



Configuring Hardware

This chapter helps you configure your hardware using the Cisco MGM Configuration Center and Chassis View, and contains the following sections:

- [6.1 How Do I Manage My Network with the Chassis View?](#), page 6-1
- [6.2 How Do I Manage My Network with the Configuration Center?](#), page 6-5
- [6.3 How Do I Manage Templates for Network Elements?](#), page 6-11
- [6.4 How Do I Configure Cisco MGX 8880 and 8850 Nodes?](#), page 6-13
- [6.5 How Do I Create or Modify APS?](#), page 6-31
- [6.6 How Do I Configure AXSM Cards?](#), page 6-33
- [6.7 How Do I Configure VXSM Cards?](#), page 6-61
- [6.8 How Do I Configure RPM Cards?](#), page 6-117
- [6.9 How Do I Configure VISM-PR Cards?](#), page 6-122

6.1 How Do I Manage My Network with the Chassis View?

The Chassis View provides a graphical view of equipment status for the operational and alarm status of each card, port, or line, which is represented with a predefined color. By default, the front view appears (click the Rear View tab to switch views).

These tasks can be performed using Chassis View:

- [6.1.1 Launching Chassis View](#), page 6-2
- [6.1.2 Navigating with Chassis View](#), page 6-3

6.1.1 Launching Chassis View

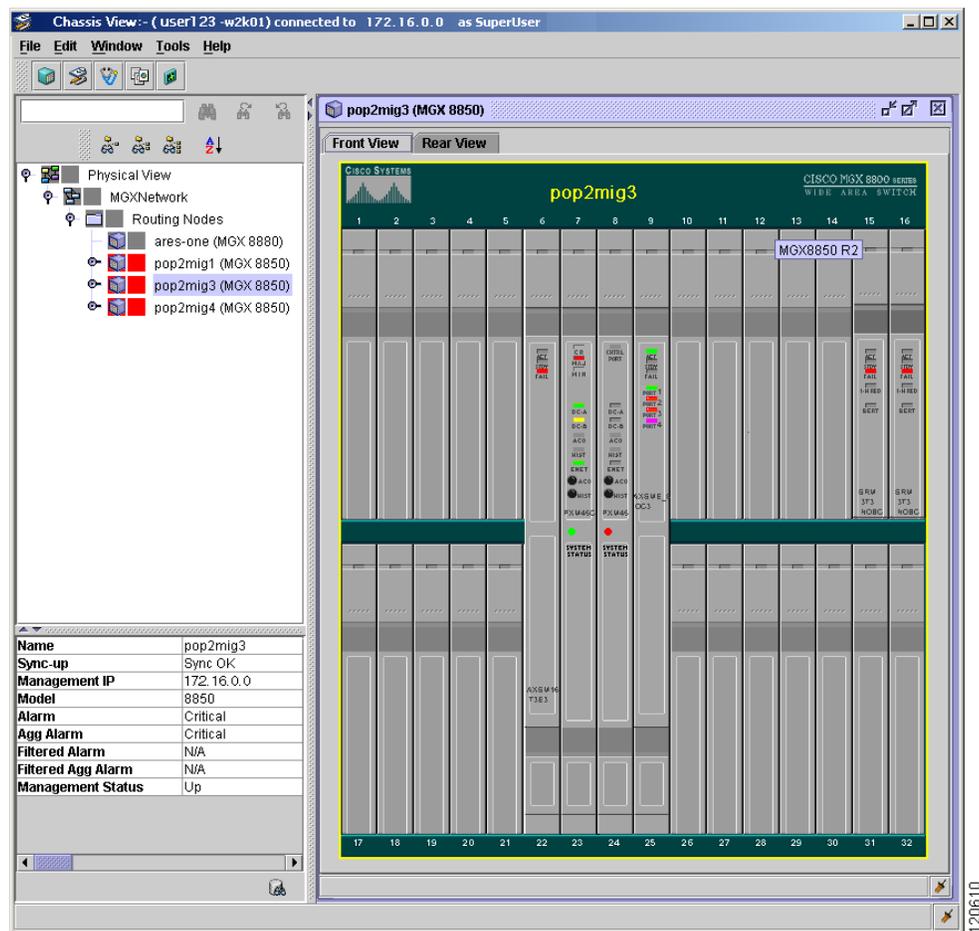
To launch Chassis View from the Domain Explorer:

- Click on a node, then choose **Configuration > MGX 8880/8850 MG > Chassis View**.

To launch Chassis View from the Diagnostic Center, Configuration Center, or Statistics Report:

- Click the **Chassis View** tool from the toolbar
- or
- Choose **Tools > Chassis View**
- or
- Right-click on an NE in the Hierarchy pane and choose **Chassis View** from the pop-up menu. Once the Chassis View opens, the corresponding window appears in the Configuration pane.

Figure 6-1 Chassis View—Front View



6.1.2 Navigating with Chassis View

The Chassis View main window contains the following components:

- Menu bar—See [Table 6-1](#)
- Toolbar—See [Table 6-2](#)
- Hierarchy, Configuration, and Inspector panes—See [Table 6-3](#)

Table 6-1 Chassis View—Menu Bar Options

Menu Bar Options	Task
File	
Close	Closes the current Chassis View main window when you are running multiple sessions of the Chassis View. If you are running only one session, that single session is closed.
Exit	Exits the Chassis View instance and the other sessions. This option works only on the window in which the option is selected. When you have started other Chassis Views, they continue to run. Exits the Chassis View instance and the other sessions. This option will close all the Chassis View windows launched in this Cisco MGM session.
Edit	
Copy	Copies the selected object and puts it into the Clipboard.
Paste	Pastes the object into the Clipboard and inserts it to the target area.
Tools	
Chassis View	Launches the Chassis View for the selected object. For more information, see section 6.1 How Do I Manage My Network with the Chassis View?, page 6-1
Configuration Center	Launches the Configuration Center for the selected object.
Diagnostic Center	Launches the Diagnostic Center for the selected object. For more information, see Chapter 9, “Managing Faults.”
Statistics Report	Launches the Statistics Report for the selected object. For more information, see Chapter 10, “Managing Performance.”
Administration	Allows you to perform administration-type tasks, such as: <ul style="list-style-type: none"> • Cisco MGM Audit Trail—Allows you to access audit trail files for specified days. • Telnet—(Only available when a NE is selected) Opens a command line tool to telnet to MGX switches. • SSH—(Only available when a NE is selected) Opens a command line tool to gain secure shell access to MGX switches.
Help	
Color Legend	Displays the Cisco MGM color legend.
Contents	Displays the contents for online help.

Table 6-2 Chassis View—Toolbar Buttons

Option	Task
Chassis View	Launches Chassis View for the selected object. If no object is selected, Chassis View launches, and the right hand area is empty.
Configuration Center	Launches Configuration Center for the selected object. If no object is selected, Configuration Center launches, and the right hand area is empty.
Diagnostics Center	Launches Diagnostics Center for the selected object. If no object is selected, Diagnostics Center launches, and the right hand area is empty.
Statistics Report	Launches the Statistics Report.
Administration	Launches the Cisco MGM Audit Trail Viewer. For more information, see section 8.3.2 Viewing the Audit Trail File , page 8-4.

Table 6-3 Chassis View—Hierarchy, Configuration, and Inspector Pane Descriptions

Options	Task
Hierarchy pane	Navigates and displays objects for selection and configuration. For more information, see Chapter 2, “Basic Concepts.”
Inspector pane	Provides a list of detailed status information for the NE selected in the Hierarchy pane. For more information, see Chapter 2, “Basic Concepts.”
Configuration pane	Displays the chassis view for the selected object. If no object is selected, the Configuration pane will be empty. Within the Configuration pane, there are two tabs: <ul style="list-style-type: none"> • Front View—Shows the front view configuration. • Rear View—Shows the rear view configuration.

6.1.2.1 Accessing Network Elements

To view the chassis view for a NE in the Hierarchy pane:

- Drag-and-drop the NE from the Hierarchy pane to the Configuration pane
or
- Double-click on the NE in the Hierarchy pane

The corresponding view opens or is highlighted in the Configuration pane.



Tip

Any window within the Hierarchy pane can be “pinned” down by clicking on the pin tool, located in the bottom right corner of each window. This means that when you open other windows, the tacked down window will remain open. For more information on this feature, see [Chapter 2, “Basic Concepts.”](#)

6.1.2.2 Chassis View LED Colors

The following LED colors are used in the Chassis View:

Table 6-4 LED Colors for Chassis View

Color	State
Red	Critical
Orange	Major
Yellow	Minor
Green	Up, OK, and Clear
Purple	Self-test (loopback)
Gray	Down (unmanaged)
Blue	Unknown
Cyan	Not defined

6.2 How Do I Manage My Network with the Configuration Center?

By managing network elements with the Configuration Center, you can:

- Configure numerous managed device objects, such as configuration settings, interface status, and so forth in a media gateway.
- Display and modify the values for almost all of the objects.
- Perform tasks, such as element configuration and connection management.

These tasks are used to manage the NE configurations through the Configuration Center:

- [6.2.1 Launching Configuration Center, page 6-6](#)
- [6.2.2 Navigating with Configuration Center, page 6-7](#)
- [6.2.3 Navigating Within Tables, page 6-9](#)

6.2.1 Launching Configuration Center

To launch Configuration Center from the Domain Explorer:

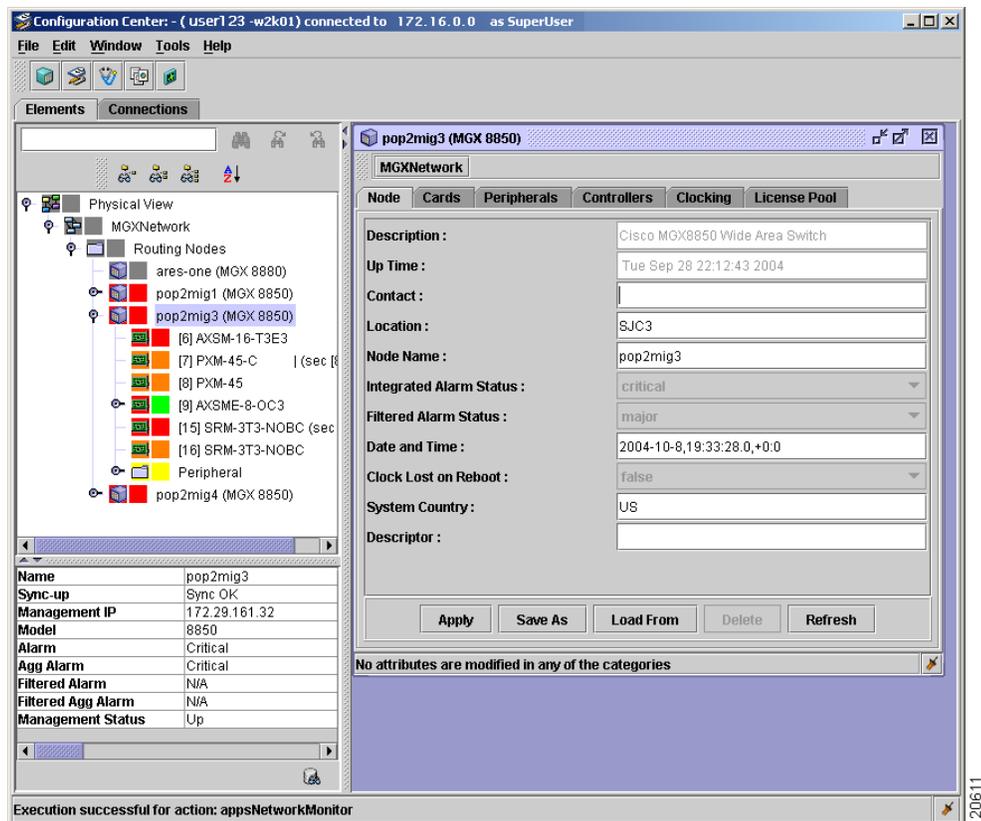
- Click on a node, then choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration pane for that node appears.

To launch Configuration Center from the Diagnostic Center, Chassis View, or Statistics Report:

- Click the **Configuration Center** tool within the toolbar
or
- Choose **Tools > Configuration Center**
or
- Right-click on an NE and choose **Configuration Center** from the pop-up menu. Once the Configuration Center opens, the corresponding window appears in the Configuration pane.

After the Configuration Center application is launched, the Configuration Center main window appears. For information about the main window components, see section [6.2.2 Navigating with Configuration Center](#), page 6-7.

Figure 6-2 Configuration Center—Node Tab



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6.2.2 Navigating with Configuration Center

The Configuration Center main window contains the following components:

- Menu bar—See [Table 6-5](#)
- Toolbar—See [Table 6-6](#)
- Hierarchy, Configuration, and Inspector panes—See [Table 6-7](#)

Table 6-5 Configuration Center—Menu Bar Options

Menu Bar Options	Task
File	
Save	Saves the content.
Print	Displays the Print window to process printing.
Close	Closes the current Configuration Center main window when you are running multiple sessions of the Configuration Center. If you are running only one session, that single session is closed.
Exit	Exits the Configuration Center instance and the other sessions. This option works only on the window in which the option is selected. When you have started other Configuration Centers, they continue to run. Exits the Configuration Center instance and the other sessions. This option will close all the Configuration windows launched in this Cisco MGM session.
Edit	
Cut	Removes the selection from the text field.
Copy	Copies the selected object and puts it into the Clipboard.
Paste	Pastes the object into the Clipboard and inserts it to the target area.
Connection Templates	<i>(Only applicable from the Connections tab)</i> Displays connection templates.
Show Unused Descriptors	<i>(Only applicable from the Connections tab)</i> Shows unused descriptors.
Tools	
Chassis View	Launches the Chassis View for the selected object. For more information, see section 6.1 How Do I Manage My Network with the Chassis View? , page 6-1
Configuration Center	Launches the Configuration Center for the selected object.
Diagnostic Center	Launches the Diagnostic Center for the selected object. For more information, see Chapter 9, “Managing Faults.”
Statistics Report	Launches the Statistics Report for the selected object. For more information, see Chapter 10, “Managing Performance.”

Table 6-5 Configuration Center—Menu Bar Options (continued)

Menu Bar Options	Task
Administration	Allows you to perform administration-type tasks, such as: <ul style="list-style-type: none"> • Cisco MGM Audit Trail—Allows you to access audit trail files for specified days. • Telnet—(Only available when a NE is selected) Opens a command line tool to telnet to MGX switches. • SSH—(Only available when a NE is selected) Opens a command line tool to gain secure shell access to MGX switches.
Help	
Color Legend	Displays the Cisco MGM color legend.
Contents	Displays the contents for online Help.

Table 6-6 Configuration Center—Toolbar Buttons

Option	Task
Chassis View	Launches Chassis View for the selected object. If no object is selected, Chassis View launches, and the right hand area is empty.
Configuration Center	Launches Configuration Center for the selected object. If no object is selected, Configuration Center launches, and the right hand area is empty.
Diagnostics Center	Launches Diagnostics Center for the selected object. If no object is selected, Diagnostics Center launches, and the right hand area is empty.
Statistics Report	Launches the Statistics Report
Administration	Launches the Cisco MGM Audit Trail Viewer. For more information, see section 8.3.2 Viewing the Audit Trail File, page 8-4 .

Table 6-7 Configuration Center—Hierarchy, Configuration and Inspector Pane Descriptions

Options	Task
Hierarchy pane	Navigates and selects objects for configuration. For more information, see Chapter 2, “Basic Concepts.” Within the Hierarchy pane, there are two tabs: <ul style="list-style-type: none"> • Elements—Configures the node, card, line, and port. • Connections—Configures the connections.

Table 6-7 Configuration Center—Hierarchy, Configuration and Inspector Pane Descriptions (continued)

Options	Task
Configuration pane	Depending on the active tab (Elements or Connections), the configuration details for the selected object appear. If an object is not selected, the Configuration pane is empty. Fields within the Configuration pane with a * indicate required fields. Fields that have been modified appear blue.
Inspector pane	Provides a list of detailed status information for the network element selected from the Hierarchy pane. For more information, see Chapter 2, “Basic Concepts.”

6.2.2.1 Accessing Network Elements

To perform configuration tasks, you can open any NE in the Hierarchy pane, either:

- Drag-and-drop the NE from the Hierarchy pane to the Configuration pane
- or
- Double-click on the NE in the Hierarchy pane

The corresponding configuration window opens in the Configuration pane.



Tip

Any window within the Hierarchy pane can be “pinned” down by clicking on the pin tool, located in the bottom right corner of each window. This means that when you open other windows, the tacked down window will remain open. For more information on this feature, see [Chapter 2, “Basic Concepts.”](#)

6.2.3 Navigating Within Tables

Many tabs within the Configuration pane contain tables. Within each table, there are four buttons:



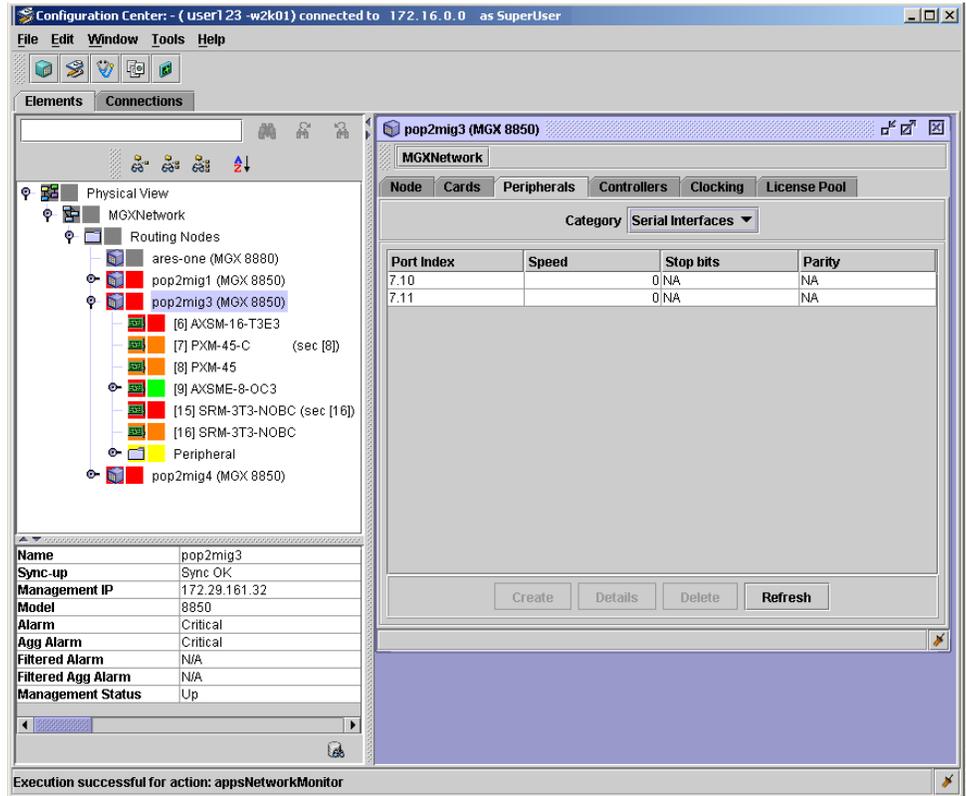
Note

Some of these buttons may be grayed out, depending on availability.

- Create—Allows you to create a new table entry (opens a new window)
- Details—Allows you to view or modify detailed information about a selected entry (opens a new window)
- Delete—Allows you to delete an entry
- Refresh—Refreshes the table

For example, see [Figure 6-3](#).

Figure 6-3 Configuration Center—Peripherals Tab, Serial Interfaces Category



If you select the Create or Details button, a new window appears. This window contains five buttons:

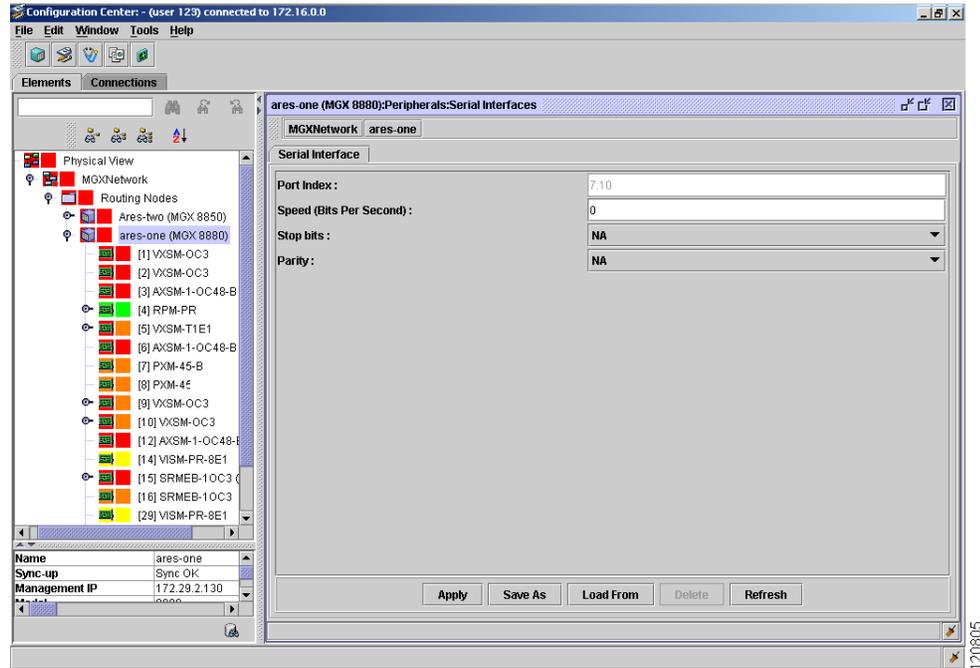
**Note**

Some of these buttons may be grayed out, depending on availability.

- Apply—Applies any modifications or additions
- Save As—Allows you to save the current parameters as a named template
- Load From—Provides a list of templates to load parameters from
- Delete—Deletes the information
- Refresh—Refreshes the data

For example, see [Figure 6-4](#).

Figure 6-4 Configuration Center—Peripherals Tab, Serial Interface Details



6.3 How Do I Manage Templates for Network Elements?

- 6.3.1 Saving Templates for Network Elements, page 6-11
- 6.3.2 Loading or Deleting Templates for Network Elements, page 6-12

6.3.1 Saving Templates for Network Elements

For any specified network element (such as a node, card, line, port, or connection), you can save the current parameters as a template.



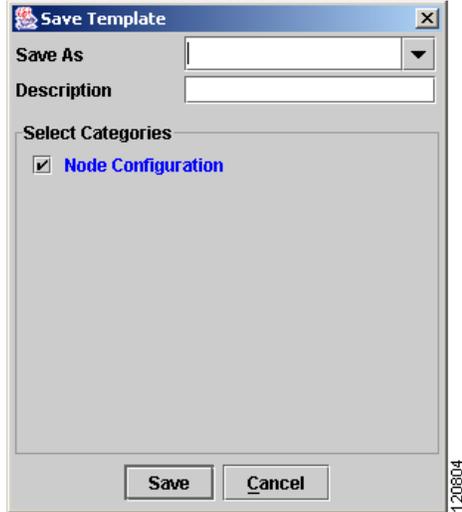
Note

For details on creating connection templates, see section [Chapter 7, "Provisioning Connections."](#)

Step 1

From the Configuration Center main window, under the **Elements** tab, double-click the node, card, line, port, or connection whose parameters you want to save, then click **Save As** to display the Save Template window.

Figure 6-5 Save Template Window



- Step 2** Enter the new name for the template in the **Save As** field.
 - Step 3** Enter a description for the template in the **Description** field.
 - Step 4** Ensure that the listed categories are correct in the **Selected Categories** area.
 - Step 5** Click **Save** to save the current network element template, or **Cancel** to exit without saving.
-

6.3.2 Loading or Deleting Templates for Network Elements

- Step 1** From the Configuration Center main window, under the **Elements** tab, double-click the node, card, line, port or connection you want to load or delete a template on.
 - Step 2** Under the appropriate subtab, click **Load From** to display a list of available templates.
 - Step 3** Select the template name from the list of templates.
 - Step 4** Click **Load** to load the template for a particular category group
or
Click **Delete** to delete an existing template
or
Click **Cancel** to exit without saving
or
Click **Refresh** to refresh the window.
-

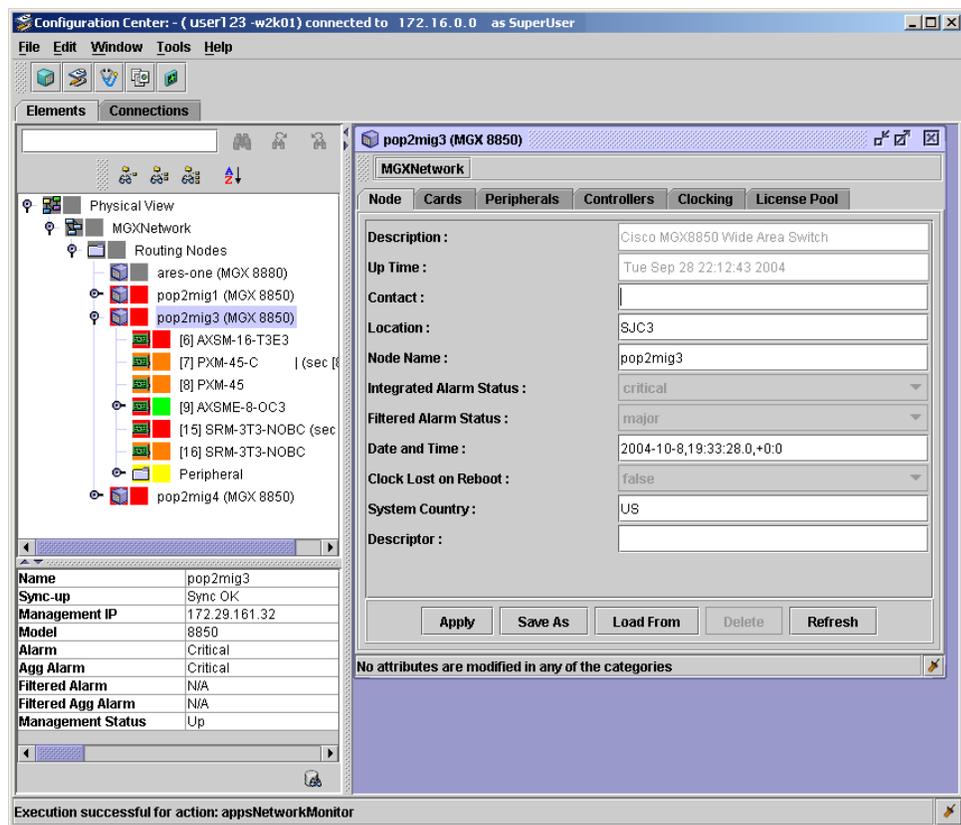
6.4 How Do I Configure Cisco MGX 8880 and 8850 Nodes?

- 6.4.1 Configuring a Node, page 6-13
- 6.4.2 Displaying Cards Within a Node, page 6-15
- 6.4.4 Managing Node Peripherals, page 6-19
- 6.4.5 Viewing Node Controllers, page 6-25
- 6.4.6 Managing Node Clocking, page 6-26

6.4.1 Configuring a Node

Step 1 From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens. The **Node** tab appears by default.

Figure 6-6 Configuration Center—Node Tab



Note Table 6-8 describes the fields in the Node tab.

Step 2 Check or configure each field, as applicable.



Note Some fields are grayed out, meaning they are not configurable.

Step 3 Click **Apply** to apply the current node configuration settings.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-8 *Field Descriptions for the Node Tab*

Field Name	Description
Description	Description of the managed node.
Up Time	System up time of the current node.
Contact	Contact person for the managed node.
Location	Physical location of the node.
Node Name	Administratively assigned name for the node.
Integrated Alarm Status (read-only)	Integrated alarm status of the shelf. The following options are valid: <ul style="list-style-type: none"> • Clear • Minor • Major • Critical
Filtered Alarm Status (read-only)	Filtered alarm status of the shelf. The following options are valid: <ul style="list-style-type: none"> • Clear • Minor • Major • Critical
Date and Time	Current local date and time for the system.
Clock Lost on Reboot (if applicable)	Indicates whether the system can preserve knowledge of current date and time across a system reboot.
System Country	Country where the system is physically located.
Descriptor	Node descriptor.

6.4.2 Displaying Cards Within a Node

Displaying cards within a node allows you to verify that the correct cards are installed in the correct slots, and that the back cards installed are indeed compatible with the front cards they serve.

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Cards** tab to display a summary report of all the cards installed on the node. The Cards category appears by default in the drop-down arrow.



Note For detailed information on the Redundancy Info option, see [Chapter 5, “Maintaining an Efficient Network.”](#)

Figure 6-7 Configuration Center—Cards Tab

The screenshot shows the Configuration Center window for node pop2mig3 (MGX 8850). The 'Cards' tab is selected, displaying a table of installed cards. The table has the following columns: Slot, Module Type, Front Card Module State, Front Card Admin State, Front Card Firmware Revision, and Front Card Hardware Revision.

Slot	Module Type	Front Card Module State	Front Card Admin State	Front Card Firmware Revision	Front Card Hardware Revision
8	pxm-45	Reserved		5.0(22.77)A	
15	srm-3T3-NOBC	Reserved		---	
16	srm-3T3-NOBC	Reserved		---	
7	pxm-45-c	Active		5.0(22.77)A	
9	axsm8-OC3-E	Active		5.0(4.1)A	
6	axsm16-T3E3	Failed		---	

Below the table are buttons for 'Create', 'Details', 'Delete', and 'Refresh'. The status panel at the bottom shows 'Execution successful for action: appsNetworkMonitor'.

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6.4.3 Verifying a Specific Card for the Node

You can verify a card when the objects to be managed are associated with a particular card.

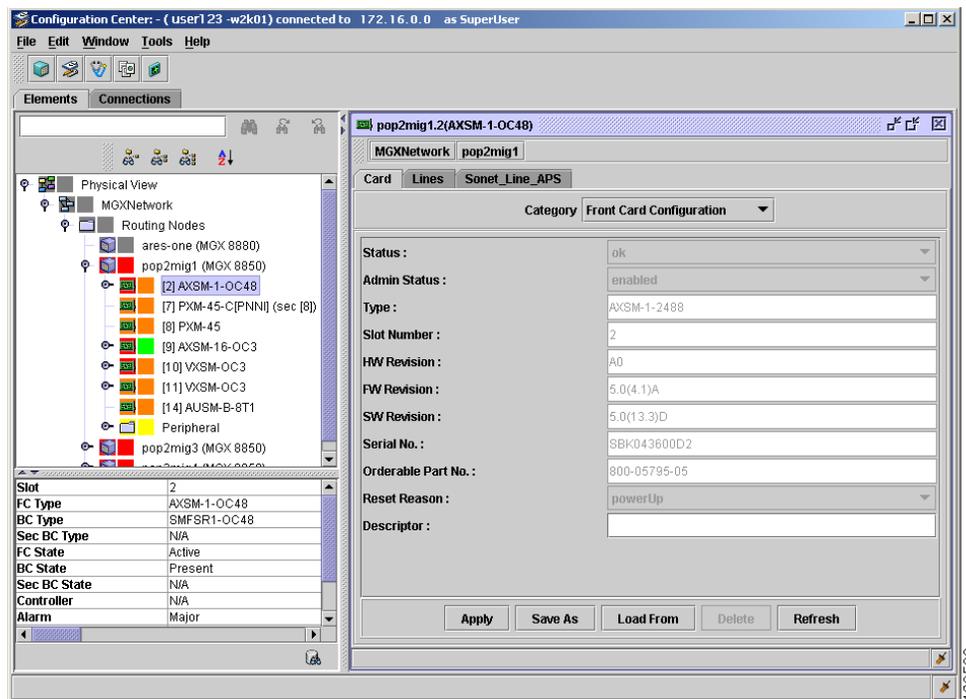
Step 1 Within the **Cards** tab (see [6.4.2 Displaying Cards Within a Node](#), page 6-15) select the card from the summary report, then click **Details**.

or

Within the Configuration Center Hierarchy pane, double-click the card you want to view details for.

The **Card** tab appears (for example, [Figure 6-8](#) displays the AXSM card tab).

Figure 6-8 Configuration Center—AXSM Card Tab



Note [Table 6-9](#) describes fields in the Card tab.

Step 2 Choose one the following card configurations from the **Category** drop-down arrow:

- **Front Card Configuration**
- **Back Card Configuration**
- **Sec Back Card Configuration (optional)**
- **System Information (RPM only)**
- **Entity Sensors (VXSM only)**
- **Card Information (VISM-PR only)**
- **Daughter Card Information (VISM-PR only)**



Note The Back Card Configuration or Sec Back Card Configuration options are read-only.

Step 3 (Optional) Within the **Front Card Configuration** option, enter the card descriptor in the **Descriptor** field.



Note The **Descriptor** field is valid for the whole Card Configuration, but is available only from the first category of that card configuration, in this case the Front Card Configuration.

Step 4 (Optional) Within the **System Information** option, enter the **Node Name**.

Step 5 Click **Apply** to modify the card descriptor and to verify the information for the card is valid.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-9 *Field Descriptions for the Cards Tab*

Category	Field Name	Description
Front, Back, and Sec Back Card Configuration (applicable fields vary for each)	(Operational) Status	Operational state of the module.
	Card Description	Front card description.
	Admin Status	Administrative control of the module.
	Type	Textual description of physical entity.
	Slot Number	Number of the physical entity.
	Hardware (HW) Revision	Vendor-specific hardware description string.
	Firmware (FW) Revision	Vendor-specific firmware description string.
	SW Revision	Vendor-specific software description string.
	Serial Number	Vendor-specific serial number string.
	Orderable Part No	Name of the manufacturer.
	Reset Reason	Reason for last reset.
	Descriptor	Card descriptor.

Table 6-9 *Field Descriptions for the Cards Tab (continued)*

Category	Field Name	Description
Front, Back, and Sec Back Card Configuration (continued)	Secondary Description (<i>RPM only</i>)	Secondary back card description.
	Secondary Serial Number (<i>RPM only</i>)	Secondary back card serial number.
	Secondary Hardware Revision (<i>RPM only</i>)	Secondary back card hardware revision.
	Secondary Firmware Revision (<i>RPM only</i>)	Secondary back card firmware revision.
	Secondary Operational Status (<i>RPM only</i>)	Secondary back card operational status.
	Save Running Config button (<i>RPM only</i>)	Allows you to save any configuration changes on the router, in order to keep those changes after a reboot.
System Information (<i>RPM only</i>)	Sys Description	Textual description of the system entity.
	Up Time	Time (in hundredths of a second) since the network management portion of the system was last re-initialized.
	Contact	ID and contact information of the contact person for this managed node.
	Node Name	Administratively assigned name for the managed node.
	Location	Physical location of the node.
	Services	Indicates a set of services that the system offers.
Entity Sensors, Entity Sensors Tab	Sensor Description	Textual description of the sensor.
	Sensor Type	Type of data reported by the entSensorValue. This variable is set by the agent at startup and the value does not change during operation.
	Sensor Scale	Indicates the exponent to apply to sensor values reported by entSensorValue. This variable is set by the agent at startup and the value does not change during operation.
	Sensor Value	Reports the most recent measurement detected by the sensor.
	Sensor State	Indicates the present operational state of the sensor.

Table 6-9 *Field Descriptions for the Cards Tab (continued)*

Category	Field Name	Description
Entity Sensors, Sensor Threshold Tab	Threshold Index	Index that uniquely identifies an entry in the entSensorThreshold table. This index permits the same sensor to have several different thresholds.
	Threshold Severity	Severity of this threshold.
	Threshold Relation	Relation between sens or value and threshold value, required to trigger the alarm.
	Threshold Value	Value of the threshold.
	Threshold Evaluation	Result of the most recent evaluation of the threshold.
	Threshold Notification	Controls generation of entSensorThresholdNotification for this threshold.
Card Information (VISM-PR only)	Slot Number	Slot number of the card.
	Card Type	This object holds the type of the card, for processor module as well as service module.
	Card Change Type	Type of card change.
Daughter Card Information (VISM-PR only)	Daughter Card Serial Number	The serial number is on the non-volatile RAM on the P daughter card, entered by the manufacturer.
	Daughter Card Description	Describes the VISM-PR daughter card.
	Daughter Card Hardware (HW) Revision	Hardware revision number for the daughter card.

6.4.4 Managing Node Peripherals

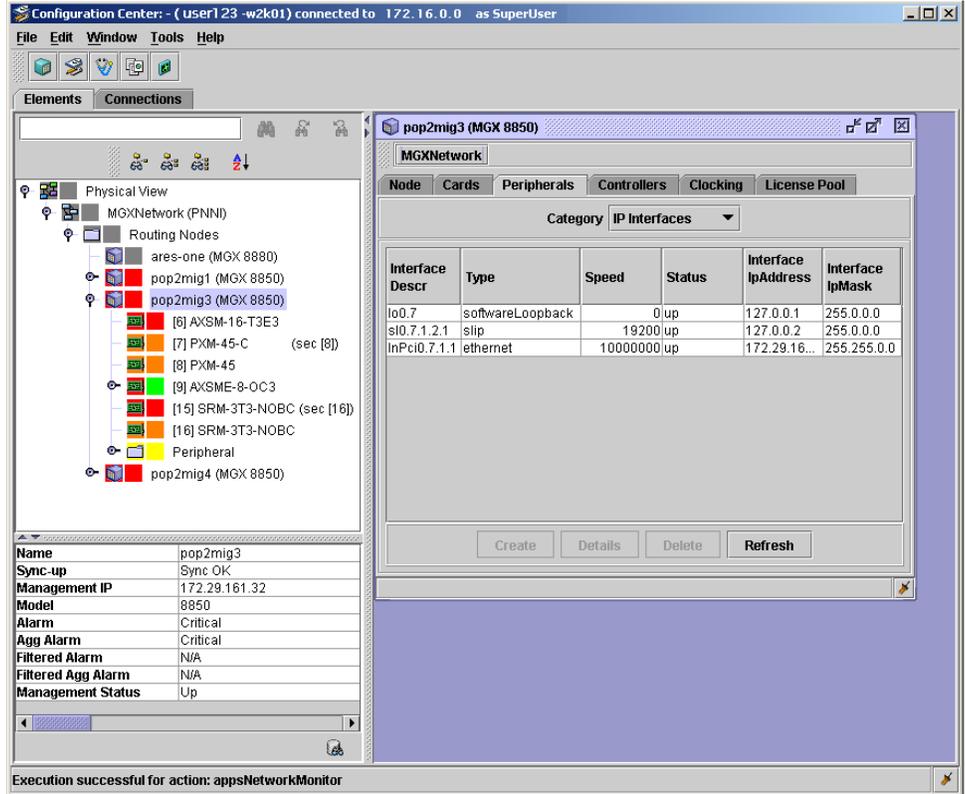
These tasks are used to manage peripherals:

- [6.4.4.1 Displaying IP Interfaces, page 6-19](#)
- [6.4.4.2 Configuring Serial Interfaces, page 6-20](#)
- [6.4.4.3 Displaying Sensors, page 6-23](#)

6.4.4.1 Displaying IP Interfaces

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- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Peripherals** tab. The **IP Interfaces** option appears by default in the **Category** drop-down arrow.

Figure 6-9 Configuration Center—Peripherals Tab, IP Interfaces Category



Step 3 (Optional) Click **Refresh** to refresh the table.

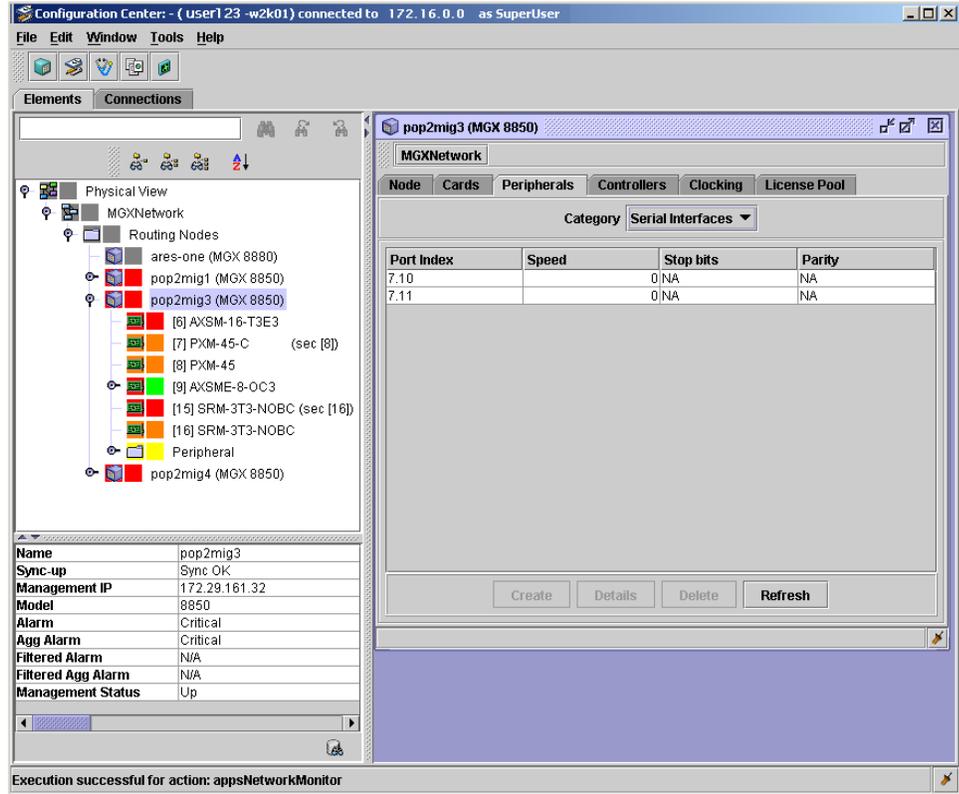


Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

6.4.4.2 Configuring Serial Interfaces

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Peripherals** tab.
- Step 3** Choose the **Serial Interfaces** option from the **Category** drop-down arrow.

Figure 6-10 Configuration Center—Serial Interfaces Category

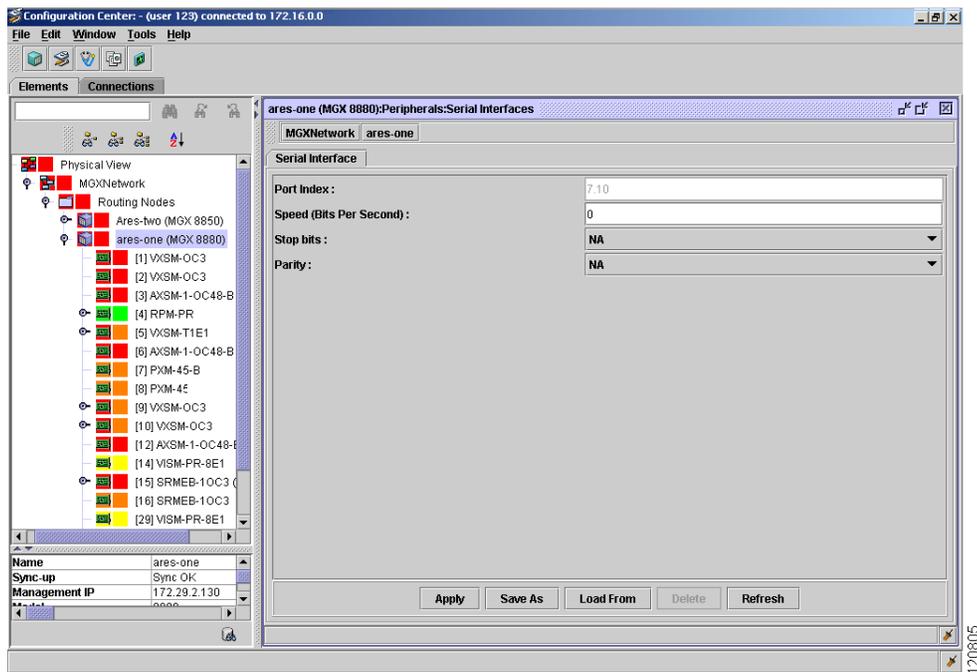


Step 4 (Optional) Click **Details** to view or modify information about a selected controller. The **Serial Interface** tab appears.



Note For a description of all buttons within this table, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Figure 6-11 Configuration Center—Peripherals Tab, Serial Interface Tab



- a. Enter the **Speed**, and configure the **Stop Bits** and **Parity**, if applicable.
- b. Click **Apply**.



Note Table 6-10 describes the fields in the Serial Interfaces tab.

For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-10 *Field Descriptions for the Serial Interfaces Tab*

Field Name	Description
Port Index	Interface index of the port.
Speed (Bits Per Second)	The input speed of the port.
Stop bits	The number of stop bits on the port: <ul style="list-style-type: none"> • NA • one • two • oneAndHalf • dynamic
Parity	The port's sense of a character parity bit: <ul style="list-style-type: none"> • NA • none • odd • even • mark • space

6.4.4.3 Displaying Sensors

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Peripherals** tab.
- Step 3** Choose the **Sensors** option from the **Category** drop-down arrow.

Figure 6-12 Configuration Center—Peripherals Tab, Sensors Category

The screenshot shows the Configuration Center interface for a MGX 8850 node. The left pane shows a tree view of the network hierarchy, including Routing Nodes and Peripherals. The main pane displays the Sensors category for the selected node. A table lists various sensors with their descriptions, values, types, and update rates.

Description	Value	Type	Value Last Updated	Value TimeStamp	Update Rate
Temperature	32 celsius	ok		Tue Sep 28 22:12:44 2004	5
DC Voltage A	49voltsDC	ok		Tue Sep 28 22:12:49 2004	5
DC Voltage B	0voltsDC	ok		Tue Sep 28 22:12:48 2004	5
Bottom Fan Tray Tach #1	0rpm	unavailable		Fri Oct 8 20:10:32 2004	5
Bottom Fan Tray Tach #2	0rpm	unavailable		Fri Oct 8 20:10:32 2004	5
Bottom Fan Tray Tach #3	0rpm	unavailable		Fri Oct 8 20:10:33 2004	5
Bottom Fan Tray Tach #4	0rpm	unavailable		Fri Oct 8 20:10:33 2004	5
Bottom Fan Tray Tach #5	0rpm	unavailable		Fri Oct 8 20:10:34 2004	5
Bottom Fan Tray Tach #6	0rpm	unavailable		Fri Oct 8 20:10:34 2004	5
Bottom Fan Tray Tach #7	0rpm	unavailable		Fri Oct 8 20:10:35 2004	5
Bottom Fan Tray Tach #8	0rpm	unavailable		Fri Oct 8 20:10:36 2004	5
Bottom Fan Tray Tach #9	0rpm	unavailable		Fri Oct 8 20:10:37 2004	5
Top Fan Tray Tach #1	2958 rpm	ok		Tue Sep 28 22:12:46 2004	5
Top Fan Tray Tach #2	2892 rpm	ok		Tue Sep 28 22:12:46 2004	5
Top Fan Tray Tach #3	2874 rpm	ok		Tue Sep 28 22:12:47 2004	5
Top Fan Tray Tach #4	2754 rpm	ok		Tue Sep 28 22:12:47 2004	5
Top Fan Tray Tach #5	2772 rpm	ok		Tue Sep 28 22:12:48 2004	5
Top Fan Tray Tach #6	2802 rpm	ok		Tue Sep 28 22:12:48 2004	5
Top Fan Tray Tach #7	2820 rpm	ok		Tue Sep 28 22:12:45 2004	5
Top Fan Tray Tach #8	2892 rpm	ok		Tue Sep 28 22:12:45 2004	5
Top Fan Tray Tach #9	2802 rpm	ok		Tue Sep 28 22:12:45 2004	5



Note Table 6-11 describes the fields in the Sensors table.

Step 4 (Optional) Click **Refresh** to refresh the table.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

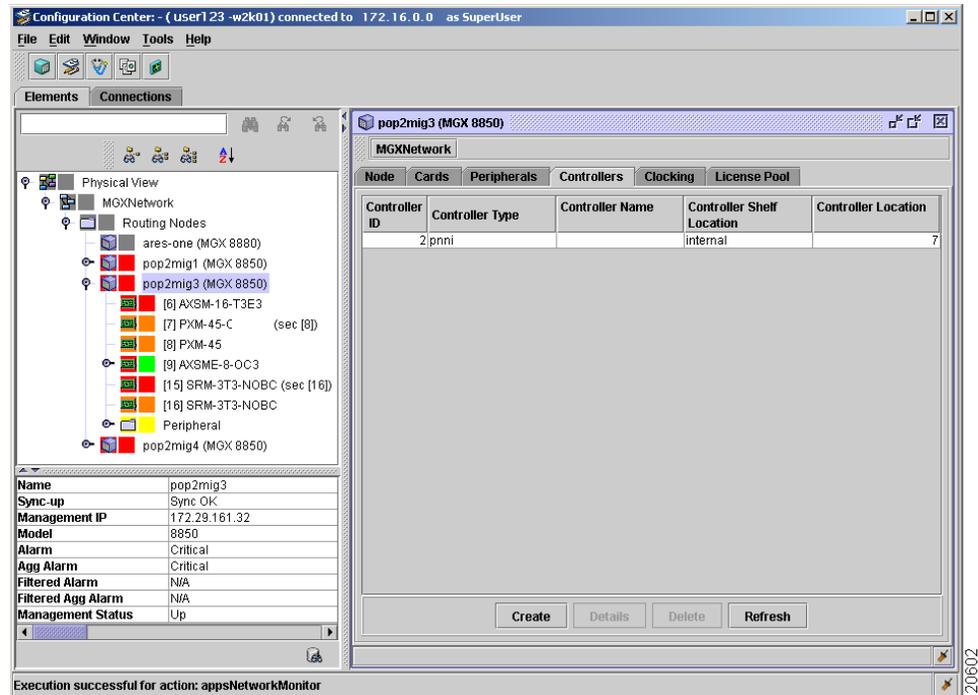
Table 6-11 Field Descriptions for the Sensors Table

Field Name	Description
Description	Specifies the type of environmental state, such as temperature, DC voltage, bottom fan tray, and so forth.
Value	Reports the most recent measurement seen by the sensor.
Type	Indicates the type of data reported by the Value parameter. The variable is set by the agent at start-up and the value does not change during operation.
Value Last Updated	Indicates the status of the value.
Value TimeStamp	Indicates the date and time of the value reported in the Value parameter.
Update Rate	Indicates the rate that the agent updates the Value parameter.

6.4.5 Viewing Node Controllers

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Controllers** tab.

Figure 6-13 Configuration Center—Controllers Tab



Note Table 6-12 describes fields in the Controllers table.

- Step 3** (Optional) Click any one of the following buttons:
- **Create** to create a new controller
 - **Details** to view or modify information about a selected controller
 - **Delete** to delete a controller
 - **Refresh** to refresh the table

Table 6-12 Field Descriptions for the Controllers Table

Field Name	Description
Controller ID	Unique value for VSI controller (VSI master).
Controller Type	Identifies the controller type.
Controller Name	Name chosen by the user for the VSI controller.
Controller Shelf Location	Identifies the location of the controller shelf.
Controller Location	Identifies the location of the controller.

6.4.6 Managing Node Clocking

On Cisco MGX 8850 (PXM1E) switches, clock source configuration is done on the PXM1E card and passed to other nodes over PXM1E lines.

On Cisco MGX 8850 (PXM45) switches, clock source configuration is done on a PXM45 card, and clock sourcing information is passed to other nodes over AXSM lines.

Cisco MGM supports the manual clock configuration method of network clock synchronization for the Cisco MGX switches. Manual clock configuration configures both a primary and secondary clock source, which are distributed throughout the network. The secondary clock source takes over if the primary clock source fails. You can configure a network setup with one master clock source, and a secondary to ensure network clock stability.

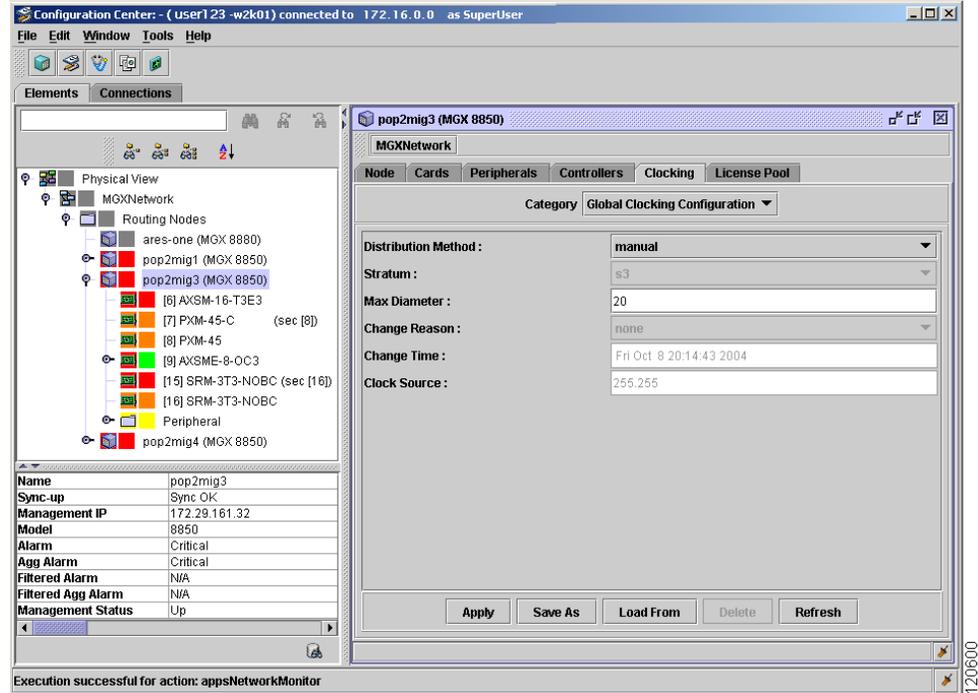
You can manage three types of node clocking:

- [6.4.6.1 Configuring Global Clocking, page 6-26](#)
- [6.4.6.2 Viewing Available Clock Sources, page 6-27](#)
- [6.4.6.3 Viewing or Creating Manual Clock Sources, page 6-28](#)

6.4.6.1 Configuring Global Clocking

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Clocking** tab. The **Global Clocking Configuration** option appears by default in the **Category** drop-down arrow.

Figure 6-14 Configuration Center—Clocking Tab, Global Clocking Configuration Category



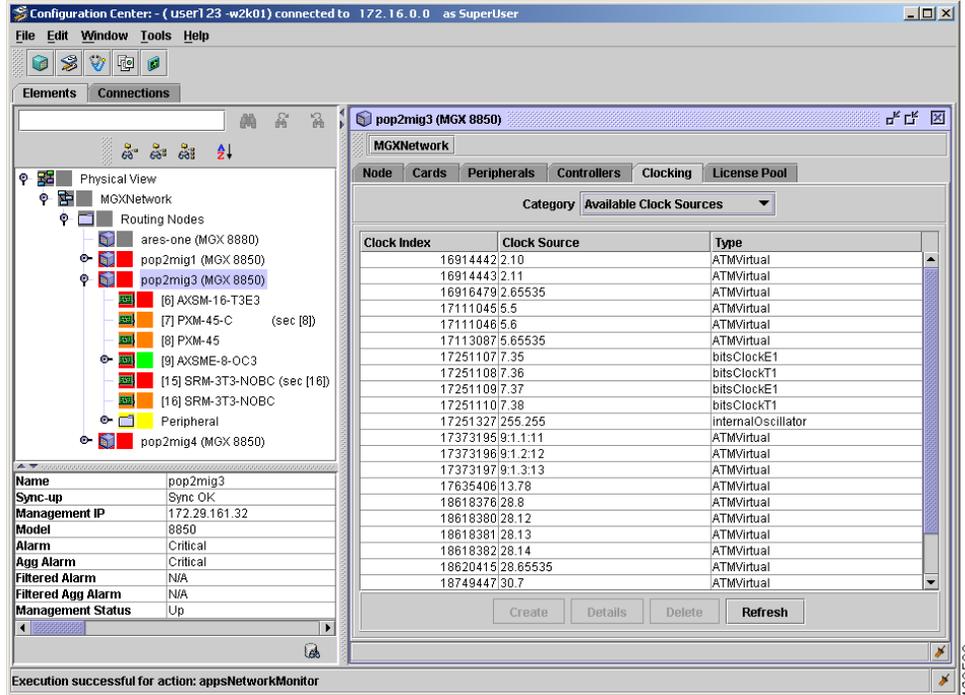
Note Table 6-13 describes fields in the Clocking tab.

- Step 3** (Optional) Modify the fields as desired.
- Step 4** (Optional) Click any one of the following buttons:
- **Apply**—Applies any modifications or additions
 - **Save As**—Allows you to save the current parameters as a named template
 - **Load From**—Provides a list of templates to load parameters from
 - **Refresh**—Refreshes the data

6.4.6.2 Viewing Available Clock Sources

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Clocking** tab.
- Step 3** Choose the **Available Clock Sources** option from the **Category** drop-down arrow.

Figure 6-15 Configuration Center—Clocking Tab, Available Clock Sources Category



Note Table 6-13 describes fields in the Clocking tab.

Step 4 (Optional) Click **Refresh** to reload the table data.

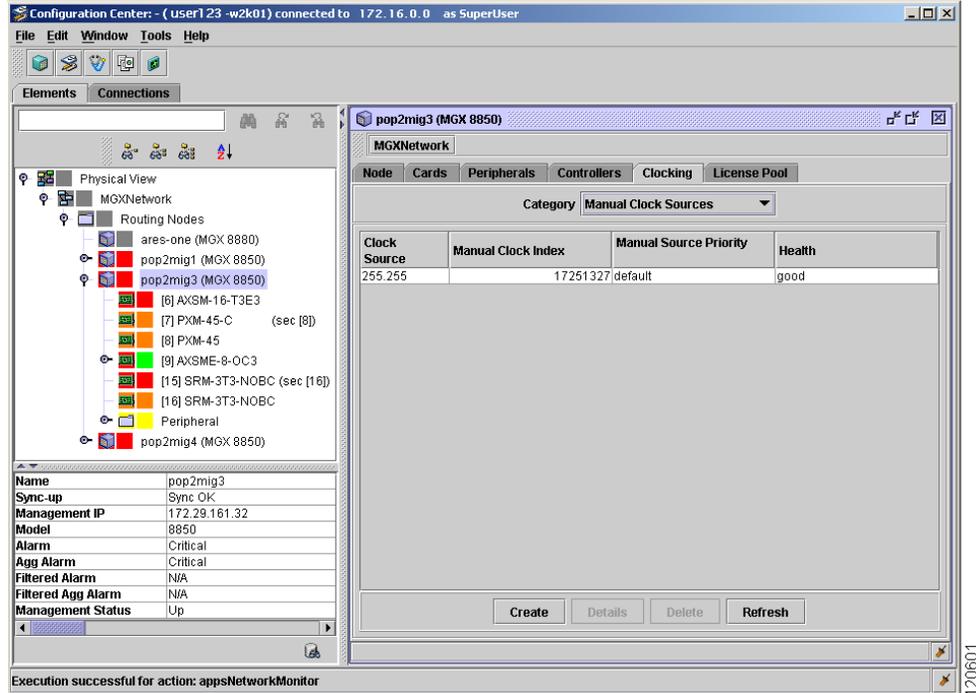


Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

6.4.6.3 Viewing or Creating Manual Clock Sources

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Click the **Clocking** tab.
- Step 3** Choose the **Manual Clock Sources** option from the **Category** drop-down arrow.

Figure 6-16 Configuration Center—Clocking Tab, Manual Clock Sources Category



Note Table 6-13 describes fields in the Clocking tab.

Step 4 To create a new clock source, proceed as follows:

- a. Click **Create**. Complete the following fields:
 - **Priority**
 - **Clock Source Index**
- b. Click **Apply**.



Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-13 Field Descriptions for the Clocking Tab

Category	Field Name	Description
Global Clocking Configuration	Distribution Method	Method used to distribute the network clock for the device.
	Stratum	This variable contains the stratum level of the node.
	Max Diameter	The maximum possible height of a network clock distribution tree in the network.
	Change Reason	Reason for the most recent change of a source of network clock, as indicated by the change in the value of "ciscoWanChangeTimeStamp."
	Change Time	Value of sysUpTime when the most recent change of a source of network clock occurred.
	Clock Source	Description of the clock source associated with this entry.
Available Clock Sources	Clock Index	Clock index number.
	Clock Source	Description of the clock source associated with this entry.
	Type	Type of clock.
Manual Clock Sources table	Clock Source	Description of the clock source associated with this entry.
	Manual Clock Index	Manual clock index number.
	Manual Source Priority	Manual source priority.
	Health	Health of the clock source.
Manual Clock Sources Create window	Priority	Value used to configure an available network clock source to be primary, secondary, or default manual clock source.
	Clock Source Index	An index value used to identify the primary, secondary, or default manual clock source.
	Clock Source	Description of the clock source associated with this entry.
	Health	Health of the clock source.

6.5 How Do I Create or Modify APS?

Automatic Protection Switching (APS) can be configured on SONET lines within SRME or AXSM and VXSM OC-type cards.

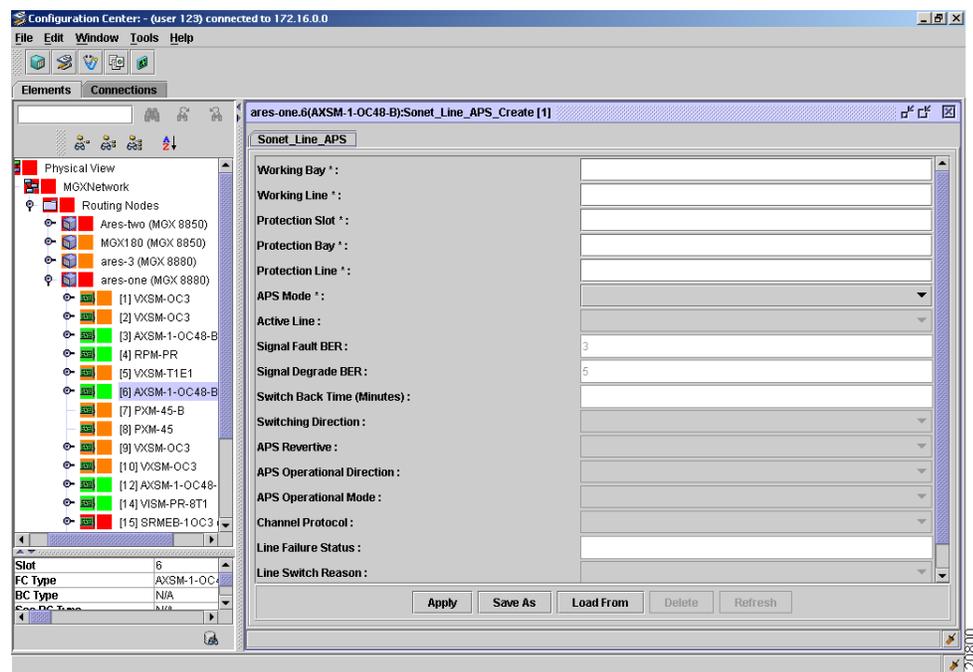
If you are setting up APS on multiple cards, you must first set up an APS connector and then set up redundancy on the node (for details on setting up redundancy, see [5.5.1 Configuring Card Redundancy, page 5-49](#).)

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Double-click an AXSM, SRME or VXSM card.
- Step 3** Click the **Sonet Line APS** tab. Within the Sonet Line APS tab, you can:
- Click **Create** to create a new Sonet Line APS
 - or
 - Select the line you want to modify, then click **Details**



Note The AXSM card is used in Figure 6-17 as an example.

Figure 6-17 Configuration Center—AXSM Sonet Line APS Tab



- Step 4** Configure the fields.
- Step 5** Click **Apply** to save any changes.



Note Table 6-27 describes fields in the Sonet Line APS tab.

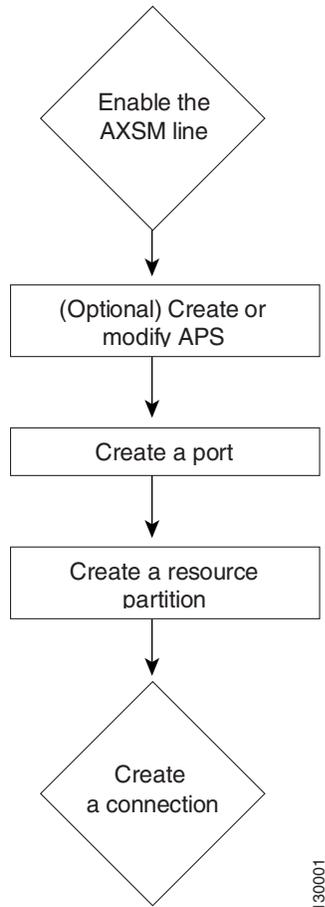
For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-14 *Field Descriptions for the Sonet Line APS Tab*

Field Name	Description
Working Bay	Working bay number.
Working Line	Working line number.
Protection Slot	Protection slot number.
Protection Bay	Protection bay number.
Protection Line	Protection line number.
APS Mode	Configures APS architecture mode on the working/protection line pairs.
Active Line	Indicates which line is active.
Signal Fault BER	Contains the bit error rate threshold for signal fault detection on the working line.
Signal Degrade BER	Contains the bit error rate threshold for signal degrade detection on the working line.
Switch Back Time (minutes)	Contains interval (in minutes) to wait before attempting to switch back to the working line.
Switching Direction	Configures the switching direction supported by this APS line.
APS Revertive	Configures the APS revertive or non-revertive option.
APS Operational Direction	Shows the actual APS direction that is implemented on the Near End terminal.
APS Operational Mode	Shows the actual APS architecture mode that is implemented on the Near End terminal.
Channel Protocol	Allows configuration of APS channel protocol to be implemented at the Near End terminal.
Line Failure Status	APS line failure status.
Line Switch Reason	APS line switch reason.
Working Section	Indicates which working section is the APS primary section.

6.6 How Do I Configure AXSM Cards?

Figure 6-18 Process for Configuring AXSM Cards



ATM Switch Service Module, or AXSM cards, can be configured in Cisco MGM by performing the following steps:

-
- Step 1** Enable the AXSM line—See the following sections:
- For an OC-type AXSM card, see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)
or
 - For a T1-type AXSM card, see [6.6.2 Enabling DS1 Lines for AXSM, page 6-45](#)
or
 - For a T3-type AXSM card, see [6.6.3 Enabling DS3 Lines for AXSM, page 6-47](#)
- Step 2** (Optional) Create or modify APS—See [6.6.4 Creating or Modifying AXSM Sonet Line APSs, page 6-53](#).

- Step 3** Create a port—See [6.6.5 Creating a Port for AXSM](#), page 6-55.
- Step 4** Create a resource partition—See [6.6.6 Creating a Resource Partition for AXSM](#), page 6-57.
- Step 5** Create a connection—For information on creating connections, see [Chapter 7, “Provisioning Connections.”](#)

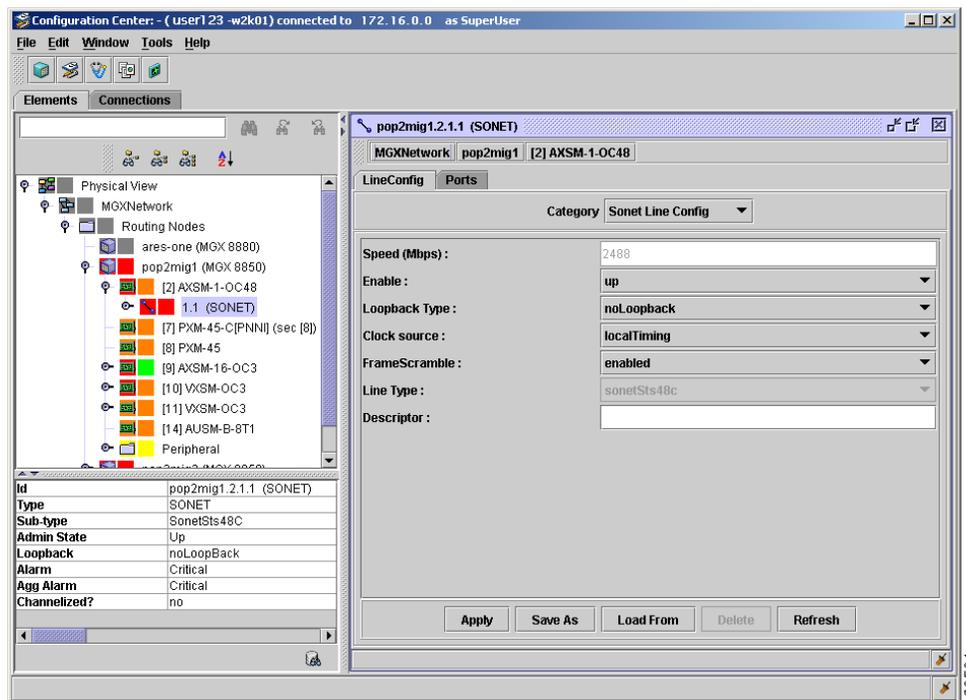
6.6.1 Enabling SONET Lines for AXSM

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click an AXSM (OC) card.
- Step 3** Click the **Lines** tab. Click on the line you want to enable, then click **Details**. The **Line Config** tab appears, with the **Sonet Line Config** category selected by default.



Note For details on the Ports tab, see section [6.6.5 Creating a Port for AXSM](#), page 6-55.

Figure 6-19 Configuration Center—AXSM Sonet Line Config Tab, Sonet Line Config Category



Step 4 Choose the **Up** option from the **Enable** drop-down arrow.

Step 5 (Optional) Verify or modify additional fields, as desired.



Note [Table 6-15](#) describes fields in the AXSM Line Config tab, Sonet Line Config category.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

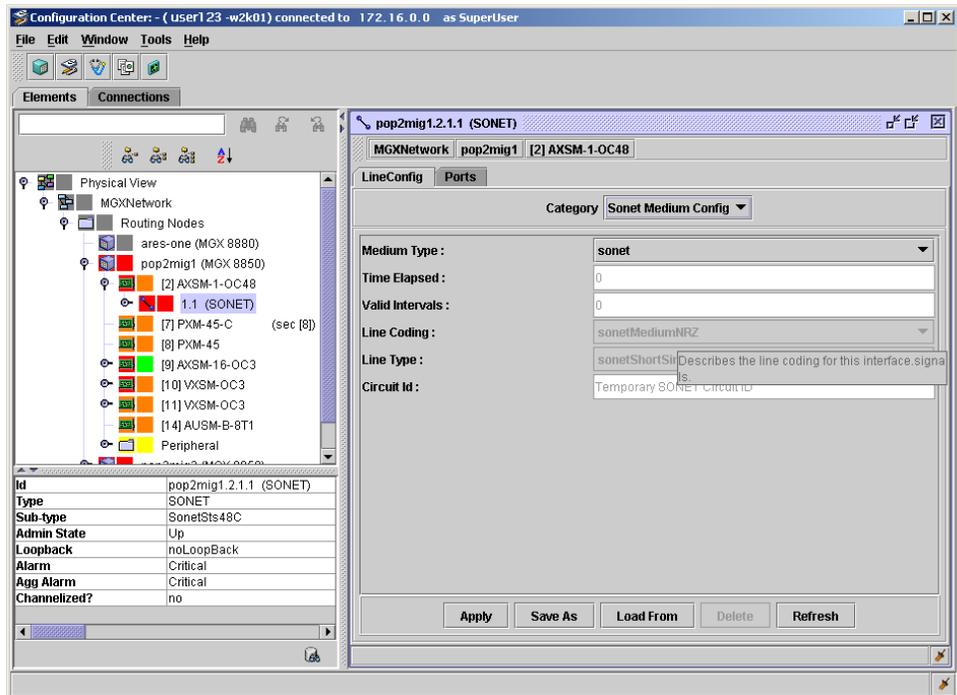
Table 6-15 *Field Descriptions for the AXSM Line Config Tab, Sonet Line Config Category*

Field Name	Description
Speed (Mbps)	An estimate of the interface's current bandwidth in units of 1,000,000 bits per second.
Enable	Desired state of the interface: <ul style="list-style-type: none"> • up—enables the line • down—disables the line
Loopback Type	Desired loopback mode configuration of the line: <ul style="list-style-type: none"> • noLoopback—Specifies no loopback state. • lineLocal—Signal sent at the line is looped back through the device. • lineRemote—Signal sent does not go through the device but is looped back out.
Clock Source	Specifies the source of the transmit clock.
Frame Scramble	Enables or disables the scrambling option in the line.
Line Type	Configured line type.
Descriptor	Line descriptor.

6.6.1.1 Configuring Sonet Medium Config

- Step 1** Within the **Line Config** tab (see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)) choose the **Sonet Medium Config** option from the **Category** drop-down arrow.

Figure 6-20 Configuration Center—AXSM Sonet Line Config Tab, Sonet Medium Config Category



Note [Table 6-16](#) describes fields in the AXSM Line Config tab, Sonet Medium Config category.

- Step 2** Choose the appropriate option from the **Medium Type** drop-down arrow.
- Step 3** Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

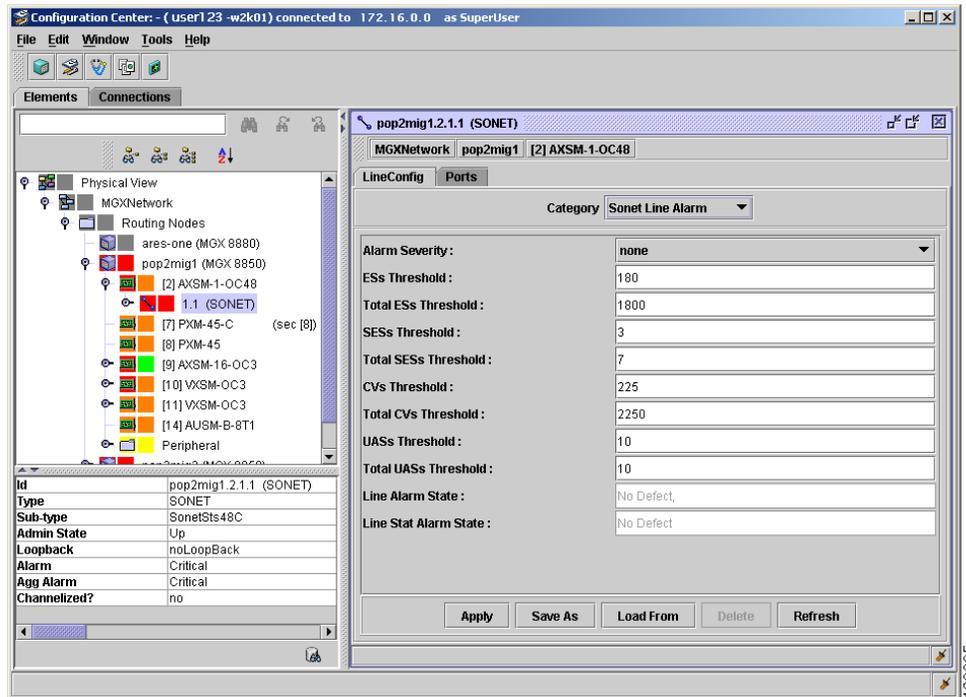
Table 6-16 *Field Descriptions for the AXSM Line Config Tab, Sonet Medium Config Category*

Field Name	Description
Medium Type	Identifies whether a SONET or SDH signal is used across the interface.
Time Elapsed	Number of seconds (including partial seconds) elapsed since the beginning of the current measurement period.
Valid Intervals	Number of previous 15 minute intervals for which data was collected.
Line Coding	<p>Describes the line coding for the interface signals:</p> <ul style="list-style-type: none"> • sonetMediumOther • sonetMediumB3ZS • sonetMediumCMI • sonetMediumNRZ • sonetMediumRZ <p>Note The B3ZS and CMI are used for electrical SONET/SDH signals (STS-1 and STS-3). The NRZ is used for the optical SONET/SDH signals.</p>
Line Type	<p>Describes the line type for this interface:</p> <ul style="list-style-type: none"> • sonetOther • sonetShortSingleMode • sonetLongSingleMode • sonetMultimode • sonetCoax • sonetUTP <p>Note The line types are short-and long-range single-mode fiber or multi-mode fiber interfaces, coax, and UTP for electrical interfaces.</p>
Circuit ID	<p>The transmission vendor's circuit identifier, for the purpose of facilitating troubleshooting.</p> <p>Note The circuit identifier, if available, is also represented by <code>ifPhysAddress</code>.</p>

6.6.1.2 Configuring the Sonet Line Alarm

- Step 1** Within the **Line Config** tab (see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)) choose the **Sonet Line Alarm** option from the **Category** drop-down arrow.

Figure 6-21 Configuration Center—AXSM Line Config Tab, Sonet Line Alarm Category



Note [Table 6-17](#) describes fields in the AXSM Line Config tab, Sonet Line Alarm category.

- Step 2** Choose the appropriate option from the **Alarm Severity** drop-down arrow. Input the other fields with data as desired.
- Step 3** Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

**Note**

The following thresholds are the same for Far End and Near End.

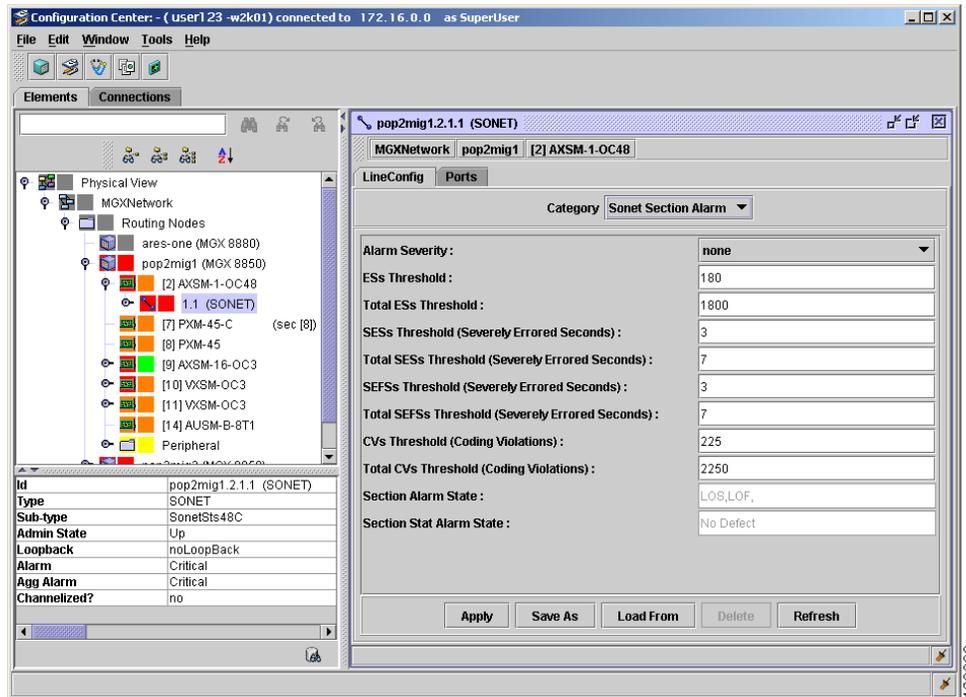
Table 6-17 *Field Descriptions for the AXSM Line Config Tab, Sonet Line Alarm Category*

Field Name	Description
Alarm Severity	Setting this option to major or minor raises a corresponding severity alarm when any statistical threshold is exceeded. Note For alarm severity definitions, see Chapter 9, “Managing Faults.”
ESs Threshold	Threshold value for Errored Seconds detection for the current 15 minute interval, above which an alarm is generated.
Total ESs Threshold	Threshold value for Errored Seconds detection for the 24 hour interval, above which an alarm is generated.
SESSs Threshold	Severely Errored Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total SESSs Threshold	Severely Errored Seconds threshold for the 24 hour interval, above which an alarm is generated.
CVs Threshold	Coding Violations threshold for the current 15 minute interval, above which an alarm is generated.
Total CVs Threshold	Coding Violations threshold for the 24 hour interval, above which an alarm is generated.
UASs Threshold	Unavailable Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total UASs Threshold	Unavailable Seconds threshold for the 24 hour interval, above which an alarm is generated.
Line Alarm State	Current alarm status of the line.
Line Stat Alarm State	Indicates the line stat alarm status.

6.6.1.3 Configuring the Sonet Section Alarm

- Step 1** Within the **Line Config** tab (see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)) choose the **Sonet Section Alarm** option from the **Category** drop-down arrow.

Figure 6-22 Configuration Center—AXSM Line Config Tab, Sonet Section Alarm Category



Note [Table 6-18](#) describes fields in the AXSM Line Config tab, Sonet Section Alarm category.

- Step 2** Choose the appropriate option from the **Alarm Severity** drop-down arrow. Input the other fields with data as desired.
- Step 3** Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

**Note**

The following thresholds are the same for Far End and Near End.

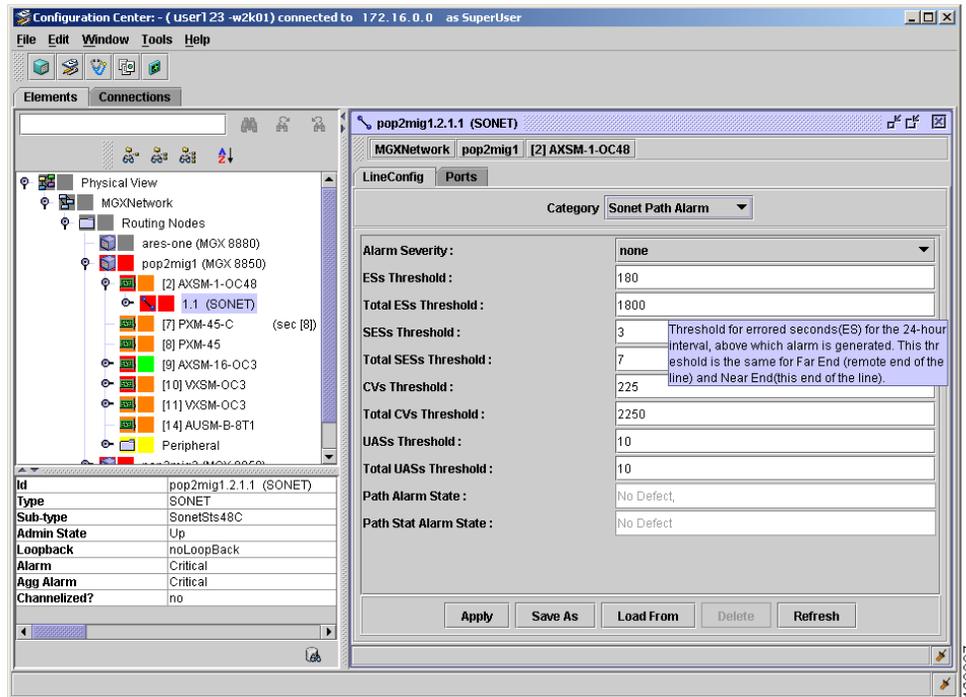
Table 6-18 *Field Descriptions for the AXSM Line Config Tab, Sonet Section Alarm Category*

Field Name	Description
Alarm Severity	Setting this option to major or minor raises a corresponding severity alarm when any statistical threshold is exceeded. Note For alarm severity definitions, see Chapter 9, “Managing Faults.”
ESs Threshold	Threshold value for Errored Seconds detection for the current 15 minute interval, above which an alarm is generated.
Total ESs Threshold	Threshold value for Errored Seconds detection for the 24-hour interval, above which an alarm is generated.
SESSs Threshold	Severely Errored Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total SESSs Threshold	Severely Errored Seconds threshold for the 24 hour interval, above which an alarm is generated.
SEFSSs Threshold	Severely Errored Framing Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total SEFSSs Threshold	Severely Errored Framing Seconds threshold for the 24 hour interval, above which an alarm is generated.
CVs Threshold	Coding Violations threshold for the current 15 minute interval, above which an alarm is generated.
Total CVs Threshold	Coding Violations threshold for the 24 hour interval, above which an alarm is generated.
Section Alarm State	Current alarm status of the section.
Section Stat Alarm State	Indicates the section stat alarm status of the interface.

6.6.1.4 Configuring the Sonet Path Alarm

- Step 1** Within the **Line Config** tab (see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)) choose the **Sonet Path Alarm** option from the **Category** drop-down arrow.

Figure 6-23 Configuration Center—AXSM Line Config Tab, Sonet Path Alarm Category



Note [Table 6-19](#) describes fields in the AXSM Line Config tab, Sonet Path Alarm category.

- Step 2** Choose the appropriate option from the **Alarm Severity** drop-down arrow. Input the other fields with data as desired.
- Step 3** Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

**Note**

The following thresholds are the same for Far End and Near End.

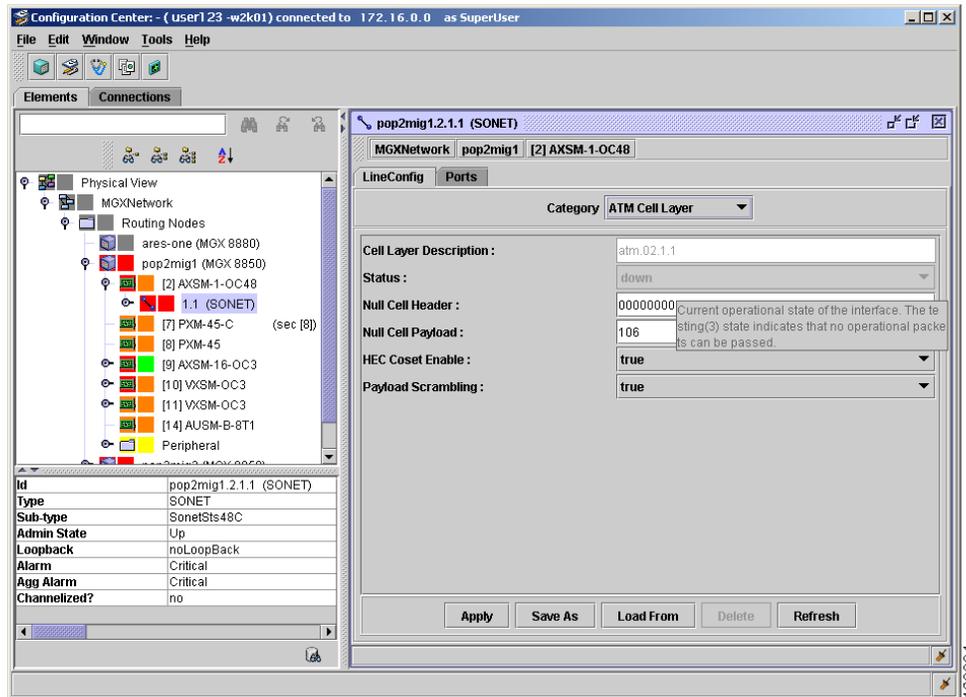
Table 6-19 *Field Descriptions for the AXSM Line Config Tab, Sonet Path Alarm Category*

Field Name	Description
Alarm Severity	Setting this option to major or minor raises a corresponding severity alarm when any statistical threshold is exceeded. By default, TCA crossing does not raise any alarm. For alarm severity definitions, see Chapter 9, “Managing Faults.”
ESs Threshold	Threshold value for Errored Seconds (ES) detection for the current 15 minute interval, above which an alarm is generated. This threshold is the same for Far End and Near End.
Total ESs Threshold	Threshold value for Errored Seconds detection for the 24-hour interval, above which an alarm is generated.
SESSs Threshold	Severely Errored Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total SESSs Threshold	Severely Errored Seconds threshold for the 24 hour interval, above which an alarm is generated.
CVs Threshold	Coding Violations threshold for the current 15 minute interval, above which an alarm is generated.
Total CVs Threshold	Coding Violations threshold for the 24 hour interval, above which an alarm is generated.
UASs Threshold	Unavailable Seconds threshold for the current 15 minute interval, above which an alarm is generated.
Total UASs Threshold	Unavailable Seconds threshold for the 24 hour interval, above which an alarm is generated.
Path Alarm State	Current alarm status of the path.
Path Stat Alarm State	Indicates the path stat alarm status of the interface.

6.6.1.5 Configuring the ATM Cell Layer

- Step 1** Within the **Line Config** tab (see [6.6.1 Enabling SONET Lines for AXSM, page 6-34](#)) choose the **ATM Cell Layer** option from the **Category** drop-down arrow.

Figure 6-24 Configuration Center—AXSM Line Config Tab, ATM Cell Layer Category



Note [Table 6-20](#) describes fields in the AXSM Line Config tab, ATM Cell Layer category.

- Step 2** Choose the appropriate options from the **HEC Coset Enable** and **Payload Scrambling** drop-down arrows.
- Step 3** Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-20 Field Descriptions for the AXSM Line Config Tab, ATM Cell Layer Category

Field Name	Description
Cell Layer Description	This string should include the name of the manufacturer, the product name, and the version of the hardware interface.
Status	Current operational state of the interface. The testing state indicates that no operational packets can be passed.
Null Cell Header	The first four bytes of the ATM header to be used for null cells.
Null Cell Payload	Null cell payload definition. The default value is 106 (0x6A).
HEC Coset Enable	If enabled, the algorithm of Coset Polynomial Addition is applied to do header error check calculations. It applies to transmitted as well as received cells.
Payload Scrambling	Indicates whether payload scrambling is enabled.

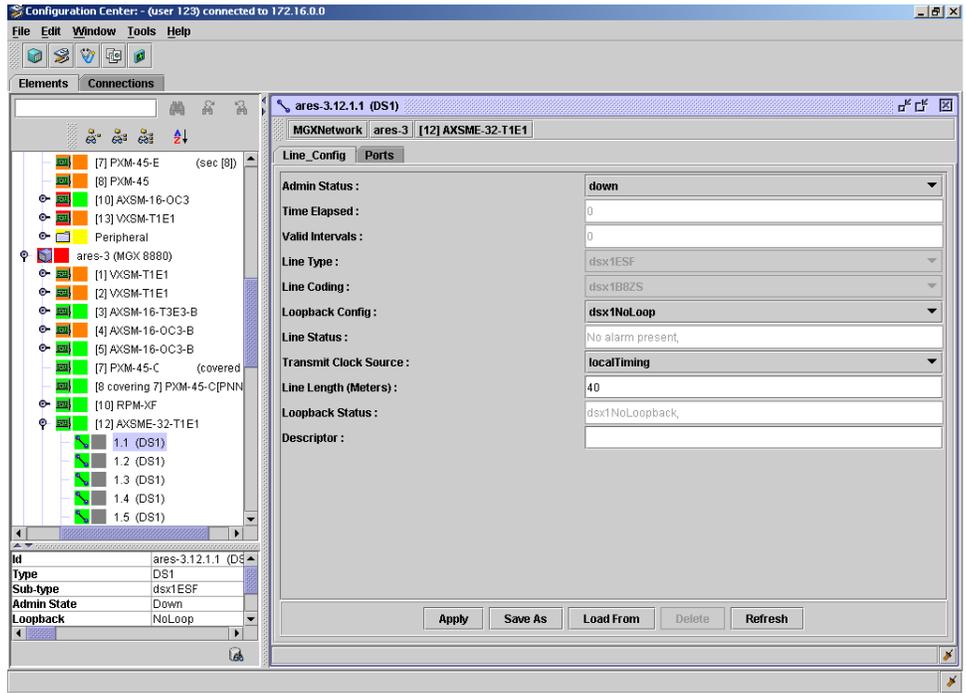
6.6.2 Enabling DS1 Lines for AXSM

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click an AXSM (T1E1) card.
- Step 3** Click the **Lines** tab. Click on the line you want to enable, then click **Details**. The **Line Config** tab appears.



Note For details on the Ports tab, see section [6.6.5 Creating a Port for AXSM, page 6-55](#).

Figure 6-25 Configuration Center—AXSM DS1 Line Config Tab



Step 4 Choose the **Up** option from the **Admin Status** drop-down arrow.

Step 5 (Optional) Verify or modify additional fields, as desired.



Note Table 6-21 describes fields in the AXSM DS1 Line Config tab.

For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-21 Field Descriptions for the AXSM DS1 Line Config Tab

Field Name	Description
Admin Status	Desired state of the interface.
Time Elapsed	Number of seconds that have elapsed since the beginning of the near end current error measurement period.
Valid Intervals	Number of previous near end intervals for which data was collected.
Line Type	Configured line type.
Line Coding	Type of zero code suppression used on this interface.
Loopback Config	Desired loopback configuration.
Line Status	Line status of interface.
Transmit Clock Source	Source of transmit clock.

Table 6-21 Field Descriptions for the AXSM DS1 Line Config Tab (continued)

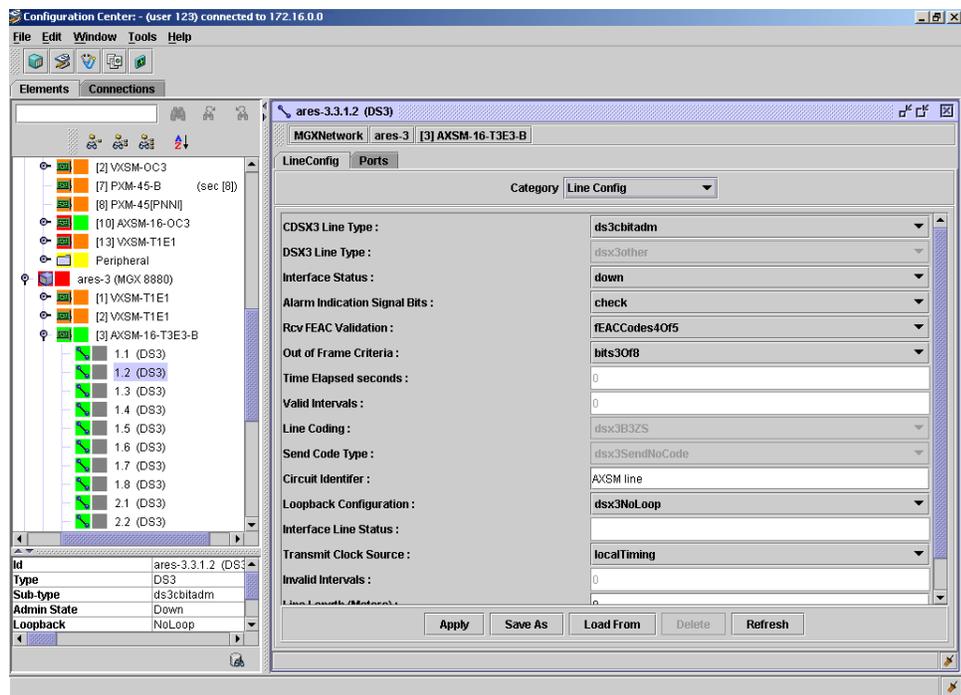
Field Name	Description
Line Length (meters)	Length of the DS1 line. Only useful if the interface has configurable line build out circuitry.
Loopback Status	Current state of loopback on the DS1 interface.
Descriptor	Line descriptor.

6.6.3 Enabling DS3 Lines for AXSM

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click an AXSM (T3E3) card.
- Step 3** Click the **Lines** tab. Click on the line you want to enable, then click **Details**. The **Line Config** tab appears, with the **Line Config** category selected by default.



Note For details on the Ports tab, see section [6.6.5 Creating a Port for AXSM](#), page 6-55.

Figure 6-26 Configuration Center—AXSM DS3 Line Config Tab, Line Config Category

Step 4 Choose the **Up** option from the **Interface Status** drop-down arrow.

Step 5 (Optional) Verify or modify additional fields, as desired.



Note [Table 6-22](#) describes fields in the AXSM DS3 Line Config tab, Line Config category.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-22 *Field Descriptions for the AXSM DS3 Line Config Tab, Line Config Category*

Field Name	Description
CDSX3 Line Type	Type of DS3 C-bit or E3 application implementing this interface.
DSX3 Line Type	Type of DS3 C-bit or E3 application implementing this interface.
Interface Status	State of the interface.
Alarm Indication Signal Bits	When check is set, the Alarm Indication Signal (AIS) is declared when “1010...”b is found and C-bits are all zero. When ignore is set, an AIS condition is declared when “1010...”b is detected irrespective of the state of the C-bits.
Rcv FEAC Validation	Specifies the Far End Alarm and Control (FEAC) code validation criteria.
Out of Frame Criteria	Specifies the Out of Frame decision criteria.
Time Elapsed Seconds	Number of seconds that have elapsed since the beginning of the near end current error measurement period.
Valid Intervals	Number of previous near end intervals for which data was collected. This value will be 96 unless the interface was brought online within the last 24 hours, in which case the value will be the number of complete 15 minute near end intervals since the interface has been online.
Line Coding	Type of zero code suppression used on this interface.
Send Code Type	Type of code that is being sent across the DS3/E3 interface by the device.
Circuit Identifier	Variable contains the transmission vendor’s circuit identifier, to facilitate troubleshooting.
Loopback Configuration	Represents the desired loopback configuration of the DS/E3 interface. dsx3NoLoop means not in the loopback state. Additional values include: <ul style="list-style-type: none"> dsx3PayloadLoop dsx3LineLoop dsx3OtherLoop dsx3InwardLoop dsx3DualLoop
Interface Line Status	Line status of the interface.
Transmit Clock Source	Source of the transmit clock.

Table 6-22 *Field Descriptions for the AXSM DS3 Line Config Tab, Line Config Category (continued)*

Field Name	Description
Invalid Intervals	Number of intervals in the range from 0 to dsx3ValidIntervals for which no data is available.
Line Length (meters)	Length of the DS3 line.
Descriptor	Line descriptor.

6.6.3.1 Setting Up Statistical Alarm Severity

Step 1 Within the AXSM DS3 **Line Config** tab (for details, see [6.6.3 Enabling DS3 Lines for AXSM, page 6-47](#)) select the **15 Min Alarm Config** option in the **Category** drop-down arrow.

Step 2 Choose the **Statistical Alarm Severity** level from the drop-down arrow. Values include:

- none
- minor
- major

Step 3 Configure additional fields as desired.



Note [Table 6-23](#) describes fields in the AXSM DS3 Line Config tab, 15 Min Alarm Config category.

Step 4 Click **Apply** to set up the statistical alarm severity.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-23 *Field Descriptions for the AXSM DS3 Line Config Tab, 15 Min Alarm Config Category*

Field Name	Description
Statistical Alarm Severity	Sets up the severity of any of the statistical alarms.
DS3 Line Statistics Alarm	Bitmap of the DS3 line statistical alarms.

Table 6-23 *Field Descriptions for the AXSM DS3 Line Config Tab, 15 Min Alarm Config Category (continued)*

Field Name	Description
15 Min LCV Threshold	If this value is exceeded in a 15 minute window, a statistical alarm will be declared.
15 Min LES Threshold	
15 Min PCV Threshold (only for T3)	
15 Min PES Threshold (only for T3)	
15 Min PSES Threshold (only for T3)	
15 Min SEFS Threshold	
15 Min UAS Threshold	
15 Min CCV Threshold (only for T3)	
15 Min CES Threshold (only for T3)	
15 Min CSES Threshold (only for T3)	

6.6.3.2 Setting Up the DSX3 24 Hour Alarm

Step 1 Within the AXSM DS3 **Line Config** tab (for details, see [6.6.3 Enabling DS3 Lines for AXSM, page 6-47](#)) choose the **Dsx3 24 Hr Alarm Config** option from the **Category** drop-down arrow.

Step 2 Configure fields as desired.



Note [Table 6-24](#) describes fields in the AXSM DS3 Line Config tab, Dsx3 24 Hr Alarm Config category.

Step 3 Click **Apply** to set up the DSX3 24 hour alarm configuration.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-24 *Field Descriptions for the AXSM DS3 Line Config Tab, Dsx3 24 Hr Alarm Config Category*

Field Name	Description
24 Hr LCV Threshold	If this value is exceeded in a sliding 24 hour window, a statistical alarm will be declared. The threshold is checked every 15 minutes for the preceding 24 hour interval.
24 Hr LES Threshold	
24 Hr PCV Threshold (only for T3)	
24 Hr PES Threshold (only for T3)	
24 Hr PSES Threshold (only for T3)	
24 Hr SEFS Threshold	
24 Hr UAS Threshold	
24 Hr CCV Threshold (only for T3)	
24 Hr CES Threshold (only for T3)	
24 Hr CSES Threshold (only for T3)	

6.6.3.3 Setting Up the ATM Cell Layer

Step 1 Within the AXSM DS3 **Line Config** tab (for details, see [6.6.3 Enabling DS3 Lines for AXSM, page 6-47](#)) choose the **ATM Cell Layer** option from the **Category** drop-down arrow.

Step 2 Configure fields as desired.



Note [Table 6-25](#) describes fields in the AXSM DS3 Line Config tab, ATM Cell Layer category.

Step 3 Click **Apply** to set up the ATM cell layer configuration.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-25 Field Descriptions for the AXSM DS3 Line Config Tab, ATM Cell Layer Category

Field Name	Description
Cell Layer Description	This string should include the name of the manufacturer, the product name and the version of the hardware interface.
Status	Current operational state of the interface. The testing state indicates that no operational packets can be passed.
Null Cell Header	First four bytes of the ATM header to be used for null cells.
Null Cell Payload	Null cell payload definition. Default value is 0x6A.
HEC Coset Enable	If set to true, the algorithm of Coset Polynomial Addition is applied to perform header error check calculations. Applies to transmitted and received cells.
Payload Scrambling	Indicates whether payload scrambling is enabled or not.

6.6.3.4 Setting Up the Plcp Statistical Alarm Severity

Step 1 Within the AXSM DS3 **Line Config** tab (for details, see [6.6.3 Enabling DS3 Lines for AXSM, page 6-47](#)) choose the **Plcp Alarm** option from the **Category** drop-down arrow.

Step 2 Choose the **Plcp Statistical Alarm Severity** level from the drop-down arrow. Values include:

- none
- minor
- major

Step 3 Configure additional fields as desired.



Note [Table 6-26](#) describes fields in the AXSM DS3 Line Config tab, Plcp Alarm category.

Step 4 Click **Apply** to set up the Plcp statistical alarm severity.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-26 Field Descriptions for the AXSM DS3 Line Config Tab, Plcp Alarm Category

Field Name	Description	
Plcp Statistical Alarm Severity	Severity of PLCP statistical alarm.	
15 Min BIP8Cv Threshold	If this value is exceeded in a 15 minute or sliding 24 hour window, a statistical alarm will be declared.	
24 Hr BIP8Cv Threshold		
15 Min BIP8ES Threshold		
24 Hr BIP8ES Threshold		
15 Min BIP8SES Threshold		
24 Hr BIP8SES Threshold		
15 Min BIP8SEFS Threshold		
24 HR BIP8SEFS Threshold		
15 Min BIP8UAS Threshold		
24 Hr BIP8UAS Threshold		
Plcp Line Alarm Status		Bitmap of the DS3 line alarms.
Plcp Line Stat Alarm State		Bitmap of the DS3 Plcp line statistical alarms.

6.6.4 Creating or Modifying AXSM Sonet Line APSs

You can configure the SONET line to have Automatic Protection Switching (APS). SRM or AXSME cards can be configured for APS.

If you are setting up APS on multiple cards, you must first set up an APS connector and then set up redundancy on the node (for details on setting up redundancy, see [5.5.1 Configuring Card Redundancy, page 5-49](#).)



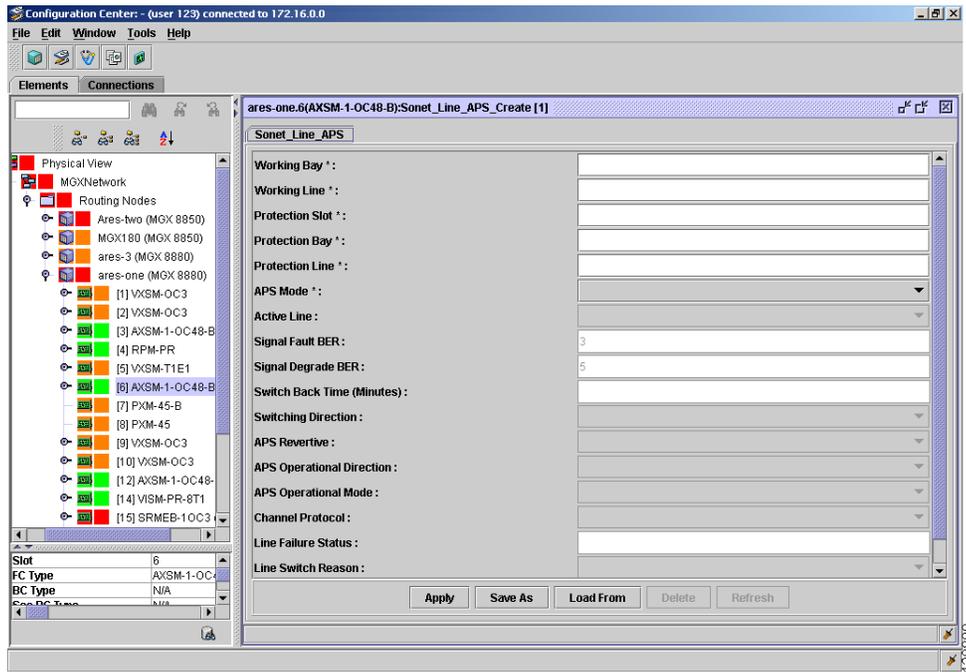
Note

This tab is only applicable for OC-type AXSM cards, and not T3 or T1-type AXSM cards.

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Double-click an AXSM card.

- Step 3** Click the AXSM **Sonet Line APS** tab. Within the Sonet Line APS tab, you can:
- a. Click **Create** to create a new Sonet Line APS
 - or
 - b. Select the line you want to modify, then click **Details**

Figure 6-27 Configuration Center—AXSM Sonet Line APS Tab



- Step 4** Configure the fields.
- Step 5** Click **Apply** to save any changes.



Note [Table 6-27](#) describes fields in the AXSM Sonet Line APS tab.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-27 Field Descriptions for the AXSM Sonet Line APS Tab

Field Name	Description
Working Bay	Working bay number.
Working Line	Working line number.
Protection Slot	Protection slot number.
Protection Bay	Protection bay number.
Protection Line	Protection line number.

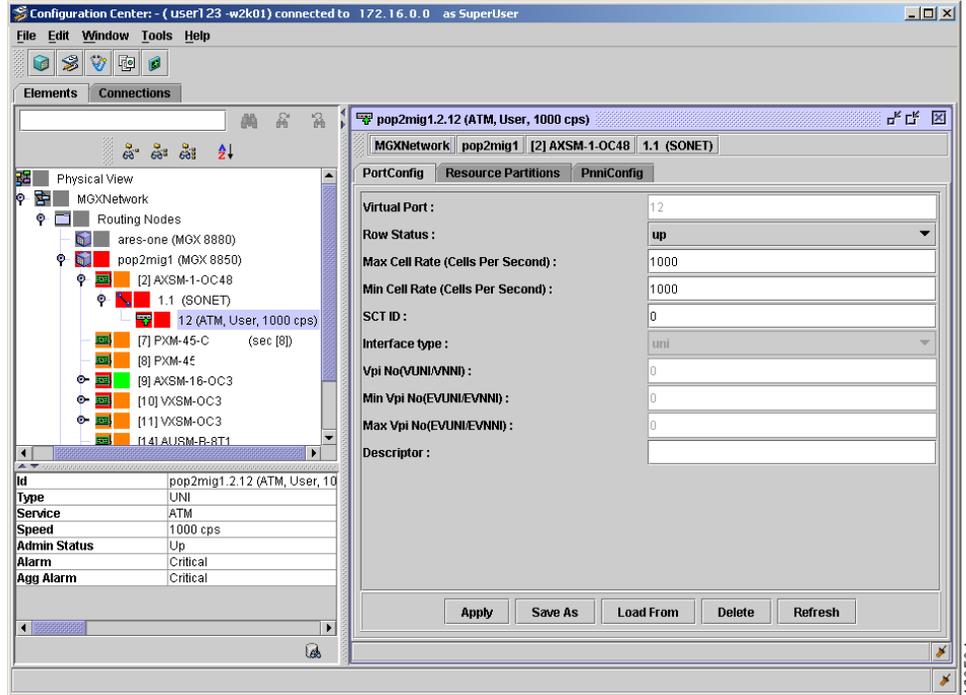
Table 6-27 *Field Descriptions for the AXSM Sonet Line APS Tab (continued)*

Field Name	Description
APS Mode	Configures APS architecture mode on the working/protection line pairs.
Active Line	Indicates which line is active.
Signal Fault BER	Contains the bit error rate threshold for signal fault detection on the working line.
Signal Degrade BER	Contains the bit error rate threshold for signal degrade detection on the working line.
Switch Back Time (minutes)	Contains interval (in minutes) to wait before attempting to switch back to the working line.
Switching Direction	Configures the switching direction supported by this APS line.
APS Revertive	Configures the APS revertive or non-revertive option.
APS Operational Direction	Shows the actual APS direction that is implemented on the Near End terminal.
APS Operational Mode	Shows the actual APS architecture mode that is implemented on the Near End terminal.
Channel Protocol	Allows configuration of APS channel protocol to be implemented at the Near End terminal.
Line Failure Status	APS line failure status.
Line Switch Reason	APS line switch reason.
Working Section	Indicates which working section is the APS primary section.

6.6.5 Creating a Port for AXSM

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, and expand the AXSM card. Double-click the line you want to create a port under.
- Step 3** Click the **Ports** tab, then click **Create**. The **Port Config** tab appears.

Figure 6-28 Configuration Center—AXSM Port Config Tab



Step 4 Complete the active fields as desired.



Note [Table 6-28](#) describes fields in the AXSM Port Config tab.

Step 5 Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-28 Field Descriptions for the AXSM Port Config Tab

Field Name	Description
Virtual Port	Unique value for the ATM virtual interface.
Row Status	Status of the row.
Max Cell Rate	ATM virtual interface's max cell rate.
Min Cell Rate	ATM virtual interface's guaranteed cell rate.
SCT ID	ID of the file that holds module-specific configuration parameters for this ATM virtual interface.

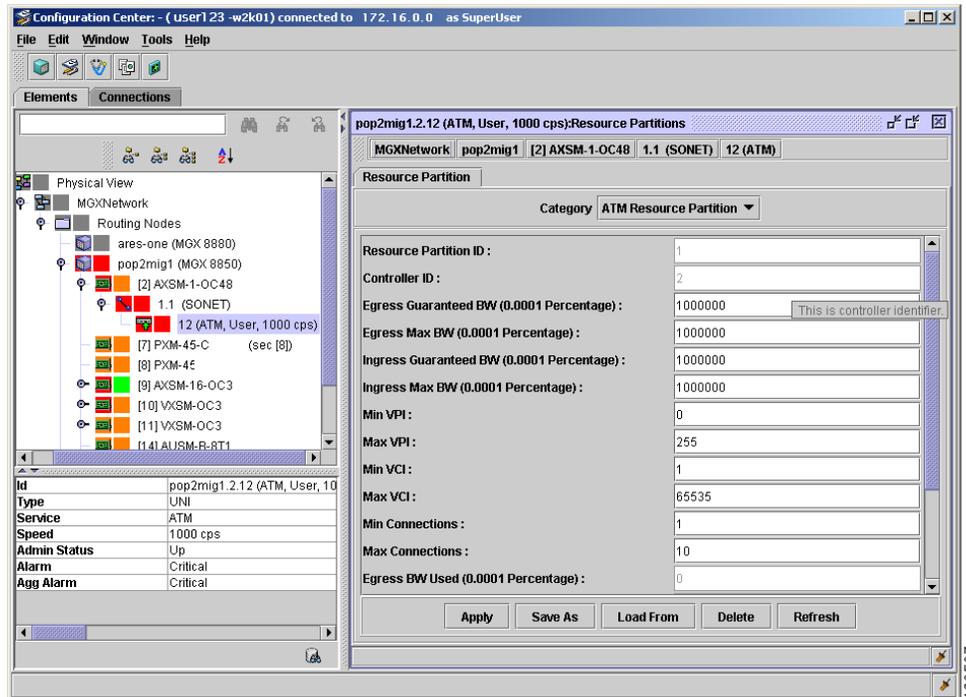
Table 6-28 Field Descriptions for the AXSM Port Config Tab (continued)

Field Name	Description
Interface Type	Type of ATM virtual interface that can be configured within a physical interface. Values include: <ul style="list-style-type: none"> • uni • nni • vnni • vuni • evuni • evnni
Vpi No (VUNI/VNNI)	Vpi number.
Min Vpi No (EVUNI/EVNNI)	Minimum Vpi number.
Max Vpi No (EVUNI/EVNNI)	Maximum Vpi number.
Descriptor	Port descriptor.

6.6.6 Creating a Resource Partition for AXSM

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, the AXSM card, and the AXSM line. Double-click the port you want to create a resource partition on.
- Step 3** Click the **Resource Partitions** tab, then click **Create**.

Figure 6-29 Configuration Center—AXSM Resource Partitions Tab, ATM Resource Partition Category



Step 4 Input or modify the data as desired, then click **Apply**.



Note Table 6-29 describes fields in the AXSM Resource Partitions tab, ATM Resource Partition category.

For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-29 Field Descriptions for the AXSM Resource Partitions Tab, ATM Resource Partition Category

Field Name	Description
Resource Partition ID	Resource partition identifier.
Controller ID	Controller identifier.
Egress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in egress direction. Range is 0 to 1000000.
Egress Max BW	Maximum percentage bandwidth for the resource partition in egress direction. Range is 0 to 1000000.
Ingress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in ingress direction. Range is 0 to 1000000.

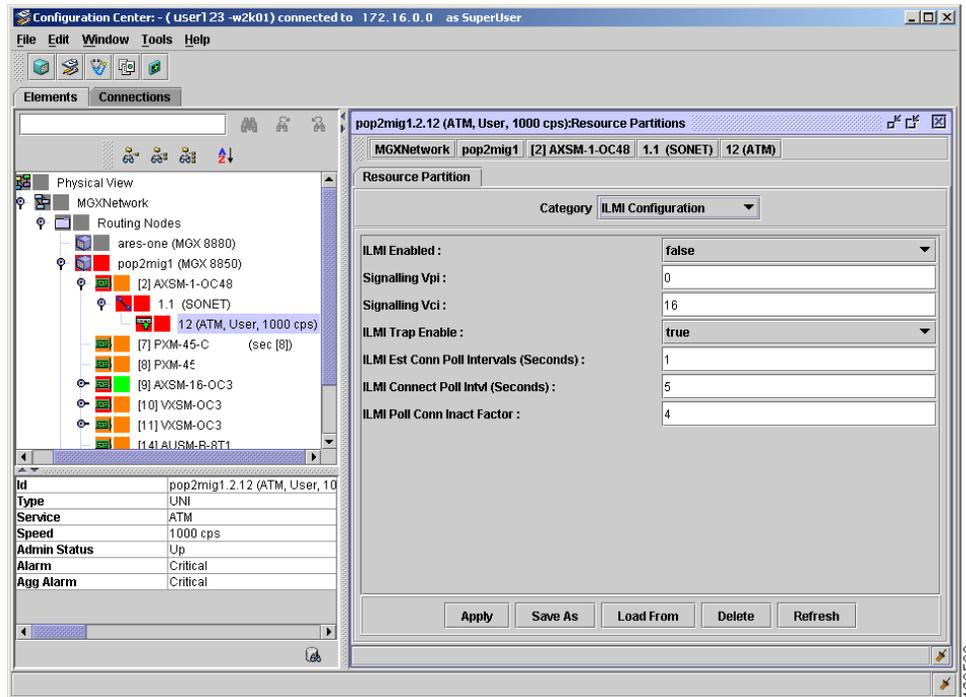
Table 6-29 *Field Descriptions for the AXSM Resource Partitions Tab, ATM Resource Partition Category (continued)*

Field Name	Description
Ingress Max BW	Maximum percentage bandwidth for the resource partition in ingress direction. Range is 0 to 1000000.
Min VPI	Beginning of the VPI range for this partition.
Max VPI	End of the VPI range for this partition.
Min VCI	Beginning of the VCI range for this partition.
Max VCI	End of the VCI range for this partition.
Min Connections	Guaranteed number of connections that can be configured on this partition.
Max Connections	Maximum number of connections that can be configured on this partition.
Egress BW Used	Percentage bandwidth used by the resource partition in egress direction.
Egress BW Avail	Percentage bandwidth available on the resource partition in egress direction.
Ingress BW Used	Percentage bandwidth used by the resource partition in ingress direction.
Ingress BW Avail	Percentage bandwidth available on the resource partition in ingress direction.
Used Connections	Number of connections currently in use on this partition.
Avail Connections	Number of connections available that can be added on this partition.

6.6.6.1 Modifying ILMI Configuration

- Step 1** Within the AXSM **Resource Partitions** tab (see [6.6.6 Creating a Resource Partition for AXSM, page 6-57](#)) choose the **ILMI Configuration** option from the **Category** drop-down arrow.

Figure 6-30 Configuration Center—AXSM Resource Partitions Tab, ILMI Configuration Category



- Step 2** Choose the appropriate options from the **ILMI Enabled** and **ILMI Trap Enable** drop-down arrows, and modify data as desired. Click **Apply**.



Note [Table 6-30](#) describes fields in the AXSM Resource Partitions tab, ILMI Configuration category.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-30 Field Descriptions for the AXSM Resource Partitions Tab, ILMI Configuration Category

Field Name	Description
ILMI Enabled	Indicates if ILMI signalling is enabled or disabled.
Signalling Vpi	Vpi on which signalling cells arrive.
Signalling Vci	Vci on which signalling cells arrive.
ILMI Trap Enable	Indicates if ILMI trap generation is enabled or disabled.

Table 6-30 *Field Descriptions for the AXSM Resource Partitions Tab, ILMI Configuration Category (continued)*

Field Name	Description
ILMI Est Conn Poll Intervals	Time S between successive transmissions of ILMI messages on this interface for the purpose of detecting establishment of ILMI connectivity.
ILMI Connect Poll Intvl	Time T between successive transmissions of ILMI messages on this interface for the purpose of detecting loss of ILMI connectivity.
ILMI Poll Conn Inact Factor	Number K of consecutive polls on this interface for which no ILMI response message is received before ILMI connectivity is declared lost.

6.7 How Do I Configure VXSM Cards?

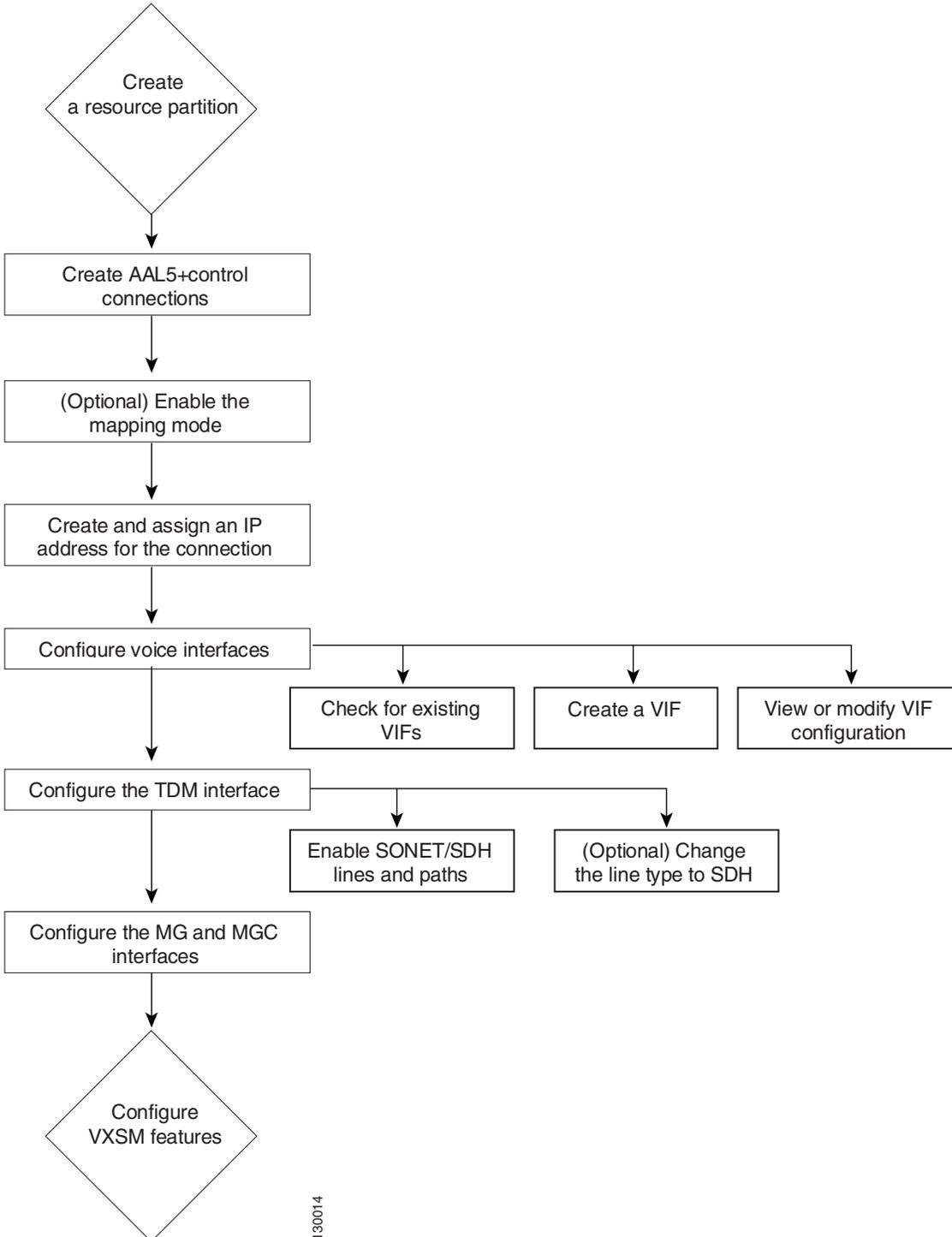


Tip

For more detailed information on VXSM configuration, refer to the *Cisco Voice Switch Services (VXSM) Configuration Guide and Command Reference for MGX Switches and Media Gateways, Release 5*.

The Cisco MGX 8880 and 8850 support the Voice Switch Service Module (VXSM) card, which functions as a media gateway (MG) and can be configured to meet the requirements of a variety of applications. For Voice over IP (VoIP) switching applications, the voice Time Division Multiplexed (TDM) interface, packet network interface, and the interface to the media gateway controller (MGC or call agent must be configured.

Figure 6-31 Process for Configuring VXSM Cards



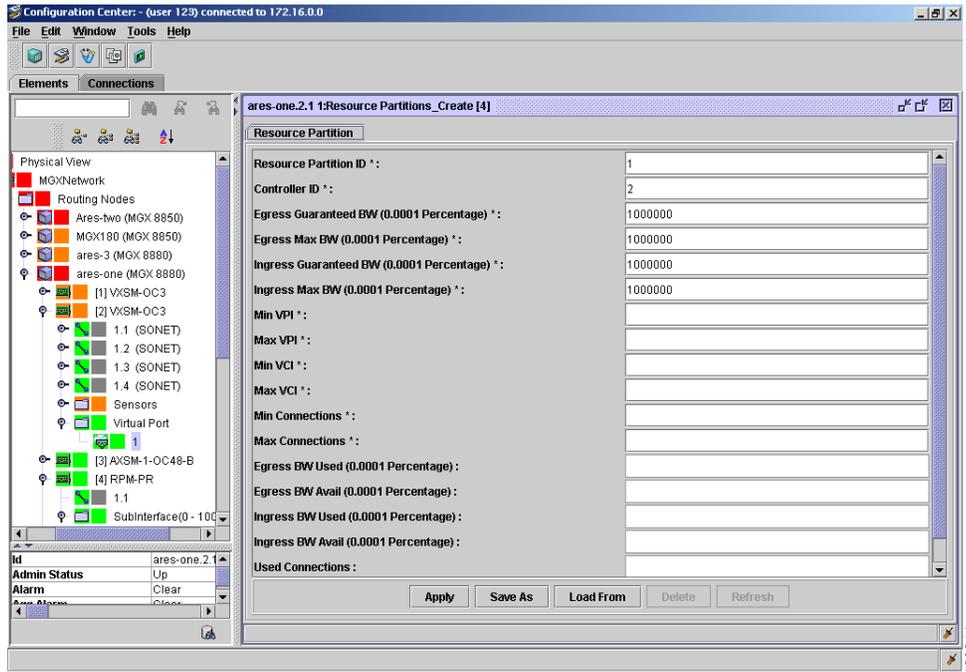
To configure VXSM cards, you must perform the following steps:

-
- Step 1** Create a resource partition—See [6.7.1 Creating a Resource Partition for VXSM, page 6-63](#).
 - Step 2** Create AAL5+control VXSM connections—See [Chapter 7, “Provisioning Connections.”](#)
 - Step 3** (Optional, for OC3 cards only) Enable the mapping mode—See [6.7.2 Enabling the Mapping Mode for VXSM, page 6-65](#)
 - Step 4** Create and assign an IP address for the connection—See [6.7.3 Creating and Assigning an IP Address for the Connection, page 6-66](#).
 - Step 5** Configure the TDM interface—See [6.7.4 Configuring the Time-Division Multiplexing Interface for VXSM, page 6-67](#).
 - Step 6** Configure voice interfaces (VIs)—See [6.7.5 Configuring Voice Interfaces, page 6-74](#).
 - Step 7** Configure the Media Gateway (MG) and Media Gateway Controller (MGC) interface using H.248 or XGCP protocol—See [6.7.6 Configuring MG-MGC Interfaces, page 6-77](#).
 - Step 8** (Optional) Configure VXSM features—See [6.7.7 How Do I Configure VXSM Features?, page 6-101](#).
-

6.7.1 Creating a Resource Partition for VXSM

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the VXSM card.
 - Step 3** Click the **Port** tab to display the entries of the port table.
 - Step 4** Select the port entry.
 - Step 5** Click **Details**.
 - Step 6** Click the **Resource Partitions** tab to display the resource partitions table.
 - Step 7** Click **Create**. The Create Resource Partitions window appears.

Figure 6-32 Configuration Center—VXSM Create Resource Partitions Window



Step 8 Configure the fields.



Note Table 6-31 describes fields in the VXSM Create Resource Partitions window.

Step 9 Click **Apply** to create the resource partition.

Table 6-31 Field Descriptions for the VXSM Create Resource Partitions Window

Field Name	Description
Resource Partition ID	Value for the resource partition identifier. The range is from 1-10. The value 1 is reserved for PNNI.
Controller ID	Value for the controller identifier. The range is from 2-255. The value 2 is reserved for PNNI.
Egress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in egress direction. The range is from 0-1000000.
Egress Max BW	Maximum percentage bandwidth for the resource partition in egress direction. The range is from 0-1000000.
Ingress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in ingress direction. The range is from 0-1000000.
Ingress Max BW	Maximum percentage bandwidth for the resource partition in ingress direction. The range is from 0-1000000.

Table 6-31 Field Descriptions for the VXSM Create Resource Partitions Window (continued)

Field Name	Description
Min VPI	Beginning of the VPI range for this partition. For RPM VCC partitions, the range is 0-0. For RPM VPC partitions, the range is 1-255. For VXSM, the range is 0-255.
Max VPI	End of the VPI range for this partition. For RPM VCC partitions, the range is 0-0. For RPM VPC partitions, the range is 1-255. For VXSM, the range is 0-255.
Min VCI	Beginning of the VCI range for this partition. For VXSM, the range is 1-65535.
Max VCI	End of the VCI range for this partition. For VXSM, the range is 1-65535.
Min Connections	Guaranteed number of connections that can be configured on this partition. For VXSM, the range is 1-8100.
Max Connections	Maximum number of connections that can be configured on this partition. For VXSM, the range is 1-8100.
Egress BW Used	Percentage bandwidth used by the resource partition in egress direction.
Egress BW Avail	Percentage bandwidth available on the resource partition in egress direction.
Ingress BW Used	Percentage bandwidth used by the resource partition in ingress direction.
Ingress BW Avail	Percentage bandwidth available on the resource partition in ingress direction.
Used Connections	Number of connections currently in use on this partition.
Avail Connections	Number of connections available that can be added on this partition.

6.7.2 Enabling the Mapping Mode for VXSM

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VXSM card.
- Step 3** Click the **Media Gateway** tab. The **Gateway Capabilities** category appears by default.
- Step 4** Set the **VT Mapping Mode** to **standard** or **titan**.



Note [Table 6-33](#) describes fields in the VXSM Media Gateway tab, Gateway Capabilities category.

For additional information on this field, refer to the *Cisco Voice Switch Services (VXSM) Configuration Guide and Command Reference for MGX Switches and Media Gateways, Release 5*.

- Step 5** Click **Apply** to enable the mapping mode.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-32 Field Descriptions for the VXSM Media Gateway Tab, Gateway Capabilities Category

Field Name	Description
Gateway Domain Name	Domain name under which the media gateway could also be registered in a DNS name server.
VT Mapping Mode	Represents the VT mapping mode, which can be either: <ul style="list-style-type: none"> • standard—standard mapping mode • titan—Titan 5500 mapping mode. Only valid if SONET line medium type is SONET and SONET path payload type is VT1.5.
Total Number of DSPs	Total number of DSPs in the card.

6.7.3 Creating and Assigning an IP Address for the Connection

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- Step 3** Click the **Media Gateway** tab.
- Step 4** Choose the **PVC IP Address** option from the **Category** drop-down arrow.
- Step 5** Click **Create** to display the Create PVC IP Address window.
- Step 6** Complete the fields. Make sure to use the same VPI/VCI combination entered when you created the connection.



Note [Table 6-33](#) describes fields in the VXSM Create PVC IP Address window.

- Step 7** Click **Apply** to add the IP address for the connection.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-33 Field Descriptions for the VXSM Create PVC IP Address Window

Field Name	Description
Index	A unique index to identify each media gateway IP address.
Interface	Virtual port associated to the media gateway IP address.
VPI	Represents the VPI of the PVC associated to the IP address.
VCI	Represents the VCI of the PVC associated to the IP address.
IP Address	Configured IP address of the media gateway.

Table 6-33 Field Descriptions for the VXSM Create PVC IP Address Window (continued)

Field Name	Description
Prefix Length	Specifies the number of leading one bits which from the mask to be logical and-ed with the media gateway address before being compared to the value in the cmgwIpCofigAddress.
IP Address Type	IP address type.
Default Gateway IP	Specifies the IP address of the entry will become the default gateway address.

6.7.4 Configuring the Time-Division Multiplexing Interface for VXSM

The TDM network consists of a number of DS1s that each contain DS0 voice circuits, which interface with the VXSM card either through the 4-port OC-3 back card or the 24-port T1/E1 back card.

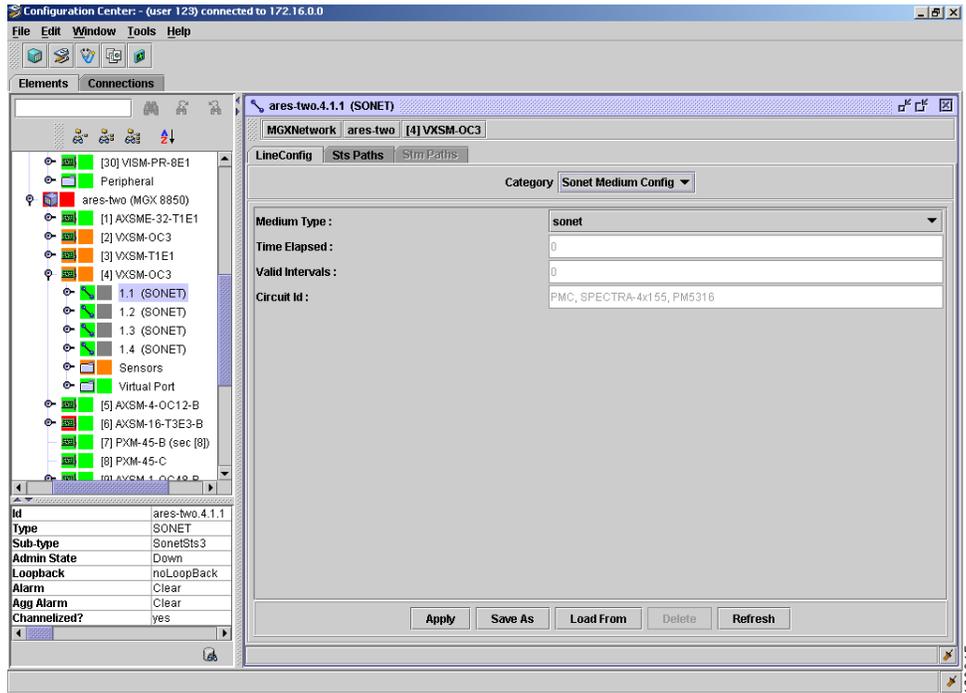
These tasks describe how to configure the TDM interface:

-
- Step 1** (Optional) Change the line type to SDH (by default, the line type is set to SONET)—See [6.7.4.1 Changing the VXSM Line Type to SDH, page 6-67](#).
 - Step 2** Enable SONET lines and paths—See [6.7.4.2 Enabling SONET Lines and Paths for VXSM, page 6-69](#) or
Enable SDH lines and paths—See [6.7.4.3 Enabling SDH Lines and Paths for VXSM, page 6-73](#).
-

6.7.4.1 Changing the VXSM Line Type to SDH

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, expand the VXSM card, and double-click on the first VXSM line. The Line Config tab appears.
 - Step 3** Choose the **Sonet Medium Config** option from the **Category** drop-down arrow.

Figure 6-33 Configuration Center—VXSM Line Config Tab, Sonet Medium Config Category



Step 4 In the **Medium Type** field, click on the drop-down arrow to choose **SDH**.



Note Table 6-34 describes fields in the VXSM Line Config tab, Sonet Medium Config category.

Step 5 Click **Apply** to change the line type to SDH.



Note Changing the line type to SDH on the first line trickles down to the other lines.

For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-34 Field Descriptions for the VXSM Line Config Tab, Sonet Medium Config Category

Field Name	Description
Medium Type	Identifies whether a SONET or SDH signal is used across the interface.
Time Elapsed	Number of seconds (including partial seconds) elapsed since the beginning of the current measurement period.

Table 6-34 *Field Descriptions for the VXSM Line Config Tab, Sonet Medium Config Category (continued)*

Field Name	Description
Valid Intervals	Number of previous 15 minute intervals for which data was collected.
Circuit ID	The transmission vendor's circuit identifier, for the purpose of facilitating troubleshooting. Note The circuit identifier, if available, is also represented by ifPhysAddress.

6.7.4.2 Enabling SONET Lines and Paths for VXSM

If you are using SONET, you must enable the lines and paths in the following order:

1. SONET line
2. STS path
3. DS1/E1 line

Perform the following steps:

Step 1 Enable the SONET line:

- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- b. Under the **Elements** tab, within the node, double-click the VXSM OC3 card.
- c. Click the **Lines** tab.
- d. Click the SONET line that you want to enable, then click **Details**. The Line Config tab appears, with the Sonet Line Config category selected by default.
- e. From the **Enable** drop-down arrow, choose the **up** option to enable the SONET line.



Note [Table 6-35](#) describes fields in the VXSM Line Config tab, Sonet Line Config category.

- f. Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Step 2 Enable the STS path:

- a. Under the **Elements** tab, within the node, expand the VXSM OC3 card, then double-click on the SONET line that contains the STS path you want to enable.
- b. Click the **STS Paths** tab.
- c. Click the STS path that you want to enable, then click **Details**. The Path Config tab appears, with the Paths category selected by default.
- d. (Optional) Change the channelization type to DS3, DS1, or E1 in the **Path Payload** field.
- e. From the **Enable** drop-down arrow, choose the **up** option to enable the STS path.



Note [Table 6-36](#) describes fields in the VXSM Path Config tab, Paths category.

- f. Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Step 3 Enable the DS1/E1 line:

- a. Under the **Elements** tab, within the node, expand the VXSM OC3 card and expand the SONET line, STS path, and VT path that contain the DS1/E1 line you want to enable. Double-click on the DS1/E1 line. The DS1/E1 Path tab appears, with the DS1/E1 Line Info option selected by default.
- b. From the **Admin Status** drop-down arrow, choose the **up** option to enable the STS path.



Note [Table 6-37](#) describes fields in the VXSM DS1/E1 Path tab, DS1/E1 Line Info category.

- c. Click **Apply**.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Table 6-35 *Field Descriptions for the VXSM Line Config Tab, Sonet Line Config Category*

Field Name	Description
Speed (Mbps)	An estimate of the interface's current bandwidth in units of 1,000,000 bits per second.
Enable	Desired state of the interface: <ul style="list-style-type: none"> • up—enables the line • down—disables the line
Loopback Type	Desired loopback mode configuration of the line: <ul style="list-style-type: none"> • noLoopback—Specifies no loopback state. • lineLocal—Signal sent at the line is looped back through the device. • lineRemote—Signal sent does not go through the device but is looped back out.
Clock Source	Specifies the source of the transmit clock.
Frame Scramble	Enables or disables the scrambling option in the line.
Line Type	Configured line type.
Descriptor	Line descriptor.

Table 6-35 *Field Descriptions for the VXSM Line Config Tab, Sonet Line Config Category (continued)*

Field Name	Description
RDIV Type	Specifies the type of Remote Defect Indication - Virtual Tributary/Container (RDI-V) sent by this NE to the remote NE. Values include: <ul style="list-style-type: none"> onebit—(Default) specifies 1-bit RDIV threebit—Specifies 3-bit enhanced RDIV
RDIP Type	Specifies the type of Remote Defect Indication - Path (RDI-P) sent by this NE to the remote NE. Values include: <ul style="list-style-type: none"> onebit—(default) specifies 1-bit RDIP threebit—Specifies 3-bit enhanced RDIP

Table 6-36 *Field Descriptions for the VXSM Path Config Tab, Paths Category*

Field Name	Description
Path Number	Path number.
Enable	Desired state of the interface: <ul style="list-style-type: none"> up—enables the path down—disables the path
Path Width	Value that indicates the type of SONET/SDH path. For SONET, the assigned types are the STS-Nc SPEs, where N=1, 3, 12, 24, 48, 192 and 768. STS-1 is equal to 51.84 Mbps. For SDH, the assigned types are the STM-Nc VCs, where N=1, 4, 16, 64, and 256.
Path Payload	Specifies the payload carried by the SONET/SDH path. Values are: <ul style="list-style-type: none"> ds3 vt15vc11 (DS1) vt2vc12 (E1)
Path Status	Indicates the status of the interface.

Table 6-37 *Field Descriptions for the VXSM DS1/E1 Path Tab, DS1/E1 Line Info Category*

Field Name	Description
Admin Status	Desired state of the interface.
Time Elapsed	Number of seconds that have elapsed since the beginning of the near end current error measurement period.
Valid Intervals	Number of previous near end intervals for which data was collected.

Table 6-37 *Field Descriptions for the VXSM DS1/E1 Path Tab, DS1/E1 Line Info Category (continued)*

Field Name	Description
Line Type	<p>Indicates the variety of DS1 line implementing this circuit. Values include:</p> <ul style="list-style-type: none"> • For T1 interfaces only: <ul style="list-style-type: none"> - dsx1ESF—Extended SuperFrame DS1 (T1.107) - dsx1D4—AT&T D4 format DS1 (T1.107) • For E1 interfaces only: <ul style="list-style-type: none"> - dsx1E1—ITU-T Recommendation G.704 (Table 4a). - dsx1E1CRC—ITU-T Recommendation G.704 (Table 4b). - dsx1E1MF—G.704 (Table 4a) with TS16 multiframing enabled. - dsx1E1CRCMF—G.704 (Table 4b) with TS16 multiframing enabled. - dsx1Unframed—DS1 with No Framing - dsx1E1Unframed—E1 with No Framing (G.703) - dsx1E1Q50—ITU-T G.704, Table 14. - dsx1E1Q50CRC—E1Q50 with CRC.
Loopback Config	Desired loopback configuration of the DS1/E1 interface.
Line Status	Status of the line.
Transmit Clock Source	Source of transmit clock.
Loopback Status	Current loopback state on the DS1/E1 interface.
Send Code	Indicates what type of code is being sent across the DS1/E1 interface. Setting this variable causes the interface to send the code requested.
Signal Mode	<p>Signal options used by the DS1 line for the media gateway. Values include:</p> <ul style="list-style-type: none"> • none—indicates no bits are reserved for signaling on this channel. • robbedBit—indicates the DS1 Robbed Bit Signaling is in use. This option applies only to the T1 interface. • messageOriented—indicates that Common Channel Signaling (CCS) is used either on channel 16 of an E1 link or channel 24 of a DS1 link.
cds1 Loopback CodeDetection	Enables or disables the detection of far end loopback requests (inband or out-of-band ESF).
cds1 Repetition	Used to repeatedly apply the writable objects of dsx1ConfigTable and cds1ConfigTable specified in the same SNMP PDU starting from the row indicated by the index of the instance for the number of rows specified in this object.

6.7.4.3 Enabling SDH Lines and Paths for VXSM

If you are using SDH, you must enable the lines and paths in the following order:

1. SDH line
2. STM path
3. DS1/E1 line

Perform the following steps:

-
- Step 1** Enable the SDH line:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, expand the VXSM OC3 card and double-click on the SDH line. The Line Config tab appears.
 - c. From the **Enable** drop-down arrow, choose the **up** option to enable the SDH line.
- Step 2** Enable the STM path:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, expand the VXSM OC3 card and double-click on the AU-3 path. The Path Config tab appears.
 - c. From the **Enable** drop-down arrow, choose the **up** option to enable the STS path.
 - d. (Optional) From the **Tributary Grouping Type** drop-down arrow, choose one of the following options:
 - **au3Grouping**—Channelization appears as follows: AU-3 > TU > DS1
 - **au4Grouping**—Channelization appears as follows: AU-3 > TUG3 > TU > DS1
 - e. Click **Apply** to enable the STM path.
- Step 3** Enable the DS1/E1 line:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, expand the VXSM OC3 card and double-click on the DS1/E1 line. The DS1/E1 Path tab appears.
 - c. From the **Admin Status** drop-down arrow, choose the **up** option to enable the DS1/E1 line.
-

6.7.5 Configuring Voice Interfaces

A voice interface (VIF) is a set of parameters applied to a group of DS0s within a DS1 in the TDM voice network. To configure voice interfaces, proceed as follows:

-
- Step 1** Check to see if there are existing VIFs—See [6.7.5.1 Checking for Existing VIFs for VXSM, page 6-74](#).
If there are no existing VIFs, proceed to Step 2
or
if there are existing VIFs, skip Step 2.
 - Step 2** (Optional) Create a VIF—See [6.7.5.2 Creating a VIF for VXSM, page 6-74](#).
 - Step 3** (Optional) View or modify VIF configuration—See [6.7.5.3 Viewing or Modifying VIF Configuration, page 6-76](#).
-

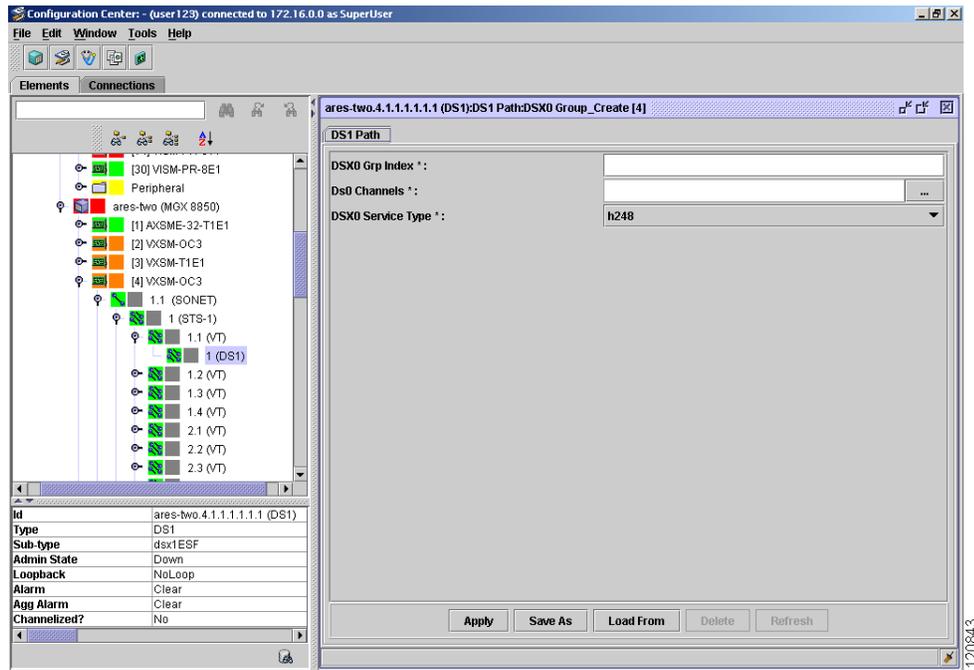
6.7.5.1 Checking for Existing VIFs for VXSM

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, expand the VXSM card until you see the DS1 path you want to view VIFs under. Double-click the DS1 path. The DS1 Path tab appears.
 - Step 3** Choose **DSX0 Group** from the **Category** drop-down arrow. Any available VIFs appear in the table. To proceed, follow the steps in [6.7.5 Configuring Voice Interfaces, page 6-74](#).
-

6.7.5.2 Creating a VIF for VXSM

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, expand the VXSM card until you see the DS1 path you want to view VIFs under. Double-click the DS1 path. The DS1 Path tab appears.
 - Step 3** Choose **DSX0 Group** from the **Category** drop-down arrow.
 - Step 4** Click **Create**. The Create DSX0 Group window appears.

Figure 6-34 Configuration Center—VXSM Create DSX0 Group Window



Step 5 Configure the fields.



Note Table 6-38 describes the fields in the VXSM Create DSX0 Group window.

Step 6 Click **Apply** to add the VIF.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-38 Field Descriptions for the VXSM Create DSX0 Group Window

Field Name	Description
DSX0 Grp Index	Value that identifies the DS0 group in the T1/E1 interface. T1 range is 0-23; E1 range is 0-30.
DS0 Channels	Bitmap of the selected DS0 channels to be added into this group. T1 range is 1-24; E1 range is 1-31.
DSX0 Service Type	Specifies the service type of the CAS/DS0 group. Values include: <ul style="list-style-type: none"> xgcp—specifies the xgcp (tgcp) protocol. h248—specifies the ITU H2.48 protocol media gateway control service type that is used when the DS0 is configured for null signaling.

6.7.5.3 Viewing or Modifying VIF Configuration

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, expand the VXSM card until you see the DS1 path you want to view VIFs under. Double-click the DS1 path. The DS1 Path tab appears.
- Step 3** Choose **DSX0 Voice Parameters** or **Extended DSX0 Voice Parameters** from the **Category** drop-down arrow.
- Step 4** Click on a VIF, then click **Details**.
- Step 5** View or modify the fields.



Note [Table 6-39](#) describes the fields in the VXSM DS1 Path, DSX0 Voice Parameters category; [Table 6-40](#) describes the fields in the VXSM DS1 Path, Extended DSX0 Voice Parameters category.

- Step 6** (Optional) Click **Apply** to save any changes.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-39 *Field Descriptions for the VXSM DS1 Path, DSX0 Voice Parameters Category*

Field Name	Description
DSX0 Grp Index	Index that uniquely identifies a DS0 group in a T1/E1.
Noise Reg Enable	Indicates whether or not the background noise should be played to fill silence gaps if VAD is activated.
Non Linear Proc Enable	Indicates whether or not nonlinear processing is enabled for this interface.
Music On Hold Threshold	Music on hold threshold for this interface.
In Gain	Amount of gain inserted at the receiver side of the interface.
Tx Attenuation	Amount of attenuation inserted at the transmit side of the interface.
Echo Cancel Enable	Specifies whether or not echo cancellation is enabled for the interface.
Echo Cancel Coverage	Echo canceller coverage for the interface.
Initial Digit Time Out	Initial digit timeout that indicates the amount of time the managed system waits for an initial input digit from the caller.
Inter Digit Time Out	Inter-digit timeout that indicates the amount of time the managed system waits for a subsequent input digit from the caller.

Table 6-40 *Field Descriptions for the VXSM DS1 Path, Extended DSX0 Voice Parameters Category*

Field Name	Description
DSX0 Grp Index	Index that uniquely identifies a DS0 group in a T1/E1.
LIF Number	Logical InterFace number associated with this voice interface.
Call Control Profile	Index of call control profile used by this DS0 group.
VAD Enable	Indicates whether or not Voice Activity Detection is enabled for the compression DSPs of this interface.
CoT 1	First frequency tone to be sent between the terminating and originating gateways in the continuity test.
CoT 2	Second frequency tone to be sent between the terminating and originating gateways in the continuity test.
Repetition	Used to repeatedly apply the writable objects of <code>ccasIfExtVoiceCfgTable</code> specified in the same SNMP PDU starting from the row specified by the index of the instance for the number of rows specified in this object.
VAD Timer	Hangover time for VAD.
ICS Enable	Specifies whether or not the Idle Channel Suppression is enabled for an AAL2 connection.
ICS Integration Timer	Specifies a timeout value for the ICS integration timer.
Tone Plan	Specifies which tone plan the DS0 group is using for playing the tones.
Gateway Link ID	Specifies the H.248 media gateway link that this DS0 group belongs to. This object is applicable only if the value of Service Type is h248.
H.248 Pkg IDs	H.248 packages supported in this DS0 group.
Event Mapping Index	Specifies the actions of the voice band data signal events handling in this DS0 group.

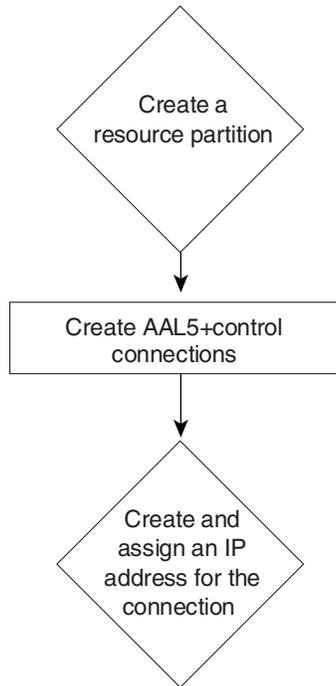
6.7.6 Configuring MG-MGC Interfaces

VXSM cards support both the ITU H.248 and the XGCP protocols. Depending upon which protocol you are using, the procedure to configure the MG-MGC interface differs.

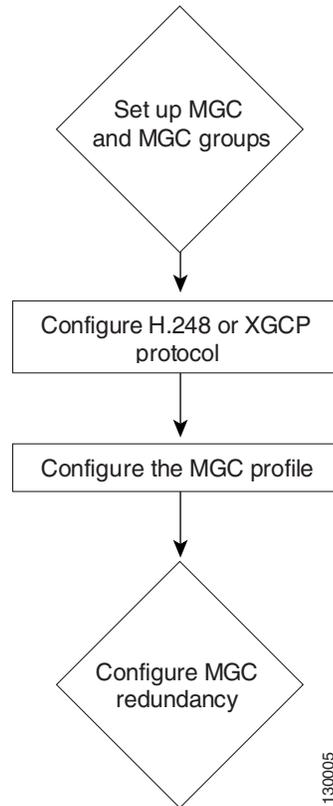
For each protocol type, the procedure consists of two phases. The first phase configures MGC and MGC Groups. The second phase configures the protocol and protocol profile details that are used for the VXSM and the MGC to communicate.

Figure 6-35 Process for Configuring MG-MGC Interfaces

1. Prerequisites:



2. To configure MG-MGC interfaces:



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Before you can configure MG-MGC interfaces, be sure you have completed the following steps:

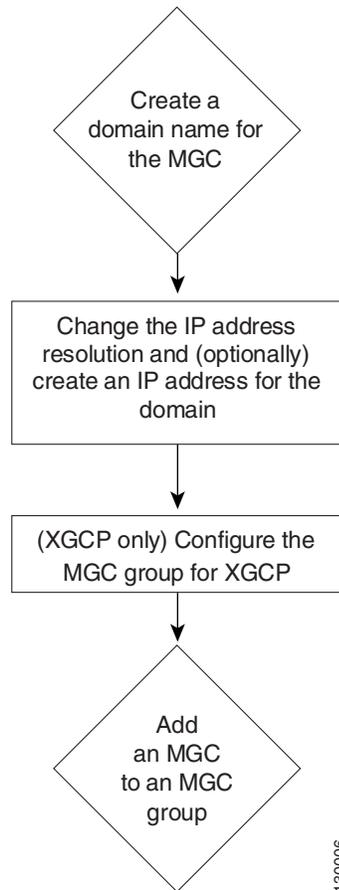
-
- Step 1** Add a resource partition to the node—See [6.7.1 Creating a Resource Partition for VXSM](#), page 6-63.
 - Step 2** Add an AAL5+control VXSM connection—See [Chapter 7, “Provisioning Connections.”](#)
 - Step 3** Create and assign an IP address for the connection—See [6.7.3 Creating and Assigning an IP Address for the Connection](#), page 6-66.
-

To configure the interface between the Media Gateway (MG) and the Media Gateway Controller (MGC) for either protocol, complete the following steps:

-
- Step 1** Setup MGC and MGC groups—See [6.7.6.1 Setting Up MGCs and MGC Groups](#), page 6-79.
 - Step 2** Configure H.248 or XGCP protocol— See [6.7.6.2 Configuring H.248 Protocol and Profiles](#), page 6-87 or [6.7.6.3 Configuring XGCP Protocol](#), page 6-96.
 - Step 3** Configure the MGC profile—See [6.7.6.2 Configuring H.248 Protocol and Profiles](#), page 6-87 or [6.7.6.4 Configuring MGC XGCP Profiles](#), page 6-98.
 - Step 4** (Optional) Configure MGC redundancy—See [6.7.6.5 Configuring MGC Redundancy](#), page 6-101.
-

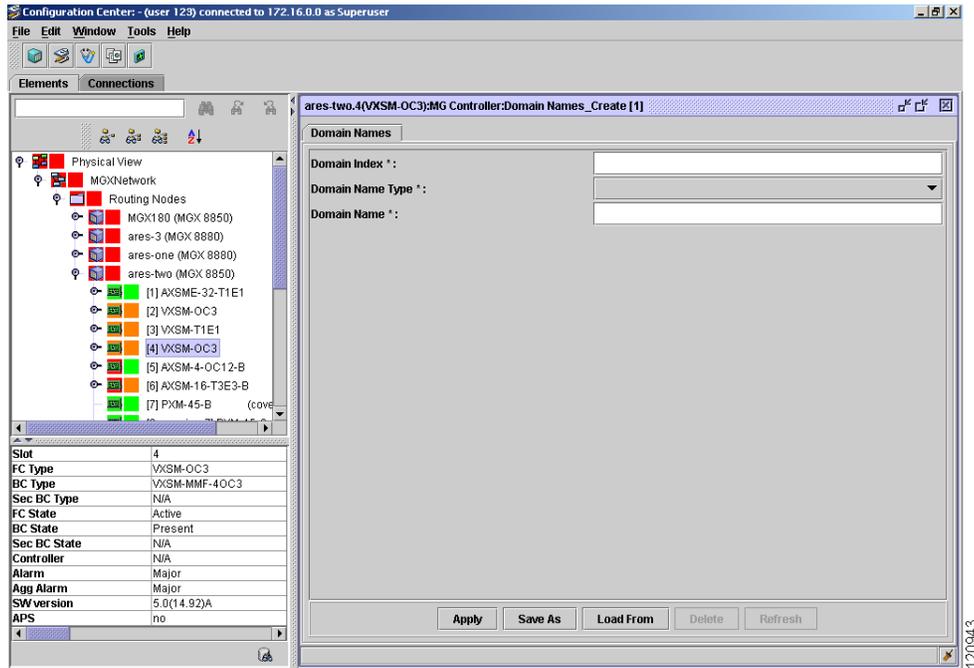
6.7.6.1 Setting Up MGCs and MGC Groups

Figure 6-36 Process for Setting Up MGCs and MGC Groups



- Step 1** Create an MGC by assigning it a domain name, and specify how the domain name is to be resolved:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, double-click the VXSM card.
 - c. Click on the **MG Controller** tab. The Domain Names category appears by default.
 - d. Click **Create**. The Create MGC Domain Names window appears.

Figure 6-37 Configuration Center—VXSM Create MGC Domain Names Window



- e. Configure the fields.



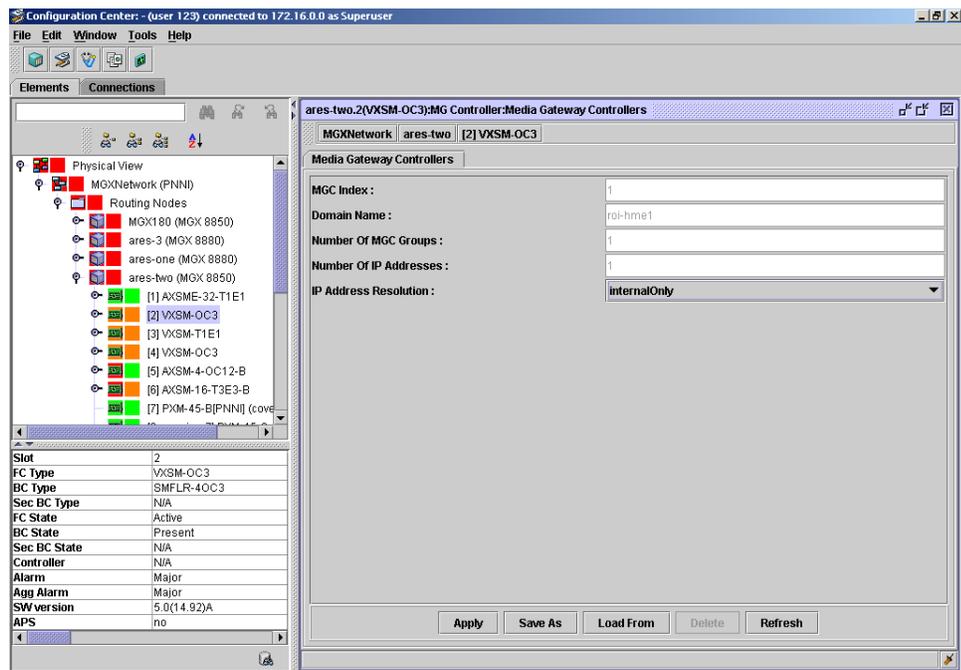
Note Table 6-41 describes fields in the VXSM Create MGC Domain Name window.

- f. Click **Apply** to create the domain name.

Step 2 Change the IP address resolution and (optionally) create an IP address for the domain:

- a. Under the **Elements** tab, within the node, double-click the VXSM card.
- b. Click on the **MG Controller** tab.
- c. From the **Category** drop-down arrow, choose the **Media Gateway Controllers** option.
- d. Click on a MGC entry, then click **Details**. The Media Gateway Controllers tab appears.

Figure 6-38 Configuration Center—VXSM Media Gateway Controllers Tab



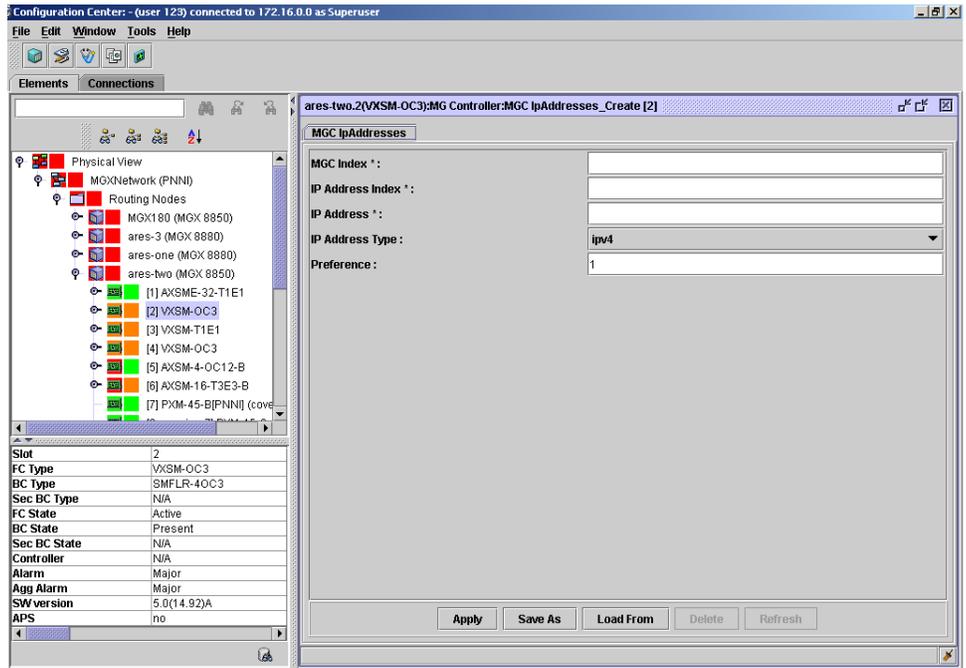
- e. Configure the **IP Address Resolution** field.



Note Table 6-42 describes fields in the VXSM Media Gateway Controllers tab.

- f. Click **Apply** to configure the IP address resolution.
- g. If you selected **internalOnly**, proceed to step h to create an IP address for the domain. If you selected **externalOnly**, skip the rest of these steps and proceed to step 3.
- h. Within the **MG Controller** tab, from the **Category** drop-down arrow, choose the **MGC IP Addresses** option.
- i. Click **Create**. The Create MGC IP Addresses window appears.

Figure 6-39 Configuration Center—VXSM Create MGC IP Addresses Window



- j. Configure the fields.



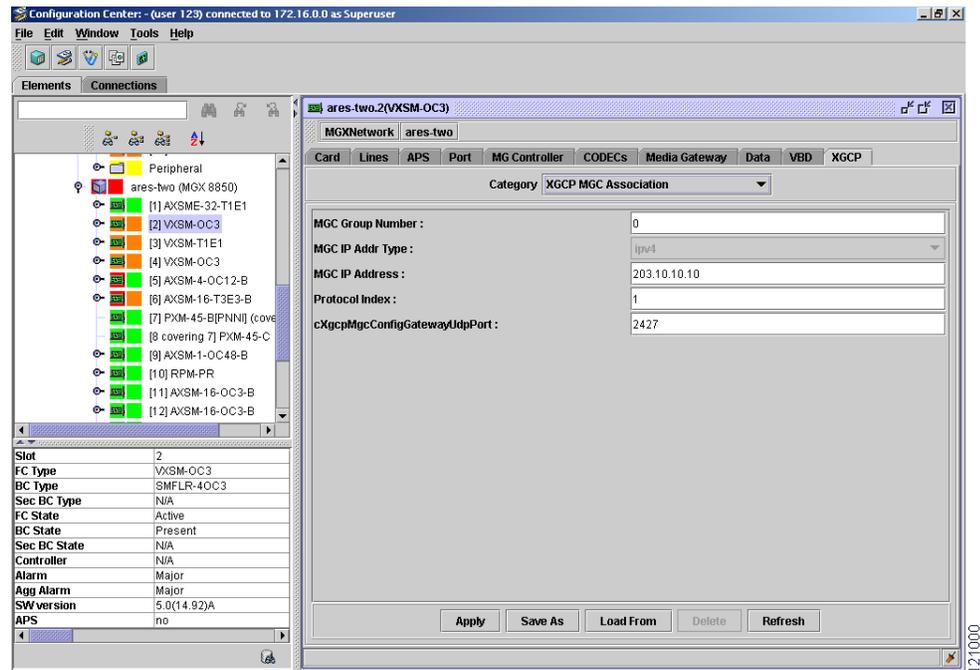
Note Table 6-43 describes fields in the VXSM Create MGC IP Addresses window.

- k. Click **Apply** to create the MGC IP address.

Step 3 (XGCP only, skip to step 4 if you are using H.248) Configure the MGC group for XGCP:

- a. Under the **Elements** tab, within the node, double-click the VXSM card.
- b. Click on the **XGCP** tab.
- c. From the **Category** drop-down arrow, choose the **XGCP MGC Association** option.

Figure 6-40 Configuration Center—XGCP Tab, XGCP MGC Association Category



- d. Configure the fields.



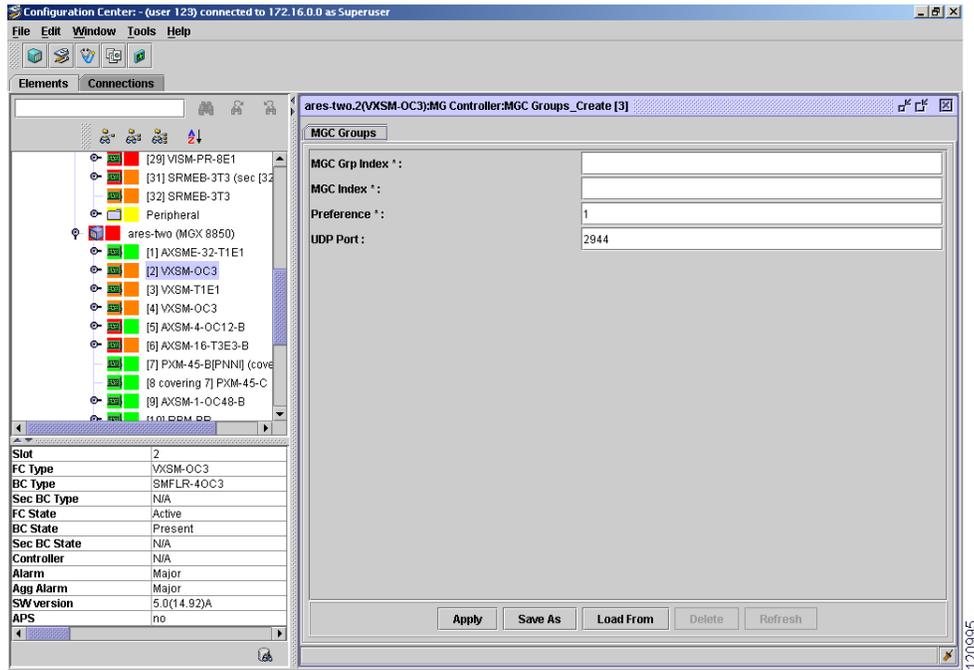
Note Table 6-44 describes fields in the VXSM XGCP tab, XGCP MGC Association category.

- e. Click **Apply** to configure the MGC group for XGCP.

Step 4 Add a MGC to a MGC group:

- Under the **Elements** tab, within the node, double-click the VXSM card.
- Click on the **MG Controller** tab.
- From the **Category** drop-down arrow, choose the **MGC Groups** option.
- Click **Create**. The Create MGC Groups window appears.

Figure 6-41 Configuration Center—VXSM Create MGC Groups Window



- e. Complete the fields.



Note [Table 6-45](#) describes fields in the VXSM Create MGC Groups window.

- f. Click **Apply** to add a specific MGC to a particular MGC group.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Table 6-41 Field Descriptions for the VXSM Create MGC Domain Name Window

Field Name	Description
Domain Index	Enter an integer to identify a MGC domain name. The following values are valid: <ul style="list-style-type: none"> For MGC, The range is from 1-4. For a gateway, the value is 13. For dnsServer, the value is 14.
Domain Name Type	Choose from the following types to indicate the entity for the domain name: <ul style="list-style-type: none"> gateway dnsServer mgc
Domain Name	Enter the domain name. The maximum amount of characters is 64.

Table 6-42 Field Descriptions for the VXSM Media Gateway Controllers Tab

Field Name	Description
MGC Index	Unique index to identify each MGC which will communicate with this MG.
Domain Name	Contains the same name as the one in the cMgcDomainName object of the associated entry in cMediaGwDomainNameConfigTable.
Number of MGC Groups	Number of MGC group with which this MGC is associated. A zero value means this MGC is not associated with any MGC group.
Number of IP Addresses	Indicates the number of IP addresses associated with this MGC. A zero value means there is no IP address associated with this MGC. The MGC cannot be deleted if the value of this object is non-zero and if the IP Address Resolution field is set to internalOnly.
IP Address Resolution	Determines the type of resolution applied to this MGC. Values are: <ul style="list-style-type: none"> internalOnly (default)—Specifies the internal resolution. If the internalOnly option is chosen, the IP address associated with the file server is determined according to the IP address of the server. externalOnly—Specifies the external resolution.

Table 6-43 Field Descriptions for the VXSM Create MGC IP Address Window

Field Name	Description
MGC Index	Unique index value to identify each MGC that will communicate with this media gateway. The range is 1-4.
IP Address Index	Unique index value to identify the address of a specific MGC. The MGC is represented by cMgcIndex. The range is 1-4.
IP Address	Configured IP address.

Table 6-43 *Field Descriptions for the VXSM Create MGC IP Address Window (continued)*

Field Name	Description
IP Address Type	IP address type for the MGC (call agent): unknown ipv4 ipv6 ipv4z ipv6z dns
Preference	Preference value of the IP address for the specific MGC (call agent). If the value is lower, the preference of the IP address is higher. For example, the value 1 has a higher preference than the value 2. If several IP addresses have the same preference value, the media gateway selects them one at a time. The range is from 1-4. The default value is 1.

Table 6-44 *Field Descriptions for the VXSM XGCP Tab, XGCP MGC Association Category*

Field Name	Description
MGC Group Number	Specifies which MGC redundant group will be used in XGCP. The value of this object refers to the object cMgcGrpIndex from MGC Redundant Group Table, cMgcGrpParamTable.
MGC IP Addr Type	Specifies the address type of MGC (object cXgcpMgcConfigAddress) either ipv4 or ipv6.
MGC IP Address	Specifies the address of MGC (call agent) the gateway used to communicate within call setup.
Protocol Index	Specifies which protocol the MG should use to communicate with MGC when it attempts to set up the call.
cXgcpMgcConfigGatewayUdpPort	The UDP port of the MG which is used to communicate with the call agent in MGCP.

Table 6-45 *Field Descriptions for the VXSM Create MGC Groups Window*

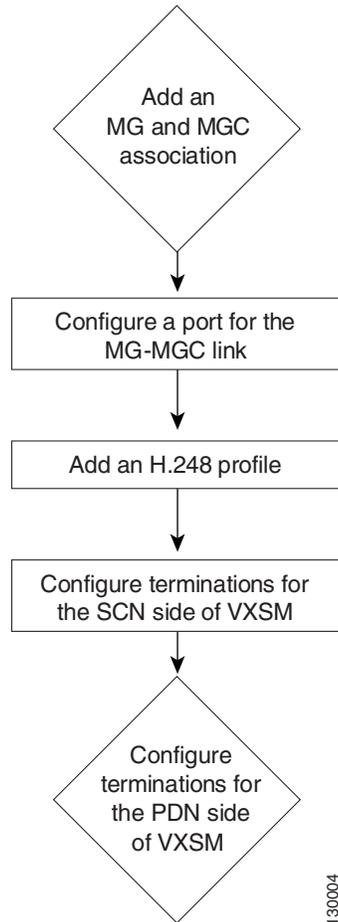
Field Name	Description
MGC Grp Index	Unique index value to identify the particular MGC group. The range is 1-12.
MGC Index	Unique index value to identify each MGC (call agent) that communicates with the media gateway. The range is 1-4.
Preference	Preference value of the IP address for the specific MGC (call agent). If the value is lower, the preference of the IP address is higher. For example, the value 1 has a higher preference than the value 2. If several IP addresses have the same preference value, the media gateway selects them one at a time. The range is from 1-12. The default value is 1.
UDP Port	Value to represent the UDP port of the MGC in the MGC group. A value of 0 means that no UDP port is specified. Therefore, the UDP port that is already in the protocol table is used. The range is 1024-65535.

6.7.6.2 Configuring H.248 Protocol and Profiles

A Media Gateway (MG) communicates with a group of MGCs through a MG link. Both the MG and MGC group form an H.248 association.

Once you have completed the steps in [6.7.6.1 Setting Up MGCs and MGC Groups, page 6-79](#), perform the following steps to configure H.248 protocol and profiles:

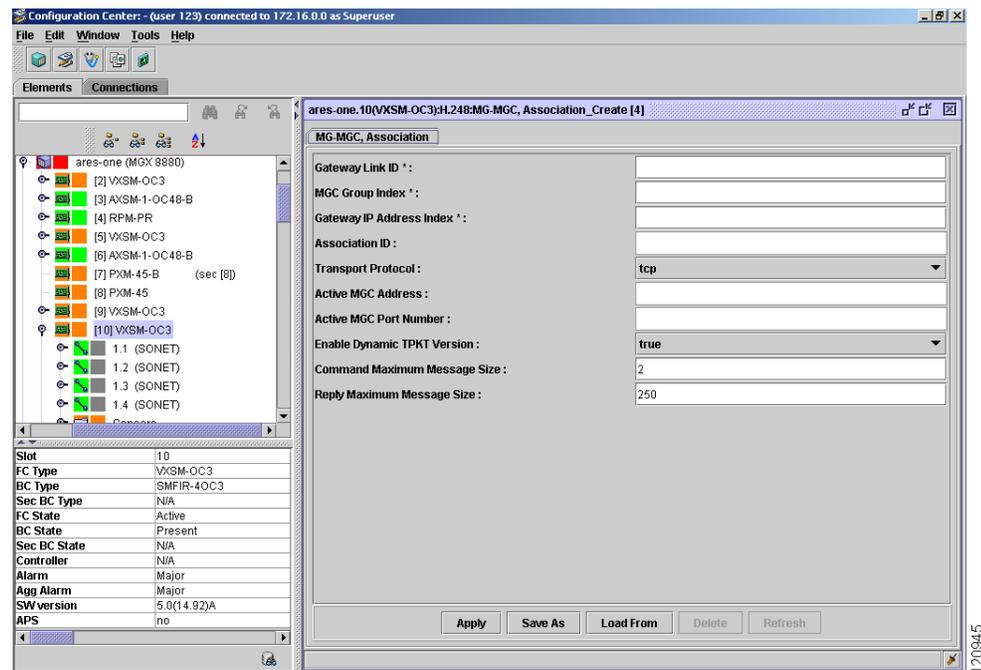
Figure 6-42 Process for Configuring H.248 Protocol and Profiles



Step 1 Add an MG and MGC Association:

- a. From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- b. Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- c. Click the **H.248** tab.
- d. Choose the **MG-MGC Association** option from the **Category** drop-down arrow.
- e. Click **Create** to display the Create MG-MGC Association window.

Figure 6-43 Configuration Center—VXSM Create MG-MGC Association Window



- f. Complete the fields.



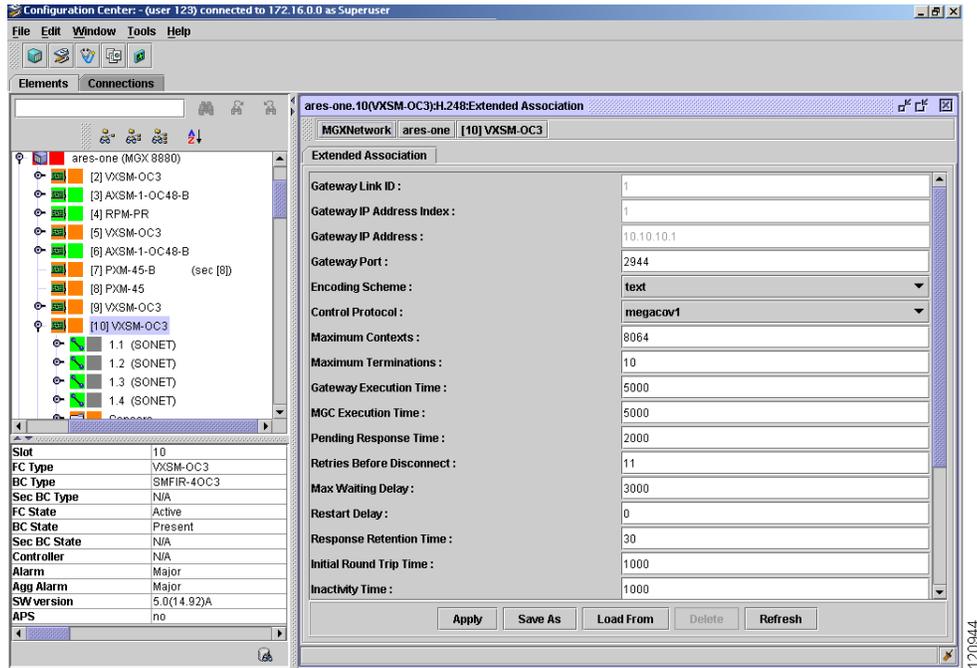
Note Table 6-46 describes fields in the VXSM Create MG-MGC Association window.

- g. Click **Apply** to add an H.248 association between the MG and MGC. Once you have created an MG-MGC association, an entry will appear in the H.248 tab, Extended Association category.

Step 2 Configure a port for the MG-MGC link:

- Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- Click the **H.248** tab.
- Choose the **Extended Association** option from the **Category** drop-down arrow.
- Click on a link entry, then click **Details**. The Extended Association tab appears.

Figure 6-44 Configuration Center—VXSM Extended Association Tab



- e. Configure the **Gateway Port**, and other fields as desired.



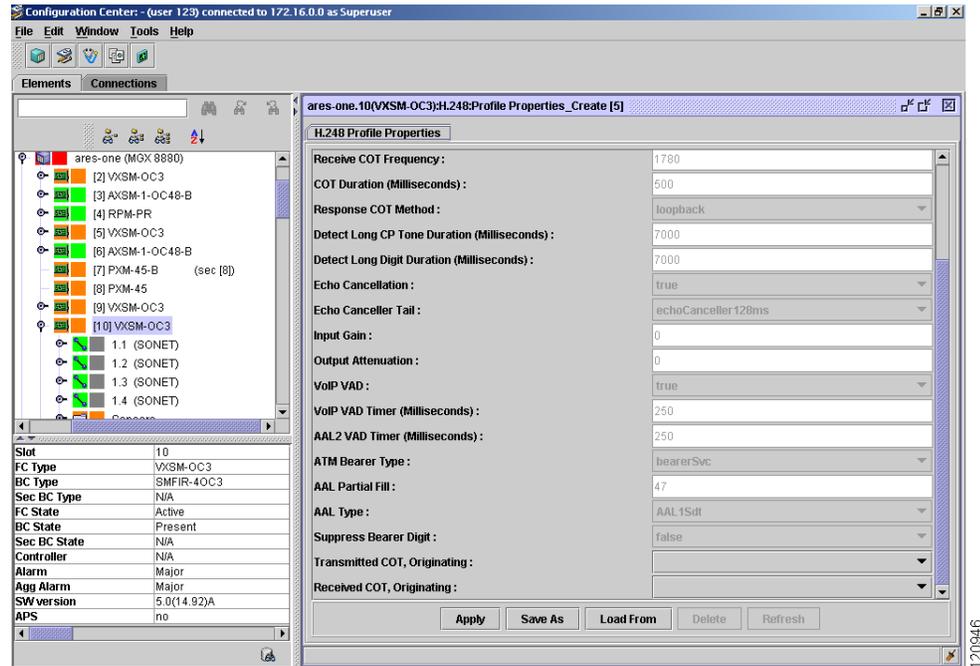
Note Table 6-47 describes fields in the VXSM Extended Association tab.

- f. Click **Apply** to configure the port for the MG-MGC link.

Step 3 Add an H.248 profile:

- Within the **H.248** tab, choose the **Profile Properties** option from the **Category** drop-down arrow.
- Click **Create**. The Create H.248 Profile Properties window appears.

Figure 6-45 Configuration Center—VXSM Create H.248 Profile Properties Window



- c. Configure the fields.



Note Table 6-48 describes fields in the VXSM Create H.248 Profile Properties window.

- d. Click **Apply** to create the H.248 profile.

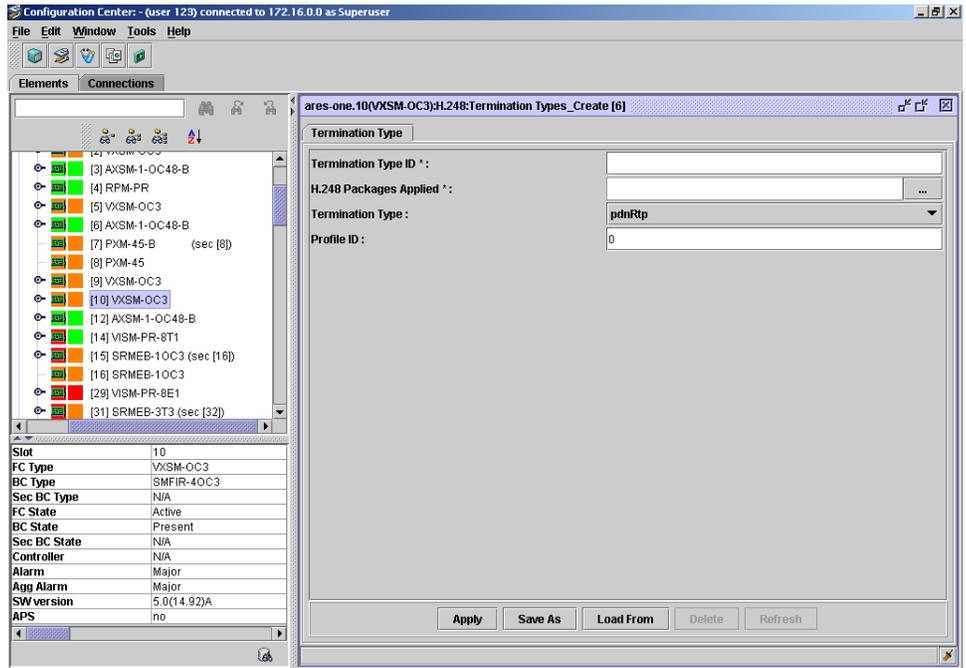
Step 4 Configure terminations for the switch circuit network (SCN) side of VXSM:

- Add a voice interface (VIF)—See 6.7.5 [Configuring Voice Interfaces](#), page 6-74.
- Associate the Gateway Link ID and H.248 Pkg ID by completing the Gateway Link ID and H.248 Pkg IDs fields—See 6.7.5.3 [Viewing or Modifying VIF Configuration](#), page 6-76).

Step 5 Configure terminations for the packet data network (PDN) side of VXSM:

- Within the **H.248** tab, choose the **Termination Types** option from the **Category** drop-down arrow.
- Click **Create**. The Create H.248 Termination Types window appears.

Figure 6-46 Configuration Center—VXSM Create H.248 Termination Types Window



- c. Configure the fields.



Note Table 6-49 describes fields in the VXSM Create H.248 Termination Types window.

- d. Click **Apply** to create the H.248 termination type.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-46 Field Descriptions for the VXSM Create MG-MGC Association Window

Field Name	Description
Gateway Link ID	Unique link ID that identifies the signalling link this gateway uses to communicate with the Gateway Controllers to form an H.248 association. Enter the value of 1 to identify the MG to MGC link in the Gateway Link ID field. Only one link is supported.
MGC Group Index	Unique index value to identify the particular MGC group. The range is 1-12.
Gateway IP Address Index	Index value for the IP address of the media gateway. The range is 1-16.
Association ID	Unique identification of the H.248 association assigned by the H.248 stack.

Table 6-46 *Field Descriptions for the VXSM Create MG-MGC Association Window (continued)*

Field Name	Description
Transport Protocol	Choose one of the following options that is used for the signaling traffic associated with the H.248 protocol from the Transport Protocol drop-down arrow: <ul style="list-style-type: none"> • tcp (default)—Transport Control Protocol (TCP) • udp—User Datagram Protocol (UDP)
Active MGC Address	Address of the currently active MGC in this media gateway link.
Active MGC Port Number	Transport layer port number of the currently active MGC in this media gateway link.
Gateway Link Admin State	Desired state of the gateway.
Gateway Link Operational State	Current operational state of the gateway.

Table 6-47 *Field Descriptions for the VXSM Extended Association Tab*

Field Name	Description
Gateway Link ID	Unique link ID which identifies the signaling link this gateway is uses to communicate with the gateway controllers to form an H.248 association.
Gateway IP Address Index	MG IP address index.
Gateway IP Address	IP address that the MGC uses to communicate with the MG.
Gateway Port	TCP/UDP port number that the MGC uses to communicate with the MG.
Encoding Scheme	Used to encode the H.248 messages that are sent/received to/from the gateway controller.
Control Protocol	Control protocol type in use.
Maximum Contexts	Maximum number of contexts allowed in this media gateway link.
Maximum Terminations	Maximum number of terminations per context in this media gateway link.
Gateway Execution Time	Interval within which the MGC expects a response to any transaction from the MG (exclusive of network delay specified by the object <code>cmedxGatewayInitialRtt</code>).
MGC Execution Time	Interval within which the MG expects a response to any transaction from the MGC (exclusive of network delay specified by the object <code>cmedxGatewayInitialRtt</code>).
Pending Response Time	Time within which to expect a pending response if a transaction cannot be completed in the MG and in the MGCs of the media gateway link.
Retries Before Disconnect	Number of times the MG retries to connect to the MGC before it sends out a disconnect command
Max Waiting Delay	When a MG is powered on, it should initiate a restart timer to a random value, uniformly distributed between zero and the value specified in this object.

Table 6-47 *Field Descriptions for the VXSM Extended Association Tab (continued)*

Field Name	Description
Restart Delay	Time delay before the MG accepts any call from MGC after it sends the command “service change” with a “restart.”
Response Retention Time	Time till the responses should be retained before they are sent if they receive a repetition of a transaction that is still being executed.
Initial Round Trip Time	Initial round-trip time for the H.248 transaction to be responded. Reflects the network delay time.
Inactivity Time	Period of silence between messages from the MGC.
H.248 Header IP Address Type	Address type in the H.248 message header.
Grace Period for Service Down	Grace period before the media gateway link is taken out of service.
Active MGC Domain Name	Domain name of the currently active MGC in this media gateway link.
Operational State Change Reason	Reason for the operational state change (cmedGatewayOperStatus) in the media gateway link.
Operational State Change Method	Method for the operational state change (cmedGatewayOperStatus) in the media gateway link.
Gateway Link Service State	Actions to modify media gateway link service state.
Gateway Link Operational State	Operational status of media gateway link.

Table 6-48 *Field Descriptions for the VXSM Create H.248 Profile Properties Window*

Field Name	Description
H.248 Profile Index	Unique identifier for the H.248 profile.
Inter CP Tone Duration (milliseconds)	Duration for playing a list of call progressing tones between two call progressing signals.
Digit On Duration (milliseconds)	Duration of the active DTMF digit during DTMF payout from the gateway.
Digit Pause Duration (milliseconds)	Duration of the pause after an active DTMF digit during DTMF payout from the gateway.
Transmit COT Frequency	Tone frequency to be transmitted between gateways in the continuity test.
Receive COT Frequency	Tone frequency to be received between gateways in the continuity test.
COT Duration (milliseconds)	Duration for the continuity test tone to be played when the gateway initiates a COT (continuity test tone).
Response COT Method	Method for responding to COT (continuity test tone) when the gateway detects the continuity test signal.

Table 6-48 *Field Descriptions for the VXSM Create H.248 Profile Properties Window (continued)*

Field Name	Description
Detect Long CP Tone Duration (milliseconds)	Duration for detecting a long call progressing tone.
Detect Long Digit Duration (milliseconds)	Duration for detecting a long digit tone signal.
Echo Cancellation	Specifies whether or not the echo cancellation is enabled.
Echo Canceller Tail	Echo canceller coverage.
Input Gain	Amount of gain inserted at the receiver side of the interface.
Output Attenuation	Amount of attenuation inserted at the transmit side of the interface.
VoIP VAD	VAD (Voice Activity Detection) is enabled for the compression DSPs of this interface when the application is VoIP.
VoIP VAD Timer (milliseconds)	Hangover time for VAD in the VoIP application.
AAL2 VAD Timer (milliseconds)	Hangover time for VAD in the VoATM over AAL2 application.
ATM Bearer Type	ATM bearer type.
AAL Partial Fill	Fill level of cells in case of AAL adaptation.
AAL Type	Adaption layer of ATM.
Suppress Bearer Digit	Controls if the digits should be suppressed from the voice media stream.
Transmitted COT, Originating	Specifies the COT tone to be transmitted from the originating gateway in the continuity test.
Received COT, Originating	Specifies the COT tone to be received from the originating gateway in the continuity test.

Table 6-49 *Field Descriptions for the VXSM Create H.248 Termination Types Window*

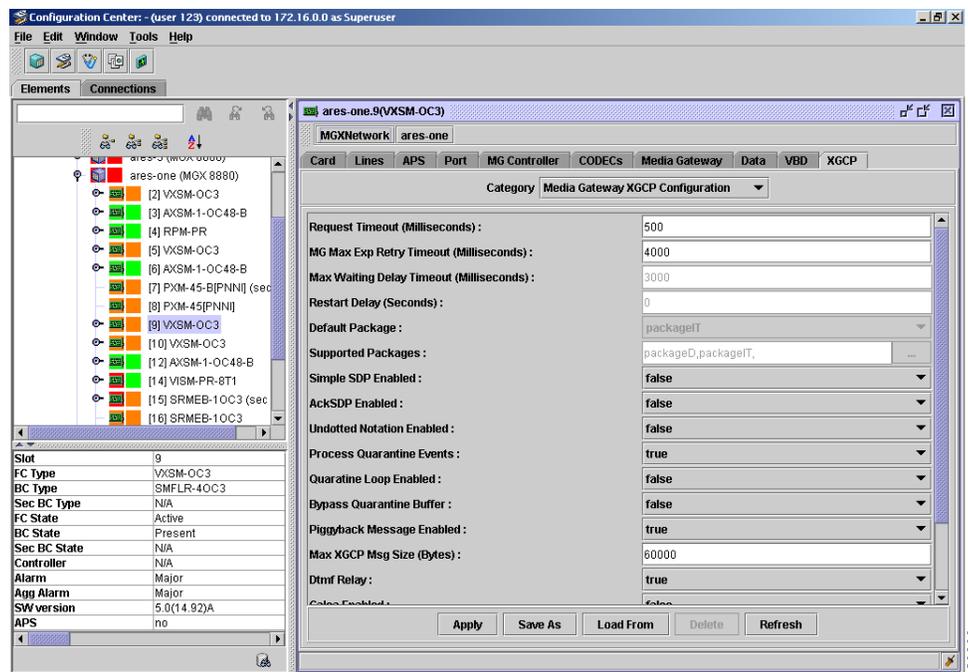
Field Name	Description
Termination Type ID	Unique identification number that is assigned to the termination type by the manager.
H.248 Packages Applied	H.248 packages applied to this termination type.
Termination Type	Type of a group of ephemeral terminations.
Profile ID	Property profile identifier with which the terminations within this termination type will be associated.

6.7.6.3 Configuring XGCP Protocol

Once you have completed the steps in [6.7.6.1 Setting Up MGCs and MGC Groups, page 6-79](#), perform the following steps to configure XGCP (TGCP) protocol:

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Under the **Elements** tab, within the node, double-click the VXSM card.
- Step 3** Click on the **XGCP** tab. The **Media Gateway XGCP Configuration** option appears by default in the **Category** drop-down arrow.

Figure 6-47 Configuration Center—VXSM XGCP Tab, Media Gateway XGCP Configuration Category



- Step 4** Configure the fields.



Note [Table 6-50](#) describes fields in the VXSM XGCP tab, Media Gateway XGCP Configuration category.

- Step 5** Click **Apply** to configure XGCP (TGCP) protocol.

Table 6-50 *Field Descriptions for the VXSM XGCP Tab, Media Gateway XGCP Configuration Category*

Field Name	Description
Request Timeout (milliseconds)	Period that the XGCP (TGCP) protocol waits before re-transmitting an unacknowledged message. It is the responsibility of the requesting entity to provide suitable timeouts for all outstanding commands, and to retry commands when timeouts exceeded.
MG Max Exp Retry Timeout (milliseconds)	Specifies the maximum timeout for exponential command retry by the media gateway.
Max Waiting Delay Timeout (milliseconds)	Value used for the media gateway to send the first restart in progress to the MGC in an implementation-dependent manner by the MGCP functionality based on the call volume of the system.
Restart Delay (seconds)	Specifies the restart delay timeout for the restart process for a gateway to send out RestartInProgress when it is powered on or has been reset.
Default Package	Represents the default capability package supported in the gateway.
Supported Packages	Represents the bit map of MGCP supported packages.
Simple SDP Enabled	Used to enable or disable building of s, t, and o lines in the Sessions Description Protocol (SDP) message. The o field indicates the owner/creator and session identifier. The s field indicates the session name field. The t field indicates the duration while a session is valid. A value of true (enabled) means that SDP will NOT include the fields s, t, and o. A value of false (disabled) means that the o, s, and t lines will be built before sending SDP.
AckSDP Enabled	Specifies if the ACK SDP is enabled or disabled. If the value is true (enabled) it sends ADP with ACK when CODEC or reportable NTE delta changed, or an attempt is made to change CODEC, VAD, packet-period, echo cancellation during FAX/modem mode.
Undotted Notation Enabled	Enables or disables the undotted notation for CODEC. This object is used to set CODEC notation to dotted or undotted in SDP between the gateway and the call agent.
Process Quarantine Events	Determines how to handle persistent events. If the value is true, the quarantined events should be processed, otherwise the quarantined events are discarded.
Quarantine Loop Enabled	Controls the default quarantine mode. If the value is true, the default quarantine mode is loop and not step. The gateway is expected to generate multiple notifications (loop) not at most one notification
Bypass Quarantine Buffer	Specifies how the persistent events will be handled in quarantine processing. If the value is true, the persistent events bypass quarantine buffer. If the value is set to false, this object will be ignored.
Piggyback Message Enabled	Enables or disables the piggyback message generation. If the value is true, a call agent can send several MGCP messages in the same UDP packets to the gateway.
Max XGCP Msg Size (bytes)	Specifies the maximum allowed XGCP (TGCP) message size which is used for checking if the size will be supported by the call agent via (AuditEndPoint) response. A value of zero means there is no limit to the size of the XGCP message.

Table 6-50 *Field Descriptions for the VXSM XGCP Tab, Media Gateway XGCP Configuration Category (continued)*

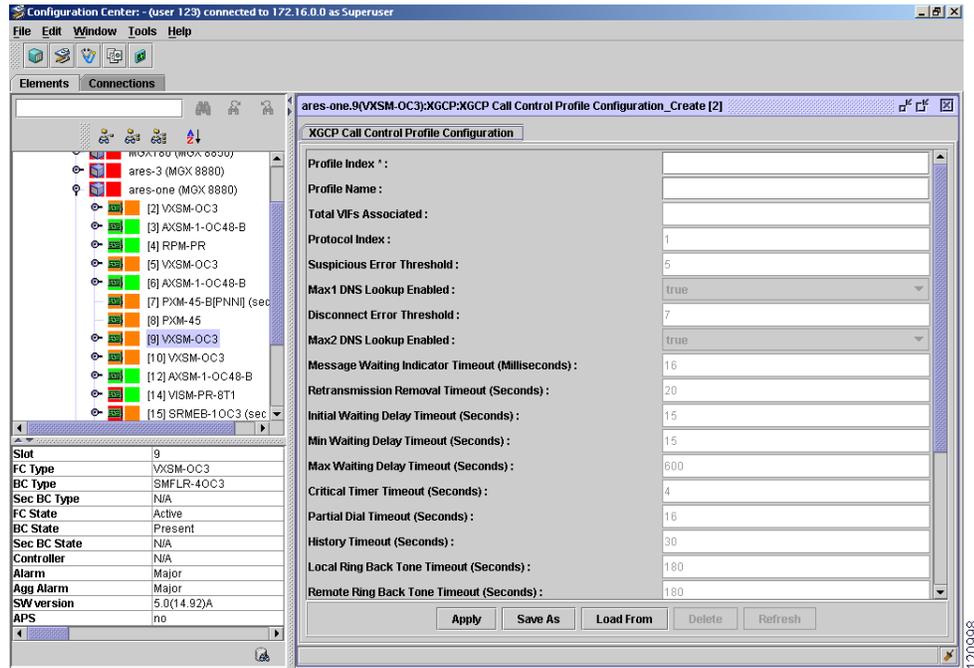
Field Name	Description
Dtmf Relay	When the value is true, the digits will be sent as peer-to-peer packet in the bearer. When the value is false, the digits will be sent as regular voice packets in the bearer.
Calea Enabled	CALEA, or Communication Assistance for Law Enforcement Act, is a feature that allows for a lawful intercept of a call's details and call contents originating or terminating on specific terminals. A value of true indicates that CALEA is enabled; a value of false indicates that CALEA is disabled.
Gateway Service State	Defines the service state of the media gateway.
Gateway Admin State	Defines the administrative state of the media gateway.
Grace Time (seconds)	Represents the grace period (restart delay in RSIP message) which is expressed in a number of seconds. It indicates how soon the gateway will be taken out of service. The value -1 indicates that the grace period time is disabled.

6.7.6.4 Configuring MGC XGCP Profiles

To configure MGC XGCP profiles, you must create a call control profile.

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
 - Step 2** Under the **Elements** tab, within the node, double-click the VXSM card.
 - Step 3** Click on the **XGCP** tab.
 - Step 4** Choose the **XGCP Call Control Profile Configuration** option from the **Category** drop-down arrow.
 - Step 5** Click **Create**. The Create XGCP Call Control Profile window appears.

Figure 6-48 Configuration Center—VXSM Create XGCP Call Control Profile Window



Step 6 Configure the fields.



Note Table 6-51 describes fields in the VXSM Create XGCP Call Control Profile window.

Step 7 Click **Apply** to create the XGCP (TGCP) call control profile.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-51 Field Descriptions for the VXSM Create XGCP Call Control Profile Window

Field Name	Description
Profile Index	Uniquely identifies the call control profile.
Profile Name	Unique name for the profile. This cannot be modified once it is created.
Total VIFs Associated	Total number of voice interfaces (DS0 group) associated with this call control profile. A value of zero means there are no voice interfaces associated with the profile.
Protocol Index	Specifies the protocol that the MG should use to communicate with the MGC during call setup.
Suspicious Error Threshold	Contains the suspicious error threshold for signaling messages.

Table 6-51 *Field Descriptions for the VXSM Create XGCP Call Control Profile Window (continued)*

Field Name	Description
Max1 DNS Lookup Enabled	Enables or disables the Max1 domain name server (DNS) query operation when Max1 expires.
Disconnect Error Threshold	Contains the disconnect error threshold for signaling messages.
Max2 DNS Lookup Enabled	Enables or disables the Max2 domain name server (DNS) query operation when Max2 expires.
Message Waiting Indicator Timeout (milliseconds)	Timeout value for the message waiting indicator (MWI) tone. The MWI tone is used with message waiting services, and indicates that the MG is not ready to accept address information or other information from an access line.
Retransmission Removal Timeout (seconds)	Timeout value for re-transmission removal.
Initial Waiting Delay Timeout (seconds)	The voice interface (DS0 group) becomes disconnected when the MG tries to communicate with the call agent and the re-transmission procedure times out after re-trying.
Min Waiting Delay Timeout (seconds)	The DS0 group (voice interface) becomes disconnected when the MG tries to communicate with the call agent and the re-transmission procedure times out after re-trying.
Max Waiting Delay Timeout (seconds)	Maximum waiting delay (Tdmax) timeout value used by the MG to send the restart in progress with the restart method as RM:disconnected to the call agent when the voice interface associated ds0-group disconnection condition occurs.
Critical Timer Timeout (seconds)	Represents the timeout value for the critical timer.
Partial Dial Timeout (seconds)	Represents the partial dial timeout and is used along with a digit map as the inter-digit timer.
History Timeout (seconds)	The MGCP protocol is organized as a set of transactions, each of which is composed of a command and a response. In the absence of a timely response, commands are repeated. The MG must keep in memory a list of the responses it sent to recent transactions, and a list of the transactions that are currently being executed. Recent is here defined by the value of <code>cxeCcProfileThistTimeout</code> that specifies the number of seconds that responses to old transactions must be kept for.
Local Ring Back Tone Timeout (seconds)	The time for which the local ring back tone (towards the TDM) will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
Remote Ring Back Tone Timeout (seconds)	Specifies the time for which the remote ring back tone (towards the packet network) will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
Congestion Tone Timeout (seconds)	Specifies the time for network congestion tone to be generated. A value of zero indicates that the tone will be generated indefinitely unless interrupted.

Table 6-51 *Field Descriptions for the VXSM Create XGCP Call Control Profile Window (continued)*

Field Name	Description
Busy Tone Timeout (seconds)	Specifies the time for which the busy tone will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
Dial Tone Timeout (seconds)	Specifies the time for which the dial tone will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
Confirmation Dial Tone Timeout (seconds)	Specifies the time for which the stutter or confirmation dial tone will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
Ringing Cadence Tone Timeout (seconds)	Specifies the time for which the ringing cadence will be generated towards the basic PBX unless interrupted. A value of zero indicates that the cadence will be generated indefinitely unless interrupted.
Reorder Tone Timeout (seconds)	Specifies the time for which the reorder tone or fast busy tone will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
COT1 Timeout (seconds)	Specifies time for which the continuity test tone 1 will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.
COT2 Timeout (seconds)	Specifies time for which the continuity test tone 1 will be generated unless interrupted. A value of zero indicates that the tone will be generated indefinitely unless interrupted.

6.7.6.5 Configuring MGC Redundancy

MGCs configured in an MGC group form a set of redundant MGCs, up to a maximum of 4. The order in which MGCs are added to the group is the order of preference for selecting the MGC to use. Besides having up to 4 MGCs in a group, each MGC can have up to 4 IP addresses.

To configure MGC redundancy:

-
- Step 1** Create an MGC by assigning it a domain name, and specify how the domain name is to be resolved (see Step 1 in section [6.7.6.1 Setting Up MGCs and MGC Groups, page 6-79](#)).
 - Step 2** Change the IP address resolution and (optionally) create an IP address for the domain (see Step 2 in section [6.7.6.1 Setting Up MGCs and MGC Groups, page 6-79](#)).
 - Step 3** Add another MGC to a MGC group (see Step 4 in section [6.7.6.1 Setting Up MGCs and MGC Groups, page 6-79](#)).
-

6.7.7 How Do I Configure VXSM Features?

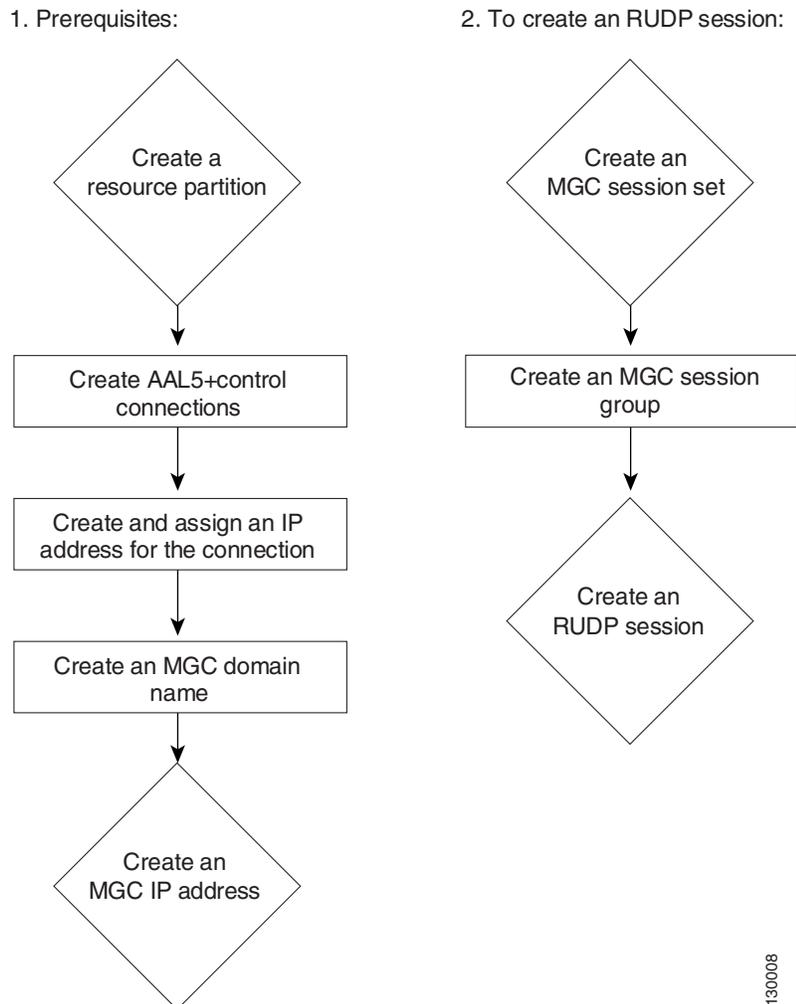
This section contains the following information:

- [6.7.7.1 Creating a RUDP Session, page 6-102](#)

- [6.7.7.2 Configuring Voiceband Data](#), page 6-109
- [6.7.7.3 Creating PRI-BH](#), page 6-112
- [6.7.7.4 Configuring Announcements](#), page 6-114

6.7.7.1 Creating a RUDP Session

Figure 6-49 Process for Creating a RUDP Session



Before you can create a RUDP session, be sure you have completed the following steps:

-
- Step 1** Create a resource partition on the node—See [6.7.1 Creating a Resource Partition for VXSM](#), page 6-63.
- Step 2** Create an AAL5+control VXSM connection—See [Chapter 7, “Provisioning Connections.”](#)
- Step 3** Create and assign an IP address for the connection—See [6.7.3 Creating and Assigning an IP Address for the Connection](#), page 6-66.
- Step 4** Create an MGC domain name—See [6.7.6.1 Setting Up MGCs and MGC Groups](#), page 6-79.

Step 5 Create an MGC IP address—See [6.7.6.1 Setting Up MGCs and MGC Groups](#), page 6-79.

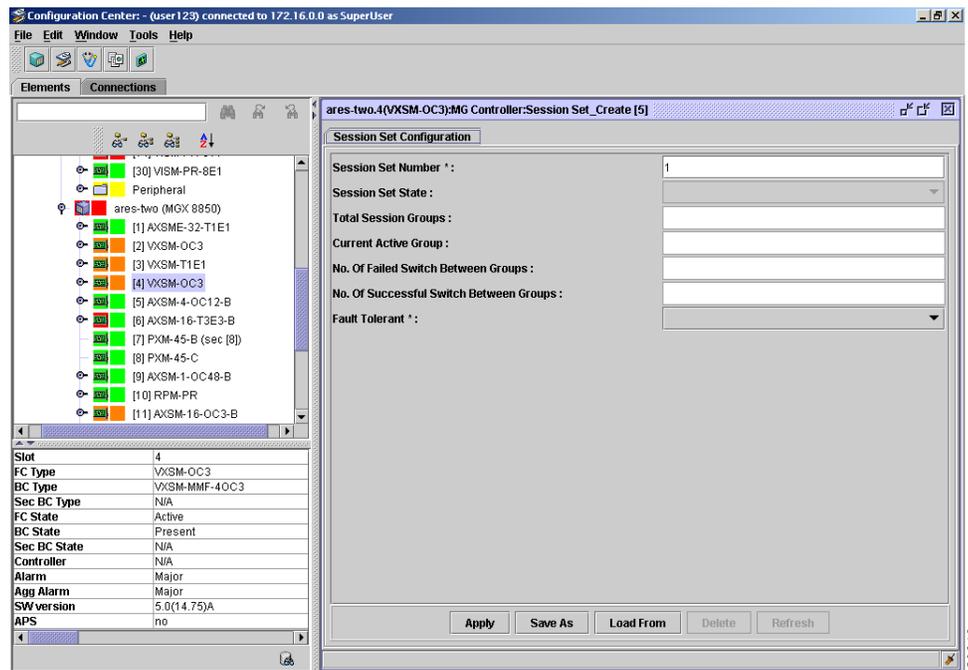
To proceed with the creation of a RUDP session, complete the following steps:

-
- Step 1** Create a MGC session set—See [6.7.7.1.1 Creating a MGC Session Set, page 6-104](#).
 - Step 2** Create a MGC session group—See [6.7.7.1.2 Creating a MGC Session Group, page 6-105](#).
 - Step 3** Create a RUDP session—See [6.7.7.1.3 Creating a RUDP Session, page 6-107](#).
-

6.7.7.1.1 Creating a MGC Session Set

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- Step 3** Click the **MG Controller** tab.
- Step 4** Choose the **Session Set** option from the **Category** drop-down arrow.
- Step 5** Click **Create** to display the Create Session Set window.

Figure 6-50 Configuration Center—VXSM Create Session Set Window



Step 6 Complete the fields.



Note [Table 6-52](#) describes fields in the VXSM Create Session Set window.

Step 7 Click **Apply** to add a MGC session set.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

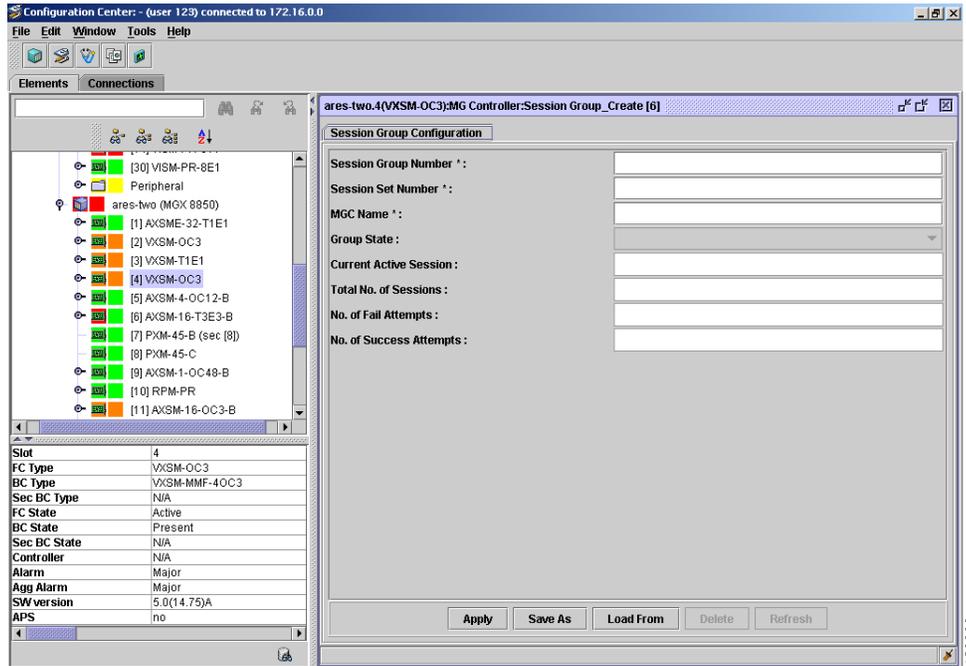
Table 6-52 *Field Descriptions for the VXSM Create Session Set Window*

Field Name	Description
Session Set Number	Logical index of this table. Currently only set 1 is used and all the signalling channels are implicitly mapped to set 1.
Session Set State	Denotes the state this set is in.
Total Session Groups	Keeps track of the number of session groups that has been added to a session set.
Current Active Group	Current active group number.
Number of Failed Switch Between Groups	Keeps track of failed attempts to switch between session groups in this set.
Number of Successful Switch Between Groups	Keeps track of successful attempts to switch between session groups in this set.
Fault Tolerant	Indicates whether the set configuration is fault tolerant or not.

6.7.7.1.2 Creating a MGC Session Group

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- Step 3** Click the **MG Controller** tab.
- Step 4** Choose the **Session Group** option from the **Category** drop-down arrow.
- Step 5** Click **Create** to display the Create Session Group window.

Figure 6-51 Configuration Center—VXSM Create Session Group Window



Step 6 Complete the fields.



Note [Table 6-53](#) describes fields in the VXSM Create Session Group window.

Step 7 Click **Apply** to add a MGC session group.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-53 Field Descriptions for the VXSM Create Session Group Window

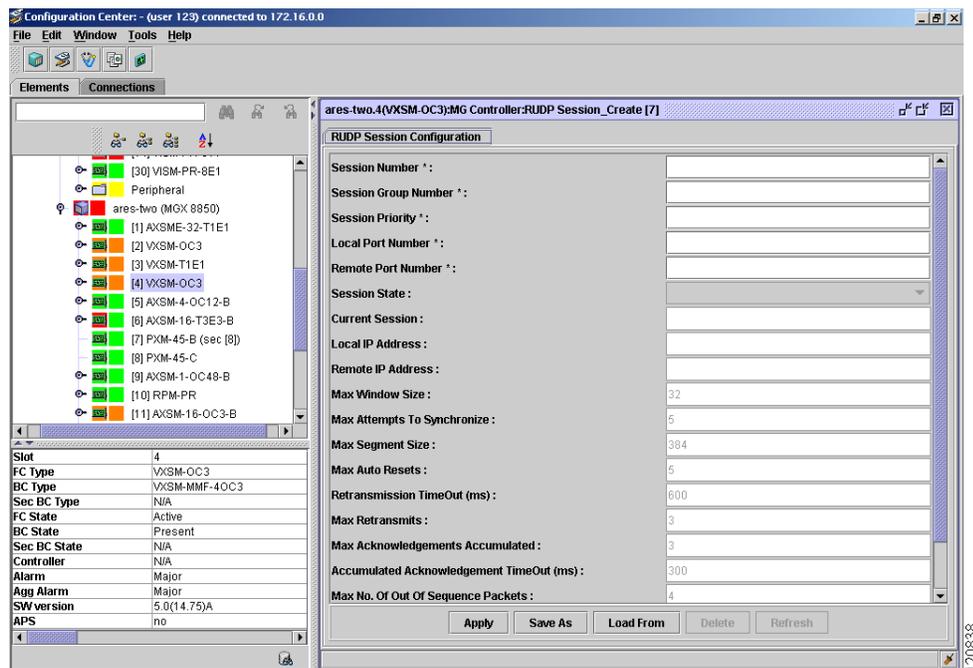
Field Name	Description
Session Group Number	Index for this table. One set can have up to two groups.
Session Set Number	Session set number to which this session group belongs.
MGC Name	Denotes the name of the media gateway controller. This corresponds to a domain name under which the MGC could also be registered in a DNS.
Group State	State the session group is in.
Current Active Session	Indicates the current session that is open to communication with the MGC. There is only one action session per session group.
Total Number of Sessions	Keeps track of the total number of sessions that have been added to this group.

Table 6-53 Field Descriptions for the VXSM Create Session Group Window (continued)

Field Name	Description
Number of Fail Attempts	Keeps track of failed attempts to switch between sessions in this group.
Number of Success Attempts	Keeps track of successful attempts to switch between sessions in this group.

6.7.7.1.3 Creating a RUDP Session

- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click the VXSM card that contains the connection you created.
- Step 3** Click the **MG Controller** tab.
- Step 4** Choose the **RUDP Session** option from the **Category** drop-down arrow.
- Step 5** Click **Create** to display the Create RUDP Session window.

Figure 6-52 Configuration Center—VXSM Create RUDP Session Window

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Step 6 Complete the fields.



Note [Table 6-54](#) describes fields in the VXSM Create RUDP Session window.

Step 7 Click **Apply** to add a RUDP session.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-54 *Field Descriptions for the VXSM Create RUDP Session Window*

Field Name	Description
Session Number	Index for this table. One group can have a maximum of four sessions.
Session Group Number	A mandatory parameter if session type is backhaul, indicates the session group that this session belongs to.
Session Priority	When a session fails, it indicates which session the session manager should try to bring active. A lower number means higher priority.
Local Port Number	Port number of gateway for this session. The port number should be unique across other sessions and XGCP/SRCP.
Remote Port Number	Port number of MGC for this session. The port number should be unique across other sessions and XGCP/SRCP.
Session State	State this session is in.
Current Session	Indicates which session has received an active message from MGC.
Local IP Address	IP address of gateway.
Remote IP Address	IP address of the media gateway controller. It is resolved by using <code>vismSessionGrpMgcName</code> in <code>vismSessionGrpTable</code> .
Max Window Size	Max size of the receive window in segments, used for flow control.
Max Attempts to Synchronize	Max number of attempts to synchronize with other side (MGC).
Max Segment Size	Max number of octets that can be received by the peer sending the SYN segment.
Max Auto Resets	Max number of consecutive auto reset that will be performed before a connection is reset.
Retransmission TimeOut (ms)	(in milliseconds) Timeout value for retransmission of unacknowledged packets.
Max Retransmits	Max number of times consecutive transmission will be attempted before the connection is considered broken.
Max Acknowledgements Accumulated	Indicates the maximum number of acknowledgments that will be accumulated before sending an acknowledgment if another segment is not sent.

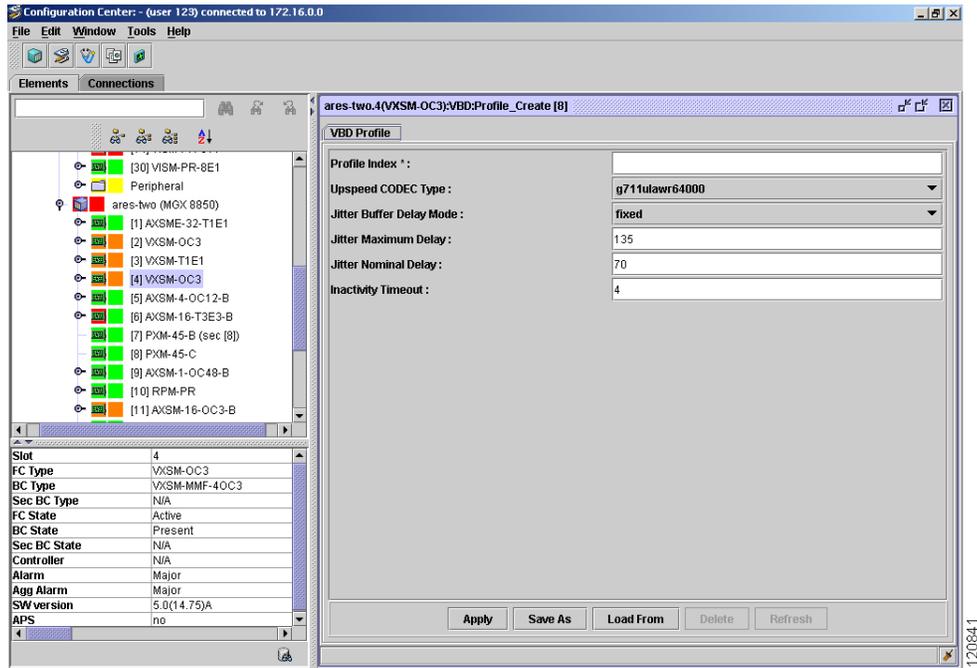
Table 6-54 Field Descriptions for the VXSM Create RUDP Session Window (continued)

Field Name	Description
Accumulated Acknowledgement TimeOut (ms)	(in milliseconds) Timeout value for sending an acknowledgment segment if another segment is not sent.
Max Number Of Out Of Sequence Packets	Max number of out of sequence packets that will be accumulated before an EACK segment is sent. The EACK segment is used to acknowledge segments received out of sequence.
Send Null Segment Timeout (ms)	Number of milliseconds of idle time before sending a null segment.
Auto Reset Timeout (ms)	Number of milliseconds to wait for transfer state before an auto reset occurs.

6.7.7.2 Configuring Voiceband Data

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
- Step 2** Within the **Elements** tab, expand the node, then double-click the VXSM card.
- Step 3** Click the **VBD** tab.
- Step 4** Create a profile:
- a. Choose the **Profile** option from the **Category** drop-down arrow.
 - b. Click **Create**. The Create VBD Profile window appears.

Figure 6-53 Configuration Center—VXSM Create VBD Profile Window



- c. Configure the fields.



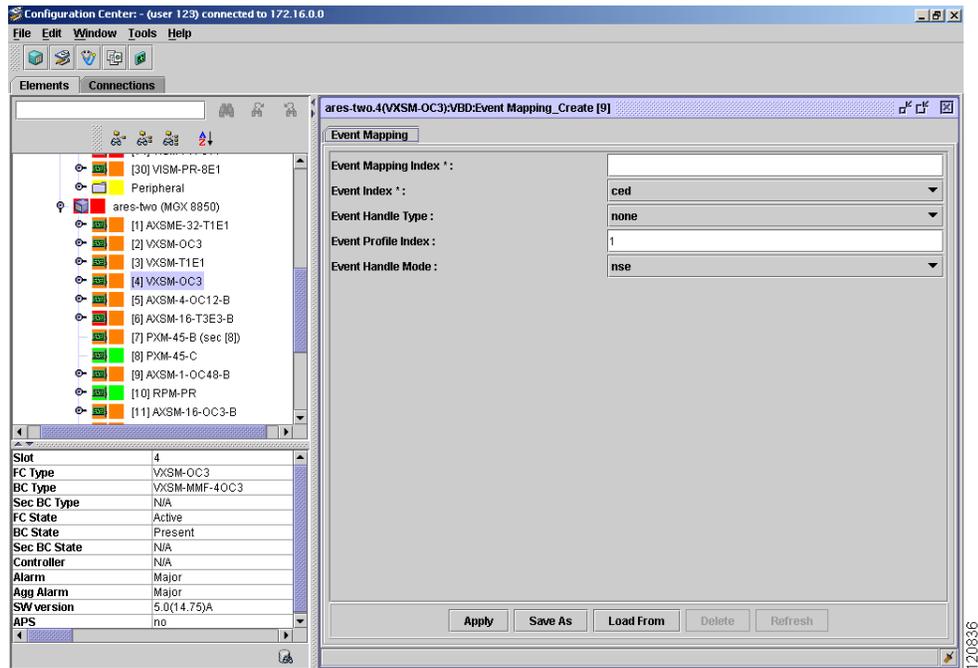
Note [Table 6-55](#) describes the fields in the VXSM Create VBD Profile window.

- d. Click **Apply** to create the VBD profile.

Step 5 Create two event mapping indexes:

- Choose the **Event Mapping** option from the **Category** drop-down arrow.
- Click **Create**. The Create Event Mapping window appears.

Figure 6-54 Configuration Center—VXSM Create Event Mapping Window



- c. Configure the fields. Make sure to create one **Event Index** as **ced**, and a second **Event Index** as **v21Tone**.



Note Table 6-56 describes the fields in the VXSM Create Event Mapping window.

- d. Click **Apply** to create one event mapping index. Perform Step 5 again, and create a second index.



Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-55 Field Descriptions for the VXSM Create VBD Profile Window

Field Name	Description
Event Mapping Index	Index that uniquely identifies a set of voice data events supported and how they will be handled in the media gateway.
Event Index	Index that uniquely identifies the voice band data event.
Event Handle Type	Specifies the type of the handle function in response to this event detection.
Event Profile Index	Specifies the index of the profile which defines the handling attributes in response to the event detection.
Event Handle Mode	Specifies the handling mode of the event.

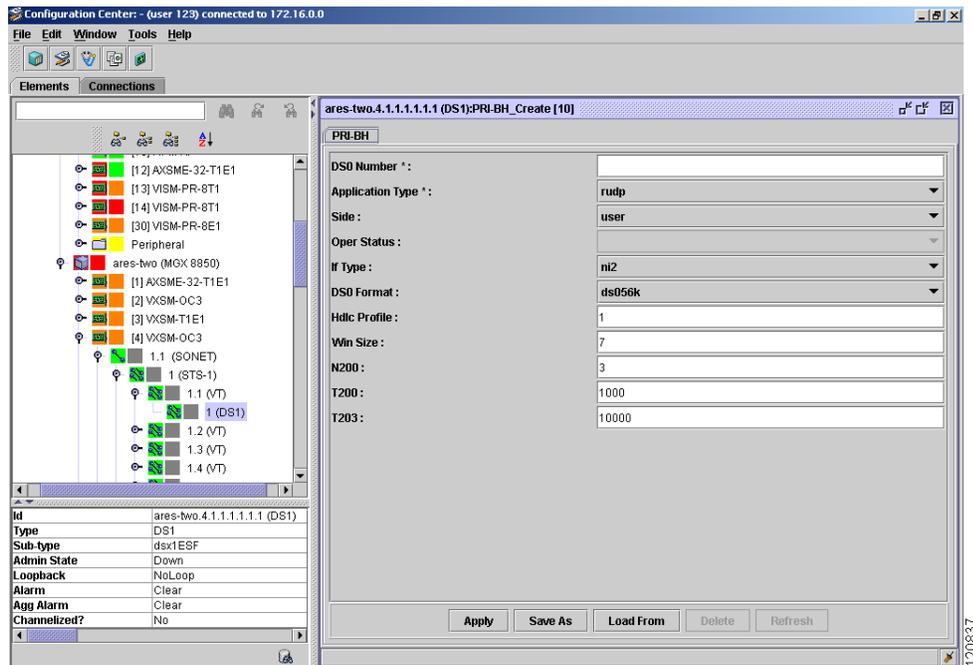
Table 6-56 Field Descriptions for the VXSM Create Event Mapping Window

Field Name	Description
Profile Index	This object uniquely identifies the VBD profile.
Upspeed CODEC Type	Specifies the CODEC type to use for upspeed.
Jitter Buffer Delay Mode	Specifies the jitter buffer mode applied to the VBD call connection.
Jitter Maximum Delay	Specifies the maximum jitter buffer size in the VBD connection.
Jitter Nominal Delay	Specifies the nominal jitter buffer size in the VBD connection.
Inactivity Timeout	Specifies the maximum jitter buffer size in the VBD connection.

6.7.7.3 Creating PRI-BH

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
 - Step 2** Within the node, expand the VXSM OC3 card and expand the SONET line, STS path, and VT path that contain the DS1/E1 line you want to enable. Double-click on the DS1/E1 line. The DS1/E1 Path tab appears, with the DS1/E1 Line Info option selected by default
 - Step 3** Within the **Elements** tab, within the node, expand the VXSM card, and double-click on the DS1/E1 line you want to create PRI-BH under.
 - Step 4** Click the **PRI-BH** tab.
 - Step 5** Click **Create**. The VXSM PRI-BH Create window appears.

Figure 6-55 Configuration Center—VXSM PRI-BH Create Window



Step 6 Configure the fields.



Note [Table 6-57](#) describes the fields in the VXSM PRI-BH Create window.

Step 7 Click **Apply** to create PRI-BH.

Table 6-57 Field Descriptions for the VXSM PRI-BH Create Window

Field Name	Description
DS0 Number	DS0 number.
Application Type	Specifies the application type for the corresponding LAPD D channel. After the LAPD is added, this object can not be modified.
Side	Specifies whether the LAPD stack is at the user or network side.
Oper Status	Operational status of this interface.
If Type	Specifies the type of interface in which the LAPD stack resides.
DS0 Format	Specifies the DS0 format. 56k is robbed-bit for T1.
Hdlc Profile	Specifies the HDLC profile which contains a list of HDLC attributes for the PRI backhaul connection.
Win Size	Specifies the maximum number of sequentially numbered l-frames that may be outstanding.
N200	Specifies the maximum number of retransmissions of a frame.

Table 6-57 Field Descriptions for the VXSM PRI-BH Create Window (continued)

Field Name	Description
T200	Specifies the maximum time to wait for acknowledgment of a transmit frame.
T203	Specifies the maximum time in milliseconds allowed without frames being exchanged. This value should be greater than the value for T200.

6.7.7.4 Configuring Announcements

In switching mode, VXSM delivers prerecorded announcements in either direction, for example, a calling party or called party, under the control of the MGC. These announcements are played during a call setup and after the call is established. The announcement files are available in VXSM memory to be played out. If the file does not reside in VXSM memory, VXSM uses TFTP to obtain the file from an external announcement server, caches it, and plays it out.

A media gateway is a network element. It provides an electrical conversion between audio signals carried on telephone circuits and data packets carried over the Internet or over other packet data networks. To setup an announcement system, the media gateway plays prerecorded audio files. These files are played bidirectionally over existing connections, for example, calls, or the audio files are directed toward a TDM network to a TDM endpoint that is terminated on a media gateway.

To configure the announcement control parameters:

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the VXSM card.
 - Step 3** Click the **VOICE Features** tab.
 - Step 4** Choose the **Announcement Controls** option from the **Category** drop-down arrow.
 - Step 5** Configure the fields.



Note [Table 6-58](#) describes fields in the VXSM Voice Features tab, Announcement Controls category.

- Step 6** Click **Apply** to configure the announcement controls.

Table 6-58 *Field Descriptions for the VXSM Voice Features Tab, Announcement Controls Category*

Field Name	Description
Announcement Server Domain Name	Specifies the domain name of an announcement file server that resides in an IP network and is reachable from the media gateway. The default value of this object is NULL string (size is 0). Before using any object in this table, this object should be configured to non-NULL.
Domain Name Resolution	Specifies the domain name resolution for the domain name of the announcement file server which is specified by the Audio File Name object. If this object is set to <code>internalOnly</code> , the IP address associated with the file server (Audio File Name) will be determined by the <code>cannoIpAddress</code> object. Values include: <ul style="list-style-type: none"> <code>internalOnly</code> (default)—Specifies the internal resolution of the domain name for the announcement file server. If the internalOnly option is chosen, the IP address associated with the file server is determined according to the IP address of the server. <code>externalOnly</code>—Specifies the external resolution of the domain name for the announcement file server.
Server IP Address Type	Specifies the IP address type of <code>cannoIpAddress</code> . This object is not applicable when Domain Name Resolution is set to <code>externalOnly</code> .
Server IP Address	Specifies the IP address type associated with the Audio File Name. This object is not applicable when Domain Name Resolution is set to <code>externalOnly</code> .
Ann File Age (minutes)	Specifies the maximum life span of the dynamic announcement files in the cache. A value of 0 indicates that the age time is disabled. The range is from 0-1440 min. The default value is 1440 min.
Directory Path	Specifies the directory path under the default TFTP directory in the announcement file server for announcement files. The characters can be alphanumeric characters, forward slashes, backward slashes, periods, dashes, and underscores. No embedded spaces are allowed. The subdirectory path can have up to 64 characters in length.
Request TimeOut (seconds)	Specifies the time for a play announcement request to be serviced. The range is from 1-50 sec. The default value is 5 sec.
Max Announcement Number	Specifies the maximum number of permanent announcement files that can be added to the media gateway. A value of 0 indicates that the media gateway supports only dynamic announcement files. The range is from 0-136. The default value is 41.

To map an announcement name number to the announcement filename:

- Step 1** Within the **VOICE Features** tab, choose the **Announcement Files** option from the **Category** drop-down arrow.
- Step 2** Click **Create** to display the Announcement Files Configuration window.
- Step 3** Configure the fields.



Note [Table 6-58](#) describes fields in the VXSM Voice Features tab, Announcement Files category.

- Step 4** Click **Apply** to map the announcement name number to the announcement filename.

Table 6-59 *Field Descriptions for the VXSM Voice Features Tab, Announcement Files Category*

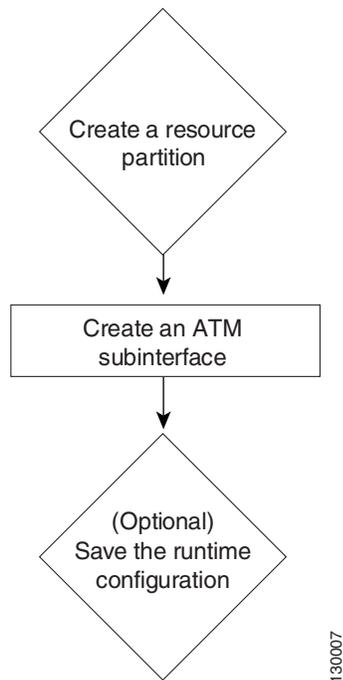
Field Name	Description
File Number	Index value to identify the announcement file that is used by the media gateway. The range is from 1-1024.
File Name	Name of a valid announcement that is stored in the media gateway announcement table. The announcement file name is composed of up to 64 characters, and can incorporate path or subdirectory information. The characters can be alphanumeric characters, forward slashes, backward slashes, periods, dashes, and underscores. No embedded spaces are allowed. The last character of the filename cannot have a dash or forward slash.
File Status	Status of the audio file.
Number of Play Cycles	Number of times that the announcement file is played. The range is from 0-65535 cycles. The default is one cycle. The value zero indicated that an announcement file is played or looped continuously. Note The Number of Play Cycles parameter is used only when the play announcement signal from the MGC does not incorporate a parameter, which specifies the number of cycles that the announcement is played.
Play Duration (10 milliseconds)	Duration that the announcement file is played during an announcement cycle. The range is from 0-65535 ms. The default value is zero. The value zero indicates that the duration of the announcement is a variable, and the Number of Cycles parameter determines the time. Note The Play Duration (10 milliseconds) field is applicable only for playing a fixed announcement. To play a fixed announcement, the Number of Cycles parameter and the Play Duration parameter are used together to determine how long the announcement is played.

Table 6-59 *Field Descriptions for the VXSM Voice Features Tab, Announcement Files Category (continued)*

Field Name	Description
File Type	Announcement file type. Values include: <ul style="list-style-type: none"> dynamic (default)—specifies the dynamic file is removed from the cache when the age of the file reaches a specified limit or in accordance with a Least Replaceable Unit (LRU) algorithm when the cache is full. permanent—specifies the permanent file is stored in the cache until it is deliberately deleted.
Aging Time (minutes)	Announcement file age in cache, only for dynamic files.

6.8 How Do I Configure RPM Cards?

Figure 6-56 *Process for Configuring RPM Cards*



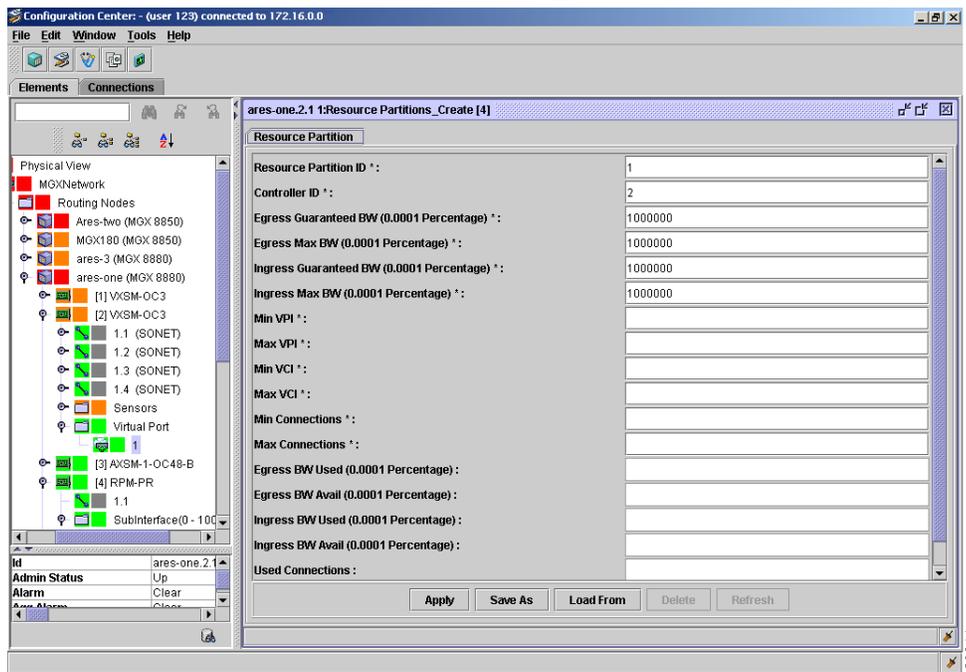
To configure RPM-PR or RPM-XF cards, complete the following steps:

-
- Step 1** Create a resource partition—See [6.8.1 Creating a Resource Partition for RPM](#), page 6-118.
 - Step 2** Create an ATM subinterface—See [6.8.2 Creating or Modifying an ATM Subinterface](#), page 6-120.
 - Step 3** (Optional) Save the run-time configuration—See [6.8.3 Saving the Run-Time Configuration for RPM](#), page 6-121.
-

6.8.1 Creating a Resource Partition for RPM

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the RPM card.
- Step 3** Click the **Resource Partitions** tab.
- Step 4** Click **Create**. The Create Resource Partitions window appears.

Figure 6-57 Configuration Center—RPM Create Resource Partitions Window



- Step 5** Configure the fields.



Note [Table 6-60](#) describes fields in the RPM Create Resource Partitions window.

- Step 6** Click **Apply** to create the resource partition.

Table 6-60 Field Descriptions for the RPM Create Resource Partitions Window

Field Name	Description
Partition Type (RPM-PR only)	Partition type, can be VCC or VPC.
Resource Partition ID	Value for the resource partition identifier. The range is from 1-10. The value 1 is reserved for PNNI.

Table 6-60 *Field Descriptions for the RPM Create Resource Partitions Window (continued)*

Field Name	Description
Controller ID	Value for the controller identifier. The range is from 2-255. The value 2 is reserved for PNNI, the others are for LSC.
Egress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in egress direction. The range is from 0-1000000.
Egress Max BW	Maximum percentage bandwidth for the resource partition in egress direction. The range is from 0-1000000.
Ingress Guaranteed BW	Guaranteed percentage bandwidth reserved for the resource partition in ingress direction. The range is from 0-1000000.
Ingress Max BW	Maximum percentage bandwidth for the resource partition in ingress direction. The range is from 0-1000000.
Min VPI	Beginning of the VPI range for this partition. <ul style="list-style-type: none"> For RPM-PR VCC partitions, the range is 0-0. For RPM-PR VPC partitions, the range is 1-255. For RPM-XF, the range is 0-240. For VXSM, the range is 0-255.
Max VPI	End of the VPI range for this partition. <ul style="list-style-type: none"> For RPM-PR VCC partitions, the range is 0-0. For RPM-PR VPC partitions, the range is 1-255. For RPM-XF, the range is 0-240. For VXSM, the range is 0-255.
Min VCI	Beginning of the VCI range for this partition. <ul style="list-style-type: none"> For RPM-PR VCC partitions, the range is 32-3808. For RPM-PR VPC partitions, the range is 0-0. For RPM-XF, the range is 32-65535.
Max VCI	End of the VCI range for this partition. <ul style="list-style-type: none"> For RPM-PR VCC partitions, the range is 32-3808. For RPM-PR VPC partitions, the range is 65535-65535. For RPM-XF, the range is 32-65535.
Min Connections	Guaranteed number of connections that can be configured on this partition.
Max Connections	Maximum number of connections that can be configured on this partition.
Egress BW Used	Percentage bandwidth used by the resource partition in egress direction.
Egress BW Avail	Percentage bandwidth available on the resource partition in egress direction.
Ingress BW Used	Percentage bandwidth used by the resource partition in ingress direction.
Ingress BW Avail	Percentage bandwidth available on the resource partition in ingress direction.
Used Connections	Number of connections currently in use on this partition.
Avail Connections	Number of connections available that can be added on this partition.

6.8.2 Creating or Modifying an ATM Subinterface

By preparing to create the master end of the connection to the VXSM card, you must create an ATM subinterface on the RPM card.

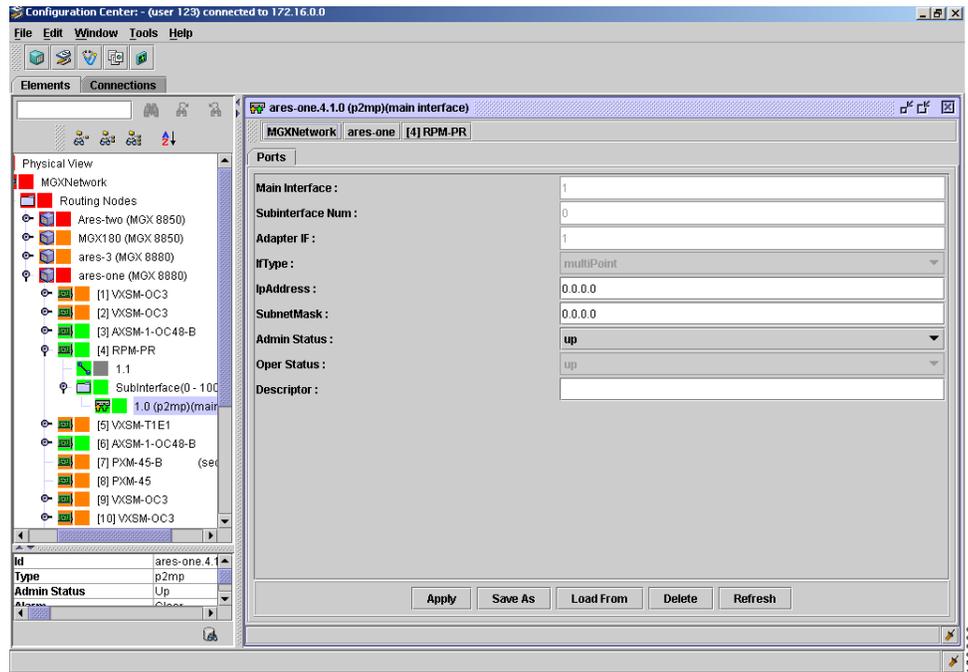
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the RPM card.
- Step 3** Click the **Ports** tab to display the entries for the Ports Table for RPM.
- Step 4** To modify an existing entry, select the entry, then click **Details**

or

To create a new ATM subinterface, click **Create**.

The Ports Create/Details window appears.

Figure 6-58 Configuration Center—RPM Ports Create/Details Window



- Step 5** Configure the fields.



Note [Table 6-61](#) describes fields in the RPM Ports Create/Details window.

- Step 6** Click **Apply** to create the resource partition.

After creating the ATM subinterface, you must create a gigabit Ethernet interface to the network. For information about creating the gigabit Ethernet interface, refer to the *VXSM Configuration Guide and Command Reference for MGX Switches and Media Gateways, Release 5*.

Table 6-61 Field Descriptions for the RPM Ports Create/Details Window

Field Name	Description
Main Interface	Specifies the main interface.
Subinterface Num	Specifies the subinterface.
Adapter IF	Maps to the RPMs port adapter interface. Currently only one port adapter interface (switch 1) is supported.
IfType	Specifies the link type of this subinterface.
IP Address	Specifies the 4-octet IP address of this subinterface. The IP address is the same as the one used to set up the slave end of the connection on the VXSM card.
Subnet Mask	Specifies the 4-octet subnet mask of this subinterface. An example subnet mask is 255.255.255.0.
Admin Status	Specifies the administrative status of this subinterface.
Oper Status	Current operational state of the subinterface.
Descriptor	Port descriptor.

6.8.3 Saving the Run-Time Configuration for RPM

Once you make any changes to the RPM card, such as creating or modifying a resource partition or an ATM subinterface, or adding connections to the RPM card, to make your changes permanent and survive after a reboot, you must save the run-time configuration on the RPM card.

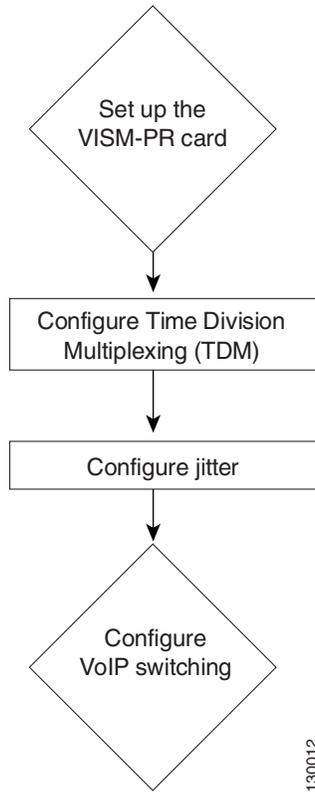

Note

For details on adding connections, see [Chapter 7, “Provisioning Connections.”](#)

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the RPM card. The **Card** tab appears, with the **Front Card Configuration** category selected by default.
- Step 3** Click the **Save Running Config** button. The status of the operation appears in the lower left of the window.
-

6.9 How Do I Configure VISM-PR Cards?

Figure 6-59 Process for Configuring VISM-PR Cards

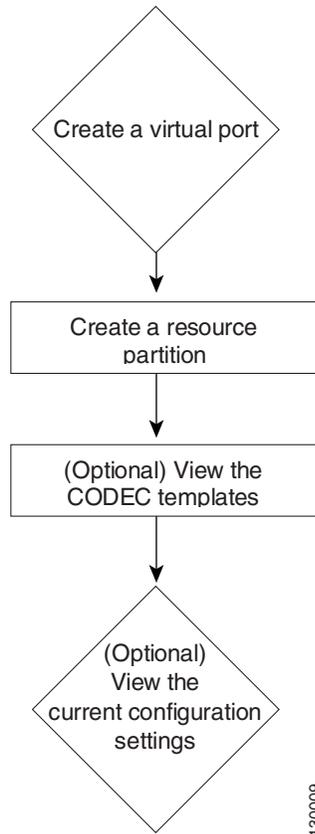


In order to configure Voice Inter-working Service Module Premium (VISM-PR) cards, you must perform the following steps:

-
- Step 1** Set up the VISM-PR card—See [6.9.1 Setting Up a VISM-PR Card](#), page 6-123.
 - Step 2** Configure Time Division Multiplexing (TDM)—See [6.9.2 Configuring TDM for VISM-PR](#), page 6-131.
 - Step 3** Configure jitter—See [6.9.3 Configuring Jitter on VISM-PR Cards](#), page 6-142.
 - Step 4** Configure VoIP switching—See [6.9.4 Configuring VoIP Switching for VISM-PR](#), page 6-144.
-

6.9.1 Setting Up a VISM-PR Card

Figure 6-60 Process for Setting Up a VISM-PR Card



In order to set up a VISM-PR card, you must perform the following steps:

-
- Step 1** Create a virtual port—See [6.9.1.1 Creating a Virtual Port for VISM-PR](#), page 6-124.
 - Step 2** Create a resource partition—See [6.9.1.2 Creating a Resource Partition for VISM-PR](#), page 6-125.
 - Step 3** (Optional) View the CODEC templates—See [6.9.1.3 Viewing VISM-PR CODEC Templates](#), page 6-126.
 - Step 4** (Optional) View the current configuration settings—See [6.9.1.4 Viewing VISM-PR Card Configuration Settings](#), page 6-129.
-

6.9.1.1 Creating a Virtual Port for VISM-PR

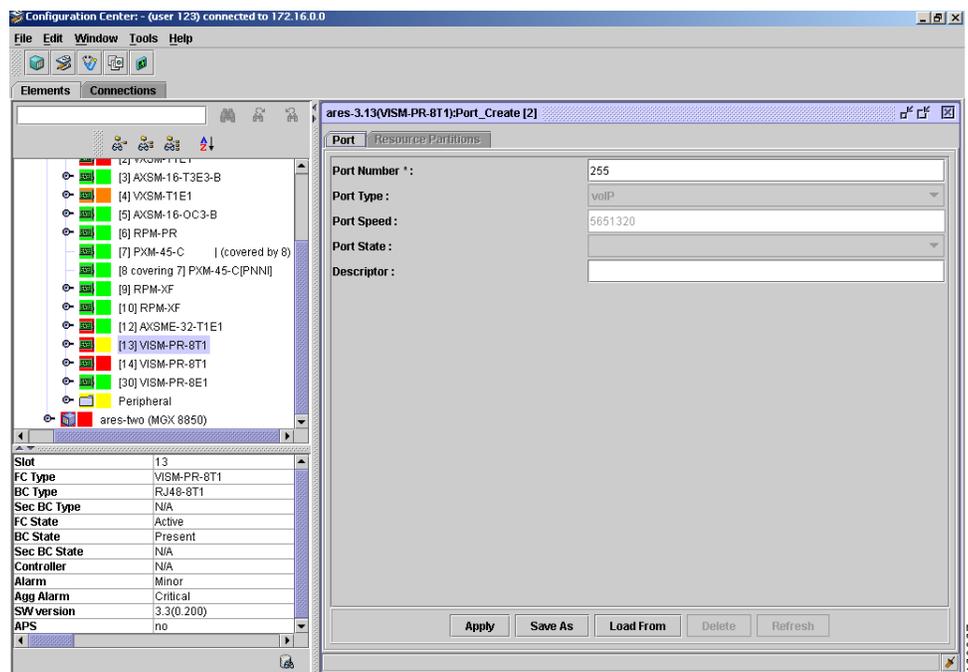


Note Only one virtual port is allowed on a VISM-PR card.

To create a virtual port for the VISM-PR card:

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **Port** tab to display the port table.
- Step 4** Click **Create** to display the Create Port window.

Figure 6-61 Configuration Center—VISM-PR Create Port Window



- Step 5** Complete the fields.



Note When you create an ATM port on a VISM-PR card, the bandwidth, VPI range, and VCI range are determined.

- Step 6** Click **Create** to create a virtual port for VISM-PR.

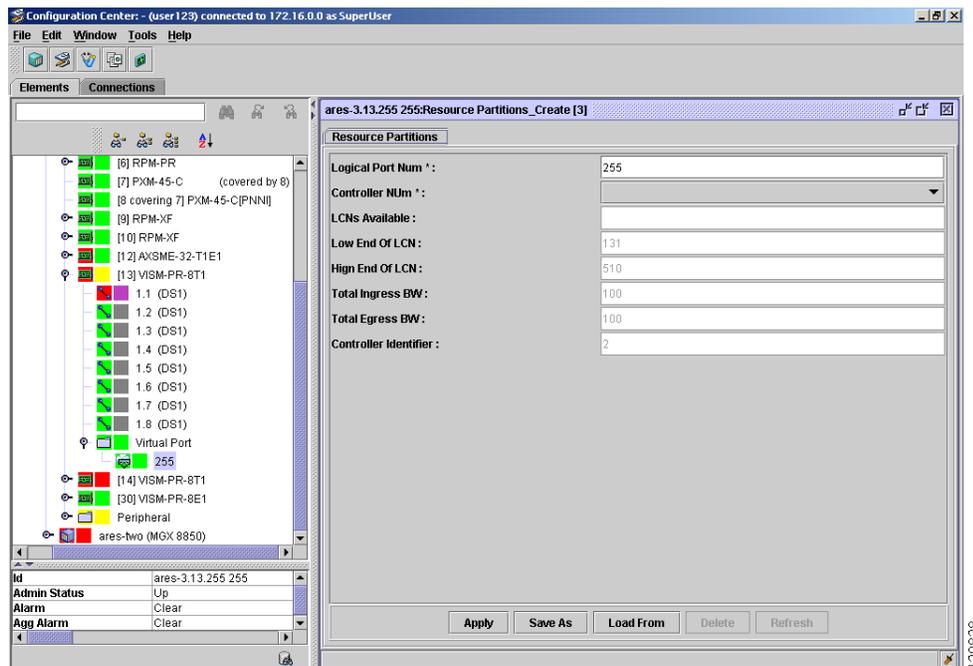
The added port is not detected by the controller until you create a resource partition. For more information, see section [6.9.1.2 Creating a Resource Partition for VISM-PR, page 6-125](#).

Table 6-62 Field Descriptions for the VISM-PR Create Port Window

Field Name	Description
Port Number	Virtual port number for the VISM-PR card.
Port Type	Indicates the network port. Value of this object is always set to VoIP.
Port Speed	Advertises virtual port bandwidth to the controller, SVC and PVC connection admission control, and aggregate traffic clipping.
Port State	Current state of the port.
Descriptor	Port descriptor.

6.9.1.2 Creating a Resource Partition for VISM-PR

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **Port** tab to display the entries of the port table.
- Step 4** Select the port entry.
- Step 5** Click **Details**.
- Step 6** Click the **Resource Partition** tab to display the resource partition table for VISM-PR.
- Step 7** Click **Create** to display the Create Resource Partitions window.

Figure 6-62 Configuration Center—VISM-PR Create Resource Partitions Window

Step 8 Complete the fields.



Note [Table 6-63](#) describes fields in the VISM-PR Create Resource Partitions window.

Step 9 Click **Apply** to create the resource partition.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#)

Table 6-63 *Field Descriptions for the VISM-PR Create Resource Partitions Window*

Field Name	Description
Logical Port Num	Index to this table.
Controller Num	Index for the controller using the port. In MGX release 1.0, the value par should be used.
LCNs Available	Number of LCNs available for this controller and this port.
Low End of LCN	Low end of reserved LCN. Currently SET is not allowed on this object.
High End of LCN	High end of reserved LCN.
Total Ingress BW	Percentage of total ingress bandwidth reserved. Since we have only one LCN for VoIP, the value is 100.
Total Egress BW	Percentage of total egress bandwidth reserved. Since we have only one LCN for VoIP, the value is 100.
Controller Identifier	Controller identifier of the PNNI controller.

6.9.1.3 Viewing VISM-PR CODEC Templates

Viewing VISM-PR CODEC templates in Cisco MGM can be done in two ways:

You can view a list of all possible CODEC templates on the VISM-PR card

or

You can view the current CODEC template being used on the VISM-PR card.



Note To change the CODEC templates, you must use the CLI. For details, refer to the *Cisco Voice Interworking Services (VISM) Configuration Guide & Command Reference, Release 3.3*.

To view a list of all possible CODEC templates on the VISM-PR card:

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **CODECs** tab. The **CODECs Supported** category appears by default. All supported CODEC templates are listed in the table.



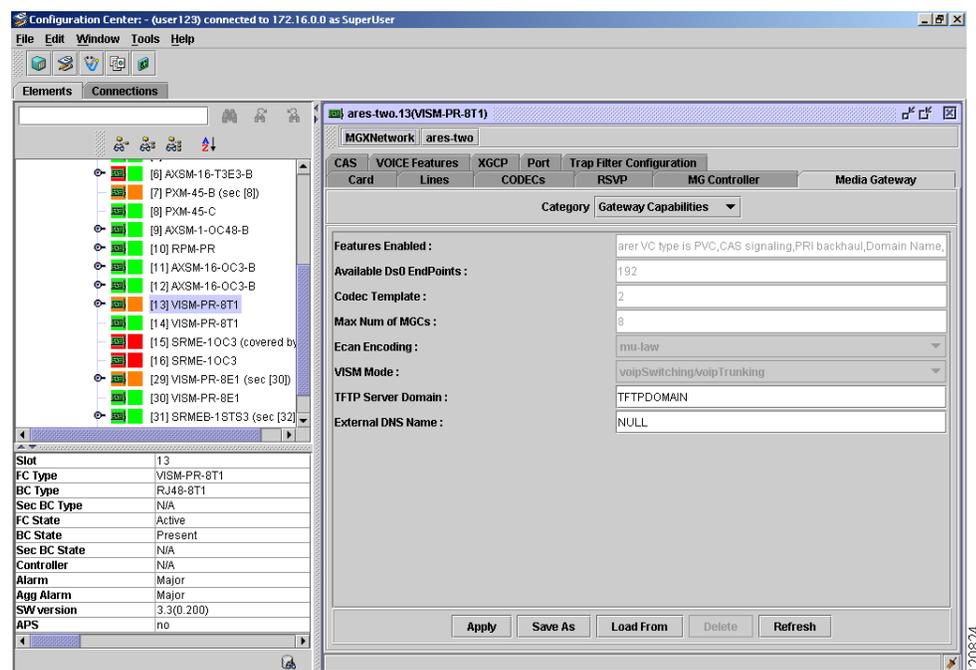
Note To view and configure VoIP CODECs, see section [6.9.1.3.1 Configuring VoIP CODECs, page 6-128](#).

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

To view the current CODEC template in use on the VISM-PR card:

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **Media Gateway** tab. The **Gateway Capabilities** option appears by default in the **Category** drop-down arrow. The **Codec Template** field lists the number of the current CODEC template in use on the VISM-PR card.

Figure 6-63 Configuration Center—VISM-PR Media Gateway Tab, Gateway Capabilities Category





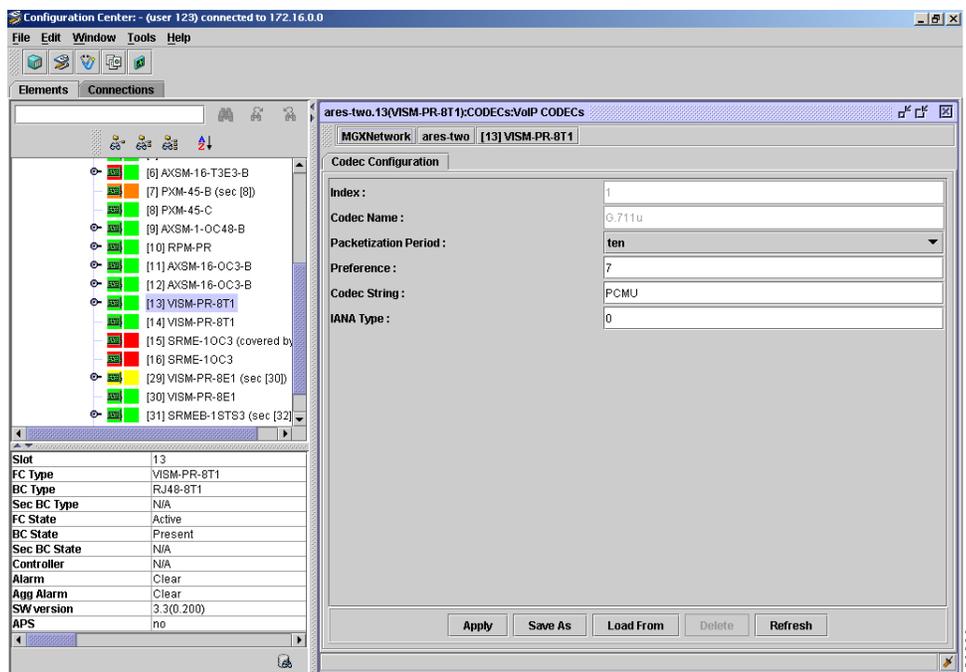
Note Table 6-65 describes fields in the VISM-PR Media Gateway tab, Gateway Capabilities category.

For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

6.9.1.3.1 Configuring VoIP CODECs

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **CODECs** tab. Choose the **VoIP CODECs** option from the **Category** drop-down arrow.
- Step 4** Click on the CODEC you want to configure, then click **Details**. The Codec Configuration window appears.

Figure 6-64 Configuration Center—VISM-PR Codec Configuration Window



Step 5 Complete the fields.



Note [Table 6-64](#) describes the fields in the VISM-PR Codec Configuration window.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Step 6 Click Apply to configure the VoIP CODEC.

Table 6-64 *Field Descriptions for the VISM-PR Codec Configuration Window*

Field Name	Description
Index	Index to this table.
Codec Name	Name of the codec (for example, index 1 will have G.711u as the codec name; index 2 will have G.711a as the codec name, etc.).
Packetization Period	Packetization period for a particular CODEC in milliseconds.
Preference	User configured preference for each CODEC.
Codec String	Local connection option or SDP descriptor string that VISM-PR obtains from the call agent for the CODEC.
IANA Type	Contains a number assigned by IANA.

6.9.1.4 Viewing VISM-PR Card Configuration Settings

The Gateway Capabilities option allows you to view VISM-PR card configuration details, such as the VISM mode, ECAN encoding, and current CODEC templates.

Step 1 From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.

Step 2 Under the **Elements** tab, within the node, double-click the VISM-PR card.

Step 3 Click the **Media Gateway** tab. The **Gateway Capabilities** option appears by default in the **Category** drop-down arrow (see [Figure 6-63](#)).



Note [Table 6-65](#) describes fields in the VISM-PR Media Gateway tab, Gateway Capabilities category.

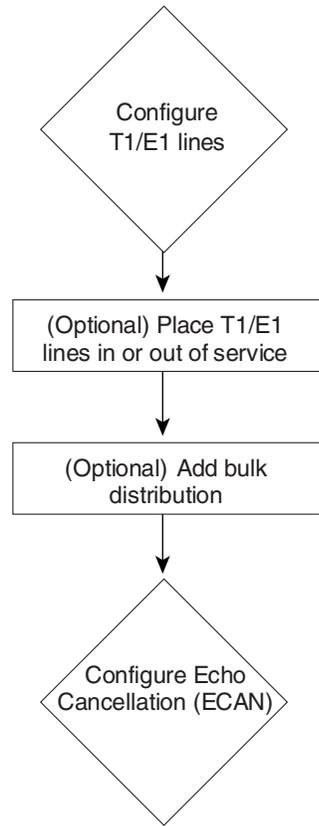
For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

Table 6-65 *Field Descriptions for the VISM-PR Media Gateway Tab, Gateway Capabilities Category*

Field Name	Description
Features Enabled	Features enabled on this VISM-PR card.
Available Ds0 EndPoints	Number of DS0s available for new connections on VISM-PR. This is modified by the VISM-PR firmware after each connection is setup.
Codec Template	Number of the CODEC template currently configured on the VISM-PR card.
Max Num of MGCs	Maximum number of MGCs that the MG can be configured with. If the value is 0, there is no limitation.
Ecan Encoding	Voice encoding type, can be either: <ul style="list-style-type: none"> • Mu-law—Value returned for T1 lines. • A-law—Value returned for E1 lines.
VISM Mode	Operating mode of the VISM-PR card.
TFTP Server Domain	Domain name of the TFTP server from where the CAS module will download the CAS files.
External DNS Name	Refers to the domain name of the external DNS server that will be used to resolve other domain name.

6.9.2 Configuring TDM for VISM-PR

Figure 6-65 Process for Configuring TDM for VISM-PR



In order to configure the Time Division Multiplexing (TDM) on a VISM-PR card, you must perform the following steps:

-
- Step 1** Configure T1/E1 lines—See [6.9.2.1 Configuring T1 and E1 Lines for VISM-PR, page 6-132](#)).
 - Step 2** (Optional) Place T1/E1 lines in or out of service—See [6.9.2.2 Placing T1 or E1 Lines In or Out of Service, page 6-140](#).
 - Step 3** (Optional) Add bulk distribution—See [6.9.2.3 Adding Bulk Distribution Using SRME, page 6-140](#).
 - Step 4** Configure Echo Cancellation (ECAN)—See [6.9.2.4 Configuring ECAN for VISM-PR, page 6-142](#).
-

6.9.2.1 Configuring T1 and E1 Lines for VISM-PR

You can have eight physical T1 or E1 ports on the VISM-PR back card.

For detailed information on how to configure CAS signaling for the TDM side of the network application, refer to the *Cisco Voice Interworking Services (VISM) Configuration Guide and Command Reference, Release 3.3*

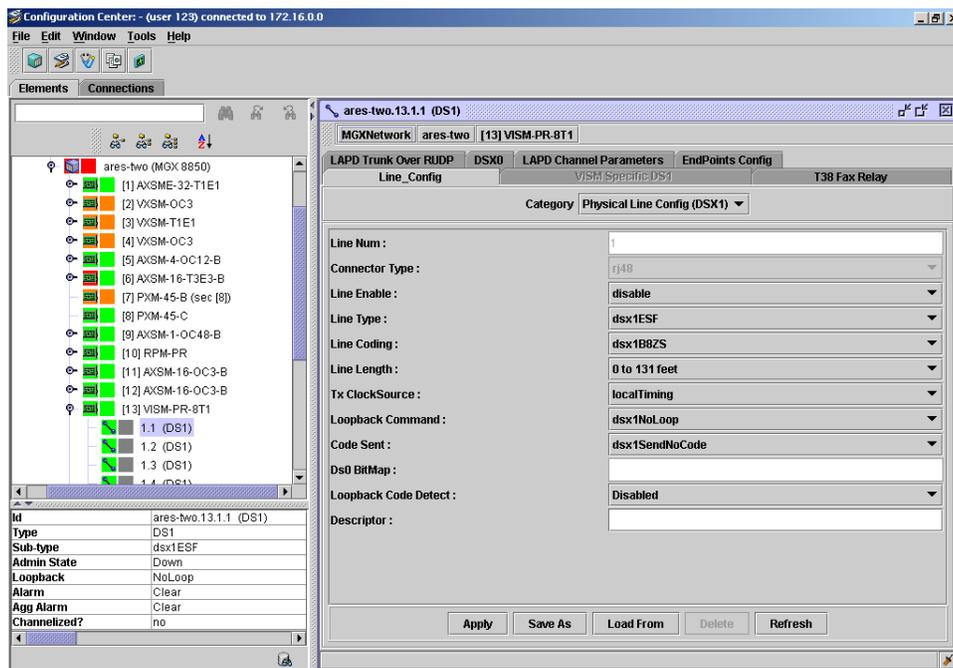
To configure T1 and E1 lines on VISM-PR, complete the following steps:

-
- Step 1** Add a T1 or E1 line—See [6.9.2.1.1 Adding a T1 or E1 Line](#), page 6-132.
 - Step 2** Configure signaling on the T1 or E1 line—See [6.9.2.1.2 Configuring Signaling on the T1 or E1 Line](#), page 6-134.
 - Step 3** Configure alarm conditioning handling on the T1 or E1 line—See [6.9.2.1.3 Configuring Alarm Conditioning Handling on the T1 or E1 Line](#), page 6-137.
-

6.9.2.1.1 Adding a T1 or E1 Line

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card. The **Line Config** tab appears by default, with the **Physical Line Config (DSX1)** option selected in the **Category** drop-down arrow.

Figure 6-66 Configuration Center—VISM-PR Line Config Tab, Physical Line Config (DSX1) Category



- Step 3** Choose one of the following options to enable or disable the line in the **Line Enable** drop-down arrow:
- **disable**
 - **enable**
 - **modify**

Step 4 Configure additional parameters as desired.



Note [Table 6-66](#) describes fields in the VISM-PR Line Config tab, Physical Line Config (DSX1) category.

Step 5 Click **Apply** to add the T1 or E1 line.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Table 6-66 *Field Descriptions for the VISM-PR Line Config Tab, Physical Line Config (DSX1) Category*

Field Name	Description
Line Num	Identifier of a DS1/E1 interface on a managed device. Should have the same value as ifIndex, if any entry for this interface exists in ifTable.
Connector Type	Indicates the connector as well as the backcard type. Has no significance for VHS.
Line Enable	Disables, enables or modifies a line.
Line Type	Indicates the variety of DS1 line implementing this circuit. Values include: <ul style="list-style-type: none"> • dsx1ESF—Extended SuperFrame DS1 (T1.107) • dsx1D4—AT&T D4 format DS1 (T1.107) • dsx1E1 • dsx1E1CRC • dsx1E1MF • dsx1E1CRC-MF • dsx1E1clearchannel • dsx1E1Q50 • dsx1E1Q50CRC
Line Coding	Describes the variety of zero code suppression used on the link.
Line Length	This is not a standard RFC 1407 variable, it is specific to BASIS implementation.
Tx Clock Source	Source of transmit clock. Values include: <ul style="list-style-type: none"> • localTiming • loopTiming

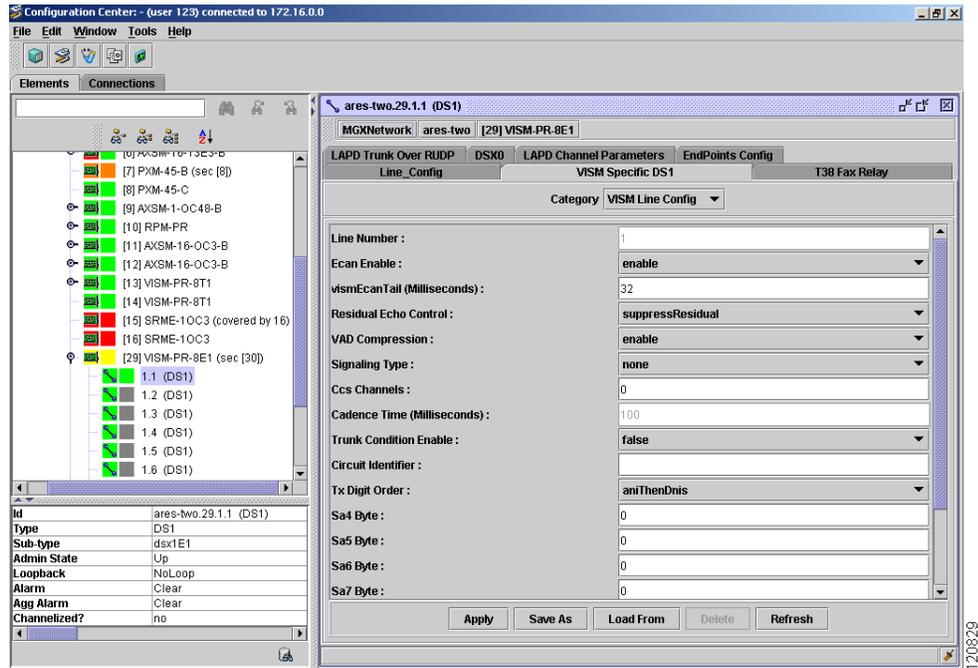
Table 6-66 *Field Descriptions for the VISM-PR Line Config Tab, Physical Line Config (DSX1) Category (continued)*

Field Name	Description
Loopback Command	Loopback configuration of the DS1 interface. Values include: <ul style="list-style-type: none"> dsx1NoLoop dsx1RemoteLoop dsx1LocalLoop dsx1PayloadLoop
Code Sent	Indicates the type of code being sent across the DS1 interface by the device. Values include: <ul style="list-style-type: none"> dsx1SendNoCode dsx1SendLineCode dsx1SendPayloadCode dsx1SendResetCode
Ds0 BitMap	Bit map of used DS0 for this line.
Loopback Code Detect	Disable or enable detection of line loopback codes.
Descriptor	Line descriptor.

6.9.2.1.2 Configuring Signaling on the T1 or E1 Line

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
- Step 3** Click the **VISM Specific DS1** tab. The **VISM Line Config** option appears by default in the **Category** drop-down arrow.

Figure 6-67 Configuration Center—VISM-PR Specific DS1 Tab, VISM Line Config Category



Step 4 Choose one of the following options to configure signaling on the line in the **Signaling Type** drop-down arrow:

- cas
- ccs
- none

Step 5 Configure additional parameters as desired.



Note [Table 6-67](#) describes fields in the VISM-PR Specific DS1 tab, VISM Line Config category.

Step 6 Click **Apply** to configure signaling on the T1 or E1 line.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Table 6-67 Field Descriptions for the VISM-PR Specific DS1 Tab, VISM Line Config Category

Field Name	Description
Line Number	T1/E1 line number.
Ecan Enable	Indicates whether the echo cancellation feature is enabled or disabled.
vismEcanTail (milliseconds)	<p>Maximum tail. Should be set just higher than the worst round trip delay anticipated. Convergence times might increase for longer tails, and more resources are used.</p> <p>The range is from 24-128. The following discrete values are allowed:</p> <ul style="list-style-type: none"> • 24 • 32 • 48 • 64 • 80 • 96 • 112 • 128
Residual Echo Control	<p>Residual Echo Control (REC) instructs the canceller how to treat echo remaining after cancellation. Values include:</p> <ul style="list-style-type: none"> • cancelOnly—disables REC. • suppressResidual—specifies that the residual echo is replaced with silence. • reserved—results in a bad value error. • comfortNoise (default)—specifies that the noise is injected in place of residual echo at the same level as the ambient noise at the near end.
VAD Compression	Indicates whether Voice Activity Detection (VAD) is enabled or disabled on the compression DSPs.
Signaling Type	<p>Indicates the type of signaling used on the line. Values include:</p> <ul style="list-style-type: none"> • cas—defines Channel Associated Signaling (CAS). • ccs—defines Common Channel Signaling (CCS). • none—specifies that no signaling is used
Ccs Channels	Describes the CCS signaling channels or DS0s (also referred to as D-channel).
Cadence Time (milliseconds)	Describes the cadence time for CAS signals.
Trunk Condition Enable	Determines if the trunk conditioning should be enabled or disabled on this line.
Circuit Identifier	Identifier of a T1/E1 line. Contains alphanumeric description of a line for the purpose of better identification.
Tx Digit Order	Indicates the order in which ANIs and DNIs will be dialed out from this outgoing interface.

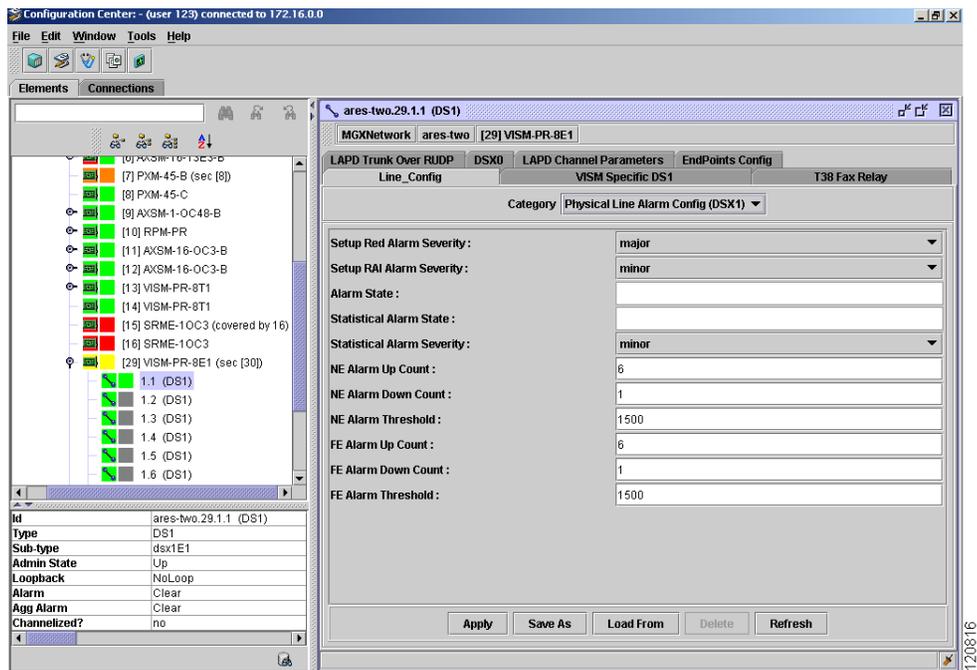
Table 6-67 *Field Descriptions for the VISM-PR Specific DS1 Tab, VISM Line Config Category (continued)*

Field Name	Description
Sa4 Byte	Spare bit on T1/E1 framer reserved for international standardization.
Sa5 Byte	
Sa6 Byte	
Sa7 Byte	
Sa8 Byte	
Line State	Allows the line administrative state (in service and out of service) to be persistent.
Admin State Control	This control object is used to change the service state of the line from is to coos or from coos to is. The resulting service state of the line is represented by vismDsx1State. inService: transition vismDsx1State to is. In the course, the MGs MGCs may get notified of this transition, e.g. in the case of MGCP through emission of RSIPs to registered call agents according to policy. forcefulOutOfService: Take the line out of service forcefully. This releases any resources at the line. In the course, the MGCs may get notified of this transition, e.g. in the case of MGCP through emission of RSIPs to registered call agents according to policy. gracefulOutOfService: Take the line out of service gracefully. If there are no resources existing, vismDsx1State transitions to coos immediately. If resources exist, vismDsx1State transitions to poos thus initiating a graceful shutdown. In the course, the MGs MGCs may get notified of this transition, e.g. in the case of MGCP through emission of RSIPs to registered call agents according to policy.
Bearer Busy Code	Used when vismTrunkConditionEnable is enabled on a line. It is a configurable busy pattern sent out on the “Bearer” on the channels, which are receiving remote ATM channel ID (CID) alarms. If this object is not set, it assumes a default value of 255 for E1 and 127 for T1.

6.9.2.1.3 Configuring Alarm Conditioning Handling on the T1 or E1 Line

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card. The **Line Config** tab appears by default.
- Step 3** Choose the **Physical Line Alarm Config (DSX1)** option from the **Category** drop-down arrow.

Figure 6-68 Configuration Center—VISM-PR Line Config Tab, Physical Line Alarm Config (DSX1) Category



Step 4 Configure the parameters as desired.



Note [Table 6-68](#) describes fields in the VISM-PR Line Config tab, Physical Line Alarm Config (DSX1) category.

Step 5 Click **Apply** to configure alarm conditioning handling on the T1 or E1 line.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-68 *Field Descriptions for the VISM-PR Line Config Tab, Physical Line Alarm Config (DSX1) Category*

Field Name	Description
Setup Red Alarm Severity	Allows you to set up the severity of a RED alarm, so that when a LOS alarm is detected, VISM-PR will send the alarm with the appropriate severity status. Values include: <ul style="list-style-type: none"> • minor • major
Setup RAI Alarm Severity	Allows you to set up the severity of a RAI alarm, so that when a LOS alarm is detected, VISM-PR will send the alarm with the appropriate severity status. Values include: <ul style="list-style-type: none"> • minor • major
Alarm State	Bitmap of the DSX1 line alarms on the VISM-PR card.
Statistical Alarm State	Bitmap of the DSX1 line statistical alarms on the VISM-PR card.
Statistical Alarm Severity	Allows you to set up the severity of statistical alarms, so that when any statistical alarm is detected, VISM-PR will send the alarm with the appropriate severity status. Values include: <ul style="list-style-type: none"> • minor • major • inhibit
NE Alarm Up Count	Specifies the integration counter. The local alarms are LOS and LOF. Update the counter every 10 minutes to reach the threshold.
NE Alarm Down Count	Specifies the integration counter. The near-end alarms are LOS and LOF. Update the counter every 10 minutes to reach 0.
NE Alarm Threshold	Determines the value to declare near-end alarm. A count of 1500 gives 2.5 seconds to declare LOS with an up count value of six.
FE Alarm Up Count	Specifies the integration counter. The far-end alarms are AIS and YEL. Update counter every 10 minutes to reach the threshold.
FE Alarm Down Count	Specifies the integration counter. The far-end alarms are AIS and YEL. Update counter every 10 minutes to reach 0.
FE Alarm Threshold	Determines the value to declare far-end alarm. A count of 1500 gives 2.5 seconds to declare LOS with an up count value of six.

6.9.2.2 Placing T1 or E1 Lines In or Out of Service

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
- Step 3** Click the **VISM Specific DS1** tab. The **VISM Line Config** option appears by default in the **Category** drop-down arrow.



Note For a detailed description of the VISM Line Config option, see section [6.9.2.1.2 Configuring Signaling on the T1 or E1 Line, page 6-134](#).

- Step 4** Choose the appropriate option from the **Admin State Control** drop-down arrow.

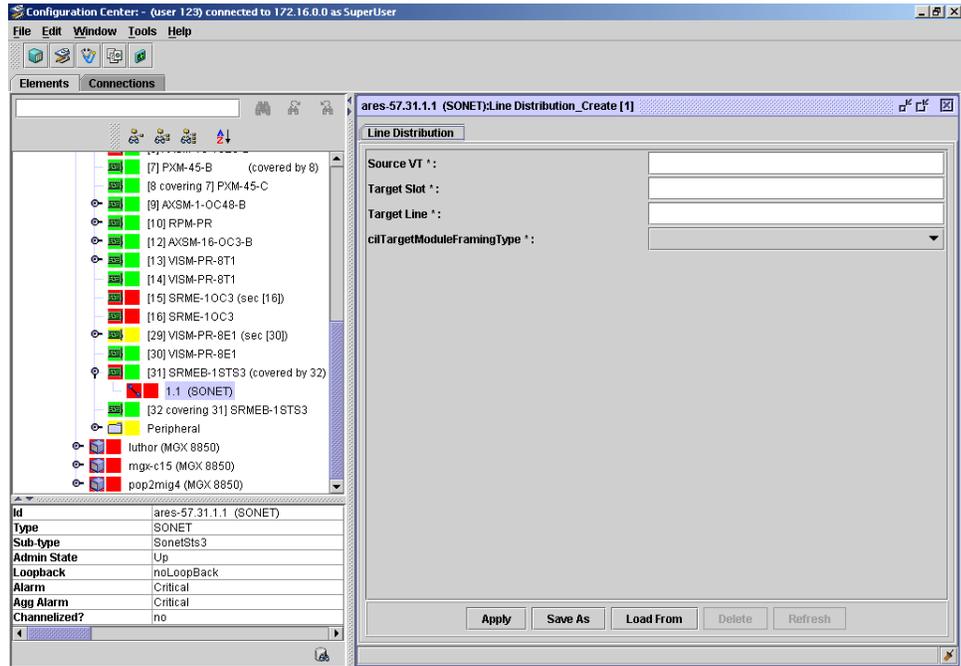


Note [Table 6-67](#) describes fields in the VISM Specific DS1 tab, VISM Line Config category.

6.9.2.3 Adding Bulk Distribution Using SRME

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the SONET line under the SRME card.
- Step 3** Click the **Line Distribution** tab.
- Step 4** Click **Create**. The Create Line Distribution window appears.

Figure 6-69 SRME Create Line Distribution Window



Step 5 Complete the fields.



Note [Table 6-69](#) describes fields in the SRME Create Line Distribution window.

Step 6 Click **Apply** to add bulk distribution.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-69 Field Descriptions for the SRME Create Line Distribution Window

Field Name	Description
Source VT	Source VT for creation.
Target Slot	Target slot.
Target Line	Target line.
cilTargetModuleFramingType	Identifies the framing type of the target interface. The default value is Not Applicable.

6.9.2.4 Configuring ECAN for VISM-PR

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
 - Step 3** Click the **VISM Specific DS1** tab. The **VISM Line Config** option appears by default in the **Category** drop-down arrow.



Note For a detailed description of the VISM Line Config option, see section [6.9.2.1.2 Configuring Signaling on the T1 or E1 Line, page 6-134](#).

- Step 4** Choose the appropriate option from the **Ecan Enable** drop-down arrow.



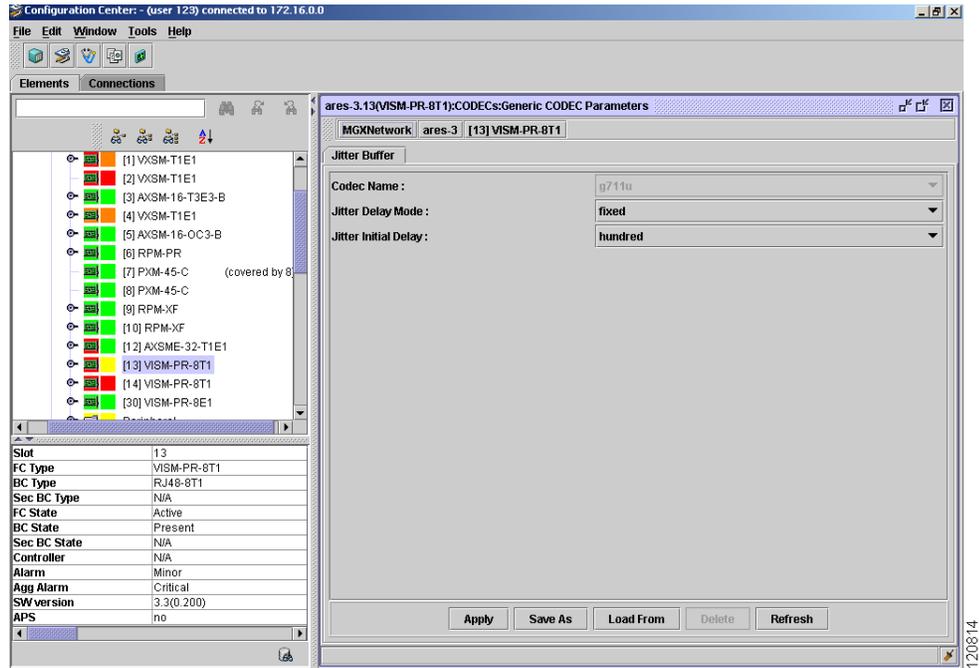
Note [Table 6-67](#) describes fields in the VISM Specific DS1 tab, VISM Line Config category.

For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables, page 6-9](#).

6.9.3 Configuring Jitter on VISM-PR Cards

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
 - Step 3** Click the **CODECs** tab.
 - Step 4** Choose the **Generic CODEC Parameters** option from the **Category** drop-down arrow.
 - Step 5** Click on a CODEC entry, then click **Details**. The Jitter Buffer window appears.

Figure 6-70 Configuration Center—VISM-PR Jitter Buffer Window



Step 6 Complete the fields.



Note [Table 6-70](#) describes fields in the VISM-PR Jitter Buffer window.

Step 7 Click **Apply** to configure the jitter parameters.



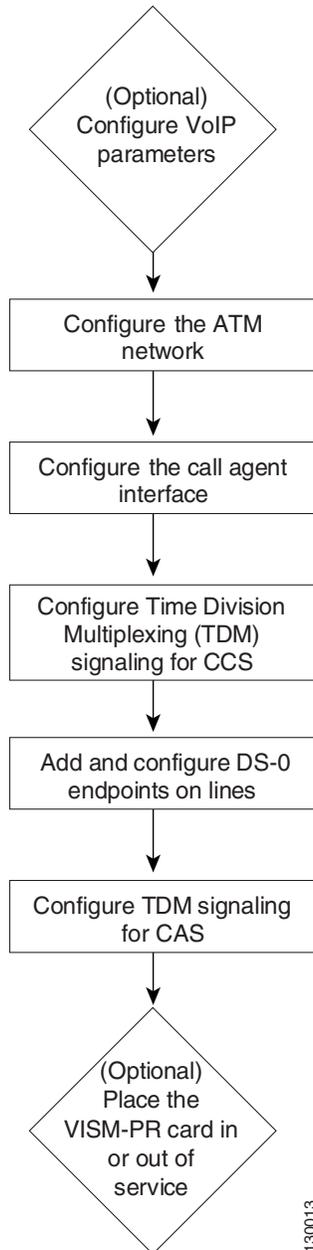
Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page 6-9.

Table 6-70 Field Descriptions for the VISM-PR Jitter Buffer Window

Field Name	Description
Codec Name	Index to this table.
Jitter Delay Mode	Provisions the jitter buffer mode to be applied to a call connection. Values include: <ul style="list-style-type: none"> fixed adaptive fixedWithTimeStamp
Jitter Initial Delay	Defines the jitter buffer size in milliseconds.

6.9.4 Configuring VoIP Switching for VISM-PR

Figure 6-71 Process for Configuring VoIP Switching for VISM-PR Cards



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To configure VoIP switching for VISM-PR cards, complete the following steps:

-
- Step 1** (Optional) Configure VoIP parameters—See [6.9.4.1 Configuring VoIP Parameters for VISM-PR](#), page 6-145.
 - Step 2** Configure the ATM network—See [6.9.4.2 Configuring the ATM Network for VISM-PR](#), page 6-147.
 - Step 3** Configure the call agent interface—See [6.9.4.3 Configuring the Call Agent Interface for VISM-PR](#), page 6-147.
 - Step 4** Configure Time Division Multiplexing (TDM) signaling for CCS—See [6.9.4.4 Configuring TDM Signaling for CCS on VISM-PR](#), page 6-174.
 - Step 5** Add and configure DS0 endpoints on lines—See [6.9.4.5 Adding and Configuring DS0 Endpoints on Lines](#), page 6-176.
 - Step 6** Configure TDM signaling for CAS—See [6.9.4.6 Configuring TDM Signaling for CAS on VISM-PR](#), page 6-181.
 - Step 7** (Optional) Place the VISM-PR card in or out of service—See [6.9.4.7 Placing the VISM-PR Card In or Out of Service](#), page 6-184.
-

6.9.4.1 Configuring VoIP Parameters for VISM-PR

To configure AAL5 PVCs on a VISM-PR card:

-
- Step 1** From the Domain Explorer window, select the node from the Hierarchy pane and choose **Configuration > MGX 8880/8850 MG > Configuration Center**. The Configuration window for the selected node opens.
 - Step 2** Within the **Elements** tab, expand the node, then double-click the VISM-PR card.
 - Step 3** Click the **Media Gateway** tab.
 - Step 4** Choose the **VoIP Parameters** option from the **Category** drop-down arrow.
 - Step 5** Complete the fields.
-  **Note** [Table 6-71](#) describes fields in the Media Gateway tab, VoIP Parameters option.
-
- Step 6** Click **Apply** to configure the VoIP parameters.
-

Table 6-71 Field Descriptions for the VISM-PR Media Gateway Tab, VoIP Parameters Option

Field Name	Description
BitMask for TOS (XGCP)	Provisions the bitmask used for the Type Of Service octet for cells carrying the control (XGCP) traffic.
BitMask for TOS (RTP)	Provisions the bitmask used for the Type Of Service octet for cells carrying VoIP bearer (RTP) traffic.
RTCP Report Interval	RTCP report interval (defined in RFC 1889)

Table 6-71 Field Descriptions for the VISM-PR Media Gateway Tab, VoIP Parameters Option (continued)

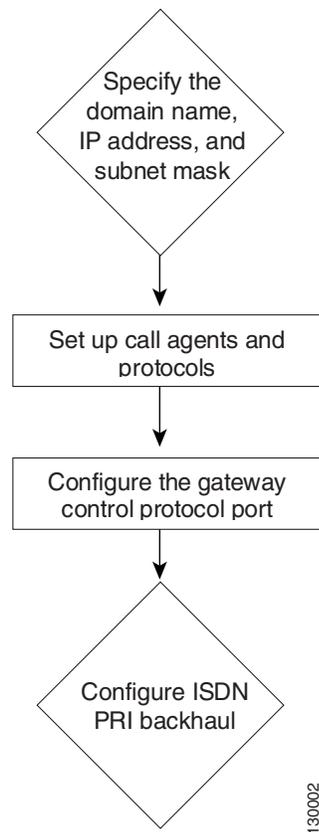
Field Name	Description
RTP Receive Timer	Defines whether the RTP packets receive timer on the VISM needs to be enabled or not.
DTMF Relay	Defines whether the Dual Tone, Multi-Frequency digits need to be transported to the other endpoint via Named Signal Event (NSE) packets.
CAS Transport	Defines whether the CAS (ABCD) bits need to be transported to the other endpoint via NSE packets.
Triple Redundancy Enable	Indicates whether triple redundancy is enabled or disabled.
NTE Negotiation Enable	Defines whether VISM has the capability to negotiate the list of events either NSE or NTE (Named Telephony Events) using rtp map and fntpmap in the SDP.
Payload Type of RTP Packet	Sets the payload type of a RTP packet carrying SID which is sent to the other end when silence is detected.
Dual PVC OAM Cell Gap	Defines the inter cell gap for dual PVC OAM cells in milliseconds.
PVC Failure Threshold	Threshold for failure of a PVC. If the number of consecutive OAM cells sent for which no ack was received equals this number, then the connection is considered to be failed.
PVC Recovery Threshold	Threshold for recovery of a PVC. If the number of consecutive OAM cells sent for which no ack was received equals this number, then the connection is considered to be recovered from failure.
RTCP Interval Multiplier	Defines how many times the RTCP reports may fail before exception condition activity may be done.
LAPD Trunk PVC	Used for VoIP trunking applications, only if the signalling type is CCS. By default, the PRI-D channel information will be sent on the control channel. If the control network is totally separated from the bearer network, then you need to set this object to "bearer" to send LAPD trunk messages to the remote VISM.
VAD Timer	Hangover time for VAD in milliseconds. Once voice inactivity is detected, the gateway waits for this duration before activating silence suppression.

6.9.4.2 Configuring the ATM Network for VISM-PR

To configure the ATM network for VISM-PR cards by adding and configuring connections, please see [Chapter 7, “Provisioning Connections.”](#)

6.9.4.3 Configuring the Call Agent Interface for VISM-PR

Figure 6-72 Process for Configuring the Call Agent Interface for VISM-PR



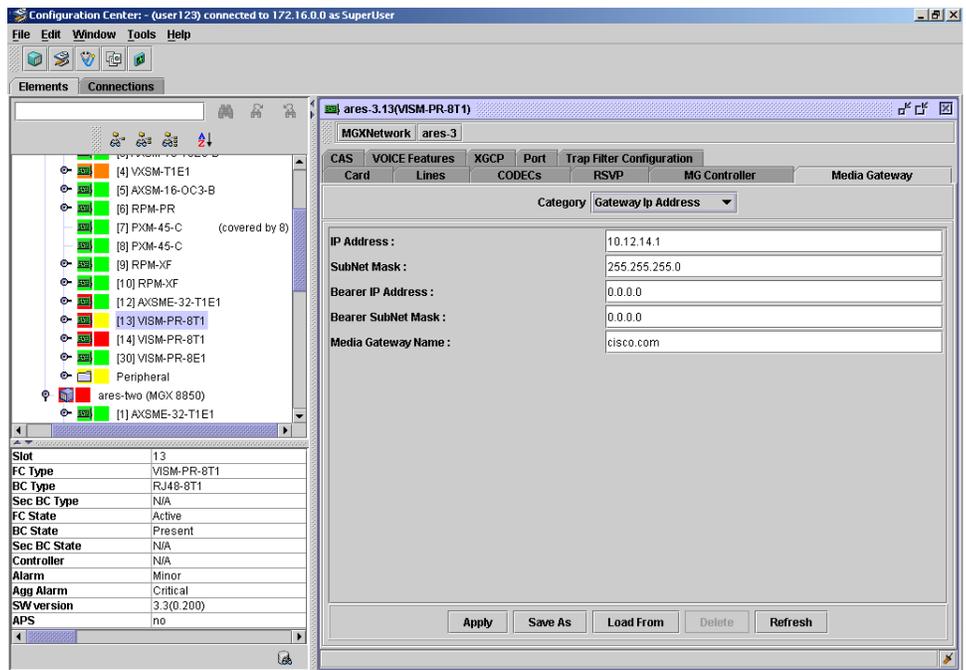
To configure the call agent interface, complete the following steps:

-
- Step 1** Specify the domain name, IP address, and subnet mask—See [6.9.4.3.1 Specifying the Domain Name, IP Address and Subnet Mask for VISM-PR](#), page 6-148.
 - Step 2** Set up call agents and protocols—See [6.9.4.3.2 Setting Up Call Agents and Protocols for VISM-PR](#), page 6-150.
 - Step 3** Configure the gateway control protocol port—See [6.9.4.3.3 Configuring the Gateway Control Protocol Port for VISM-PR](#), page 6-159.
 - Step 4** Configure ISDN PRI backhaul—See [6.9.4.3.4 Configuring ISDN PRI Backhaul for VISM-PR](#), page 6-168.
-

6.9.4.3.1 Specifying the Domain Name, IP Address and Subnet Mask for VISM-PR

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **Media Gateway** tab.
- Step 4** Choose the **Gateway IP Address** option from the **Category** drop-down arrow.

Figure 6-73 Configuration Center—VISM-PR Media Gateway Tab, Gateway IP Address Category



Step 5 Complete the fields.



Note [Table 6-72](#) describes fields in the VISM-PR Media Gateway tab, Gateway IP Address category.

Step 6 Click **Apply** to configure the parameters.



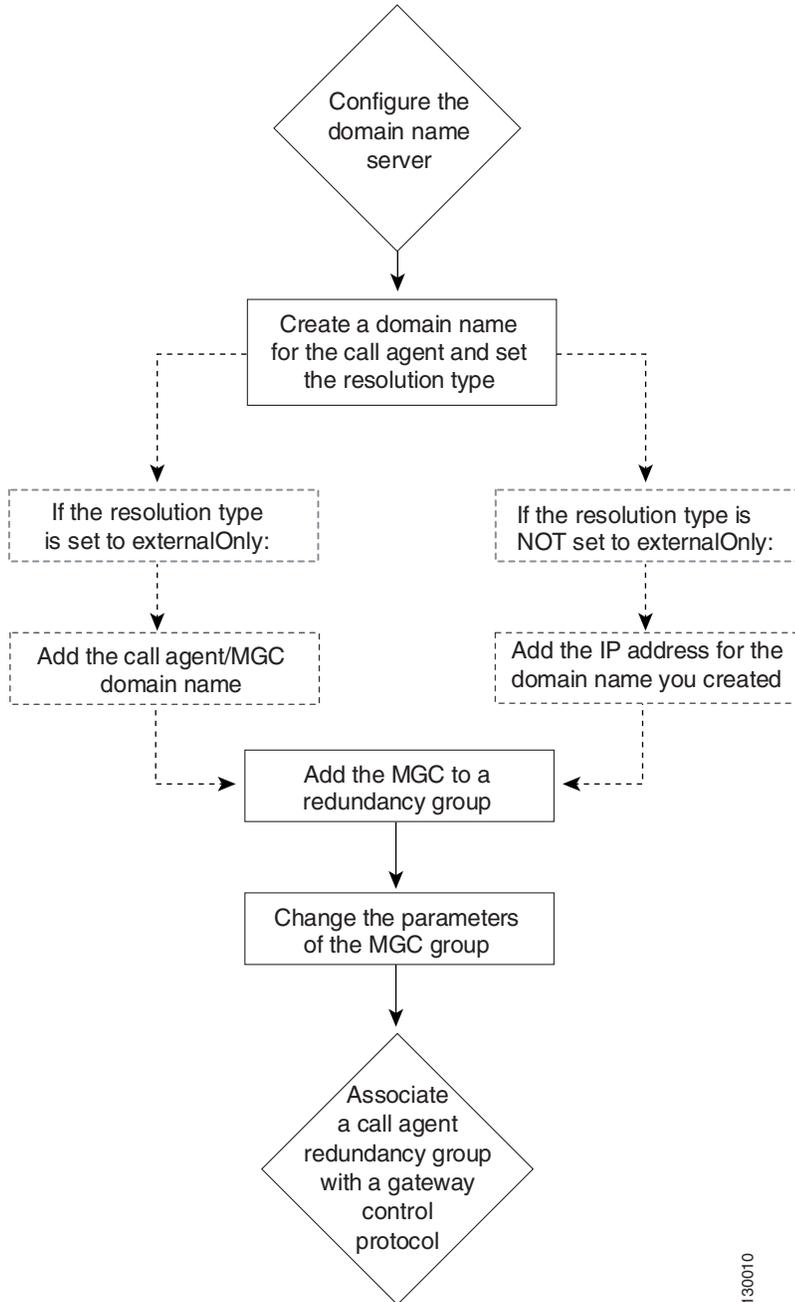
Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-72 *Field Descriptions for the VISM-PR Media Gateway Tab, Gateway IP Address Category*

Field Name	Description
IP Address	IP address of the VISM-PR card.
Subnet Mask	Subnet mask for the VISM-PR card.
Bearer IP Address	Bearer's IP address.
Bearer Subnet Mask	Bearer's subnet mask.
Media Gateway Name	Name of the media gateway as identified by media gateway controllers.

6.9.4.3.2 Setting Up Call Agents and Protocols for VISM-PR

Figure 6-74 Process for Setting Up Call Agents and Protocols for VISM-PR



To set up call agents and protocols for VISM-PR, complete the following steps:

- Step 1** Configure the domain name server for the external domain name resolution:
- From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Under the **Elements** tab, within the node, double-click the VISM-PR card.
 - Click the **Media Gateway** tab. The **Gateway Capabilities** option appears by default in the **Category** drop-down arrow (see [Figure 6-63](#)).
 - Complete the **External DNS Name** field.

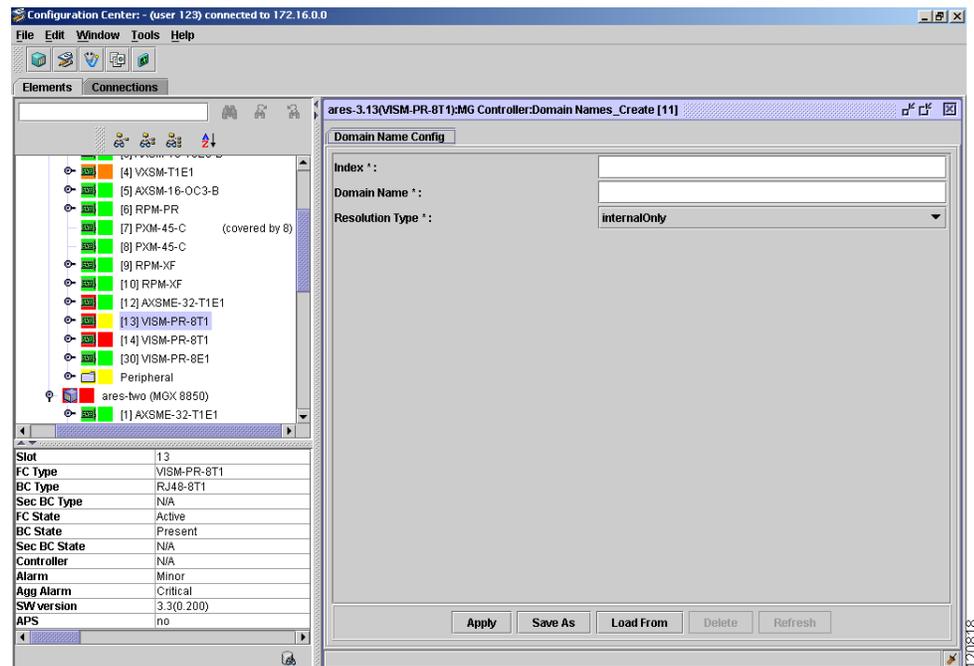


Note [Table 6-65](#) describes fields in the VISM-PR Media Gateway tab, Gateway Capabilities category.

- Click **Apply**.

- Step 2** Create a domain name for the call agent:
- Click the **MG Controller** tab. The **Domain Names** option appears by default in the **Category** drop-down arrow.
 - Click **Create**. The VISM-PR Create Domain Names window appears.

Figure 6-75 Configuration Center—VISM-PR Create Domain Names Window



- Complete the fields. Note the value of the **Resolution Type** field.

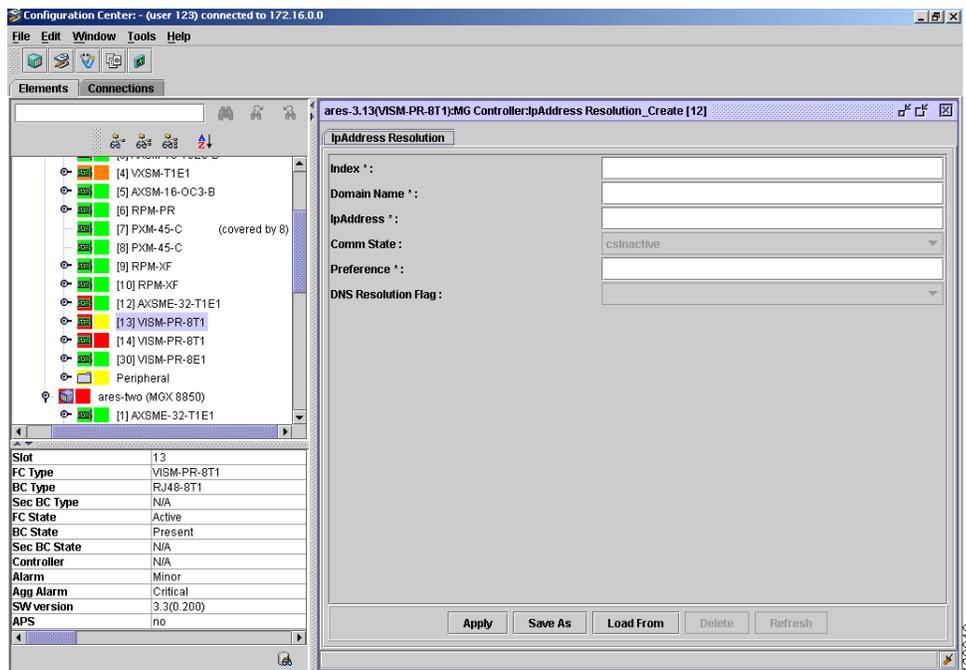


Note [Table 6-73](#) describes fields in the VISM-PR MG Controller tab, Domain Names category.

- Click **Apply**.

- Step 3** If you have *not* set the **Resolution Type** to **externalOnly** in Step 2, proceed to Step 4 or
- If you *have* set the **Resolution Type** to **externalOnly** in Step 2, proceed to Step 5.
- Step 4** (Optional, see Step 3) Add the IP address for the **Domain Name** you created in Step 2:
- Within the **MG Controller** tab, choose the **IP Address Resolution** option from the **Category** drop-down arrow.
 - Click **Create**. The VISM-PR Create IP Address Resolution window appears.

Figure 6-76 Configuration Center—VISM-PR Create IP Address Resolution Window



- Complete the fields.

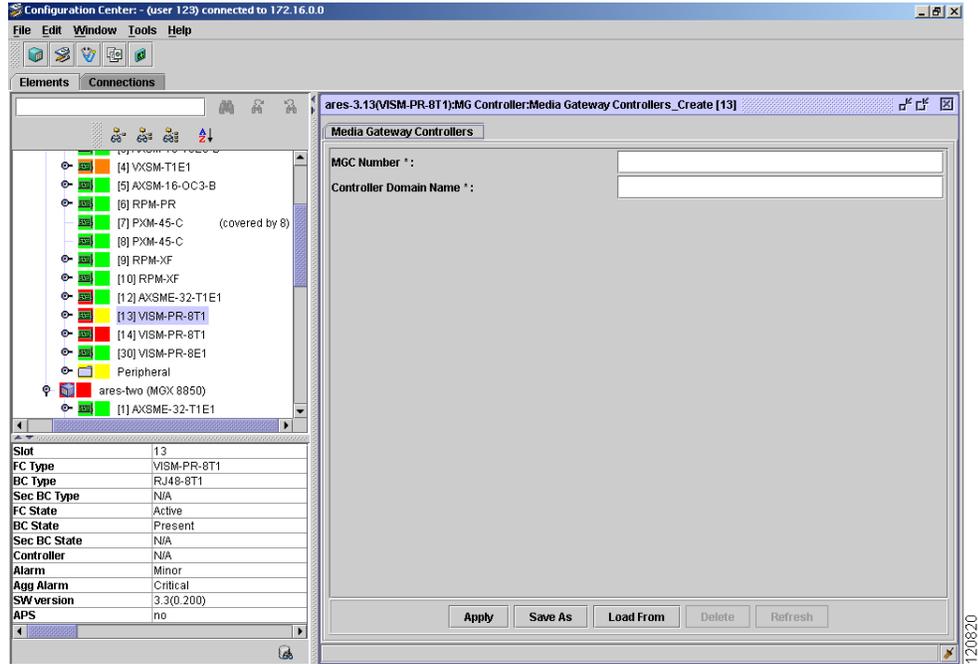


Note [Table 6-73](#) describes fields in the VISM-PR MG Controller tab, IP Address Resolution category.

- Click **Apply**.

- Step 5** Add the call agent/MGC domain name:
- Within the **MG Controller** tab, choose the **Media Gateway Controllers** option from the **Category** drop-down arrow.
 - Click **Create**. The VISM-PR Create Media Gateway Controllers window appears.

Figure 6-77 Configuration Center—VISM-PR Create Media Gateway Controllers Window



- c. Complete the fields.



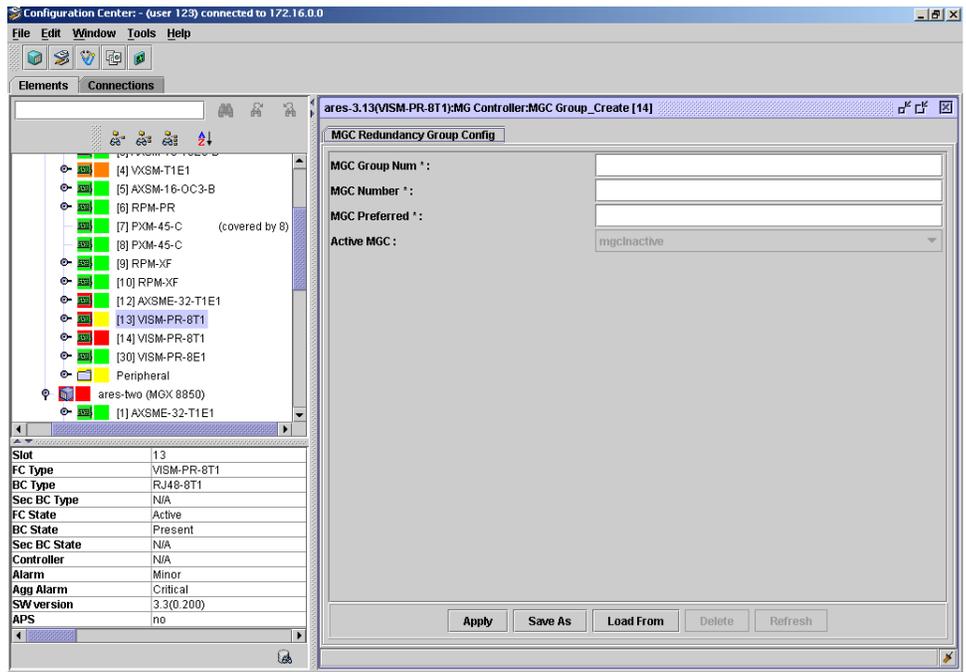
Note Table 6-73 describes fields in the VISM-PR MG Controller tab, Media Gateway Controllers category.

- d. Click **Apply**.

Step 6 Add the MGC to a redundancy group:

- a. Within the **MG Controller** tab, choose the **MGC Group** option from the **Category** drop-down arrow.
- b. Click **Create**. The VISM-PR Create MGC Group window appears.

Figure 6-78 Configuration Center—VISM-PR Create MGC Group Window



c. Complete the fields.



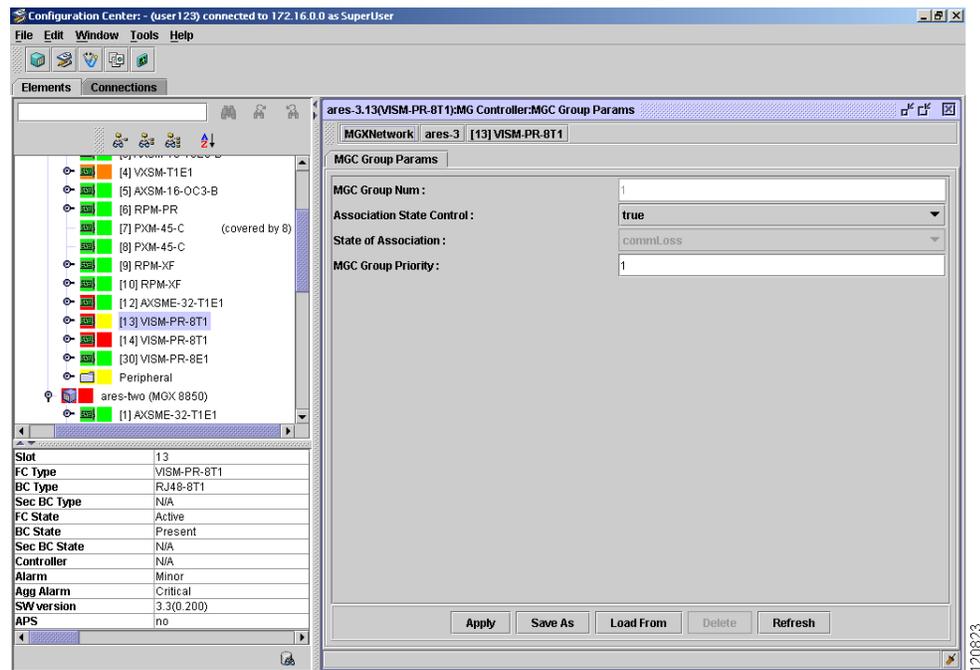
Note Table 6-73 describes fields in the VISM-PR MG Controller tab, MGC Group category.

d. Click **Apply**.

Step 7 Change the parameters of the MGC group:

- a. Within the **MG Controller** tab, choose the **MGC Group Params** option from the **Category** drop-down arrow.
- b. Click on the MG group entry you want to modify, then click **Details**. The VISM-PR MGC Group Params window appears.

Figure 6-79 Configuration Center—VISM-PR MGC Group Params Window



- c. Complete the fields.



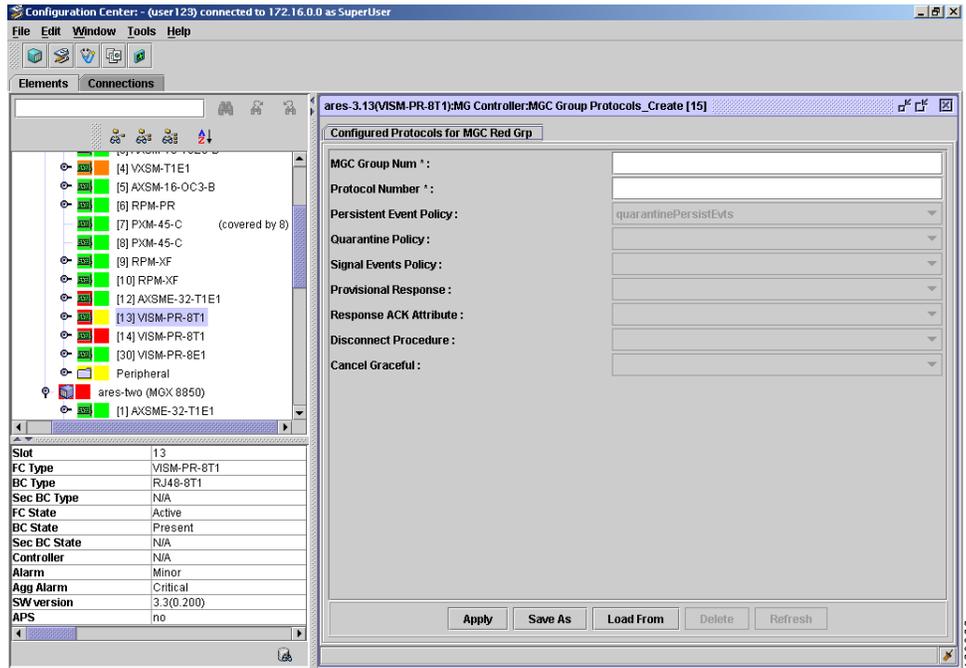
Note Table 6-73 describes fields in the VISM-PR MG Controller tab, MGC Group Params category.

- d. Click **Apply**.

Step 8 Associate a call agent redundancy group with a gateway control protocol:

- Within the **MG Controller** tab, choose the **MGC Group Protocols** option from the **Category** drop-down arrow.
- Click **Create**. The VISM-PR Create MGC Group Protocols window appears.

Figure 6-80 Configuration Center—VISM-PR Create MGC Group Protocols Window



c. Complete the fields.



Note Table 6-73 describes fields in the VISM-PR MG Controller tab, MGC Group Protocols category.

d. Click **Apply**.

Once you have created the MGC group protocol, Cisco MGM automatically adds an SRCP peer. For details on configuring SRCP peers, see Step 7 in section 6.9.4.3.3 [Configuring the Gateway Control Protocol Port for VISM-PR](#), page 6-159.



Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-73 *Field Descriptions for the VISM-PR MG Controller Tab*

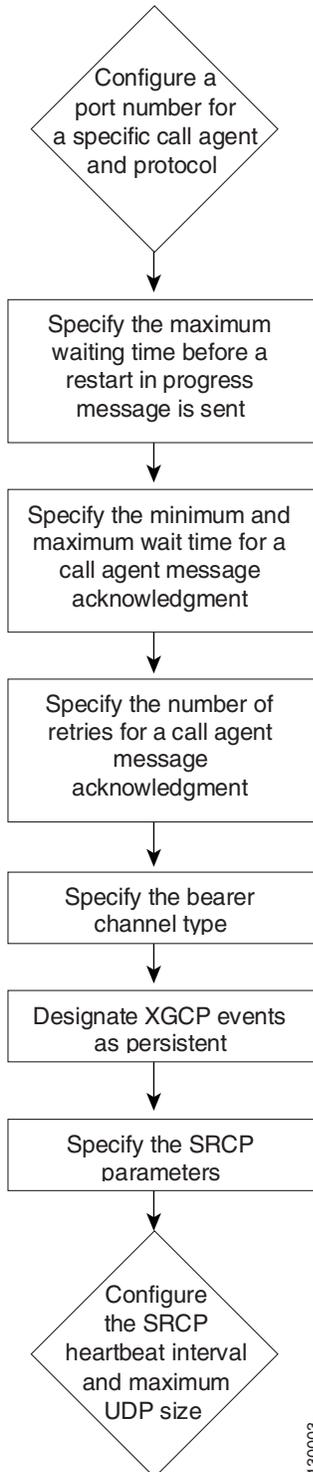
Category	Field Name	Description
Domain Names	Index	Index to this table.
	Domain Name	Domain name of MGCs, tftp server, external DNS server, or announcement server.
	Resolution Type	Type of DNS resolution to be applied for a particular domain name. Values include: <ul style="list-style-type: none"> • internalOnly—Specifies the gateway will not try to resolve the IP address for the domain name of the MGC by using the external Domain Name Service (DNS) name server. • externalOnly—Specifies the IP address for the domain name of the MGC is resolved externally by using the DNS name server. • internalFirst • externalFirst
IP Address Resolution	Index	Index to this table.
	Domain Name	Domain name of MGCs, tftp server, external DNS server, or announcement server.
	IP Address	IP address of the entity. To change the IP address, you need to remove an entry then add a new entry.
	Comm State	Indicates whether the address is currently applied for communications with the system of that name.
	Preference	Allows you to optionally configure primaries and secondaries. The lower the number, the higher the preference.
	DNS Resolution Flag	Type of DNS resolution.
Media Gateway Controllers	MGC Number	Index to this table.
	Controller Domain Name	Name of the MGC. Corresponds to a domain name under which the MGC could also be registered in a DNS.
MGC Group	MGC Group Num	MGC group number. A group can contain more than one MGC.
	MGC Number	MGC number.
	MGC Preferred	Allows you to optionally configure primaries and secondaries. The lower the number, the higher the preference.
	Active MGC	Denotes the MGC within a MGC redundancy group that is currently active or controlling the GW.

Table 6-73 *Field Descriptions for the VISM-PR MG Controller Tab (continued)*

Category	Field Name	Description
MGC Group Params	MGC Group Num	MGC group number. A group can contain more than one MGC.
	Association State Control	Enables or disables sending state change notifications to the call agent.
	State of Association	Represents the state of the communication between the MG and the MGC (call agent) groups.
	MGC Group Priority	Determines priority among the MGC redundancy groups within the GW.
MGC Group Protocols	MGC Group Num	MGC group number. A group can have more than one MGC.
	Protocol Number	Protocol number.
	Persistent Event Policy	Determines how the persistent events are notified.
	Quarantine Policy	Determines the quarantine policy when the call agent does not explicitly specify one.
	Signal Events Policy	Enables you to provision the way signalled events from CA are handled by the gateway. This is configurable on a per MGC redundancy group, per protocol basis.
	Provisional Response	Enables or disables sending provisional responses to the CA when processing a request received from the CA.
	Response ACK Attribute	List of transaction IDs that are acknowledged by the call agent.
	Disconnect Procedure	Describes whether disconnected procedure has to be enabled or disabled per protocol per MGC group configured.
Cancel Graceful	Describes whether notification of RSIP cancel graceful has to be enabled or disabled per protocol per MGC group configured.	

6.9.4.3.3 Configuring the Gateway Control Protocol Port for VISM-PR

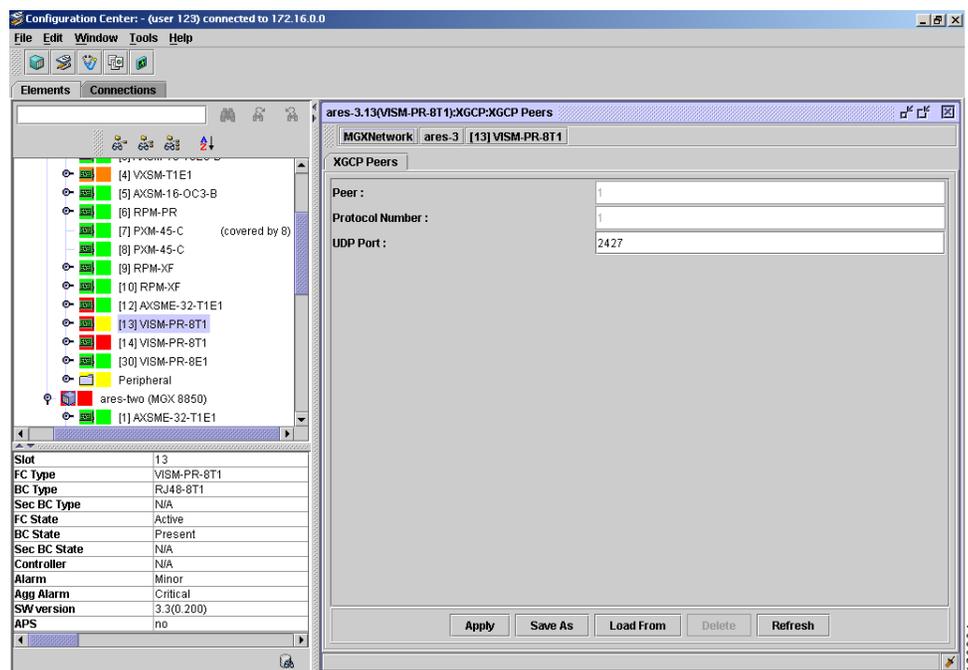
Figure 6-81 Process for Configuring the Gateway Control Protocol Port for VISM-PR



To configure the gateway control protocol port for VISM-PR, complete the following steps:

- Step 1** Configure a port number for a particular call agent and protocol:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, double-click the VISM-PR card.
 - c. Click the **XGCP** tab.
 - d. Choose the **XGCP Peers** option from the **Category** drop-down arrow.
 - e. Click on a peer entry, then click **Details**. The XGCP Peers window appears.

Figure 6-82 Configuration Center—VISM-PR XGCP Peers Window

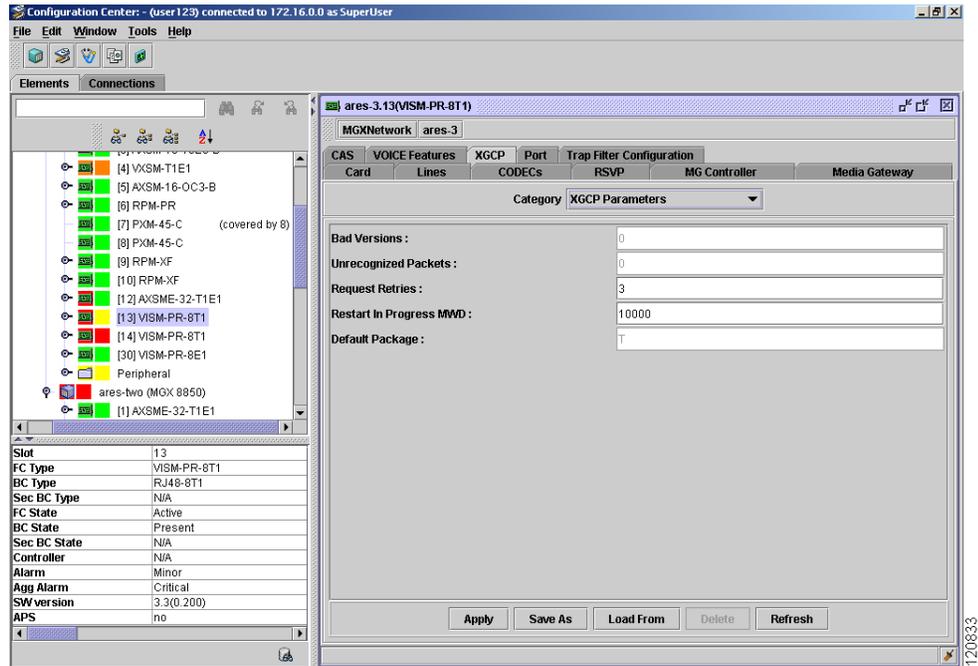


Note Table 6-74 describes fields in the VISM-PR XGCP tab, XGCP Peers option.

- f. Click **Apply**.

- Step 2** Specify the maximum waiting time before a Restart in Progress (RSIP) message is sent to the call agent:
- a. Within the **XGCP** tab, choose the **XGCP Parameters** option from the **Category** drop-down arrow.

Figure 6-83 Configuration Center—VISM-PR XGCP Tab, XGCP Parameters Category



- b. Configure the **Restart in Progress MWD** field.



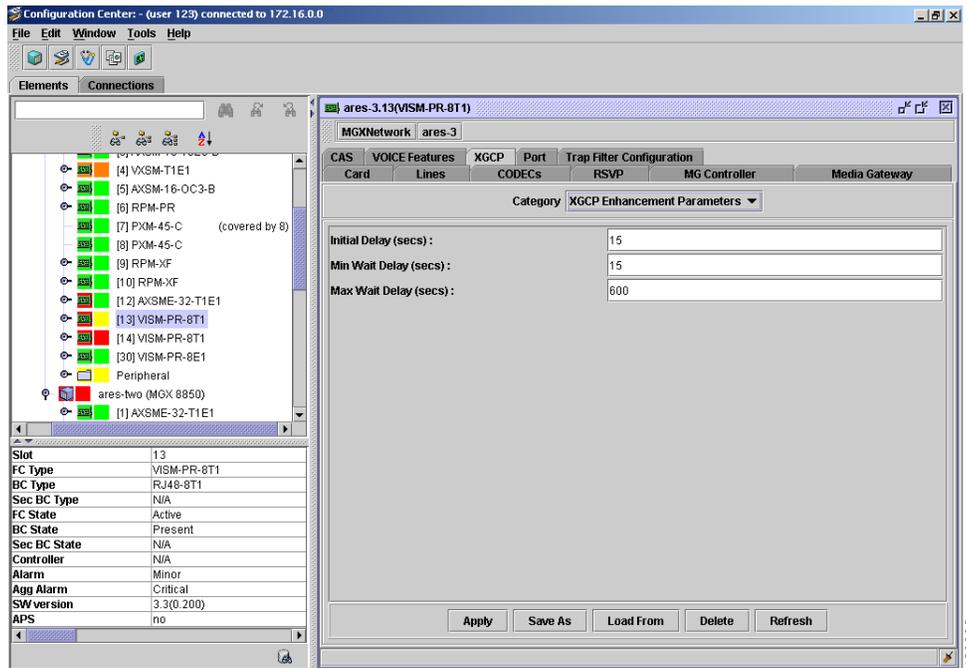
Note [Table 6-74](#) describes fields in the VISM-PR XGCP tab, XGCP Parameters category.

- c. Click **Apply**.

Step 3 Specify the VISM-PR minimum and maximum wait time for a call agent message acknowledgment:

- a. Within the **XGCP** tab, choose the **XGCP Enhancement Parameters** option from the **Category** drop-down arrow.

Figure 6-84 Configuration Center—VISM-PR XGCP Tab, XGCP Enhancement Parameters Category



- b. Configure the fields.



Note Table 6-74 describes fields in the VISM-PR XGCP tab, XGCP Enhancement Parameters category.

- c. Click **Apply**.

Step 4 Specify the VISM-PR number of retries for a call agent message acknowledgment:

- a. Within the **XGCP** tab, choose the **XGCP Parameters** option from the **Category** drop-down arrow (see Figure 6-83).
- b. Configure the **Request Retries** field.



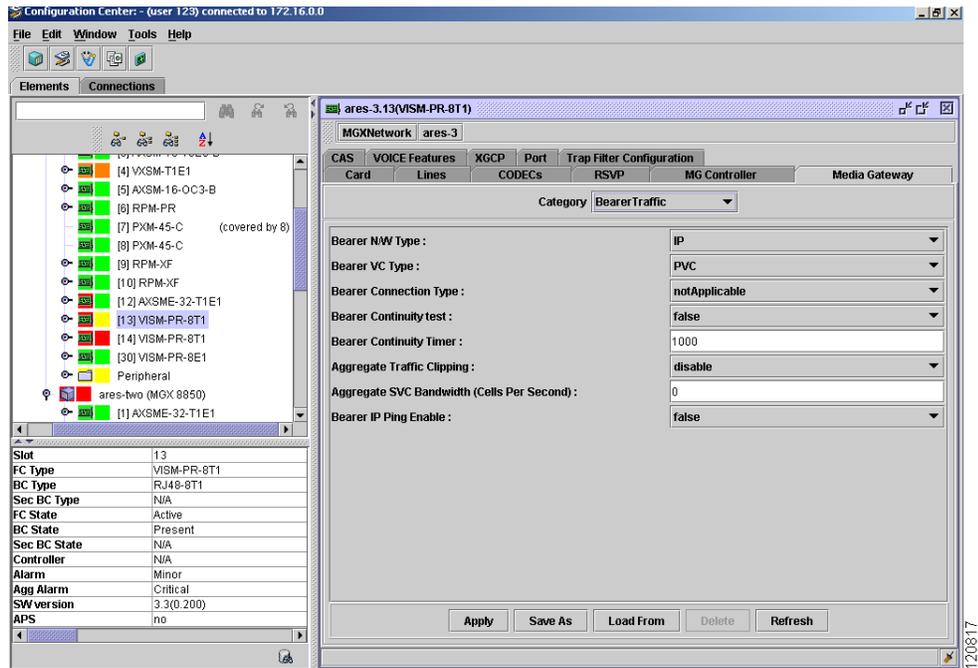
Note Table 6-74 describes fields in the VISM-PR XGCP tab, XGCP Parameters category.

- c. Click **Apply**.

Step 5 Specify the bearer channel type VISM-PR uses (if one is not specified by the call agent in protocol local connection options):

- a. Click the **Media Gateway** tab.
- b. Choose the **Bearer Traffic** option from the **Category** drop-down arrow.

Figure 6-85 Configuration Center—VISM-PR Media Gateway Tab, Bearer Traffic Category



- c. Configure the **Bearer N/W Type**, **Bearer VC Type**, and **Bearer Connection Type** fields.



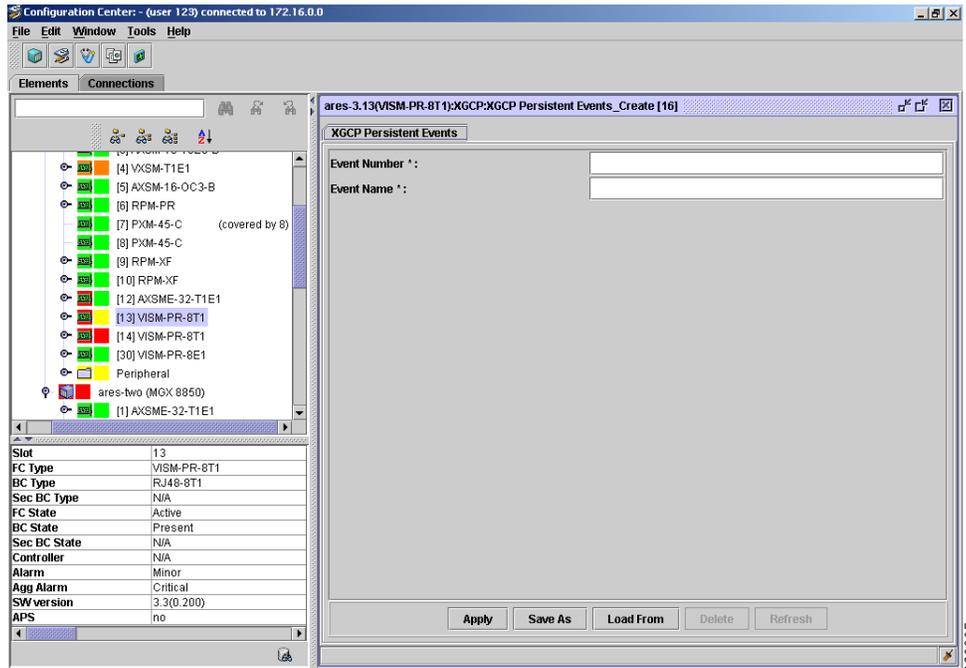
Note Table 6-75 describes fields in the VISM-PR Media Gateway tab, Bearer Traffic category.

- d. Click **Apply**.

Step 6 Designate XGCP events as persistent:

- a. Within the **XGCP** tab, choose the **XGCP Persistent Events** option from the **Category** drop-down arrow.
- b. Click **Create**. The Create XGCP Persistent Events window appears.

Figure 6-86 Configuration Center—VISM-PR Create XGCP Persistent Events Window



- c. Configure the **Event Number** and **Event Name** fields.



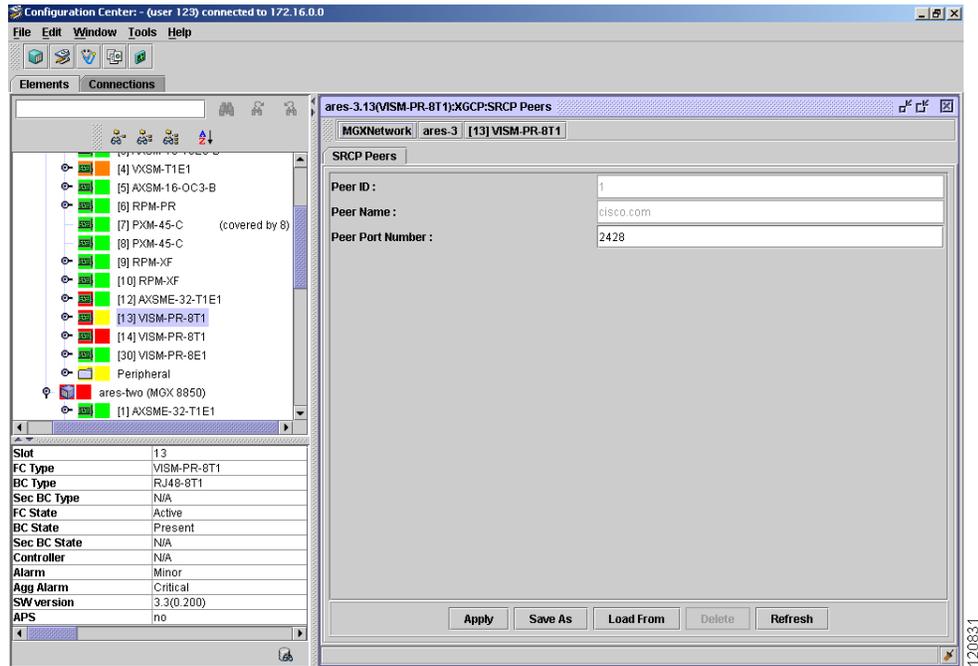
Note Table 6-74 describes fields in the VISM-PR XGCP tab, XGCP Persistent Events category.

- d. Click **Apply**.

Step 7 Specify the SRCP parameters for communication between VISM-PR and the call agent:

- a. Within the **XGCP** tab, choose the **SRCP Peers** option from the **Category** drop-down arrow.
- b. Click on a peer entry, then click **Details**. The SRCP Peers tab appears.

Figure 6-87 Configuration Center—VISM-PR SRCP Peers Tab



- c. Complete the fields.



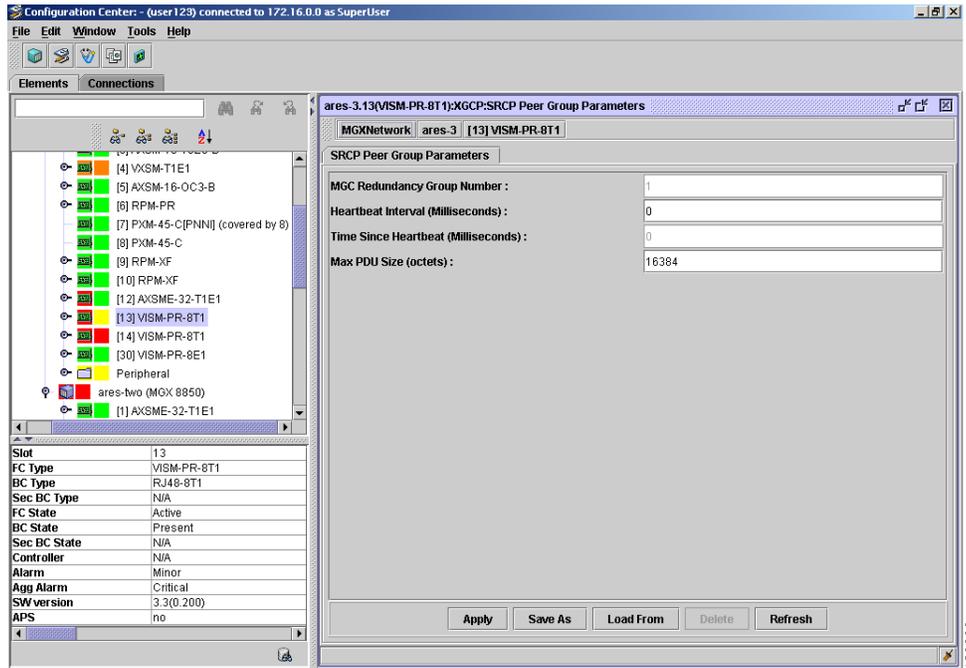
Note Table 6-74 describes fields in the VISM-PR XGCP tab, SRCP Peers category.

- d. Click **Apply**.

Step 8 Configure the SRCP heartbeat interval and maximum UDP size for a specified call agent redundancy group:

- Within the **XGCP** tab, choose the **SRCP Peer Group Parameters** option from the **Category** drop-down arrow.
- Click on a peer entry, then click **Details**. The SRCP Peer Group Parameters tab appears.

Figure 6-88 Configuration Center—VISM-PR SRCP Peer Group Parameters Tab



c. Complete the fields.



Note Table 6-74 describes fields in the VISM-PR XGCP tab, SRCP Peer Group Parameters category.

d. Click **Apply**.



Note For a description of all buttons within this tab, see section 6.2.3 [Navigating Within Tables](#), page 6-9.

Table 6-74 Field Descriptions for the VISM-PR XGCP Tab

Category	Field Name	Description
XGCP Peers	Peer	Value of this object is the same as mgcNumber from MGMIB.
	Protocol Number	Value of this object is the same as mgcProtocolNumber from MGMIB.
	UDP Port	Configures the local UDP port on VISM-PR used by the SGCP and MGCP protocols to communicate with the call agent.

Table 6-74 Field Descriptions for the VISM-PR XGCP Tab (continued)

Category	Field Name	Description
XGCP Parameters	Bad Versions	Total number of incoming messages that were delivered to the protocol entity and were for an unsupported protocol version.
	Unrecognized Packets	
	Request Retries	Specifies the number of retries for a request that exceeds timeout.
	Restart in Progress MWD	Maximum waiting delay (MWD) timeout value is used for the MG to send the restart in progress to the MGC.
	Default Package	Contains the default package name for the MGCP/SGCP protocol. Should have the same value as <code>xgcpCapabilityPackageName</code> .
XGCP Enhancement Parameters	Initial Delay (secs)	Initial waiting delay (Tdinit) timeout value defined by this MIB object.
	Min Wait Delay (secs)	Minimum waiting delay (Tdmin) timeout value used by the MG to send the restart in progress with the restart method as RM:disconnected to the MGC if there is any local user activity is defined by this object.
	Max Wait Delay (secs)	Maximum waiting delay (Tdmax) timeout value used by the MG to send the restart in progress with the restart method as RM:disconnected to the MGC when the endpoint has become disconnected is defined by this object.
XGCP Persistent Events	Event Number	Event number.
	Event Name	Name of the event (for example, t/hd or t/hu).
SRCP Peers	Peer ID	Identifies the SRCP peer and serves as an index to the table. If MGMIB is supported, this is the same as the <code>mgcNumber</code> from the <code>mgcTable</code> .
	Peer Name	Denotes the name of the SRCP peer. If MGMIB is supported, this is the same as the <code>mgcName</code> from the <code>mgcTable</code> .
	Peer Port Number	Used to configure the UDP port used of the SRCP peer.
SRCP Peer Group Parameters	MGC Redundancy Group Number	MGC redundancy group number.
	Heartbeat Interval (milliseconds)	Configures the length of the heartbeat interval.
	Time Since Heartbeat (milliseconds)	Time since the last heartbeat was received.
	Max PDU Size (octets)	Configures the maximum UDP PDU size.

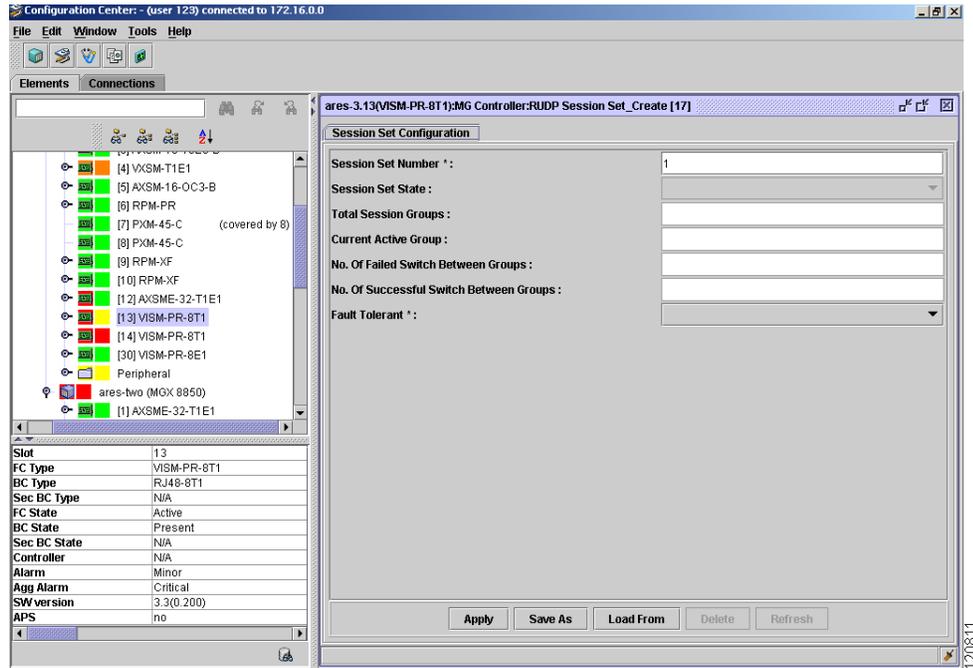
Table 6-75 Configuration Center—VISM-PR Media Gateway Tab, Bearer Traffic Category

Field Name	Description
Bearer N/W Type	Network type to transport bearer traffic. Values are IP or ATM.
Bearer VC Type	VC type to transport bearer traffic. Values are PVC or SVC.
Bearer Connection Type	Connection type used to transport bearer traffic. If the Bearer N/W Type is set to IP, then the value of this object must be set to not applicable.
Bearer Continuity Test	Defines whether the bearer continuity test for a connection will be performed or not at the time of call setup.
Bearer Continuity Timer	CO4 (bearer continuity) timer in milliseconds.
Aggregate Traffic Clipping	Enables or disables the aggregate traffic clipping policy applicable to all bearer traffic generated at the VISM-PR card.
Aggregate SVC Bandwidth (cells per second)	Used for AAL2 SVC aggregate SVC Connection Admission Control (CAC) and also for aggregate traffic clipping at VISM-PR card when Aggregate Traffic Clipping is enabled.

6.9.4.3.4 Configuring ISDN PRI Backhaul for VISM-PR

- Step 1** Create a session set:
- a. From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - b. Under the **Elements** tab, within the node, double-click the VISM-PR card.
 - c. Click the **MG Controller** tab.
 - d. Choose the **RUDP Session Set** option from the **Category** drop-down arrow.
 - e. Click **Create**. The Create RUDP Session Set window appears.

Figure 6-89 Configuration Center—VISM-PR Create RUDP Session Set Window



- f. Complete the fields.



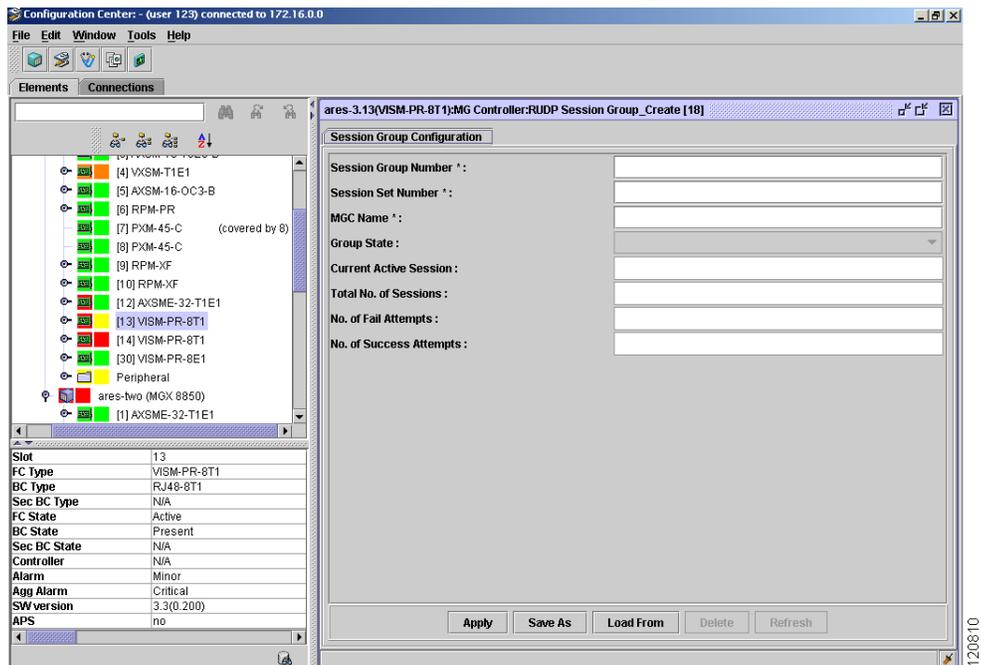
Note Table 6-76 describes fields in the VISM-PR MG Controller tab, RUDP Session Set category.

- g. Click **Apply** to add a RUDP session set.

Step 2 Create a session group for a session set and a call agent:

- a. Within the **MG Controller** tab, choose the **RUDP Session Group** option from the **Category** drop-down arrow.
- b. Click **Create**. The Create RUDP Session Group window appears.

Figure 6-90 Configuration Center—VISM-PR Create RUDP Session Group Window



c. Complete the fields.



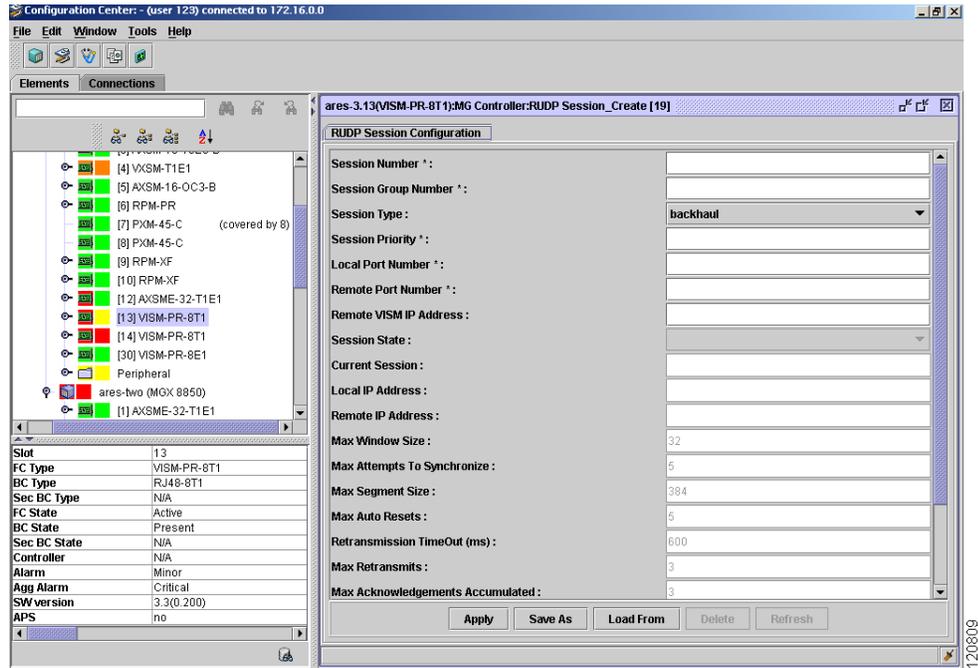
Note Table 6-76 describes fields in the VISM-PR MG Controller tab, RUDP Session Group category.

d. Click **Apply** to add a session group.

Step 3 Create an ISDN PRI backhaul RUDP session within a specified group:

- Within the **MG Controller** tab, choose the **RUDP Session** option from the **Category** drop-down arrow.
- Click **Create**. The Create RUDP Session window appears.

Figure 6-91 Configuration Center—VISM-PR Create RUDP Session Window



- c. Complete the fields.



Note Table 6-76 describes fields in the VISM-PR MG Controller tab, RUDP Session category.

- d. Click **Apply** to add a session group.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-76 Configuration Center—VISM-PR MG Controller Tab

Category	Field Name	Description
RUDP Session Set	Session Set Number	Logical index of this table. Currently only set 1 is used, and all the signaling channels are implicitly mapped to set 1.
	Session Set State	Denotes the state the set is in.
	Total Session Groups	Keeps track of the number of session groups that has been added to a session set.
	Current Active Group	Current active group number.
	No. Of Failed Switch Between Groups	Number of failed attempts to switch between session groups in this set.
	No. Of Successful Switch Between Groups	Number of successful attempts to switch between session groups in this set.
	Fault Tolerant	Indicates whether the set configuration is fault tolerant or not.
RUDP Session Group	Session Group Number	Index for this table. One set can have up to two groups.
	Session Set Number	Session set number to which this session group belongs.
	MGC Name	Name of the media gateway controller, which corresponds to a domain name under which the MGC could also be registered in a DNS.
	Group State	State this session group is in.
	Current Active Session	Indicates the current session that is open to communication with the MGC. There is only one active session per group.
	Total No. of Sessions	Total number of session that have been added to this group.
	No. of Fail Attempts	Number of failed attempts to switch between sessions in this group.
	No. of Success Attempts	Number of successful attempts to switch between sessions in this group.

Table 6-76 Configuration Center—VISM-PR MG Controller Tab (continued)

Category	Field Name	Description
RUDP Session	Session Number	Index for this table. One group can have a maximum of four sessions.
	Session Group Number	A mandatory parameter if session type is backhaul, indicates the session group that this session belongs to.
	Session Type	Indicates if the session is configured for trunking or PRI backhaul.
	Session Priority	When a session fails, it indicates which session the session manager should try to bring active. A lower number means higher priority.
	Local Port Number	Port number of gateway (VISM-PR) for this session. The port number should be unique across other sessions and XGCP/SRCP.
	Remote Port Number	Port number of MGC for this session. The port number should be unique across other sessions and XGCP/SRCP.
	Remote VISM IP Address	IP address of the remote VISM-PR (a mandatory parameter if the session type is lapd trunking).
	Session State	State this session is in.
	Current Session	Indicates which session has received an active message from MGC.
	Local IP Address	IP address of gateway (VISM-PR).
	Remote IP Address	IP address of the media gateway controller. It is resolved by using <code>vismSessionGrpMgcName</code> in <code>vismSessionGrpTable</code> .
	Max Window Size	Max size of the receive window in segments, used for flow control.

Table 6-76 Configuration Center—VISM-PR MG Controller Tab (continued)

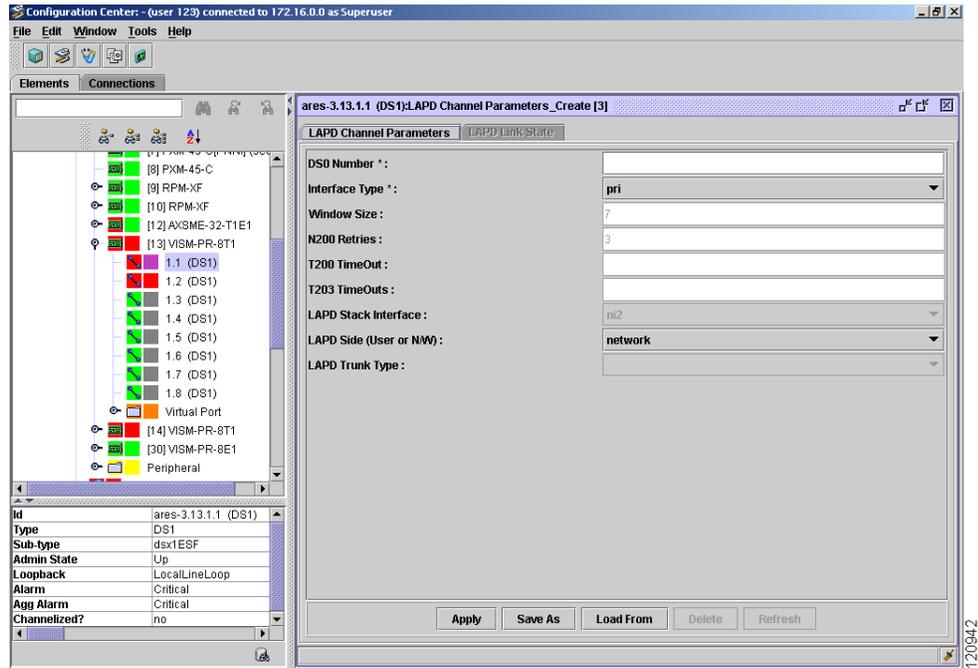
Category	Field Name	Description
RUDP Session (continued)	Max Attempts to Synchronize	Max number of attempts to synchronize with other side (MGC).
	Max Segment Size	Max number of octets that can be received by the peer sending the SYN segment.
	Max Auto Resets	Max number of consecutive auto reset that will be performed before a connection is reset.
	Retransmission TimeOut (ms)	(in milliseconds) Timeout value for retransmission of unacknowledged packets.
	Max Retransmits	Max number of times consecutive transmission will be attempted before the connection is considered broken.
	Max Acknowledgements Accumulated	Indicates the maximum number of acknowledgments that will be accumulated before sending an acknowledgment if another segment is not sent.
	Accumulated Acknowledgement TimeOut (ms)	(in milliseconds) Timeout value for sending an acknowledgment segment if another segment is not sent.
	Max Number Of Out Of Sequence Packets	Max number of out of sequence packets that will be accumulated before an EACK segment is sent. The EACK segment is used to acknowledge segments received out of sequence.
	Send Null Segment Timeout (ms)	Number of milliseconds of idle time before sending a null segment.
	Auto Reset Timeout (ms)	Number of milliseconds to wait for transfer state before an auto reset occurs.

6.9.4.4 Configuring TDM Signaling for CCS on VISM-PR

Configuring TDM signaling for CCS involves creating a LAPD channel. To create a LAPD channel, complete the following steps:

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
- Step 3** Click on the **LAPD Channel Parameters** tab.
- Step 4** Click **Create**. The Create LAPD Channel Parameters window appears.

Figure 6-92 Configuration Center—VISM-PR Create LAPD Channel Parameters Window



Step 5 Configure the fields.



Note [Table 6-77](#) describes fields in the VISM-PR Create LAPD Channel Parameters window.

Step 6 Click **Apply** to create a LAPD channel.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-77 Field Descriptions for the VISM-PR Create LAPD Channel Parameters Window

Field Name	Description
DS0 Number	DS0 number.
Interface Type	Type of LAPD interface.
Window Size	Maximum number of sequentially numbered I-frames that may be outstanding.
N200 Retries	Maximum number of re-transmissions of a frame.
T200 TimeOut	Maximum number of time (in milliseconds) to wait for acknowledgement for a transmit frame.
T203 Time Outs	Maximum time (in milliseconds) allowed without frames being exchanged.
LAPD Stack Interface	Specifies which type of interface the LAPD stack will be used with.

Table 6-77 *Field Descriptions for the VISM-PR Create LAPD Channel Parameters Window (continued)*

Field Name	Description
LAPD Side (User or N/W)	Specifies whether the LAPD stack is on the user or network side. This object can be set when the row is created, but cannot be modified for an existing row.
LAPD Trunk Type	Indicates if the line is configured for trunking or PRI-BH.

6.9.4.5 Adding and Configuring DS0 Endpoints on Lines

To add and configure DS0 endpoints on lines, complete the following steps:

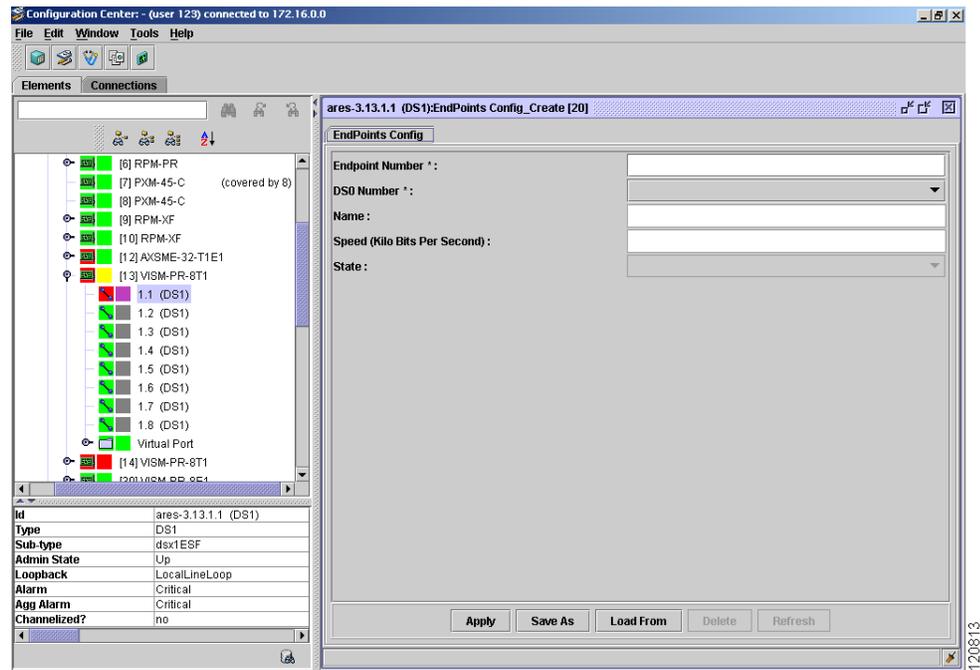
-
- Step 1** Add DS0 endpoints to lines—See [6.9.4.5.1 Adding DS0 Endpoints to Lines for VISM-PR](#), page 6-176.
 - Step 2** (Optional) View DS0 endpoints—See [6.9.4.5.2 Viewing DS0 Endpoints](#), page 6-178.
 - Step 3** Configure DS0 parameters—See [6.9.4.5.3 Configuring DS0 Parameters](#), page 6-178.
-

6.9.4.5.1 Adding DS0 Endpoints to Lines for VISM-PR

To add DS0 endpoints to lines for VISM-PR T1 or E1 lines:

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
 - Step 3** Click the **EndPoints Config** tab.
 - Step 4** Click **Create** to display the Create Endpoints Config window.

Figure 6-93 Configuration Center—VISM-PR Create Endpoints Config Window



Step 5 Complete the fields.



Note [Table 6-78](#) describes fields in the VISM-PR Create Endpoints Config window.

Step 6 Click **Apply** to add the DS0 endpoint to the line.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-78 Field Descriptions for the VISM-PR Create Endpoints Config Window

Field Name	Description
Endpoint Number	Identifies endpoint as it is known by the NE. Index to this table. The range is from 1-248.
DS0 Number	Bitmap of DS0s used by the endpoint. Bit positions set to 1 represent DS0s used by the endpoint. The position corresponds to the DS0 number. The following are possible ranges: <ul style="list-style-type: none"> • 1-24 for T1 lines • 1-31 for non-CAS E1 lines • 1-15, 17-31 for CAS E1 lines
Name	Identifies endpoint as it is known by the MGC. If MG and MGC use a mutually agreed upon convention, this may be supplied by the agent, for example, it may be read-only.
Speed (kilo bits per second)	Indicates the endpoint's bandwidth, in Kbps. Typically, this will be 64 times the number of channels terminated by the endpoint.
State	Indicates the state of the endpoint.

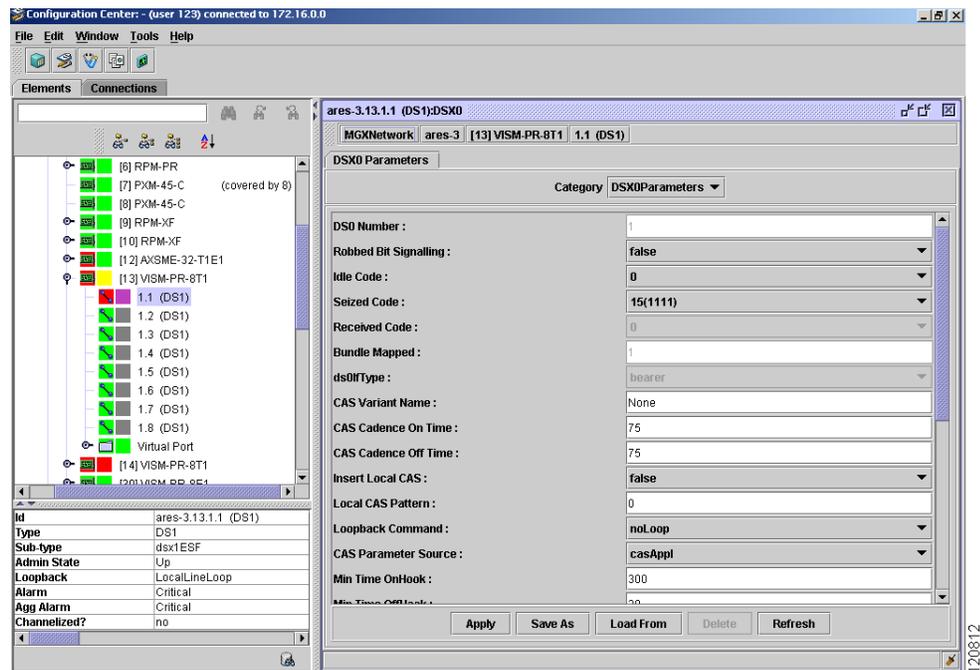
6.9.4.5.2 Viewing DS0 Endpoints

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
- Step 3** Click the **DSX0** tab. A table appears listing the DS0 endpoints.
-

6.9.4.5.3 Configuring DS0 Parameters

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the DS1 line under the VISM-PR card.
- Step 3** Click the **DSX0** tab. A table appears listing the DS0 endpoints.
- Step 4** Click on a DS0 entry and then click **Details**. The DSX0 Parameters window appears, with the DSX0 Parameters category selected by default.

Figure 6-94 Configuration Center—VISM-PR DSX0 Parameters Window, DSX0 Parameters Category



Step 5 Complete or modify the fields.



Note [Table 6-79](#) describes fields in the VISM-PR DSX0 Parameters window, DSX0 Parameters category.

Step 6 Click **Apply** to configure the DSX0 parameters.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-79 Field Descriptions for the VISM-PR DSX0 Parameters Window, DSX0 Parameters Category

Field Name	Description
DS0 Number	DS0 number.
Robbed Bit Signalling	Indicates if robbed bit signalling is turned on or off for a given DS0. This only applies to DS0s on a DS1 link.
Idle Code	Contains the code transmitted in the ABCD bits when the DS0 is not connected and DS0TransmitCodesEnable is disabled. Possible values are 0-15.
Seized Code	Contains the code transmitted in the ABCD bits when the DS0 is connected and DS0TransmitCodesEnable is enabled. Possible values are 0-15.

Table 6-79 *Field Descriptions for the VISM-PR DSX0 Parameters Window, DSX0 Parameters Category (continued)*

Field Name	Description
Received Code	Contains the code being received in the ABCD bits.
Bundle Mapped	Indicates endpoint number as specified by mgEndpointNumber of endpoint table. If it is not associated with any endpoint, then it is set to -1.
ds0IfType	Indicates the interface type associated with the DS0.
CAS Variant Name	Indicates the index to the CAS variant table.
CAS Cadence On Time	Describes the duration during which the digit tone is generated.
CAS Cadence Off Time	Corresponds to the silence between the digit tones.
Insert Local CAS	Tells the framer whether or not to force the CAS bits to a value defined by ds0LocalCasPattern.
Local CAS Pattern	Contains the pattern that the CAS (ABCD) bits will have when ds0InsertLocalCas is enabled.
Loopback Command	Represents the loopback type at the DS0 level. The DS0 configuration overrides the line level configuration.
CAS Parameter Source	Indicates to VISM-PR whether to read the CAS related timer parameters from the casAppl file downloaded for that endpoint or to read from this mib.
Min Time On Hook	Minimum time in milliseconds for which the on hook pattern should be present in order for it to be recognized else the signal will be considered to be spurious and will be ignored.
Min Time Off Hook	Minimum time in milliseconds for which the off hook pattern should be present in order for it to be recognized else the signal will be considered to be spurious and will be ignored.
Min Time Off Hook With Wink	Minimum duration for which the off hook part of wink signal should persist.
Max Time Off Hook With Wink	Maximum duration for which the off hook part of wink signal should persist. If it exceeds this time limit, the signal will be considered spurious and will be ignored.
Min Time On Hook With Wink	Minimum duration for which the on hook part of wink signal should persist.
Glare Time	Programmable timer, used to resolve the glare condition.
Guard Time	Duration between the end of one call and the start of the next call.
Delay for Immed Start Protocol	Indicates the time that VISM-PR should wait before outpulsing digits to the PBX after sending an off hook event. This applies only to immediate start protocol.
ds0SignalingType	Type of signaling on the line to which this DS0 belongs.
CAS Incoming MGCP Package	Controls (in conjunction with the card level persistentXgcpEventsTable) how persistent CAS events (like seize, disconnect, etc.) related to an incoming call observed on this DS0 are notified to the MGC.

Table 6-79 *Field Descriptions for the VISM-PR DSX0 Parameters Window, DSX0 Parameters Category (continued)*

Field Name	Description
CAS Outgoing MGCP Package	Controls (in conjunction with the card level persistentXgcpEventsTable) how persistent CAS events (like answer, disconnect, etc.) related to an outgoing call observed on this DS0 are notified to the MGC.
Music Threshold	Music on hold threshold in dBm.
Sid Package	Specifies whether the Silence Indication Detection packet should be generated when silence suppression is in active mode.
DSP Channel Level RAS	Status of DSP channel level RAS on the VISM-PR. When it is enabled, VISM-PR will configure the DSP through a HOST-DSP message on the individual channel.
Companding Law	Indicates whether input from or output to the TDM side of DS0 is u-law or a-law stream. Setting of this object does not take effect unless the corresponding DSP channel is closed and re-opened.

6.9.4.6 Configuring TDM Signaling for CAS on VISM-PR

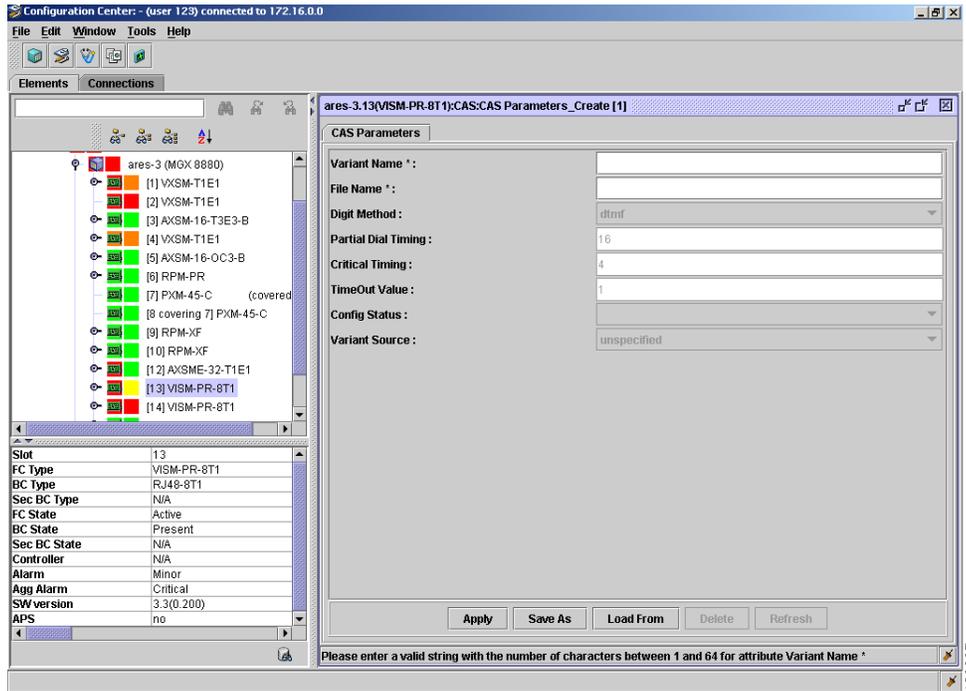
To configure time-division multiplexing signaling for CAS, complete the following steps:

-
- Step 1** Add a CAS variant to the VISM-PR card—See [6.9.4.6.1 Adding a CAS Variant to a VISM-PR Card](#), page 6-181.
 - Step 2** Configure the CAS variant and timing parameters—See [6.9.4.6.2 Configuring the CAS Variant and Timing Parameters](#), page 6-183.
 - Step 3** Associate an endpoint with the CAS variant—See [6.9.4.6.3 Associating an Endpoint With a CAS Variant](#), page 6-184.
-

6.9.4.6.1 Adding a CAS Variant to a VISM-PR Card

-
- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
 - Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
 - Step 3** Click the **CAS** tab. The **CAS Parameters** category is selected by default.
 - Step 4** Click **Create**. The Create CAS Parameters window appears.

Figure 6-95 Configuration Center—VISM-PR Create CAS Parameters Window



Step 5 Complete the fields.



Note Table 6-80 describes fields in the VISM-PR Create CAS Parameters window.

Step 6 Click **Apply** to add the CAS variant to the card.



Note For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-80 Field Descriptions for the VISM-PR Create CAS Parameters Window

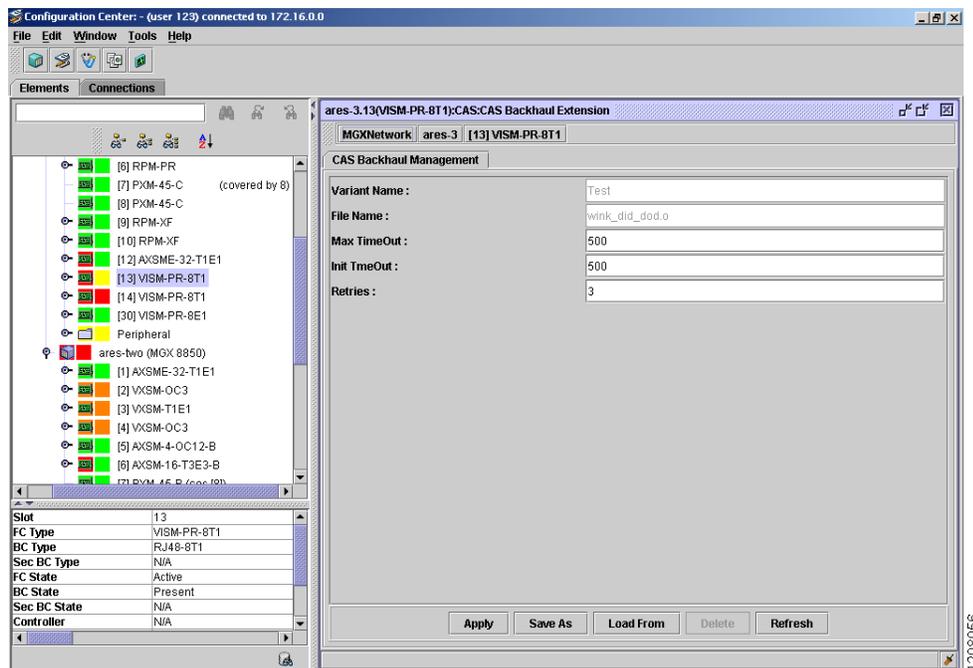
Field Name	Description
Variant Name	String identifier for the CAS variant. Used as index to the table. Valid ranges are 1-64.
File Name	Name of the file which contains the signal definition and the Finite State Machine definition for the CAS variant.
Digit Method	Default digit method used for digit collection.
Partial Dial Timing	Partial dial timing in seconds, used along with a digit map as the inter-digit timer.
Critical Timing	Critical timing in seconds.
Time Out Value	Interdigit timeout value in seconds for MF digits.

Table 6-80 Field Descriptions for the VISM-PR Create CAS Parameters Window (continued)

Field Name	Description
Config Status	Configuration status of the CAS variant.
Variant Source	Specifies where the file defining this CAS variant resides.

6.9.4.6.2 Configuring the CAS Variant and Timing Parameters

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **CAS** tab. Choose the **CAS Backhaul Extension** option from the **Category** drop-down arrow.
- Step 4** Within the variant table, click on the variant you want to configure, then click **Details**.
- Step 5** Click **Create**. The CAS Backhaul Management tab appears.

Figure 6-96 Configuration Center—VISM-PR CAS Backhaul Management Tab

- Step 6** Complete the fields.



Note Table 6-81 describes fields in the VISM-PR CAS Backhaul Management tab.

- Step 7** Click **Apply** to configure the CAS variant and timing parameters.



Note For a description of all buttons within this tab, see section [6.2.3 Navigating Within Tables](#), page [6-9](#).

Table 6-81 Field Descriptions for the VISM-PR CAS Backhaul Management Tab

Field Name	Description
Variant Name	String identifier for the CAS variant, used as an index to the table.
File Name	Name of the file that contains the signal definition and the Finite State Machine definition for the CAS variant.
Max TimeOut	Maximum timeout value in milliseconds, used for re-transmitting unacknowledged XGCP messages at the call agent CAS/PBX interface.
Init TimeOut	Initial timeout value in milliseconds, used for re-transmitting unacknowledged XGCP messages at the call agent CAS/PBX interface.
Retries	Specifies the number of retries for a message that exceeds <code>vismCasXgcpMaxReXmitTime</code> or <code>vismCasXgcpInitialReXmitTime</code> .

6.9.4.6.3 Associating an Endpoint With a CAS Variant

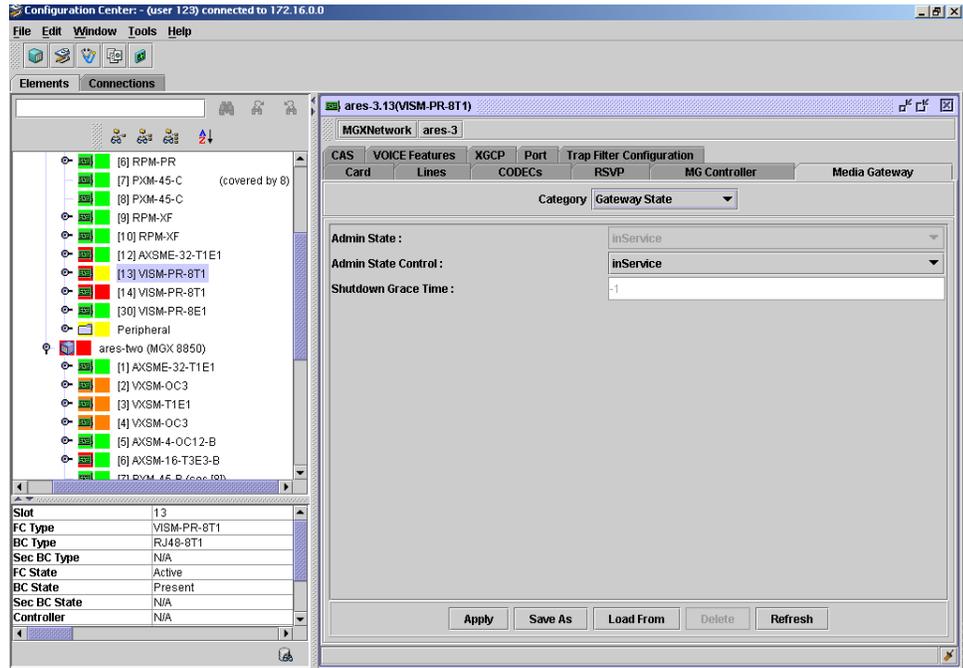
For details, refer to section [6.9.4.5.3 Configuring DS0 Parameters](#), page [6-178](#).

6.9.4.7 Placing the VISM-PR Card In or Out of Service

Placing the VISM-PR card out of service informs the call agent to not send any call requests to the VISM-PR card.

- Step 1** From the Domain Explorer window, choose **Configuration > MGX 8880/8850 MG > Configuration Center**.
- Step 2** Under the **Elements** tab, within the node, double-click the VISM-PR card.
- Step 3** Click the **Media Gateway** tab.
- Step 4** Choose the **Gateway State** option from the **Category** drop-down arrow.

Figure 6-97 Configuration Center—VISM-PR Media Gateway Tab, Gateway State Category



Step 5 Set the **Admin State Control** to the desired state.



Note Table 6-82 describes fields in the VISM-PR Media Gateway tab, Gateway State category.

For a description of all buttons within this tab, see section 6.2.3 Navigating Within Tables, page 6-9.

Table 6-82 Field Descriptions for the VISM-PR Media Gateway Tab, Gateway State Category

Field Name	Description
Admin State	Current admin state of the media gateway.
Admin State Control	Changes the service state of the media gateway. Options include: <ul style="list-style-type: none"> inService forcefulOutOfService gracefulOutOfService
Shutdown Grace Time	Indicates the time in seconds after which an MG will transition from shutting down to locked.