

MGC-50/MGC-100

Getting Started Guide

Version 8.0



POLYCOM[®]
Network Systems Group

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Portions, aspects and/or features of this product are protected under United States Patent Law in accordance with the claims of United States Patent No: US 6,300,973; US 6,496,216; US 6,757,005; US 6,760,750; and US7,054,820.

PATENT PENDING

Regulatory Notices

United States Federal Communication Commission (FCC)

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

Part 68: Network Registration Number. This equipment is registered with the FCC in accordance with Part 68 of the FCC Rules. This equipment is identified by the FCC registration number.

If requested, the FCC registration Number and REN must be provided to the telephone company.

Any repairs to this equipment must be carried out by Polycom Inc., or our designated agent. This stipulation is required by the FCC and applies during and after the warranty period.

United States Safety Construction Details

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

For DC system only:

- Use 10 AWG copper conductors.
- Connect to a reliably grounded 48 V DC SELV source.

Caution: This equipment has a connection between the grounded conductor of the DC supply circuit and the grounding conductor. See Installation Instructions.

- This equipment shall be located in the same immediate area (such as, adjacent cabinets or any other equipment that has a connection between the grounded conductor of the same DC supply circuit and the grounding conductor, and also the grounding connection of the DC system.) The DC system shall not be grounded elsewhere.

Canadian Department of Communications

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

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

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

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

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

Regulatory Notices

EC Mark R&TTE Directive

Polycom Inc., declares that the MGC-50 and MGC-100 with NET-2/4/8 card is in conformity with the following relevant harmonized standards:

EN 60950: 1992 Including Amendments 1,2,3 & 4

EN 55022: 1994

EN 50082: 1997

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

Russian Communication Certificate

The MGC-100 and MGC-50 comply with the Russian Ministry of Communication requirements stated in certificate OC/1-MM-15.



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Before You Begin

This Getting Started Guide provides information on the installation and basic operation of your MGC-50/100. For more information on defining and running conferences, defining IVR services and managing the system, refer to the *MGC Manager User's Guide Volumes I & II* and the *MGC Administrator's Guide* included with the system. References to the relevant chapters of these guides are included throughout this Getting Started Guide.



This is an example of the notes that you may encounter throughout this guide.

System Overview

The MGC-50 and MGC-100 are high performance, high capacity multi-network solutions that provides you with feature-rich, and easy-to-use multipoint voice, video and gateway conferencing.

The system meets International Telecommunication Union - Telecommunication Standardization Sector, (ITU-T, formerly CCITT) standards for multipoint multimedia bridging devices, and meets ETSI standards for telecommunication products. The MGC-100 DC also meets the NEBS Compliant Standard (when so ordered) for our clients based in the United States.

The flexible architecture in the system is designed to accommodate users' changing multipoint needs. This system utilizes a modular "universal slot" platform that allows the formation of different configurations based on users' individual port capacity and functionality requirements.

MGC Unit Main Features

The MGC unit offers the following features:

- Supports a large number of ports (48 for the MGC-50, 96 for the MGC-100) running at 128 Kbps
- Universal slots, telco grade high availability with hot-swappable modules, redundancy, on-line upgrading and dynamic resource allocation
- Support for standard network interfaces (ISDN, ATM, T1-CAS, LAN and V.35 serial) for the easy integration of conference elements into external network management and billing systems
- Support for up to 16 operator workstations (PCs) connected to either a local or remote MCU; each operator workstation can be connected to several MGC units
- Multirate conferencing and Transcoding (audio and video, including high bit rate video and data bit rate conversion)
- Channel aggregation according to H.221, BONDING and Multirate (H0)
- Automatic rate detection upon endpoint connection to the conference
- H.320/H.323 video, T.120 data and Greet and Guide conferencing
- Quality of Service for IP networks
- Enhanced Continuous Presence (multi-image video)
- Ad Hoc conferencing
- IVR (Interactive Voice Response)
- Windows 95®/Windows 98®/Windows NT®/Windows 2000®/Windows XP® based operator station
- Multiple operators per conference
- Multiple conferences and MCUs per operator
- TCP/IP - LAN - Internet access
- Supports serial communication (V.35/RS-530/RS-449) (optional)

MGC-50/MGC-100 Specifications

Table 1-1 lists the specifications of the MGC-50 and the MGC-100 units.

Table 1-1: MGC Unit Specifications

Physical	MGC-50	MGC-100	MGC-100 NEBS
Height	16"	16"	21"
Width	15", 19" with mounting plate	21", 23" with mounting plates with unit at 90%	21", 23" with mounting plates
Depth	19.5"	19.5"	19.5"
Weight	Up to 24 kg	Up to 48 kg	Up to 58 kg
Free space above the MCU rack	3" in standard installations	3" standard installation, 9" if a MPI-8" is to be fitted	It is recommended for the installer to refer to the NEBS Standards
H.323 Protocols	MGC-50/MGC-100		
Audio	G.711, G.722 (48), G.722.1, G.728, G. 723.1, G.729, Siren 7, Siren 14		
Video	H.261, H.263 (Annexes N, F, P)		
Data	T.120		
H. 320 Protocols	MGC-50/MGC-100		
Audio	G.711, G.722 (48), G.722.1, G.728, G. 723.1, Siren 7, Siren 14		
Video	H.261, H.263 (Annexes N, F, P), H.264		
Data	T.120		
Cascading	H.243		

Table 1-1: MGC Unit Specifications

Channel aggregation	H.221, BONDING, Multi-Rate (H0)
Network Interfaces	MGC-50/MGC-100
Network interfaces	<p>ISDN: T1 PRI, E1 PRI, Multirate ISDN, NFAS, Leased lines-T1/E1, Switched 56</p> <p>IP (H.323 and SIP): LAN</p> <p>T1-CAS T1-CAS lines for Audio Only connections</p> <p>ATM: 25 (FVC.COM), 155 (FVC.COM)</p> <p>Serial: V.35, RS449, RS530/A</p>
External Communications	MGC-50/MGC-100
Data rates	56 Kbps - 1920 Kbps (E1)
Network interfaces	ISDN T1/ E1, ATM-25 (First Virtual), ATM-155 (First Virtual), T1-CAS, LAN, serial (MPI)
MGC Manager control connection	An independent LAN connection (separate from the conferencing connection)
Clock synchronization	Synchronizes to an external network
Local/Remote External Equipment	MGC-50/MGC-100
Operator workstations	LAN/RS-232/Modem/Internet
Reservation systems	LAN/Internet/Modem
Environment	MGC-50/MGC-100
Operating temperature	10°–40°C (50°–104°F)
Storage temperature	-40°–70°C (40°–158°F)
Relative humidity	15%-90% no condensing
Operating altitude	Up to approx. 3,000m (10,000ft)

Table 1-1: MGC Unit Specifications

Storage altitude	Up to approx. 12,000m (40,000ft)	
Operating ESD	+8kV	
Storage ESD	+15kV	
Conference Setup	MGC-50/MGC-100	
Integrated scheduler	Yes	
API to 3rd party reservation systems	Yes	
Diagnostics	MGC-50/MGC-100	
Power up	Yes	
On-line	Yes	
Remote	Yes	
Serviceability / Reliability	MGC-50/MGC-100	
Hot swappable modules	Yes	
Front panel removable modules	Yes	
Power Supply	MGC-50	MGC-100
DC Input	-	-48 VDC
AC Input	100-240 VAC, 50/60 Hz	
Power Consumption	MGC-50	MGC-100
AC Maximum Power consumption	AC Voltage - 10 Amp at 100 VAC, 5 Amp at 240 VAC protected by a 15 Amp circuit breaker.	<ul style="list-style-type: none"> AC Voltage - 15 Amp at 100 VAC and 7.5 Amp at 220 VAC protected by a 15 Amp circuit breaker. DC Voltage - 42 Amp at 48 VDC protected by a 50 Amp circuit breaker.

Network Equipment, Numbers and Addresses

Obtain the following information from your network administrator:

- IP address for the MGC-50/MGC-100
- Subnet Mask for the MGC-50/MGC-100
- Default Gateway IP address (optional)
- Gatekeeper IP address, if applicable
- DNS IP address, if applicable
- SIP server IP address, if applicable

For ISDN configurations, obtain the following equipment and information from your network service provider:

- PRI line(s) or Leased Line(s)
- Directory number range(s)
- Switch Type
- Line Coding
- Line Framing
- Numbering Plan
- Numbering Type



If the MGC-50/100 has to be connected to the public ISDN network, an external CSU or similar equipment is needed.

Hardware Description

The following components make up the MGC unit:

- Main Control Module
- Backplane
- Power Supply Module(s)
- Fans
- Alarms port
- Functional Modules
 - ISDN/T1-CAS Net-2/4/8
 - IP/IP+ cards
 - MUX
 - MUX+
 - Audio+12/24, Audio+24/48, Audio+48/96
 - Standard Video
 - Video+
 - Data
- Input/Output cards

MGC-100 Components Location

Figure 2-1 shows the front panel of the MGC-100. The front panel provides access to the Main Control Module, the Functional Modules, and the Power Supply Modules. Status LEDs on the Main Control Module, Functional Modules, and Power Supply Modules indicate the status of the system.

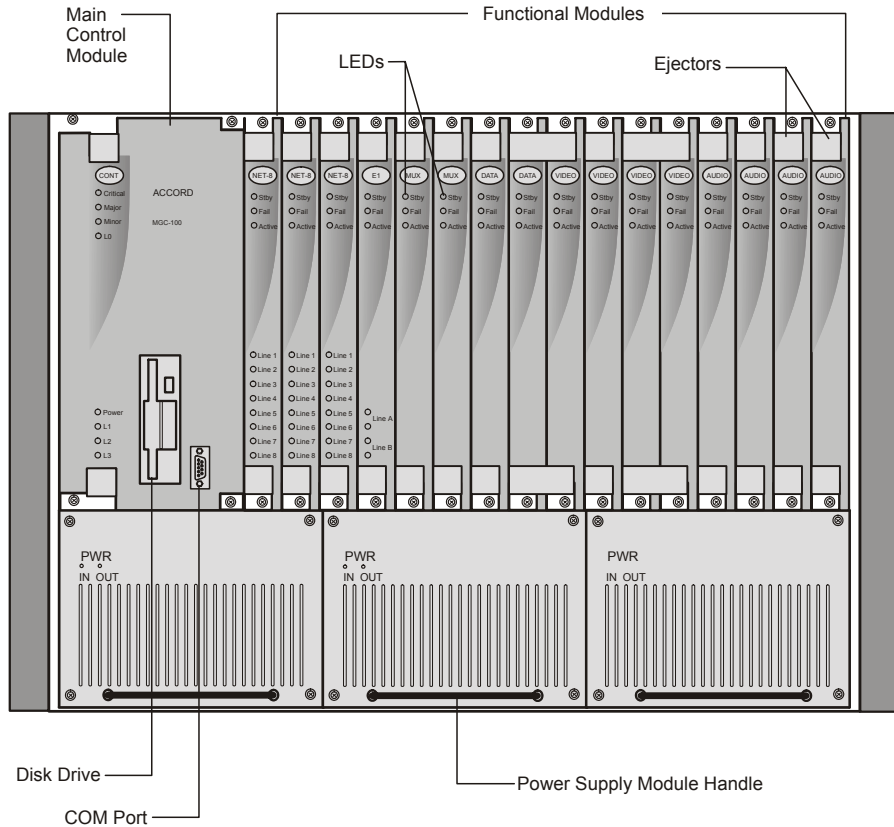


Figure 2-1: MGC-100 Front Panel

Figure 2-2 shows the rear panel of the MGC-100. The rear panel provides access to the network I/O card connectors. I/O cards are inserted via the rear panel. In addition, the rear panel houses the main power switch, AC inlet, fans, the fuse, additional communications ports and alarm ports. The Alarms port provides dry contacts for critical, major, and minor alarms.

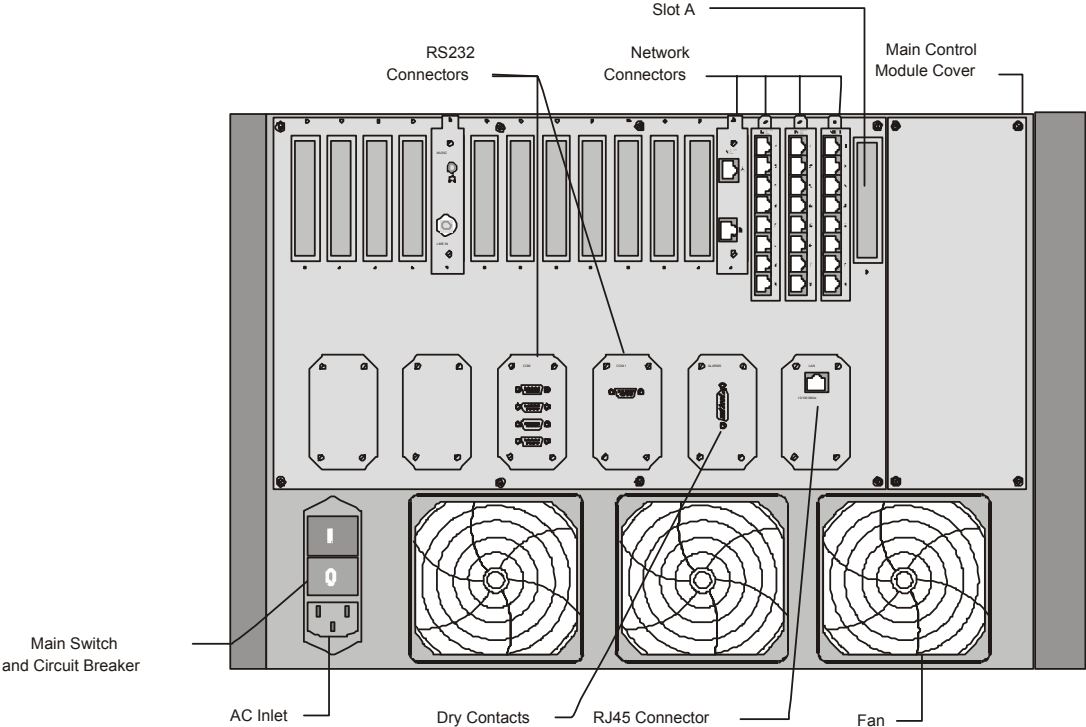


Figure 2-2: MGC-100 Rear Panel with External Connectors

Figure 2-3 shows the front panel of the MGC-100 NEBS Standard. The front panel, as in the MGC-100, provides access to the Main Control Module, the Functional Modules, and the Power Supply Modules. Status LEDs on the Main Control Module, Functional Modules, and Power Supply Modules indicate the status of the system.

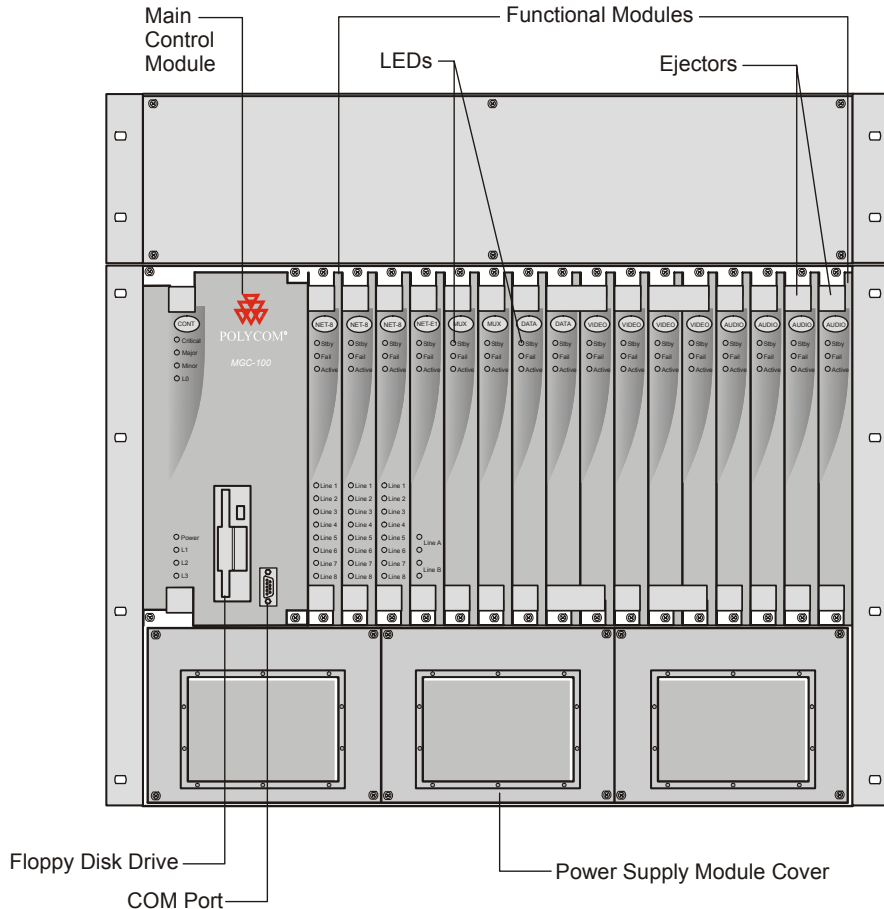


Figure 2-3: MGC-100 NEBS Standard Front Panel

Figure 2-4 shows the rear panel of the MGC-100 NEBS Standard. The rear panel, as in the standard MGC-100, provides access to the network I/O card connectors and fans. I/O cards are inserted via the rear panel.

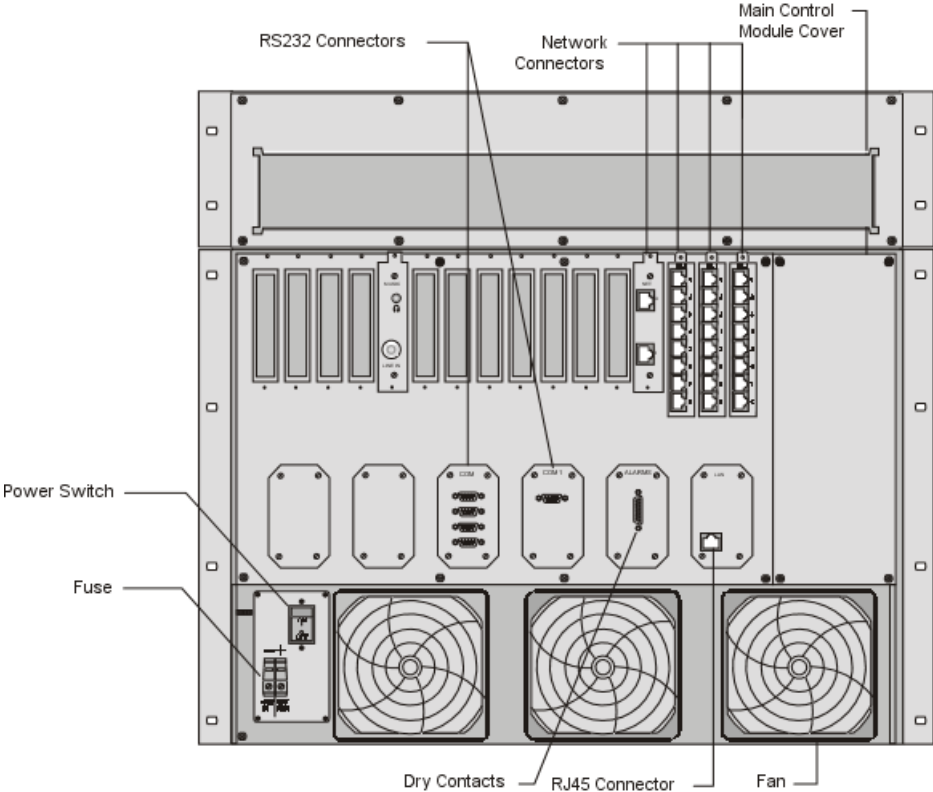


Figure 2-4: MGC-100 NEBS Standard Rear Panel with External Connectors

MGC-50 Components Location

Figure 2-5 shows the front panel of the MGC-50. The front panel provides access to the Main Control Module, the Functional Modules, and the Power Supply Module. Status LEDs on the Main Control Module, Functional Modules, and Power Supply Module indicate the status of the system.

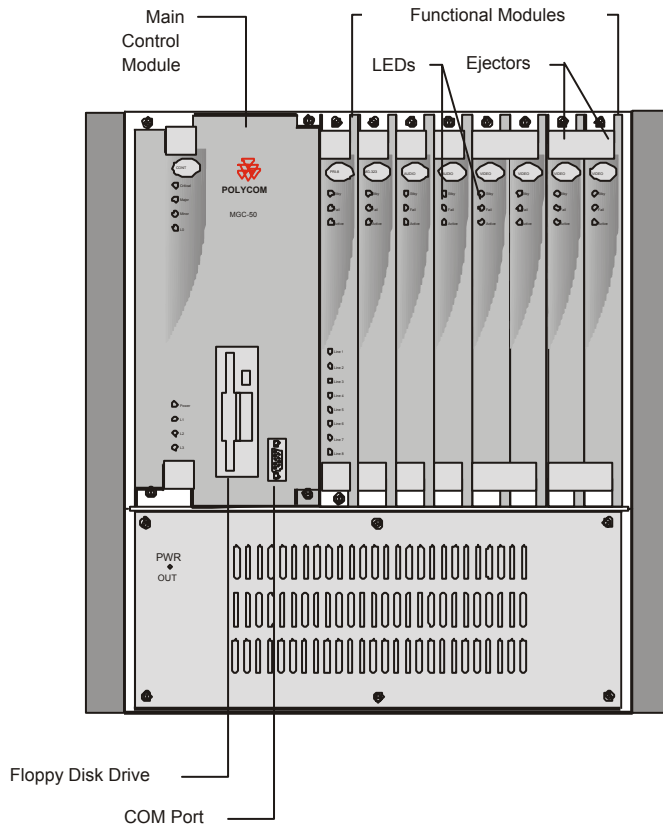


Figure 2-5: MGC-50 Front Panel

Figure 2-6 shows the rear panel of the MGC-50. I/O cards are inserted via the rear panel. The rear panel also provides access to the fans, power supply module, network connections, additional communications ports, the main power switch, AC inlet, and fuse.

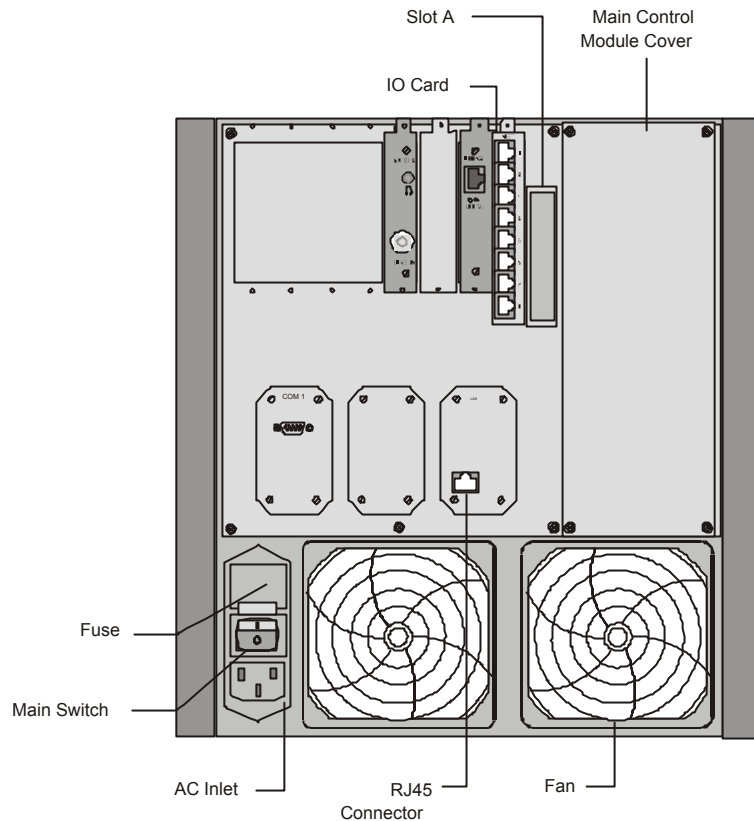


Figure 2-6: MGC-50 Rear Panel with External Connector

MGC Unit Components

The following table describes the MGC components. A more detailed description is found in the MGC-50/MGC-100 Hardware & Installation Manual.

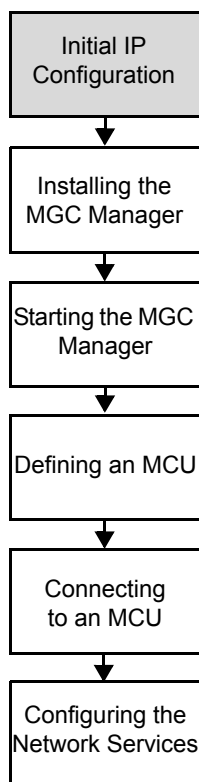
Table 2-1: MGC Component Description

MGC Component	Description
Control Module	The Main Control Module performs the conference setup and termination and resource allocation in both the MGC-100 and the MGC-50.
Backplane	The backplane is an electronic circuit board into which The Network Interface Module, the Main Control Module, Functional Modules, and I/O cards are plugged so the various modules can communicate with each other. The Backplane is based on the “universal slot” concept, where any card can be inserted in any slot.
Power Plane	The Power Plane is a conducting layer providing power to the components. It is part of the Backplane and is designed to accommodate hot swapping of power supplies.
Power Supply Modules	The Power Supply Module is located underneath the Main Control Module and the Functional Modules and is connected to the backplane. It provides power to the Backplane by means of a power bus. Both MGC units (MGC-100 and MGC-50) operate at 100-240 volts AC 50/60 Hz.
Fans	Three (MGC-100) or two (MGC-50) fans are mounted at the bottom of the rear panel.
Alarms Port	In the MGC-100 an Alarms port is located on the Main Control Module. The dry contacts on the rear panel of the MGC-100 are for connecting to the customer’s alarm system.

Table 2-1: MGC Component Description

MGC Component	Description
Functional Modules	The Functional Modules, also known as cards, perform the various audio, video, and data processing functions for the MGC unit. Both the MGC-100 and the MGC-50 use the same functional modules. Any module can be inserted into any slot and servicing can be performed while the system is in operation. The MGC-100 can contain up to 16 Functional Modules and the MGC-50 can contain up to 8 Functional Modules.
Input/Output (I/O) Cards	Input/Output (I/O) Cards connect the Functional Modules to external systems and networks.

Initial System Configuration



The MGC-50/MGC-100 requires basic configuration before you can start running conferences.

Initial IP Configuration

The system is shipped with a default IP address: 129.254.4.8. Ordinarily, you need to change the MCU's default IP address to the IP address appropriate for the site's LAN. This section describes how to modify it using a monitor and terminal to connect directly to the MCU.

To modify the MCU default IP address to the site's IP address:

1. Remove the Main Control Module cover.

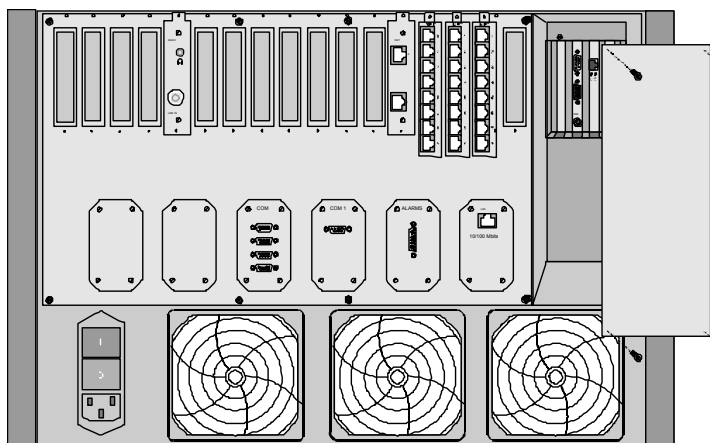


Figure 3-1: MGC-100 Rear Panel

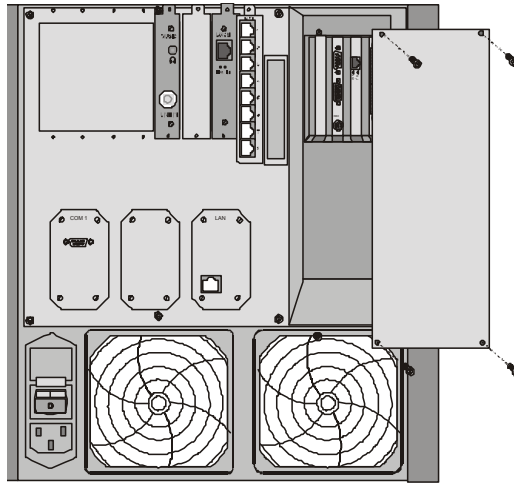


Figure 3-2: MGC-50 Rear Panel

2. Connect a monitor and the keyboard to the appropriate connectors in the MCU.

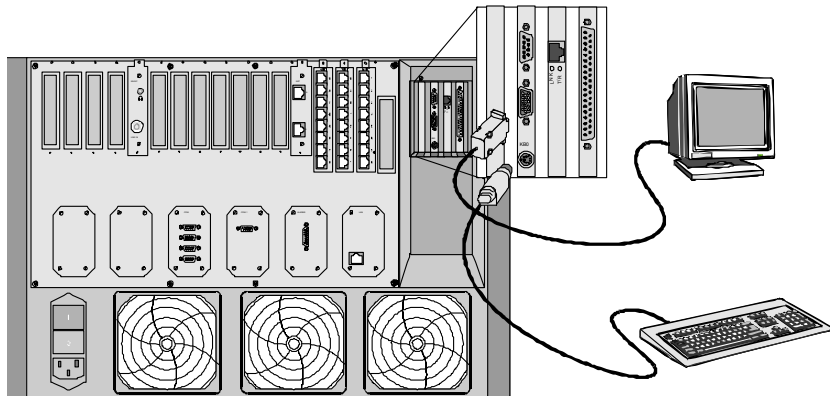


Figure 3-3: Attaching the Monitor and Key Board to the MGC-100

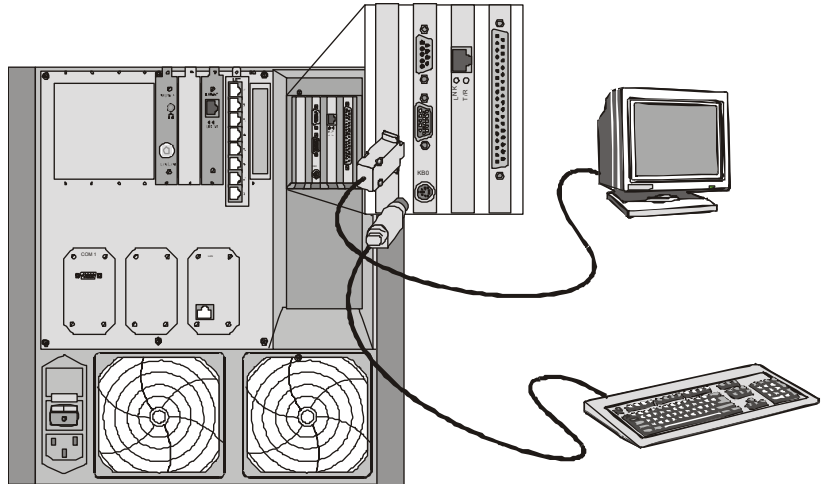
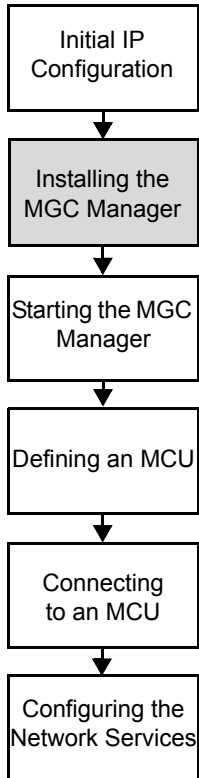


Figure 3-4: Attaching the Monitor and Key Board to the MGC-50

3. Insert the DOS diskette into the MCU diskette drive.
4. Reset the MCU (by turning it off and then on), or if it is turned off, turn it on. The command line is displayed.
5. Type `C:\>dir mcu\cfg` and press **Enter**.
6. Type `C:\>\mcu\cfg>edit lan.cfg` and press **Enter**.
The *Edit* screen opens displaying the IP configuration parameters.
7. Move the cursor to the appropriate line and enter the new *IP Address*.
If required, modify the *Subnet Mask* and the *Default Gateway* values.
8. Save the new IP configuration and exit the DOS editor.
9. Disconnect the monitor and keyboard from the MCU, and mount the Main Control Module cover back to its place.
10. Restart the MCU.

Installing the MGC Manager

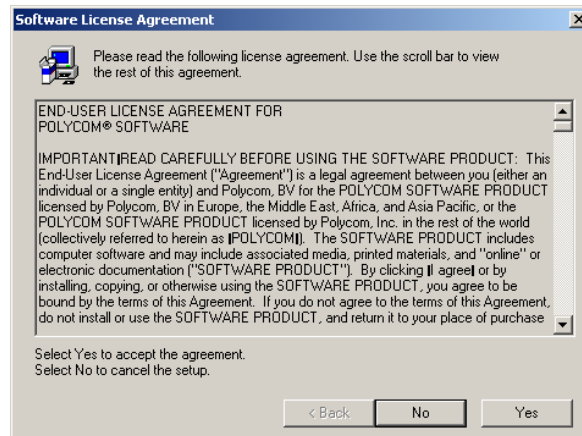


To configure and control the MGC unit and to setup conferences you must install the MGC Manager software on a customer-provided computer or server. Up to 30 MGC Manager-enabled PCs can be connected to each MGC-50 or MGC-100. A single MGC Manager-enabled PC can manage multiple MGC systems.

To install the MGC Manager software:

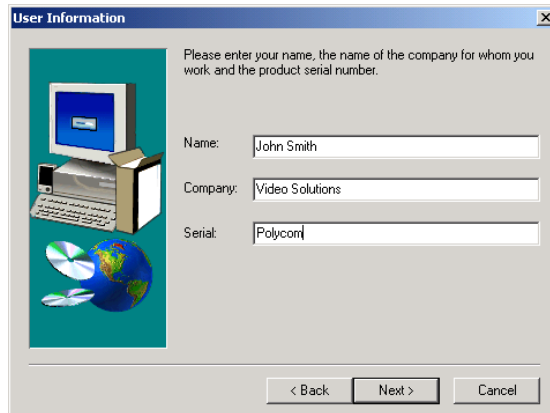
1. Insert the software CD into the CD drive.
2. On the *Start* menu, click **Run**.
The *Run* dialog box opens.
3. Type **D:\SETUP** (where D is the name of the CD drive), and then click **OK**.

The installation wizard starts and the *License Agreement* window opens.



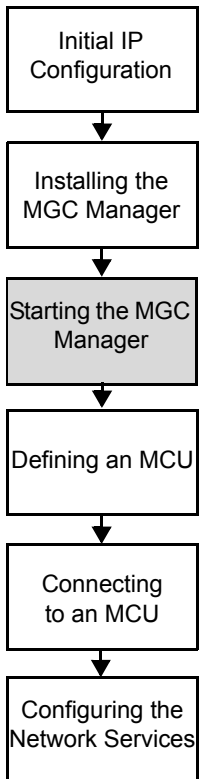
4. Click **Yes** to agree to the terms of the agreement or **No** to exit the installation.
If you clicked **Yes**, the *Welcome* window opens.
5. Click **Next**.

The *User Information* screen opens.



6. Enter your name and the name of your company in the appropriate boxes.
For a standard installation, enter **Polycom** in the *Serial* box.
7. Click **Next**.
Follow the on-screen instructions to complete the installation process.
At the end of the installation procedure, the *Setup Complete* window opens.
8. Click **Finish**.
The MGC Manager software is now installed on your computer.

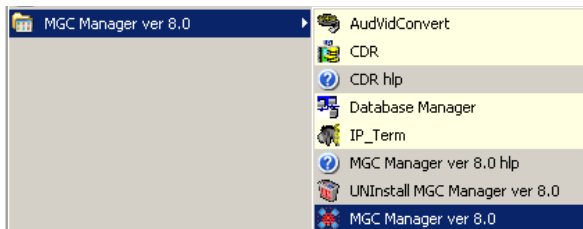
Starting the MGC Manager



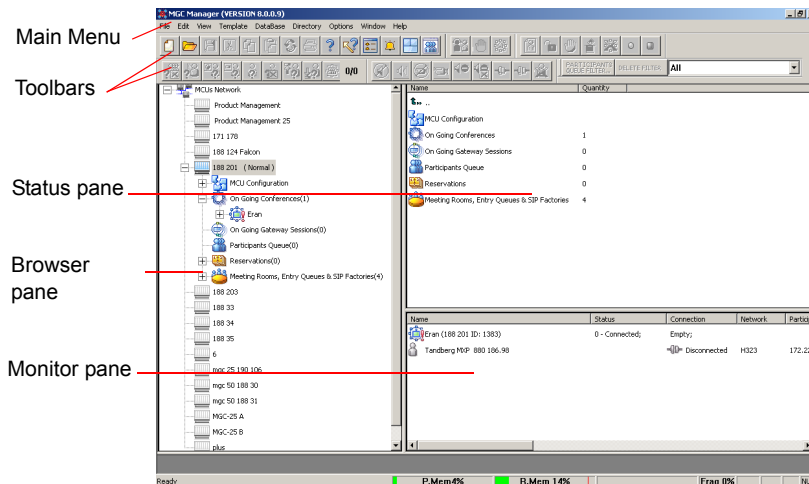
Once the MGC Manager application is installed, it can be used to set up and monitor multipoint audio and video conferences, and to perform system configuration activities for the MGC unit to which it connects.

To start the MGC Manager application:

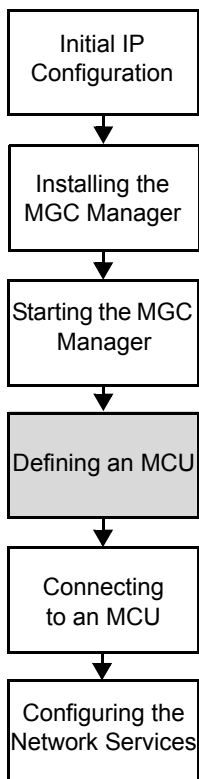
- On the **Start - Programs** menu, click **MGC Manager ver 8.0**, and then click **MGC Manager ver 8.0**.



The *MGC Manager* main window opens.



Defining an MCU



To manage and control the MGC unit from the MGC Manager application it must be added to the MCUs Network list. The MCU IP address must match the IP address defined in the MCU. For details, see “Initial IP Configuration” on page 3-1.

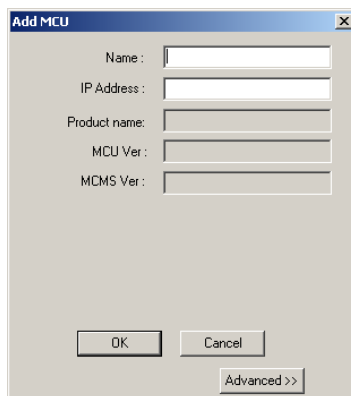
To define an MCU Connection:

1. In the *Browser* pane, right-click the *MCU Network* icon, and then click **New MCU**.



The *Add MCU* dialog box opens.

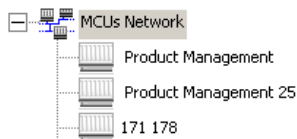
2. In the *Name* box, enter a name that clearly identifies the MCU using up to 20 characters (no comma, period or semicolon).



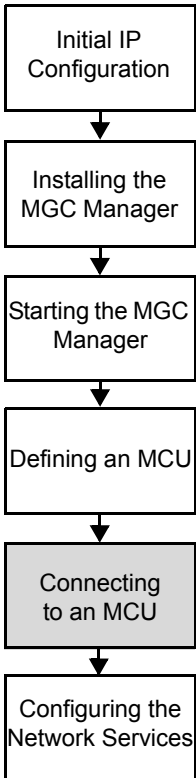
3. In the *IP Address* box, enter the IP Address of the MCU (as defined during the Initial IP Configuration).
4. Click **OK**.

The *Add MCU* dialog box closes.

The new MCU icon and name appear in the *Browser* pane.



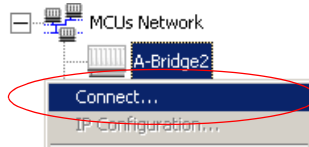
Connecting to an MCU



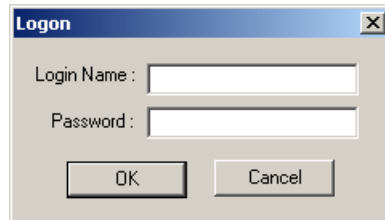
Once the MCU connection parameters are defined, the MGC Manager can be connected to all defined MCUs simultaneously. The MGC Manager allows you to set up conferences, make reservations, monitor On Going Conferences and perform other activities on several MCUs. The MGC Manager reports the status of each MCU connection.

To connect the operator workstation to an MCU:

1. In the *Browser* pane, expand the *MCUs Network* tree. A list of MCUs appears below the *MCUs Network* icon.
2. Double-click the *MCU* icon. Alternatively, right click the *MCU* icon, and then click **Connect**.



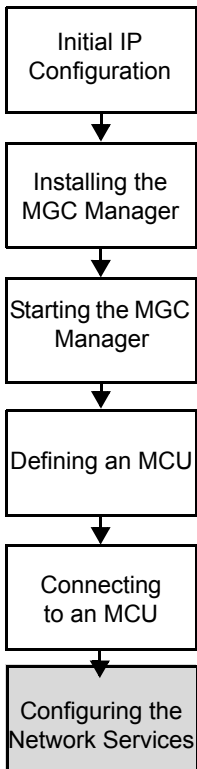
The *Logon* dialog box opens.



3. Enter your *Login Name* and *Password*, and then click **OK**.

Note that each MCU is initially configured with a default operator whose *Login* and *Password* are both POLYCOM. Additional operators can be defined. For more details, see the *MGC Administrator's Guide*, Chapter 6.

Configuring the Network Services



The Network Services include the parameters of the networks connected to the MCU. If no Network Services have been configured, depending on your system configuration, the appropriate Network Service must be configured. This section describes the configuration of both IP and ISDN networks.



For information about defining T1-CAS, MPI, NFAS ISDN, Leased lines ISDN and additional ISDN and IP Network Services, or modifying existing Network Services, refer to the *MGC Administrator's Guide, Chapter 3*.

ISDN Network Service

The Net-2/4/8 Network Interface module installed in the MCU interfaces between the MGC unit and the ISDN switch. The Network Service is used to define the properties of the switch and the ISDN lines running from the switch to the ISDN Network Interface module. Each group of ISDN lines having the same characteristics and originating from the same ISDN switch, will be assigned to the same Network Service.

IP Network Service

The IP Network Service defines the properties of the IP network used for connecting IP endpoints to the conference and the IP cards (installed in the MCU) to which the network is connected. Several of the network components are used by both H.323 and SIP endpoints to connect to the conference, and the same IP card is used for H.323 and SIP connections. One IP Network Service, therefore, can be defined for both H.323 and SIP environments as well as an H.323-only or a SIP-only network service.

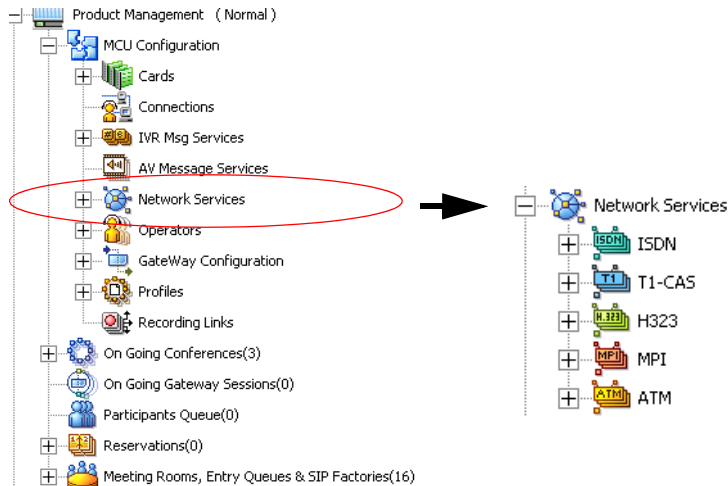
Defining an ISDN Network Service

The MCU can be connected to ISDN lines provided by different carriers. Each carrier has unique characteristics, and may have different pricing programs. To use these lines, together with the carrier's special programs, you must first obtain the relevant information from the carrier and then define their parameters in the MGC Manager's application.

To define a New ISDN Network Service:

1. Connect the MGC Manager to the MCU.
2. In the *Browser* pane, expand the *MCU* tree to list its options.

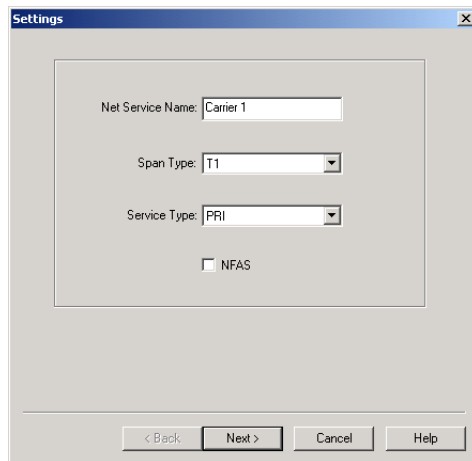
- 3. In the MCU tree, expand the *MCU Configuration* tree.
- 4. Expand the *Network Services* tree.



- 5. Right-click the *Network Services - ISDN* icon, and then click **New Network Service**.



The new Network Service configuration wizard - *Settings* tab opens.

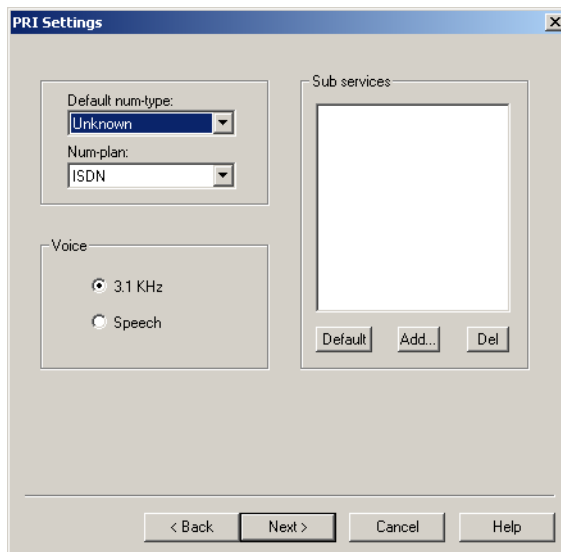


6. In the *Settings* dialog box, define the following parameters:

Table 3-1: Settings Dialog Box Options

Field	Description
<i>Net Service Name</i>	Enter a unique name using up to 20 characters to identify the Network Service. The Service Provider's name can be used.
<i>Span Type</i>	Select the span type from the drop-down list; select either T1 (usually in the U.S.), or E1 (usually in Europe).
<i>Service Type</i>	Select PRI (Primary Rate Interface) for all ISDN lines that are not leased lines. To define ISDN Leased Lines service, refer to the MGC Administrator's Guide, Chapter 3.
<i>NFAS</i>	To define an ISDN NFAS Service, refer to the MGC Administrator's Guide, Chapter 3.

7. Click **Next**.
The *PRI Settings* dialog box opens.



8. In the *PRI Settings* dialog box, define the following parameters:

Table 3-2: *PRI Settings Dialog Box Options*

Field	Description
<i>Default num-type</i>	The num-type defines how the system handles the dialing digits. If you want the network to interpret the dial digits for routing the call, select Unknown .
<i>Num-plan</i>	For video conferencing purposes, select the ISDN option.
<i>Voice</i>	Indicate the frequency of the data being sent. For practical purposes, the <i>Voice</i> option is set to 3.1 KHz as it is the more widely used frequency.
<i>Sub Services</i>	<p>Some service providers (carriers) may have several service programs that can be used. They may also use a backup service provider in case of malfunction in the ISDN network. The <i>Sub-Service</i> list displays the list of currently defined sub services.</p> <p>To define a service program to be used, click the Add button. The <i>Sub-Service</i> dialog box opens.</p> <p>To remove a service program from the list, highlight it in the list box and click the Del button.</p> <p>To set a service program as the default, highlight it in the list box and click the Default button.</p> <p>To edit the parameters of a sub-service, double-click its name in the sub-services list. The <i>Sub-Service</i> dialog box opens.</p>

9. If you are not defining a sub-service or if you have completed the sub-service definition, click **Next** to continue. The *Span Definition* dialog box opens. To continue the definition of the Network Service without defining a sub service, skip to step 12.

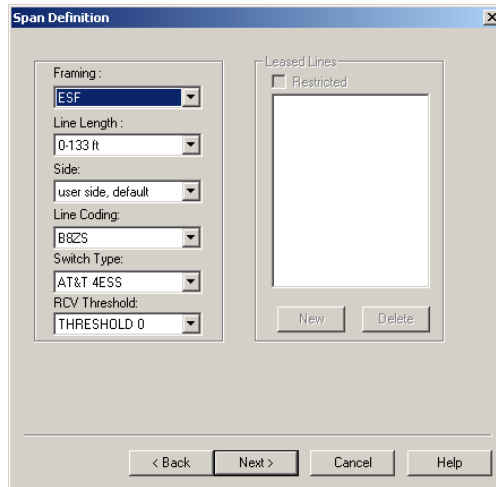
10. To add or modify the sub-service, in the *Sub Service* dialog box define the following parameters:

Table 3-3: *Sub Service* Dialog Box Options

Field	Description
<i>Name</i>	Type the name of the sub-service using up to 20 characters. This name identifies the sub-service.
<i>Dial-out Prefix</i>	Type the prefix that your PBX needs to dial out in order to use this service program. Leave this field blank if a dial-out prefix is not required.
<i>Information Element</i>	For future release.
<i>Net Specific</i>	Select the desired service program from the drop-down list. If no special specification is required, select the NULL option.
<i>Backup Dial-Out</i>	For future release.

11. Click **OK**.
The *Sub Service* dialog box closes and you are returned to the *PRI Settings* dialog box (step 9) where you click Next to continue.

12. In the *Span Definition* dialog box, define the following parameters:



The image shows a dialog box titled "Span Definition". It contains several configuration options:

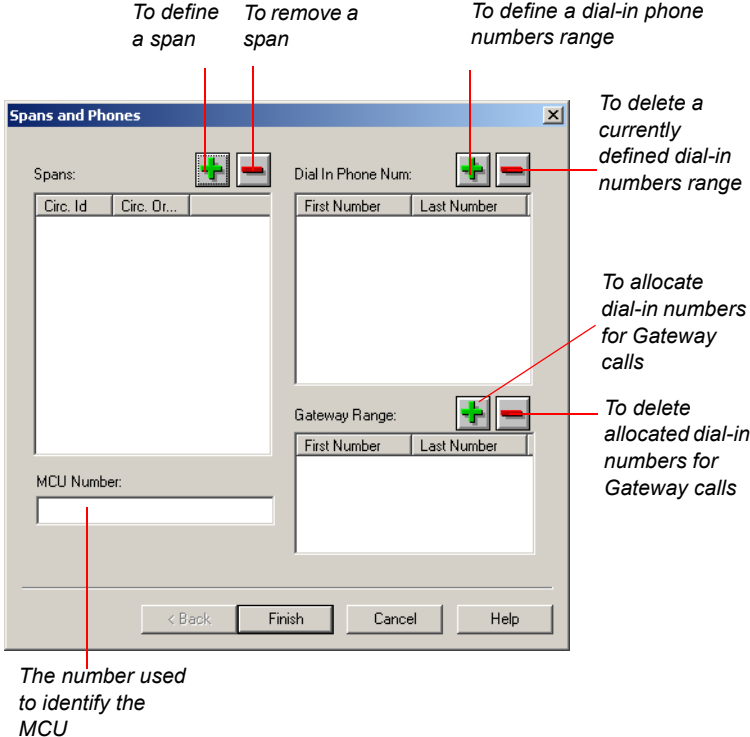
- Framing:** A dropdown menu with "ESF" selected.
- Line Length:** A dropdown menu with "0-133 ft" selected.
- Side:** A dropdown menu with "user side, default" selected.
- Line Coding:** A dropdown menu with "B&ZS" selected.
- Switch Type:** A dropdown menu with "AT&T 4ESS" selected.
- RCV Threshold:** A dropdown menu with "THRESHOLD 0" selected.
- Leased Lines:** A section with a checkbox labeled "Restricted" which is currently unchecked. Below this is a large empty rectangular area.
- Buttons:** "New" and "Delete" buttons are located below the Leased Lines section.
- Navigation:** "< Back", "Next >", "Cancel", and "Help" buttons are located at the bottom of the dialog.



The default values displayed for the Span's technical parameters are appropriate for most ISDN networks, therefore you skip their definition. The *Leased Lines* section of this dialog box is enabled only when defining an ISDN Leased Lines Service. For more details, refer to the *MGC Administrator's Guide, Chapter 3*.

13. Click **Next** to continue.

The *Spans and Phones* dialog box opens.






This dialog box is used to assign circuit identification numbers and the dial-in phone number ranges to be used in dial-in conferences. Circuit orders are automatically assigned to spans. If only one service provider is used, define all the PRI lines here.

The dial-in phone numbers are allocated to the MCU by the service provider (carrier) and should be obtained from the service provider.


14. Define the *Spans and Phones* parameters as follows:

Table 3-4: *Spans and Phone Dialog Box Options*

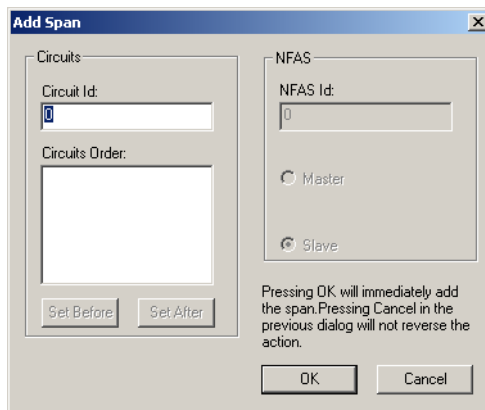
Field	Description
<i>Span</i>	Displays the existing definitions of circuit identification numbers and circuit orders. Click the plus  button to define the new spans.
<i>Dial In Phone Num</i>	Lists the phone numbers available for dialing in, as allocated to the MCU by the service provider. Click the plus  button to define a dial-in phone range.
<i>MCU Number</i>	Type a number to identify the MCU when calling the participants in dial-out conferences. This number is part of the dial-in numbers allocated to the MCU by the service provider, but it cannot be part of the dial-in phone range. The MCU Number is also used for dial-in, in conferences when the Meet Me Per MCU option is selected as the connection type for participants.
<i>Gateway Range</i>	Displays the dial-in numbers allocated to Gateway calls. Click the plus  button to allocate dial-in ranges to the gateway. The <i>Gateway Phone Numbers</i> dialog box opens.

To define the NFAS parameters, see the *MGC Administrator's Guide*, Chapter 3.

Defining Spans

15. To assign circuit identification numbers and orders:
- a. In the *Spans* pane of the *Span and Phone* dialog box, click the **Plus**  button.

The *Add Span* dialog box opens.




- b. Define the following parameters:

Table 3-5: Add Span Dialog Box Options

Field	Description
<i>Circuit ID</i>	<p>The Circuit Identification is a logical number used to identify the span to the MGC Manager. This number is later used to assign the span to the ISDN network card.</p> <p>Type any positive integer from 0 to 65535 to be used as the circuit identification number in the MGC Manager.</p> <p>Note: If other Network Services are already defined, make sure to use numbers other than those already assigned to the existing services.</p>
<i>Circuit Order</i>	<p>The Circuit Order determines the order in which an MCU uses the spans to dial out.</p>


- c. Once you have defined all the identification numbers click **OK**.
The *Add Span* dialog box closes and you are returned to the *Spans and Phones* dialog box.

To delete a circuit identification entry:

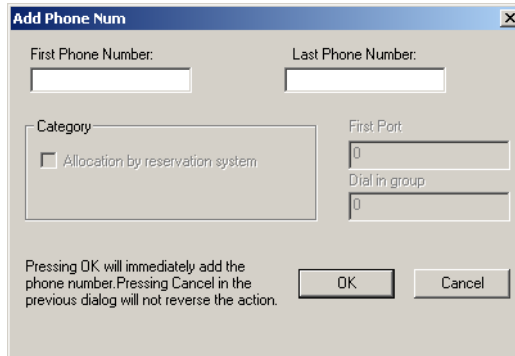
- In the *Spans* pane, click the Circuit Identification entry you want to delete and click the **Minus**  button.
The entry is deleted.

Defining Dial-In Numbers

The numbers to be used for dial-in connections to multipoint conferences are allocated to the MCU by your service providers.

16. Specify the range of dial-in numbers by entering the first and last numbers in the range. You can define several ranges for the same span.
 - a. In the *Dial In Phone Numbers* pane of the *Spans and Phones* dialog box, click the **Plus**  button

The *Add Phone Num* dialog box opens.




- b. In the *First Phone Number* box, enter the first number in the range of dial-in numbers.
- c. In the *Last Phone Number* box, enter the last number in the range of dial-in numbers.
- d. Click **OK**.

The dialog box closes. You are returned to the *Spans and Phones* dialog box. The number range appears in the *Dial-In Phone Numbers* list.

- e. Repeat steps a-d for each number range you need to enter.

To delete a dial-in number entry:

- In the *Dial In Phone Number* pane, click the entry to delete and click the **Minus**  button.

The entry is deleted.

Defining the Gateway Range

Define the dial-in ranges allocated to Gateway Session using the same procedure as described for the dial-in numbers allocated to multipoint conferencing.



The range of dial-in numbers allocated to Gateway calls must differ from the dial-in number ranges allocated to multipoint conferencing.

For a detailed description, see the MGC Administrator's Guide, Chapter 3.

Completing the ISDN Network Service Definition

17. Once you have finished filling in all the Wizards screens, click the **Finish** button in the *Spans and Phones* dialog box.

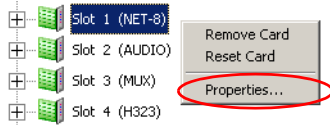
The data you have specified will be validated, after which the ISDN Network Service will be added to the list of ISDN network services of the MCU.

Assigning the ISDN Network Service to the ISDN Network Interface Module (Net-2/Net-4/Net-8)

In order to connect the MCU to the ISDN network switch, you must assign the ISDN Network Service to the appropriate span of the Net-2/Net-4/Net-8 Network Interface module. In addition, you must define which span in the network interface card will be used as the primary clock. Finally, if the MCU is not configured to work with a single clock source, you must define which span will be used as the backup clock to synchronize with the network clock. To set the MCU to work in a single clock mode, the appropriate flag must be set in the system.cfg file. For details, see the *MGC Administrators Guide*, Chapter 5, "Edit "system.cfg."

To configure the Net-2/Net-4/Net-8 ISDN Network Interface module:

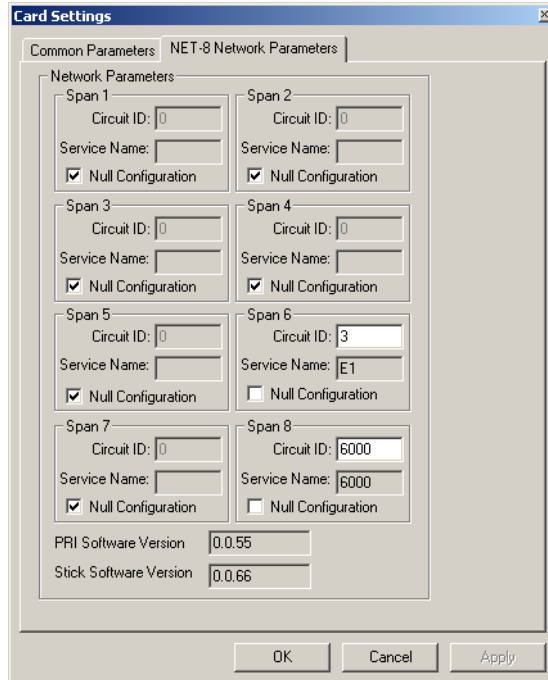
1. In the *Browser* pane, right-click the slot containing the Net-2/4/8 card, and then click **Properties**.
Alternatively, double-click the slot containing the card.



The *Card Settings – Common Parameters* dialog box opens.

2. Click the **Net-8 Network Parameters** tab.

The *Card Settings NET-8 Network Parameters* dialog box opens.



The Net-2/Net-4/Net-8 Network Interface module supports up to eight PRI connections, depending on the card model installed in the MCU. These connections may be either T1 or E1. For the system to recognize the PRI lines that connect to the Network card, you must assign the

Circuit ID of the PRI line defined in Network Service to the appropriate span in the *Card Settings - Net-8 Network Parameters*. Not all spans may be currently in use. In such a case, only the spans being used are configured.

3. To assign a *Circuit ID* to the appropriate span:
 - a. In the *Span n* box (where *n* is the span number on the Net-2/Net-4/Net-8 module to which the PRI line is connected), clear the **Null Configuration** check box to enable the span.
 - b. In the *Circuit ID* box, enter the circuit ID as defined in the ISDN *Network Service-Span and Phones* dialog box. According to the selected *Circuit ID*, the ISDN Network Service is assigned to the network card. Each span can be assigned a different Network Service.
 - c. Click **Apply**.
The name of the network service appears in the *Service Name* box.
4. Click **OK**.

To configure a Net-2/Net-4/Net-8 span as primary or backup clock:

Any of the configured spans can be set as the “Master Clock,” that synchronizes the system clock to the network clock, or “backup clock”, that is used if the master clock fails.



For more information about clocking, see the *MGC Administrator's Guide*, Chapter 5.

1. In the *Browser* pane, expand the Net-2/Net-4/Net-8 ISDN card to display its units in the *Browser* and *Status* panes. Each unit represents a span in the ISDN Network card.

- Right-click the unit (span) to configure and select one of the clocking options:

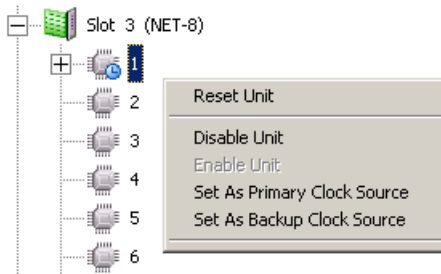


Table 3-6: Net-2/Net-4/Net-8 Unit Clocking Options

Option	Description
<i>Set as Primary Clock Source</i>	Sets this unit as the primary clock source.
<i>Cancel Primary Clock Source</i>	Stops this unit from acting as the primary clock source.
<i>Set As Backup Clock Source</i>	Sets this unit as the backup clock source.
<i>Cancel Backup Clock Source</i>	Stops this unit from acting as the backup clock source.

- After setting the clock source, a *Warning* message box opens, instructing you to reset the MCU.

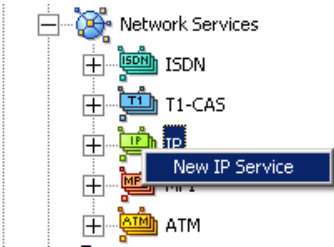
The configuration changes take effect only after the next MCU reset or start up and they are shown in the *Configured Clock* column in the *Status* pane.

IP Network Services

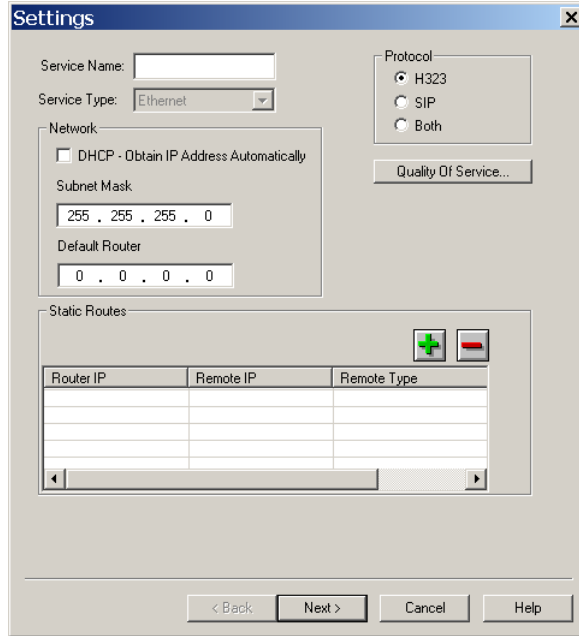
The IP Network Service defines the properties of the IP network used for connecting IP endpoints to the conference and the IP cards (installed in the MCU) to which the network is connected. Several of the network components are used by both H.323 and SIP endpoints to connect to the conference, and the same IP card is used for H.323 and SIP connections. Therefore one IP Network Service can be defined for both H.323 and SIP environments as well. However, you can define the Network Service to be H.323-only to be used to connect only H.323 endpoints or SIP-only to connect only SIP endpoints.

To define an IP Network Service:

- 1. In the *Browser* pane, expand the *MCU* tree.
- 2. Expand the *MCU Configuration* tree.
- 3. Expand the *Network Services* tree.
- 4. Right-click the *Network Services – IP* icon, and then click **New IP Service**.



The new Network Service configuration wizard - *Setting* dialog box opens.



5. Define the following fields:

Table 3-7: Settings Options

Field	Description
<i>Service Name</i>	Specify the service name using up to 20 characters.
<i>Service Type</i>	IP services use an Ethernet network, which is a LAN standard. The <i>Service Type</i> cannot be changed.
<i>Protocol</i>	<ul style="list-style-type: none"> • H.323 - For an H.323-only network service. • SIP - For a SIP-only network service. • Both - For an integrated IP service. Both H.323 and SIP participants can connect to the MCU using this service.

Table 3-7: Settings Options

Field	Description
Network	
<i>DHCP-Obtain IP Address Automatically</i>	<p>Select this check box to use a DHCP server for automatic assignment and tracking of IP addresses to the conferencing devices. When the DHCP server is used, the IP address of the card appears as 0.0.0.0.</p> <p>You may prefer not to select this check box if you need to:</p> <ul style="list-style-type: none"> • Establish a static IP address. • When dialing in directly to the card, using the card's IP address.
<i>Subnet Mask</i>	<p>Enter the subnet mask of the MCU's IP card. If the DHCP is used, the subnet mask is automatically retrieved from the DHCP server and cannot be modified. The detected number appears in the card's <i>Properties-Settings-IP Network Parameters</i> box.</p>
<i>Default Router</i>	<p>Enter the IP address of the default router. If the DHCP is used, the IP address is automatically retrieved from the DHCP server and cannot be modified.</p>
Static Routes	
<i>Routes Table</i>	<p>Displays the list of static routes currently defined in the system. Up to five routes can be defined in addition to the Default router. The order in which the routers appear in this list determines the order in which the system will look for the endpoints on the various networks, if not found on the local LAN.</p> <p>To add a router to the <i>Static Routes</i> table, click the plus (+) button. For more details see "Defining Static Routes" on page 3-26. To delete a router from the <i>Static Routes</i> table select the router to remove, and then click the minus (-) button.</p> <p>You can define one router with different destinations.</p>

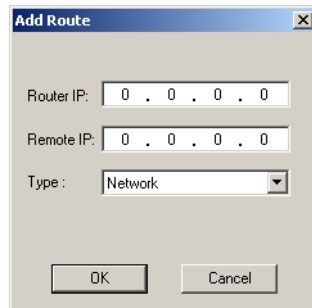
Table 3-7: Settings Options

Field	Description
Quality Of Service	
<i>Quality Of Service</i>	Quality of Service (QoS) is an effort to guarantee in advance the quality of data transmission over the network. To change the defaults click the Quality of Service button. For more information see “Defining Quality of Service” on page 3-27.

Defining Static Routes

6. To define a static route:
 - a. Click the plus (+) button.

The *Add Route* dialog box opens.



- b. Define the following fields:

Table 3-8: Add Router Options

Field	Description
<i>Router IP</i>	Enter the IP address of the router in its subnetwork.
<i>Remote IP</i>	Enter the IP address of the packet destination. If <i>Host</i> is selected in the <i>Type</i> field, enter the IP address of the endpoint. If <i>Network</i> is selected in the <i>Type</i> field, enter the components of the IP address indicating the segment of the other network.

Table 3-8: Add Router Options (Continued)

Field	Description
<i>Type</i>	Select the type of router connection: Network – defines a connection to a router segment in another network. Host – defines a direct connection to an endpoint found on another network.

- c. Click **OK**.

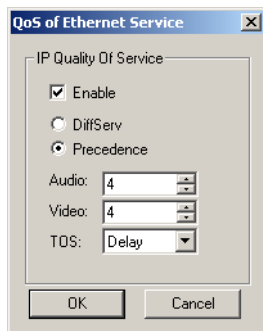
The system returns to the *Settings* dialog box, displaying the added static route.

Defining Quality of Service

7. To define Quality of Service parameters:

- a. Click the **Quality of Service** button.

The *QoS of Ethernet Service* dialog box opens.



- b. Define the following fields:

Table 3-9: QoS of Ethernet Service Options

Field	Description
<i>Enable</i>	Select the Enable check box to implement QoS for IP packets. When cleared, QoS is not implemented.

Table 3-9: QoS of Ethernet Service Options (Continued)

Field	Description
<i>DiffServ and Precedence</i>	<p>DiffServ and Precedence are two methods for encoding the packet's priority in the packet header. If you are not sure which QoS policy your router supports, select Precedence combined with None in the TOS field.</p> <ul style="list-style-type: none"> • Select DiffServ when the network router uses DiffServ for priority encoding). Note: If you select DiffServ but your router does not support this standard, IP packets queue on the same communication links with data packets greatly increasing the latency and jitter in their delivery. • Select Precedence when the network router uses Precedence for priority encoding, or when you are not sure which method is used by the router.
<i>Audio and Video</i>	<p>You can prioritize audio and video IP packets to ensure that all participants in the conference hear and see each other clearly. Select the desired priority. The recommended priority for both audio and video is 4 to ensure that the delay for both packets is the same and audio and the video packets are synchronized.</p>
<i>TOS</i>	<p>Type of Service (TOS) defines optimization tagging for routing the conferences audio and video packets.</p> <ul style="list-style-type: none"> • Delay – The recommended default for video conferencing. • None – No optimization definition is applied. Select <i>None</i> if you do not know which standard your router supports.

- c. Click **OK** to apply your settings and return to the *Settings* dialog box.

8. In the *Settings* dialog box, Click **Next**.
The *DNS Settings* dialog box opens.

The screenshot shows the 'DNS Settings' dialog box. At the top, there are three radio buttons: 'Off' (selected), 'Specify', and 'Auto'. Below this is a section titled 'DNS Server Addresses' which contains three text boxes for 'Primary DNS Server', 'Secondary DNS Server', and 'Tertiary DNS Server', each with the placeholder '0 . 0 . 0 . 0'. Below that is a text box for 'Local Domain Name'. At the bottom of the dialog are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

For H.323 conferencing, DNS can be used for gatekeeper discovery using the gatekeeper host name. Using NAT Traversal, the DNS is queried for the NAT server IP address used for allocating the public (external) IP addresses to the cards for the conferencing session.

For SIP conferencing, domain names are required and therefore it is recommended to enter the details of the DNS server and the local domain name. The DNS is also used if SIP Server discovery is applied. The system decides whether to use the DHCP or the DNS server for auto-discovery with preference to the DNS server.

9. Define the following parameters:

Table 3-10: DNS Settings Options

Field	Description
<i>Use DNS Servers</i>	Select: <ul style="list-style-type: none"> • Off – DNS servers are not used in the network. • Specify – to manually set the IP address of the DNS servers. • Auto – to automatically detect the DNS IP address, if the DNS Server is defined in the DHCP and the <i>DHCP -obtain IP Address Automatically</i> option was selected in the <i>Settings</i> tab.
DNS Server Addresses	
<i>Primary DNS Server IP Address</i>	If <i>Specify</i> was selected, this field is mandatory. Enter the IP address of the primary DNS server.
<i>Secondary/Tertiary DNS Server IP Address</i>	If <i>Specify</i> was selected, enter the IP address(es) of the next DNS server in line to resolve domain names as a fallback for the primary DNS server. These fields are optional.
DNS Name	
<i>Local Domain Name</i>	Enter the domain name where the MCU is installed. The name of the domain includes the host part of URL or URI, for example, <i>polycom.com</i> .

10. Click **Next**.

The *H.323* dialog box opens.



This dialog box is skipped when defining a SIP-only Network Service.

11. Define the following parameters:

Table 3-11: H.323 Parameters

Field	Description
<i>Forwarding</i>	Select this check box to enable Forwarding. Forwarding enables the MCU to indicate the IP address of another card for handling the incoming call when the first card is busy. Note: It is not recommended to use Forwarding when using either Board Hunting or Pseudo Gatekeeper modes.

Table 3-11: H.323 Parameters (Continued)

Field	Description
Gatekeeper	
<i>Use Gatekeeper</i>	<ul style="list-style-type: none"> • Off – select this option if a gatekeeper is not present in your network. In this case, the MCU uses the IP addresses for dial out and the endpoints use the IP addresses of the MCU IP cards for dial-in. • Specify – to manually define the IP address of the preferred and alternate gatekeepers. • Auto – to retrieve the IP address of the preferred and alternate gatekeepers from the DHCP, if they are defined in the DHCP and the DHCP option is enabled.
<i>Preferred Gatekeeper IP Address or Name</i>	If you have selected <i>Specify</i> , enter either the gatekeeper's host name (if the DNS server is enabled and the gatekeeper is registered with the DNS), or IP address.
<i>Alternate Gatekeeper IP Address or Name</i>	If you have selected <i>Specify</i> , enter the host name or IP address of the alternate gatekeeper.
<i>Port</i>	Displays the port number (1719) used for communication between the MCU and the gatekeeper.
<i>Service Mode</i>	<p>Select the mode in which the gatekeeper routes calls from a card without free ports to the card with available resources. If there is no gatekeeper, calls that reach an IP card with unavailable resources is rejected, unless <i>Forwarding</i> is enabled.</p> <ul style="list-style-type: none"> • Basic [Least recommended] – Each IP card in the MCU registers independently with the gatekeeper. The H.323 endpoint dials directly to this card, using the cards alias as registered with the gatekeeper. The call is routed once to the MCU card. If the card has resources, the call is accepted, otherwise the call is rejected.

Table 3-11: H.323 Parameters (Continued)

Field	Description
<p><i>Service Mode</i> (cont.)</p>	<ul style="list-style-type: none"> • Board Hunting – In this mode, the MCU is registered with the gatekeeper using the Network Service prefix. In addition, all the IP cards that are defined in the same Network Service register with the gatekeeper with the same prefix. <p>When using the Network Service Prefix for dialing, the IP call that reaches the gatekeeper is forwarded to first available IP card on the MCU according to the cards registered with the gatekeeper for the Network Service whose prefix was used. In this mode, the dialed string must begin with the IP Service prefix and can be followed by the conference Numeric ID. For example: [H.323 prefix] [Conference/Meeting Room numeric ID/name].</p> <p>In a gateway call, the prefix can be followed by a Gateway Session Profile or by another format that can be read by the gateway: [H.323 prefix] [gateway service prefix] [gateway delimiter] [gateway information]</p> <p>Notes:</p> <ul style="list-style-type: none"> • This mode is dependent on the gatekeeper's implementation as the gatekeeper may not allow multiple registrations from different IP addresses. • Board Hunting is the default mode. It is not recommended to use Board Hunting with Forwarding. If both are selected, Forwarding overrides Board Hunting settings. • Register as a Gateway – Select this mode when using a Cisco gatekeeper. <p>In this mode the gatekeeper is defined as a gateway. A gateway prefix is usually manually registered with the gatekeeper and the IP cards use the same prefix to register with the gateway. With a Cisco gatekeeper that supports this mode, the MCU is registered as an H.320-gateway and it requires the dialing string to start with the prefix as with Board Hunting.</p>

Table 3-11: H.323 Parameters (Continued)

Field	Description
<p><i>Service mode</i> (cont.)</p>	<p>Note: In current Cisco implementations when there is more than one IP card in use, the gatekeeper selects one of the boards that are registered with the dialed string. Thus the system does not automatically forward the calls to an available card. To overcome this problem, combine <i>Register as a Gateway</i> with <i>Forwarding</i>. However, this method only works for defined dial-in participants.</p> <ul style="list-style-type: none"> • PseudoGatekeeper – Each IP card acts and is defined as a gatekeeper allowing Board Hunting to be performed. In PseudoGatekeeper mode, the IP cards are manually registered with the gatekeeper as neighboring gatekeepers. When the gatekeeper receives an Admission Request (ARQ) message from a participant looking for the conference alias, the gatekeeper will forward the request to all “neighboring gatekeepers” (IP cards) simultaneously. The first card that has enough resources to handle the call accepts the request. <p>Note: Gatekeepers often send a multicast LRQ message hoping that there is a gatekeeper that can help with the translation. Multicast LRQ messages are not handled by the MCU IP cards within the Pseudo Gatekeeper mode.</p> <ul style="list-style-type: none"> • PseudoGatekeeper-AVF – Applicable to the Avaya environment only.
<p><i>Prefix</i></p>	<p>Enter the same prefix that was defined for the MCU’s IP Network Service in the gatekeeper (if it was defined in advance) or that will be used to register the MCU in the gatekeeper later. This number is used as part of the dial-in string given to participants.</p> <p>Usually, one Network Service is defined for all IP cards to let the system automatically manage the resources allocated to conferences. In this case, the system finds the free cards from the pool of cards registered with the IP Network Service.</p>

Table 3-11: H.323 Parameters (Continued)

Field	Description
<i>Prefix (cont.)</i>	You can define several Network Services on the MCU with each one of them containing one or several IP cards. When a firewall is used, two IP Network Services are usually defined; one for the card that is connected to the external network and the other one that includes all the remaining cards (those connected to the internal network).
<i>Refresh H.323 Registration Every n Seconds</i>	Enter the frequency in which the system informs the gatekeeper that it is active by re-sending the IP address and aliases of the IP cards to the gatekeeper. If the IP card does not register within the defined time interval, the gatekeeper will not refer calls to this IP card until it re-registers. If timeout is set to 0, re-registration is disabled. Note: It is recommended to use default settings.

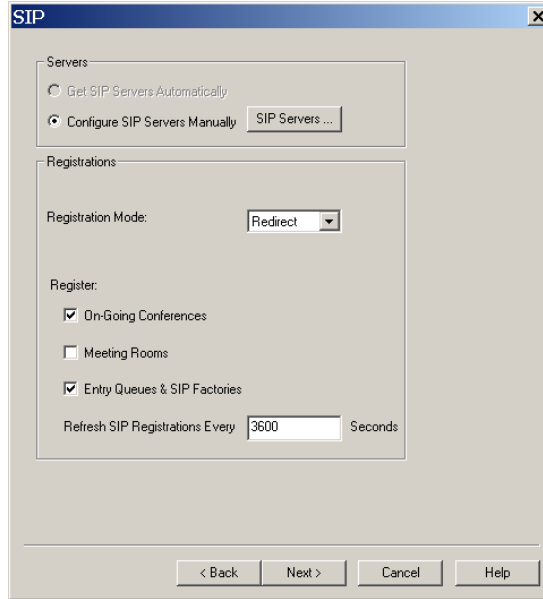
The following table describes the gatekeeper modes that can be configured with each of the listed gatekeepers.

Table 3-12: Gatekeeper Interoperability

Gatekeeper Modes/Types	Basic	Board Hunting	Pseudo Gatekeeper	Register as Gateway
<i>Radvision MGK-100</i>	+	+	+	+
<i>Radvision ECS</i>	+	+	+	+
<i>VCON MXM</i>	+	+	+	+
<i>Cisco MCM</i>	-	-	-	+
<i>PathNavigator</i>	+	+	+	+
	Shading indicates the preferred configuration mode			

12. Click **Next**.

The *SIP* dialog box appears.



This dialog box is skipped when defining an H.323-only Network Service.

13. Define the following parameters:

Table 3-13: *SIP Options*

Field	Description
Servers	
<i>Get SIP Servers Automatically</i>	Select this option to automatically retrieve the IP address of the SIP servers. This option is enabled if DHCP is enabled or if DNS is enabled and the local domain name is defined (as it is required for locating the SIP proxy). If both are enabled, DNS resolution precedes DHCP as it provides the most current information.

Table 3-13: SIP Options (Continued)

Field	Description
<i>Configure SIP Servers Manually</i>	Select this option to manually configure the SIP servers. After selecting this option click the SIP Servers button to access the manual configuration window. For detailed information see “To configure the SIP servers manually:” on page 3-39.
Registrations	
<i>Registration Mode</i>	<p>Select the mode in which the proxy will direct the incoming SIP call to the MCU's IP card that has resources to handle the call, based on the mode supported by the proxy. If all three methods are supported, select the required working method.</p> <ul style="list-style-type: none"> • Redirect – The conference registers with the proxy using the IP address of a specific IP card. The proxy directs the incoming call to the registered card. If the card has no available resources, the MCU returns to the proxy the IP address of the card that does have enough resources and the proxy redirects the incoming call to that IP card. • Forking – Each IP card is registered in the proxy with all the conferences. The proxy directs the incoming call to all cards simultaneously. The MCU ensures that only the card that has enough resources answers the call. • Polling – Each IP card is registered in the proxy with all the conferences and each card is assigned a priority per conference. The proxy directs the incoming call to one of the registered cards. If the card does not have enough resources, the call is rejected and the proxy redirects the call to the next card according to the card's priority. Usually, the load is distributed between the cards by registering the first conference with the first card, the second with the second card, and so on.

Table 3-13: SIP Options (Continued)

Field	Description
<i>Register OnGoing Conferences/ Meeting Rooms/ Entry Queues & SIP Factories</i>	<p>Select the conferencing entity to register with the proxy.</p> <p>In SIP conferencing, the Entry Queues, Meeting Rooms and conferences register with the SIP proxy. The endpoint calls the conferencing entity directly and not the card.</p> <p>Registering all the conferences with the proxy loads the proxy and the MCU as the registration is refreshed constantly (every x seconds). Therefore, it recommended to register only the Entry Queues and define all the conferences and Meeting Rooms as Entry Queue Access.</p> <p>Reservations are not registered.</p>
<i>Refresh SIP Registrations Every n Seconds</i>	<p>Enter the frequency in which the system informs the SIP proxy that it is active by re-sending the details of all conference types to the server. If the various conferences and Entry Queues do not register within the defined time interval, the SIP server will not refer calls to this conference/Entry Queue until it re-registers. If timeout is set to 0, re-registration is disabled.</p> <p>The default value is 3600 seconds (60 minutes).</p>

The following table lists the supported SIP Proxies and their Registration modes:

Table 3-14: Supported SIP Proxies and their Registration Modes

SIP Proxy	Registration Mode	Comment
Microsoft LCS 2003/2005	<ul style="list-style-type: none"> • Redirect 	Each IP card must be configured in the Static Routes table of the LCS.
Cisco	<ul style="list-style-type: none"> • Forking • Redirect 	
Alcatel	<ul style="list-style-type: none"> • Redirect • Forking 	

Table 3-14: Supported SIP Proxies and their Registration Modes (Continued)

SIP Proxy	Registration Mode	Comment
IPTTEL	<ul style="list-style-type: none"> Redirect Forking 	
Nextone	<ul style="list-style-type: none"> Redirect 	

14. To configure the SIP servers manually:
- Click the **SIP Servers** button.
The *SIP Settings* dialog box opens.

- Define the following parameters:

Table 3-15: SIP Settings Options

Field	Description
Transport	
<i>SIP Transport Type</i>	Select the protocol that is used for signaling between the MCU and the SIP proxy or the endpoints according to the protocol supported by the SIP proxy: UDP or TCP .

Table 3-15: SIP Settings Options (Continued)

Field	Description
SIP Servers	
<i>Preferred SIP Server</i>	Select: <ul style="list-style-type: none"> • Off – No SIP server is used. Dial-out option is available only when conference participants are defined by their IP addresses. • Specify – to manually define the SIP server.
<i>IP Address or Name</i>	If you have selected <i>Specify</i> , enter either the IP address of the preferred SIP server or its host name (if a DNS server is used).
<i>Port</i>	Enter the number of the TCP or UDP port used for listening. The port number has to match the port number configured in the SIP server. The default port is 5060.
<i>Domain Name or IP</i>	Conferences and Entry Queues can register to the proxy using the format <i>user@host</i> . For example, EQ1@polycom.com. When dialing to a conference or Entry Queue, the SIP server expects to receive the host either as domain name or as an IP address.
<i>Alternate SIP Server</i>	Off – No SIP server will be used in case of failure of the preferred SIP server. Specify – Select this option to manually define the SIP server that will be used as backup.
<i>IP Address or Name</i>	If you have selected <i>Specify</i> , enter either the IP address or its domain name (if a DNS server is used) of the Alternate SIP server.
<i>Port</i>	Enter the number of the TCP or UDP port used for listening, as for the Preferred SIP Server.
<i>Domain Name or IP</i>	Same as for the Preferred SIP Server.

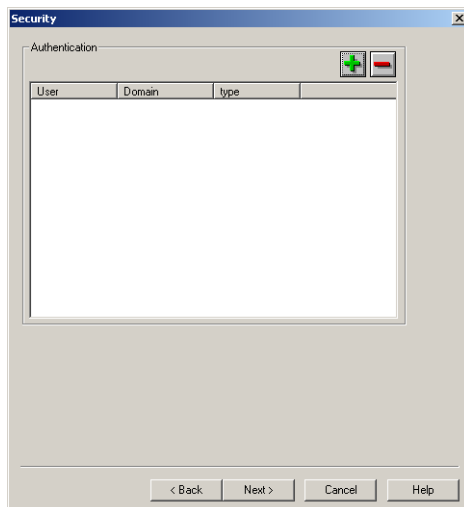
Table 3-15: SIP Settings Options (Continued)

Field	Description
Outbound Proxy	
<i>Outbound Proxy is different than SIP Server</i>	Select this check box if the outbound proxy is installed on a different computer than the one the SIP server is installed on.
<i>IP Address or Name</i>	If you have selected <i>Outbound Proxy is different than SIP Server</i> , enter either the IP address of the outbound proxy or its host name (if a DNS server is used).
<i>Port</i>	Enter the port number the outbound proxy is listening to. The default port is 5060.

- c. Click **OK**.
The *SIP* dialog box reappears.

15. Click **Next**.

The *Security* dialog box opens.



The *Security* dialog box lists the authenticated entities registered with the preferred proxy. The Authentication is done in the SIP server and can be skipped.

The *IP SPAN* dialog box opens.

This dialog box is used to define the IP card to which the IP network is connected and that should be used with this Network Service.

- b. Define the following fields:

Table 3-16: *IP SPAN* Options

Field	Description
<i>Circuit ID</i>	<p>The Circuit ID is the connection between the span and the card; it identifies the specific span and IP address with a number, which you use afterwards when assigning the Network Service to the IP card. Enter any whole number between 0 to 65535 as the circuit identification.</p> <p>When defining several spans (different cards) each should be assigned a unique Circuit ID number. The Circuit ID is used later to assign this Network Service to the IP card (see “Assigning Network Services to the IP/IP+ Cards” on page 3-50).</p>

Table 3-16: IP SPAN Options (Continued)

Field	Description
<i>IP Address</i>	The IP address of the IP card installed in the MCU. If the DHCP option is selected for this Network Service, this field is disabled, and shows the address 0.0.0.0, as the IP address will be retrieved from the DHCP.
<i>Communication Mode</i>	Indicates the data transmission rate and duplex mode. When set to <i>Auto</i> the system synchronizes the data transmission rate according to the network. You can also force the router to connect to the IP card installed in the MCU <i>Full Duplex</i> refers to the transmission of data in two directions simultaneously. <i>Half Duplex</i> refers to the transfer of data in only one direction at a time.
<i>Host Name</i>	The name of the computer on the domain network, and that will be added to the local domain name to identify the card by its host name, for example: IP1. If the local domain name is polycom.com, the card name will be IP1.polycom.com. A default host name is suggested by the system.
<i>Fixed Ports & NAT</i>	Click this button to configure the firewall ports and NAT traversal. For details on this option, see “Fixed Ports & NAT Options” on page 3-46.
H.323	
<i>Alias</i>	The alias by which the IP card is identified within the network. An alias must be entered when working with a gatekeeper. Up to five aliases can be defined for each IP card.

Table 3-16: IP SPAN Options (Continued)

Field	Description
Type	<p>The type defines the format in which the card alias is sent to the gatekeeper. Each alias can be of a different type:</p> <ul style="list-style-type: none"> • H.323 ID (alphanumeric ID) • E.164 (digits 0-9, * #) • URL ID (URL style address) • Transport ID (IP address: port number) • Email ID (email address format) • Party Number (identical to the E.164 format) <p>Note: Although all types are supported, the type of alias to be used depends on your gatekeeper's capabilities.</p>

- c. Click the **Fixed Ports & NAT** button to configure the NAT for each span—as each mapped IP should be known to the firewall—and the fixed signaling and media ports. Selecting Fixed Ports allows you to define the ports that are allocated in the firewall to multimedia (audio, video and data) conference calls.

Fixed Ports & NAT

Enable Fixed Ports

Number of calls:

Signaling (1 per call, TCP) To

Control (1 per call, TCP) To

Audio (2 per call, UDP) To

Video (4 per call, UDP) To

Data (5 per call, TCP) To

FECC (2 per call, UDP) To

When fixed ports are exhausted

Allocation ports dynamically

Reject

NAT Traversal

Use Span External Address: Off Specify Auto

External IP Address:

OK Cancel

- d. (Optional) Define the following fields.

Table 3-17: Fixed Ports & NAT Options

Field	Description
Enable Fixed Ports	
<i>Enable Fixed Ports</i>	Select this check box to enable the configuration of firewall ports used for signaling, control and media. If you are defining a service for local calls that do not require configuring the firewall to accept calls from external entities, leave this check box clear.
<i>Number of calls</i>	Enter the Number of Calls based on the predicted number of simultaneous incoming calls that require fixed port allocation and are handled by the network and MCU, up to the maximum that can be handled by the IP card (dependent on card type). If you exceed the maximum number of calls configured for the card an error message appears listing the call range that can be entered.
Port Range Definitions	<p>The following general instructions apply to the <i>Signaling, Control, Audio, Video, data</i> and <i>FECC</i> fields.</p> <p>Define the port ranges for each of the channels; enter the first port for each channel and the system automatically fills in the end of the assigned port range. The IANA recommended port range is 49152 to 65535.</p> <p>The network administrator configures the server and allocates firewall ports based the number of ports required for each media channel (13 in total) and the volume of incoming traffic via the firewall (the number of simultaneous calls).</p> <p><i>For example:</i> If each call is allocated 13 ports (Signaling - 1, Control - 1, Audio - 2, Video - 4, and Data - 5, for a total of 13 ports), and 6 simultaneous calls are to be handled by the network, the total number of ports that is required is 78 (6 x 13). If the first allocated port is 1025, then the last port will be 2003 (1025 + 78 = 2003).</p>

Table 3-17: Fixed Ports & NAT Options (Continued)

Field	Description
Port Range Definitions (cont.)	<p>In this example port number 1037 has not been allocated, as the starting range for audio and video port allocation has to be an even number. If an odd number is entered an error message appears to remind you of this requirement.</p> <p>Note: You can allocate the same port number to different channels provided the numbers are in two different protocols; one is in TCP and the other is in UDP. For example you can allocate port numbers 2000-2009 to the Signaling channel in TCP and ports 2000 -2002 to the Audio channel in UDP.</p>
<i>Signaling [TCP]</i>	<p>Define the ports used for transferring call setup messages. After you enter the first port in the range, the system automatically fills in the last port in the range according to the total number of calls.</p>
<i>Control [TCP]</i>	<p>Define the ports used for control messages (setup, maintenance, and teardown of sessions). After you enter the first port in the range, the system automatically fills in the last port in the range.</p>
<i>Audio [UDP], Video [UDP]</i>	<p>Define the ports used for audio and video channels. After you enter the first port in the range, the system automatically fills in the last port in the range.</p>
<i>Data [TCP]</i>	<p>Define the ports used for transferring data packets: file transfer, whiteboard, and application sharing. The recommended port range is 49152 to 65535. After you enter the first port in the range, the system automatically fills in the last port in the range according to the total number of calls.</p>
<i>FECC [UDP]</i>	<p>Define the ports used for FECC. After you enter the first port in the range, the system automatically fills in the last port in the range.</p>

Table 3-17: Fixed Ports & NAT Options (Continued)

Field	Description
When fixed ports are exhausted	<p>Selecting one of the following options defines the card behavior when all allocated ports in the firewall are exhausted when the initial number of predicted calls is exceeded.</p> <ul style="list-style-type: none"> • Allocation ports dynamically - to allocate any of the available ports in the firewall to calls that exceed the number of predicted simultaneous calls. These ports may not be secured. • Reject - to reject any request to open additional ports and the call will be rejected.
NAT Traversal	
<i>Use Span External Address</i>	<p>Define the method in which the public IP address is mapped to the IP card's internal address:</p> <p>Off – No external IP address will be used. Select this option for local calls.</p> <p>Specify – Select this option to manually define the IP card's public IP address.</p> <p>Auto – The IP card's public IP address is automatically retrieved from the HTML Answer of the external server. http://videovideo.polycom.austin.com.</p> <p>The automatically retrieved IP address appears in the <i>IP Card Settings-IP-Network Parameters</i> tab.</p>
<i>External IP address</i>	<p>If you selected <i>Specify</i>, enter the IP card's public IP address.</p>

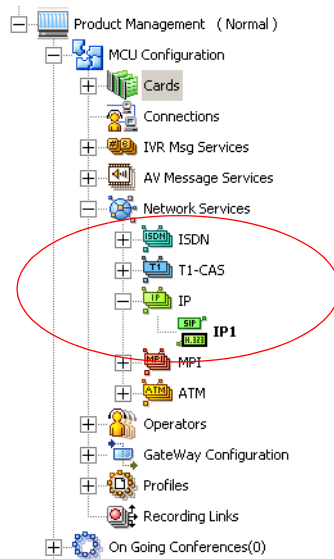


Notes: For a complete port configuration you define both the fixed ports (signaling, media, etc.) and the relevant reserved ports. Make sure that the following IANA registered ports have been opened as part of your firewall's definitions:

- Port # 1720 – H.323 standard signaling port
- Port # 1719 – H.323 gatekeeper port
- Port # 1503 – T.120 port for incoming connections
- Port # 5060 –SIP standard signaling port





18. Click **OK** to return to the *Span* dialog box.
The new span is added to the *Spans* table.
19. In the *Spans* dialog box, click **Finish** to complete the IP Network Service definition.

The new network service is added to the IP Network Services list.



The following icons are used to indicate the Network Service types:

Table 3-18: IP Network Service Icons

Icon	Description
	The Network Service supports both SIP and H.323 connections.
	The Network Service supports only H.323 connections.
	The Network Service supports only SIP connections.
	The Network Service supports only ISDN connections.

By default, the first IP Network Service you define is set as the system default. When defining additional IP Network Services this default can be changed. For more details, see the *MGC Administrator's Guide, Chapter 3*.

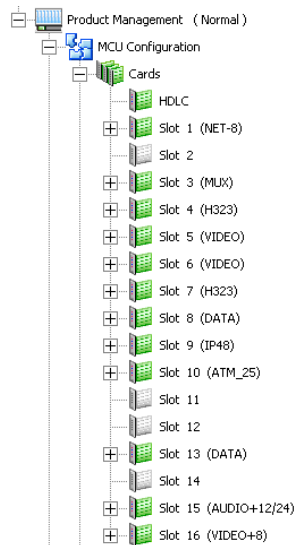
Assigning Network Services to the IP/IP+ Cards

For each IP card installed in the MCU, you need to define which Network Service is used, thereby defining the network properties connected to that card. Usually, one Network Service is used for all IP cards, enabling the MCU to automatically manage the conferencing resources.

The association between the network properties and the IP cards is done in two stages. In the first stage, while defining the IP Network Service, you add all the IP cards that can use this Network Service. In the second stage, you define for each IP card which Network Service it uses to manage conferencing calls.

To assign IP service settings to the IP card:

1. In the *Browser* area, expand the *MCU* tree.
2. Expand the *MCU Configuration* tree.
3. Expand the *Cards* tree.



4. Double-click the IP card.
Alternatively, right-click the IP card icon, and then click **Properties**.
The *Card Settings-Common Parameters* dialog box opens.
The **Common Parameters** tab is for viewing purposes only.
5. Click the **IP-Network Parameters** tab.

The screenshot shows the 'Card Settings' dialog box with the 'IP-Network Parameters' tab selected. The 'Ethernet Span' section is expanded, showing 'Circuit ID' set to '0' and the 'Null Configuration' checkbox checked. The 'IP Parameters' section shows 'IP Address', 'Subnetwork mask', and 'Default router IP Address' all set to '0.0.0.0'. The 'DHCP' section shows 'State' as 'Unknown' and 'Server IP Address' as '0.0.0.0'. The 'NAT Traversal' section shows 'External IP Address' as '0.0.0.0'. The bottom section lists software versions: Stack Controller Software Version (0.00.720), RTP processors Software Version (0.00.715), XILINX Software Version (0.00.2), and STIC Software Version (0.00.0). Buttons for 'OK', 'Cancel', and 'Apply' are at the bottom.

6. In the **IP-Network Parameters** tab clear the **Null Configuration** check box to enable assignment of the IP Network Service.
7. In the **Circuit ID** box enter the circuit ID that was defined for this card in the *IP Network Service—Spans* dialog box. For additional information on circuit IDs see “IP SPAN Options” on page 3-43.
8. Click **Apply**.

The name of the IP Network Service is displayed in the *Service Name* field.

About Conferences

Different conference types are available according to their initiation modes: reservationless conferences and scheduled conferences.

On-Demand (Reservation-less) Conferencing

Reservation-less conferencing enables participants to immediately start and connect to an On Going Conference from their endpoint, with no advanced scheduling. The MGC Manager offers two methods for Reservation-less conferencing:

- Ad Hoc Conferencing
- Meeting Rooms

Ad Hoc Conferencing

In Ad Hoc conferencing, participants connect to an Ad Hoc-enabled Entry Queue. An Entry Queue is a special routing lobby to which one or several dial-in numbers are assigned. The participants are prompted for the destination conference Numeric ID. If no conference with a matching Numeric ID is running, but the participant is authorized to create a conference, the system creates a new On Going Conference. The new conference is created according to the conference parameters defined in a Profile assigned to the Entry Queue. All other participants connect directly to the newly created conference. With this method, only the conference Profile is created once and is used repeatedly to create numerous conferences.

This conferencing method is often used to globally enable all employees in an organization to start On Going Conferences from their endpoints, without having to define the conference parameters for each employee and for each conference.

When authentication with external database application is configured for the Entry Queue and for the conference, the MCU verifies with the external

database application whether a conference with a specific Numeric ID may be started. This is the method used with Windows Messenger and Office Communicator to initiate multipoint Video or Audio conferences.

For more information about Ad Hoc conferencing, see the *MGC Manager User's Guide, Volume II, Chapter 3*.

Meeting Rooms

Meeting Rooms are conferences created once, with no starting date or time, no reserved resources and it can be activated as many times as required. The Meeting Room remains in passive mode until the first participant connects to it and activates the conference. To start the conference you simply let the participants know the start date and time, dial-in number and the Numeric ID of the conference. No prior booking is required. The conference returns to passive mode once the conference ends and remains in the MCU memory until the next activation. In this mode, a Meeting Room is usually defined for each of the employees in your organization. This may require tedious work when your organization includes many employees, and it also loads the MCU memory with all the saved Meeting Rooms.

Scheduled Conferences

You can define a conference to start at a certain date and time or to start immediately. Scheduled conferences run once and are then deleted from the MCU memory. For scheduled conferences, the MCU reserves resources for the conference participants, provided the participant endpoints are defined during the conference definition. You can define conferences without defining their participants and let participants connect to the conference as long as there are resources available.

Video Conference Attributes

There are four general types of video conferences:

- **Video Switching** - A conference in which all participants use the same video and audio formats. Whenever a participant starts to speak, the participant appears on all endpoints in full screen display as the conference is a voice activated video switching conference.
- **Transcoding** (requires Video card) - A conference in which participants use different video, audio and data formats, while maintaining the highest video and audio capability each participant can achieve with his or her codec. Like video switching, the current speaker is displayed on all endpoints in full screen.
- **Continuous Presence** (requires Video card) - A conference in which several participants can be viewed simultaneously. In this type of conference, the highest video, audio and data quality for each participant depends on the participants endpoint capabilities.

In a traditional Continuous Presence conference, each participant uses a different video port on the Video card. This method enables such features as full Transcoding per participant, Personal Layouts (individualized Continuous Presence layouts per participant) and maintenance of overall video and audio quality for the conference—even when participants with lower capabilities connect. However, this method limits the number of Continuous Presence participants to the number of ports on the Video card, which is six.

- **Conference On Port** (requires Video card) - A conferencing method suitable for large Continuous Presence conferences or when several Continuous Presence conferences are running on the MCU.

In Conference On Port, all conference participants use a single video port. This method allows for more than six participants to join a Continuous Presence conference and allows for up to six Continuous Presence conferences to be run on the MCU.

In a Conference on Port conference, a video layout can be selected for the conference, but all the participants, including the speaker, view the same layout and the same participants. The Personal layout selection is not available in Conference on Port and the video quality is determined by the highest common video parameters and by the video line rate.

Entry Queue

An Entry Queue is a special routing lobby that is used for routing participants to their target conference. One or several dial-in numbers are assigned to the Entry Queue, and they are used by callers to all conferences. Once callers are connected to the Entry Queue, they are routed and connected to the target conferences if they provide the appropriate conference IDs and passwords (optional). Both Video and Audio Only conferences can be accessed from an Entry Queue. For information about defining an Entry Queue, see Chapter 6, “Defining a New Audio Only Entry Queue” on page 6-1 or see Chapter 7, “Defining a New Video Entry Queue” on page 7-1.

Basic Operations

This chapter describes how to start, monitor and manage On Going Conferences.

Reservation Templates

A Reservation template includes the conference parameters, such as the conference media (audio, video), video session, line rate, video protocol and other video parameters, IVR Service and more. The reservation can include the conference participant parameters.

Default Reservation Templates

There are five default Reservation templates installed with the MGC Manager:

- **Video-Switch**: Video Switching at 384 Kbps
- **SW CP**: Software Continuous Presence (IP) at 384 Kbps
- **Default-Audio**: Audio Only with default IVR Service
- **Default_Video**: Continuous Presence Conference at 384 Kbps
- **Default_COP**: Conference On Port at 384 Kbps



In order to run a **Default_Video** or **Default_COP** conference, the Video+ card and MCU Version 5.6 or later must be installed in your system.

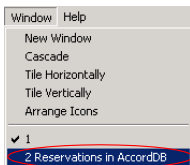
Using the default Reservation templates, you can schedule a conference to start immediately (On Going Conference), or to start automatically at a predefined date and time (Reservation).

Starting a Conference

You can start an On Going Conference from one of the default Reservation templates provided with the system or you can define a new On Going Conference. For more details about defining new conferences, see *MGC Manager User’s Guide*, Chapter 4, “Defining a new Audio Only Conference” or *MGC Manager User’s Guide*, Chapter 4, “Defining a New Video Conference”.

To start an On Going Conference from a default Reservation template:

1. Connect to an MCU. For more details, see “Connecting to an MCU” on page 3-11.
2. The *Default* folder in the *Reservations Database* window opens automatically when you open the MGC Manager. Otherwise, access this window by clicking **Reservations in AccordDB** from the *Window* menu.



The *Reservations Database* window opens.

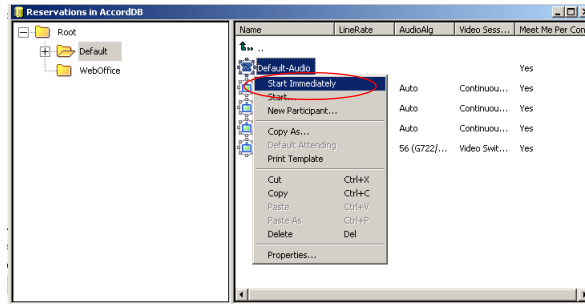


If the *Reservations in Database* window did not appear automatically and is not included in the Window menu options, reopen this window using the login procedure described in *MGC Manager User’s Guide*, Volume 1, Chapter 3 “MGC Manager Basics”.

You can move the *Reservations in Database* window by dragging the blue title bar. You can also resize the window by clicking an edge and dragging it.

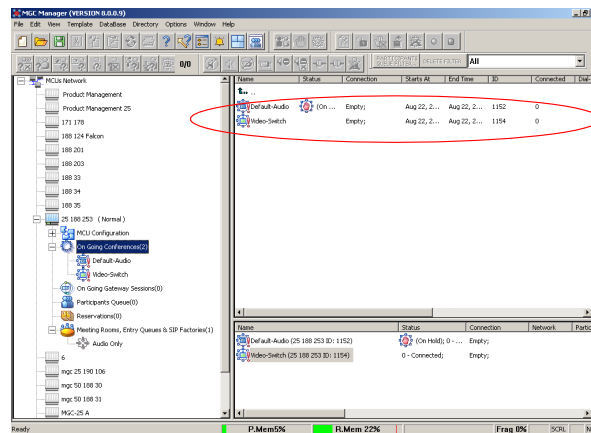
3. In the *Reservations in Database* window, expand the *Default* folder to display the list of default Reservation templates.

- Right-click the icon of the *Reservations in Database* template and click **Start Immediately**. If more than one MCU is connected, select the name of the MCU to run the conference from the pop-up list.



If the MGC Manager application is connected to several MCUs, select the MCU name as well as the reservation template.

The conference begins and appears in the list of On Going Conferences.



If no participants were defined in the Reservation template, the conference starts but contains no participants.

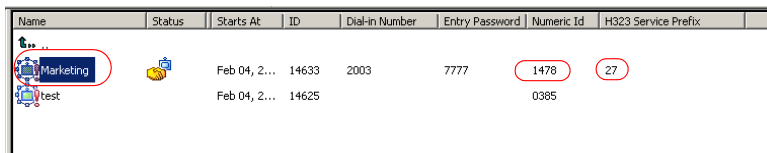
Viewing the Conference Dial-in Properties

The dial-in numbers and passwords needed to enter a conference, including IP Network Prefixes and Numeric IDs appear in the MGC Manager *Status* pane.

To view the list of On Going Conferences and their dial-in numbers:

- Expand the *MCU* tree, and then click the *On Going Conferences* icon.

The list of On Going Conferences with their Numeric IDs and dial-in numbers are displayed in the *Status* pane.



Name	Status	Starts At	ID	Dial-in Number	Entry Password	Numeric Id	H323 Service Prefix
Marketing		Feb 04, 2...	14633	2003	7777	1478	27
test		Feb 04, 2...	14625			0385	

In some configurations, the ISDN/PSTN number is truncated by the PBX, and you must add the appropriate prefix to the dial-in number that is displayed in the *Status* pane.

Connecting to a Conference/Entry Queue

Defined dial-in participants can connect to any conference by dialing the conference dialing string (ISDN, H.323 or SIP). The MCU identifies their CLI or IP address (as defined in the participant properties) and routes them to the appropriate conference. Dial-out participants must be defined in the conference.

Undefined participants can connect directly to conferences defined as Meet Me per Conference or Meeting Room by dialing its dial-in string. If required, the participants enter the conference password before joining the conference.

Undefined participants can also connect to a single-dial Entry Queue to access conferences. The dialing methods are the same as for the conference. Once participants connect to the Entry Queue, they are routed to their conference according to the conference numeric ID or password that they enter.

In the default templates, just the Audio Only template is defined with *Entry Queue Access*. To create a new video conference with *Entry Queue Access*, see Chapter 7, “Creating an On Going Video Conference” on page 7-6.

Dialing-in to a Conference/Entry Queue

Undefined dial-in participants can access the conference using the following methods:

ISDN/PSTN Participants

Audio Only and ISDN Video participants dial the conference/Entry Queue ISDN dial-in number, as assigned to the conference by the operator or automatically by the MCU. The dial-in number can be viewed in the MGC Manager Status pane.

H.323 Participants

When a gatekeeper is present, H.323 participants dial: the [IP Network Service Prefix] and [conference/Entry Queue Numeric ID or name] for example, if the Network Service prefix is **925** and the Conference Numeric ID is **1222**, participants will dial **9251222**. If participants dial only the Network Service Prefix, or if the wrong numeric ID is dialed, participants will be automatically routed to the default Entry Queue if one is defined. For more information about the IP Network Service Prefix, see Chapter 3.

For example, if the IP Network Service prefix is 27, the conference Numeric ID is 1478 and the conference name is 'MARKETING', the participant can dial 271478 or 27MARKETING. If the Entry Queue name is EQ1 and its numeric ID is 3000, the participant can dial 273000 or 27EQ1 to access the MR. If only 27 is dialed, participants are be routed to the default Entry Queue (if one is defined).

When no gatekeeper is present, H.323 participants dial the IP address of the MCU's IP card, followed by ## and the conference/Entry Queue Numeric ID. For example, if the IP card address is 172.22.190.162, participants will enter 172.22.190.162##1478 to access the conference, or 172.22.190.162##3000 to access the Entry Queue.

If no Entry Queue /conference numeric ID or if the wrong numeric ID is entered, participants are be routed to the default Entry Queue (if one is defined). If no default entry queue is defined in the system, the call is disconnected.

SIP participants

When a new conference reservation or Entry Queue is defined the conference or Entry Queue registers with the SIP proxy.

SIP participants dial the conference/Entry Queue URI using the format: Conference or Entry Queue name@domain name.

For example, MRO1@polycom.com, or EQ1@polycom.com.

Usually for SIP conferencing, an Ad Hoc Entry Queue is used. In this scenario, the first participant dials the Entry Queue and creates a new conference, while the other conference participants dial directly to the conference using the conference name or Numeric ID.

When dialing from a Microsoft Windows Messenger endpoint that does not have DTMF capabilities, the first participant (who creates the new conference in Ad Hoc Conferencing) enters the Entry Queue name followed by the target conference name and the numeric ID in the format:

EQ Name (Target Conference Name)(Target Conference Numeric ID).

For example, **EQ1(sales)(12345)**. In this example, the Entry Queue name is **EQ1**, and a new On Going Conference by the name **sales** with the Numeric ID **12345** will be created on the MCU.



You do not need to add the domain name to the conference name, as it is automatically added by Microsoft Windows Messenger when the request is sent to the SIP server.

Monitoring On Going Conferences

You can monitor conferences and perform various operations while conferences are running.

Monitoring involves viewing the status of On Going Conferences and the status of their participants.

Three levels of monitoring are available with the MGC Manager:

- *General Monitoring* - You can monitor the general status of all the On Going Conferences and their participants in the MGC Manager main window.
- *Conference Level Monitoring* - You can view additional information regarding the conference using the *Conference - Properties* option.
- *Participant Level Monitoring* - You can view detailed information on the participant's status using the *Participant - Properties* option.

When an operator is available to attend participants, you can view the status of participants in the *Participants Queue* window. For more information about the *Participants Queue*, see the *MGC Manager User's Guide, Volume I, Chapter 8*.

Operations can be performed at the conference level or at the participant level. For example, you can terminate a conference before its scheduled ending or you can extend its duration. You can also disconnect an individual participant while the conference is in progress, or temporarily mute transmission to and from a site so that the other participants can hold a private discussion. You can also connect dial-out participants during the conference and add a new participant while the conference is in session.

General Monitoring

Monitoring a conference enables you to keep track of its participants and its progress. When monitoring a conference, you can check whether all its participants are correctly connected and whether errors and faults have occurred.

The MGC Manager allows you to monitor several On Going Conferences simultaneously. The On Going Conference information is easily available and clearly represented.

Monitoring a Conference

When you click a conference icon, the conference appears in the *Status* pane. However, to get more details regarding the conference and participants statuses or to monitor several conferences simultaneously, it is advised to monitor the conferences in the *Monitor* pane.



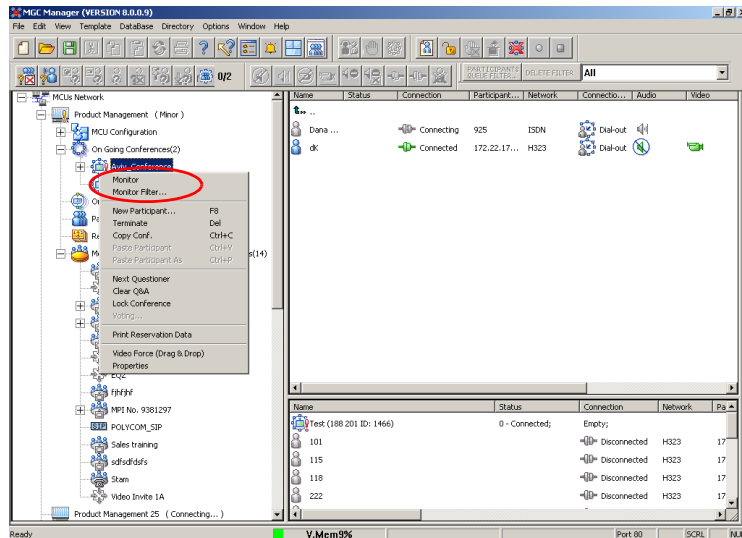
Automatic Monitoring of conferences is available. For details, see the *MGC Manager User's Guide, Volume I, Chapter 5*.

You can display the list of On Going Conferences in the *Status* pane so you can view their dial-in numbers and Numeric IDs while monitoring the conferences with their participants in the *Monitor* pane.

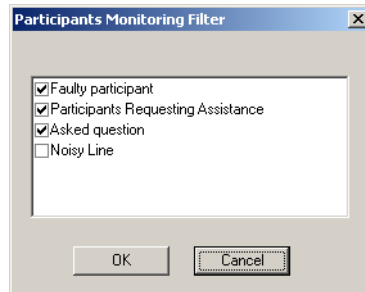
Displaying the conference and participants statuses in the *Monitor* pane:

1. Expand the *MCU* tree.
2. Expand the *On Going Conferences* tree.
3. In the On Going Conferences list, right-click the conference to monitor, and then click **Monitor** to view all the conference participants in the Monitor pane.

Alternatively, on the conference right-click menu, click **Monitor Filter** to view only participants of the selected filtering status.



The *Participant Monitoring Filter* dialog box opens.

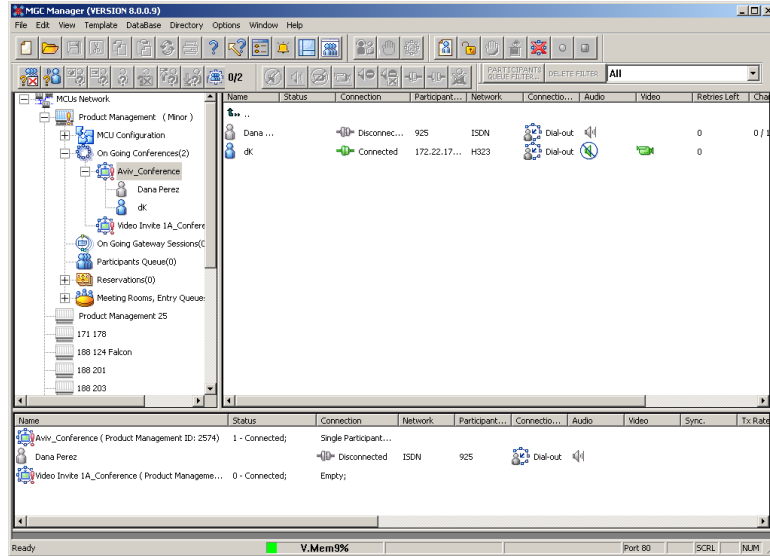


4. Select the appropriate check boxes that indicate the statuses to monitor. The following statuses may be selected:

Table 5-1: Participant Statuses to be Monitored

Filtering Option	Description
<i>Faulty participant</i>	Participants who have problems connecting to the conference.
<i>Participants Requesting Assistance</i>	Participants who have requested the operator's assistance and have yet to be assisted by the operator.
<i>Asked question</i>	Participants who wanted to ask questions, were added to the Question-and-Answer Queue and are now waiting for their turn to ask a question.
<i>Noisy Line</i>	Participants who the MCU detected as having noisy lines.

The conference and participant details appear in the *Monitor* pane.



The *Status* and *Monitor* panes take the form of a table. Each row represents a conference or a participant. Each column represents a parameter that is being monitored. The *Conference Name*, *Status*, *Phone#*, *Connection Type*, *Retries Left*, *Channel#* and *Bonding* fields also appear in the *Status* pane.



You can modify the order of columns in the *Monitor* and *Status* panes by moving the column heading(s) to the desired location in the table header. The data in the *Monitor* and *Status* tables can be sorted according to a selected column. Clicking on a column heading sorts the table data in descending order. Clicking on the same column heading a second time sorts the data in ascending order.

Additional information about monitoring participants and conferences is described in the *MGC Manager User's Guide, Volume I, Chapter 5*.

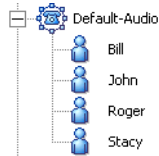
Listing Participants in the Browser and Status Panes

You can view the list of participants currently connected to the conference in the *Browser*, *Status* and *Monitor* panes.

To view the list of participants in the *Browser* pane:

1. Expand the *On Going Conferences* or *Reservations* tree.

- Expand the On Going Conference or Reservation to list its participants. The participants are listed below the conference or Reservation.



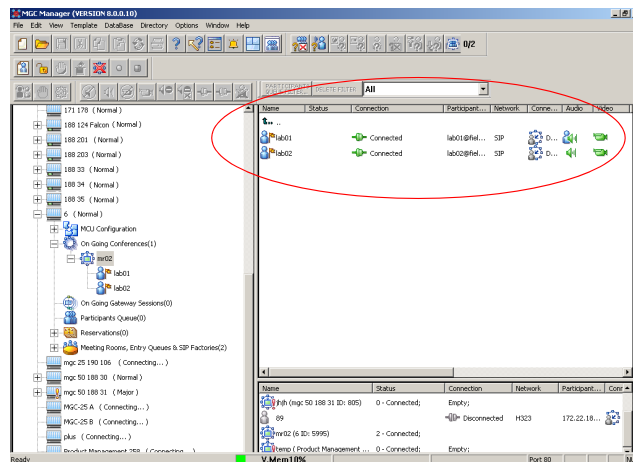
Different icons are used to indicate the participant roles and their connection status. For details, see the *MGC Manager User's Guide, Volume I, Chapter 5*.

To list the participants in the *Status* pane:

- Expand the *On Going Conferences* or *Reservations* tree.
- Double-click the icon of the On Going Conference or Reservation whose participants you want to list. The participants are listed in the *Status* pane.

To list the participants in the *Status* pane:

- Expand the *On Going Conferences* or *Reservations* tree to display the list of On Going Conferences or Reservations.
- Double-click the icon of the On Going Conference or Reservation whose participants you want to list. The participants are listed in the *Status* pane.

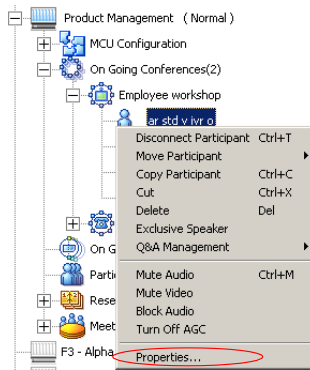


Participant Level Monitoring

In addition to the data that appears in the *Status* and the *Monitor* panes, you can view detailed information about the connection parameters and status of each of the conference participants. This is especially useful if there is a problem during the connection of the participant to the conference.

To check the properties of a participant:

- In the *Status* pane, the *Browser* pane or the *Monitor* pane, double-click the participant icon. Alternatively, right-click the participant icon, and then click **Properties**.



The *Participant's Properties* dialog box opens, displaying the following tabs: *Identification*, *Advanced*, *Connection Info1*, *Connection Info2*, *Resource Details*, *Disconnection Cause*, *H221 (ISDN)/H245 (IP)* and *Video Sources*. These tabs contain information that is relevant only to the participant's status while the conference is running and are mainly used for monitoring when there are connection problems.

The Participant Properties can be displayed for all connected participants or disconnected defined participants. Undefined dial-in participants who disconnect from the conference are removed from the *Participants* list and cannot be monitored.

For a description of these tabs, refer to the *MGC Manager User's Guide, Volume I, Chapter 5*.

Operations Performed During On Going Conferences

The following operations can be performed during On Going Conferences:

- Adding a new participant to a conference
- Connecting/Disconnecting participants
- Muting/Unmuting participants
- Locking/Unlocking the conference
- Changing the conference duration
- Terminating the conference manually
- Changing the Video Layout in a Continuous Presence conference

Additional operations performed during On Going Conferences are described in the *MGC Manager User's Guide, Volume I, Chapter 6*.

Adding a Participant to a Conference

Defining Dial-out Participants

You can manually add dial-out participants to the conference.

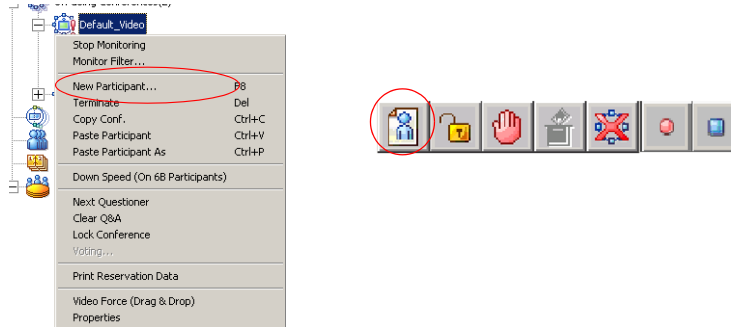
The participant properties change according to the participant type and network connection.



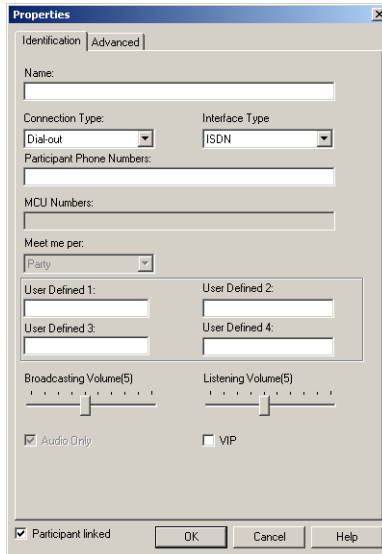
The following procedure assumes that the default participant parameters will be used. Therefore, only the parameters that you must define are described here. For a detailed description of the all participant parameters, refer to the *MGC Manager User's Guide, Volume I, Chapter 4*.

To add a new participant to a Conference:

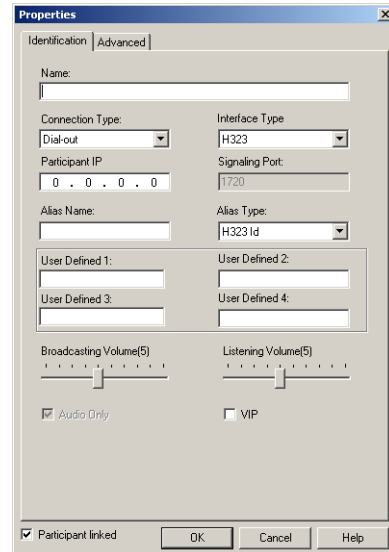
1. List the On Going Conferences.
2. Right-click the icon of the conference to which to add a participant, and then click **New Participant**. Alternatively, click the conference icon, and then click the **New Participant** button on the *Conference Toolbar*.



The *Properties - Identification* dialog box opens.



ISDN/Telephone Participant



H.323 (VoIP) Participant

The screenshot shows the 'Default-Participant Properties' dialog box with the 'Advanced' tab selected. The 'Name' field contains 'Default-Participant'. The 'User Identifier String sent to Recording system' field is empty. The 'Connection Type' is set to 'Dial-out' and the 'Interface Type' is set to 'SIP'. The 'Participant IP' is '0.0.0.0' and the 'Signaling Port' is '5060'. The 'SIP Address' field is empty. The 'Address Type' is set to 'SIP URI'. There are four 'User Defined' fields, all empty. The 'Broadcasting Volume(5)' and 'Listening Volume(1)' sliders are visible. The 'Audio Only' checkbox is checked, and the 'VIP' checkbox is unchecked. At the bottom, there are buttons for 'Save Participant', 'OK', 'Cancel', and 'Help'.

SIP Participant



The *Identification* parameters change according to the selected *Interface Type*.

3. In the *Name* box, enter the participant's name.
4. For video participants using H.221 aggregation, enter the phone numbers separated by semicolons.
For example, for a 2B participant: 9251921;9251922. If using Bonding (both numbers are the same), enter the number once. Example: 9251921.
5. In the *Connection Type* box, select **Dial-out** if the MCU/operator calls the participant.
6. In the *Interface Type* box, select the Network Protocol used to connect the participant to the conference: **ISDN**, **H.323** or **SIP**.
7. Define the participant properties as follows:
 - a. If you are defining an **ISDN** participant:
In the *Participant Phone Numbers* box, enter the participant's number.

- b. If you are defining an **H.323** participant:
In the *Participant IP* box, enter the IP address of the participant's endpoint.

Alternatively, in the *Alias Name* field, enter the Alias of the endpoint as registered with the gatekeeper and then select the Alias Type. Only H323 ID (digits and letters) and E.164 (only digits) are supported. Use this option if a gatekeeper is defined in the H.323 Network Service.

- c. If you are defining a **SIP** participant:
In the *SIP Address* box, enter the endpoint address in the format: *[user name]@[domain]*.
Note that the SIP URI adheres to URI rules: no spaces or special characters such as commas, quotation marks, inverted tags and so forth in either the name or the domain part.

8. In the *User Defined* fields, enter general information about the participant, if required.
9. If you are defining an *Audio Only* participant, click the **Audio Only** check box. If you are adding a participant to an Audio Only conference, this option is automatically selected and cannot be cleared.
10. The system is set to automatically save the participant to the local data base. Clear this check box to cancel the save operation.
11. Click **OK** to add the participant to the conference.

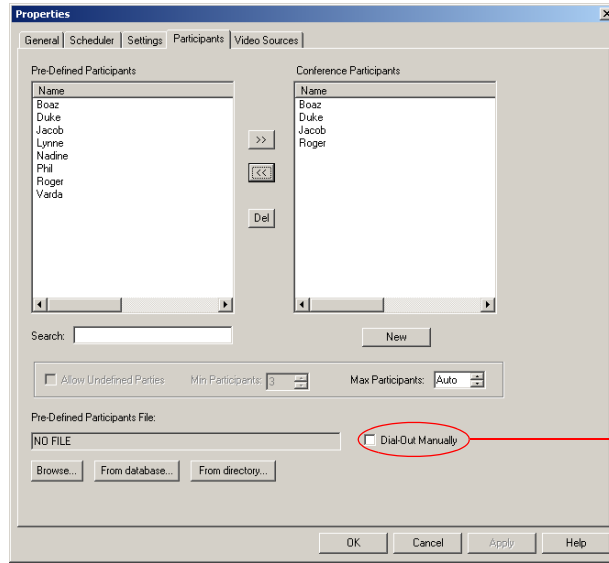


If you add a participant who has the same name, phone number or IP address of another participant in a concurrent conference, the *Participants Scheduling Conflicts* window opens. For details, see the *MGC Manager User's Guide, Volume 1, Chapter 4*.

To add a pre-defined participant to a conference:

1. Expand the *MCU* icon to display its options.
2. Double-click the *On Going Conferences* icon, right-click the name of the desired conference, and then click **Properties**.
The *Conference Properties* dialog box opens.

3. Click the **Participants** tab to add participants to the conference. The *Properties - Participants* dialog box opens.



Select this check box to designate an operator- controlled dial-out conference connection.

4. In the *Pre-Defined Participants* list, select the participants to add and then click the >> button.
5. Alternatively, you can define a new participant by clicking the **New** button.

Making Dial-Out Connections

When the *Dial-Out Manually* option is selected for the conference, the operator connects the dial-out participants to the conference. Also when a participant is disconnected from the conference, you can reconnect the participant to the conference.

To manually establish a Dial-out connection:

- In the *Monitor* pane, *Status* pane or *Browser* pane, right-click the participant icon, and then click **Connect Participant**.

Alternatively, click the *Participant* icon, and then click the **Connect** button on the *Participant Toolbar*.



You can connect several participants in one operation using the standard Windows conventions for multiple selection.

During the connection attempt, the participant status changes to *Connecting* in the *Connection* column and then changes to *Connected* once the participant's connection is established.



The MCU can be configured to automatically reconnect participants who were accidentally disconnected from the conference. For more details, see the MGC Administrator's Guide, chapter 5.

Disconnecting Participants

When a participant does not need to continue in a conference, you can disconnecting or delete the participant.

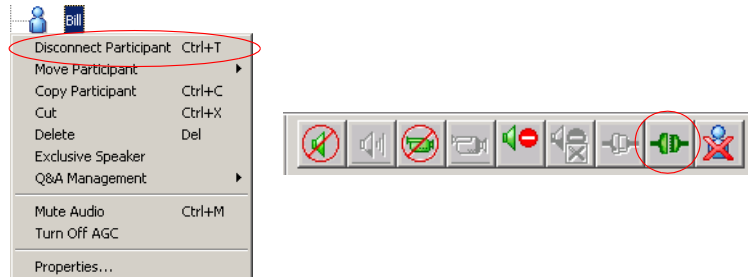
When you disconnect a participant, the resources assigned to the participant remain allocated and the participant's parameters remain in the system memory. This allows you to reconnect the participant if necessary.

Deleting a participant completely removes the participant's definition from the conference and releases the resources allocated to the participant. Therefore, to reconnect a participant who was deleted from the conference, you have to re-define the parameters as if he/she were a new participant.

To disconnect a participant:

- In the *Monitor* pane, *Status* pane or *Browser* pane, right-click the participant icon, and then click **Disconnect Participant**.

Alternatively, click the *Participant* icon, and then click the **Disconnect** button on the *Participant Toolbar*.

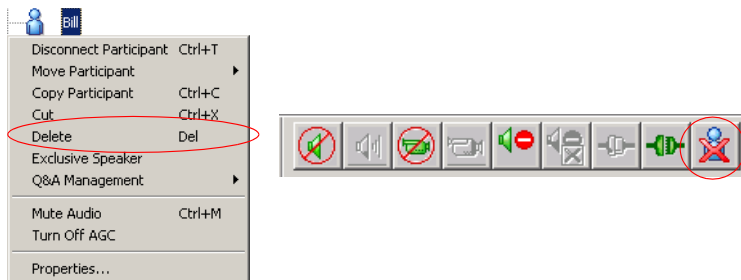


The participant is disconnected from the conference. The connection icon changes to disconnected and the indication *Disconnected* appears in the *Connection* column.

To delete a participant:

1. In the *Monitor* pane, *Status* pane or *Browser* pane, right-click the participant icon, and then click **Delete**.

Alternatively, click the *Participant* icon, and then click the **Delete** button on the *Participant Toolbar*.



A confirmation dialog box appears.

2. Click **YES** to confirm, or **NO** to cancel the operation.

Muting a Participant

Occasionally, a conference organizer may want to silence the audio and video channel of a particular participant from part of an On Going Conference.

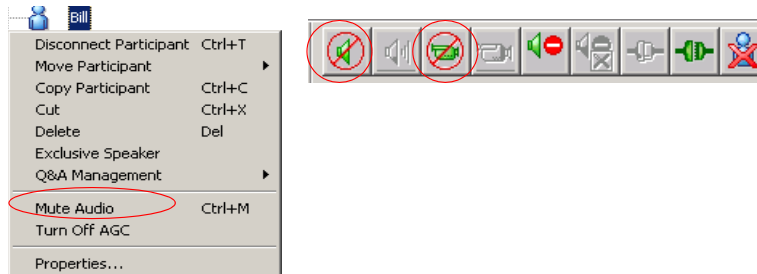
The MGC Manager enables you to mute a participant's audio and/or video signals. A participant whose audio or video signal is muted hears and sees the other participants. However, the other participants cannot hear or see the muted participant.

Alternatively, participants' audio and video signals can be muted from their own codecs, through the endpoint's application.

To mute a participant using MGC Manager:

- In the *Monitor* or the *Status* pane, right-click the participant icon, and then click **Mute Audio** to mute the audio signal, or click **Mute Video** to mute the video signal.

Alternatively, click the *Participant* icon and then click the **Mute Audio** button or **Mute Video** button on the *Participant Toolbar*.



The menu changes to *UnMute Audio*, or *UnMute Video* (respectively).

The appropriate Audio  or Video  icon appears in the *Audio* or *Video* columns of the *Monitor* and *Status* panes.

For information about additional muting options, refer to the *MGC Manager User's Guide, Volume I, Chapter 6*.

Locking and Unlocking a Conference

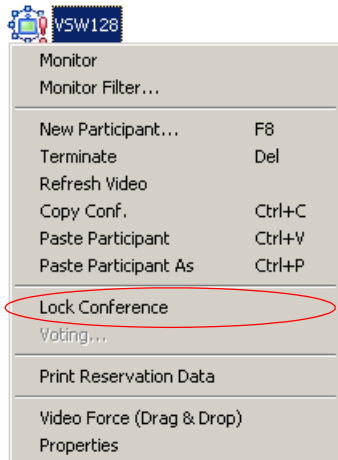
You can lock or unlock On Going Conferences and thus control access of undefined dial-in participants to these conferences. The Lock/Unlock option is dynamic and can be applied any time before or during the conference. This feature is used to:

- Limit the number of undefined dial-in participants connecting to the conference in order to save resources.
- Prevent other participants from connecting to the conference once all the required participants have already been connected.

To Lock or Unlock a conference:

- Right-click the conference icon, and then click **Lock Conference** or **Unlock Conference**.

Alternatively, click the *Conference* icon, and then click the **Lock** button or **Unlock** button on the *Conference Toolbar*.



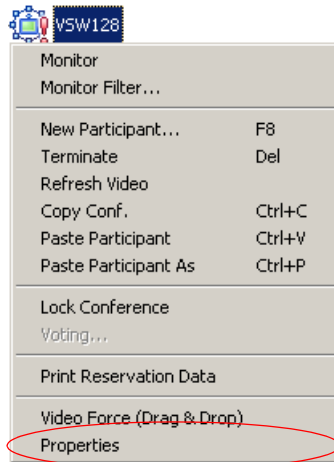
Changing the Conference Duration

It is often necessary to extend the duration of a conference or terminate a conference before its scheduled completion time. The conference can be extended either manually or automatically or terminated. To automatically extend or terminate a conference, refer to the *MGC Manager User's Guide, Volume I, Chapter 6*.

You can change the conference duration even after the conference has started.

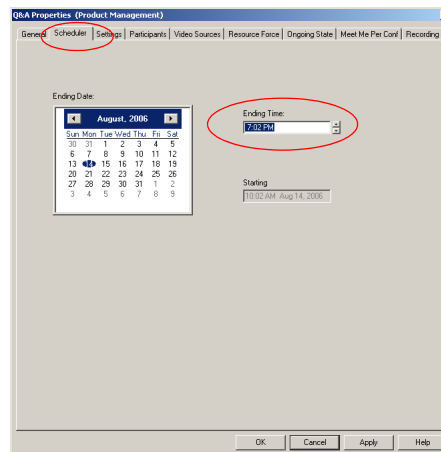
To change the duration of an On Going Conference:

1. In the *Browser*, *Monitor* or *Status* panes, right-click the conference icon, and then click **Properties**.



The *Conference Properties* dialog box opens.

2. Click the **Scheduler** tab.



3. Modify the conference *Ending Time*.

4. Click **OK**.
The *Conference Properties* dialog box closes. The conference's duration is changed.

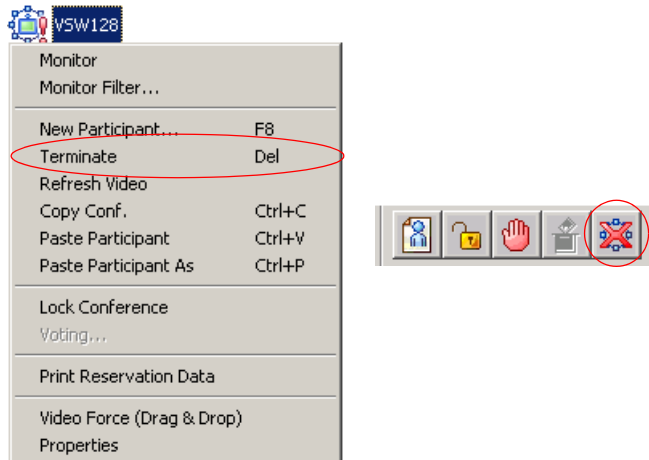
Terminating a Conference Manually

You can manually end the conference before its scheduled end time. Usually, you will use this option when all the participants disconnected from the conference, or if the meeting organizer has requested it.

To terminate a conference manually:

1. In the *Browser*, *Monitor* or *Status* panes, right-click the On Going Conference, and then click **Terminate**.

Alternatively, click the *Conference* icon, and then click the **Terminate** button on the *Conference Toolbar*.



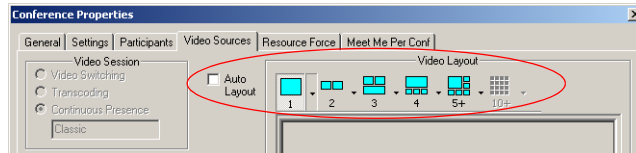
A confirmation dialog box opens.

2. Click **Yes**.
The conference ends. The conference icon is removed from the *On Going Conferences* list.

Changing the Layout in a Continuous Presence Conference

You can select a particular Video Layout (that is a specific arrangement of video windows on the screens) or *Auto Layout* during On Going Continuous Presence conferences.

1. In the *Browser* pane, expand the On Going Conference list.
2. Right-click the On Going Conference icon, and then click **Properties**. The *Conference Properties* dialog box opens.
3. Click the **Video Sources** tab. The *Conference Properties - Video Sources* dialog box opens.



4. To enable *Auto Layout*, select the *Auto Layout* check box. The system automatically and dynamically applies layouts with the appropriate number of display windows, according to the number of connected video participants.
5. To select a particular video layout, clear the *Auto Layout* check box if it is selected.
 - 5a. Determine the number of windows to appear on the screen, and click the arrow next to the numbered *Video Layout* icon that displays the available video layouts for the selected number of windows.
 - 5b. Click the desired Video Layout.
6. Click the **Apply** button to save these changes and modify additional properties or click **OK** to confirm and exit the *Properties* dialog box.
7. For information about *Auto Layout*, *Personal Layout*, *Presentation Mode*, *Lecture Mode* and *Visual Effects*, see the *MGC Manager User's Guide, Volume I, Chapter 6*.

Defining a New Audio Conference

The following entities can be defined for Audio Only conferencing:

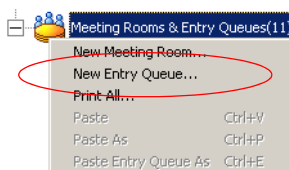
- Define an Audio Only Entry Queue
- Define an On Going Audio Only Conference
- Define an Audio Only Meeting Room

Defining a New Audio Only Entry Queue

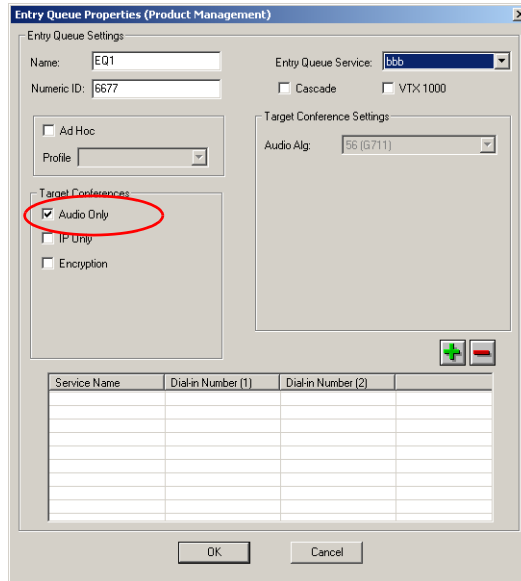
An Audio Only Entry Queue is used to rout Audio Only participants to Audio Only conferences, and it is usually defined in Audio Only MCUs. Video Entry Queues can be used by Audio Only participants in a unified conferencing environment. To define a Video Entry Queue, see “Defining a New Video Entry Queue” on page 7-1.

To define a new Audio Only Entry Queue:

1. Expand the *MCU* icon to display its options.
2. Right-click the *Meeting Rooms, Entry queues & SIP Factories* icon, and then click **New Entry Queue**.



The *Entry Queue Properties* dialog box opens.



3. In the *Name* box, specify a name for the Entry Queue using up to 20 characters.
4. In the *Numeric ID* box, enter a unique per MCU number (default length is four digits), or leave this field empty to let the NCU assign one when the Entry Queue definition is completed.
5. In the *Entry Queue Service* box, select the Entry Queue Service that will be used to play voice messages that will guide participants through their connection process. Leave this field blank to use the default Entry Queue Service if one is defined.
6. Select the *Audio Only* check box.
7. To allow VTX 1000 users to connect to the Entry Queue, select the **VTX 1000** check box.
8. Select the **IP Only** check box to define an IP-Only conference. This enables the Audio Algorithm selection for the target conference.
9. If you selected the *IP Only* option, you can select the Entry Queue to be Encrypted, and you can select the audio algorithm to use by VoIP

participants to connect to the target conference. For Ad Hoc Entry Queue definition, see the MGC User's Guide, Volume II, Chapter 3.

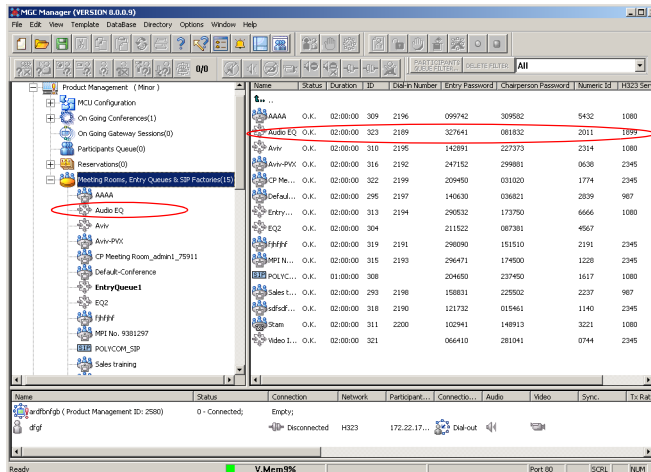
10. Add a dial-in number to the Entry Queue by clicking the plus [+] button.



Dial-in numbers are relevant to ISDN and T1-CAS participants only.

11. Up to 16 dial-in phone numbers may be assigned to the Entry Queue.
 - If no dial-in number is assigned to the Entry Queue, the system assigns a dial-in number from the dial-in numbers ranges defined in the ISDN Network Service. The number is assigned only when the Entry Queue definition is saved by clicking the **OK** button
 - H.323 and SIP participants dial the Entry Queue directly as described in see Chapter 5, “Connecting to a Conference/Entry Queue” on page 5-5.
12. Enter the name of the ISDN/T1-CAS Network Service exactly as it is defined in the Network Services list (the system is case sensitive).
13. Enter the first dial-in number to be assigned to the Entry Queue. This number must be part of the dial-in numbers range defined for the selected ISDN/T1-CAS Network Service. For more details regarding the dial-in numbers range, see the *MGC Administrator's Guide, Chapter 3*.
14. If required, enter the second dial-in number to be assigned to the Entry Queue.
15. Click **OK**.
The dial-in number is added to the table in the *Entry Queue Properties*.
16. In the *Entry Queue Properties* dialog box, click **OK** to complete the Entry Queue definition.

The New Entry Queue is added to the *Meeting Rooms*, *Entry Queues* & *SIP Factories* list.



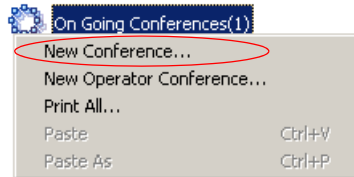
To set the Audio Only Entry Queue as the default Entry Queue, see Chapter 7, “Creating an On Going Video Conference” on page 7-6.

Defining an On Going Audio Conference

The following procedure describes the main parameters required to define an Audio conference without Encryption. For a detailed description of all parameters, see the *MGC Manager User's Guide VoicePlus Edition, Chapter 2*.

To define a new On Going Audio Conference:

1. Expand the *MCU* tree.
2. Right-click the *On Going Conferences* icon, and then click **New Conference**.



The *Conference Properties - General* dialog box opens.

 A screenshot of the "Properties (Product Management)" dialog box, General tab. The dialog has tabs for "General", "Settings", "Participants", and "Recording". The "General" tab is active. It contains several input fields and checkboxes:

- Name: [text box]
- Duration: 2:00 [spinners]
- Billing: [text box]
- MCU: Product Management [dropdown]
- Conf. Entry Password: [text box]
- Web/Chairperson Password: [text box]
- Numeric ID: [text box]
- Entry Queue Access:
- Meet Me Per Conf:
- User Defined 1: [text box]
- User Defined 2: [text box]
- User Defined 3: [text box]
- Conference Type:
 - Standard
 - Meeting Room
 - Operator
- Media:
 - Audio
 - Video, Audio
- Supported Network:
 - IP
 - IP, ISDN, ATM, MPI
- Remarks: [text box] [Update Remark]
- Remarks History: [list box]

 At the bottom are buttons for "OK", "Cancel", "Apply", and "Help".



The MCU can be set to *Audio Look & Feel* mode in which all video related parameters are hidden in all dialog boxes and menus. This is intended for Audio bridges. The *Audio Look & Feel* mode is set in the *Options* menu. For more details, refer to the MGC Administrator's Guide, Chapter 5.

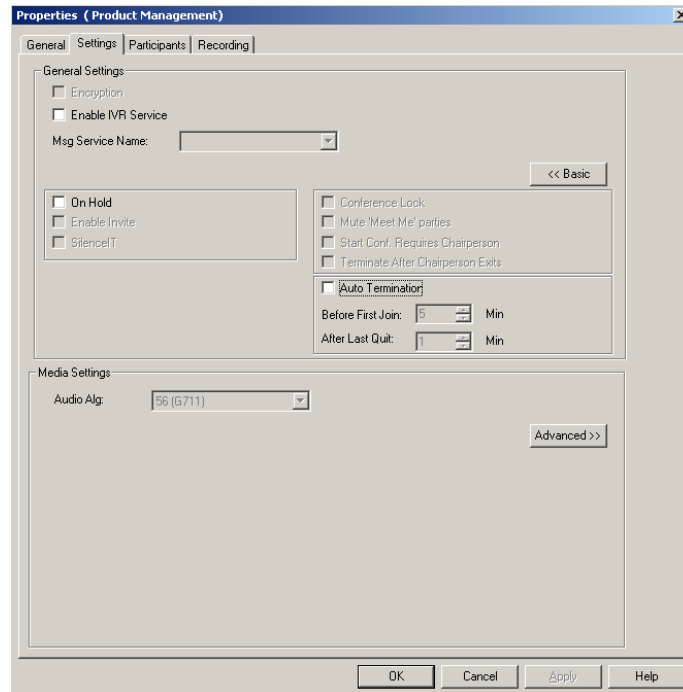
3. If *Audio Look & Feel* is not set for the MCU, in the *Media* box, select **Audio** to define an Audio Only conference and hide the video properties. If *Audio Look & Feel* is set for the system, the conference is automatically set to **Audio** and all the video parameters are hidden.
4. In the *Name* box, enter the conference name.
5. Change the *Conference Duration* if required.
6. In the *Conf. Entry Password* box, enter the conference password (digits only).



The default minimum number of digits for the conference password is 4, but the number of digits can be set in the system.cfg file. For additional information refer to the *MGC Administrators Guide, Chapter 5*.

7. In the *Web/Chairperson Password* box, enter the Chairperson password (if required).
8. In the *Numeric ID* box, enter the desired conference Numeric ID.
9. In the *User Defined Fields* boxes, enter the requested information (if required). The *User Defined* fields are displayed only if the *Show User Defined Fields in Conference Parameters* option is selected in the Database Manager.

10. Click the **Settings** tab.
The *Properties - Settings* dialog box opens.



Parameters in the *Conference Properties - Settings* dialog box are grouped in two main panes: *General Settings* and *Media Settings*. By default, only the Basic settings in these panes are displayed when you first open the dialog box. You can click the **Advanced (>>)** button to view and modify the additional settings. In most conference definitions you do not need to modify the Advanced parameters because the MGC Manager uses default values, or uses the optimal parameters based on the endpoint's capabilities.

11. Select the **Enable IVR Service** check box to assign an IVR Service to the conference. The IVR Service includes a set of voice messages and prompts that assist participants to connect to the conference.
12. In the *Msg Service Name* box, select an IVR service or leave blank to use the default IVR service. The MGC-50/100 is shipped with a pre-configured IVR service.

13. If you want to set up advanced parameters, click the **Advanced** button on either pane. For more information, see the *MGC Manager User's Guide VoicePlus Edition, Chapter 2*.
14. Click the **Participants** tab to add predefined participants to the conference. For more information, see Chapter 5, "Adding a Participant to a Conference" on page 5-13.



If you are defining a dial-in conference with only undefined participants, this step may be skipped.

15. To complete the conference definition procedure, click **OK** from any of the *Conference Properties* tabs. The *Properties* dialog box closes.

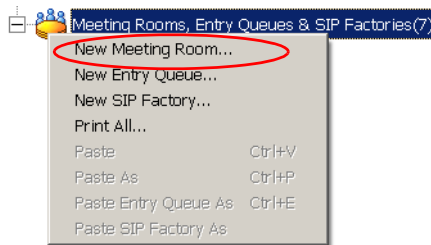
The new conference is added to the *On Going Conferences* list in the *Browser* pane. The conference starts immediately.

Defining a New Audio Only Meeting Room

A Meeting Room is a conference reservation without allocated resources whose default duration is set to 2 hours. A Meeting Room is created once, and can be activated as many times as required.

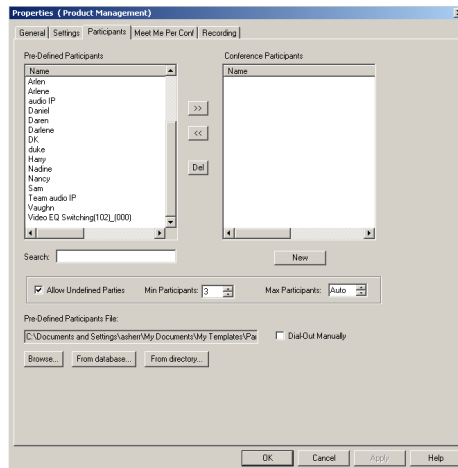
To define a New Meeting Room:

1. Expand the *MCU* tree.
2. Right-click the *Meeting Rooms, Entry Queues & SIP Factories* icon, and then click **New Meeting Room**.

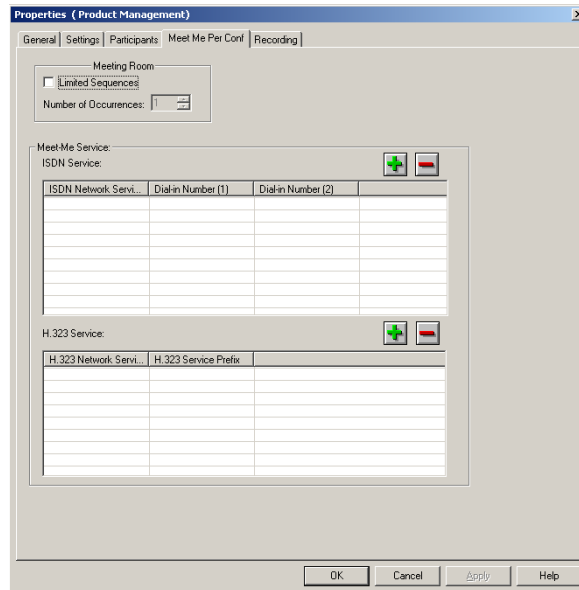


The *Conference Properties* dialog box opens.

3. Define the parameters in the *General* and *Settings* tabs as described in steps 3-15 in “Defining an On Going Audio Conference” on page 6-5.
4. Click the **Participants** tab.
The *Conference Properties - Participants* tab is displayed.



5. Usually Meeting Rooms include undefined participants. However, it is possible to add defined participants from the *Pre-Defined Participants* list, by selecting the participants and then clicking the >> button. Alternatively, you can define a new participant by clicking the **New** button.
6. In the *Min Participants* box, define the total number of participants for which the system reserves resources. This number should include the number of defined participants as well as undefined participants. If you enter **0**, no resources will be reserved for the conference. However, participants will be able to connect to the conference if there are available resources.
7. In the *Max Participants* box, enter the total number of participants who can connect to the conference at one time, including both the defined and undefined participants. This option saves resources for other conferences. When set to *Auto*, the maximum number of participants is determined by the maximum number of participants in a conference supported by the MCU, or by the availability of the MCU resources.
8. Click the **Meet Me Per Conf** tab.
The *Properties - Meet Me Per Conf* dialog box opens.



9. Select the **Limited Sequences** check box, to limit the number of times that the Meeting Room can be activated. If this check box is cleared, the Meeting Room can be activated an unlimited number of times.
10. In the *Number of Occurrences* field, determine the number of times the Meeting Room can be activated: **1** means that the conference can be activated once, and then it will be deleted from the system. 2 or more means that the conference can be activated that number of times, and the conference remains in sleep mode in between recurrences.
11. In the *Meet Me ISDN Service* pane, click the **Plus (+)** button to define dial-in numbers for this conference. If you do not define a dial-in number, the system will assign a dial-in number from the range of dial-in numbers defined in the Network Service.
12. The *H.323 Network Service* prefix is automatically assigned to the conference after the Meeting Room is saved on the MCU. It is then displayed in the first row of the *Meet Me H.323 Service* table. To add prefixes for H.323 participants to dial using other H.323 Network Services, click the **Plus (+)** button.
13. Click **OK**.
The Meeting Room is added to the *Meeting Rooms, Entry Queues and SIP Factories* list.



Defining a New Video Conference

The following entities can be defined for Video conferencing:

- Define a Video Entry Queue
- Start an On Going Video Conference
- Set up a Video Meeting Room

Defining a New Video Entry Queue

You can create several Entry Queues, each with a different set of parameters, to match the parameters of target conferences. If an Entry Queue is set to Video Switching, the destination conference audio, video and line rate settings must be identical to the Entry Queue settings, or the participants will not be able to move to the target conferences.

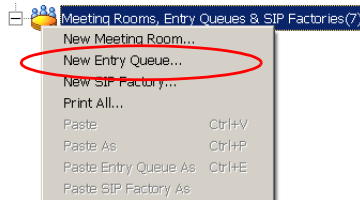
In Entry Queues defined as *Transcoding* or *Continuous Presence*, the line rate and video setting are the maximum set for participants' connections. However, participants can connect at a lower rate using their endpoint capabilities. The line rate and the video parameters used for connections to the Entry Queue are maintained when moving to the target conference.

If you have not already done so, define the Entry Queue Service in the IVR Services before defining the Entry Queue. For more details, see the *MGC Manager User's Guide, Volume II, Chapter 2*.

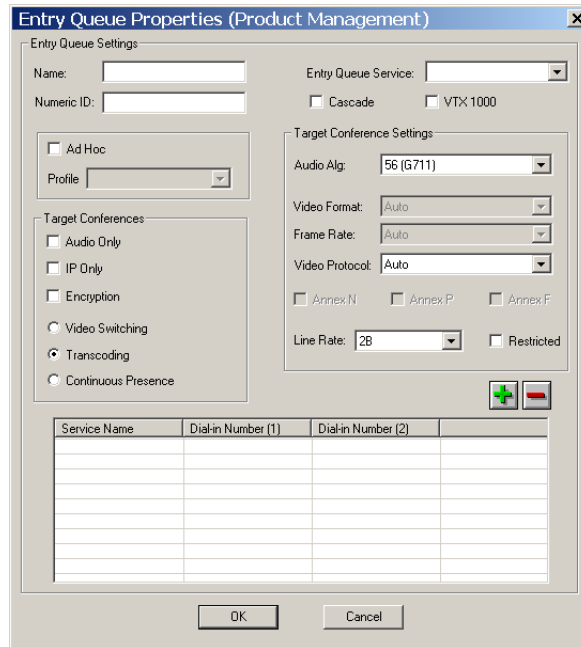
Entry Queues can be encrypted. For more details, see the *MGC Manager User's Guide, Volume II, Chapter 1*.

To define a new Video Entry Queue:

1. Expand the *MCU* tree, right-click the *Meeting Rooms, Entry Queues and SIP Factories* icon and then click **New Entry Queue**.



The *Entry Queue Properties* dialog box opens.



2. In the *Name* box assign a name to the Entry Queue using up to 20 characters.
3. To manually assign the *Numeric ID*, enter the required value in the *Numeric ID* box. To automatically assign the Numeric ID, complete the Entry Queue definition and save it to the MGC. The MCU automatically assigns the Numeric ID provided the MCU is configured to support automatic assignment of Numeric IDs.

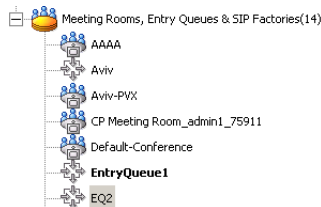
4. In the *Entry Queue Service* box select a predefined Entry Queue Services that will be used to play voice messages and prompts to participants waiting in the Entry Queue. Leave this field blank to use a default Entry Queue Service, if one is defined.
5. In the *Target Conferences* area:
 - a. Select the **IP Only** check box to create an IP Only Entry Queue, whose target conferences are IP Only conferences and will enable the connection of IP participants only.
 - b. To create an encrypted Entry Queue, select the **Encryption** check box. For details about *Encryption* and encrypted Entry Queues, see *the MGC Manager User's Guide, Volume II, Chapter 1*.
 - c. Select **Video Switching**, **Transcoding** or **Continuous Presence** as the session type. For more information, see Chapter 4, "Video Conference Attributes" on page 4-3.



- Setting the Entry Queue to *Transcoding* or *Continuous Presence* requires Video resources, while a *Video Switching* Entry Queue does not.
- An *IP Only* Entry Queue set to *Continuous Presence* mode can only be defined as *Classic* and not as *Software* or *Quad Views*.

6. Select the *Line Rate* in which participants can connect to the conference. In Continuous Presence conferences, participants can connect using a lower line rate. If this Entry Queue will be used to access Conferences On Port, define the *Line Rate* as described in step 17 of "Creating an On Going Video Conference" on page 7-6.
7. Leave all the video and audio parameters set to **Auto** to let the system select the appropriate settings. For a detailed description, see *MGC Manager User's Guide, Volume II, Chapter 2*.
8. Define the dial-in numbers for the Entry Queue. For more details, see Chapter 6.
9. Click **OK**.

The new Entry Queue is added to the *Meeting Rooms, Entry Queues & SIP Factories* list.



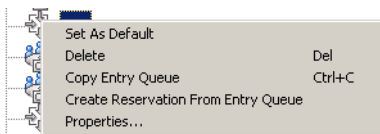
Setting an Entry Queue as Default

A default Entry Queue can be defined for the MCU, regardless of the dialed IP card. The new default Entry Queue can be either a video Entry Queue or an Audio Only Entry Queue. Participants are automatically routed to the default Entry Queue when dialing one of the following strings:

- Network Service Prefix##Numeric ID when the numeric ID is incorrect
- Network Service Prefix##Numeric ID##Password when the numeric ID is incorrect
- Network Service Prefix only
- IP address of IP card##Numeric ID when the numeric ID is incorrect
- IP address of IP card##Numeric ID##Password when the numeric ID is incorrect
- IP address of the IP card only

To set an Entry Queue as default:

- In the Meeting Rooms and Entry Queues list, right-click the Entry Queue and select **Set as Default**.



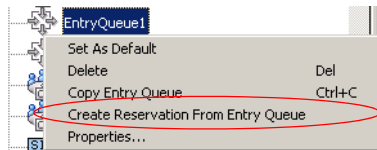
The default Entry Queue is identified by a bold name.

Creating a Target Conference from an Entry Queue

You can create a new On Going conference or Reservation with the same parameters as the Entry Queue. This is especially useful for *Video Switching* conferences, since their parameters must be the same as those of the Entry Queue. The *Entry Queue Access* and *Meet Me Per Conference* options are automatically selected for this conference.

To create a target conference from an Entry Queue:

1. Right-click the *Entry Queues* icon, and then click **Create Reservation from Entry Queue**.



The *Conference Properties - General* dialog box opens. The parameters in the *General* and *Settings* tabs are automatically set to be compatible with this Entry Queue.

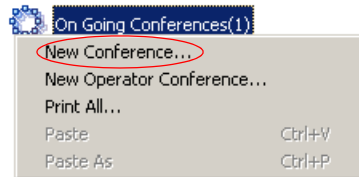
2. If required, modify parameters, making sure not to change the line rate or video settings. If these settings change, the Entry Queue and conference will not be compatible.
3. Click the **Scheduler** tab to define the conference start date and time. The current date and time are shown in the Scheduler dialog box. Do not change them if you want to start an On Going Conference.
4. Define the conference start date and time.
5. Click **OK**.

Creating an On Going Video Conference

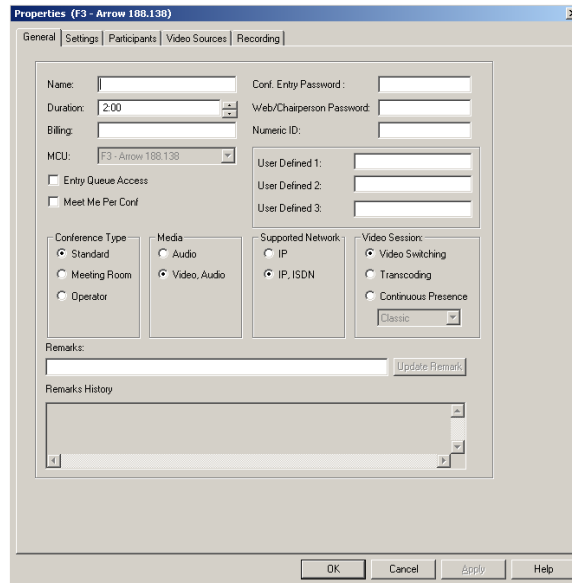
The following procedure describes the main parameters required to set up a Video Conference. For a detailed description of all parameters, see the *MGC Manager User's Guide, Volume I, Chapter 4*.

To create an On Going Conference:

1. Expand the *MCU* tree, right-click the *On Going Conferences* icon and then click **New Conference**.



The *Conference Properties - General* dialog box opens.



2. In the *Name* box, enter the conference name.
3. In the *Numeric ID* box, enter the desired conference Numeric ID.

4. In the *User Defined Fields* boxes, enter the requested information (if required).
5. Change the Conference's *Duration* if required.
6. In the *Supported Network* box, select the appropriate network types that will be used to connect participants to the conference. Select IP to allow only IP participants to the conference.
7. In the *Video Session* area, select **Video Switching**, **Transcoding** or **Continuous Presence**. For more information about these types of conferences, see "Video Conference Types" on page 4-3.
8. When selecting *Continuous Presence*, you can select **Classic** or **Quad Views** for the different layout options. If *IP* only is selected, the *Software* option is enabled in the *Video Session - Continuous Presence* box.
 - *Continuous Presence - Classic* offers 20 different video layouts, suitable for conferences of up to ten participants.
 - *Continuous Presence - Quad Views* offers 8 different video layouts, including layouts that are suitable for very large conferences.
 - *Continuous Presence - Software* allows Continuous Presence conferences to be set up with two types of Video Layout formats: 2x1 and 2x2.
9. To have participants access the conference through an Entry Queue, select the *Entry Queue Access* check box. If selected, the participant must dial the Entry Queue dial-in number and enter the correct conference Numeric ID in order to be transferred to this conference.
10. To allow undefined participants (who were not defined prior to the conference start) to connect directly to the conference without going through an Entry Queue, select the *Meet Me Per Conference* check box.

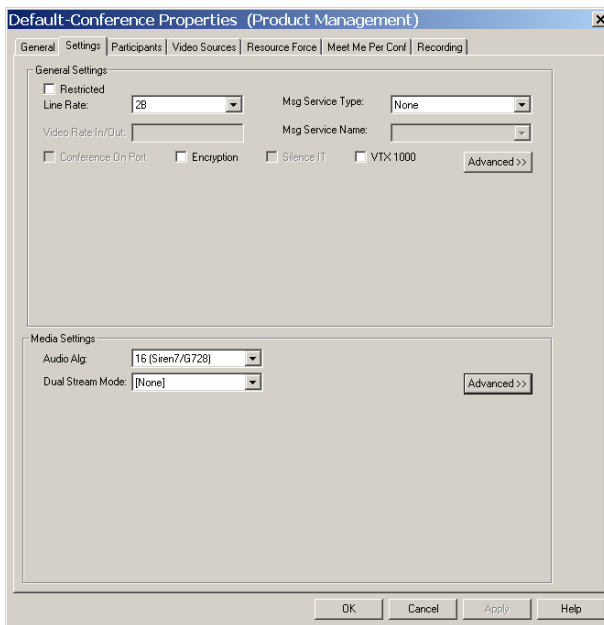


You can define the conference to be both *Entry Queue Access* and *Meet Me Per Conference*. In these conferences, a participant can connect to the conference directly, by means of the Meet Me Per Conference dial-in number, or through the Entry Queue, by means of the conference Numeric ID.

11. Optional. If an IVR service in which the conference password prompt enabled is assigned to the conference, enter the conference password (digits only) in the *Conf. Entry Password* box.

12. Optional. In the *Web/Chairperson Password* box, enter the chairperson password (if this option is enabled in the IVR Service assigned to the conference).
13. Click the **Settings** tab.
The *Properties - Settings* dialog box opens.

The parameters described here are the *Basic* parameters. The *Advanced* parameters are usually not changed from their default values. For more information about these *Advanced* parameters, see the *MGC Manager User's Guide, Volume I, Chapter 4*.



14. Select the **Restricted** option if all ISDN participants use restricted lines whose line rate for each channel is 56 Kbps instead of 64 Kbps.
15. In the *Line Rate* field, specify the transfer rate in Kbps:
In a *Video Switching* conference, you must select the highest transfer rate *common* to all participants.
In a *Transcoding* or *Continuous Presence* conference, select the desired maximum *Line Rate* for the conference. The system will attempt to

connect participants to the conference at this line rate or lower, according to their individual capabilities.

In a *Conference On Port (COP)*, select the estimated highest transfer rate common to all participants. In this mode, all conference participants must use the same video parameters.

In order to maintain a minimum video quality for a Conference On Port, there is a minimum threshold line rate that participants must support in order to connect with video. The minimum line rates necessary to connect to a Conference On Port are displayed in Figure 7-1. Participants attempting to connect at rates below the minimum conference line rate threshold are connected as Secondary (Audio Only).

Table 7-1: Conference On Port Line Rate Minimum Thresholds

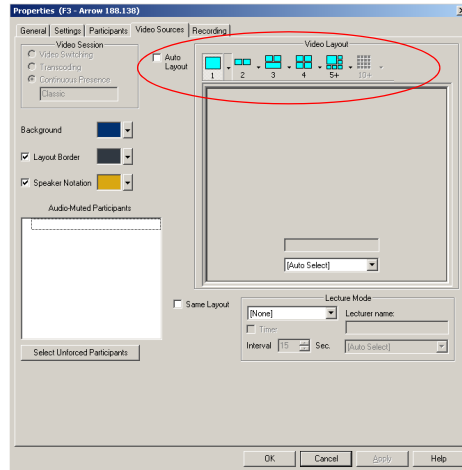
Defined Conference Line Rate (in Kbps)	Minimum Participant Line Rate Necessary for Video Connection (in Kbps)
128	Participants will connect with video if video session can be established.
256	128
384	128
512	256
768	384
1920	768

16. In the *Msg Service Type* field, select **IVR** or **None** for a conference without voice messages. An IVR service allows participants to interact with the MCU by using DTMF codes and provides functionalities such as Conference Entry password, Conference Chairperson identification, Roll Call, Invite and Click&View. For more information about IVR, see the MGC Manager User's Guide, Volume II, Chapter 2.
17. If you have selected **IVR**, in the *Msg Service Name* list, select the name of the predefined IVR Service for the conference. If left blank, the default IVR Service is automatically selected if one is defined.
18. If required, select the **Conference On Port** option if available if *Continuous Presence* was selected in the *Video Session* area of the

Conference Properties - General tab. For more information about COP, see “Video Conference Types” on page 4-3.

19. To force all participants to use encryption, select the **Encryption** check box. For details about *Encryption* and encrypted conferences, see the *MGC Manager User's Guide, Volume II, Chapter 1*.
20. The Dual Stream mode and the Audio Algorithm are advanced features. For more information about these options, see the *MGC Manager User's Guide, Volume II, Chapter 1, “Dual Stream Modes”* and the *MGC Manager User's Guide, Volume I, Chapter 4 “Video Conference Parameters”*.
21. Optional. Click the **Participants** tab to add predefined participants to the conference. For more information on adding participants to a conference, see “To add a pre-defined participant to a conference:” on page 5-16.
22. If you selected *Continuous Presence* in the *Video Session* area of the *General* tab, click the **Video Sources** tab.

The *Conference Properties - Video Sources* tab opens.



23. Select the appropriate *Video Layout* for the conference. The available layouts displayed are determined by the type of *Continuous Presence* mode selected on the *General* tab. For more information about setting Video Layouts, see the *MGC Manager User's Guide, Volume I, Chapter 6, “Setting Video Layouts”*.

Alternatively, select the *Auto Layout* check box to have the system automatically and dynamically apply layouts with the appropriate number of display windows according to the number of connected video participants.

24. In a Continuous Presence conference, you can add visual effects, such as borders and colors, to the video layouts display on the endpoints. For more details, see the *MGC Manager User's Guide, Volume I, Chapter 4*.



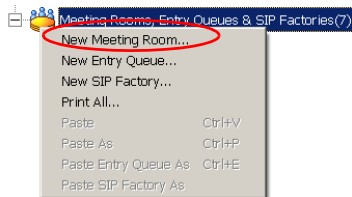
- The *Click&View* application available on participants' endpoints allows participants to modify their Personal Layouts, and the chairperson to modify the conference layout, in a Continuous Presence conference. For details about *Click&View*, see the *MGC Manager User's Guide, Volume I, Chapter 11*.
 - You must assign an IVR service to the conference to enable *Click&View*.
25. Use the default values for the remaining parameters. These parameters are detailed in the *MGC Manager User's Guide, Volume I, Chapter 4*.
 26. Click **OK**.
The conference starts.

Defining a New Video Meeting Room

A Meeting Room is a conference reservation without resource allocation, whose default duration is set to 2 hours.

To define a New Video Meeting Room:

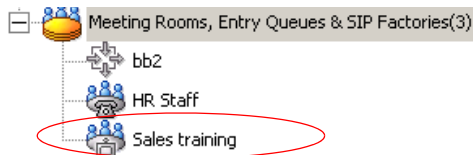
1. Expand the *MCU* tree.
2. Right-click the *Meeting Rooms, Entry Queues & SIP Factories* icon, and then click **New Meeting Room**.



The *Conference Properties* dialog box opens.

3. Define the parameters in the *General, Settings, Participants* and *Video Sources* tabs as described in steps 2-26 in “Creating an On Going Video Conference” on page 7-6.

The Video Meeting Room is added to the *Meeting Rooms, Entry Queues & SIP Factories* list.



Management Tools

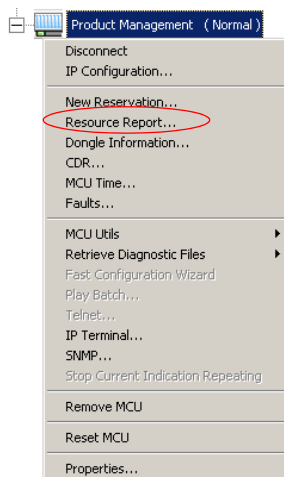
Various management tools are available to the MGC-50/100. For details on other management tools, see the *MGC Administrator's Guide*.

Resource Report

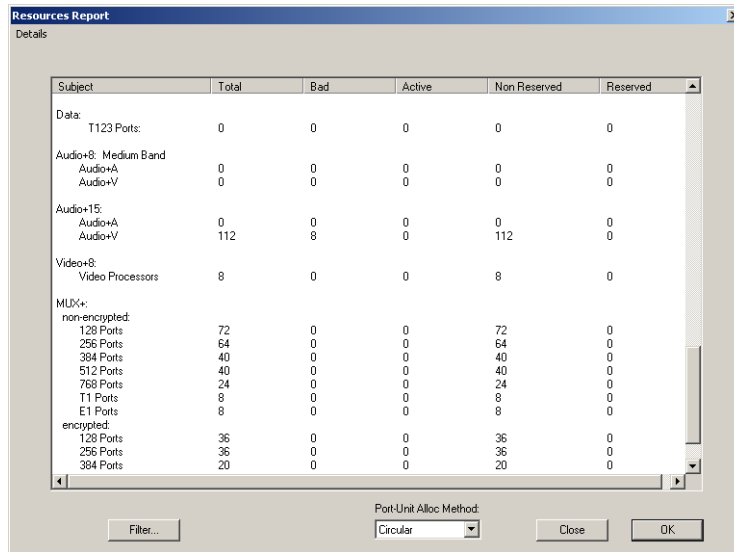
The Resource Report displays the number of ports that can be allocated to participants and the number of ports that are currently assigned to On Going Conferences, soon-to-begin reservations and Meeting Rooms.

To view the MCU resources:

- Right-click the *MCU* icon, and then click **Resource Report**.



The *Resource Report* dialog box opens.



The Resource Report window contains the following columns:

Table 8-1: Resource Report Columns

Column Title	Description
<i>Subject</i>	Type of MCU resource. Includes the <i>Network Resources</i> that are used by participants to connect to the system, and <i>Media Resources</i> that are used by the system to run different types of conferences.
<i>Total</i>	Total number of resources of the same type installed on the system.
<i>Bad</i>	The number of disabled or faulty resources of each type.
<i>Active</i>	The number of ports currently used to run conferences for each resource type.
<i>Non Reserved</i>	The number of ports that are not reserved to be used within the next 5 minutes for each resource type.

Table 8-1: Resource Report Columns

Column Title	Description
<i>Reserved</i>	For each resource type, the number of active ports plus the number of ports for conferences that have reserved resources but disconnected participants, and reserved conferences to be run in the next 5 minutes.

Resources Report - Network Resources

Subject	Total	Bad	Active	Non Reserved	Reserved
ISDN Services					
E1	30	0	0	30	0
T1	0	0	0	0	0
T1-CAS Services					
MPI Services					
323 Services					
IP Default Service					
VOICE_ONLY	96	0	0	96	0
VIDEO_120	96	0	0	96	0
VIDEO_256	96	0	0	96	0
VIDEO_384	48	0	0	48	0
VIDEO_512	48	0	0	48	0
VIDEO_768	24	0	0	24	0
VIDEO_1152	24	0	0	24	0
VIDEO_T1	12	0	0	12	0
VIDEO_120_SOFT_CP	96	0	0	96	0
VIDEO_256_SOFT_CP	96	0	0	96	0
VIDEO_384_SOFT_CP	48	0	0	48	0
VIDEO_512_SOFT_CP	48	0	0	48	0
VIDEO_768_SOFT_CP	24	0	0	24	0
VIDEO_1152_SOFT_CP	24	0	0	24	0
VIDEO_T1_SOFT_CP	12	0	0	12	0
T120	24	0	0	24	0
ENC_ONLY	48	0	0	48	0

The *Network Resources* describes the bandwidth and port availability for participants connecting over various types of networks. This information includes **network resources only**. In order for participants to connect to a conference, they may also require Audio+, Video+, Data or MUX+ resources, depending on the type of participant and the type of conference.

In the example shown here, the MCU contains one Network Interface module connected to a E1 span, totaling 30 channels (1 x 30 channels).

Resource Report - Network Resources Details

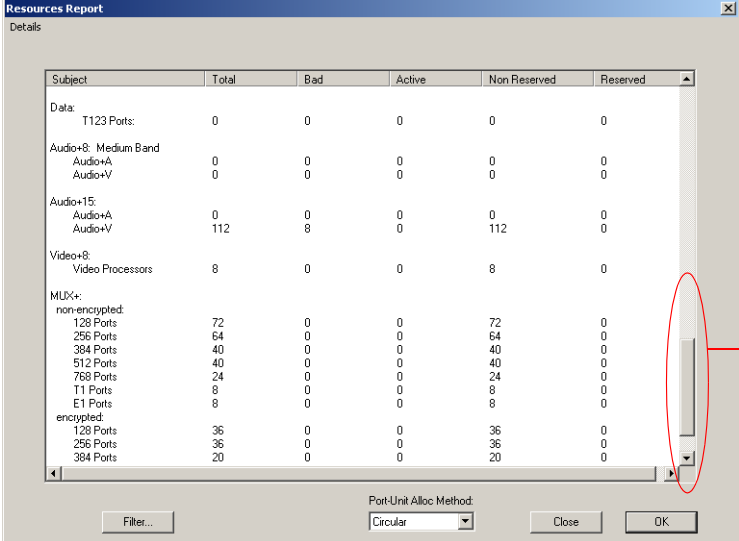
- **ISDN Services** - ISDN Network Services. This section describes the available bandwidth, in B channels, for each type of ISDN connection. Only the installed types of connections are displayed:
 - **E1** - Number of channels on E1 ISDN interfaces
 - **T1** - Number of channels on T1 ISDN interfaces
- **H.323 (IP) Services** - IP resources per participant type. This section describes the available ports for each possible type of IP (H.323 and SIP) participant. The available number of ports in any particular row represents the **total bandwidth and resources available for all types of participants**, so if one type of participant were to use some resources, the available resources for all other types of participants (rows) would be less. The Resources Report displays the total number of IP ports available according to the Conference Type, Line Rate, and Encryption in the format:

Media_Line Rate_Conference Type. *Media* may include *Voice*, *Video* or *Encrypted Video* ports. For example: VOICE_ONLY, designating Audio Only participant resources; VIDEO-128-SOFT_CP, designating video participants using a line rate of 128 Kbps in a Software Continuous Presence conference.

All IP participant types are listed in this manner, listing the available resources for IP participants in Standard Video and Audio Conferences, Software Continuous Presence, Encrypted Participants, Encrypted Participants in Software CP and Encrypted Participants in People Plus Content.

Resources Report - Media Resources

Media Resources used by participants from different types of networks are displayed in the lower section of the *Resources Report* window. To view the *Media Resources* details, use the scroll bar on the right side of the window.



The screenshot shows a window titled "Resources Report" with a "Details" tab. It contains a table with the following data:

Subject	Total	Bad	Active	Non Reserved	Reserved
Data:					
T123 Ports:	0	0	0	0	0
Audio+8: Medium Band					
Audio+A	0	0	0	0	0
Audio+V	0	0	0	0	0
Audio+15:					
Audio+A	0	0	0	0	0
Audio+V	112	8	0	112	0
Video+8:					
Video Processors	8	0	0	8	0
MUX+:					
non-encrypted:					
128 Ports	72	0	0	72	0
256 Ports	64	0	0	64	0
384 Ports	40	0	0	40	0
512 Ports	40	0	0	40	0
768 Ports	24	0	0	24	0
T1 Ports	8	0	0	8	0
E1 Ports	8	0	0	8	0
encrypted:					
128 Ports	36	0	0	36	0
256 Ports	36	0	0	36	0
384 Ports	20	0	0	20	0

At the bottom of the window, there is a "Port-Unit Alloc Method:" dropdown menu set to "Circular", and buttons for "Filter...", "Close", and "OK". A red oval highlights the vertical scroll bar on the right side of the table, with an arrow pointing to it and the text "Use the scroll bar to view the Media Resources Area".

Media Resources Area Parameters Description

Each row item appearing in the *Media Resources Area* is described below.

- **Data** - Total number of T.120 resources for data conferencing.
 - **T.120 Ports** - Total number of ports available for participants using T.120. These resources are used by ISDN and MPI participants and can be used across multiple T.120 cards.
- **Audio+15** - The Audio+15 card can support 48 or 96 ports, depending on the audio algorithm used by the endpoint. Audio Only participants using Audio+ cards do not require MUX+ card resources and each Audio+ card is not limited in the number of conferences that it can run.
- **Video+8** - The Video+8 card contains 8 video processors and performs video processing for participants in Continuous Presence and Transcoding conferences. Conferences defined as *Continuous Presence*

-*Quad Mode* must run on the Video+8 card. Participants from multiple Video+8 cards can take part in a single conference.

- **Video Processors** - Total number of video processors from all Video+8 cards installed in the MCU. Each video processor can run a single Continuous Presence or Transcoding participant.
- **MUX+** - Displayed is the total number of MUX+ ports available according to the card type, line rate and encryption. A conference can be run on multiple MUX+ cards. Encrypted participants always require MUX+ resources and use more resources than a regular participant. IP Video participants do not require the MUX+ card, as all IP cards have built-in MUX+ functionality.

Port-Unit Allocation Area

The screenshot shows a window titled "Resources Report" with a "Details" tab. It contains a table with the following data:

Subject	Total	Bad	Active	Non Reserved	Reserved
Data:					
T123 Ports:	0	0	0	0	0
Audio+8: Medium Band					
Audio+A	0	0	0	0	0
Audio+V	0	0	0	0	0
Audio+15:					
Audio+A	0	0	0	0	0
Audio+V	112	8	0	112	0
Video+8:					
Video Processors	8	0	0	8	0
MUX+:					
non-encrypted:					
128 Ports	72	0	0	72	0
256 Ports	64	0	0	64	0
384 Ports	40	0	0	40	0
512 Ports	40	0	0	40	0
768 Ports	24	0	0	24	0
T1 Ports	8	0	0	8	0
E1 Ports	8	0	0	8	0
encrypted:					
128 Ports	36	0	0	36	0
256 Ports	36	0	0	36	0
384 Ports	20	0	0	20	0

At the bottom of the window, there is a "Port-Unit Alloc Method:" dropdown menu with "Circular" selected. Other buttons include "Filter...", "Close", and "OK".

The *Port-Unit Allocation Method* box determines how all the resources are allocated. The selection of the mode can be done only when no conference is running.

The following modes are available:

- ***Circular*** - The system allocates the next available sequential unit in the order in which it is numbered on the card according to the unit numbers. For example, if the last used unit is 2, the next time a conference is run, the system will allocate units starting with unit 3 (provided that unit 3 is free). This mode should be used when you suspect that there may be faulty units, allowing the system to allocate other units for the conferences while the faulty units are replaced, or reset. However, this mode should not be used when debugging the system, as the problems will be inconsistent if the problematic units are not used constantly.
- ***Terminal*** - The system always starts the unit allocation from the first free unit on the first card. This mode may be problematic when there is one faulty unit (especially if it is the first or second) that prevents the system from running conferences. However, this should be the selected mode when debugging the system.

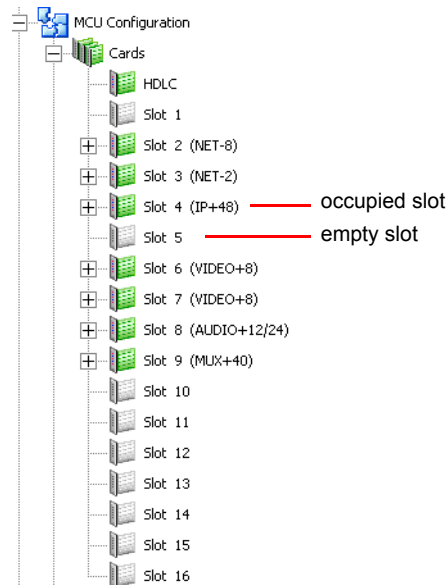
Listing the Installed Cards

You can check which functional modules are installed in a particular MCU by listing them.

To list an MCU's functional modules:

1. In the *Browser* pane, expand the *MCU* tree.
2. Expand the *MCU Configuration* tree.
3. Expand the *Cards* tree.

All the MCU slots are listed (16 slots for the MGC+100, 8 slots for the MGC+50). Empty slots are indicated by a grey card icon. Occupied slots are indicated by a green card icon. The name of the card occupying the slot appears next to the slot number.



When the *Cards* icon in the *Browser* pane is double-clicked, the *Status* pane displays the status of the card.

Slot	Type	Clock	Configured Clock	Status	Occupied U...	Faulty Units	Disabled U...	Num Units
A	HDL			Normal	None	None	None	0 Units
1								
2	NET-8	Primary (#1)		Normal	None	2-8	None	8 Units
3	NET-2			Normal	None	1-2	None	2 Units
4	IP+48			Normal	None	None	None	3 Units
5								
6	VIDEO+8			Normal	None	None	None	8 Units
7	VIDEO+8			Normal	None	None	None	8 Units
8	AUDIO+12/24			Normal	None	None	None	4 Units
9	MUX+40			Normal	None	None	None	4 Units
10								
11								
12								
13								
14								
15								
16								

Occupied slots appear in green while empty slots appear in grey. The slot number appears next to the slot icon. Table 4-2 describes the *Status* pane columns.

Table 8-2: MCU's Cards Status Columns

Field	Description
<i>Slot</i>	Displays the slot icon and number; a grey icon indicates an empty slot and a green icon indicates an occupied slot.
<i>Type</i>	Displays the type of card that occupies the slot. The following card types are available, as listed in Table 4-1: <ul style="list-style-type: none"> • Network (Net-2, Net-4, Net-8, MPI-4, MPI-8), IP+12, IP+24, IP+48 • MUX+ • Data • Audio+ • Video+

Table 8-2: MCU's Cards Status Columns

Field	Description
<i>Clock</i>	This column is valid only for ISDN and Serial (MPI-8) Network Interface cards. On the Net-2/Net-4/Net-8 Network Interface Module, the Master and the Backup clocks can be set on any of the spans connected to the module. This column indicates which Network card/span is used as the Master Clock and which one is used as the Backup clock.
<i>Configured Clock</i>	Indicates which ISDN Network card or MPI Span was configured as the Primary network interface (for clocking), and which one is used as backup. Changes take effect and are updated during the next MCU reset or power up.
<i>Status</i>	Indicates the card status; <i>Normal</i> or <i>Faulty</i> .
<i>Occupied Units</i>	Indicates the units on the card that are currently used to run conferences. For example, 1, 6 indicates that two units, unit # 1 and unit # 6 are used to run conferences.
<i>Faulty Units</i>	Indicates if there are units on the card which are faulty and the sequential number of the faulty unit.
<i>Disabled Units</i>	Indicates the units that were disabled by the operator.
<i>Num Units</i>	Indicates the total number of units available for each module.

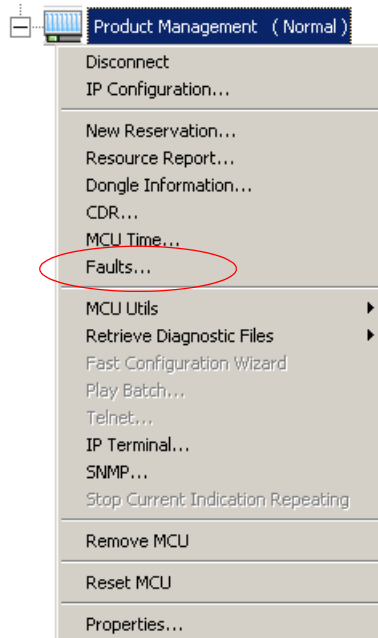
For more information about viewing card parameters, see *MGC Manager Administrator's Guide*, Chapter 4.

MCU Faults Report

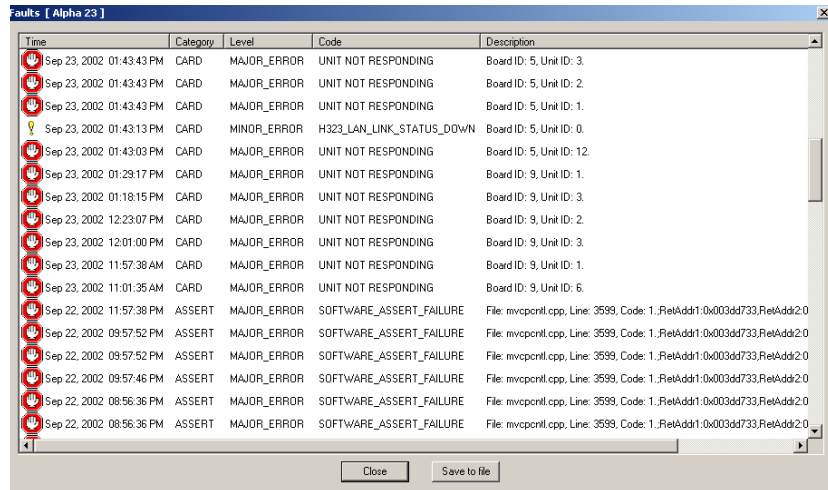
The *Faults* function records faults related to the MCU that are encountered during operation.

To view the Faults list:

1. Right-click the *MCU* icon, and then click **Faults**.



The *Faults* window opens.







The following columns appear in the *Faults* report:

Table 8-3: *Faults* Columns

Field	Description
<i>Time</i>	Lists the date and time that the fault occurred. This column also includes the icon indicating the fault Level. The Levels and their icons are detailed in the Level field.
<i>Category</i>	Lists the type of fault. The following categories may be listed: <ul style="list-style-type: none"> <i>File</i> - the fault is caused when a problem is detected in one of the files stored on the MCU's hard disk. <i>Reservation</i> - indicates that conferences that were reserved in the system when the system was shut down were not recovered when the system restarted. <i>Card</i> - indicates problems with a card. <i>Exception</i> - indicates errors reported by the computer (PC).

Table 8-3: Faults Columns

Field	Description
<i>Category (cont.)</i>	<ul style="list-style-type: none"> • <i>General</i> - indicates general faults. • <i>Assert</i> - indicates internal software errors that are reported by the software program. • <i>Startup</i> - indicates errors that occurred during system startup.
<i>Level</i>	<p>Indicates the severity of the problem. There are three fault indicators:</p> <ul style="list-style-type: none"> • Major Error  • Minor Error  • MCU Startup indicator  • System Message  <p>The icon of the fault <i>Level</i> appears in the <i>Time</i> column.</p>
<i>Code</i>	<p>Indicates the code of the problem, according to the fault category. A list of codes per category can be found in Appendix A of the MGC Administrator's Guide.</p>
<i>Description</i>	<p>When applicable, displays a more detailed explanation of the cause of the problem.</p>

2. You may save the Faults report to a text file. To do so, click the **Save to file** button.

The *Save As* dialog box opens.

3. Select a destination folder and enter the file name, and then click **Save**.

You are returned to the *Faults* window.

4. To exit the *Faults* window without saving the data to file, click the **Cancel** button.

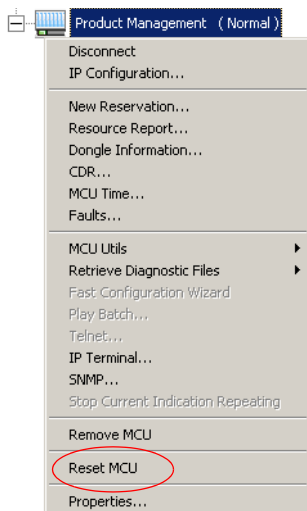
Reset MCU

The *Reset MCU* function is used to reset the MCU when there are substantial changes to the MCU hardware, or when there are problems with the MCU. If a reset is performed while running On Going Conferences, at the end of the MCU Startup, these conferences are automatically restored with all the participants in “Standby” state, and will be reconnected to the conference.

When the MCU is started, only the list of near future reservations is loaded to the MCU memory, while the information of all other reservations are kept on the MCU’s hard disks, resulting in faster loading time.

To reset the MCU:

- Right-click the *MCU* icon, and then click **Reset MCU**.



When the MCU is restarts, the MCU icon changes accordingly.

Obtaining Additional Information

Information about Polycom products, technologies, and network solutions is available from the company Web site, at the following URL:

http://www.polycom.com/home/resource_center/