
111	VNGR-17362	*Interoperability*	When a CMAD-MAC endpoint enters a conference and then PVX and HDX endpoints subsequently connect, endpoint names display and then disappear leaving cut off fonts and background shading.	V7.0	
112	VNGR-17302	*Video*	Black screen with normal audio occurs on HDX8002 endpoint that dialed via DMA to RMX2000 running V7.0.1.16 with 2*MPMX cards.	V7.0.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
113	VNGR-17291	*Video*	In a Dial-in Meeting Room, endpoints viewed impaired video and occasionally received bad audio.	V7.0	
114	VNGR-17282	*Video*	In a DMA Dial-in Meeting Room with several HDX8000 endpoints, video transmission stopped.	V7.0.1	
115	VNGR-17272	*Video*	In a DMA Dial-in Meeting Room with several endpoints, HDX9004 viewed distorted video from other endpoints.	V7.0.1	
116	VNGR-17221	*Interoperability*	Video from CMA-D participant was not displayed in call dialed via DMA to RMX4000 running V6.0.0.105 with 4*MPM+80 cards.	V6.0	
117	VNGR-17220	*Video*	Horizontal black lines are displayed across the video window on all endpoints in calls dialed via DMA to RMX4000 running V6.0.0.105 with, 4*MPM+80 cards.	V6.0	
118	VNGR-17215	*Video*	In a Dial-in Meeting Room with mixed (HDX8000/9004) endpoints, the endpoints viewed zebra video.	V7.0.1	
119	VNGR-17156	*Video*	In a DMA dial-in Meeting Room with several endpoints, a few endpoints viewed Zebra video artifacts.	V7.0	
120	VNGR-17139	*Video*	In a DMA 2Mb dial-in conference with LPR enabled and 20 mixed endpoints (HDX, VSX, CMAD H323, PSTN), three DSP video failures occurred and frozen video was viewed on two HDXs.	V7.0.1	
121	VNGR-17104	*FECC*	In a 512 kbps H.323 conference with two HDX endpoints, FECC is extremely slow.	V7.0	
122	VNGR-17092	*Video*	In a 384 kbps Meeting Room with LPR, Auto Brightness and Video Clarity enabled, when dial-in VSX and HDX endpoints connect, the default Welcome Slide is blacked out.	V7.0	Replace the default Welcome Slide
123	VNGR-17082	*Video*	On an RMX 2000/4000 with an Ad hoc conference when the Avaya 1XC Softphone and HDX 9004 dial-in to the conference, they view discoloration in the upper segment of their video.	V7.0	
124	VNGR-17070	*Interoperability*	On an RMX 4000 with MPM+ cards, when running a 512 kbps conference with mixed HDX 8000 and VSX 3000 endpoints, audio cuts ON and OFF.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
125	VNGR-17062	*IVR*	When two Avaya 1XC Softphone endpoints join a conference, the IVR Service “first to join conference” music continues to play as if there is just one person in the conference.	V7.0	
126	VNGR-17001	*Hardware*	MPMx card remains in Startup mode instead of Major state after restoring the RMX to factory defaults and without configuring the IP address of the media card(s) in the Fast Configuration Wizard.	V7.0.1	
127	VNGR-16997	*LPR*	LPR is enabled by default in the conference profile when CP mode is selected. LPR is disabled by default in the conference profile when VSW mode is selected. Changing between CP and VSW modes causes LPR to be enabled/ disabled.	V7.0	
128	VNGR-16981	*Audio*	Audio volume of PSTN audio-only participants connecting via GW is approximately three times lower than that audio volume of video participants.	V6.0	
129	VNGR-16974	*ISDN*	Dial-in or dial-out ISDN endpoints do not connect at line rates higher than 768kbps, irrespective of profile setting.	V7.0	
130	VNGR-16968	*Software Version*	PCM is not supported with MPMx Cards.	V7.0	
131	VNGR-16963	*IVR*	In a 384 kbps conference with IVR, LPR and Sharpness enabled, when dialing-out to a VSX3000 endpoint, the default Welcome Slide does not appear.	V7.1	
132	VNGR-16958	*Video*	During a 128kbps conference with AES, Gathering, Motion, Send Content to Legacy Endpoints and Auto Layout enabled, empty layout cells, poor video and video stills occur in HDX, VSX, Lifesize endpoints.	V7.0	
133	VNGR-16955	*Interoperability*	iPower 9000 endpoint in H.323 call with RMX with MPM+ or MPMx does not transmit audio in encrypted calls.	V7.0	
134	VNGR-16954	*Upgrade Process*	On an RMX4000 after upgrading to version 7.0, build 148, the RMX “Could not complete MPM Card startup procedure”.	V7.0	
135	VNGR-16944	*Software Version*	Conferences at 768 and 1024 kbps with Gathering enabled may display distorted font and discolored background at 432x240, 512x288, 848x480 and 720x400 resolutions.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
136	VNGR-16938	*Interoperability*	Using Tandberg MXP endpoints, artifacts and choppy occur in video for 10 seconds after 1mbps H.323 or SIP connection to RMX 1500.	V7.0	
137	VNGR-16935	*Audio*	On RMX 1500, running 384kbps conference, an endpoint connected with ##FORCE_MEDIA_ASIREN14_24K or ##FORCE_MEDIA_ASIREN14_32K connects with ASIREN14_48K audio algorithm. An endpoint connected without force connects using G.711 audio algorithm.	V7.0	
138	VNGR-16928	*ISDN*	On RMX 1500, dial out from 256kbps conference to ISDN endpoint forced to 1920 kbps displays green screen and disconnects with “Internal MCU Problem”.	V7.0	
139	VNGR-16924	*Interoperability*	In DMA, when a SIP endpoint is connected to a certain MCU, and the user chooses to stop using it, the call is routed to a different MCU while the call rate is reduced by 64k.	V7.0	
140	VNGR-16919	*Audio*	On RMX with MPMx using H.323 with HDX endpoint, sites receive Siren14 instead of Siren22 Stereo audio algorithm in 6Mbps VSW conferences.	V7.0	
141	VNGR-16901	*Software Version*	On RMX 1500 Video Preview is preceded by a green screen momentarily before Video Preview starts.	V7.0	
142	VNGR-16894	*Software Version*	When the privacy shutter of a VVX1500 endpoint is closed, a mosaic is displayed instead of a black screen.	V7.0	
143	VNGR-16889	*Interoperability*	On RMX 1500 Video Preview - View Participant Received Video of VSX3000 endpoint is displayed as a green screen. Problem occurs at 384kbps, feature works correctly at higher call rates.	V7.0	
144	VNGR-16886	*Upgrade Process*	On an RMX 1500/2000/4000 with MPMx cards, when upgrading to version 7.0 to build 139 and implementing the Diagnostic mode the MPMx card status remains in a “startup” phase.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
145	VNGR-16880	*Video*	On an RMX 2000 with MPM+ cards, during an mixed ISDN & IP 4096kbps conference with Auto Terminate, Encryption, LPR, Sharpness, Auto Layout, Same Layout and Video Clarity enabled, after connecting HDX & VSX and muting and unmuting them, HDX endpoints encounter flickering video.	V7.0.2	
146	VNGR-16877	*Interoperability*	Avaya 1XC Softphone endpoints connected to conference on RMX do not receive content, while HDX endpoints do.	V7.0	
147	VNGR-16871	*Software Version*	In 384kbps conference on RMX with MPMx, HDX endpoint's “Used Call Rate” is approximately 100kbps lower than expected.	V7.0	
148	VNGR-16867	*Software Version*	On RMX 1500 with MPMx, when the endpoint displayed in the large video window in 2+8 layout disconnects, the large video window is not re-allocated to another endpoint.	V7.0	
149	VNGR-16861	*General*	On an RMX 2000 with 2 MPM+80 and 2 RTM ISDN Cards (5 T1/PRI connecting to each RTM ISDN card), only 70 CIF dial out endpoints can connect to the 128 kbps conference.	V7.0	
150	VNGR-16859	*Software Version*	On RMX 1500 some endpoints display green flickering screen on layout change from 4x4 to 1x1.	V7.0	
151	VNGR-16841	*Interoperability*	Connect to the network using VPN and then start a conference with LPR enabled, connect endpoints using CMAD, the video of the endpoints was very fragmented.	V7.0	
152	VNGR-16839	*SIP*	On RMX with MPMx in High-Profile Motion conference at 512kbps, HDX endpoints connected via SIP only transmit H.264 HP / 4SIF at 15 frames per second.	V7.0	
153	VNGR-16825	*Interoperability*	Using RMX 2000 with MPMx, H.320 call to VSX8000 endpoint fails with Call Disconnection Cause listed as “No net connection - 0 “.	V7.0	
154	VNGR-16817	*Upgrade Process*	After upgrading to version 7.0.0.135 the RMX Web Client shows that RMX is no longer in the “Startup” phase even though Faults list states: “Configuring”.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
155	VNGR-16810	*Interoperability*	On an RMX 1500 set to the Flexible mode and running an HD720p 2Mb conference with IVR, Gathering, High Profile, and Audio Clarity enabled, 15 PVX, HDX, VSX 300, 7000 CMAD endpoints cannot change layouts when DTMF codes are used.	V7.0	
156	VNGR-16809	*Software Version*	DTMF Code *71 (Secure Conference) sent to RMX 1500 displays Gathering Slide Text instead of “Secured” indicator text.	V7.0	
157	VNGR-16807	*Content*	Bad audio quality experienced on PVX endpoint while it sends content when connected to RMX 1500.	V7.0	
158	VNGR-16806	*Interoperability*	On RMX 1500, a macro block is displayed in the large video window of the video layout when PVX endpoint is the speaker.	V7.0	
159	VNGR-16798	*Software Version*	Medium volume horn-like sound heard for several minutes on HDX4000 endpoint connected to RMX 4000 with MPM+ via DMA Meeting Room.	V7.0	
160	VNGR-16794	*Audio*	On RMX 4000 with MPM+, G.728 codec isn't declared 1st codec in conference at 96kbps.	V7.0	
161	VNGR-16793	*General*	On an RMX 2000 with MPM+, start an 4096kbps 1x1 Layout conference from a template with Encryption, LPR, Auto Termination, Sharpness, Same Layout, Audio Clarity enabled, an “mcu internal problem: 32212" message appears in conference properties - connection status tab.	V7.0	
162	VNGR-16791	*Interoperability*	In a 1024kbps conference with Auto layout, Sharpness, AES, H.239 Content to Legacy Endpoints and LPR enabled, Lifesize endpoints encounter poor video.	V7.0	
163	VNGR-16785	*Hardware*	Run 8 512kbps conferences and connect to each conference 2 H.323, 2 SIP, 1 ISDN, 1 PSTN & 1 VOIP endpoints, change the conference layout on each, when terminating the conferences an “MCU Internal Problem 50020" occurred on the MPMx cards.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
164	VNGR-16782	*Video*	On an RMX 1500 with a 348 kbps CIF CP conference, with Motion, Echo Suppression and Auto Layout enabled, when adding 45 VSX and V500 endpoints, VSX8000 endpoints connected using incorrect resolutions and video stills were encountered.	V7.0	
165	VNGR-16780	*HD*	During VSW conference at 720p60p resolution using direct connections or via DMA, endpoints display only their own video.	V7.0	
166	VNGR-16776	*Interoperability*	Undefined HDX endpoint cannot be added to the Address Book on RMX with Avaya Call Manager. Second attempt yields message that participant name already exists in Address Book.	V7.0	
167	VNGR-16757	*RMX Manager*	When starting a new conference from a conference template, the new conference is not selected or highlighted in the conferences pane.	V6.0	
168	VNGR-16754	*Diagnostics*	On an RMX 4000 in the Diagnostic mode when pressing the menu reset button the following message appears: “connection with shelf management is lost, please log in again”. You can only exit the Diagnostic mode after physically turning the RMX Off and On.	V7.0.2	
169	VNGR-16752	*Upgrade Process*	On the RMX 2000/4000 with an ISDN card installed, after configuring the IP Fast Configuration Wizard, the system requests a reset and not to configure the ISDN Service.	V7.0	
170	VNGR-16751	*General*	When creating a second conference with a display name that is already used by another conferencing entity, the conference properties dialog box re-opens with a redundant check box next to the routing name field.	V7.0	
171	VNGR-16745	*General*	In the RMX manager 7.0, the “new conference” icon suddenly appears in the conferences properties window.	V7.0	
172	VNGR-16742	*Diagnostics*	On an RMX2000 with MPMx_D cards when performing an Power ON Self Test (POST), the MPMx card runs the card monitoring test in an endless loop.	V7.0	
173	VNGR-16737	*Interoperability*	On an RMX 4000 with an MPM+ card, LifeSize does not transmitting or receiving video during a SIP 1920kbps conference call.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
174	VNGR-16724	*Video*	On RMX 1500, video display freezes momentarily during Video Layout changes before the new Video Layout is displayed.	V7.0	
175	VNGR-16722	*Video*	On RMX 2000 with one MPM-H, small artifacts are displayed in the Gathering Slide when the configuration is changed to Presentation Mode during the Gathering Phase.	V7.0	
176	VNGR-16708	*Video*	The displayed resolution of the gathering slide differs between H.323 participant (432x240) and H.320 participant (480x352) when both endpoints are connected to a CP conference running at a line rate of 384kbps with video quality set to Motion and LPR is enabled. Once the Gathering phase ends, all participants connect with 2SIF resolution.	V7.0	
177	VNGR-16674	*SIP*	In ICE environment, when connecting endpoints from all NAT environments (corporate/branch/federated) to an encrypted CP conference running at a line rate of 2Mbps, video quality set to sharpness, and video clarity and auto layout are enabled, some of the endpoints fail to connect due to TB_MSG_OPEN_PORT MCU internal problem or SIP HW MCU internal problem.	V7.0	
178	VNGR-16663	*SIP*	In ICE environment, when connecting endpoints from all NAT environments (corporate/branch / enterprise) to an encrypted, 720p VSW conference, running at a line rate of 2M bps with video quality set to sharpness and video clarity and auto layout enabled, endpoints fail to connect to the conference with a disconnection cause “SIP request timed out”.	V7.0	To overcome the problem do one of the following: * Connect the endpoints one by one. * Run a non encrypted 2M VSW conference * Run the conference at a lower line rate (768kbps)
179	VNGR-16657	*Video*	In a 4MB HD1080p conference with Content, Video Clarity, Auto Termination, Encryption, LPR, Echo Suppression and Auto Layout enabled, when dialing out to six HDX8006 endpoints and changing the speaker, all endpoints had bad video.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
180	VNGR-16650	*Interoperability*	In a 384kbps SIP conference with Auto Layout, Sharpness, Video Clarity, Gathering and Send Content to Legacy Endpoints enabled, when the RMX blast dial-out all types of endpoints, the VSX7000 and VSX8000 sites display video stills throughout the conference.	V7.0	
181	VNGR-16646	*Interoperability*	In a conference started from the default Profile, when the RMX dials-out to an H.320 iPower 9000 endpoint, the endpoint's video layout is shifted to the bottom right of the monitor with black borders on the left and top of the screen.	V7.0	
182	VNGR-16644	*Interoperability*	In a conference started from the default conference profile, when the RMX dials-out to the H.323 iPower 9000 endpoint, it views the IVR welcome screen for about 40 seconds before viewing conference video.	V7.0	
183	VNGR-16643	*Interoperability*	A conference started from the default video conference, an H.320 Sony PCS-G50 endpoint transits the Entry Queue and when accessing the conference it connects with no video.	V7.0	
184	VNGR-16642	*ISDN*	On RMX 1500 running a conference started from a conference profile, when a ViewStation MP512 ISDN endpoint connects, an error message appears: “Connected With Problem”.	V7.0	
185	VNGR-16625	*General*	Sometimes when upgrading to version 7.0 and resetting the RMX 2000, an active alarm “CPU slot ID not identified - McuMngrCPU board id was not received from Shelf Manager” is displayed.	V7.0	
186	VNGR-16624	*General*	In the RMX Manager, when attempting to upgrade two RMX simultaneously, the Install Software window only appears for one RMX, when you should view both.	V7.0	
187	VNGR-16617	*IP*	When CMAD endpoint running on Lenovo R61connects to a Meeting Room whose Line rate is 1024 kbps, Video quality is set to Motion, Content is set is Hi Res Graphics and LPR, Same Layout and Echo Suppression option are enabled, after few minutes in the conference the CMAD observes packet loss in the People Rx although QoS is enabled.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
188	VNGR-16610	*General*	The Column width displayed in Web Client and in the RMX Manager UI need to be made broader.	V6.0, V5.0.1, V5.0.0, V4.6.1, V7.0	
189	VNGR-16607	*Gateway*	When a Gateway call is started from a video endpoint (CMAD or HDX) and endpoints connect to the conference, SIP endpoints view a blurry gathering slide with artifacts.	V7.0	
190	VNGR-16604	*Gateway*	In a Gateway call started from a video endpoint (CMAD or HDX) when other endpoints connect, the endpoint that initiates the call initially views the Gathering slide but then it disappears.	V7.0	
191	VNGR-16600	*General*	On an RMX2000 & MPMx card running a mixed H.323 & SIP 1920kbps conference with AES, Sharpness and Gathering enabled, when the RMX dials-out to 10 endpoints, the border layouts are “speckled” and miss their edges.	V7.0	
192	VNGR-16595	*Interoperability*	On an RMX 4000 & MPM+ cards, running an 1920kbps conference with Video Clarity, Auto Terminate, Video Quality, Sharpness, Encryption, LPR, Echo Suppression, Auto Layout, Gathering and Content for Legacy Endpoints enabled, when connecting 20 HDX, Tandberg 17000 and edge95 MXP & 3 Tandberg C series endpoints an MFA card error occurs.	V7.0	
193	VNGR-16582	*General*	On an RMX 2000 & MPM+ cards, running an 384kbps CIF conference, with Auto Terminate, Encryption, LPR, Echo Suppression, Sharpness and Same Layout enabled, when sending content from an HDX to 160 other endpoints, an “Software assert failure” appeared.	V7.0	
194	VNGR-16581	*General*	On an RMX 2000 & MPM+ cards, running an 384kbps CIF conference, with Auto Terminate, Encryption, LPR, Echo Suppression, Sharpness and Same Layout enabled, when sending content from an HDX to 160 other endpoints, an “Software assert failure” appeared.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
195	VNGR-16562	*Gateway*	Gateway sessions are always running in CP mode. If Video Switching is selected in the Profile, the system will change it to CP mode, using the closest possible video settings. However, 60fps may not be supported in CP mode for the selected line rate.	V7.0	
196	VNGR-16560	*General*	After log-in to the RMX 1500 Web Client, a Microsoft .NET Framework error message appears.	V7.0	
197	VNGR-16556	*IVR*	In a mixed H.323 & SIP 128kbps conference with Gathering, Sharpness and the Welcome Slide defined as “High Profile optimized”, when connecting HDX8000 endpoints, the H.323 HDX video has artifacts on the Gathering slide.	V7.0	
198	VNGR-16539	*IVR*	In a mixed H.323 & SIP 128kbps conference with Video Clarity, Sharpness, IVR Service and Welcome Slide settings set to “High profile optimized”, when connecting HDX 8000 endpoints, the H.323 HDX endpoint does not view the IVR slide but a black screen for 15 seconds.	V7.0	
199	VNGR-16537	*Hardware*	On the RMX 1500 when the RMX is in a “Diagnostic Mode” the listed slot numbers of the modules are incorrect.	V7.0	
200	VNGR-16535	*SIP*	SIP HDX sites (Version 2.6.1 and 2.6.0) receive video in resolution of 432x240 instead of 720p when connecting to a CP conference running on RMX 4000 at a line rate of 1920kbps with 10+ layout selected and LPR is enabled.	V7.0	
201	VNGR-16529	*General*	After Restoring Factory Defaults on the RMX and defining the IP Network Service, after RMX restart the MCU Host Name parameter appears empty in the “Management Network - DNS” tab.	V7.0	
202	VNGR-16523	*FECC*	On the RMX 1500 running a mixed H.323 & SIP 384kbps conference, when connecting an Tandberg SIP endpoint, FECC does not work.	V7.0	
203	VNGR-16471	*Software Version*	Extraneous MCMS version number is displayed in the detailed faults list.	V7.0	
204	VNGR-16466	*Software Version*	On RMX 2000 with MPM, “MCU Internal Problem - 32112" occurs during mini-load smoke on MPM when 20 video participants are connected at 384kbps.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
205	VNGR-16462	*Upgrade Process*	When downgrading to software V6.0.0.105 and performing “Comprehensive restore” to Factory default, followed by upgrade to version V7.0.0.115 the upgrade procedure is stuck in “Software Loading” phase. System Reset (hard or soft) is required to resolve the problem.	V7.0	
206	VNGR-16460	*Software Version*	On RMX 2000 with MPMx, H.261 endpoint that displays the default slide does not access nor display a new slide that is added to the IVR Service.	V7.0	
207	VNGR-16429	*Software Version*	On RMX with Operator Conference selected in profile, when trying to delete a running conference, the popup message is displayed in mixed English and Japanese.	V7.0	
208	VNGR-16427	*Software Version*	On RMX 1500 with two conferences running and Legacy Content enabled, line artifacts are displayed in the middle of the CMAD screen after it is disconnected from the first and reconnected to the second conference.	V7.0	
209	VNGR-16422	*Software Version*	RMX 2000 logs off during upgrade procedure when network is under stress.	V7.0	When the network is busy, use the RMX Manager application instead of the RMX Web Client to control the MCU.
210	VNGR-16387	*Interoperability*	On an RMX2000 with the MPM+ card, when connecting with an HDX9000 endpoint to the Entry Queue using a line rate of 384kbps, the IVR slide blinks.	V7.0	
211	VNGR-16383	*Interoperability*	On the RMX2000 with an MPMx card in a 512kbps conference with High Profile, Gathering, IVR, Echo Suppression enabled and resources set to a Flexible Mode, when dialing-out using H.261, connection problems are encountered in VSX endpoints after about 10 seconds.	V7.0	
212	VNGR-16378	*Interoperability*	In a SD conference (1024 resolution) with motion, auto layout enabled, when connecting HDX and dial in from Life Size endpoint, the endpoints do not connect in SD with 60 FPS as required.	V7.0	
213	VNGR-16377	*General*	On an RMX with MPM+ card, when starting a VSW conference from the Profile, the maximum line rate that can be selected is 6144kbps.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
214	VNGR-16363	*Interoperability*	On the RMX2000 with an MPMx card, when starting a new a 2MB conference, iPower endpoints take a long time to connect.	V7.0	
215	VNGR-16313	*IVR*	On an RMX2000 with an MPMx card running a 512kbps conference with Gathering, IVR, Echo Suppression enabled and resources set to a Flexible Mode, when dialing out using H.261 the IVR slide flashes.	V7.0	
216	VNGR-16301	*ISDN*	After starting a VSW conference with LPR enabled, when dialing out using ISDN a message appears: “SIP cannot connect to VSW with LPR enabled”	V7.0	
217	VNGR-16297	*Interoperability*	CMAD receives distorted video while calling to RMX.	V7.0	
218	VNGR-16296	*General*	The Host name is not defined in the Fast Configuration Wizard during the initial system configuration. Therefore when trying to configure either the “Control” or the “Shelf” IP address (or both), the error message “Invalid Host Name” is displayed when clicking OK.	V7.0	
219	VNGR-16283	*General*	In a conference with a few participants, when opening the video preview pane and previewing the next participant without closing the pane, the pane becomes minimized, and does not show video of the next participant.	V7.0	
220	VNGR-16281	*Content*	Content sent from HDX (in H.264) is automatically stopped when a second participant that does not support H.264 Content (for example, CMAD that only supports H.263) joins the conference. When the content is sent again, the Content protocol is H.263+ to enable all conference participants to receive content.	V7.0	
221	VNGR-16264	*ISDN*	During a conference the ISDN line is functional but the line has no clock source.	V7.0	
222	VNGR-16239	*Cascading*	Create two 384kbps cascaded conferences with LPR enabled, when creating the dial-out Master link to the second conference is only partially connected.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
223	VNGR-16237	*General*	Connect to an RMX as Operator using the RMX Manager. Then connect an Administrator to same RMX the following message appears: “cannot login to MCU x.x.x.x with the user name and password entered”.	V7.0	
224	VNGR-16215	*Upgrade Process, Video*	Create conference set to High Profile and connect Durango endpoints, the Durango and HDX8000 Video preview is in a green color.	V7.0	
225	VNGR-16210	*RMX Web Client*	On an RMX 1500 with a conference and connected participants, when multiple web clients are opened on different PC's and Video Preview is activated, when opening another browsing session and viewing Video Preview, all the browsers close though some view a “failure status” message.	V7.0	
226	VNGR-16203	*Content*	In a 768 kbps Meeting Room with LPR, Echo Suppression, Auto layout and Motion enabled when the first to join the Meeting room sends content, the second participant to join views a black screen.	V7.0	
227	VNGR-16120	*General*	Saving to a Conference Template a conference in which the Message Overlay is enabled, automatically enables the message overlay option in the conference that is started from this template.	V7.0	
228	VNGR-16103	*General*	After running diagnostics on the RMX, LED functionality is not documented.	V7.0	
229	VNGR-16050	*Video*	When using the MPMx card to run a conference with Auto Brightness enabled, no difference can be seen in the video between a light and darkened room.	V7.0	
230	VNGR-16044	*General*	After downloading and opening an auditor file of the MPMx, the MPMx name appears as MPM_PLUS.	V7.0	
231	VNGR-15953	*General*	When copying and pasting conferences based on a Profile, the pasted conference is added to conference templates.	V7.0	
232	VNGR-15939	*Interoperability*	In a “Fixed resource Capacity” mode, Legacy endpoints can still receive content when they should not.	V7.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
233	VNGR-15937	*Interoperability*	In a conference with HDX8006A,HDX8006B,HDX9000,VSX7000 and ViewStation512 endpoints, the site names of the ViewStartion endpoints are switched.	V7.0	
234	VNGR-15935	*Gateway*	In the RMX Web Client, when creating a new gateway profile and setting the Gateway ID to “#1234” then click OK, no confirmation message appears.	V7.0	
235	VNGR-15906	*Interoperability*	In a 384kbps conference with no IVR and resources set to a Fixed Mode when connecting SIP/H.323 HDX & PV dial-in and dial-out endpoints, the SIP receives bad video.	V7.0	
236	VNGR-15837	*General*	In 768kbps conference set to AES, CP, Full Layout and two HDXs Chairperson, when the SIP HDX invokes PCM Camera Control only segmented video can be seen.	V7.0	
237	VNGR-15831	*IVR*	When uploading a number of high and low resolution slides to an IVR service, there is only option to choose one slide.	V7.0	
238	VNGR-15822	*Software Version*	When PCM is activated in a Gathering-enabled conference, the PCM menu is displayed on top of the gathering slide instead of the display of the Gathering Slide being terminated before the PCM menu is displayed.	V7.0	
239	VNGR-15798	*Partners - Microsoft*	In ICE environment, a green overlay is displayed on top of one of the video layout in the Gathering slide when a dial out MOC or HDX endpoint connect to the conference.	V7.0	
240	VNGR-15757	*Software Version*	Initiating PCM when there is only one endpoint connected to a conference that is receiving music results in the music being interrupted.	V7.0	
241	VNGR-15755	*General*	During an active Telepresence conference, when clicking the Video Settings tab, the “Telepresence Mode enabled” check box appears to indicate the status of the Telepresence Mode.	V7.0	
242	VNGR-15746	*General*	When downloading and installing version 7.0, the Download window lists version 6.0.	V7.0	
243	VNGR-15738	*Video*	When monitoring a conference and right-clicking a participant, the participant's video and audio freezes.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
244	VNGR-15737	*General*	In the Resolution Configuration Slider, the CIF30 slider is absent from the UI.	V7.0	
245	VNGR-15724	*Software Version*	On RMX with MPMx, when a skin without background is selected, the Polycom skin background is displayed. When a skin with a background is selected, the speaker notation color is incorrect.	V7.0	
246	VNGR-15718	*General*	Incorrect disconnection cause after pulling LAN cable from RMX. The endpoints reports that the “call close normal”.	V7.0	
247	VNGR-15707	*ISDN*	An RMX 4000 with a 384K H.320 conference with Motion and AES enabled, when a Tandberg 6000 MXP connects, the endpoint encounters video freezes.	V7.0	
248	VNGR-15700	*Software Version*	When PCM is initiated, site names are displayed over the PCM menu.	V7.0	
249	VNGR-1569	*CDR*	When the conference termination time is changed, the CDR is not updated.	V1.0.0	
250	VNGR-15649	*Interoperability*	In a continuously running conference, after disconnected two HDX7000 and VSX7000 endpoints, the HDX4000 endpoint's video freezes.	V7.0	
251	VNGR-15637	*General*	After creating a conference template with 6 participants, when adding and removing participants to a conference the template does not update.	V7.0	
252	VNGR-15553	*General*	On an RMX 2000 with MPMx cards, during startup a list of error appears.	V7.0	
253	VNGR-15541	*Video*	Create a conference on the RMX using the default factory video profile, connect a Sony PCS-G50 endpoint, and then try to control the XG80's camera. There is no response.	V7.0	
254	VNGR-15523	*Partners - Microsoft*	Primary and Secondary dial in numbers entered in the Polycom Conferencing Add-in to Microsoft Outlook are always displayed on the Gathering slide (during the gathering phase) for reference, even if the participant connected using the invitation link.	V6.0	
255	VNGR-15386	*Software Version*	Artifacts present in the Gathering Slide in 2560kbps, CP conference with Motion selected.	V7.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
256	VNGR-15366	*General*	Sometimes when Restore Factory Defaults is performed, the active alarm “CPU slot ID not identified- McuMngrCPU board id was not received from Shelf Manager” is displayed.	V7.0	
257	VNGR-15324	*Software Version*	o When monitoring a CP conference with 5 or more endpoints from 5 Web Client sessions on separate workstations, Video Previews can be opened from 4 workstations. Attempting to open a fifth Video Preview causes an error “Failed to Preview Video: Failure Status” instead of “The Preview cannot be displayed. The maximum number of previews per MCU has been reached.”	V7.0	
258	VNGR-15320	*General*	Saving to a Conference Template a conference in which the Message Overlay is enabled, automatically enables the message overlay option in the conference that is started from this template.	V7.0	
259	VNGR-15281	*Interoperability*	Aethra VegaStar Gold endpoint, when connecting via ISDN to 384kbps conference creates CDR Event - Participant status “Connected with problem”.	V7.0	
260	VNGR-15256	*Encryption*	In a conference with an IVR Service with endpoints, when using DTMF (*71/#71/ *88) codes to secure/unsecure the conference there is no text/icon indication.	V7.0	
261	VNGR-15155	*Video*	In a conference with a line rate of 4096kbps, set to Sharpness, 1+5 layout, after connecting a few endpoints, when an endpoint dials out, video In & Out freeze.	V7.0	
262	VNGR-15131	*IVR*	In a conference started from a Profile, when an ISDN call is forced to Audio algorithm G722_1_C_24k a buzzing noise can be heard before the IVR starts.	V7.0	
263	VNGR-15101	*IVR*	In a Video Switched 4Mbps conference, only the last part of DTMFs *6 (mute) and #6 (unmute) messages are heard.	V7.0	
264	VNGR-14840	*Encryption*	No video is seen and the Aethra VegaStar Gold endpoint remains connected with a problem when connecting over H320 to an encrypted conference at a line rate of 384kbps.	V6.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
265	VNGR-14780	*Interoperability*	RMX4000 using 4Mb, Same Layout, Sharpness, Video Clarity in profile and Entry Queue becomes inaccessible when called via an Entry Queue from H.323 LifeSize endpoint.	V6.0	
266	VNGR-14778	*RMX Web Client*	ISDN/PSTN fields are disabled (grayed out) although Enable ISDN/PSTN Dial-in check box is selected in RMX Management > Entry Queues > Default EQ.	V6.0	
267	VNGR-14767	*General*	H.323 party disconnect due to MCU Internal Problem 32212.	V6.0	
268	VNGR-14720	*Upgrade Process*	After software Upgrade is completed, an Active Alarm “Connection to Exchange Server failed” appears in the Alarms List on the RMX4000.	V6.0	
269	VNGR-14688	*General*	When a conference is deleted in the RMX Manager, conference participants are not deleted in the participants list.	V6.0	
270	VNGR-14687	*Audio*	When connecting 800 VOIP using 4 Entry Queues and 396 Ad Hoc conferences, when adding Dial out participants to the conferences they could connect. An MCU error message appears: MCU INTERNAL PROBLEM - 65012.	V6.0	
271	VNGR-14667	*General*	When defining a New Profile in the Video Settings tab and selecting a Layout, in the Conference Profiles list there is no indication of the selected layout and the layout icon is missing.	V6.0	
272	VNGR-14624	*General*	After changing the conference profile assigned to a conference template that includes participants, some of these participant are randomly deleted from the conference template.	V7.0	
273	VNGR-14578	*Audio*	On an RMX with a license for 800 audio only participants, a disconnection cause always occurs after connecting the 767th participant.	V6.0	
274	VNGR-14386	*RMX 4000*	Display information for Slot 5, FSM (Fabric Switch Module), in the RMX 4000 Hardware Monitor is incomplete.	V5.1	
275	VNGR-14175	*RMX Manager*	When using the RMX Manager, a Message Alert “500” is displayed when an RMX running Version 4.6 is selected in the MCU's list.	V6.0	

Table 7 *Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
276	VNGR-14159	*General*	Operator assistance function is blocked when the TelePresence mode is enabled.	V6.0	
277	VNGR-14151	*General*	A Shelf Voltage problem is always displayed in the System Alerts pane regardless of the actual status.	V6.0	
278	VNGR-14124	*Video*	On rare occasions in 2Mbps ISDN calls, ISDN participants connected without their endpoints sending video for a few seconds.	V6.0	
279	VNGR-14062	*General*	On a fully loaded RMX 4000, endpoint may disconnects with Call Disconnection Cause stated as “MCU internal problem - 11122".	V6.0	
280	VNGR-14047	*Interoperability*	Artifacts appear on LifeSize _RM1_4.5.1(15) endpoint connected via SIP or H.323 to a 2Mbps conference with Video Quality set to “Sharpness” running on the RMX 2000 in MPM mode. The LifeSize endpoint is using 4SIF 30 resolution while Polycom endpoints are using 720*400 resolution.	V6.0	
281	VNGR-13951	*RMX Manager*	On the RMX 2000/4000, on the RMX Manager - IP Network Service, open the Properties window and then click Management Network, the Management Network pane UI remains offset.	V5.0.1	
282	VNGR-13832	*RMX Manager*	When the RMX is in an Ultra Secure Mode, the RMX Manager window appears “Maximized”. After changing the layout settings, after re-login the latest settings are not implemented.	V5.0.1	
283	VNGR-13729	*Unified Communication Solution*	When connecting from a MOC endpoint using the link sent in the meeting invitation to an ongoing conference that was scheduled via the Polycom add-in for Microsoft Outlook on the RMX 4000 (standalone) with Gathering and Recording enabled, the conference is not started as a Meeting Room/Conference Reservation or ongoing conference with the same name already exist in the MCU.	V6.0	
284	VNGR-13314	*Partners - Microsoft*	When resetting the RMX after loading the certificate and registering the RMX with the OCS, two active alarms appear: “SIP registration transport error” and “No response from Registration server”.	V6.0	
285	VNGR-13152	*Video*	Message overlay is limited to 32 Chinese characters OR 96 ASCII characters.	V4.6	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
286	VNGR-13001	*Video*	Video display freezes momentarily with every speaker or layout change in a conference with HDX and SVX endpoints.	V4.6	
287	VNGR-12732	*Upgrade Process*	After upgrading the system from version 5.0 to version 4.6, the Users list is deleted and the default POLYCOM User is created. For security reasons, it is recommended to delete this User and create your own User.	V4.6	
288	VNGR-12415	*Interoperability*	In a conference running at a line rate of 1728 kbps set to Same Layout, when PVX/VSX7000 participants connect in CIF264/263, an error message appears.	V4.6	
289	VNGR-12373	*Interoperability*	HDX endpoint connected via H.320 does not receive Content from Tandberg MXP endpoint connected via H.323.	V5.0.0	
290	VNGR-12372	*Interoperability*	Tandberg 6000 E and B series, H.320 endpoints do not connect to conferences when encryption is enabled.	V5.0.0	
291	VNGR-12369	*Interoperability*	Tandberg C20 endpoint periodically displays fast updates in HD1080p conferences.	V5.0.0	
292	VNGR-12355	*Interoperability*	DST K60 endpoint receives tiled video from HDX9004 endpoint during H.323 conference.	V5.0.0	Set the system flag SEND_WIDE_RES_TO_IP to NO to force the system to send 4CIF.
293	VNGR-12266	*Interoperability*	Tandberg MXP endpoint receives ghosted video from HDX9004 endpoint during H.323 conference.	V5.0.0	
294	VNGR-12257	*RMX Web Client*	When upgrading the RMX Web Client with software changes, Internet Explorer needs to be closed and opened before the upgrade can take place.	V5.0.0	
295	VNGR-12202	*Encryption*	Rarely, in an encrypted conference, H.323 encrypted dial-in and dial-out participants cannot connect and an assert appears (File:EncryptionKeyServerManager.cpp).	V5.0.0	
296	VNGR-12178	*Content*	RMX does not support H.264 Content in ISDN calls.	V5.0.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
297	VNGR-12177	*Interoperability*	In a conference with AES, LPR and Video Clarity enabled, H.320 Tandberg MXP endpoints connect with resolution of 960x720, while identical H.323 MXP endpoints connect with resolution of 720p.	V5.0.0	
298	VNGR-12172	*RMX Web Client*	In the RMX Web Client, the main window opens up as full screen and cannot be resized.	V5.0.0	
299	VNGR-12116	*General*	When a participant is moved from one conference to another and becomes the single participant in the destination conference, the participant does not hear music.	V5.0.0	
300	VNGR-12100	*General*	Occasionally, after upgrading to version 5.0 (from 4.0.3, 4.1.0, 4.1.1), the soft reset fails.	V5.0.0	First try to reset from the SHM if possible. Otherwise hard reset the system.
301	VNGR-12034	*ISDN*	In a conference running at a line rate of 384 kbps, H.320 encrypted participant cannot connect and an assert appears.	V5.0.0	
302	VNGR-12033	*General*	Rarely a system error (BridgePartyVideoOut.cpp, Line:1458, Code:1701.; DEBUG-ASSERT:) is written to the log file if a change is made to the conference layout while participants are disconnecting.	V5.0.0	
303	VNGR-12031	*IVR*	A conference running at a line rate of 1920kbpsand IVR Service that includes a Welcome Slide, both the Welcome Slide and Video are partially blacked out.	V5.0.0	
304	VNGR-12011	*ISDN*	Occasionally, an ISDN participant fails to connect to the conference due to the following error - “MCU internal problem - 50020".	V5.0.0	
305	VNGR-12007	*ISDN*	Occasionally, when ISDN participants connect to a conference with line rate 384kbs, multiple asserts appear in the log file.	V5.0.0	
306	VNGR-12006	*SIP*	With SIP defined and undefined dial-in participants you cannot change the layout type from “conference layout” to “personal layout”.	V5.0.0	
307	VNGR-11987	*General*	When upgrading from V4.0.3 to V5.0, after inserting the activation key an invalid key message appears.	V5.0.0	Logout and login to the web browser or reopen the Internet Explorer.

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
308	VNGR-11965	*Video*	In a conference running at a line rate of 384 kbps, with AES and LPR enabled, calls connect using the H.263 instead of the H.264 video protocol.	V5.0.0	
309	VNGR-11963	*Interoperability*	In a conference running at a line rate of 384 kbps with AES, LPR and Video Clarity enabled, HDX ISDN participants connect with SIF resolution while HDX IP endpoints connect using a 4SIF resolution.	V5.0.0	
310	VNGR-11953	*Cascading*	When connecting to a cascaded CP conference with a 768Kpbs line rate and the video quality set to Sharpness, HDX endpoints experience bad video quality.	V5.0.0	
311	VNGR-11949	*SIP*	The maximum number of Meeting Rooms, Entry Queues, SIP Factories and ongoing conferences that can be registered to the Proxy, is limited to 100.	V5.0.0	
312	VNGR-11920	*Interoperability*	In a 4 Mb RPX conference with LPR enabled, video-out bit rate decreases to 128 kbps due to packet loss and does not increase.	V5.0.0	
313	VNGR-11883	*General*	After software upgrade, it is necessary to close and reopen Internet explorer.	V5.0.0	
314	VNGR-11843	*Video*	In a 2 Mb Video Switched conference with 10 or more H.323 endpoints connected, random video refreshes may occur.	V5.0.0	
315	VNGR-11830	*Interoperability*	Sony XG80 endpoint cannot send Content in H.323 384 kbps call.	V6.0	
316	VNGR-11810	*H.323*	The following assert may appear when H.323 participant connects to a 2 Mb Continuous Presence conference: File:AuditorApi.cpp, Line:112, Code:1.; ASSERT:Audit_free_Data_is_too_long_20882,_max_is_20480data_size_is_:_20882	V5.0.0	
317	VNGR-11798	*Interoperability*	When Tandberg C20 endpoint sends Content, the far end indicates that Content is being received but received Content is black.	V5.0.0	
318	VNGR-11767	*Interoperability*	In a 6 Mb, Video Switched conference, HDX endpoints that declare 2 Mb capability may only connect at a line rate of 896 kbps after 30 seconds.	V4.1.1	
319	VNGR-11746	*CDR*	GMT Time Offset is written to the unformatted CDR as 0.	V4.1	

Table 7 *Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
320	VNGR-11701	*General*	Sometimes a system error “SOFTWARE_ASSERT_FAILURE” appears when the RMX is running under load (repetitive connecting and disconnecting participants).	V4.5	
321	VNGR-11563	*Interoperability*	Legacy endpoints occasionally cannot switch to Content when Content switched from H,264 to H.263.	V4.1	
322	VNGR-11543	*CMA*	When creating a conference using the CMA, the Conference Management UI displays the participants as disconnected, even though they are connected.	V4.1	
323	VNGR-11531	*IVR*	After upgrading the RMX to a software version that includes the gateway and the maximum number of IVR services reached 40 in RMX 2000 and 80 in RMX 4000, the default Gateway IVR Service is not created.	V4.1	
324	VNGR-11489	*Interoperability*	In a conference running at a line rate of 384 kbps, when HDX 8006 endpoint that sends Content is moved to another conference, Content is still viewed for a number of seconds on the HDX.	V4.1	
325	VNGR-11401	*Encryption*	In an encrypted conference, Tandberg MXP endpoints encounter audio problems.	V4.1	
326	VNGR-11383	*General*	When updating the Profile assigned to a Conference Template, changes are not applied when the conference becomes ongoing.	V4.1	
327	VNGR-11382	*Video*	Legacy endpoints receive Content in 1+7 layout with black stripes on the sides (for aspect ratio fitting), selecting a different layout using Click&View (**) causes the black stripes to disappear.	V4.1	
328	VNGR-11351	*Video*	When the video from an endpoint is blocked, inconsistent video resolution settings are implemented.	V4.1	
329	VNGR-11341	*Interoperability*	During H.320 calls, Lip Sync issues occur when content is being sent.	V4.1	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
330	VNGR-11324	*General*	When moving many participants simultaneously from one conference to the other (both with a line rate of 1920 kbps), a number of HDX8000 endpoints connect secondary. When trying to disconnect and reconnect the participants connected as Secondary, an MCU Internal error 32122 is displayed.	V4.1	
331	VNGR-10989	*Interoperability*	In a ISDN dial-in conference with a line rate of 384 kbps, Tandberg MXP ISDN endpoints cannot view content.	V4.1	
332	VNGR-10922	*General*	Dial out to participants assigned to a Meeting Room will only start when the dial-in participant who has activated it has completed the connection process and the Meeting Room has become an ongoing conference.	V4.1	
333	VNGR-10849	*Interoperability*	A black screen may appear in the following instances: * On HDX8000 HD Hardware version B endpoints when the conference line rate is set in the range of 256-768 kbps. (The Hardware version can be found on the HDX endpoint's System Information page.) * On HDX SD endpoints using the PAL mode when the conference line rate is set above 128 kbps.	V4.1	(1) Upgrade to HDX software version 2.5.0.5 (2) Use conference line rates below 256 or above 768 kbps. (3) Disable the IVR Welcome slide and avoid using a 1x1 Video Layout.”
334	VNGR-10239	*Video*	In a 4Mb conference set to Sharpness and the IVR Welcome Message enable video appears in a 4x3 format. Disable IVR Welcome message and the video appears in 6x9 format.	V4.0.1	
335	VNGR-10104	*LPR*	When an H.323 HDX endpoint sends Content, the endpoint disables the LPR.	V4.0.1	
336	VNGR-10054	*IVR*	Customized CIF slide is not displayed on the HDX screen when connecting to a 1080p High Definition Video Switching conference.	V4.0.1	
337	VNGR-9909	*Interoperability*	When dialing out to a Tandberg MXP ISDN endpoint, the IVR slide is not displayed, although the IVR message is played.	V4.0.0	
338	VNGR-9834	*IVR*	When DTMF codes have been entered by the participants, the volume of the IVR Message may be suppressed or the message may be cut.	V4.0.0	

***Table 7** Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
339	VNGR-9830	*Interoperability*	HDX endpoints may experience packet loss when the HDX endpoint's LAN Speed is configured to 100MB.	V4.0.0	Set the endpoint LAN Speed and Duplex Mode to Auto.
340	VNGR-9829	*RMX Web Client*	Occasionally, during an ongoing conference, when selecting the Hardware Monitor menu the message “No connection with Switch” appears.	V4.0.0	
341	VNGR-9803	*General*	When using the restore to factory defaults, after inserting the Activation key, the system requires a reset when the reset is not required.	V4.0.0	
342	VNGR-9740	*Upgrade Process*	When upgrading from version 2.0.2 to version 4.1, and then Restoring the Factory Defaults, during system restart sometimes MPL failure is encountered.	V4.0.0	Turn the MCU off and then turn it on (“hardware” reset).”
343	VNGR-9729	*General*	When moving from MPM+ to MPM mode (with only MPM cards installed in the MCU), the Card Configuration Mode, indicated in the System Information dialog box, remains in MPM+ Mode.	V4.0.0	Logout and then login to the RMX Web Client.
344	VNGR-9677	*Interoperability*	When switching Content sending from an HDX9004 to Aethra X7 and back, Content is not received by Aethra X7.	V4.0.0	
345	VNGR-9571	*Hardware*	In D-type chassis, when hot-swapping an MPM card, unit failure may occur.	Reset the MCU.	V4.0.0
346	VNGR-9565	*Upgrade Process*	When downgrading from version 4.0 to version 3.0, the MPM card does revert to normal.	V4.0.0	
347	VNGR-9340	*CDR*	When a conference was terminated by an MCU reset, an incorrect status “Ongoing Conference” will be displayed in the CDR List pane.	V4.0.0	
348	VNGR-9228	*Software Version*	When trying to restore last version, after upgrading from version 3 to version 4, the RMX prompts for an activation key.	V4.0.0	
349	VNGR-9015	*Interoperability*	Radvision ECS Gatekeeper set to Routed Mode is not forwarding the LPR parameters as required, causing HDX calls with LPR enabled to connect with no video.	V3.0.0	
350	VNGR-8605	*Interoperability*	The video of Sony G70 endpoint that is connected to a conference over ISDN at line rate of 128kbps freezes when receiving Content from an HDX endpoint.	V3.0.0	

Table 7 Version 7.1 System Limitations

#	Key	Category	Description	Detected in Version	Workaround
351	VNGR-8259	*Software Version*	If an RMX operating in Secure Communication Mode, is downgraded to a version that does not support Secure Communication Mode (V2.0, V1.1), all connectivity to the RMX is lost.	V3.0.0	Cancel the Secure Mode before downgrading
352	VNGR-7734	*IP*	Static Routes table in IP Network Service does not function.	V3.0.0	
353	VNGR-7598	*Interoperability*	H.323 link is connected as secondary when cascading with Tandberg MPS at 768kbps, in both Video Switching and CP conferences.	V3.0.0	
354	VNGR-7597	*Interoperability*	H.323 link is connected as secondary when cascading with Tandberg MPS at 768kbps, in both Video Switching and CP conferences.	V3.0.0	
355	VNGR-7557	*RMX Web Client*	When connecting directly to the Shelf Manager and selecting Diagnostic Mode the CNTL module does not enter the diagnostic mode and stays “Normal”.	V3.0.0	Reset the MCU and then switch to Diagnostic Mode.
356	VNGR-6902	*Interoperability*	Sony PCS G70 (v2.61) and Sony PCS-1(v3.41) endpoints cannot connect to conferences using SIP connections.	V5.1	Force the endpoints to connect using H.323 connection.
357	VNGR-5310	*Multilingual*	Multilingual Settings are not reflected on the Shelf Management login page and the multilingual flags appear in the Shelf Manager window even when they have not been selected in the Multilingual Settings pane.	V2.0.0	
358	VNGR-5151	*Multilingual*	The Display Name of undefined dial-in participant using HDX and VSX 7000 endpoints is displayed in English in the RMX Web Client.	V2.0.0	
359	VNGR-4652	*Interoperability*	HDX/VSX endpoints cannot connect directly to conferences while registered with Cisco Gatekeeper using the IP##NID string.	V1.1.0	Connect directly using the MCU IP Address via the Transit Entry Queue.
360	VNGR-4405	*ISDN*	When a busy signal is returned by a PSTN dial-out participant, the RMX does not redial but disconnects the participant with “party hung-up-0” status.	V2.0.0	
361	VNGR-3977	*Interoperability*	Faulty connection status is indicated when the RSS 2000 recording link is the only participant in a conference and its video stream is not synchronized.	V1.1.0	The video stream is synchronized when the first participant connects to the conference.

Table 7 *Version 7.1 System Limitations*

#	Key	Category	Description	Detected in Version	Workaround
362	VNGR-3824	*General*	The Click & View menu doesn't appear in 64 kbps calls.	V1.1.0	Use the RMX Web Client.
363	VNGR-3276	*SIP*	SIP participants cannot connect to a conference when the conference name contains blank spaces.	V1.1.0	
364	VNGR-3089	*HD*	In HD Video Switching conferences, Tandberg endpoints may connect as Secondary when HD frame rate capabilities are less than 7.5 frames per second.	V1.1.0	Create a CP conference
365	VNGR-3011	*CDR*	The Encryption field is missing from the CDR file.	V1.1.0	
366	VNGR-2473	*RMX Web Client*	Sometimes when installing the RMX Web Client, Windows Explorer >Internet Options> Security Settings must be set to Medium or less.	V1.1.0	