



Cisco WebViewer Guide

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Corporate Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

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Preface

This chapter describes the objectives, audience, organization, and conventions of the *Cisco WebViewer Guide*, and contains the following sections:

- Who Should Use This Guide, page xi
- Document Overview, page xi
- Conventions, page xii
- Obtaining Documentation, page xii
- Obtaining Technical Assistance, page xiii

Who Should Use This Guide

This guide is used by the following network experts:

- Component installers, who have experience installing telecommunications equipment and cables and experience installing data communications equipment and cabling.
- Network operators and administrators, who have experience in telecommunications networks, protocols, and equipment and who are familiar with data communications networks, protocols, and equipment.
- Network designers, who have experience with telecommunications networks, protocols, and equipment and with data communications networks, protocols, and equipment.

Document Overview

This guide contains procedures for configuring and operating the Cisco MGX 8260 using the Cisco WebViewer.

This guide contains the following chapters:

Chapter 1, “Cisco WebViewer Orientation”

Chapter 2, “Node Management”

Chapter 3, “Card Management”

Chapter 4, “Line and Port Management”

Chapter 5, “Call Control Interface Configuration”

Chapter 6, “Alarms and Performance”

Conventions

This guide uses the following conventions:



Warning

Means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.



Caution

Means reader be careful. You are capable of doing something that might result in equipment damage or loss of data.



Note

Means reader take note. Notes contain helpful suggestions or references to materials not contained in this manual.



Timesaver

Means the described action saves time. You can save time by performing the action described in the paragraph.



Tips

Means the following information might help you solve a problem.

Obtaining Documentation

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

Documentation CD-ROM

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Cisco Connection Online

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 - From North America, call 408 526-8070
 - From Europe, call 33 1 64 46 40 82

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Hangul (Korean)	korea-tac@cisco.com
Spanish	tac@cisco.com
Thai	thai-tac@cisco.com

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 San Jose, CA 95134-9883

We appreciate and value your comments.



Cisco WebViewer Orientation

The Cisco WebViewer has an intuitive interface that facilitates managing the Cisco MGX 8260 from a workstation with a standard Web browser.

Cisco WebViewer Features

Using the Cisco WebViewer, you can perform the following tasks:

- Manage nodes and services

The Cisco WebViewer provides dedicated Cisco MGX 8260 information, including system settings, node configurations, service provisioning, and system test features. The Cisco WebViewer accesses information from the SNMP core, but presents it in extended text and graphic forms that simplify working with it.

- Monitor the Cisco MGX 8260 status and alarms

The Cisco WebViewer provides real-time information on Cisco MGX 8260 status, alarms, events, and statistics. Using Java scripts and applets, the Cisco WebViewer constantly monitors the Cisco MGX 8260 and updates the user interface.

Every screen has a prominent alarm indicator that shows the current operational status. With a single click, users can obtain detailed information on outstanding alarms and events.

Also, the Cisco MGX 8260 can notify users by email when alarms or events occur.

- Monitor performance

The Cisco WebViewer reports current and historical performance data, and displays performance statistics when performance drops below user-defined levels. Using this feature, operators can react proactively to problems that degrade performance before the system fails.

- Enforce security

The MGX 8260 Media Gateway enforces security with user accounts and access levels. Users must log onto the MGX 8260 Media Gateway before performing any task, and authenticated users can perform only those tasks permitted by their access level. The MGX 8260 Media Gateway supports up to 20 user accounts, each with access privileges ranging from full control to guest.

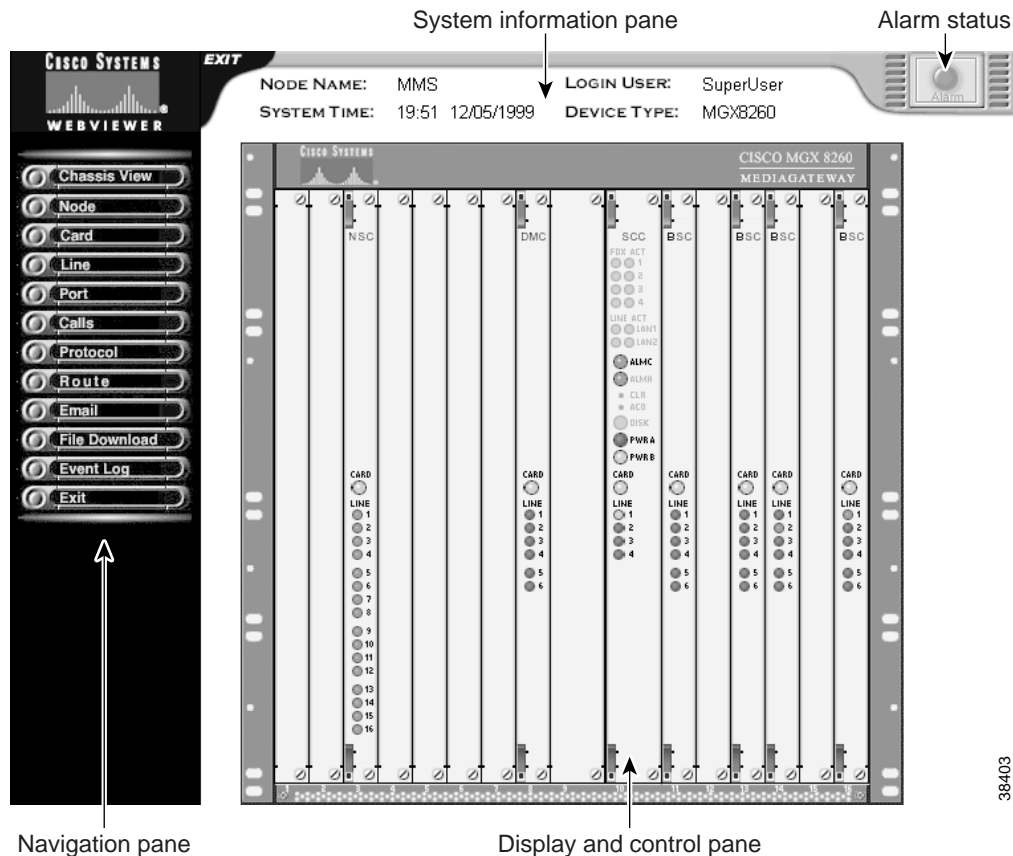
- Maintain the system

Using the alarm and test features, maintenance personnel can often diagnose and solve equipment problems directly from the Cisco WebViewer. For example, if a DS1 line raises a performance alarm, maintenance personnel can diagnose the problem with loopback and BERT tests and initiate corrective action.

Cisco WebViewer Interface

You access the Cisco WebViewer using a standard Java-enabled Web browser, like Netscape or Microsoft Internet Explorer. Figure 1-1 shows the opening screen.

Figure 1-1 Cisco WebViewer Main Screen



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Every Cisco WebViewer screen has three panes:

1. System information

The Cisco WebViewer displays real-time system information at the top of the display in the System Information pane. System information includes the node name, date and time, current user, device type, and alarm status. The system updates this pane every two minutes.

You can view a summary of alarms by clicking the alarm indicator, or can configure system settings by clicking anywhere in the middle of the pane. These are shortcuts to screens that you can also reach from the Navigation pane.

2. Navigation

The Navigation Pane contains a set of sliding menus that open a display in the adjacent Display and Control pane. When you click a menu item, an additional submenu may slide out. From this pane you can access most of the Cisco WebViewer configuration screens.

3. Display and control

The Display and Control pane shows details about the menu item selected in the Navigation pane. The opening screen shows a graphic image of the Chassis View, but other views display operation status or configuration forms. Some screens contain additional buttons or hyperlinks that facilitate configuration tasks.

Cisco WebViewer Screens

The Cisco WebViewer presents Cisco MGX 8260 status and configuration information in the following views:

- Chassis View
- Status screens
- Configuration forms

Chassis View

The Chassis View shows the Cisco MGX 8260 front panel, including an accurate representation of the installed cards and their current LED states. The cards and LEDs are active areas on the screen, so you can get more information about an LED indication by clicking it. To view configuration information about a card, click elsewhere on the desired card.

In the Chassis View, the following LEDs are displayed and updated in real time:

- BSC, NSC, and DMC—Card Status and Line Status LEDs
- Active SCC—ALAC, PWRA, PWRB, Card Status, and Line Status LEDs
- Standby SCC—Card Status LED only

Status Screens

Status screens display a summary of installed cards, configured services, or other information. Figure 1-2 shows an example of a screen that displays card configuration and status information.

Figure 1-2 Card Configuration and Status Screen

Select	Slot	Card No.	Status	SoftWtr Rev.	Integrated Alarm	Fr Card	Bk Card	Dgr1 Crd1	Dgr1 Crd2
+	1	1	active	NSC_01.02.b6		rec	nmc16T1E1	memDSPV	memDSPV
+	2	2	active	NSC_01.02.b6		rec	nmc16T1E1	memDSPV	memDSPV
+	3	3	empty	Unknown		-	-	-	-
+	4	4	empty	Unknown		-	-	-	-
+	5	5	empty	Unknown		-	-	-	-
+	6	6	empty	Unknown		-	-	-	-
+	7	7	empty	Unknown		-	-	-	-
+	8	8	empty	Unknown		-	-	-	-
+	9	9	active	SCC_01.02.b7		scs	-	bim4OC3Atm	-
+	10	9	standby	SCC_01.02.b7		scs	-	bim4OC3Atm	-
+	11	11	empty	Unknown		-	-	-	-
+	12	12	empty	Unknown		-	-	-	-
+	13	13	empty	Unknown		-	-	-	-
+	14	14	active	BSC_01.02.b6		bsc	DmcBsc5T3	bim4T3E3	-
+	15	15	active	BSC_01.02.b6		bsc	DmcBsc5T3	bim4T3E3	-
+	16	16	active	BSC_01.02.b6		bsc	DmcBsc5T3	bim4T3E3	-

Many status screens contain buttons that open other configuration screens. For example, the plus icon links to the form for adding a card.

Configuration Forms

You use configuration forms to define the parameters for a given card or service. Figure 1-3 shows an example of a form that contains card configuration information.

Figure 1-3 Card Configuration Screen

Card Configuration			
Card Status:	Active	Hardware Revision:	0
Firmware Revision:	NSC_B_r01.02.b6	Software Revision:	NSC_r01.02.b6
Fab. Version:		Services:	Voice
Front Card Serial Number:	JAA04141723	Back Card Serial Number:	CISCO
Ram Backup Setup: (NSC and BSC only)	disabled	ATM Queue Profile No.: (SCC only, 1..10)	1
Interface Mode:	bkcd (Back Card)		
Front Card Type:	NSC (Narrowband Service Card)		
Back Card Type:	nmc16T1E1 (Narrowband Multi-service card with 16 T1/E1)		
Daughter Card 1 Type:	msmDSPV (Multi-service module DSP Voice)		
Daughter Card 2 Type:	msmDSPV (Multi-service module DSP Voice)		
Failure Reason:	failReasonNone (No Fail Reason)		
Mismatch Reason:	noMismatch (There is no mismatch)		
Reset Reason:	otherScsReset		

The configuration forms contain both informational and user-defined fields. In some cases, the fields contain hyperlinks to additional configuration forms. Because of security restrictions, not all users can access configuration forms.

Setting Up the Cisco WebViewer

You use a standard Web browser, such as Netscape Communicator or Microsoft's Internet Explorer, to communicate with the Cisco WebViewer interface of the Cisco MGX 8260. Microsoft Internet Explorer is preferred over Netscape Communicator because web page reloading is generally faster. If you don't already have a browser installed, download one from Netscape or Microsoft and install it on your machine.

Configuring Microsoft Internet Explorer

Microsoft Internet Explorer has to be Version 4.0 or greater. For the Java-based Chassis View to display correctly, ensure that sufficient memory and disk space are available for gif, jar, and html files to be correctly loaded and executed.

To configure Microsoft Internet Explorer, follow these steps:

-
- Step 1** From the Tools menu, select **Internet Options**.
 - Step 2** On the Temporary Internet Files pane, click **Settings**.
 - Step 3** Click **Every visit to the page**.
 - Step 4** Click **OK**.
-

Configuring Netscape Communicator

Netscape Communicator has to be Version 4.5 or greater. For the Java-based Chassis View to be displayed correctly, ensure that sufficient memory and disk space is available for gif, jar, and html files to be correctly loaded and executed.

To configure Netscape Communicator, follow these steps:

-
- Step 1** From the Edit menu, select **Preferences**.
 - Step 2** In the Category pane, click **Advanced** and **Cache**.
 - Step 3** Set the memory cache to 1024 K bytes.
 - Step 4** Set the disk cache to 50000 K bytes.
 - Step 5** Under "Document in cache is compared to document on network," select **Every time**. This option assures that the page you see is always the latest.
 - Step 6** Click **OK**.
-

To troubleshoot Netscape Communicator when the Chassis View does not display, follow these steps:

-
- Step 1** From the Edit menu, select **Preferences**.
 - Step 2** In the Category pane, select **Navigator**.
 - Step 3** Click **Clear History**.
 - Step 4** Select Edit; then click Preferences
 - Step 5** In the Category pane, select **Advanced** and **Cache**.
 - Step 6** Click **Clear Memory Cache**.
 - Step 7** Click **Clear Disk Cache**.
 - Step 8** Click **OK**.
 - Step 9** Close Netscape and then restart it.
-

Configuring a Management Path

The management station communicates with the Cisco MGX 8260 over the management IP network. To use this network, you must initialize the IP address and gateway of the Cisco MGX 8260 management interface.

Assuming that you installed the Cisco MGX 8260 using the procedures in the Cisco MGX 8260 Hardware Installation Guide, the management interface is already configured. If your IP network includes a firewall, you must also open an http port to the Cisco MGX 8260.

Usage Guidelines

At the logon prompt, enter a valid account name and password for the Cisco MGX 8260. Use the default account (SuperUser) and password (cisco) for new installations until you configure custom user profiles.

When the browser is first connected to the Cisco WebViewer, users are prompted to grant the execution privilege for specific Java applets. Users should grant the access and select **always allow this access** for subsequent operations.

Users can have up to ten browser sessions with a Cisco MGX 8260 from either the same or different workstations (IP addresses). However, only one browser session on an IP address can correctly receive the real-time chassis view updates. For those browsers that do not receive real-time updates, users must click **Chassis View** on the navigation pane to refresh the display.

If the web connection is terminated because of processor switchover, reset, or other reason, close the browser, restart the browser, and establish the connection by repeating the logon process.



Node Management

System management screens configure the overall parameters of an Cisco MGX 8260 node and define its interactions with other nodes and servers.

Logging On

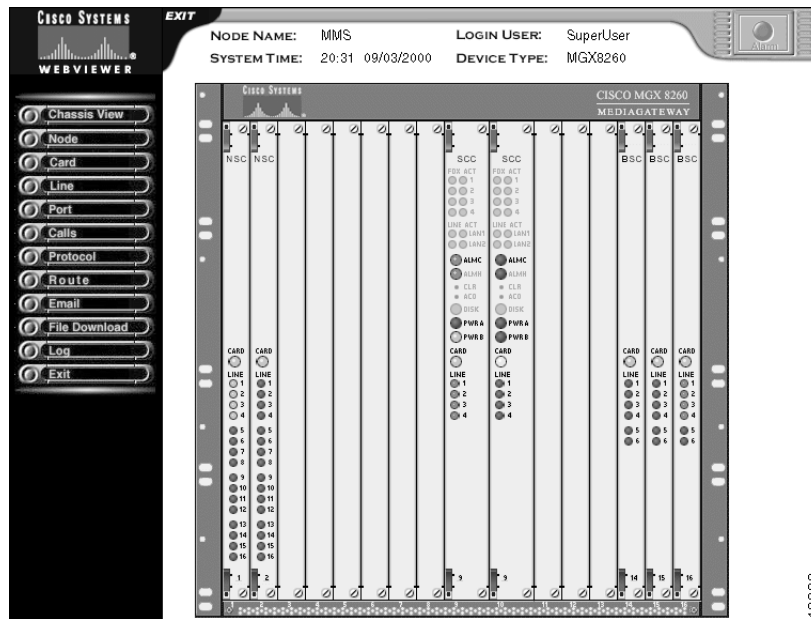
Before you can configure the Cisco MGX 8260, you must log on as a user with the privilege to change system parameters. You need SuperUser privileges to change most system-level settings.

To log on, follow these steps:

-
- Step 1** Launch your web browser.
 - Step 2** Connect to the MGX 8260 HTTP server using the conventional http:// notation. You need to know the host name or IP address for the desired MGX 8260 node.
 - Step 3** The logon screen is displayed.
 - Step 4** In the User Id field, type your user name. On a new system, use **SuperUser**.
 - Step 5** In the Password field, type your password. On a new system, use **cisco** or the new password you assigned to this account.

The Cisco MGX 8260 displays the chassis view (see Figure 2-1).

Figure 2-1 MGX 8260 Chassis View



- Step 6** From the Navigation pane on the left, select the operation you want to perform. To set node parameters click **Node** and then click a submenu item.

Configuration Tasks for Node Initialization

See the following sections for configuration tasks for nodes:

- Configuring General System Parameters
- Configuring System Group Parameters
- Configuring the Time
- Viewing the HTML Version
- Configuring the Management Interfaces
- Configuring Static Routes
- Synchronizing the System Clock
- Configuring SNMP Community Strings
- Working with User Profiles
- Managing Announcement Files
- Managing Announcement Files

Configuring General System Parameters

To view or change general system parameters, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **System**.

Three System Configuration forms opens.

Configuration Setting			
Rack	Number:	1	Set
	Node	Number:	
Node	Name:	MMS	
	Type:	MGX8260	
Backplane	Serial Number:		
	Type:	18	
System	DS1 Line Interface Mode:	T1 Mode	Set
	Gateway Control Protocol:	MGCP	Set

Step 3 In the Rack, Node, and Backplane section of the Configuration Settings form, click **Set**.

The System Configuration Setting screen opens:

Rack	Number (1-100):	<input type="text" value="1"/>
Node	Number (1-100):	<input type="text" value="1"/>
	Name (String, Size:1..15):	<input type="text" value="MMS"/>
	Type:	MGX8260
Backplane	Serial Number:	
	Type:	18

Step 4 Enter the rack and node information in the System Configuration Settings form.

Parameter	Description
Rack Number	The rack number of this shelf
Node Name	The name of this node. Enter up to 15 characters
Node Number	The node number of this shelf
Node Type	The node type—MGX 8260
BackPlane Serial Number	The backplane serial number
BackPlaneType	The MGX 8260 backplane type

Step 5 Click **Modify**, and then go back to the Configuration Setting form.

Configuration Setting			
Rack	Number:	1	Set
Node	Number:	1	
	Name:	MMS	
	Type:	MGX8260	
Backplane	Serial Number:		Set
	Type:	18	
System	DS1 Line Interface Mode:	T1 Mode	Set
	Gateway Control Protocol:	MGCP	Set

Step 6 In the DS1 Line Interface Mode section, click **Set**.

The System Ds1 Line Interface Mode Setting screen appears:

System Ds1 Line Interface Mode Setting

System DS1 Line Interface Mode:	T1 Mode
---------------------------------	---------

Step 7 Specify the interface mode for the chassis.

Parameter	Description
T1	The T1 mode of operation for the chassis. You can't change to T1 if there are any E1 lines configured.
E1	The E1 mode of operation for the chassis. You can't change to E1 if BSCs are installed or DS1 lines are configured.



Warning

Changing the interface mode interrupts service. Perform this operation during light traffic periods or during a pre-arranged maintenance window.

Step 8 Click **Modify**.

After changing the interface mode, the node automatically resets.

Step 9 Login, and repeat steps 1 and 2.

Step 10 In the System section of the Configuration Setting screen, click **Gateway Control Protocol**.

The System Gateway Control Protocol Setting screen appears:

System Gateway Control Protocol Setting

System Gateway Control Protocol:	MGCP
----------------------------------	------

Step 11 Specify the communication protocol for call control.

Parameter	Description
MGCP	Use MGCP to communicate with a MGC (also known as Soft Switch).
IPDC	Use IPDC to communicate with a MGC (also known as Soft Switch).



Warning

Changing this protocol mode interrupts service. Perform this operation during light traffic periods or in a pre-arranged maintenance window.

Step 12 Click **Modify**. The system applies the changes.

After changing the protocol for the gateway, the node automatically resets.

Configuring System Group Parameters

To view or change system group parameters, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **System**.

The three System Configuration forms open, one of which is the System Group Setting form used in this procedure.

System Group Setting		
System	Description:	MGX8260
	Object Identification:	1.3.6.1.4.1.3353.1.1
	Up Time:	0 days 0 hours 46 mins 1 secs
	Contact:	
	Name:	
	Location:	
	Services:	72(Layer: 4, 7,)
		Set

Step 3 Click **Set** on the System Group Setting form.

The System Group Setting form is redisplayed with several text boxes.

System	Description:	MGX8260
	Object Identification:	1.3.6.1.4.1.3353.1.1
	Up Time:	1 days 15 hours 8 mins 26 secs
	Contact (String, Size:30):	<input type="text"/>
	Name (String, Size:30):	<input type="text"/>
	Location (String, Size:30):	<input type="text"/>
	Services:	72(Layer: 4, 7,)

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Parameter	Description
Description	The model designation of the Cisco MGX 8260 hardware
Object Identification	A unique identifier of the network management subsystems supported. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an unambiguous means for management applications to identify the MGX 8260 and its capabilities.
Up Time	The length of time this Cisco MGX 8260 has been in service
Contact	The name of the system administrator
Name	A user-defined description of the system
Location	The physical location of the MGX 8260 chassis
Services	The OSI layer that the MGX 8260 supports.

- Step 4** Enter new values.
- Step 5** Click **Modify**. The system applies the changes.
- Step 6** Go back to the System Configuration forms, and go to the next procedure.

Configuring the Time

To view or change the time, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
- Step 2** Click **System**.

The three System Configuration forms open, one of which is the Time Setting form used in this procedure.

Time Setting			
System	Time Zone:	GMT-08:00 Pacific Time	Set
	Date (mm/dd/yy)	07/28/2000	
	Time (hh:mm:ss)	18:23:08	

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- Step 3** Click **Set** on the Time Setting form.

The System Time Setting form is displayed.

System Time Setting

Parameter	Description
Time Zone	Time zone, expressed as the number of hours before or after GMT ¹ (see Table 2-1)
Date	The system date, specified in month (mm), date (dd), and year (yyyy) fields
Time	The current time, set in hour, minute, and second fields

1. GMT = Greenwich Mean Time

Table 2-1 Time Zones

Zone	Value	Zone	Value
gmtplus12	1	gmtminus01	14
gmtplus11	2	gmtminus02	15
gmtplus10	3	gmtminus03	16
gmtplus09	4	gmtminus04	17
gmtplus08	5	est	18
gmtplus07	6	cst	19
gmtplus06	7	pdt	20
gmtplus05	8	pst	21
gmtplus04	9	gmtminus9	22
gmtplus03	10	gmtminus10	23
gmtplus02	11	gmtminus11	24
gmtplus01	12	gmtminus12	25
gmt	13		

Step 4 Enter new values.

Step 5 Click **Modify**. The system applies the changes.

Viewing the HTML Version

To view the HTML version, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **System**.

The three System Configuration forms open, one of which is the HTML form.

Step 3 View the HTML version number.

Configuring the Management Interfaces

You configure the MGX 8260 management interface for local or remote operation by setting the appropriate IP addresses and management paths. Assign management IP addresses for each of the following management interfaces that you plan to use:

- Ethernet 10BaseT management interface
- In-band management path



Note

If you change the IP address of the port the WebViewer is using, you will interrupt the session.

Viewing and Changing Management Interface Parameters

To view and change management interface parameters, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **Management IP**.

The Management IP Settings form opens, displaying existing settings.

Management IP Setting

Management Gateway IP Address:	0.0.0.0	
Management Ethernet Mac Address:	00:50:a3:00:26:e9	
Management IP1	IP Address:	0.0.0.0 Set
	IP Mask:	255.255.255.0
In-Band Management	IP Address:	0.0.0.0 Set
	IP Mask:	255.255.255.0
Management IP2	IP Address:	0.0.0.0 Set
	IP Mask:	255.255.255.0

Display Back

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Step 3 Interpret the information as follows:

Displayed Information	Description
Management Gateway IP Address	The gateway for IP traffic to this node
Management Ethernet Mac Address	The MGX 8260 MAC address
Management IP1	The IP address and mask for the 10BaseT port, expressed in standard IP dot notation
In-band Management	The IP address and mask for the inband management virtual port, expressed in standard IP dot notation
Management IP2	The IP address and mask for the second 10BaseT port, expressed in standard IP dot notation, for redundant management networks.

Step 4 Click **Set** to modify a management IP setting.

A Management Ethernet IP Setting form, such as the following one, or a similar form for setting the In-Band IP appears.

Management Ethernet IP Setting

Management Ethernet IP Setting

Management Gateway IP Address:	0.0.0.0	
Management Ethernet Mac Address:	00:50:a3:00:26:e9	
Management IP1	IP Address:	10 . 1 . 1 . 1
	IP Mask:	255 . 255 . 255 . 0

Display Back

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Step 5 Enter new values.

Step 6 Click **Modify**. The system applies the changes.

Configuring Static Routes

This section describes the process of configuring IP routes for the management interfaces.

Viewing IP Routes

To view all IP routes, follow these steps:

Step 1 On the Navigation pane, click **Route**.

Step 2 Click **IP Route Setup**.

The IP Route screen opens:

The screenshot shows the Cisco WebViewer interface for viewing IP routes. The top status bar displays: NODE NAME: MMS, LOGIN USER: SuperUser, SYSTEM TIME: 15:04 08/15/2000, and DEVICE TYPE: MGX8260. The navigation pane on the left includes options like Chassis View, Node, Card, Line, Port, Calls, Protocol, Route, Static Route Setup, IP Route Setup, Email, File Download, Event Log, and Exit. The main area is titled 'IP Route' and contains a table with the following data:

Select	Destination	Gateway	Interface Index	Mask
<input checked="" type="radio"/>	0.0.0.0	172.17.38.1	1	0.0.0.0
<input type="radio"/>	172.17.38.0	172.17.38.1	1	255.255.255.0
<input type="radio"/>	172.17.38.1	172.17.38.1	1	255.255.255.1
<input type="radio"/>	172.17.39.0	172.17.39.225	2	255.255.255.0
<input type="radio"/>	172.17.40.0	172.17.40.225	3	255.255.255.0
<input type="radio"/>	172.17.41.0	172.17.40.222	3	255.255.255.0

Step 3 To view detail information about a route, and click the **I** icon on the desired row.

The IP Route Information form opens:

IP Route Information

Destination Ip Address:	0.0.0.0
Gateway (Next Hop):	172.17.38.1
Interface Index:	1
Mask:	0.0.0.0
Type:	Indirect
Protocol:	other
Age:	18176
Mib Information:	0.0
Metric 1 (Primary Routing):	1
Metric 2 (Alternate Routing):	-1
Metric 3 (Alternate Routing):	-1
Metric 4 (Alternate Routing):	-1
Metric 5 (Alternate Routing):	-1

Step 4 Interpret the information as follows:

Displayed Information	Description
Destination	The destination IP address. Destination 0.0.0.0 is the default route.
Gateway	The gateway, or next hop, for the route. This can be the address of the Ethernet or in-band management ports.
IF	The interface identifier: 1—Primary Ethernet port 2—Secondary Ethernet port 3—In-band path
Mask	The subnet for the route.
Type	The type of route, such as direct or indirect.
Protocol	The protocol type, such as local or other.
Age	The age of the route is seconds.
Mib Information	The version of the MIB associated with the interface.
Metric 1-5	The primary and alternate route metrics. These are specific to the protocol type, but -1 indicates not used.

Adding Static Routes

To add a static route, follow these steps:

Step 1 On the IP Route screen, click the + icon.

The Add IP Route screen opens:

ADD IP ROUTE

Destination IP Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Mask:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Gateway (Next Hop) Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>

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Step 2 Enter the IP Address of the destination.



Note Destination 0.0.0.0 is the default route.

Step 3 Enter the mask.

Step 4 Click **Add**.

The system adds the IP route to the routing table.

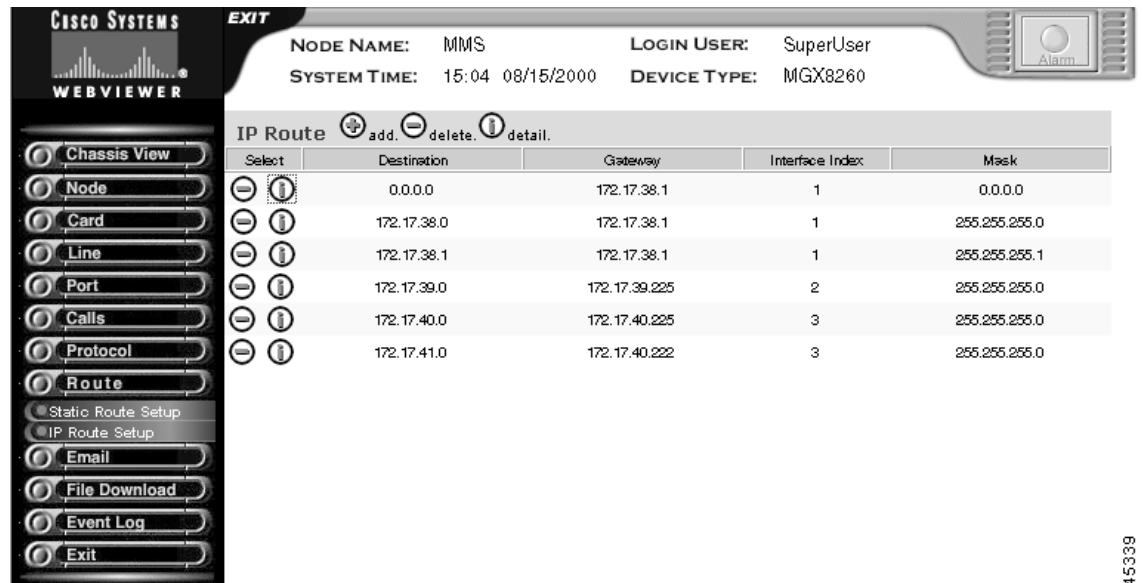
Deleting an IP Route

To delete an IP route, follow these steps:

Step 1 On the Navigation pane, click **Route**.

Step 2 Click **IP Route Setup**.

The IP Route screen opens:



Step 3 Locate the IP Route that you want to delete in the list of routes, and click the - icon on that row.

Step 4 Click **Delete**.

The IP route is deleted the network.

Viewing Information about an IP Route

To view information about an IP route, follow these steps:

Step 1 On the Navigation pane, click **Route**.

Step 2 Click **IP Route Setup**.

The IP Route screen opens:

CISCO SYSTEMS WEBVIEWER EXIT

NODE NAME: MMS LOGIN USER: SuperUser
SYSTEM TIME: 15:04 08/15/2000 DEVICE TYPE: MGX8260

IP Route add. delete. detail.

Select	Destination	Gateway	Interface Index	Mask
<input type="radio"/> i	0.0.0.0	172.17.38.1	1	0.0.0.0
<input type="radio"/> i	172.17.38.0	172.17.38.1	1	255.255.255.0
<input type="radio"/> i	172.17.38.1	172.17.38.1	1	255.255.255.1
<input type="radio"/> i	172.17.39.0	172.17.39.225	2	255.255.255.0
<input type="radio"/> i	172.17.40.0	172.17.40.225	3	255.255.255.0
<input type="radio"/> i	172.17.41.0	172.17.40.222	3	255.255.255.0

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Synchronizing the System Clock

The MGX 8260 clock module has three synchronization options:

- Building Integrated Timing Source (BITS)—A high quality timing source that synchronizes all equipment in the building
- Line—A clock derived from the receive line signal
- Local—An internal MGX 8260 timing source

You assign one clock source as the primary source and another as the secondary source. When using the line clock source, specify both the line and slot associated with the source.

During normal operation, the primary clock is the active source and the secondary clock is the backup source. If the active source fails, the Cisco MGX 8260 switches to the backup clock and reports an alarm. You can also switch to the backup source manually. This section explains how to set primary and secondary clocks and view clock status.

Viewing or Changing Clock Parameters

The clock parameters include:

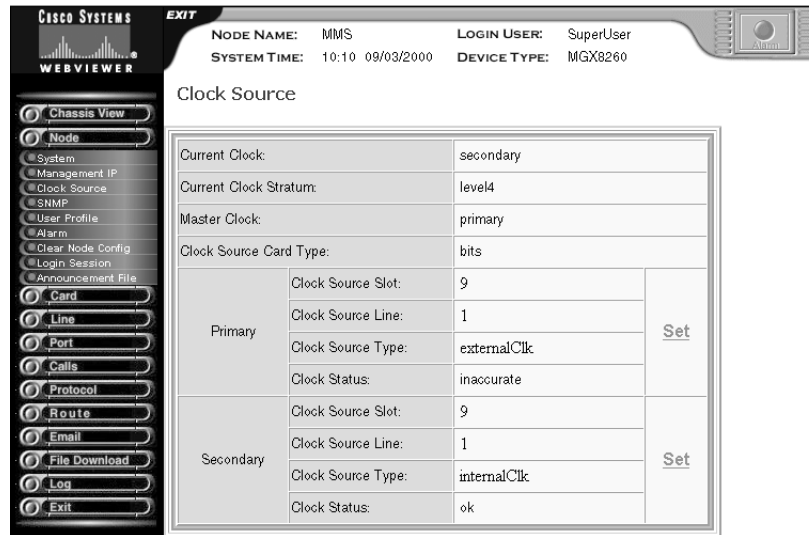
- Status of the primary and secondary clocks
- The current clock source
- The lowest stratum level of the current clock source

To view or change clock source information, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **Clock Source**.

The Clock Source screen opens.



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Step 3 Interpret clock settings as follows:

Setting	Description
Current Clock	The current clock source: <ul style="list-style-type: none"> primary secondary internal
Current Clock Stratum	The level of Stratum clock: <ul style="list-style-type: none"> level 3 level 4
Master Clock	The master clock source: <ul style="list-style-type: none"> primary secondary internal
Clock Source Card Type	The type of clock source: <ul style="list-style-type: none"> bits oc3

Setting	Description
Primary and Secondary Clock Source Slot	The slot supplying the clock. This argument is ignored if the clock source type is external (BITS) or internal. Valid entries: 1 to 16
Primary and Secondary Clock Source Line	The line number for the clock source. This argument is ignored if the clock source type is external (BITS) or internal. Valid entries: <ul style="list-style-type: none"> • NSC DS1 lines: 1 to 16 • BSC DS3 lines: 501 to 506 • DMC DS3 lines: 1 to 6 • SCC, OC3 type: 1 to 4 • SCC, BITS type: 1
Primary and Secondary Clock Source Type	The clock source type: <ul style="list-style-type: none"> • broadBandClk • narrowBandClk • externalClk • internalClk
Primary and Secondary Clock Status	The clock status: <ul style="list-style-type: none"> • OK • noClock • inaccurate

**Note**

The selected clock source may not be the active clock source if the selected clock fails.

Step 4 Click **Set** to modify the clock source.

The Primary Clock Source Setting form, or the corresponding form for setting the secondary clock, appears.

Primary Clock Source Setting

(Source Line number is not applied to externalClk/internalClk)

Current Clock:		primary
Current Clock Stratum:		level4
Clock Source Card Type:		bits ▾
Primary	Clock Source Slot:	9
	Clock Source Line:	1
	Clock Source Type:	internalClk ▾
	Clock Status:	ok

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Step 5 Specify new settings, using the following table as a guide:

Source	Slot	Line	ClkSrcType	ClkSrcCardType
DS3 line	BSC: 11 to 16 DMC: 7 or 8	BSC DS3 lines: 501 to 506 DMC DS3 lines: 1 to 6	BroadBandClk	Optional
DS1 line	NSC: 1 to 8, 11-16	NSC DS1 lines: 1 to 16	NarrowBandClk	Optional
Bits input	9	Optional ¹	ExternalClk	BITS
SONET line	9	SCC, OC3 type: 1 to 4	ExternalClk	OC3
Internal	9	Optional	InternalClk	Optional

1. Optional settings are ignored, but they must be valid entries.

Step 6 Click **Modify**.

The system updates the clock settings.

Switching the Clock Source

You can force the system to switch between the primary and secondary clock. During normal operation, the current clock is the primary clock. Typically you switch clocks to restore the primary clock source after an automatic switchover to the secondary clock. To switch to the secondary clock, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **Clock Source**.

The Clock Source screen opens.

Step 3 On the Clock Source screen, click **Switch Clock Source** and confirm your action.

Configuring SNMP Community Strings

When managing the Cisco MGX 8260 from a SNMP manager, security is enforced with password-like community strings. SNMP communities are groupings of workstations and servers (or gateways) that can manage the Cisco MGX 8260. Community strings are important when managing the Cisco MGX 8260 from a Network Management System, like HP Openview. You can configure up to 15 community strings.

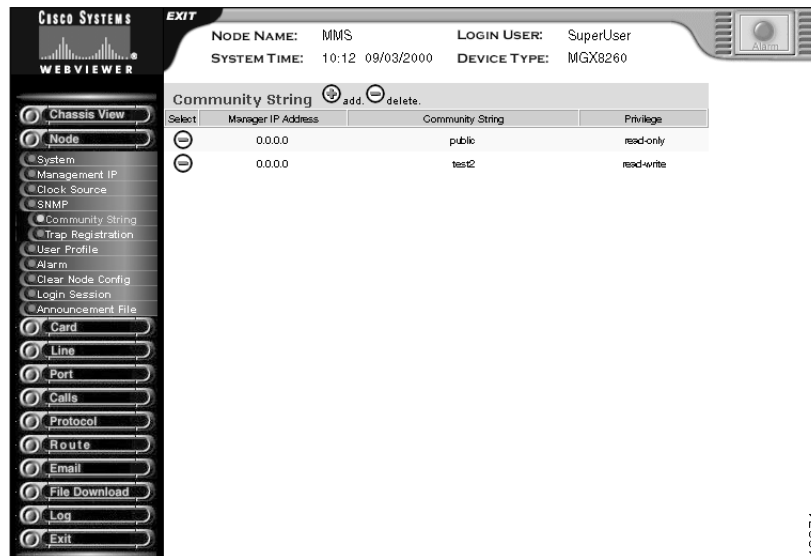
Viewing Community Strings

To view all community strings, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **SNMP**.

- Step 3** From the SNMP options, click **Community String**.
The Community String screen opens.



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- Step 4** Interpret the table as follows:

Table Entry	Description
Manager IP Address	The IP address of the manager associated with this string
Community String	The name of the community string
Privilege	The manager's privilege, either read-write or read-only

Adding Community Strings

To add a community string, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
Step 2 Click **SNMP**.
Step 3 From the SNMP options, click **Community String**.
The Community String screen opens.
Step 4 Click the + icon.

The Add Community String form opens.

ADD Community String Configuration

Step 5 Enter the following parameters:

Parameter	Description
Manager IP Address	The IP address of an SNMP manager, expressed in standard IP dot notation. When set to 0.0.0.0, the community string applies to all IP addresses.
Community String	The SNMP community, expressed as a text string of up to 20 characters. Typical strings are Public and Private.
Manager's privilege	The privilege assigned to this community string: <ul style="list-style-type: none"> • read-only • read-write

Step 6 Click the **Add** button.

The system adds the community string.

Deleting Community Strings

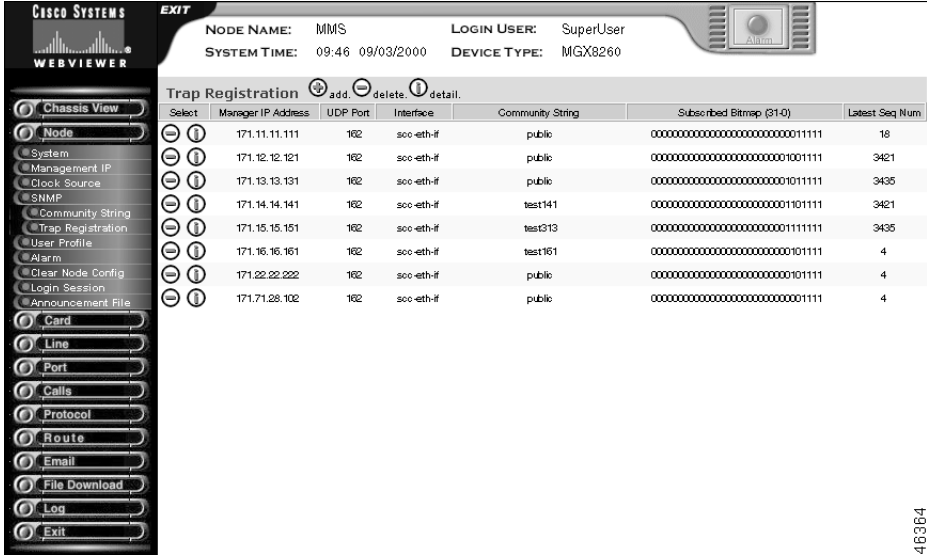
To delete a community string, follow these steps:

-
- Step 1** On the Navigation pane, click **Node**.
- Step 2** Click **SNMP**.
- Step 3** From the SNMP options, click **Community String**.
The Community String screen opens.
- Step 4** Click the - icon of the community string you want to delete and confirm your action.
The system deletes the community string.
-

Viewing SNMP Trap Registrations

To view trap registrations, follow these steps:

- Step 1** On the Navigation pane, click **SNMP**.
 - Step 2** Click **Trap Registration**.
- The Trap Registration screen opens.



- Step 3** Interpret the table as follows:

Table Entry	Description
Manager IP Address	The address of the SNMP manager you want to receive trap event messages.
UDP Port Num	Port to which the traps are transmitted.
Interface	The default interface for initially sending traps if the routing table has no trap manager: <ul style="list-style-type: none"> scc-eth-if scc-inband-if
Community String	SNMP community string for the trap.
Subscribed Bitmap	A bitwise specification of trap subscription categories (see Table 2-2 on page 2-21).
Latest Seq. Num	Latest sequence number.

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Table 2-2 Trap Subscription Bits

Trap	Description
Severity	Major (trap severity selection)
Severity	Minor (trap severity selection)
Severity	Information (trap severity selection)
1000-1099	Shelf
1100-1199	Card
1200-1299	SNMP
1300-1399	Dsx1 Line
1400-1499	Dsx3 Line
1500-1599	Sonet Line
1600-1699	Ether Line
1700-1799	Voice Port
N/A	Ether Channel
N/A	Voice Channel
1800-1899	EMM
1900-1999	Clock
2000-2099	DSP
2100-2199	DMCMAP
2200-2299	ISDN
2300-2399	MGCP
2400-2499	Backhaul Session

Adding SNMP Trap Subscriptions

To add SNMP trap subscriptions, follow these steps:

- Step 1** On the Navigation pane, click **SNMP**.
- Step 2** Click **Trap Registration**.
The Trap Registration screen opens.
- Step 3** Click the + icon.

The Add Trap Registration form opens.

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Step 4 Enter the trap parameters:

Parameter	Description
Manager IP Address	The address of the SNMP manager you want to receive trap event messages.
Mgr. UDP Port Num	Port to which the traps are transmitted. The default is 162.
Interface	The default interface for initially sending traps if the routing table has no trap manager: <ul style="list-style-type: none"> scc-eth-if scc-inband-if
Community String	SNMP community string for the trap.
Severity Selection	Checkbox selections for the alarm severity that triggers a notification: <ul style="list-style-type: none"> Major Minor Information
Type Selection	Checkbox selections for the type of alarm that triggers a notification. For more information, see Table 2-2 on page 2-21.

Step 5 Click **Add**.

The system registers the traps for the specified manager.

Changing SNMP Trap Subscriptions

To change SNMP trap subscriptions, follow these steps:

Step 1 On the Navigation pane, click **SNMP**.

Step 2 Click **Trap Registration**.

The Trap Registration screen opens.

Step 3 Click the **i** icon.

The Modify Trap Registration form opens.

Manager Ip Address:	171.11.11.111
---------------------	---------------

Mgr. UDP Port Number:	162
Interface:	scc-eth-if
Community String:	public
Latest Seq Num:	18

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Severity Selection (At least one should be set in this cataregory)			
Major (Severity)	<input checked="" type="checkbox"/>	Minor (Severity)	<input checked="" type="checkbox"/>
Info (Severity)	<input checked="" type="checkbox"/>		
Type Selection (At least one should be set in this cataregory)			
Shlef (Trap 1000 - 1099)	<input checked="" type="checkbox"/>	Card (Trap 1100 - 1199)	<input checked="" type="checkbox"/>
SNMP (Trap 1200 - 1299)	<input type="checkbox"/>	Dsx1 Line (Trap 1300 - 1399)	<input type="checkbox"/>
Dsx3 Line (Trap 1400 - 1499)	<input type="checkbox"/>	Sonet Line (Trap 1500 - 1599)	<input type="checkbox"/>
Ether Line (Trap 1600 - 1699)	<input type="checkbox"/>	Voice Port (Trap 1700 - 1799)	<input type="checkbox"/>
Ether Channel	<input type="checkbox"/>	Voice Channel	<input type="checkbox"/>
EMM (Trap 1800 - 1899)	<input type="checkbox"/>	Clock (Trap 1900 - 1999)	<input type="checkbox"/>
DSP (Trap 2000 - 2099)	<input type="checkbox"/>	DMCMAP (Trap 2100 - 2199)	<input type="checkbox"/>
ISDN (Trap 2200 - 2299)	<input type="checkbox"/>	MGPC (Trap 2300 - 2399)	<input type="checkbox"/>
Backhaul Session (Trap 2400 - 2499)	<input type="checkbox"/>		

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Step 4 Modify the trap parameters:

Parameter	Description
Manager IP Address	The address of the SNMP manager you want to receive trap event messages.
Mgr. UDP Port Num	Port to which the traps are transmitted. The default is 162.
Interface	The default interface for initially sending traps if the routing table has no trap manager: <ul style="list-style-type: none"> scc-eth-if scc-inband-if
Community String	SNMP community string for the trap.
Trap Subscription Setting	Checkbox selections for trap registration. For more information, see Table 2-2 on page 2-21.

Step 5 Click **Modify**.

The system modifies the trap registration for the specified manager.

Deleting SNMP Trap Registrations

To delete SNMP trap registrations, follow these steps:

Step 1 On the Navigation pane, click **SNMP**.

Step 2 Click **Trap Registration**.

The Trap Registration screen opens.

Step 3 Click the - icon of the trap registration you want to delete and confirm your action.

The system deletes the registration.

Working with User Profiles

The Cisco MGX 8260 enforces security with user accounts and access levels. Users must log onto the Cisco MGX 8260 before performing any task, and authenticated users can perform only those tasks permitted by their access level. The Cisco MGX 8260 supports up to 20 user accounts, each with access privileges ranging from full control to guest.

Table 2-3 User Accounts and Access Privileges

Access Level	Account type	Command groups
1	SuperUser	Access all features
2	Administrator	Configure and view all features except user profiles and community strings
3	Provisioning	Configure and view system, port, lines, end points, and connections
4	Maintenance	Access selected level 3 commands
5	Operator	View system, port, lines, end points, and connections
6	Guest	View system, common lines and ports

A new system has a default SuperUser account. To prohibit unauthorized access to the equipment, replace the default account with a unique one and create new accounts for other personnel.

Viewing User Accounts

To view all user accounts, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
- Step 2** Click **User Profile**.

The User Profile screen opens.



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Step 3 Interpret the table as follows:

Table Entry	Description
User Num	The table entry for the user.
User Name	The user logon name.
Access Level	The security level for the account. See Table 2-3 on page 2-25.

Adding New Users

To add a new user, follow these steps:

- Step 1** Log on as a SuperUser.
- Step 2** On the Navigation pane, click **Node**.
- Step 3** Click **User Profile**.
- The User Profile screen opens.
- Step 4** On the User Profile screen, click the + icon.
- The Add New User Profile form opens.

Step 5 Enter the new user parameters:

Parameter	Description
User Name	The name for the new user, expressed as a case-sensitive alphanumeric string of four to ten characters. Special characters such as @, #, and \$ are allowed.
Set Password	The account password, expressed as a case-sensitive alphanumeric string of one to ten characters. Special characters such as @, #, and \$ are allowed.
Retype Password	Password verification.
Access level	The access privilege for the user. See Table 2-3 on page 2-25.

Step 6 Click **Add**.

The system adds the new user account.

Step 7 Repeat these steps for other users you want to authorize.

Changing User Accounts

To change a user account, follow these steps:

Step 1 Log on as a SuperUser.

Step 2 On the Navigation pane, click **Node**.

Step 3 Click **User Profile**.

The User Profile screen opens.

Step 4 On the User Profile screen, click the **i** icon for the account you want to modify.

The Modify User Profile form opens.

Step 5 Change the user parameters:

Parameter	Description
User Name	The name for the user, expressed as a text string.
Set Password	The account password, expressed as an alphanumeric text string of one to ten characters. Special characters such as @, #, and \$ are allowed.
Retype Password	Password verification.
Access level	The access privilege for the user. See Table 2-3 on page 2-25.

Step 6 Click **Modify**.

The system applies the changes to the user account.

Changing Passwords

You can always change your own password, but you need SuperUser privilege to change the password of others.

To change a password, follow these steps:

- Step 1** From the node menu, click **Change Password**.

The New Password Setting form opens.

- Step 2** Enter the following parameters:

Parameters	Description
User Name	The account you want to change.
Original Password	The old password.
Set Password	The new password, expressed as an alphanumeric text string of one to ten characters. Special characters such as @, #, and \$ are allowed.
Retype Password	Password verification.

- Step 3** Click Modify Password. The system changes the account password.

Deleting Users

To delete a user, follow these steps:

- Step 1** Log on as a SuperUser.
- Step 2** On the Navigation pane, click **Node**.
- Step 3** Click **User Profile**.
The User Profile screen opens.
- Step 4** On the User Profile screen, click the - icon on the row of the user you want to delete and then confirm your action.
The system removes the user from the database. Level 1 users return to their original SuperUser account.

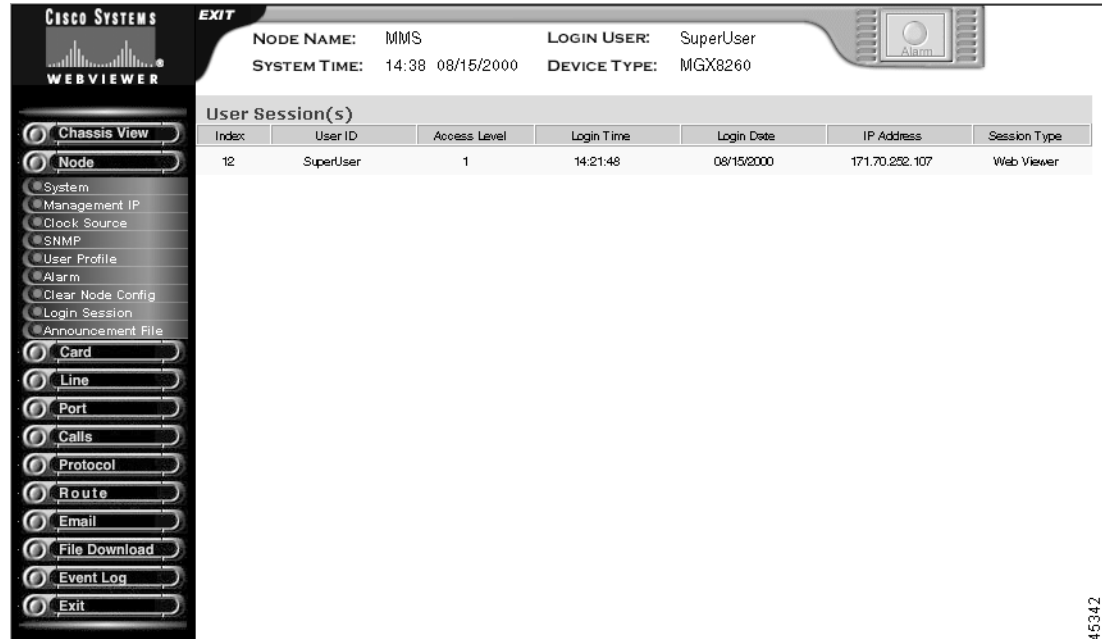
Viewing Login Information

To display a list of users who are logged in with information about them and their login session, follow these steps:

Step 1 On the Navigation pane, click **Node**.

Step 2 Click **Login Session**.

The User Session screen opens.



Step 3 Interpret the information as follows:

Table Entry	Description
Index	The index number of the user account.
User ID	The login name of the new user, expressed as a case-sensitive alphanumeric string of four to ten characters. Special characters such as @, #, and \$ are allowed.
Access Level	A value associated with a user profile that determines access rights to the WebViewer
Login Time	Time stamp in hours, minutes, and seconds of when the user logged in.
Login Date	Month, day, and year when user logged in.
IP Address	The address of the user's computer.
Session Type	Type of access.

Managing Announcement Files

To display duration information about announcement files, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
- Step 2** Click **Announcement File**.
- Step 3** Click **Duration**.

The Duration Information of Announcement Files screen opens, showing the maximum, current, and available duration of the announcement files.

The screenshot shows the Cisco WebViewer interface. The header displays the following information: NODE NAME: MMS, LOGIN USER: SuperUser, SYSTEM TIME: 21:11 09/07/2000, and DEVICE TYPE: MGX8260. The navigation pane on the left is expanded to show the 'Node' section, with 'Announcement File' and 'Duration' selected. The main content area displays the title 'Duration Information of Announcement File(s)' and a table with the following data:

Maximum Duration (second):	1800
Current Duration (second):	80
Available Duration (second):	1720

Below the table is a 'Back' button. The interface also includes an 'EXIT' button in the top right corner and a '46503' identifier at the bottom right.

To activate, deactivate, or remove an announcement file, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
- Step 2** Click **Announcement File**.
- Step 3** Click **File**.

The Announcement File screen opens, showing information about the announcement files.

Select	File ID	File Name	File State	File Length(byte)	File Duration (second)	File Encoding
(+) (-) (R)	1	greeting.wav	Inactive	80000	10	g711mulaw
(+) (-) (R)	4	file.wav	Inactive	80000	10	g711mulaw

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Step 4 Interpret the information about the announcement files as follows:

Table Entry	Description
File ID	The numeric identifier of the file. The system extracted this number from the file name when it was downloaded.
File Name	The name of the file on the SCC file system
File State	The activation state of the announcement
File Length	The file length, in bytes
File Duration	The file duration, in seconds
File Encoding	The file encoding, either g711mulaw, g726encoding, or g711alaw

Step 5 Click the +, -, or **R** icon on the line with the announcement file you want to activate, deactivate, or remove, respectively.

The system asks you to confirm you action.

Step 6 Click **Activate**, **Deactivate**, or **Remove**.

A message is displayed saying that the announcement file has been successfully activated, deactivated, or removed.

Step 7 Click **Display All Announcement Files** to return to the Announcement File screen.



Card Management

Card management screens configure the overall parameters of the MGX 8260 cards.

Configuration Tasks for Cards

See the following sections for instructions on performing tasks at the card level:

- Viewing Card Status
- Configuring Card Parameters
- Configuring Redundancy
- Viewing MSM Configuration
- Viewing DSP Configuration
- Upgrading Software

Viewing Card Status

To view card status, follow these steps:

-
- Step 1** On the Navigation pane, click **Card**.
 - Step 2** Click **All-Cards**.

The Physical Slot Configuration screen opens.

Select	Slot	Card No	Status	SoftWr Rev.	Integrated Alarm	Fr Card	Bk Card	Dgr Crd1	Dgr Crd2
	1	1	active	NSC_01.02.b6		rec	nme 16T 1E1	memDSPV	memDSPV
	2	2	active	NSC_01.02.b6		rec	nme 16T 1E1	memDSPV	memDSPV
	3	3	empty	Unknown		-	-	-	-
	4	4	empty	Unknown		-	-	-	-
	5	5	empty	Unknown		-	-	-	-
	6	6	empty	Unknown		-	-	-	-
	7	7	empty	Unknown		-	-	-	-
	8	8	empty	Unknown		-	-	-	-
	9	9	active	SCC_01.02.b7		scs	-	bim4OC3Atm	-
	10	9	standby	SCC_01.02.b7		scs	-	bim4OC3Atm	-
	11	11	empty	Unknown		-	-	-	-
	12	12	empty	Unknown		-	-	-	-
	13	13	empty	Unknown		-	-	-	-
	14	14	active	BSC_01.02.b6		bcs	Dme Bsc5T3	bim4T3E3	-
	15	15	active	BSC_01.02.b6		bcs	Dme Bsc5T3	bim4T3E3	-
	16	16	active	BSC_01.02.b6		bcs	Dme Bsc5T3	bim4T3E3	-

Displayed Information	Description
Slot	The physical slot number of the card
Card No	The logical slot number of the card
Status	The status of the card, as follows: <ul style="list-style-type: none"> empty in-boot active standby mismatch failed
SoftWr Rev	The software revision of the card

Displayed Information	Description
Integrated Alarm	<p>An integrated alarm value for this card. For the SCC and BSC cards, the 10 indicators show the following alarm states:</p> <ul style="list-style-type: none"> • Indicator 1: integrated line alarm • Indicator 2: line performance alarm • Indicator 3: integrated port alarm • Indicator 4: integrated end point alarm • Indicator 5: EMM temperature alarm • Indicator 6: EMM voltage alarm • Indicator 7: software error alarm • Indicator 8: component failure alarm • Indicator 9: PLCP statistical alarm state • Indicator 10: PLCP alarm state <p>For the NSC and DMC cards, the indicators show the following alarm states:</p> <ul style="list-style-type: none"> • Indicator 1: integrated line alarm • Indicator 2: line performance alarm • Indicator 3: integrated port alarm • Indicator 4: integrated end point alarm • Indicator 5: EMM temperature alarm • Indicator 6: EMM voltage alarm • Indicator 7: software error alarm • Indicator 8: component failure alarm <p>Read the indicators from right to left.</p>
Fr Card	<p>The front card type, as follows:</p> <ul style="list-style-type: none"> • dmc—Distribution Matrix Card • nsc—Narrowband Service Card • scc—Switch Control Card 5Gbps • bsc—Broadband Service Card

Displayed Information	Description
Bk Card	<p>The back card type, as follows:</p> <ul style="list-style-type: none"> • scc-4fe—Switch Control Card with four Fast Ethernet (100 Mbps) ports • scc4OC3—Switch Control Card with four OC-3 ports • scc4OC3MM—Switch Control Card with four mult-mode OC-3 ports • bsc12T3—Broadband Service Card with 12 DS3 ports • dmcBsc6t3—Distribution Matrix Card or BSC with six DS3 ports • nsc-16t1e1—Narrowband Service Card with sixteen T1 ports • rnd16-t1e1—Redundancy backcard for NSC • blank—No back card
Dgtr Crd1	<p>The type of daughter card installed on the NSC or SCC card, as follows:</p> <p>NSC types:</p> <ul style="list-style-type: none"> • msmDSP—Multiservice module DSP • msmDSPV—Multiservice module DSP voice <p>SCC type:</p> <ul style="list-style-type: none"> • bim4FE—Broadband Interface Module with four Fast Ethernet ports • bim4OC3ATM—Broadband Interface Module with 4 OC-3 ATM ports
Dgtr Crd2	<p>The type of secondary daughter card installed. See Dgtr Crd1 types.</p>

Configuring Card Parameters

To view or change card parameters, follow these steps:

- Step 1** On the Navigation pane, click **Card**.
- Step 2** Click **All-Cards**. The Physical Slot Configuration screen opens.
- Step 3** Click the **i** icon on the row of the card you want to view.

The system displays the Physical Slot Alarm Status and Configuration screen, which contains two panes, a Alarm Status pane and a configuration pane (only the latter is shown below).

Card Configuration			
Card Status:	Active	Hardware Revision:	0
Firmware Revision:	NSC_B_r01.02.b6	Software Revision:	NSC_r01.02.b6
Fab. Version:		Services:	Voice
Front Card Serial Number:	JAA04141723	Back Card Serial Number:	CISCO
Ram Backup Setup: (NSC and BSC only)	disabled	ATM Queue Profile No.: (SCC only, 1..10)	1
Interface Mode:	bkcd (Back Card)		
Front Card Type:	NSC (Narrowband Service Card)		
Back Card Type:	nmc16T1E1 (Narrowband Multi-service card with 16 T1/E1)		
Daughter Card 1 Type:	msmDSPV (Multi-service module DSP Voice)		
Daughter Card 2 Type:	msmDSPV (Multi-service module DSP Voice)		
Failure Reason:	failReasonNone (No Fail Reason)		
Mismatch Reason:	noMismatch (There is no mismatch)		
Reset Reason:	otherSocReset		

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The following table describes the read-only fields:

Displayed Information	Description
Card Status	The status of the card, as follows: <ul style="list-style-type: none"> • empty • in-boot • active • standby • mismatch • failed
Firmware Revision	The firmware revision of the card
Fab Version	The fab version of the card
Front Card Serial Number	The serial number of the front card
Ram Backup Setup	The status of RAM backup facility. Click Ram Backup Setup and select the mode, as follows <ul style="list-style-type: none"> • Enabled • Disabled.
Interface Mode	The interface mode for an NSC. Click Interface Mode and select the mode, as follows: <ul style="list-style-type: none"> • bkcd—Use the back card signals • bkpln—Use back plane signals • noBackCard—No back card installed

Displayed Information	Description
Front Card Type	See Viewing Card Status, page 3-1.
Back Card Type	See Viewing Card Status, page 3-1.
Daughter Card 1 Type	See Viewing Card Status, page 3-1.
Daughter Card 2 Type	See Viewing Card Status, page 3-1.
Failure Reason	<p>The reason of the last card failure, as follows:</p> <ul style="list-style-type: none"> • hwMSMFailed—One or both MSMs failed • hwSarFailed—Sar failed • hwPCIAErrInt—PCI-A error interrupt • hwASXFailed—ASX failed • hwALBMFailed—ALM or ABM switch port failed • hwCubitFailed—Cubit failed • hwBusCycleTmOut—Bus cycle timeout • hwHardDrvFailed—Hard drive failed • hwMgmtEthFailed—Management Ethernet failed • hwDMCFailed—DMC failed • hwSerlPtFailed—Serial port failed • swStrvBkgdTask—Background task starvation • swKeyTaskFailed—Critical task failed • swFailReason—Software failed • hwFailReason—Hardware failed • heartBeatLost—Lost the heartbeat • imageDownloadFailed—Image download failed • failedToMoveToActive—Transition to active state failed • failedToInitApps—Application initialization failed • configDownloadFail—Configuration download failed • remoteCardFailed—Remote card reported a failure

Displayed Information	Description
Mismatch Reason	<p>The reason for the mismatch for the card, as follows:</p> <ul style="list-style-type: none"> • noMismatch • configMismatchHw—configuration file and hardware do not match • fcAndBcMismatch—the front and back card do not match • daughterCardBcMismatch—the daughter card and back card do not match • peerHardWareMismatch—the two SCC cards do not match • dmcMismatch—DMC configuration mismatch with the hardware • noBackCard—No backcard • noDaughterCard—None or invalid daughter cards
Reset Reason	<p>The reason the card was last reset, as follows:</p> <ul style="list-style-type: none"> • shellReset • hardReboot • softRebootNoImage • softReboot • chipError • eventLogReset • taskError • softwareUpgrade • gracefulSwitchover • dmcRemovedSwitchover • sccBcRemovedSwitchover • appsInitFailed • plfmTimerExpired • ideReformat, • unknownResetReason
Hardware Revision	The hardware revision of the card
Software Revision	The software revision of the card

Displayed Information	Description
Services	The services offered by the card: <ul style="list-style-type: none"> • ATM • Frame Relay (reserved for future use) • Voice • IP Emulation (reserved for future use)
Back Card Serial Number	The serial number of the back card
ATM Queue Profile	The queue profile for ATM traffic on the SCC. Valid profiles: 1 to 10

Step 4 Click **Modify** and confirm your action.

Step 5 Click **Modify** to apply your changes.

Configuring Redundancy

The MGX 8260 Media Gateway supports both redundant and non-redundant operation for all cards. With redundancy, the system switches to a protection card if an active card fails. The SCC and DMC don't require user setup for redundant operation; when you have two cards installed they automatically protect each other. To configure redundancy for the NSC or BSC, you define protection pairs. The Cisco MGX 8260 uses 1:N protection for NSCs and 1:1 protection for BSCs.

Viewing Redundancy Pairs

To view redundancy pairs, follow these steps:

Step 1 On the Navigation pane, click **Card**.

Step 2 Click **Redundancy Setup**.

The Redundant Slot Configuration screen opens.



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Displayed Information	Description
Primary Physical Slot Number	The physical slot for the primary card of the redundancy pair. This slot is active during normal operation.
Secondary Physical Slot Number	The physical slot for the secondary card of the redundancy pair. This slot is in standby during normal operation and protects the primary slot in the event of a primary failure.

Defining Redundant Cards

There are three possible redundancy scenarios:

- BSC redundancy
This scenario uses pairs of BSCs configured for 1:1 redundancy.
- NSC redundancy without DMC
This scenario requires a redundant back card in the protection NSC slot.
- NSC redundancy with DMC
This scenario does not require, and cannot have, a redundant back card.

Adding BSC Redundancy

In order to successfully configure a redundant pair, the following conditions must be true:

- The hardware configuration of the two BSCs must be identical
- The firmware version of the two BSCs must be identical
- The redundant BSC must not have any lines configured



Warning

Adding card redundancy interrupts service. Perform this operation during light traffic periods or in a pre-arranged maintenance window.

To configure BSC redundancy, follow these steps:

- Step 1** Install a redundant BSC. You can use any available slot from 11 to 16.
- Step 2** Add a redundant “Y” cable between all ports on the two cards.
- Step 3** Click **Cards** on the navigation pane, then click Redundancy Setup.
- Step 4** On the Redundant Slot Configuration screen, click the + icon.

The Add Card Redundancy form opens.

ADD Card Redundancy

Step 5 Specify the redundancy pair.

Displayed Information	Description
Primary Physical Slot Number	The physical slot for the primary card of the redundancy pair. This slot is active during normal operation.
Secondary Physical Slot Number	The physical slot for the secondary card of the redundancy pair. This slot is in standby during normal operation and protects the primary slot in the event of a primary failure.

Step 6 Click **Add**.

Both cards reboot and initialize for redundancy.

Step 7 Return to the Redundant Slot Configuration screen to verify the configuration.

Configuring NSC Redundancy without DMC

To configure NSC redundancy without DMC, follow these steps:

-
- Step 1** Verify that the redundant NSC has a redundancy back card installed and that it is in the standby state. For more information, including the procedure, see the “Configuring Card Parameters” section on page 3-4.
- Step 2** Verify that each primary NSC has a T1/E1 back card and is in the active state. For more information, including the procedure, see the “Viewing Card Status” section on page 3-1.
- Step 3** Click **Cards** on the navigation pane, then click **Redundancy Setup**.
- Step 4** On the Redundant Slot Configuration screen, click the + icon.
The Add Card Redundancy form opens:
- Step 5** Specify the primary and secondary cards.
- Step 6** Click **Add**.
Both cards reboot and initialize for redundancy.
- Step 7** Return to the Redundant Slot Configuration screen to verify the configuration.
- Step 8** Configure other redundancy pairs, as necessary. All pairs use the same secondary card.
-

Configuring NSC Redundancy with DMC

To configure NSC redundancy with DMC, follow these steps:

-
- Step 1** Verify that at least one DMC and DS3 back card is installed in physical slot seven or eight. For the procedure, see the “Viewing Card Status” section on page 3-1.
 - Step 2** Check the Card Configuration screen to verify that the redundant NSC does not have a redundancy back card installed.
 - Step 3** Check the Card Configuration screen to verify that each primary NSC does not have a back card and is in the active state.
 - Step 4** Click **Cards** on the navigation pane, then click **Redundancy Setup**.
 - Step 5** On the Redundant Slot Configuration screen, click the + icon.
The Add Card Redundancy form opens.
 - Step 6** Specify the primary and secondary cards.
 - Step 7** Click **Add**. Both cards reboot and initialize for redundancy.
 - Step 8** Return to the Redundant Slot Configuration screen to verify the configuration.
-

Deleting Redundancy

To delete redundancy, follow these steps:

-
- Step 1** Click **Cards** on the navigation pane.
 - Step 2** Click **Redundancy Setup**.
The Redundant Slot Configuration screen opens.
 - Step 3** Click the - icon on the row with the redundancy pair you want to delete and confirm you action.
The system deletes the redundancy pair and updates the redundancy table.
-

Invoking a Switchback

The switchover from primary to secondary cards is automatic when a primary card fails. After repairing the failure that caused a switchover, you must manually switch the protection pair back to their original state.

To force a redundancy switchover, follow these steps:

-
- Step 1** On the Navigation pane, click **Card**.
 - Step 2** Click **All-Cards**.
The Physical Slot Configuration screen opens.
 - Step 3** Click the **S** icon on the row of the desired card. The system forces a protection switch.
-

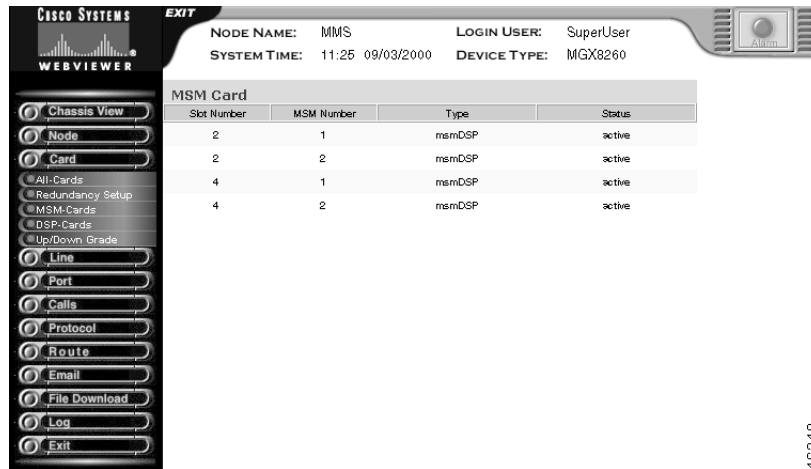
Viewing MSM Configuration

To view MSM type and operational status, follow these steps:

Step 1 On the Navigation pane, click Card.

Step 2 Click MSM-Cards.

The MSM Card screen opens:



Step 3 Interpret the display as follows:

Displayed Information	Description
Slot Number	The physical slot of the card hosting the MSM
MSM Number	The number of the MSM on the host card
Type	The type of MSM: <ul style="list-style-type: none"> msm-DSP—Multiservice module DSP msm-CES—Multiservice module circuit emulation service msm-HDLC—Multiservice module HDLC
Status	The operational status of the MSM: <ul style="list-style-type: none"> active standby failed

Viewing DSP Configuration

To view MSM type and operational status, follow these steps:

Step 1 On the Navigation pane, click **Card**.

Step 2 Click **DSP-Cards**.

The DSP Card screen opens:

Slot Number	MSM Number	DSP Number	Status
2	1	1	active
2	1	2	active
2	1	3	active
2	1	4	active
2	1	5	active
2	1	6	active
2	1	7	active
2	1	8	active
2	2	1	active
2	2	2	active
2	2	3	active
2	2	4	active
2	2	5	active
2	2	6	active
2	2	7	active

Step 3 Interpret the display as follows:

Displayed Information	Description
Slot Number	The physical slot of the card hosting the MSM
MSM Number	The number of the MSM on the host card
DSP Number	The number of the DSP on the MSM card
Status	The operational status of the DSP: <ul style="list-style-type: none"> active standby failed

Upgrading Software

For information about upgrading software, refer to the Release Notes for Cisco MGX 8260 Media Gateway, Release 1.2.5.



Line and Port Management

Line and port management screens facilitate viewing, configuring, and deleting the following voice and data services:

- DS1, E1, DS3, Fast Ethernet, and OC-3 lines
- Voice ports and lines

Understanding the Line Status Screen

The line status screen is the entry point for many configuration and monitoring tasks. Each line displays a row of icons that are hyperlinks to other configuration tasks (see Figure 4-1).

Figure 4-1 Line Status Screen

CISCO SYSTEMS WEBVIEWER EXIT

NODE NAME: MMS LOGIN USER: SuperUser
 SYSTEM TIME: 18:07 09/03/2000 DEVICE TYPE: MGX8260

Dsx1-T1 Line(s) Configuration + add. - delete. i detail. C counter. A alarm config. P performance. S Ds0.

Select	Slot	Line	Ds3 Line	Line Type	Line Coding	Line Status: Bit Order 31-0	Status
⊖ ⊕ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ	1	1	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
⊖ ⊕ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ	1	2	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
⊖ ⊕ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ	1	3	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
⊖ ⊕ ⓐ ⓑ ⓓ ⓔ ⓖ ⓗ	1	4	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up

Navigation Menu: Chassis View, Node, Card, Line (Dsx0, Dsx1, All-Lines, Selective-Lines, Counters and Alarm, E1, Dsx3, DMC T3-T1 Mapping, Ether, Sonet, All Lines), Port, Calls, Protocol, Route, Email, File Download, Log, Exit

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The line configuration screens use the following icons to launch line configuration tasks:

Table 4-1 Icons Used On Line Configuration Screens

Icon	Task
-	Delete one or more lines
i	Display alarm and configuration information
C	Display error counters and performance alarms
A	Set the performance alarm thresholds
P	Display performance statistics or SONET path information
S	Display DS0 details or SONET section information
L	Display DS1 details or SONET line information
+	Add a line

The first six icons in Table 4-1 are displayed in the Select column for each line. Click on the desired icon to perform the specified line configuration task.

Along the top of the table is another row of icons, some of which are active buttons. Use the + and - icons in this group to add or delete lines. The rest of these icons are legends only.

This chapter describes how to view, add, configure, and delete Cisco MGX 8260 lines and ports. For alarm and performance procedures, see Chapter 6, “Alarms and Performance.”

Configuration Tasks for Lines

See the following sections for line configuration tasks.

- Viewing DS0 Channels
- Configuring DS1 Lines
- Configuring E1 lines
- Configuring DS3 lines
- Mapping DMC Lines
- Configuring OC-3 lines
- Configuring Fast Ethernet lines
- Configuring Static Routes

Viewing DS0 Channels

This section describes the procedures for viewing DS0 Channels. This part of the Cisco WebViewer is provided as a convenience; DS0s are actually voice channels that are described in a later section.

Viewing DS0 Channel Status

To view DS0 channel status, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx0**.
- Step 3** Click **All-Dsx0**.

The Dsx0 Status screen opens.

The screenshot shows the Cisco WebViewer interface. The navigation pane on the left is expanded to 'Line', with 'Dsx0' and 'All-Dsx0' selected. The main content area displays the 'Dsx0 Status' screen, which includes a table of channel status data. The table has columns for Select, Slot, Line Num, Ds0 Num, Status, and Port Num. The status of all channels is 'idle'.

Select	Slot	Line Num	Ds0 Num	Status	Port Num
<input type="checkbox"/> <input type="checkbox"/>	3	1	1	idle	1
<input type="checkbox"/> <input type="checkbox"/>	3	2	1	idle	2
<input type="checkbox"/> <input type="checkbox"/>	3	3	1	idle	3
<input type="checkbox"/> <input type="checkbox"/>	3	4	1	idle	4
<input type="checkbox"/> <input type="checkbox"/>	3	5	1	idle	5
<input type="checkbox"/> <input type="checkbox"/>	3	7	1	idle	7
<input type="checkbox"/> <input type="checkbox"/>	3	8	1	idle	8
<input type="checkbox"/> <input type="checkbox"/>	3	10	1	idle	10
<input type="checkbox"/> <input type="checkbox"/>	3	10	2	idle	11

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Step 4 Interpret the table as follows:

Table Entry	Description
Slot	The logical slot number
Line	The corresponding DS1/E1 line number
DS0 Number	The DS0 number within the DS1/E1
Status	The DS0 channel status: <ul style="list-style-type: none"> • idle • maintenance • out of service • blocked • in use • connected • loopback • all
Port number	The port number associated with this DS0

To view selected lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx0**.

Step 3 Click **Selective-Dsx0**.

The selection form opens.

Please enter your criteria for display:

The screenshot shows a selection form with three dropdown menus. The first row contains 'Slot Number:' followed by a dropdown menu set to 'All', and 'Line Number:' followed by a dropdown menu set to 'All'. The second row contains 'Port Status:' followed by a dropdown menu set to 'All'. A vertical label '45332' is visible on the right side of the form.

Step 4 Enter the DS0 selection criteria:

Criteria	Description
Slot Number	The desired slot number. Valid settings are 1-16 and All.

Criteria	Description
Line Number	The DS0 channel number. Values: 1 to 24 for DS1, 1 to 30 for E1, and All.
Port Status	The port status: <ul style="list-style-type: none">• idle• maintenance• out of service• blocked• in use• connected• loopback• All

Step 5 Click **Display**.

The Dsx0 Status screen opens, displaying the lines that meet the selection criteria.

Adding DS0 Channels

You add DS0 channels indirectly by adding voice ports that use DS0s. For more information, see Adding Voice Ports, page 4-50.

Changing DS0 Channels

You change DS0 channels indirectly by changing voice ports that use DS0s. For more information, see Changing Voice Ports, page 4-51.

Deleting DS0 Channels

To delete a DS0 channel, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx0**.

Step 3 Click **All-Dsx0**.

The Dsx0 Status screen opens.

Step 4 On the Dsx0 Status screen, click the - icon for the line you want to delete.

Step 5 Confirm your action.

The system deletes the DS0 channel.

Configuring DS1 Lines

This section describes the procedures for adding and changing DS1 Lines. The DS1 and E1 modes are mutually exclusive; these procedure assume the chassis is set to the DS1 mode.

Viewing DS1 Line Status

To view DS1 line status, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx1-T1**.
- Step 3** Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

The screenshot shows the Cisco WebViewer interface for the Dsx1-T1 Line(s) Configuration screen. The navigation pane on the left is expanded to show the 'Line' menu, with 'All-Lines' selected. The main content area displays a table of line configurations for Slot 1, Lines 1 through 4. The table columns are: Select, Slot, Line, Ds3 Line, Line Type, Line Coding, Line Status: Bit Order 31-0, and Status. All four lines are shown as 'Up'.

Select	Slot	Line	Ds3 Line	Line Type	Line Coding	Line Status: Bit Order 31-0	Status
[-] [i] [C] [A] [P] [S]	1	1	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
[-] [i] [C] [A] [P] [S]	1	2	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
[-] [i] [C] [A] [P] [S]	1	3	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up
[-] [i] [C] [A] [P] [S]	1	4	No Ds3 Line	dsx1ESF	dsx1B&ZS		Up

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Step 4 Interpret the columns as follows:

Column Entry	Description
Slot	The logical slot number.
Line	The DS1 line number.
Ds3 Line	The related DS3 line number.
Line Type	The type of DS1 line implemented in this circuit: <ul style="list-style-type: none"> dsx1ESF—Extended superframe DS1 dsx1D4—AT&T D4 format for DS1.
Line Coding	The coding used for zero code suppression on this line: <ul style="list-style-type: none"> dsx1B8ZS dsx1AMI.
Line Status	The DS1 line status, displayed as a row of indications. For more information, see <i>Viewing Alarms for All DS1/E1 Lines</i> , page 6-6.
Status	The administrative status of the line. The values are <i>up</i> or <i>down</i> when using the IPDC call control protocol. Otherwise, the status indicator is always <i>up</i> .

To view selected lines

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **Selective-Lines**.

The selection form opens.

Please enter your criteria of Dsx1-T1 for display:

Current System Dsx1 Line Mode: T1 Mode

Slot Number:	All ▾	Line Type:	All ▾
Line Coding:	All ▾	Line Status:	All ▾
Related Dsx3 Line:	All ▾		

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Step 4 Enter the DS1 selection criteria:

Criteria	Description
Slot Number	The desired slot number. Valid settings are 1-16 and All.
Line Coding	The line coding: <ul style="list-style-type: none"> • dsx1B8ZS • dsx1AMI • All
Related Dsx3 Line	The corresponding Dsx3 Line: <ul style="list-style-type: none"> • NSC • 501-506 • All
Line Type	The line type: <ul style="list-style-type: none"> • dsx1ESF • dsx1D4 • All
Line Status	The line status: <ul style="list-style-type: none"> • Alarm present • All

Step 5 Click **Display**.

Step 6 The Dsx1-T1 Line Configuration screen opens, displaying the lines that meet the selection criteria.

Adding DS1 Lines

To add DS1 Lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

Step 4 On the Dsx1-T1 Line Configuration screen, click the + icon.

The Add Dsx1-T1 Line form opens.

ADD Dsx1-T1 Line(s)

Current System Dsx1 Line Mode:		T1 Mode	
Slot:	<input type="text"/>	Line:	<input type="text"/>
Contiguous Creating Lines:		<input type="text" value="1"/>	
Line Type:	<input type="text" value="dsx1ESF"/>	Line Coding:	<input type="text" value="dsx1B8ZS"/>
Send Code:	<input type="text" value="dsx1SendNoCode"/>	Line Loopback Config:	<input type="text" value="dsx1NoLoop"/>
Line Signal Mode:	<input type="text" value="none"/>	Transmit Clock Source:	<input type="text" value="localTiming"/>
Line Signal Bit:	<input type="text" value="0000"/>	Line Idle Code:	<input type="text" value="127"/>

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Step 5 Specify the line configuration:

Parameter	Description														
Slot	The logical number of the slot in the MGX 8260 chassis. Valid entries: NSC: 1-8 BSC: 11-16														
Line	The number of the DS1 line. Valid entries: Valid line numbers: NSC: 1-16 BSC: 1-168 as shown by the following table of DS1 to DS3 mappings. <table border="1"> <thead> <tr> <th>DS3 Line Number</th> <th>DS1 Line Number</th> </tr> </thead> <tbody> <tr> <td>501</td> <td>1-28</td> </tr> <tr> <td>502</td> <td>29-56</td> </tr> <tr> <td>503</td> <td>57-84</td> </tr> <tr> <td>504</td> <td>85-112</td> </tr> <tr> <td>505</td> <td>113-140</td> </tr> <tr> <td>506</td> <td>141-168</td> </tr> </tbody> </table>	DS3 Line Number	DS1 Line Number	501	1-28	502	29-56	503	57-84	504	85-112	505	113-140	506	141-168
DS3 Line Number	DS1 Line Number														
501	1-28														
502	29-56														
503	57-84														
504	85-112														
505	113-140														
506	141-168														
Contiguous Creating Lines	The number of contiguous DS1 Lines to add. The stops adding lines at the first failure.														
Line Type	The type of framing, as follows: <ul style="list-style-type: none"> dsx1ESF—Extended superframe DS1 (default) dsx1D4—AT&T DS1 														

Parameter	Description
Send Code	The type of code sent across the DS1 interface by the Cisco MGX 8260. The valid settings are: <ul style="list-style-type: none"> • dsx1Send No Code (default) • dsx1SendLineCode • dsx1SendResetCode • dsx1SendQRS • dsx1Send511Pattern • dsx1Send3in24Pattern • dsx1SendOtherPattern
Line Signal Mode	The signal mode for the transmit direction. In the receive direction, it is always set to robbed bit. The valid settings are: <ul style="list-style-type: none"> • none—reserve no bits for signaling and set channel bandwidth to 64 kbps (default) • robbedBit—For Channel Associated Signaling, use T1 Robbed Bit Signaling and set channel to 56 kbps. User may select ABCD bit encoding, but the MGX 8260 does not detect A/B signalling. Echo cancellation is enabled at set-up unless a fax tone is detected.
Line Signal Bit	The 4-bit signaling pattern to send. Values: 0000 to 1111 binary
Line Coding	The line coding format. The valid settings are: <ul style="list-style-type: none"> • dsx1B8ZS (default) • dsx1AMI
Line Loopback Config	The loopback configuration of the DS1 interface. The valid settings are: <ul style="list-style-type: none"> • dsx1NoLoop—no loopback (default) • dsx1PayloadLoop—loop payload signal towards the line • dsx1LineLoop—loop signal towards the line • dsx1LocalLoop—loop signal towards the terminal
Transmit Clock Source	The clock source for the transmit signal: <ul style="list-style-type: none"> • loopTiming—use the recovered receive clock (reserved for future use) • localTiming—use the local clock (default)
Line Idle Code	The code that indicates the idle condition. Values 0-127

Step 6 Click **Add**. The system adds the DS1 lines.



Note

When adding contiguous lines, the system stops adding lines if an error occurs.

Changing DS1 Lines

To change the configuration of a DS1 line, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx1-T1**.
- Step 3** Click **All-Lines**.
- The Dsx1-T1 Line Configuration screen opens.
- Step 4** On the Dsx1-T1 Line Configuration screen, click the **i** icon on the row of the line you want to change. The Dsx1-T1 Line Status and Configuration screen, which contains the configuration form, opens.

Dsx1-T1 Line Status and Configuration

Slot: <input type="text" value="1"/>	Line: <input type="text" value="1"/>	Contiguous Modifying Lines: <input type="text" value="1"/>
--------------------------------------	--------------------------------------	--

Alarm Present		Major	
Far end LOF (Yellow Alarm)	<input type="checkbox"/>	Near end sending LOF Indication	<input checked="" type="checkbox"/>
Far end sending AIS	<input type="checkbox"/>	Near end sending AIS	<input checked="" type="checkbox"/>
Near End Loss of Frame (Red Alarm)	<input checked="" type="checkbox"/>	Near End Loss of Signal	<input checked="" type="checkbox"/>
Near end is looped	<input type="checkbox"/>	E1 TS16 AIS	<input type="checkbox"/>
Far End Sending TS16 LOMF	<input type="checkbox"/>	Near End Sending TS16 LOMF	<input type="checkbox"/>
Near End detects a test code	<input type="checkbox"/>	Any Other Line Status Failure	<input type="checkbox"/>
LED Status	Solid RED		
Line Status	UP		

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Step 5 Scroll to the bottom of the form to see the Dsx1-T1 Line Configuration pane.

Dsx1-T1 Line Configuration	
Current Period Time Elapsed in Interval(Sec):	246
Line Valid Intervals:	96
Circuit Identifier:	5
Related Ds3 Line (BSC):	0
Facilities Data Link:	dsx1Fdl-none
IPDC ECHO Cancellation (BSC with IPDC active only):	N/A
Line Type:	dsx1ESF
Line Coding:	dsx1AMI
Send Code:	dsx1SendNoCode
Line Loopback Config:	dsx1NoLoop
Line Signal Mode:	none
Transmit Clock Source:	localTiming
Line Signal Bit:	1000
Line Idle Code (0-255):	127

The Dsx1-T1 Line Configuration pane displays the following read-only information:

Information	Description
Current Period Time Elapsed	The number of seconds since the start of the near end error measurement period.
Line Valid Intervals	The number of 15 minute intervals during which the system collected valid data for the near end.
Circuit Identifier	A text string describing the line.
Related Ds3 Line	The corresponding Ds3 line.
Facilities Data Link	The type of facility data link: dsx1Fdl-none.

Step 6 Configure the DS1 line by changing the desired parameters. For a description of the DS1 parameters, see Adding DS1 Lines, page 4-8.

Step 7 Click **Modify**. The system applies the configuration changes.

Deleting DS1 Lines

To delete a single DS1 line, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

Step 4 On the Dsx1-T1 Line Configuration screen, click the - icon for the line you want to delete.

Step 5 Confirm your action.

The system deletes the DS1 line.

To delete a range of DS1 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

Step 4 On the Dsx1-T1 Line Configuration screen, click the - icon in the top row of icons.

The Delete Dsx1 Lines form opens.

Step 5 Specify the number of lines:

Setting	Description
Contiguous Deleting Lines	The number of lines to delete

Step 6 Click **Delete** and confirm your action.

The system deletes the DS1 lines.

Configuring E1 lines

This section describes the procedures for adding and changing E1 lines. The DS1 and E1 modes are mutually exclusive; these procedure assume the chassis is set to the E1 mode.

Viewing E1 Line Status

To view E1 line status, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **All-Lines**.

To view selected lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **Selective-Lines**.

The selection form opens.

Please enter your criteria of Dsx1-E1 for display:

Step 4 Enter the E1 selection criteria:

Criteria	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all.
Line Coding	The line coding: <ul style="list-style-type: none"> • dsx1HDB3 • dsx1AMI • All
Line Type	The line type: <ul style="list-style-type: none"> • dsx1E1—CCITT Recommendation G.704, Table 4a • dsx1E1-CRC—CCITT Recommendation G.704, Table 4b • dsx1E1-MF—G.704 table 4a with TS16 multiframing enabled • dsx1E1-CRC-MF—G.704 table 4b with TS16 multiframing enabled • All
Line Status	The line status: <ul style="list-style-type: none"> • Alarm present • All

Step 5 Click **Display**.

Step 6 The E1 Line Configuration screen opens, displaying the lines that meet the selection criteria.

Adding E1 Lines

To add E1 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **All-Lines**.

The E1 Line Configuration screen opens.

Step 4 On the E1 Line Configuration screen, click the + icon.

The Add DSX1 Line form opens.

ADD Dsx1-E1 Line(s)

The screenshot shows the 'ADD Dsx1-E1 Line(s)' configuration form. It consists of several sections:

- Current System Dsx1 Line Mode:** A dropdown menu set to 'T1 Mode'.
- Slot:** An empty text input field.
- Line:** An empty text input field.
- Contiguous Creating Lines:** A text input field containing the value '1'.
- Line Type:** A dropdown menu set to 'dsx1E1-CRC-MF'.
- Line Coding:** A dropdown menu set to 'dsx1HDB3'.
- Send Code:** A dropdown menu set to 'dsx1SendNoCode'.
- Line Loopback Config:** A dropdown menu set to 'dsx1NoLoop'.
- Line Signal Mode:** A dropdown menu set to 'bitOriented'.
- Transmit Clock Source:** A dropdown menu set to 'localTiming'.
- Line Signal Bit:** A dropdown menu set to '0101'.
- Line Idle Code:** A text input field containing the value '127'.

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Step 5 Specify the line configuration:

Parameter	Description
Slot	The logical number of the slot in the MGX 8260 chassis. Valid entries: NSC: 1-8, 11-16
Line	The number of the E1 line or the first line in a range of lines. Valid entries: NSC: 1-16
Contiguous Creating Lines	The number of contiguous E1 lines to add with this configuration. The MGX 8260 stops adding lines at the first failure.
Line Type	The framing format: <ul style="list-style-type: none"> dsx1E1—CCITT Recommendation G.704, Table 4a dsx1E1-CRC—CCITT Recommendation G.704, Table 4b dsx1E1-MF—G.704 table 4a with TS16 multiframing enabled dsx1E1-CRC-MF—G.704 table 4b with TS16 multiframing enabled (default)

Parameter	Description
Send Code	The type of code sent across the E1 interface by the Cisco MGX 8260. The only valid settings are: <ul style="list-style-type: none"> dsx1Send No Code (default) dsx1Send511Pattern dsx1Send3in24Pattern
Line Signal Mode	The signal mode for the transmit direction. In the receive direction, it is always set to robbed bit. The valid settings are: <ul style="list-style-type: none"> none—reserve no bits for signaling and set channel bandwidth to 64 kbps (default) bitOriented—use Channel Associated Signaling (default) messageOriented—use message-oriented Common Channel Signaling on channel 16 of an E1 line or channel 24 of a T1 line. (reserved for future use)
Line Signal Bit	The signaling bit pattern to transmit. Values: 0000 to 1111 (binary). Default: 0101
Line Coding	The line coding format: <ul style="list-style-type: none"> dsx1HDB3 (default) dsx1AMI
Line Loopback Config	The loopback configuration of this interface. <ul style="list-style-type: none"> dsx1NoLoop (default) dsx1PayloadLoop dsx1LineLoop dsx1LocalLoop
Transmit Clock Source	The clock source for the transmit signal. <ul style="list-style-type: none"> loopTiming (reserved for future use) localTiming (default) throughTiming (reserved for future use)
Line Idle Code	The idle code to transmit on each idle DS0 channel. Values: 0 to 255. Default: 127

Step 6 Click **Add**. The system adds the E1 lines.



Note

When adding contiguous lines, the system stops adding lines if an error occurs.

Changing E1 Lines

To change the configuration of a E1 line, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **All-Lines**.

The E1 Line Configuration screen opens.

Step 4 On the E1 Line Configuration screen, click the **i** icon on the row of the line you want to change.

The E1 Line Status and Configuration screen, which contains the configuration form, opens:

E1 Line Configuration	
Current Period Time Elapsed in Interval(Sec):	846
Line Valid Intervals:	96
Circuit Identifier:	5
Related Ds3 Line (BSC):	0
Facilities Data Link:	dsx1Fdl-none
IPDC ECHO Cancellation:	N/A
Line Type:	dsx1E1-CRC-MF
Line Coding:	dsx1HDB3
Send Code:	dsx1SendNoCode
Line Loopback Config:	dsx1NoLoop
Line Signal Mode:	bitOriented
Transmit Clock Source:	localTiming
Line Signal Bit:	0101
Line Idle Code (0-255):	84

The configuration pane at the bottom of the form displays the following read-only information:

Information	Description
Current Period Time Elapsed	The number of seconds since the start of the near end error measurement period.
Line Valid Intervals	The number of 15 minute intervals during which the system collected valid data for the near end.
Circuit Identifier	A text string describing the line.
Related DS3 Line	The DS3 line that contains this E1 line. Zero means not applicable.
IPDC ECHO Cancellation	The echo cancellation state, when applicable.
Facilities Data Link	The type of facility data link: dsx1Fdl-none.

Step 5 Configure the E1 line by changing the desired parameters. For a description of the E1 parameters, see Adding E1 Lines, page 4-16:

Step 6 Click **Modify**. The system applies the configuration changes.

Deleting E1 Lines

To delete a single E1 line, follow these steps:

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **E1**.
 - Step 3** Click **All-Lines**.
The E1 Line Configuration screen opens.
 - Step 4** On the E1 Line Configuration screen, click the - icon for the line you want to delete.
 - Step 5** Confirm your action.
The system deletes the E1 line.
-

To delete a range of E1 lines, follow these steps:

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **E1**.
 - Step 3** Click **All-Lines**.
The E1 Line Configuration screen opens.
 - Step 4** On the E1 Line Configuration screen, click the - icon in the top row of icons.
The Delete E1 Lines form opens.
 - Step 5** Specify the number of lines:

Setting	Description
Contiguous Deleting Lines	The number of lines to delete

- Step 6** Click **Delete** and confirm your action.
The system deletes the E1 lines.
-

Configuring DS3 lines

This section describes the procedures for adding and changing DS3 lines.

Viewing DS3 Line Status

To view DS3 line status, follow these steps:

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

The screenshot shows the Cisco WebViewer interface for a node named 'mgsw233'. The system time is 12:34 on 08/11/2000. The user is logged in as 'SuperUser' and the device type is 'MGX8260'. The main content area displays the 'Dsx3 Line(s) Configuration' table, which lists three lines (501, 502, 503) in slot 12. Each line is of type 'dsx3M23' and has a line coding of 'dsx3B3ZS'. The line status is 'Bit Order 9-0' and the loopback configuration is 'dsx3NoLoop'. The interface also includes a navigation menu on the left with options like 'Chassis View', 'Node', 'Card', 'Line', 'Port', 'Calls', 'Protocol', 'Route', 'Email', 'File Download', 'Event Log', and 'Exit'.

Select	Slot	Line	Line Type	Line Coding	Line Status: Bit Order 9-0	Loopback Config
[-] [i] [C] [A] [P] [L]	12	501	dsx3M23	dsx3B3ZS		dsx3NoLoop
[-] [i] [C] [A] [P] [L]	12	502	dsx3M23	dsx3B3ZS		dsx3NoLoop
[-] [i] [C] [A] [P] [L]	12	503	dsx3M23	dsx3B3ZS		dsx3NoLoop

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Step 4 Interpret the table as follows:

Table Entry	Description
Slot	The slot number of the card with the DS3 line
Line	The line number of the card with the DS3 line
Line Type	The DS3 C-bit usage: <ul style="list-style-type: none"> • dsx3M23 • dsx3SYNTRAN (reserved for future use) • dsx3CbitParity (reserved for future use)
Line Coding	The zero code suppression for this interface: dsx3B3ZS

Table Entry	Description
Line Status	<p>The DS3 line status displayed as a row on indicators. Interpret the bits from right to left as follows:</p> <ul style="list-style-type: none"> Indicator 0: dsxNoAlarm Indicator 1: dsxRcvRAIFailure—receive RAI (Yellow) Indicator 2: dsxXmitRAIAlarm—transmit RAI (Yellow) Indicator 3: dsx3RcvAIS—receive AIS Indicator 4: dsx3XmitAIS—transmit AIS Indicator 5: dsx3LOF—receiving LOF Indicator 6: dsx3LOS—receiving LOS Indicator 7: dsx3LoopbackState—looping the received signal Indicator 8: dsx3RcvTestCode—receiving a test pattern Indicator 9: dsx3OtherFailure
Loopback Config	<p>The source for the transmit signal clock:</p> <ul style="list-style-type: none"> dsx3NoLoop dsx3PayloadLoop dsx3LineLoop

To view selected lines, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx3**.
- Step 3** Click **Selective-Lines**.

The selection form opens.

Please enter your criteria of Dsx3 for display:

Slot Number:	All	Line Type:	All
Loopback Config:	All	Line Status:	All

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Step 4 Enter the DS3 selection criteria:

Criteria	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all.
Loopback Config	The loopback configuration of the line: <ul style="list-style-type: none"> • dsx3NoLoop • dsx3PayloadLoop • dsx3LineLoop • All
Line Type	The line type: <ul style="list-style-type: none"> • dsx3M23 • dsx3SYNTRAN (reserved for future use) • dsx3CbitParity (reserved for future use) • All
Line Status	The line status: <ul style="list-style-type: none"> • Alarm present • All

Step 5 Click **Display**.

The Dsx3 Line Configuration screen opens, displaying the lines that meet the selection criteria.

Adding DS3 Lines

To add DS3 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

Step 4 On the Dsx3 Line Configuration screen, click the + icon.

The Add Dsx3 Line form opens.

ADD Dsx3 Line(s)

Step 5 Specify the line configuration:

Parameter	Description
Slot	The logical number of the slot in the MGX 8260 chassis. Valid entries: BSC: 11-16 DMC: 7-8
Line	The number of the DS3 line, or the starting number of a range of DS3 lines. Valid line numbers: BSC: 501-506 DMC: 1-6 (reserved for future use)
Contiguous Creating Lines	The number of contiguous DS3 lines to add with this configuration.
LineType	Indicates the DS3 C-bit usage or E3 application: <ul style="list-style-type: none"> dsx3M23 (default) dsx3SYNTRAN (reserved for future use) dsx3CbitParity (reserved for future use)
Line Coding	The data coding scheme this line. Fixed at dsxB3ZS.
Send Code	No code is sent across the DS3 interface by the Cisco MGX 8260. The only valid setting is: <ul style="list-style-type: none"> dsx3Send No Code
Loopback Config	Specifies the loopback test state: <ul style="list-style-type: none"> dsx3NoLoop (default) dsx3PayloadLoop dsx3LineLoop

Parameter	Description
Transmit Clock Source	The clock source for the transmit signal: <ul style="list-style-type: none"> localTiming, use the local clock
Cable Length	The approximate length of the line: <ul style="list-style-type: none"> upto255Ft—1-255 ft. bt255To300—225-300 ft. bt300To450—300-450 ft. bt450To900—450-900 ft.

Step 6 Click **Add**.

The system adds the DS3 lines.

**Note**

When adding contiguous lines, the system stops adding lines if an error occurs.

Changing DS3 Lines

To change the configuration of a DS3 line, follow these steps:

Step 1 On the Navigation pane, click **Line**.**Step 2** Click **Dsx3**.**Step 3** Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

On the Dsx3 Line Configuration screen, click the **i** icon on the row with the line you want to modify.

Step 4 The Dsx3 Line Status and Configuration form opens, which contains the following configuration screen:

Dsx3 Line Configuration	
Current Period Time Elapsed in Interval(Sec):	68
Line Valid Intervals:	0
Circuit Identifier:	PMC-PM8313-D3MX
Line Type:	dsx3M23
Line Coding:	dsx3B3ZS
Send Code:	dsx3SendNoCode
Loopback Config:	dsx3NoLoop
Transmit Clock Source:	localTiming
Cable Length:	1. upto255Ft

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Step 5 Configure the DS3 line. For parameter definitions, see Adding DS3 Lines, page 4-22:

Step 6 Click **Modify**.

The system applies the configuration changes.

Deleting DS3 Lines

To delete a single DS3 line, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

Step 4 On the Dsx3 Line Configuration screen, click the - icon for the line you want to delete.

Step 5 Confirm your action.

The system deletes the DS3 line.

To delete a range of DS3 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The DSX3 Line Configuration screen opens.

Step 4 On the DSX3 Line Configuration screen, click the - icon in the top row of icons.

The Delete Dsx3 Lines form opens.

Step 5 Specify the number of lines:

Parameter	Description
Contiguous Deleting Lines	The number of lines to delete

Step 6 Click **Delete** and confirm your action.

The system deletes the DS3 lines.

Mapping DMC Lines

The DMC maps source DS1 channels from the DS3 interface to destination DS1 channels on the NSCs. The mapping is one-to-one and can connect any source DS1 to any destination DS1.

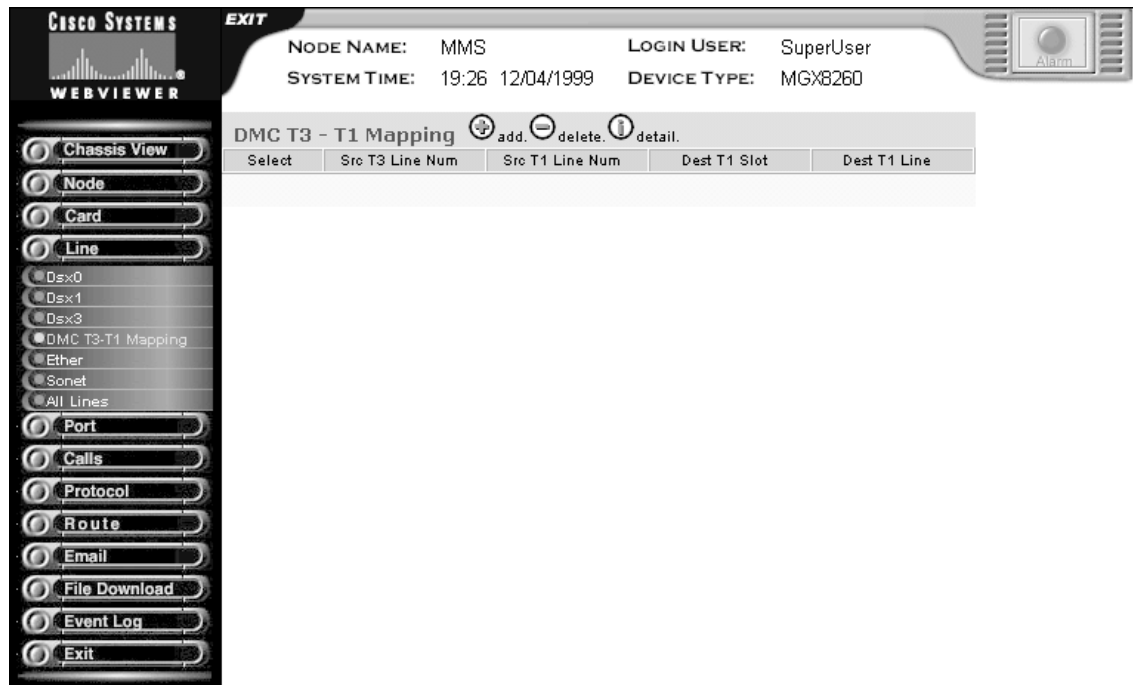
Viewing Map Table Entries

To view the mapping table, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **DMC T3-T1 Mapping**.

The DMC T3-T1 Mapping screen opens.



Step 3 Interpret the DMC mapping table as follows:

Displayed Information	Description
Src T3 Line Num	The number of the source DS3 line
Src T1 Line Num	The number of the DS1 line, or starting DS1 line, within the DS3 line
Dest T1 Slot	The logical slot number for the destination NSC card
Dest T1 Line	The number of the DS1, or starting DS1, in the NSC

Adding Map Table Entries

You can add map entries individually or within a range. When adding individual map entries, the following restrictions apply:

- Map commands can't duplicate existing entries
- Map commands can't specify non-existent source or destination lines.

You can simplify the process of mapping DS3 to DS1 lines by mapping a range of DS1s rather than individual lines. A map range is added in a sequential and contiguous manner, and can cross source or destination boundaries.

The entire range of source and destination lines must be contiguous. The system stops mapping lines if it encounters a source or destination that is already assigned, leaving map pairs before the contiguous break assigned and the rest unassigned.

To add mapping table entries, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **DMC T3-T1 Mapping**.
The DMC T3-T1 Mapping screen opens.
- Step 3** On the DMC T3-T1 Mapping screen, click the + icon.
The Add DMC Mapping form opens.

ADD DMC Mapping

DMC Mapping Source	
Source T3 Line Num (1-6):	<input type="text" value="1"/>
Source T1 Line Num in the T3 Line (1-28):	<input type="text" value="1"/>

DMC Mapping Destination	
Destination T1 Slot Num (1-16):	<input type="text" value="1"/>
Destination T1 Line Num (1-16):	<input type="text" value="1"/>
Number of Lines for Mapping (1-168):	<input type="text" value="1"/>

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- Step 4** Specify DMC mapping as follows:

Displayed Information	Description
Source T3 Line Num	The number of the source DS3 line. When mapping more than one DS1 line, other DS3 lines may be mapped. Valid entries are 1 through 6.
Source T1 Line Num in the T3 Line	The number of the DS1 line, or starting DS1 line, within the DS3 line. Valid entries are 1 through 28.
Destination T1 Slot Num	The logical slot number for the destination NSC. When mapping more than one DS1 line, other NSC slots may be mapped as well. Valid entries are 1 through 16.
Destination T1 Line Num	The number of the DS1, or starting DS1, in the NSC. Valid entries are 1 through 16.
Number Of Lines for Mapping	The number of map pairs to add. Valid entries are 1 through 192, depending on existing mapping. To map a single point, set to 1.

- Step 5** Click Add and confirm you action.
The system creates the specified DS3 to DS1 mapping entries.

Changing Map Table Entries

To modify entries in the map table, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **DMC T3-T1 Mapping**.
The DMC T3-T1 Mapping screen opens.
- Step 3** On the DMC T3-T1 Mapping screen, click the **i** icon.
The configuration form opens.
- Step 4** Update map settings as follows:

Displayed Information	Description
Source T3 Line Num	The number of the source DS3 line. When mapping more than one DS1 line, other DS3 lines may be mapped. Valid entries are 1 through 6.
Source T1 Line Num	The number of the DS1 line, or starting DS1 line, within the DS3 line. Valid entries are 1 through 28.
Destination T1 Slot Num	The logical slot number for the destination NSC. When mapping more than one DS1 line, other NSC slots may be mapped as well
Destination T1 Line Num	The number of the DS1, or starting DS1, in the NSC. Valid entries are 1 through 16.

- Step 5** Click **Modify**.
The system applies the configuration changes.

Deleting Map Table Entries

To delete a single map table entry, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **DMC T3-T1 Mapping**.
The DMC T3-T1 Mapping screen opens.
- Step 3** On the DMC T3-T1 Mapping screen, click the **-** icon for the entry you want to delete.

- Step 4** Confirm your action.
The system deletes the map entry.

To delete a range of map table entries, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **DMC T3-T1 Mapping**.
The DMC T3-T1 Mapping screen opens.
- Step 3** On the DMC T3-T1 Mapping screen, click the - icon on the top row of icons.
The Delete DMC Mapping form opens.
- Step 4** Specify the lines to delete, which the following table describes:

Displayed Information	Description
Source T3 Line Num	The number of the source DS3 line. When mapping more than one DS1 line, other DS3 lines may be mapped. Valid entries are 1 through 6.
Source T1 Line Num	The number of the DS1 line, or starting DS1 line, within the DS3 line. Valid entries are 1 through 28.
Number Of Lines for Mapping	The number of map pairs to add. Valid entries are 1 through 192, depending on existing mapping. To map a single point, set to 1.

- Step 5** Click **Delete** and confirm your action.
The system deletes the map entries.
-

Configuring Fast Ethernet lines

This section describes the procedures for adding and changing Fast Ethernet lines. These procedures apply to SCCs configured with Fast Ethernet hardware. For those systems using the IPDC call control protocol, you can also set up static routes for these lines. For more information, see “Configuring Static Routes” on page 35.

Viewing Fast Ethernet Configuration and Status

To view Fast Ethernet line status, follow these steps:

-
- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Ether**.
- Step 3** Click **All-Lines**.

The Ether Line Configuration screen opens.

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Step 4 Interpret the table as follows:

Displayed Information	Description
Slot	The slot number of the SCC with the line
Line	The line number of the Fast Ethernet line
MAC Address	The physical address of the line
IP Address	The IP address for this host
Alarm Status	The current alarm condition of the line <ul style="list-style-type: none"> Green—normal operation Yellow—minor alarm Red—major alarm
Oper Status	The operational status for the line, as follows: <ul style="list-style-type: none"> active inactive failed link down in active state link down in inactive state
Subnet Mask	The IP subnet mask for this host
Gateway Address	The primary gateway for this line
RDP	The Router Discovery Protocol status

To view selective Fast Ethernet lines, follow these steps:

Step 1 On the Navigation pane, click **Ether**.

Step 2 Click **Selective-Lines**.

The selection criteria screen opens.

Please enter your criteria of Ether Line(s) for display:

The screenshot shows a form with two dropdown menus. The first is labeled 'Slot Number:' and has a dropdown arrow pointing to 'All'. The second is labeled 'Operational Status:' and also has a dropdown arrow pointing to 'All'. The entire form is enclosed in a double-line border. A small vertical number '45327' is visible on the right side of the form.

Step 3 Enter your selection criteria:

Criteria	Description
Slot Number	The SCC slot number. Valid entries: 9 or 10.
Operational Status	The status of the lines you want to view: <ul style="list-style-type: none"> • active • inactive • failed • lindDownActive • linkDownInactive • All

Step 4 Click **Display**.

The Ether Line Configuration form opens with Fast Ethernet lines that meet the filter criteria.

Adding a Fast Ethernet Line

To add a Fast Ethernet line, follow these steps:

Step 1 On the Navigation pane, click Line.

Step 2 Click Ether.

Step 3 Click All-Lines.

The Ether Line Configuration screen opens.

Step 4 On the Ether Line Configuration screen, click the + icon.

The Add Ether Line form opens.

ADD Ether Line(s)

Slot: Line:

IP Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Subnet Mask:	<input type="text"/> 255 . <input type="text"/> 255 . <input type="text"/> 255 . <input type="text"/> 0
Primary GateWay Address:	<input type="text"/> . <input type="text"/> . <input type="text"/> . <input type="text"/>
Router Discovery Protocol:	<input type="text"/> enabled <input type="button" value="v"/>
Initial State of the Added Ether Line:	<input type="text"/> active <input type="button" value="v"/>
Duplex Mode of the Ether Line Interface:	<input type="text"/> full <input type="button" value="v"/>

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Step 5 Specify the line configuration:

Displayed Information	Description
Slot	The SCC slot number, either 9 or 10
Line	The line number of the Fast Ethernet line to add, from 1 to 4
IP Address	The IP address for this host
Subnet Mask	The IP subnet mask for this host
Primary Gateway Address	The primary gateway for this line
Router Discovery Protocol	The Router Discovery Protocol status
Initial State of the Added Ether Line	The desired operational state for the line
Duplex Mode	The duplex mode for the line, either full or half

Step 6 Click **Add**.

The system adds the line.

Changing a Fast Ethernet Line



Warning

Changing a Fast Ethernet line interrupts service to a large number of users. Perform this operation during light traffic periods or in a pre-arranged maintenance window.

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Ether**.

Step 3 Click **All-Lines**.

The Ether Line Configuration screen opens.

- Step 4** On the Ether Line Configuration screen, click the **i** icon on the row you want to modify. The Modify Ether Line Configuration form opens.

Modify Ether Line Configuration

Ether Line Configuration	
Link Alarm Status:	<input type="checkbox"/>
Mac Address:	00.00.00.00.00.20
IP Address:	10.1.1.2
Operational Status:	linkDownActive
Subnet Mask:	255 . 255 . 255 . 0
Primary GateWay Address:	10 . 1 . 1 . 1
Router Discovery Protocol:	enabled
Duplex Mode of the Ether Line Interface:	full

The form displays the following read-only values:

Displayed Information	Description
Link Alarm Status	The current Fast Ethernet alarm status: <ul style="list-style-type: none"> Red—major alarm Yellow—minor alarm Green—no alarm
Mac Address	The physical address of the line
IP Address	The IP address for the Fast Ethernet line, expressed in standard IP dot notation
Operational Status	The operational status: <ul style="list-style-type: none"> active inactive failed link down in active state link down in inactive state

- Step 5** Update Fast Ethernet settings as follows:

Displayed Information	Description
Slot	The slot number of the SCC, either 9 or 10
Line	The Fast Ethernet line number, from 1 to 4
Subnet Mask	The subnet mask for this line, expressed in standard IP dot notation
Primary Gateway Address	The primary IP gateway for this line

Displayed Information	Description
Route Discover Protocol	Enables or disables Router Discovery Protocol: <ul style="list-style-type: none"> enable (default) disable
Duplex Mode of the Ether Line Interface	The mode of the line: <ul style="list-style-type: none"> full (default) half

Step 6 To change the administrative status of the line, click **Link Up** or **Link Down**.

Step 7 Click **Modify** and confirm your action.

The system changes the Fast Ethernet configuration.

Changing the Administrative Status

You can bring the Fast Ethernet line up or down from the Modify Ether Line Configuration form.

To change Fast Ethernet administrative status, follow these steps:

Step 1 On the Navigation pane, click **Ether**.

Step 2 Click **All-Lines**.

The Ether Line Configuration screen opens.

Step 3 On the Ether Line Configuration screen, click the **i** icon on the row you want to modify.

The Modify Ether Line Configuration form opens:

Step 4 Click **Link Up** or **Link Down**, as desired.

Step 5 Click **Modify** and confirm your action.

Deleting a Fast Ethernet Line

To delete a Fast Ethernet line, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Ether**.

Step 3 Click **All-Lines**.

The Ether Line Configuration screen opens.

Step 4 On the Ether Line Configuration screen, click the **-** icon on the line you want to delete.

Step 5 Confirm your action.

The system deletes the Fast Ethernet line.

Configuring Static Routes

This section describes the process of configuring static routes for Fast Ethernet lines.

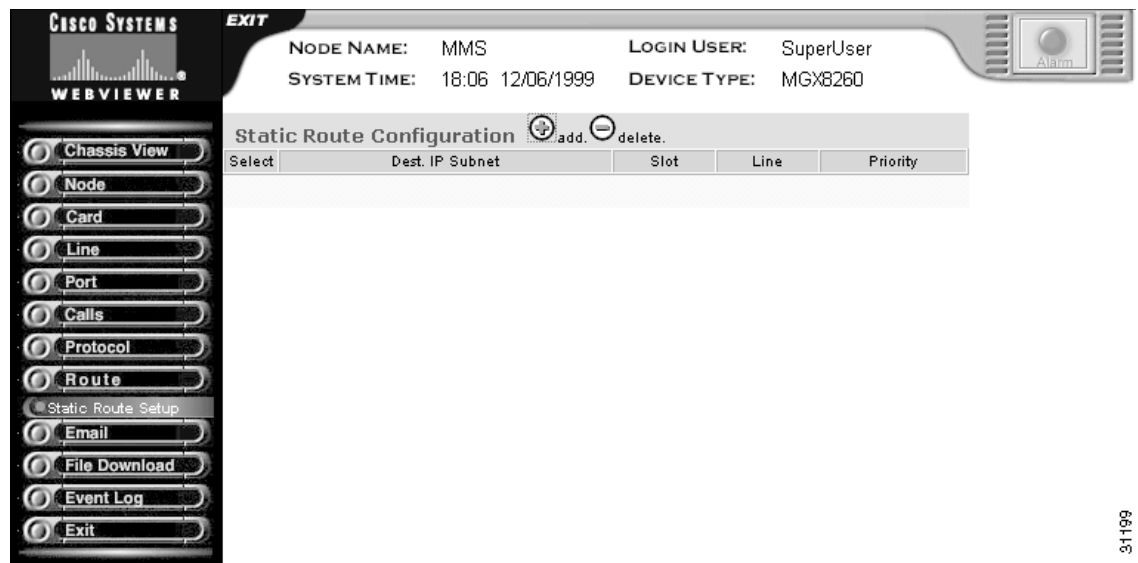
Viewing Static Routes

To view all static routes, follow these steps:

Step 1 On the Navigation pane, click **Route**.

Step 2 Click **Static Route Setup**.

The Static Route Configuration form opens.



Step 3 Interpret the table as follows:

Displayed Information	Description
Dest IP Subnet	The IP address of a remote network with which you want a static route. The last byte of the IP number must be zero. For example, 127.2.4.0 is valid.
Slot	Slot number for the route entry.
Line	Line number for the route entry.
Priority	Priority for the route entry. Priority 1 is the highest and 10 is the lowest, with a default of 1.

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Adding Static Routes

To add a static route, follow these steps:

-
- Step 1** On the Navigation pane, click **Route**.
- Step 2** Click **Static Route Setup**.
The Static Route Configuration screen opens.
- Step 3** On the Static Route Configuration screen, click the + icon.
The Add Static Route Configuration form opens.

ADD Static Route Configuration

Destination IP Subnet (x.x.x.0):	<input type="text" value="."/> <input type="text" value="."/> <input type="text" value="."/> <input type="text" value="0"/>
Out-bound Slot Number:	<input type="text"/>
Out-bound Line Number:	<input type="text"/>
Priority (1-10):	<input type="text" value="1"/>

- Step 4** Specify the static route parameters as follows:

Displayed Information	Description
Destination IP Subnet	The IP address of a remote router with which you want a static route. The last byte of the IP number must be zero. For example, 127.2.4.0 is valid.
Out-bound Slot Number	Slot number for the route entry.
Out-bound Line Number	Line number for the route entry.
Priority	Priority for the route entry. Priority 1 is the highest and 10 is the lowest.

- Step 5** Click **Add**.
The system adds the static route to the routing table.
-

Deleting Static Routes

To delete a static route, follow these steps:

-
- Step 1** On the Navigation pane, click **Route**.
- Step 2** Click **Static Route Setup**.
The Static Route Configuration screen opens.
- Step 3** On the Static Route Configuration screen, click the - icon on the row with the route you want to delete and confirm your action.

The system deletes the static route from the routing table.

Configuring OC-3 lines

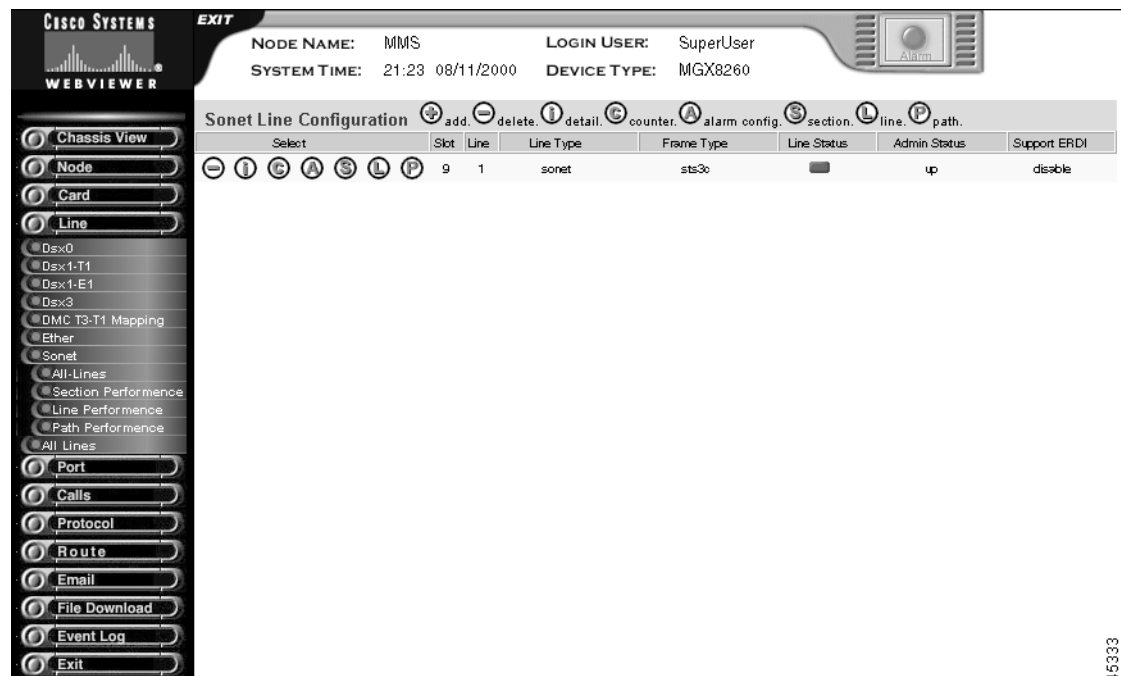
This section describes the procedures for adding and changing OC-3 lines. These procedures apply to SCCs configured for OC-3.

Viewing OC-3 Configuration and Status

To view OC-3 line status, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Sonet**.
- Step 3** Click **All-Lines**.

The Sonet Line Configuration screen opens.



- Step 4** Interpret the table as follows:

Displayed Information	Description
Slot	The slot number of the SCC with the line
Line	The line number of the OC-3 line
Line Type	The physical medium, either SONET or SDH
Frame Type	The type of framing, either STS-3c or STM-1

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Step 5 Specify the line configuration:

Displayed Information	Description
Slot	The SCC slot number, either 9 or 10
Line	The line number of the OC-3 line, from 1 to 4
Contiguous Creating Lines	The number of contiguous OC-3 lines to add with this configuration, from 1 to 4
Medium Type	The type of circuit: <ul style="list-style-type: none"> sonet (default) sdh
Frame Scrambling	The frame scrambling state: <ul style="list-style-type: none"> disable (default) enable
Payload Scrambling	The payload scrambling state: <ul style="list-style-type: none"> disable (default) enable
Loopback Config	The signal loopback state: <ul style="list-style-type: none"> sonetNoLoop sonetLineLoop sonetSerialLoop sonetParallelLoop Serial and parallel are both local loopbacks.
Transmit Clock Source	The clock source for the transmit signal: <ul style="list-style-type: none"> loopTiming, use the recovered receive clock localTiming, use the local clock (default) throughTiming (reserved for future use)
Support Path ERDI	The state of the ERDI (Enhanced Remote Defect Indication): <ul style="list-style-type: none"> disable (default) enable
Path Signal Label	The signal label to transmit in the SONET path overhead: <ul style="list-style-type: none"> none atm onsonet

Displayed Information	Description
Expected Path Signal Label	The expected signal label from the SONET path overhead: <ul style="list-style-type: none"> • none • atm • onsonet
Sonet Path Trace Identifier	The trace identifier to transmit in the SONET path overhead. Value: ASCII string of 2 to 126 hex characters. For more information, see “Understanding E-RDI and Trace Parameters” on page 43.
Expected Sonet Path Trace Identifier	The expected trace identifier in the SONET path overhead. Value: ASCII string of 2 to 126 hex characters.

Step 6 Click **Add**.

The system adds the specified number of lines.

Changing an OC-3 Line



Warning

Changing an OC-3 line interrupts service to a large number of users. Perform this operation during light traffic periods or in a pre-arranged maintenance window.

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **All-Lines**.

The Sonet Line Configuration screen opens.

Step 4 On the Sonet Line Configuration screen, click the **i** icon on the row you want to modify.

Step 5 Update OC-3 line settings as follows:

Displayed Information	Description
Medium Type	The type of circuit: <ul style="list-style-type: none"> sonet—STS-3c sdh—STM-1 (reserved for future use)
Admin Status	The administrative status: <ul style="list-style-type: none"> up down
Frame Type	The type of framing: <ul style="list-style-type: none"> sts3c stm1 (reserved for future use)
Frame Scrambling	The frame scrambling state: <ul style="list-style-type: none"> disable enable
Payload Scrambling	The payload scrambling state: <ul style="list-style-type: none"> disable enable
HCS Scrambling	The HCS scrambling state (reserved for future use)
Loopback Config	The signal loopback state: <ul style="list-style-type: none"> sonetNoLoop sonetLineLoop sonetSerialLoop sonetParallelLoop
Transmit Clock Source	The clock source for the transmit signal: <ul style="list-style-type: none"> loopTiming, use the recovered receive clock localTiming, use the local clock throughTiming (reserved for future use)
Support Path ERDI	The state of the ERDI (Enhanced Remote Defect Indication): <ul style="list-style-type: none"> disable enable
Path Signal Label	The signal label to transmit in the SONET path overhead: <ul style="list-style-type: none"> none atm onsonet

Displayed Information	Description
Expected Path Signal Label	The expected signal label from the SONET path overhead: <ul style="list-style-type: none"> • none • atm • onsonet
Received Sonet Path Signal Label	The signal label received on this line
Sonet Path Trace Identifier	The trace identifier to transmit in the SONET path overhead. Value: ASCII string of 2 to 126 hex characters. For more information, see “Understanding E-RDI and Trace Parameters” on page 43.
Expected Sonet Path Trace Identifier	The expected trace identifier in the SONET path overhead. Value: ASCII string of 2 to 126 hex characters.
Received Sonet Path Trace Identifier	The path trace identifier received on this line

- Step 6** Click **Modify** and confirm your action.
The system changes the OC-3 configuration.

Deleting an OC-3 Line

To delete a OC-3 line, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Sonet**.
- Step 3** Click **All-Lines**.
The Sonet Line Configuration screen opens.
- Step 4** On the Sonet Line Configuration screen, click the - icon on the line you want to delete.
- Step 5** Confirm your action.
The system deletes the OC-3 line.

Understanding E-RDI and Trace Parameters

Path and trace labels help identify particular SONET line. The trace label is a text string carried in a 16-byte or 32-byte message carried in the SONET overhead. The system alters or reserves some of the bytes for synchronization or other purposes.

Using 16-Byte Messages

When using 16-byte messages, consider the following points:

- This message length only applies to SDH
- The system sets the most significant bit high of one byte for synchronization purposes. The position of the altered byte in the message is defined by the trace id position parameter.
- Any printable or non-printable ASCII character is valid (00-7F hex).
- The system always sends 16 characters. If the user input is less than 16 characters, the system pads the message with null characters (00 hex).

Using 64-Byte Messages

- The user can define a message of up to 62 bytes in length; the system automatically sets the last two characters to a carriage return (OD hex) and line feed (OA hex).
- Any printable or non-printable ASCII character is valid (00-7F hex)
- The system always sends 64 characters. If the user input is less than 62 characters, the system pads the message with null characters and then adds the carriage return and line feed.

Forming Hex Messages

You use two hexadecimal numbers to represent each ASCII character in a trace message. For example, you represent an ASCII space with the hex pair 20. The following table shows a few additional examples.

Trace Message	Hex String
4	34
Hello World	48656c6c6f20576f726c64

For 16-byte msg, the maximum input string size is 32 hex characters. For a 64-byte message, you can specify up to 62 characters for a total of 124 hex characters. Refer to the following conversion table to map hex pairs to ASCII characters.

Table 4-2 Hex to ASCII Conversion Table

00 NUL	01 SOH	02 STX	03 ETX	04 EOT	05 ENQ	06 ACK	07 BEL
08 BS	09 HT	0A NL	0B VT	0C NP	0D CR	0E SO	0F SI
10 DLE	11 DC1	12 DC2	13 DC3	14 DC4	15 NAK	16 SYN	17 ETB
18 CAN	19 EM	1A SUB	1B ESC	1C FS	1D GS	1E RS	1F US
20 SP	21 !	22 dq	23 #	24 \$	25 %	26 &	27 '
28 (29)	2A *	2B +	2C ,	2D -	2E .	2F /
30 0	31 1	32 2	33 3	34 4	35 5	36 6	37 7
38 8	39 9	3A :	3B ;	3C <	3D =	3E >	3F ?
40 @	41 A	42 B	43 C	44 D	45 E	46 F	47 G
48 H	49 I	4A J	4B K	4C L	4D M	4E N	4F O

Table 4-2 Hex to ASCII Conversion Table (continued)

00 NUL	01 SOH	02 STX	03 ETX	04 EOT	05 ENQ	06 ACK	07 BEL
50 P	51 Q	52 R	53 S	54 T	55 U	56 V	57 W
58 X	59 Y	5A Z	5B [5C \	5D]	5E ^	5F _
60 `	61 a	62 b	63 c	64 d	65 e	66 f	67 g
68 h	69 i	6A j	6B k	6C l	6D m	6E n	6F o
70 p	71 q	72 r	73 s	74 t	75 u	76 v	77 w
78 x	79 y	7A z	7B {	7C	7D }	7E ~	7F DEL

The system takes the following actions on error on malformed hex strings:

- If you specify an odd number of hex characters, the last one is discarded.
- If you specify a single hex character, the process aborts with an error message.
- If the first hex number of a pair is not 0 to 7, the process aborts with an error message.
- If the second hex number of a pair is not 0 to F, the process aborts with an error message.

Viewing All Lines

To view a summary of all lines, follow these steps

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **All Lines**.
- Step 3** Click the **All-Lines** submenu item.

The Common Line screen opens.

CISCO SYSTEMS WEBVIEWER EXIT

NODE NAME: MMS LOGIN USER: SuperUser
SYSTEM TIME: 19:33 12/04/1999 DEVICE TYPE: MGXB260

Common Line delete. detail. counter.

Select	Slot	Line	Line Type
[-] [i] [C]	3	1	dsx1-t1
[-] [i] [C]	3	2	dsx1-t1
[-] [i] [C]	3	3	dsx1-t1
[-] [i] [C]	3	4	dsx1-t1
[-] [i] [C]	3	5	dsx1-t1
[-] [i] [C]	3	6	dsx1-t1
[-] [i] [C]	3	7	dsx1-t1
[-] [i] [C]	3	8	dsx1-t1
[-] [i] [C]	3	9	dsx1-t1
[-] [i] [C]	3	10	dsx1-t1
[-] [i] [C]	3	11	dsx1-t1
[-] [i] [C]	3	12	dsx1-t1
[-] [i] [C]	3	13	dsx1-t1
[-] [i] [C]	3	14	dsx1-t1
[-] [i] [C]	3	15	dsx1-t1

Step 4 Interpret the table as follows:

Displayed Information	Description
Slot	The slot number of the line
Line	The line number
Line Type	The type of line

Step 5 To view line information, click the **i** icon.

Step 6 To view counter information, click the **C** icon.

To view selected lines, follow these steps:

Step 1 On the Navigation pane, click **All-Lines**.

Step 2 Click **Selective-Lines**.

The following form opens.

Please enter your criteria of Line(s) for display:

Step 3 Enter the line filter criteria:

Displayed Information	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all.
Line Type	The type of line: <ul style="list-style-type: none"> • Dsx1-T1 • Dsx1-E1 • Dsx3-T3 • Fast-Ether • OC3-ATM • All

Step 4 Click **Display**.

The Common Line screen opens with the filter criteria applied.

Configuration Tasks for Ports

See the following sections for port configuration tasks.

- Configuring Voice Ports
- Viewing All Ports

Understanding Voice Ports

Voice ports use voice over IP or ATM. Voice ports identify the physical location and characteristics of a voice interface at a DS0 level. You add PVC (Permanent Virtual Circuit) end points to MGX 8260 nodes using a NMS (Network Management System). A MGC manages SVC (Switched Virtual Circuit) end points and connections.

The MGX 8260 Media Gateway identifies a voice port by a logical port number that is independent of the port's physical location. The following parameters describe the physical location:

- Slot number
- Port number
- DS0 number

When you add or change a voice port, you associate a logical port number with these physical descriptors.

Configuring Voice Ports

This section describes the procedure for viewing, adding, or changing voice ports.

Viewing Voice Port Configuration and Status

To view voice port status, follow these steps:

-
- Step 1** On the Navigation pane, click **Port**.
 - Step 2** Click **Voice**.
 - Step 3** Click **All Ports**.

The Voice Port Configuration screen opens.

VOICE PORT CONFIGURATION

Select	Slot	Port	Line Num	Ds0 Num	Dyna. Dejitter	Dejr Buf Len	PkLoad Time	Echo Tail	Oper Status	Max Buf Len	Min Buf Len
[-] [i]	3	1	1	1	enabled	1	1		idle	50	1
[-] [i]	3	2	2	1	enabled	1	1		idle	50	1
[-] [i]	3	3	3	1	enabled	1	1		idle	50	1
[-] [i]	3	4	4	1	enabled	1	1		idle	50	1
[-] [i]	3	5	5	1	enabled	1	1		idle	50	1
[-] [i]	3	7	7	1	enabled	1	1		idle	50	1
[-] [i]	3	8	8	1	enabled	1	1		idle	50	1
[-] [i]	3	10	10	1	enabled	1	1		idle	50	1
[-] [i]	3	11	10	2	enabled	1	1		idle	50	1

Step 4 Interpret the table as follows:

Displayed Information	Description
Slot	The logical slot number of the NSC associated with the port
Port	The logical port number assigned to the port
Line Num	The number of the DS1/E1 line associated with the DS0 voice line
DS0 Num	The number of the DS0 channel for the voice port
Dyna Dejitter	The status of the dejitter buffer, either enabled or disabled
Dejr Buf Len	The initial length of the dejitter buffer, specified in multiples of 10 msec.
PkLoad Time	The IP packet loading time for voice service, expressed in multiples of 10 msec
Echo Tail	The length of the echo cancel tail
Oper Status	The operating status of the voice port, as follows: <ul style="list-style-type: none"> idle loopback blocked disabled

Displayed Information	Description
Max Buf Len	The maximum length of the dejitter buffer, specified in multiples of 10 msec.
Min Buf Len	The minimum length of the dejitter buffer, specified in multiples of 10 msec.

To view selected ports, follow these steps:

Step 1 On the Navigation pane, click **Port**.

Step 2 Click **Voice**.

Step 3 Click **Selective-Ports**.

The following form opens.

Please enter your criteria of Voice Port(s) for display:

The screenshot shows a form with three dropdown menus. The first is labeled 'Slot Number:' and has 'All' selected. The second is labeled 'Line Number:' and has 'All' selected. The third is labeled 'Port Status:' and has 'All' selected. The form is enclosed in a double-line border. A vertical number '45331' is visible on the right side of the form.

Step 4 Enter the voice selection criteria:

Displayed Information	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all.
Port Status	The port status: <ul style="list-style-type: none"> • idle • maintenance • out-of service • blocked • in-use • connected • loopback • All
Line Number	The desired line number. Valid settings are 1-16 and all.

Step 5 Click **Display**.

The Voice Port Configuration screen opens, displaying the ports that meet the selection criteria.

Adding Voice Ports

To add a voice port, follow these steps:

- Step 1** On the Navigation pane, click **Port**.
- Step 2** Click **Voice**.
- Step 3** Click **All Ports**.
- The Voice Port Configuration screen opens.
- Step 4** On the Voice Port Configuration screen, click the + icon.
- The Add Voice Port form opens.

ADD Voice Port(s)

Slot (1-16):	<input type="text"/>	Port (1-512):	<input type="text"/>	Line (1-16):	<input type="text" value="1"/>	Ds0 (1-32):	<input type="text" value="1"/>
Contiguous Creating Ports (1-6944):							<input type="text" value="1"/>
Dynamic Dejitte Buffer:							<input type="text" value="enabled"/>
Dejitte Buffer Length (1-50 x10msecs):							<input type="text" value="1"/>
Max Dej. Buffer Length (1-50 x10msecs):							<input type="text" value="50"/>
Min Dej. Buffer Length (1-50 x10msecs):							<input type="text" value="1"/>
IP Packet Loading Time (1-10 x10msecs):							<input type="text" value="1"/>
Echo Tail:							<input type="text" value="tail64ms"/>
Wrap To Next Slot After Reaching Port Number (1-512):							<input type="text" value="384"/>

- Step 5** Specify the port configuration:

Displayed Information	Description
Slot	The logical slot number of the NSC associated with the port. Values 1 to 16.
Port	The logical port number assigned to the port. Values: 1 to 512.
Line	The number of the DS1/E1 line for the voice port. Valid settings are 1 through 16.
DS0	The number of the DS0 channel for the voice port. Values: 1 to 24 for DS1 and 1 to 30 for E1.
Contiguous Creating Ports	The number of contiguous ports to create. Values: 1 to 6944
Dynamic Dejitte Buffer	The status of the dejitter buffer, either enabled or disabled. Default = disabled.
Dejitte Buffer Length	The initial length of the dejitter buffer, specified in multiples of 10 msec. Default = 2.

Displayed Information	Description
Max Dej. Buffer Length	The maximum length of the dejitter buffer, specified in multiples of 10 msec. Default = 50.
Min Dej. Buffer Length	The minimum length of the dejitter buffer, specified in multiples of 10 msec. Default = 1.
IP Packet Loading Time	The IP packet loading time for voice service, expressed in multiples of 10 msec. Default = 1.
Echo Tail	The length of the echo cancel tail: 1 = echo disabled 2 = tail24ms— 24 msec 3 = tail32ms—32 msec 4 = tail48ms— 48 msec 5 = tail64ms—64 msec (default) 6 = tail80ms—80 msec 6 = tail96ms— 96 msec 7 = tail112ms—112 msec 8 = tail128ms—128 msec
Wrap To Next Slot After Reaching Port Number	The port number at which to wrap to the next slot. Set to the maximum number of DS0s for NSCs in your configuration. For DS1uses 384 and for E1 use 480 with CAS or 496 without CAS. Values: 1 to 512

- Step 6** Click **Add**.
The system adds the port.

Changing Voice Ports

To change the configuration of a voice port, follow these steps:

- Step 1** On the Navigation pane, click **Port**.
- Step 2** Click **Voice**.
- Step 3** Click **All Ports**.
The Voice Port Configuration screen opens.
- Step 4** On the Voice Port Configuration screen, click the **I** icon on the row with the port you want to modify.

The Modify Voice Port Configuration form opens.

Modify Voice Port(s)

Slot (1-16):	<input type="text" value="1"/>	Port (1-512):	<input type="text" value="3"/>	Line (1-16):	<input type="text" value="1"/>	Ds0 (1-32):	<input type="text" value="1"/>
Contiguous Modifying Ports (1-4000):							<input type="text" value="1"/>

Voice Port Configuration	
Dynamic Dejitter Buffer:	<input type="text" value="disabled"/>
Dejitter Buffer Length (1-50 x10msecs):	<input type="text" value="4"/>
Max Dej. Buffer Length (1-50 x10msecs):	<input type="text" value="50"/>
Min Dej. Buffer Length (1-50 x10msecs):	<input type="text" value="1"/>
IP Packet Loading Time (1-10 x10msecs):	<input type="text" value="1"/>
Echo Tail:	<input type="text" value="tail32ms"/>
Wrap To Next Slot After Reaching Port Number (1-512):	<input type="text" value="384"/>
Operation Status:	<input type="text" value="idle"/>

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The form displays the following read-only information:

Displayed Information	Description
Operation Status	<p>The operating status of the voice port, as follows:</p> <ul style="list-style-type: none"> • idle • maintenance • out of service • blocked • in use • connected • loopback • All

Step 5 Update the voice port parameters. For parameter definitions, see Adding Voice Ports, page 4-50

Step 6 Click **Modify** and confirm your action.

The system applies the configuration changes.

Deleting Voice Ports

To delete a single voice port, follow these steps:

-
- Step 1** On the Navigation pane, click **Port**.
 - Step 2** Click **Voice**.
 - Step 3** Click **All Ports**.
The Voice Port Configuration screen opens.
 - Step 4** On the Voice Port screen, click the - icon for the port you want to delete.
 - Step 5** Confirm your action.
The system deletes the voice port.
-

To delete a range of voice ports, follow these steps:

-
- Step 1** On the Navigation pane, click **Port**.
 - Step 2** Click **Voice**.
 - Step 3** Click **All Ports**.
The Voice Port Configuration screen opens.
 - Step 4** On the Voice Port screen, click the - icon on the top row of icons.
The Delete Voice Ports form opens.
 - Step 5** Specify the ports as follows:

Displayed Information	Description
Slot	The logical slot number of an NSC
Port	The logical port number for the new port
Contiguous Deleting Ports	The number of contiguous ports to delete
Wrap to Next Slot After Reaching Port Number	The port number at which to wrap to the next slot. Set to the maximum number of DS0s for NSCs in your configuration. For DS1 uses 384 and for E1 use 480 with CAS or 496 without CAS. Values: 1 to 512

- Step 6** Click **Delete** and confirm your action.
The system deletes the voice port.
-

Viewing All Ports

To view information on all ports, follow these steps:

Step 1 On the Navigation pane, click **Port**.

Step 2 Click **All Ports**.

The Common Port screen opens.

Select	Slot	Port	Line	Ds0 BitMap (31-0)	Port Type
⊖ ⓘ	1	1	1	00000000000000000000000000000010	voice
⊖ ⓘ	1	3	1	00000000000000000000000000000001	voice
⊖ ⓘ	1	4	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	6	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	9	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	12	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	13	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	16	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	22	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	23	1	00000000000000000000000000000000	voice
⊖ ⓘ	1	24	2	00000000000000000000000000000000	voice
⊖ ⓘ	1	25	2	00000000000000000000000000000000	voice
⊖ ⓘ	1	26	3	00000000000000000000000000000000	voice
⊖ ⓘ	1	27	3	00000000000000000000000000000000	voice

Step 3 Interpret the common port table as follows:

Displayed Information	Description
Slot	The slot hosting the port
Port	The common logical port number
Line	The common physical line number for this port
DS0 Bit Map	Common DS0 bit map for this port. A 1 indicates the DS0 position in the DS1/E1 line for this port
Port Type	The port type: Voice

Step 4 To view port information, click the **I** icon.

Step 5 To delete a port, click the **-** icon on the row with the port you want to delete and confirm your action.

To view selected ports, follow these steps:

Step 1 On the Navigation pane, click **Port**.

Step 2 Click **Selective-Ports**.

The following form opens.

Please enter your criteria of Voice Port(s) for display:

Slot Number:	All	Line Number:	All
Port Status:	All		

Step 3 Enter the line filter criteria as follows:

Criteria	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all
Port Type	The port type: <ul style="list-style-type: none"> voice all
Line Number	The line number. Valid settings are 1-16 and all

Step 4 Click Display. The Common Port screen opens with the filter criteria applied.

Administration Tasks for Active Calls

Active call information is useful for audits or trouble analysis. The MGX 8260 displays active calls as follows

- Viewing Calls by Physical Resource
- Viewing Calls by Transaction

Viewing Calls by Physical Resource

To view active voice calls by resource, follow these steps:

Step 1 On the Navigation pane, click **Calls**.

Step 2 Click **Physical Calls**.

Step 3 Click **All-Calls**.

The Active Call Physical Table screen opens.



Step 4 Interpret the table as follows:

Displayed Information	Description
S Slot	The slot number for the active call source. The slot, line, and DS0 numbers uniquely define a call while it is active.
S Line	The line number for the active call source.
S Ds0	The DS0 number for the active call source.
S Port	The logical port number for the active call source.
Type	A value that identifies the call type: 1: Voice over IP 2: Time division multiplex
Trans. ID	The transaction identifier for the active call. Only the backend platform software uses this number
Physical ID	An identifier for the active call.
D Slot	The slot number for the active call destination.
D Line	The line number for the active call destination.
D Ds0	The DS0 number for the active call destination.
D Port	The logical port number for the active call destination.
Num Pkt Tx	The number of packets transmitted since call setup
Num Pkt Rx	The number of packets received since call setup
Num Pkt Drop	The number of packets dropped since call setup
Num Byte Tx	The number of bytes transmitted since call setup

Displayed Information	Description
Num Byte Rx	The number of bytes received since call setup
Num Byte Drop	The number of bytes dropped since call setup

To view selected ports, follow these steps:

Step 1 On the Navigation pane, click **Calls**.

Step 2 Click **Physical Calls**.

Step 3 Click **Selective-Calls**.

The following form opens.

Please enter your criteria of Active Call for display:

Step 4 Enter the voice selection criteria:

Displayed Information	Description
Slot Number	The desired slot number. Valid settings are 1-16 and all.
Line Number	The desired line number. Valid settings are 1-16 and all.
Call Type	The type of call. Valid settings are voip, tdm, and all.

Step 5 Click **Display**.

The Active Call Physical Table screen opens, displaying the calls that meet the selection criteria.

Viewing Calls by Transaction

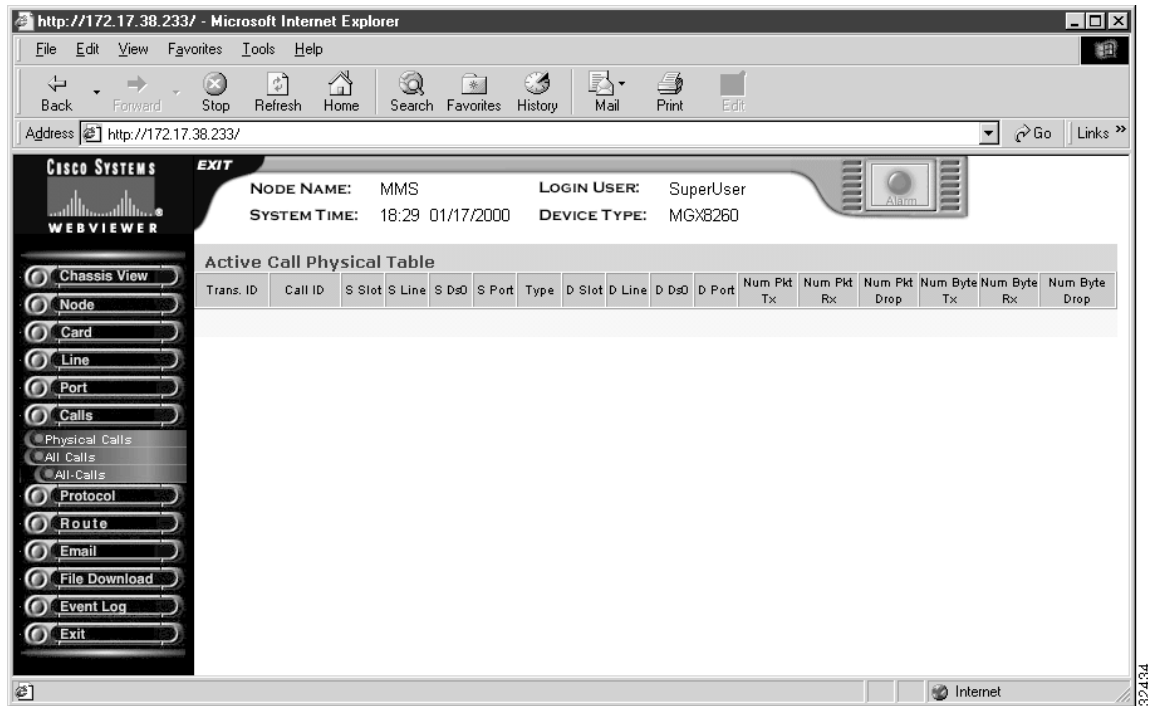
To view active voice calls by transaction, follow these steps:

Step 1 On the Navigation pane, click **Calls**.

Step 2 On the Calls submenu, click **All Calls**.

Step 3 On the All Calls submenu, click **All-Calls**.

The Active Call Physical Table screen opens.



Step 4 Interpret the table as follows:

Displayed Information	Description
Trans ID	The transaction identifier for the active call. Only the backend platform software uses this number
Call ID	An identifier for the active call.
S Slot	The slot number for the active call source. The slot, line, and DS0 numbers uniquely define a call while it is active.
S Line	The line number for the active call source.
S Ds0	The DS0 number for the active call source.
S Port	The logical port number for the active call source.
Type	A value that identifies the call type: 1: Voice over IP 2: Time division multiplex
D Slot	The slot number for the active call destination.
D Line	The line number for the active call destination.
D Ds0	The DS0 number for the active call destination.
D Port	The logical port number for the active call destination.
Num Pkt Tx	The number of packets transmitted since call setup
Num Pkt Rx	The number of packets received since call setup

Displayed Information	Description
Num Pkt Drop	The number of packets dropped since call setup
Num Byte Tx	The number of bytes transmitted since call setup
Num Byte Rx	The number of bytes received since call setup
Num Byte Drop	The number of bytes dropped since call setup



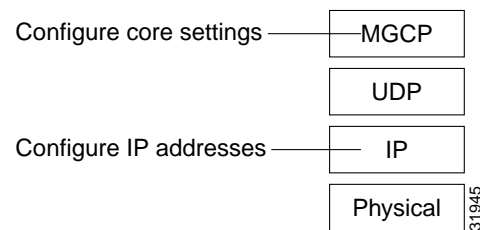
Call Control Interface Configuration

The Cisco MGX 8260 works in conjunction with Media Gateway Controller (MGC) servers or Soft Switches and the Public Switched Telephone Network (PSTN) to control voice and data calls.

Understanding MGCP

This section describes how to configure and view MGCP (Media Gateway Control Protocol). The Cisco MGX 8260 implements the standard MGCP protocol stack (see Figure 5-1).

Figure 5-1 MGCP Protocol Stack

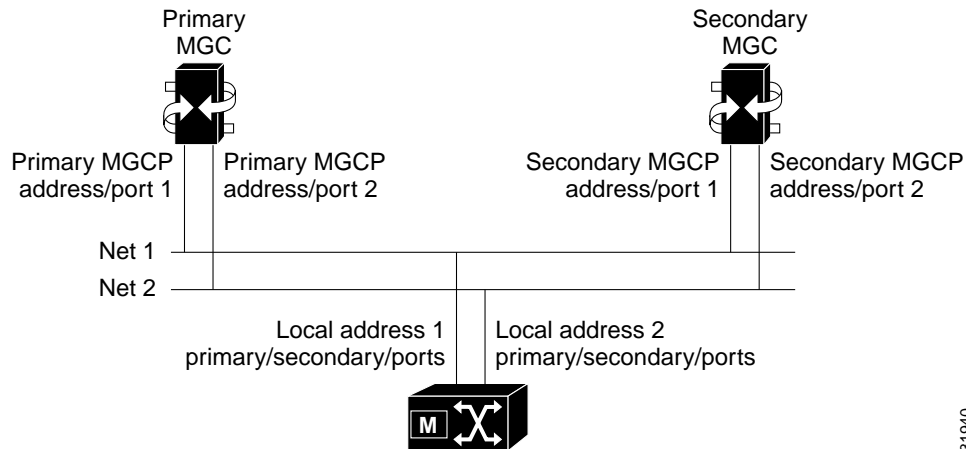


The protocol stack contains the following layers:

- MGCP
- UDP (User Datagram Protocol)
- IP (Internet Protocol)
- Physical—Ethernet LAN

Only the IP layer requires configuration. The following diagram shows how to configure MGCP IP addresses in a fully-redundant system (see Figure 5-2).

Figure 5-2 MGCP Addresses and Ports



319x0

The minimal system consists of a primary MGC network, the MGX 8260 Media Gateway, and an IP network. You can add the secondary network or MGC for more reliable operation.

Configuration Tasks for MGCP

To configure MGCP, you perform the following tasks:

- Set the domain name.
- Set IP addresses and ports
- Configure MGCP core settings
- View message statistics
- Set MPC scalars

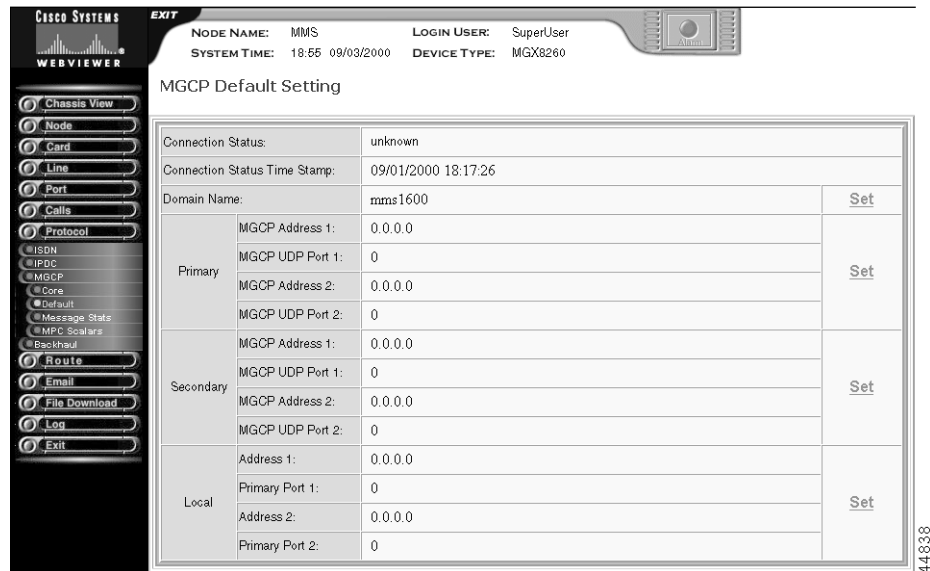
Configuring the MGCP Domain Name and Viewing Connection Status

Before beginning this procedure, obtain the domain name for your MGCP interface.

To configure the domain name and view connection status information, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **MGCP**.
- Step 3** Click **Default**.

The MGCP Default Setting screen opens.



Step 4 Interpret the connection status information as follows:

Parameter	Description
Connection Status	The current status of the MGCP connection, as follows: <ul style="list-style-type: none"> unknown—undefined status connected—message is sent and response to it is received connecting—message is sent and waiting for response noSuchName—no domain name/IP address is found noResponse—timeout on message
Con. Status Time Stamp	The time the connection status last changed.

Step 5 In the Domain Name section, click **Set**.

The MGCP Domain Name Setting screen opens.

Step 6 Enter the domain name or IP address of the MGX 8260, and click **Modify**.

Configuring MGCP IP Addresses

Before beginning this procedure, obtain the IP addresses and ports for your MGCP interface. Make sure your IP and port selections do not conflict with other equipment on the networks.

To configure MGCP IP addresses, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **MGCP**.

Step 3 Click **Default**.

The MGCP Default Setting screen opens.

Step 4 Interpret the connection status information as follows:

Parameter	Description
Connection Status	The current status of the MGCP connection, as follows: <ul style="list-style-type: none"> unknown—undefined status connected—message is sent and response to it is received connecting—message is sent and waiting for response noSuchName—no domain name/IP address is found noResponse—timeout on message
Con. Status Time Stamp	The time the connection status last changed.

Step 5 Click **Set** in either the Primary, Secondary, or Local sections of the MGCP Default Setting form.

The respective Primary MGCP Setting, Secondary MGCP Setting, or Local MGCP Setting form opens.

Step 6 Specify the MGCP parameters:

Parameter	Description
Primary MGCP Address 1	The IP address of the primary MGC for network 1. Use the standard dot notation for IP addresses.
Primary MGCP UDP Port 1	The default UDP port of the primary MGC for network 1.
Primary MGCP Address 2	The IP address of the primary MGC for network 2. Use the standard dot notation for IP addresses.

Parameter	Description
Primary MGCP UDP Port 2	The default UDP port of the primary MGC for network 2.
Secondary MGCP Address 1	The IP address of the secondary MGC for network 1. Use the standard dot notation for IP addresses.
Secondary MGCP UDP Port 1	The default UDP port of the secondary MGC for network 1.
Secondary MGCP Address 2	The IP address of the secondary MGC for network 2. Use the standard dot notation for IP addresses.
Secondary MGCP UDP Port 2	The default UDP port of the secondary MGC for network 2.
Local Address 1	The IP address of the Media Gateway interface for network 1. This address needs to be on the same subnet as the Primary MGCP Address. Specify the IP address in standard dot notation.
Local Primary Port 1	The primary UDP port of the Media Gateway interface for network 1.
Local Address 2	The IP address of the Media Gateway interface for network 2. This address needs to be on the same subnet as the Secondary MGCP Address. Specify the IP address in standard dot notation.
Local Primary Port 2	The primary UDP port of the Media Gateway interface for network 2.

Step 7 Click **Modify**. The system configures the MGCP IP addresses.

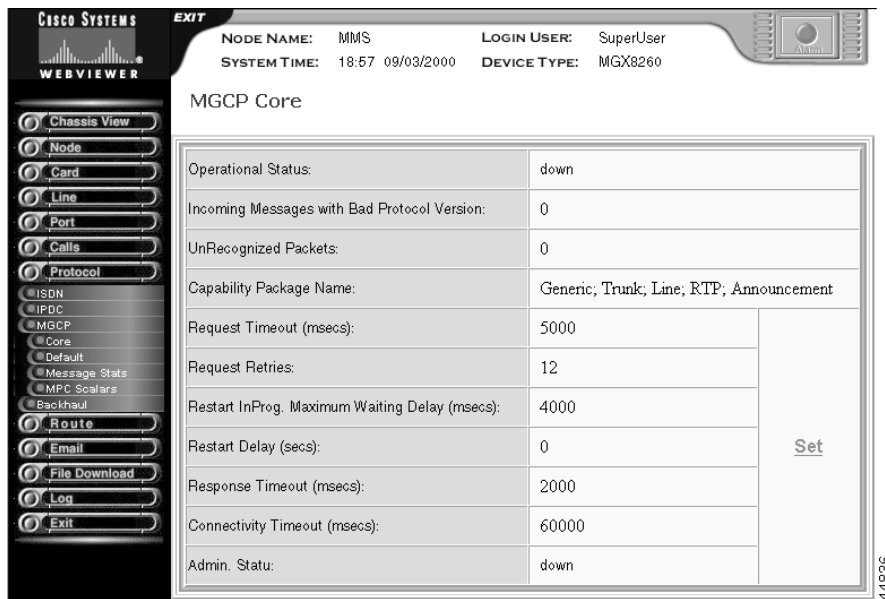
Configuring MGCP Core Settings

MGCP core settings enable and disable the protocol and control how it works.

To configure MGCP core parameters, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **MGCP**.
- Step 3** Click **Core**.

The MGCP Core Setting screen opens, displaying the status, settings, and other information related to MGCP messages.



Step 4 Interpret the core status information as follows:

Parameter	Description
Operational Status	The administrative state, as follows: <ul style="list-style-type: none"> • up—MGCP is up and running • bringUpInProgress—MGCP is coming up • shutDownInProgress—MGCP is shutting down • down—MGCP is administratively down
Incoming Messages With Bad Version	The total number of incoming messages delivered to the protocol entity that were for an unsupported protocol version.

Parameter	Description
UnRecognized Packets	The number of unrecognized packets.
Capabilities Package Name	A list of the capabilities packages: <ul style="list-style-type: none"> • Generic Media Package • DTMF package • MF Package • Trunk Package • Line Package • Handset Package • RTP Package • Network Access Server Package • Announcement Server Package • Script Package

Step 5 Click **Set**.

The MGCP Core Setting screen opens.

MGCP Core Setting

Request Timeout (1..100000 msecs):	<input type="text" value="60000"/>
Request Retries (0..15):	<input type="text" value="12"/>
Restart InProg. Maximum Waiting Delay (0..600000 msec):	<input type="text" value="4000"/>
Restart Delay (0..600 secs):	<input type="text" value="0"/>
Response Timeout (1..100000 msecs):	<input type="text" value="2000"/>
Connectivity Timeout (1-100000 msecs):	<input type="text" value="60000"/>
(Set) Admin. Statu:	down

Step 6 Enter new MGCP core parameters.

Parameter	Description
Request Timeout	The time to wait before retransmitting packets. Values: 1 to 100000.
Request Retries	The maximum number of retries for a request that times out. Values: 0 to 15.
Restart InProg. Maximum Waiting Delay	The maximum waiting delay, in milliseconds, before the Media Gateway interface sends the Restart In Progress message to the Media Gateway Controller. Values: 0 to 600000.
Restart Delay	The delay for a graceful shutdown. Values 0 to 600

Parameter	Description
Response Timeout	The time in milliseconds to wait before retransmitting unacknowledged messages. Values: 1 to 100000.
Connectivity Timeout	The time in milliseconds to wait for a request from MGCP before dropping the link. Values: 1 to 100000.
Admin. Status	The desired state of the protocol. Click Set Admin Status to change the setting. <ul style="list-style-type: none"> 1—up - bring up protocol administratively 2—down - bring down protocol administratively 3—gracefulDown - gracefully shut down protocol

- Step 7** Select (Set) Admin. Status.
- Step 8** Select a setting.
- Step 9** Click **Set New Status** to change the value and return to the MGCP Core Setting screen.
- Step 10** Click **Modify**. The system configures the MGCP core settings.

Viewing Message Statistics

To view MGCP message statistics, follow these steps.

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **MGCP**.
- Step 3** Click **Message Stats**.

The MGCP Message Statistics screen opens, displaying the statistics.

The screenshot shows the Cisco WebViewer interface for MGCP Message Statistics. The navigation pane on the left includes options like Chassis View, Node, Card, Line, Port, Calls, Protocol, ISDN, IPDC, MGCP, Core, Default, Message Stats, MPC Scalars, Backhaul, Route, Email, File Download, Log, and Exit. The main content area displays the following statistics:

MGCP Message Statistics	
Media Gateway Controller IP Address:	0.0.0.0
Total Decode Errors:	0
Total Encode Errors:	0
Drop On Receive:	0
Request Retransmission:	0
Response Retransmissions:	0
Provisional Responses:	0

Buttons for 'Display' and 'Back' are visible at the bottom of the statistics table.

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Step 4 Click **Display**. The system refreshes the display of MGCP statistics.

Configuring Default Call Setup Parameters

Call setup requires the default type of network, packetization period, bandwidth, echo cancellation, silence suppression, type of service, resource reservation, and COT receive and transmit tones. This section describes how to set default values for these parameters.

To configure MCP scalars, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **MGCP**.

Step 3 Click **MPC Scalars**.

The MPC Scalar screen opens.

The screenshot shows the Cisco WebViewer interface for configuring MPC Scalars. The navigation pane on the left includes options like Chassis View, Node, Card, Line, Port, Calls, Protocol, ISDN, IPDC, MGCP, Core, Default, Message Stats, MPC Scalars, Backhaul, Route, Email, File Download, Log, and Exit. The main content area displays the following parameters:

Parameter	Value	Action
Default Type of Network:	local	Set
Packetization Period(milliseconds):	10	
Bandwidth(Kilobits per second):	64	
Echo Cancellation:	On	
Silence Suppression:	On	
Type of Service (1-256):	2	
Resource Reservation:	bestEffort	
Default COT Receive Tone:	co2	
Default COT Transmit Tone:	co1	
Default Encoding Type:	PCMU(G711 U-law)	

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Step 4 Click **Set**.

The MPC Scalars Setting screen opens.

MPC Scalars Setting

Default Type of Network:	local
Packetization Period(millisecond):	10
Bandwidth(Kilobits per second):	64
Echo Cancellation:	On
Silence Suppression:	On
Type of Service (1-256):	2
Resource Reservation:	bestEffort
Default COT Receive Tone:	co2
Default COT Transmit Tone:	co1
Default Encoding Type:	PCMU(G711 U-law)

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Step 5 Select new settings:

Parameter	Description
Default Type of Network	The type of network, voice-over-IP, voice-over-ATM, or local
Packetization Period	Packetization Period in milliseconds. Value: fixed at 10
Bandwidth	The network bandwidth in kbps. Values: 8 and 64 kbps
Echo Cancellation	Enables or disables echo cancellation.
Silence Suppression	Enables or disables silence suppression.
Type of Service	The type of Service. Values: 1-256, where 1 indicates no service type
Resource Reservation	The resource reservation type. Values: <ul style="list-style-type: none"> bestEffort guaranteed notUsed controlledLoad
Default COT Receive Tone	The default receive tone. For transponder COT, when the media gateway controller does not supply the tones, the default tone the gateway receives is the default COT receive tone. Values: <ul style="list-style-type: none"> co1 co2

Parameter	Description
Default COT Transmit Tone	The default transmit tone. For transponder COT, when the media gateway controller does not supply the tones, the default tone the gateway transmits is the default COT transmit tone. Values: <ul style="list-style-type: none"> co1 co2
Default Encoding Type	The type of voice encoding when not specified by the MGC: <ul style="list-style-type: none"> PCMU—G711 Mu-law encoding PCMA—G711 A-law encoding G729A G726_32K

Step 6 Click **Modify**.

The system configures the MGCP core settings.

Step 7 Go back to the MPC Scalars screen.

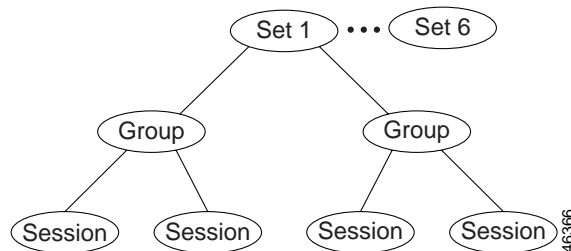
Step 8 Click **Display**.

The system refreshes the display of settings on the MPC Scalars screen.

Understanding Sessions

The session manager organizes individual sessions into groups and sets (see Figure 5-3).

Figure 5-3 Organization of Sessions

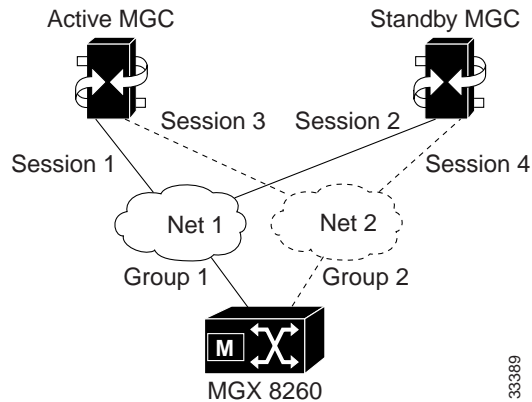


The backhaul sessions and groups include the following components:

- Session—a connection between two points, defined by a local IP address and port and a remote IP address and port. The Cisco MGX 8260 supports four sessions per set, two for each session group.
- Session Group—a collection of one or more sessions for a single MGC. Typically, the individual sessions implement network redundancy. The Cisco MGX 8260 supports two session groups per set.
- Session Set—a collection of session groups, typically used to group session groups for redundant MGCs. The Cisco MGX 8260 supports up to six session sets for a total of up to 24 sessions.

When adding sessions, you create a structure that supports reliable operation. The goal for a fully-redundant system is to provide multiple management sessions to multiple MGCs via multiple physical networks (see Figure 5-4).

Figure 5-4 Logical Session Model



With full redundancy, you configure the following:

- Four sessions:
 - Session 1 (MGX 8260 Net 1 to Active MGC Net 1)
 - Session 2 (MGX 8260 Net 1 to Standby MGC Net 1)
 - Session 3 (MGX 8260 Net 2 to Active MGC Net 2)
 - Session 4 (MGX 8260 Net 2 to Standby MGC Net 2)

This assumes that every transport address has corresponding IP interface address and a UDP port unique for that IP address.

- Two session groups:
 - Session group1 (session 1 and session 3)
 - Session group2 (session 2 and session 4)
- One session set containing session group 1 and group 2.

If the MGC can't handle all D Channels in one session set, you configure another similar set using different UDP ports and D Channels.

Configuration Tasks for Sessions

To configure ISDN backhaul signaling, perform the following tasks:

- Add session sets
- Add session groups
- Add sessions

Configuring Session Sets

You can view and set session sets.

Viewing Session Set Information

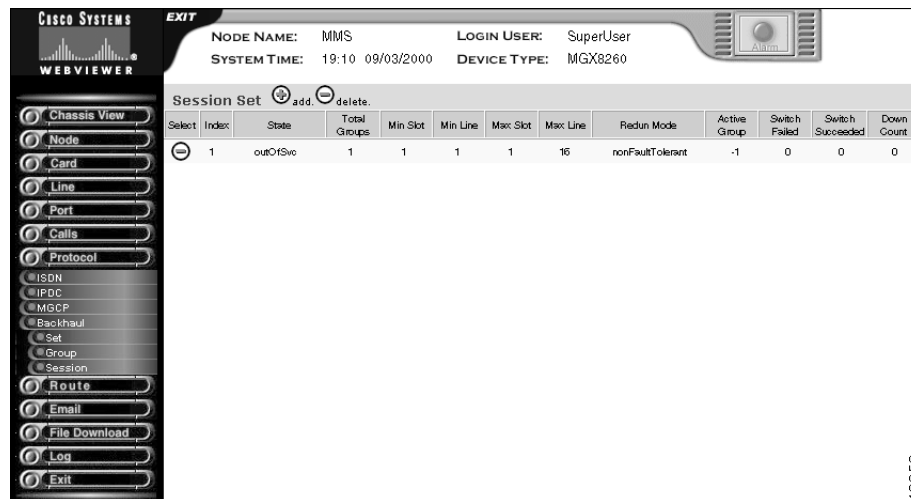
To view session set status, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **Backhaul**.

Step 3 Click **Set**.

The Session Set screen opens.



Step 4 View the session set summary.

Displayed Information	Description
Index	The session set index number.
State	The state of the session set: <ul style="list-style-type: none"> idle outOfService standby active full switchOver
Total Groups	The total number of groups added to this Session Set.
Min Slot	The minimum MGX 8260 slot number for this Session Set.
Min Line	The minimum line number for this Session Set.

Displayed Information	Description
Max Slot	The maximum MGX 8260 slot number for this Session Set.
Max Line	The maximum line number for this Session Set.
Redun Mode	The current redundancy mode: <ul style="list-style-type: none"> nonFaultTolerant faultTolerant
Active Group	The group number which is in the Active state. Displays -1 if no group is active.
Switch Failed	The total number of switchover failures.
Switch Succeeded	The total number of switchover successes.
Down Count	The number of times the session set went down.

Adding a Session Set

To add a session set, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **Backhaul**.

Step 3 Click **Set**.

The Session Set screen opens.

Step 4 Click the + icon.

The Add Session Set form opens.

ADD Session Set

Set Index Number (1-6):	<input type="text"/>
Redundant Mode:	nonFaultTolerant ▾
Minimum Slot Number (1-8: NSC; 11-16: NSC,BSC):	<input type="text"/>
Minimum Line Number(1-16: NSC; 1-168: BSC):	<input type="text"/>
Maximum Slot Number (1-8: NSC; 11-16: NSC,BSC):	<input type="text"/>
Maximum Line Number (1-16: NSC; 1-168: BSC):	<input type="text"/>

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Step 5 Configure the session set parameters.

Parameter	Description
Set Index	An index number for the new set.
Redundant Mode	The redundancy mode: <ul style="list-style-type: none"> • nonFaultTolerant • faultTolerent
Minimum Slot Number	The minimum MGX 8260 slot number for this Session Set. Range: 1-8 and 11-16
Maximum Slot Number	The maximum MGX 8260 slot number for this Session Set. Range: 1-8 and 11-16
Minimum Line Number	The minimum line number for this Session Set. Range if Min Slot is a BSC: 1-168 Range if Min Slot is a NSC: 1-16
Maximum Line Number	The maximum line number for this Session Set. Range if Max Slot is a BSC: 1-168 Range if Max Slot is a NSC: 1-16

Step 6 Click Add.

Deleting a Session Set

To delete a session set, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **Backhaul**.
- Step 3** Click **Set**.
- The Session Set screen opens.
- Step 4** Click the - icon for the set you want to delete; then confirm your action.
-

Configuring Session Groups

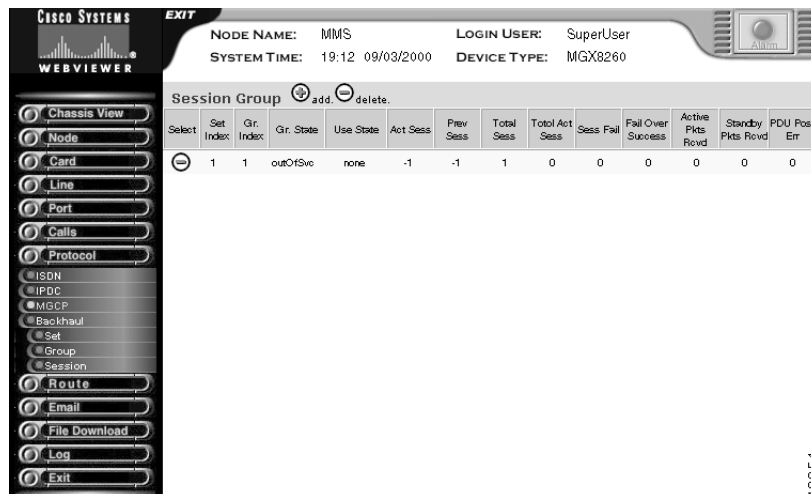
You can view and add session groups.

Viewing Session Group Information

To view session set status, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **Backhaul**.
- Step 3** Click **Group**.

The Session Group screen opens.



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- Step 4** View the session group summary.

Displayed Information	Description
Set Index	The set number to which this group belongs
Gr. Index	The group index number
Gr. State	The state of the session group: <ul style="list-style-type: none"> • outOfService • inService
Use State	The use state of the session group: <ul style="list-style-type: none"> • none • standby • active
Act. Sess	The active session number of the Group. Displays -1 if no session is active.
Prev Sess	The previously active session set ID of the Group.
Total Sess	The total number of sessions for the Group.
Total Act Sess	The total number of active sessions in the Group
Sess Fail	The total number of session failures for the Group.

Displayed Information	Description
Fail Over Success	The total number of failover successes for this Group.
Active Pkts Rcvd	The total number of packets Received for this Group.
Standby Pkts Rcvd	The total number of packets sent by this Group.
PDU Post Err	The total number of active packets received for this Group.

Adding a Session Group

To add a session group, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **Backhaul**.

Step 3 Click **Group**.

The Session Group screen opens.

Step 4 Click the + icon.

The Add Session Group form opens.

ADD Session Group

Step 5 Configure the session group parameters.

Parameter	Description
Session Group Index Number	A group number for the new group.
Session Set Index Number	The index number of the set to which this group belongs.

Step 6 Click **Add**.

Deleting a Session Group

To delete a session group, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **Backhaul**.

Step 3 Click **Group**.

The Session Group screen opens.

Step 4 Click the - icon for the group you want to delete; then confirm your action.

Configuring sessions

You can view and add sessions.

Viewing Session Information

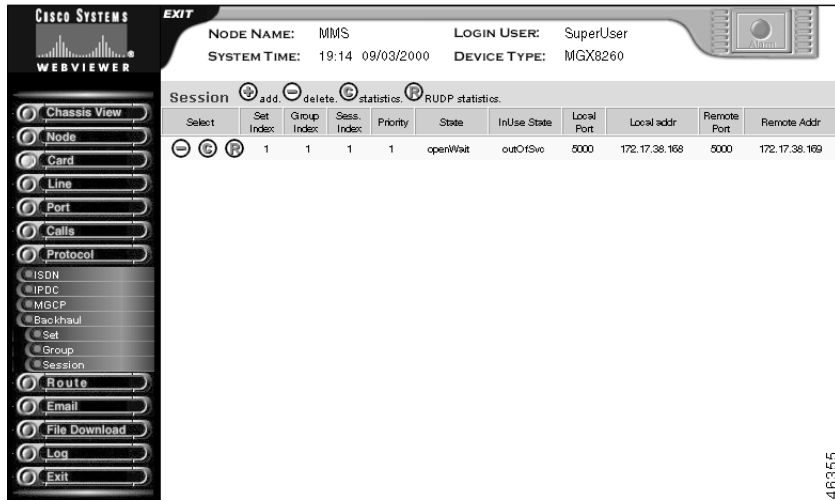
To view session status, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **Backhaul**.

Step 3 Click **Session**.

The Session screen opens.



Step 4 View the session summary.

Displayed Information	Description
Set Index	The session set to which the group containing the session manger belongs.
Group Index	The session group of which the session is a member.
Sess. Index	The session number.
Priority	The session connection priority.

Displayed Information	Description
State	The session state: <ul style="list-style-type: none"> • open • openWait • openXfer • close • closeWait • userClose • autoReset
InUse State	The use state of the session: <ul style="list-style-type: none"> • outOfService • inService • blocked
Local Port	The local UDP Port.
Local addr	The local IP address of the connection.
Remote Port	The remote UDP port.
Remote Addr	The remote IP address of the connection.

Adding a Session

To add a session connection, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **Backhaul**.
 - Step 3** Click **Session**.
The Session screen opens.
 - Step 4** Click the + icon.

The Add Session form opens.

ADD Session Manager

Step 5 Set the Session Index, Group Index, and Set Index.

Parameter	Description
Session Index	The session identifier. A session represents a 'physical' connection between the media gateway and media gateway controller.
Group Index	Session group identifier. A session group consists of one or more RUDP sessions.
Set Index	The session set identifier. A session set is a collection of session groups, each connecting to a different media gateway controller. Use session sets for redundant media gateway controller architectures.

Step 6 Configure the session connection parameters.

Parameter	Description
Priority	The session priority.
Local Port	The local port for the session.
Local Address	The local IP address for the session.
Remote Port	The remote port for the session.
Remote Address	The remote IP address for the session.

Step 7 Click **Add**.

Deleting a Session

To delete a session, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **Backhaul**.
 - Step 3** Click **Session**.
The Session screen opens.
 - Step 4** Click the - icon for the manager you want to delete; then confirm your action.
-

Viewing Session Counters

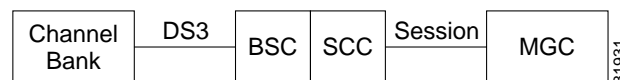
To view session counters, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **Backhaul**.
 - Step 3** Click **Session**.
The Session screen opens.
 - Step 4** Click the **C** icon on the session of interest.
 - Step 5** The Session Counters screen opens, displaying session counter values.

Understanding ISDN D Channels Usage

The MGX 8260 Media Gateway extends D Channel signaling to a Media Gateway Controller via a backhaul channel (see Figure 5-5).

Figure 5-5 D Channel to Media Gateway Controller



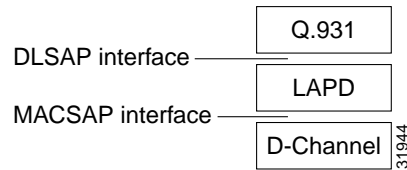
Each BSC contains 168 T1 lines, each a potential Primary Rate ISDN line. An ISDN line contains 24 channels, one of which is the D Channel that carries the signaling information for the other 23 channels. The BSC card can terminate a D Channel signaling stack and pass the payload to a Media Gateway Controller, via the SCC, using a backhaul session.

The following procedures describe how to configure a D Channel for a backhaul session. The procedures assume you already have a DS3 line and have provisioned a PRI ISDN line on one of its circuits. ISDN D Channels can be difficult to configure because they have many settings, so the Cisco MGX 8260 simplifies the process by grouping common settings into two types of profiles:

- Digital Link Service Access Profile
- Media Access Control Service Access Profile

The Digital Link Service Access Profile (DLSAP) and Media Access Control Service Access Profile (MACSAP) profiles define different levels of the ISDN protocol stack (see Figure 5-6).

Figure 5-6 DLSAP and MACSAP Interfaces



When adding D Channels, you simply specify suitable profiles that contain the desired configuration set. You can create profiles using default settings that accommodate the signaling requirements for common applications.

Configuration Tasks for D Channels

The Cisco MGX 8260 simplifies the process of creating D Channels with DLSAP and MACSAP profiles. These profiles provide a template of parameter settings that you apply when adding D Channels. Changes you make to the profiles only apply to lines you subsequently add, not to lines that already exist. If you want to change the configuration of a D Channel, delete it first and then recreate a new one using the new template.

The following section describes the high-level procedure for configuring a D Channel on an existing DS3 trunk:

-
- Step 1** Define a DLSAP profile (see Adding a MACSAP Profile, page 5-22).
 - Step 2** Define a MACSAP profile (see Adding a DLSAP Profile, page 5-24).
 - Step 3** Define a D Channel on a PRI ISDN line within the DS3 trunk, using the profiles you defined in Steps 1 and 2 (see Adding D Channels, page 5-27).
-

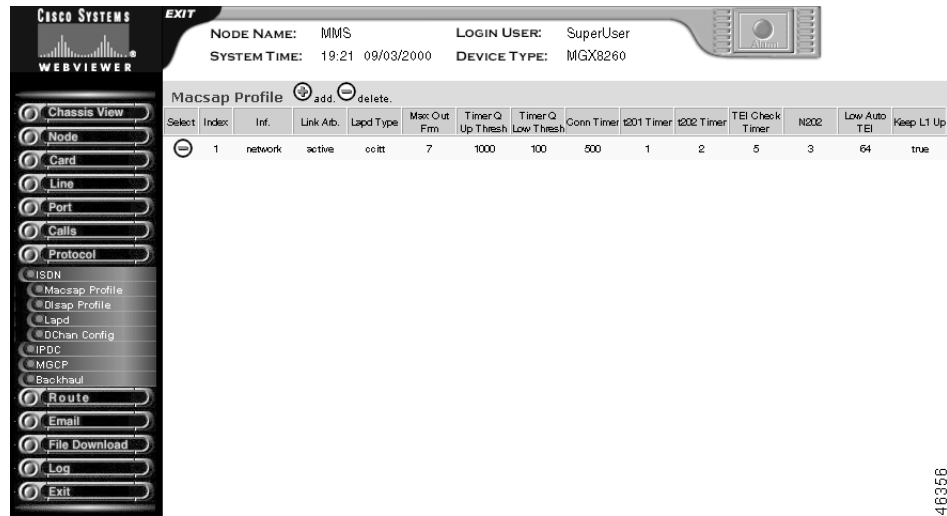
Adding a MACSAP Profile

MACSAP management consists of adding and deleting profiles. You need at least one profile to add D Channels.

To add a MACSAP profile, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **ISDN**.
 - Step 3** Click **Macsap Profile**.

The Macsap Profile screen opens.



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Step 4 Click the + icon.

The Add Macsap Profile form opens.

ADD MACSAP Profile

Profile Index (1..20):

MACSAP Interface:	<input type="text" value="network"/>	Link Setup Arbitration Scheme:	<input type="text" value="active"/>
LAPD Type:	<input type="text" value="ccitt"/>	Maximum Outstanding Frames: (1..255)	<input type="text" value="7"/>
Timer Queue Upper Threshold: (1..32767)	<input type="text" value="1000"/>	Timer Queue Lower Threshold: (1..32767)	<input type="text" value="100"/>
Connection Timer: (1..1024)	<input type="text" value="500"/>	T201 Timer: (1..1024)	<input type="text" value="1"/>
T202 Timer: (1..1024)	<input type="text" value="2"/>	TEI Check Timer: (1..1024, 1025: Disable)	<input type="text" value="5"/>
N202:	<input type="text" value="3"/>	Lowest Range of Automatic TEI: (0..127)	<input type="text" value="64"/>
Keep MAC Up All The Time:	<input type="text" value="true"/>		

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Step 5 Specify the Macsap profile parameters.

Parameter	Description
Profile Index	A numeric identifier for the profile. Values: 1 to 20
MACSAP Interface	The type of profile. Value: network
Link Setup Arbitration Scheme	The link setup arbitration scheme. Values: passive or active.
LAPD Type	The LAPD interface type

Parameter	Description
Maximum Outstanding Frames	The maximum number of sequentially numbered I-frames that may be outstanding. Values: 1 to 255
Timer Queue Up Threshold	The upper threshold for I-frame queue. When the I-frame queue size exceeds this threshold, the congestion timer is started and flow-control is turned on. Values: 1 to 32767
Timer Queue Low Threshold	The lower threshold for I-frame queue. When the I-frame queue size falls below this threshold, the congestion timer is stopped and flow-control is turned off. Values: 1 to 32767
Connection Timer	The connection timer. Values: 1 to 1024
T201 Timer	The minimum time between transmissions of the TEI Identity check message, in seconds. Values: 1 to 1024
T202 Timer	The minimum time between retransmission of the TEI Identity request message, in seconds. Values 1 to 1024
TEI Check Timer	The TEI check timer. The value 1025 means the TEI Check Timer is disabled. Values: 1 to 1025, where 1025 = disables
N202	Minimum time between transmissions of TEI Identity check messages
Lowest Range of Automatic TEI	The allocated TEI value. When configured for Automatic TEI Assignment, ASP can allocate TEIs greater than or equal to Lowest Automatic TEI. Values: 1 to 127
Keep Mac Up All The Time	The state of the Keep MAC Up All The Time flag. Values: true or false

Step 6 Click **Add**. The system adds the profile and updates the Macsap Profile screen.



Note If you add an incorrect profile, delete the profile using the - icon and start over.

Adding a DLSAP Profile

DLSAP management consists of adding and deleting profiles. You need at least one profile to add D Channels.

To add a DLSAP profile, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
- Step 3** Click **Dlsap Profile**.

The Dlsap Profile screen opens.



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Step 4 Click the + icon.

The Add Dlsap Profile form opens.

ADD Dlsap Profile

Profile Index (1..20):

Frame Length: (1..1960, # of OCTETS)	<input type="text" value="1960"/>	Window Size: (1..128)	<input type="text" value="7"/>
Maximum Retransmissions Count: (1..1023)	<input type="text" value="3"/>	Congestion Timer: (1..1023)	<input type="text" value="200"/>
T200 Timer:	<input type="text" value="1"/>	T203 Timer:	<input type="text" value="10"/>
Modulus:	<input type="text" value="128"/>	TEI Assign:	<input type="text" value="nonAutomatic"/>
Maximum number of DLCs: (1..16)	<input type="text" value="1"/>	Starting TEIs: (0..63)	<input type="text" value="1"/>

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Step 5 Specify the Dlsap profile parameters.

Parameter	Description
Profile Index	A numeric identifier for the profile. Values: 1 to 20.
Frame Length	The frame length, which is the maximum number of octets in an information field. Values: 1 to 1960. Default: 1960.
Window Size	The maximum number of sequentially numbered I-frames that may be outstanding. This window-size depends on the modulo. If the modulo is 8, then this range is (1 - 8) and if the modulo is 128, then the range of the window size is (1 - 128).

Parameter	Description
Maximum Retransmissions Count	The maximum number of retransmissions of a frame. Values: 1 to 1023. Default: 3
Congestion Timer	The time after which DLCs are dropped during periods of network congestion, in seconds. Values: 1 to 1023. Default: 200
T200 Timer	The wait time before frame transmission may be initiated, in seconds. Values: 1 to 3. Default: 1
T203 Timer	The maximum time between retransmission of the TEI identity request message, in seconds. Values 20 to 60. Default: 10
Modulus	Each I-frame is sequentially numbered and may have values 0 through (N-1) where N is this modulus. Values: 8 or 128. Default: 128
TEI Assign	The Terminal Endpoint Identifier assignment setting: <ol style="list-style-type: none"> 1. automatic—TEI is selected by the ASP Layer Management procedure on the network side. Default: 2, which yields a TEI of 1. 2. nonAutomatic—TEI is selected by the user (default)
Max DLCs	The maximum number of DLCs for this DLSAP. Values: 1 to 16. Default: 1
Starting TEIs	The starting number for reassigning TEIs. This number is used in conjunction with the previous two parameters to number TEIs. For example, if TEI Assignment is nonAutomatic, Maximum DLCs for this DLSAP is 4, and TEI is 14. When a D Channel is added, 4 TEIs starting at 14 are preconfigured. Values: 0 to 63

Step 6 Click **Add**. The system adds the profile and updates the Dlsap Profile screen.

Deleting a Profile

To delete a dlsap or macsap profile, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
- Step 3** Click **Dlsap Profile** or **Macsap Profile**.
The Dlsap Profile or Macsap Profile screen opens.
- Step 4** Click the - icon for the profile you want to delete; then confirm your action.

Viewing LAPD Parameters

You don't need to configure LAPD, but you can view its status.

To view LAPD status, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
- Step 3** Click **Lapd**.

The LAPD Card Table screen opens.

Card Index	Num of Phy. Links	Num of Dbs	Num of LAPD Links	Num of ASPs
1	16	1024	16	16
2	16	1024	16	16
14	168	10782	168	168
15	168	10782	168	168
16	168	10782	168	168

- Step 4** View the LAPD summary.

Displayed Information	Description
Card Index	The physical card number
Number of Phy. Links	The total number of physical links for this instance of LAPD on the card
Num of DLCs	The total number of DLCs for this instance of LAPD on the card
Num of LAPD Links	The total number of LAPD links for this instance of LAPD on the card
Num of ASPs	The number of Assigned Source Points

- Step 5** Click **Back** to close the screen.

Adding D Channels

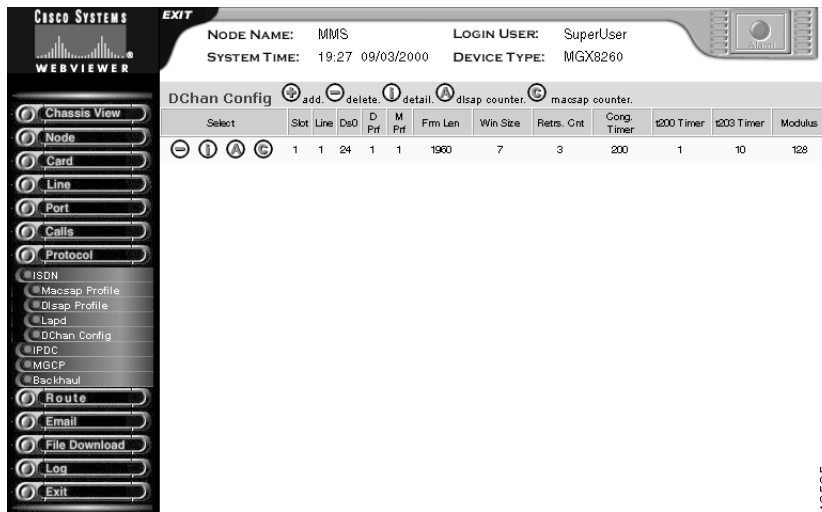
The Cisco MGX 8260 communicates with PSTN equipment over Primary Rate Interface (PRI) ISDN D Channels.

Adding a D Channel requires an existing DS3 line and suitable DLSAP and MACSAP profiles.

To add a D Channel, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
- Step 3** Click **DChan Config**.

The DChan Config screen opens.



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- Step 4** Click the + icon.

The Add D Channel Configuration form opens.

ADD D-Channel Configuration(s)

Slot:	<input type="text"/>	Line:	<input type="text"/>	Contiguous Creating Lines:	<input type="text" value="1"/>
DLSAP Profile Number (1-20):	<input type="text"/>	MACSAP Profile Number (1-20):	<input type="text"/>	Ds0 Number (1-31):	<input type="text"/>
		Ds0 Format:	64k		

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- Step 5** Specify the D Channel parameters.

Parameter	Description
Slot	The slot number for this D Channel
Line	The line number for this D Channel.
Contiguous Creating Lines	The number of D Channels to add.
DLSAP Profile Number	The instance number of a DISap profile. The profile defines a template for the configuration; the DISap instance number is created from the template.

Parameter	Description
Ds0 Number	The time slot to use for the D Channel
MacSap Profile Number	The instance number of a MacSap profile. The profile defines a template for the configuration; the MacSap instance number is created from the template.
Ds0 Format	The D Channel format, either 56 or 64 kbps

- Step 6** Click Add. The system adds the D Channel and updates the DChan Config screen.
-

Changing a D Channel

To change a D Channel, delete the desired D Channel and then add a new one. When creating the new channel, choose a DLSAP and MACSAP profile that contains the desired settings. If such a profile doesn't exist, create one first before adding the new D-Channel. For more information on the relationship between D Channels and profiles, see Configuration Tasks for D Channels, page 5-22.

Deleting a D Channel

To delete a D Channel, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
- Step 3** Click **DChan Config**.
The DChan Config screen opens.
- Step 4** Click the **-** icon for the D Channel you want to delete; then confirm your action.
-

Viewing D Channel Details

To view D Channel detail information, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
The DChan Config screen opens.
- Step 3** Click the **i** icon on the D Channel of interest.

The system displays configuration information for the D Channel.

D-Channel Configuration			
DLSAP Profile:	1	MACSAP Profile:	1
Ds0 Number:	24	Ds0 Format:	64k

DLSAP Profile			
Frame Length:	1960	Window Size:	7
Maximum Retransmissions Count:	3	Congestion Timer:	200
T200 Timer:	1	T203 Timer:	10
Modulus:	128	TEI Assign:	auto
Maximum number of DLCs:	1	Starting TEIs:	1

MACSAP Profile			
MACSAP Interface:	network	Link Setup Arbitration Scheme:	passive
LAPD Type:	ccitt	Maximum Outstanding Frames:	7
Timer Queue Upper Threshold:	1000	Timer Queue Lower Threshold:	100
Connection Timer:	500	T201 Timer:	1
T202 Timer:	2	TEI Check Timer:	5
N202:	3	Lowest Range of Automatic TEI:	64
Keep MAC Up All The Time:	true		

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Viewing D Channel Counters

To view D Channel counters, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **ISDN**.
The DChan Config screen opens.
 - Step 3** Click the **i** icon on the D Channel of interest.
The system displays Counter information for the D Channel.
-

Viewing DLSAP Counters

To view DLSAP counters, follow these steps:

-
- Step 1** On the Navigation pane, click **Protocol**.
 - Step 2** Click **ISDN**.
The DChan Config screen opens.

- Step 3** Click the **A** icon on the D Channel of interest.
The system displays DLSAP Counter information for the D Channel.
-

Viewing MACSAP Counters

To view MACSAP counters, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **ISDN**.
The DChan Config screen opens.
- Step 3** Click the **C** icon on the D Channel of interest.
The system displays MACSAP Counter information for the D Channel.
-

Configuration Tasks for IPDC

IPDC is an alternative for MGCP for controlling voice calls through the Cisco MGX 8260. When using IPDC, you don't need to configure sessions or backhaul channels.

To configure IPDC, perform the following tasks:

- Switch from MGCP to IPDC
- Set IP addresses and ports
- Configure core settings
- Configure link timers
- Configure COT tones
- Activate the protocol
- View IPDC configuration and status

Switching from MGCP to IPDC

The Cisco MGX 8260 supports two call control protocols, MGCP and IPDC. By default, MGCP is enabled and IPDC is disabled. To switch to IPDC you must change the active protocol type and reset the chassis.



Warning

Switching protocols interrupts service. Perform this operation during light traffic periods or in a pre-arranged maintenance window.

To switch protocols, follow these steps:

- Step 1** On the Navigation pane, click **Node**.
-

- Step 2** Click **System**.
- Step 3** On the Configuration Setting form, click the **Set** link on the Gateway Control Protocol line. The System Gateway Control Protocol Setting form opens.
- Step 4** Select the protocol type, either MGCP or IPDC.
- Step 5** Click **Modify**. The system resets and drops your management session.
- Step 6** Log in and continue configurations.

Configuring Soft Switch IP Addresses

Before beginning this procedure, obtain the IP addresses and ports that apply to your system. Make sure your IP and port selections do not conflict with other equipment on the network.

To IPDC IP addresses, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **IPDC**.
- Step 3** Click **Configuration**.

The IPDC Configuration screen opens, which includes the Soft Switch Configuration form:

Soft Switch Configuration			
Gateway	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
Primary Soft Switch	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
	Health Check:	enabled	
	Administrative Status:	Down(disconnect)	
Secondary Soft Switch	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
	Health Check:	enabled	
	Administrative Status:	Down(disconnect)	

The form displays IP addresses and operational status for the Soft Servers. To change the settings, perform the following steps.

- Step 4** In the Gateway section, click **Set**.

The IPDC Gateway Setting form opens.

IPDC Gateway Setting

Gateway	IP Address:	<input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/> . <input type="text" value="0"/>
	TCP Port (1025..65535):	<input type="text" value="5000"/>

Step 5 Specify the IP gateway parameters.

Parameter	Description
IP Address	The IP address of the gateway router for IPDC traffic, expressed in standard dot notation.
TCP Port	The TCP port to use. Values: 1025 to 65535. Default: 5000

Step 6 Click **Modify**; then click **Display IPDC Configuration**. The IPDC Configuration screen reopens.

Step 7 In the Primary Soft Switch section, click **Set**.

The Primary Soft Switch Setting form opens.

Primary Soft Switch Setting

Step 8 Specify the primary Soft Switch parameters.

Parameter	Description
IP Address	The IP address of the primary Soft Server, expressed in standard dot notation.
TCP Port	The TCP port to use. Values: 1025 to 65535. Default: 5000
Health Check	The link health check feature. Values: enabled or disabled. Default: enabled
Administrative Status	The operational status of the link. Values: up or down. Default: down

Step 9 Click **Modify**; then click **Display IPDC Configuration**. The IPDC Configuration screen reopens.

Step 10 For redundancy, click **Set** in the Secondary Soft Switch section and repeat Steps 8 and 9.

Configuring a Pseudo IP Address

The Cisco MGX 8260 supports a single pseudo-IP address for the four broadband ports. Use this procedure to initialize this address.

To configure a pseudo-IP address, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **IPDC**.

Step 3 Click **Configuration**.

The IPDC Configuration screen opens, which includes the Status and Core Setting form:

Status and Core Setting	
Current Soft Switch:	Primary
Operation Status of Current Soft Switch:	down: the link is down
Previous Operation Status of Current Soft Switch:	down: the link is down
Date and Time of last operation status change:	07/21/2000 20:29:02
System ID:	Cisco_MGX-8260
System Type:	TDM_XCONN
Maximum number of modules supported:	16
Bay Number of the gateway being controlled:	00000001
Number Format:	zeroBased
Health Check Response Timer (msec)	1000
Graceful Down Timer (sec)	0
Pseudo IP Address:	0.0.0.0

44612

Step 4 In the Pseudo IP Address section, click **Set**.

The IPDC Pseudo IP Address Setting form opens.

IPDC Pseudo IP Address Setting

Pseudo IP Address:	<input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="0"/> <input type="text" value="."/> <input type="text" value="0"/>
--------------------	--

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Step 5 Specify the pseudo-IP address, in standard dot notation. Select an IP address that is in the same subnet as the broadband ports.

Step 6 Click **Modify**; then click Display IPDC Configuration. The IPDC Configuration screen reopens.

Configuring IPDC Core Settings

To configure IPDC core settings, follow these steps:

- Step 1** On the Navigation pane, click **Protocol**.
- Step 2** Click **IPDC**.
- Step 3** Click **Configuration**.

The IPDC Configuration screen opens, which includes the Status and Core Setting form:

Status and Core Setting	
Current Soft Switch:	Primary
Operation Status of Current Soft Switch:	down: the link is down
Previous Operation Status of Current Soft Switch:	down: the link is down
Date and Time of last operation status change:	07/21/2000 20:29:02
System ID:	Cisco_MGX-8260
System Type:	TDM_XCONN
Maximum number of modules supported:	16
Bay Number of the gateway being controlled:	00000001
Number Format:	zeroBased
Health Check Response Timer (msec)	1000
Graceful Down Timer (sec)	0
Pseudo IP Address:	0.0.0.0

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The form displays current operational status for the Soft Switches, along with configuration information for the core settings. To change the core settings, perform the following steps.

Step 4 In the upper section, click **Set**.

The IPDC Configuration Setting form opens.

IPDC Configuration Setting

System ID (String, Size: 0..24):	<input type="text" value="Cisco_MGX-8260"/>
System Type (String, Size: 9):	<input type="text" value="TDM_XCON"/>
Maximum number of modules supported (1..16):	<input type="text" value="16"/>
Bay Number of the gateway being controlled (String, Size: 8):	<input type="text" value="00000001"/>
Number Format:	<input type="text" value="zeroBased"/>
Health Check Response Timer (400..10000 msec)	<input type="text" value="1000"/>
Graceful Down Timer (sec)	<input type="text" value="0"/>

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Step 5 Specify the core IPDC parameters.

Parameter	Description
System ID	An identifier for the gateway being controlled by IPDC protocol. Value: Text string from 0 to 24 characters.
System Type	An identifier for the manufacturer and model of the access server. Value: Text string of exactly 9 characters
Maximum number of modules supported	Maximum number of modules (slot cards) supported. Values: 1 to 16
Bay Number of the gateway being controlled	The number associated with Cisco MGX 8260 being controlled. Value: Text string of exactly 8 characters.

Parameter	Description
Number Format	The numbering format that the Soft Switch uses to interpret module, line, and channel numbers on an MGX 8260. Values: zeroBased or oneBased.
Health Check Response Timer	The time to wait after sending the heartbeat before bringing down the link. Values: 400 to 10000 msec. Default 1000
Graceful Down Timer	The graceful disconnect time for both Soft Switches. Values: integer seconds from 0 - 32767 seconds. Value: 0 (no graceful down)

Step 6 Click **Modify**; then click **Display IPDC Configuration**. The IPDC Configuration screen reopens.

Configuring COT Settings

To configure continuity test settings, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **IPDC**.

Step 3 Click **Configuration**.

The IPDC Configuration screen opens, which includes the COT Configuration form:

COT Configuration		
COT Receive Tone	co1	Set
COT Transmit Tone	co1	

The form displays the current COT configuration. To change the settings, perform the following steps.

Step 4 Click **Set**.

The IPDC COT Configuration Setting form opens.

IPDC COT Configuration Setting

COT Receive Tone	co1
COT Transmit Tone	co1

Step 5 Specify the core COT parameters.

Parameter	Description
COT Receive Tone	IPDC COT receive tone. Values: co1 (2010 Hz) or co2 (1780 Hz)
COT Transmit Tone	IPDC COT transmit tone. Values: co1 or co2

Step 6 Click **Modify**.

Configuring IPDC Timers and Counters

IPDC timers and counters control how the link behaves under abnormal or fault conditions. You can use the default settings, or provide a custom set.

To configure a IPDC timers, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **IPDC**.

Step 3 Click **Timer**.

The IPDC Timer Configuration screen opens:

IPDC Timer Configuration

Timer Configuration		Set
Minimum Soft Switch Connection Retry Interval (msec)	4000	
Maximum Soft Switch Connection Retry Interval (msec)	64000	
TCP Connection Retry Interval (msec)	2000	
NSUP Message Retry Timer(msec)	2000	
Link Activity Testing Timer (msec)	600000	
Maximum TCP Connection Attempts	1	
Maximum NSUP Retransmission Attempts	2	
Health Check Response Timer (msec)	1000	
Graceful Down Timer (sec)	0	

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The form displays the current timer and counter configurations. To change these settings, perform the following steps.

Step 4 Click **Set**.

The IPDC Timer Configuration Setting form opens.

IPDC Timer Configuration Setting

Minimum Soft Switch Connection Retry Interval when link is up (2000..15000 msec)	<input type="text" value="4000"/>
Maximum Soft Switch Connection Retry Interval for backoff scheme (16000.. 256000 msec)	<input type="text" value="64000"/>
TCP Connection Retry Interval when link is not up (1000..10000 msec)	<input type="text" value="2000"/>
NSUP Message Retry Timer, which stops after receive of ASUP (1000..10000 msec):	<input type="text" value="2000"/>
Link Activity Testing Timer when link is down (1000..600000 msec)	<input type="text" value="600000"/>
Maximum TCP Connection Attempts when link is down (0..10):	<input type="text" value="1"/>
Maximum NSUP Retransmission Attempts when link is down (0..10):	<input type="text" value="2"/>

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Step 5 Specify the timer parameters.

Minimum Soft Switch Connection Retry Interval when link is up	Minimum connection retry interval for primary or secondary Soft Switch when the link is up. The connection interval doubles with every retry attempt until the <i>ssConnRetryThr</i> value is reached. Values: integer 2000 to 15000 msec. Default: 4000 msec
Maximum Soft Switch Connection Retry Interval for backoff scheme	Maximum Soft Switch connection retry interval. Values: integer 16000 to 256000 msec. Default: 64000 msec
TCP Connection Retry Interval when link is not up	Retry interval for a TCP connection when the link is down. Values: 1000 to 10000 msec. Default: 2000 msec
NSUP Message Retry Timer, which stops after receive of ASUP	Retry interval for NSUP message. The timer stops after receipt of ASUP. Values: 1000 to 10000 msec. Default: 2000 msec
Link Activity Testing Timer when link is down	The time this device waits for a message from the Soft Switch before declaring the link down. If the health check is enabled, the link stays up until the heartbeat times out. Values: 1000 to 600000 msec. Default 60000 msec
Maximum TCP Connection Attempts when link is down	The maximum number of TCP connection attempts when the link is down. Values 0 to 10. Default: 1 retry
Maximum NSUP Retransmission Attempts when link is down	The maximum NSUP retransmission attempts when the link is down. Values: 0 to 10. Default 2 attempts

Step 6 Click **Modify**.

Activating IPDC and the Health Check

To activate IPDC links, follow these steps:

Step 1 On the Navigation pane, click **Protocol**.

Step 2 Click **IPDC**.

Step 3 Click **Configuration**.

The IPDC Configuration screen opens, which includes the Soft Switch Configuration form:

Soft Switch Configuration			
Gateway	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
Primary Soft Switch	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
	Health Check:	enabled	
	Administrative Status:	Down(disconnect)	
Secondary Soft Switch	IP Address:	0.0.0.0	Set
	TCP Port:	5000	
	Health Check:	enabled	
	Administrative Status:	Down(disconnect)	

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Step 4 Click **Modify**; then click **Display IPDC Configuration**. The IPDC Configuration screen reopens.

Step 5 In the Primary Soft Switch or Secondary Soft Switch section, click **Set**.

The Primary Soft Switch Setting or Secondary Soft Switch Setting form opens.

Primary Soft Switch Setting

Primary Soft Switch	IP Address:	<input type="text" value="0"/> <input type="text" value="0"/> . <input type="text" value="0"/> <input type="text" value="0"/>
	TCP Port (1025..65535):	<input type="text" value="5000"/>
	Health Check:	<input type="text" value="enabled"/> ▼
	Administrative Status:	<input type="text" value="Down (disconnect)"/> ▼

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Step 6 Activate the protocol and health check.

Parameter	Description
Health Check	The link health check feature. Values: enabled or disabled. Default: enabled
Administrative Status	The operational status of the link. Values: Up or Down. Default: down

Step 7 Click **Modify**; then click **Display IPDC Configuration**. The IPDC Configuration screen reopens.

Alarms and Performance

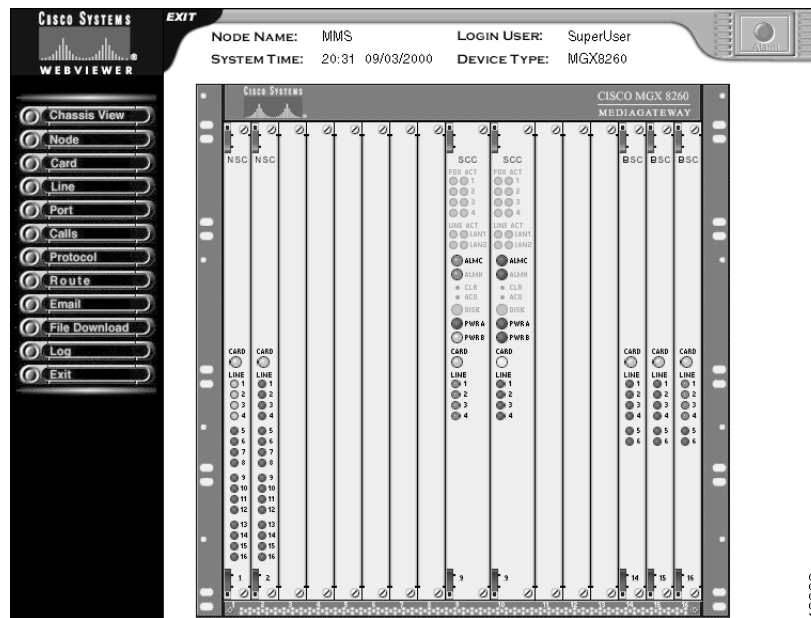
The MGX 8260 Media Gateway notifies maintenance or operations personnel about equipment alarms at several levels:

- Shelf
- Card
- Line

You can view the event log for informational notices about changes in the system. For example, inserting a new card adds an event to the log.

The WebViewer displays the most severe alarm in the upper right corner of every screen (see Figure 6-1).

Figure 6-1 Chassis View with Alarms



The alarm indicator is a rectangular icon that is green for normal operation and flashes red or yellow for alarm conditions.

You can obtain more information about the alarm by clicking the alarm indicator. The chassis view also shows a graphical representation of the front panel, including alarm indications for each card. To obtain more information about a specific card, click the corresponding Card or Line indicator.

Surveillance Tasks for Alarms

To respond to alarms, you monitor the following sources:

- Alarm Status
- Card Alarms
- DS1 Alarms and Performance
- E1 Alarms and Performance
- DS3 Alarms and Performance
- Fast Ethernet Alarms
- SONET Alarms and Performance
- Environmental Alarms

Alarm Status

When checking alarms, start with the Alarm Status screen and then use the Navigation pane or hyperlinks to obtain details about the event or condition of interest.

To view alarm status, follow these steps:

- Step 1** On the upper right corner of any screen, click the **Alarm** icon. Alternatively, click **Node** and then click **Alarm** on the Navigation pane.

The Alarm Status screen opens.

Alarm Status

Shelf Alarm ⓘ Click for shelf EMM details.

Shelf Alarm Type and Status:	Card	Voltage	Fan	Software Error	Clock	Alarm History
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Logical Card Alarm ⓘ Click for card and shelf EMM details.

Card Alarm Status:	1	2	3	4	5	6	7-8
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9-10	11	12	13	14	15	16
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Display Back

31122

Operational status is displayed as rows of color-coded indicators. Interpret the color as follows:

- Green—normal operation
- Yellow—minor alarm
- Red—major alarm

- Step 2** To obtain more information about all shelf or card EMM alarms, click the **i** icon above the Shelf Alarm pane or Logical Card Alarm pane.
- Step 3** To obtain more information about a specific shelf or card alarm, click the hyperlink above the indicator.
- Step 4** To interpret the shelf alarm screens, see the “Environmental Alarms” section on page 6-48. To interpret card alarm card screens, see “Card Alarms” section on page 6-3.

Card Alarms

Card alarms provide information on card operation and events.

Viewing Alarms for All Cards

To view card alarms, follow these steps:

- Step 1** On the Navigation pane, click **Card**.
- Step 2** Click **All-Cards**. Alternatively, click the desired card hyperlink on the Alarm State screen. The Physical Slot Configuration form opens.

The screenshot displays the Physical Slot Configuration page in Cisco WebViewer. The page header shows the node name 'MMS', system time '19:09 09/02/2000', login user 'SuperUser', and device type 'MGX8260'. The main content is a table with the following columns: Select, Slot, Card No, Status, SoftWr Rev, Integrated Alarm, Fr Card, Bk Card, Dgr Crd1, and Dgr Crd2. The table lists 16 slots, with slots 1 and 2 being active, and slots 14, 15, and 16 also being active. The Integrated Alarm column shows rows of indicators (green, yellow, red) representing the status of each card. A legend at the bottom indicates that Indicator 9 is green and Indicator 0 is red.

Select	Slot	Card No	Status	SoftWr Rev	Integrated Alarm	Fr Card	Bk Card	Dgr Crd1	Dgr Crd2
(i)	1	1	active	NSC_01.02.b6	■■■■■■■■■■	rec	nme 16T1E1	memDSPV	memDSPV
(i)	2	2	active	NSC_01.02.b6	■■■■■■■■■■	rec	nme 16T1E1	memDSPV	memDSPV
(i)	3	3	empty	Unknown		-	-	-	-
(i)	4	4	empty	Unknown		-	-	-	-
(i)	5	5	empty	Unknown		-	-	-	-
(i)	6	6	empty	Unknown		-	-	-	-
(i)	7	7	empty	Unknown		-	-	-	-
(i)	8	8	empty	Unknown		-	-	-	-
(i)	9	9	active	SCC_01.02.b7	■■■■■■■■■■	sec	-	bim4OC3Atm	-
(i)	10	9	standby	SCC_01.02.b7	■■■■■■■■■■	sec	-	bim4OC3Atm	-
(i)	11	11	empty	Unknown		-	-	-	-
(i)	12	12	empty	Unknown		-	-	-	-
(i)	13	13	empty	Unknown		-	-	-	-
(i)	14	14	active	BSC_01.02.b6	■■■■■■■■■■	bec	DmeBsc6T3	bim4T3E3	-
(i)	15	15	active	BSC_01.02.b6	■■■■■■■■■■	bec	DmeBsc6T3	bim4T3E3	-
(i)	16	16	active	BSC_01.02.b6	■■■■■■■■■■	bec	DmeBsc6T3	bim4T3E3	-

Indicator 9 Indicator 0

Card alarms are displayed as rows of indicators in the Integrated Alarm column.

Step 3 Interpret the color as follows:

- Green—normal operation
- Yellow—minor alarm
- Red—major alarm

Interpret the alarm indicators for this card as follows:

Indicator	SCC and BSC	NSC, and DMC
0	integrated line alarm	integrated line alarm
1	line performance alarm	line performance alarm
2	integrated port alarm	integrated port alarm
3	integrated end point alarm	integrated end point alarm
4	EMM temperature alarm	EMM temperature alarm
5	EMM voltage alarm	EMM voltage alarm
6	software error alarm	software error alarm
7	component failure alarm	component failure alarm
8	PLCP statistical alarm state	—
9	PLCP alarm state	—



Note

Read the indicators from right to left.

Viewing Alarms for Individual Cards

You can open the Logical Card Alarm Status and Configuration form for individual cards three ways:

- Click the card of interest on the chassis view.
- Click the flashing alarm icon to open the Alarm Status screen and then click the desired card hyperlink.
- Use the Navigation pane to open the Logical Card Configuration screen and then click the **i** icon for the desired card. The following procedures use this method.

To view card alarm details, follow these steps:

Step 1 On the Navigation pane, click **Card**.

Step 2 Click **All-Cards**.

The Physical Slot Configuration form opens.

Step 3 Click the **i** icon on the row with the desired card.

The Physical Slot Alarm Status and Configuration form opens, which contains an alarm pane. The following is a typical card alarm pane.

Physical Slot Alarm Status and Configuration

Physical Slot Number:	<input type="text" value="1"/>	Logical Card Number:	<input type="text" value="1"/>
Alarm Status			
Integrated Line Alarm	<input type="checkbox"/>	Line Performance Alarm	<input type="checkbox"/>
Integrated Port Alarm	<input type="checkbox"/>	Integrated End Point Alarm	<input type="checkbox"/>
EMM Temperature Alarm	<input type="checkbox"/>	EMM Voltage Alarm	<input type="checkbox"/>
Software Error Alarm	<input type="checkbox"/>	Component Failure Alarm	<input type="checkbox"/>

Operational status is displayed as color-coded indicators.

Step 4 Interpret the color as follows:

- Green—normal operation
- Red—alarm present

Step 5 The alarms vary by card. Interpret the appropriate alarms as follows:

Alarm	Interpretation
Integrated Line Alarm	Indicates the most severe alarm for the active lines on this card. To view more line alarm information, click the Integrated Line Alarm link.
Line Performance Alarm	Indicates the most severe performance alarm for active lines on this card. To view more line performance alarm information, click the Line Performance Alarm link.
Integrated Port Alarm	Indicates the most severe alarm for the active ports on this card.
Integrated End Point Alarm	Indicates the most severe end point alarm for this card.
EMM Temperature Alarm	Indicates the most severe alarm from the temperature sensors on the board. To view more EMM information, click the EMM Temperature Alarm link. For more information, see the “Environmental Alarms” section on page 6-48.
EMM Voltage Alarm	Indicates the most severe alarm from the voltage sensors on the board. To view more EMM information, click the EMM Voltage Alarm link. For more information, see “Environmental Alarms” section on page 6-48.
Software Error Alarm	Indicates a software error on this card.
Component Failure Alarm	Indicates a hardware failure on this card.

To clear the alarm history, set the Clear Alarm History field to Yes and click **Modify**.

- Step 4** Interpret the color as follows:
- Green—normal operation
 - Yellow—minor alarm
 - Red—major alarm
- Step 5** Interpret the Line Status alarm display (the DS1 line status) that is displayed as a row of indicators as follows:
- Indicator 0: No alarm present
 - Indicator 1: Far end LOF (Yellow Alarm)
 - Indicator 2: Far end sending LOF Indication
 - Indicator 3: Far end sending AIS
 - Indicator 4: Near end sending AIS
 - Indicator 5: Near end LOF (Red Alarm)
 - Indicator 6: Near end LOS
 - Indicator 7: Near end is looped
 - Indicator 8: E1 TS16 AIS (E1 only)
 - Indicator 9: Far end sending TS16 LOMF (E1 only)
 - Indicator 10: Near end sending TS16 LOMF (E1 only)
 - Indicator 11: Near end detects a test code (fixed at 0)
 - Indicator 12: Other failure
 - Indicator 13: LED in solid RED
 - Indicator 14: LED in solid YELLOW
 - Indicator 15: LED in blinking YELLOW
 - Indicator 16: LED in solid GREEN
 - Indicator 17: LED in blinking GREEN
 - Indicator 18: Far End sending Remote Multiframe Alarm Indication
 - Indicator 19: Near End Sending Remote Multiframe Alarm Indication
 - Indicator 20: Far End sending Loss of CRC Multiframe
 - Indicator 21 to 28: Reserved for future use
 - Indicator 29: Minor alarm
 - Indicator 30: Major alarm
 - Indicator 31: Line is down

**Note**

Read the indicators from right to left.

Viewing Alarms for Individual DS1 Lines

You can open the Dsx1-T1 Line Status and Configuration screen for an individual line two ways:

- Click the line status LED for the desired line on the chassis view.
- Use the Navigation pane to open the Dsx1-T1 Line Configuration screen and then click the **i** icon for the desired line.

To view line alarms for individual DS1 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

Step 4 Click the **i** icon on the row with the desired line.

The Dsx1-T1 Line Status and Configuration forms opens with the following alarm pane.

Dsx1-T1 Line Status and Configuration

Slot: <input type="text" value="1"/>	Line: <input type="text" value="1"/>	Contiguous Modifying Lines: <input type="text" value="1"/>
--------------------------------------	--------------------------------------	--

Dsx1-T1 Line Status	
Alarm Present	Major
Far end LOF (Yellow Alarm) <input type="checkbox"/>	Near end sending LOF Indication <input checked="" type="checkbox"/>
Far end sending AIS <input type="checkbox"/>	Near end sending AIS <input checked="" type="checkbox"/>
Near End Loss of Frame (Red Alarm) <input checked="" type="checkbox"/>	Near End Loss of Signal <input checked="" type="checkbox"/>
Near end is looped <input type="checkbox"/>	E1 TS16 AIS <input type="checkbox"/>
Far End Sending TS16 LOMF <input type="checkbox"/>	Near End Sending TS16 LOMF <input type="checkbox"/>
Near End detects a test code <input type="checkbox"/>	Any Other Line Status Failure <input type="checkbox"/>
LED Status	Solid RED
Line Status	UP

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Operational status is displayed as color-coded indicators.

Step 5 Interpret the color as follows:

- Green—normal operation
- Red—alarm present

Step 6 Interpret the alarms as follows:

Alarm	Description
Far End LOF	Far end receiving Yellow Alarm
Far End Sending AIS	Near end receiving AIS

Alarm	Description
Near End Loss of Frame	Near end receiving Red alarm
Near End Is Looped	Near end loopback is active
Far End Sending TS16 LOMF	Near end sending Loss of Signaling Multiframe Indication (E1 only)
Near End Detects a Test Code	Near end detects a test code (DS1 only)
Near End Sending LOF Indication	Near end sending loss of frame
Near End Sending AIS	Near end sending alarm indication signal
Near End Loss of Signal	Near end detected loss of signal
E1 TS16 AIS	Near end receiving Time Slot 16 AIS (E1 only)
Near End Sending TS16 LOMF	Near End sending Loss of Signaling Multiframe Indication (E1 only)
Any Other Line Status	Other DS1/E1 failure
Far End sending Remote Multiframe Alarm Indication	Far End sending Remote Multiframe Alarm Indication
Near End Sending Remote Multiframe Alarm Indication	Near End Sending Remote Multiframe Alarm Indication
Far End sending LOMF	Far End sending Loss of Multiframe
LED Status	The color of the front panel LED
Line Status	The line status, either up or down

Setting DS1 Alarm Thresholds

This section describes changing the configuration settings for alarm severity, integration period, and thresholds for various error conditions, such as LCV, LES, and LSES. The performance alarm is set if the DS1 errors exceed any of the threshold counts.

To change alarm threshold values, follow these steps.

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **Dsx1-T1**.
 - Step 3** Click **All-Lines**.
The Dsx1-T1 Line Configuration screen opens.
 - Step 4** On the Dsx1-T1 Line Configuration screen, click the **A** icon on the row with the desired line.

The Dsx1-T1 Line Alarm Configuration form opens.

Dsx1-T1 Line Alarm Configuration

Slot: Line:

RED Alarm Severity:	<input type="text" value="major"/>	RAI Alarm Severity:	<input type="text" value="minor"/>
Perf. Alarm Severity:	<input type="text" value="minor"/>		
LCV 15 Min Threshold:	<input type="text" value="14"/>	LCV 24 Hour Threshold:	<input type="text" value="134"/>
LES 15 Min Threshold:	<input type="text" value="12"/>	LES 24 Hour Threshold:	<input type="text" value="121"/>
LSES 15 Min Threshold:	<input type="text" value="10"/>	LSES 24 Hour Threshold:	<input type="text" value="100"/>
PCV 15 Min Threshold:	<input type="text" value="14"/>	PCV 24 Hour Threshold:	<input type="text" value="134"/>
PES 15 Min Threshold:	<input type="text" value="35"/>	PES 24 Hour Threshold:	<input type="text" value="50"/>
PSES 15 Min Threshold:	<input type="text" value="35"/>	PSES 24 Hour Threshold:	<input type="text" value="50"/>
SEFS 15 Min Threshold:	<input type="text" value="2"/>	SEFS 24 Hour Threshold:	<input type="text" value="17"/>
PSAS 15 Min Threshold:	<input type="text" value="2"/>	PSAS 24 Hour Threshold:	<input type="text" value="17"/>
UAS 15 Min Threshold:	<input type="text" value="2"/>	UAS 24 Hour Threshold:	<input type="text" value="10"/>
BES 15 Min Threshold:	<input type="text" value="35"/>	BES 24 Hour Threshold:	<input type="text" value="50"/>
PCSS 15 Min Threshold:	<input type="text" value="35"/>	PCSS 24 Hour Threshold:	<input type="text" value="50"/>

The current slot and line number are displayed at the top.

Step 5 Set the thresholds as follows:

Threshold	Setting
Red Alarm Severity	The near end LOF indication: <ul style="list-style-type: none"> • minor • major (default)
RAI Alarm Severity	The remote alarm indication: <ul style="list-style-type: none"> • minor (default) • major
Perf. Alarm Severity	The performance alarm indication. minor (fixed) major
Threshold counters	The thresholds for line errors that invoke a performance alarm.

Refer to the following table for a list of threshold counters and default values:

Table 6-1 DS1 Performance Alarm Thresholds

Threshold	Description	Default
LCV 15	15 minute line code violations	14
LCV 24	24 hour line code violations	134
LES 15	15 minute line errored seconds	12
LES 24	24 hour line errored seconds	121
LSES 15	15 minute severely errored seconds	10
LSES 24	24 hour severely errored seconds	100
PCV 24	24 hour path coding violations	300
PCV 15	15 minute path coding violations	35
PES 24	24 minute path errored seconds	50
PES 15	15 minute path errored seconds	35
PSES 24	24 minute path severely errored seconds	50
PSES 15	15 minute path severely errored seconds	30
SEFS 15	15 minute severely errored framing seconds	2
SEFS 24	24 hour severely errored framing seconds	17
PSAS 15	15 minute alarm indication signal seconds	2
PSAS 24	24 hour alarm indication signal seconds	17
UAS 15	15 minute unavailable seconds	10
UAS 24	24 hour unavailable seconds	10
BES 15	15 minute bursty errored seconds	35
BES 24	24 hour bursty errored seconds	50
PCSS 15	15 minute path controlled slip seconds	35
PCSS 24	24 hour path controlled slip seconds	50

Step 6 Click **Modify**.

The system applies the new thresholds.

Viewing DS1 Performance Alarms

To view DS1 counters and performance alarms, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

- Step 4** On the Dsx1-T1 Line Configuration screen, click the **C** icon on the row with the desired line. The Dsx1-T1 Line Alarm State and Statistics forms open.

Dsx1-T1 Line Alarm State and Statistics

Dsx1-T1 Line Alarms		
Receiving RAI	<input type="checkbox"/>	Transmitting RAI <input checked="" type="checkbox"/>
Receiving AIS	<input type="checkbox"/>	Transmitting AIS <input checked="" type="checkbox"/>
Receiving OOF	<input type="checkbox"/>	Receiving LOS <input checked="" type="checkbox"/>
Near End Local Loopback in effect	<input type="checkbox"/>	Near End Remote Loopback in effect <input type="checkbox"/>
Near End Remote Payload Loopback	<input type="checkbox"/>	BERT in effect <input type="checkbox"/>
Far End Remote Loopback in effect	<input type="checkbox"/>	Detected Near End Remote Loopback in effect <input type="checkbox"/>

Alarm status is displayed as color-coded indicators.

- Step 5** Interpret the color as follows:

- Green—normal operation
- Red—alarm present

- Step 6** Interpret the alarm and counter panes as follows:

Pane	Interpretation
DSX1-T1 Line Alarms pane	This group of indicators display DS1 alarms and current test conditions. For more information, see “Viewing Alarms for Individual DS1 Lines” section on page 6-8.
DSX1-T1 Line Performance Alarms pane	This group of indicators show the performance alarm thresholds this line has exceeded. For more information, see Table 6-1.
DSX1-T1 Line Statistics	This group shows statistics for LOS, OOF, RAI, and FPE Detected.

To reset the counters, select the desired counter in the **Reset Dsx-T1 Line Counter Type** field and click the **Reset Counter** button on the bottom of the screen.

Viewing Real-Time DS1 Statistics

To view DS1 real-time statistics, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx1-T1**.
- Step 3** Click **Counters and Alarm**.

The T1 Line Counters/Alarm screen opens.

CISCO SYSTEMS WEBVIEWER EXIT

NODE NAME: mgsw233 LOGIN USER: SuperUser
 SYSTEM TIME: 22:45 08/10/2000 DEVICE TYPE: MGX8260

T1 Line(s) Counters/Alarm reset counters. detail. Poll interval in Secs: 300 start stop

Select	Slot	Line	Number LOS	Number OOF	Number RAI	Number FE	Line Alarms: Bit Order 11-0	Line Performance Alarms: Bit Order 21-0
<input type="checkbox"/>	1	1	60767876	0	0	0		
<input type="checkbox"/>	1	2	61791794	0	0	0		
<input type="checkbox"/>	1	3	68930696	0	0	0		
<input type="checkbox"/>	1	4	13402510	0	0	0		
<input type="checkbox"/>	1	5	72172947	0	0	0		
<input type="checkbox"/>	1	6	4557963	0	0	0		
<input type="checkbox"/>	1	7	44265684	0	0	0		
<input type="checkbox"/>	1	8	69049667	0	0	0		
<input type="checkbox"/>	1	10	4186313	0	0	0		
<input type="checkbox"/>	1	11	70060063	0	0	0		
<input type="checkbox"/>	1	12	29172429	0	0	0		
<input type="checkbox"/>	1	16	285027	0	0	0		
<input type="checkbox"/>	12	2	0	14	0	28		
<input type="checkbox"/>	12	3	0	39	0	78		
<input type="checkbox"/>	12	10	0	34	0	68		

T1 Line(s) Counters/Alarm reset counters. detail.

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Step 4 Interpret the table as follows:

Displayed Information	Description
Slot	The slot hosting this line
Line	The DS1 line number for these statistics
Number LOS	The number of times Loss of Signal was detected, with or without integrating to a LOS alarm
Number OOF	The number of times Out of Frame was detected, with or without integrating to a OOF alarm
Number RAI	The number of times Yellow alarm was detected, with or without integrating to a RAI alarm
Number FE	The number of framing pattern errors per second encountered by the DS1 interface
Line Alarms	<p>The DS1 line alarms, displayed as a row of indicators.</p> <ul style="list-style-type: none"> • Indicator 0: Integrated alarm • Indicator 1: Receiving RAI • Indicator 2: Transmitting RAI • Indicator 3: Receiving AIS • Indicator 4: Transmitting AIS • Indicator 5: Receiving OOF • Indicator 6: Near end local loopback in effect • Indicator 7: Near end remote loopback in effect • Indicator 8: Near end remote payload loopback • Indicator 9: BERT in effect • Indicator 10: Far end remote loopback in effect • Indicator 11: Detected near end remote loopback in effect

Displayed Information	Description
Line Performance Alarms	<p>The DS1 line performance alarms, displayed as a row of indicators.</p> <ul style="list-style-type: none"> • Indicator 0: LCV 15 minute threshold exceeded • Indicator 1: LCV 24 hour threshold exceeded • Indicator 2: LES 15 minute threshold exceeded • Indicator 3: LES 24 hour threshold exceeded • Indicator 4: LSES 15 minute threshold exceeded • Indicator 5: LSES 24 hour threshold exceeded • Indicator 6: PCV 15 minute threshold exceeded • Indicator 7: PCV 24 hour threshold exceeded • Indicator 8: PES 15 minute threshold exceeded • Indicator 9: PES 24 hour threshold exceeded • Indicator 10: PSES 15 minute threshold exceeded • Indicator 11: PSES 24 hour threshold exceeded • Indicator 12: SEFS 15 minute threshold exceeded • Indicator 13: SEFS 24 hour threshold exceeded • Indicator 14: AISS 15 minute threshold exceeded • Indicator 15: AISS 24 hour threshold exceeded • Indicator 16: UAS 15 minute threshold exceeded • Indicator 17: UAS 24 hour threshold exceeded • Indicator 18: BES 15 minute threshold exceeded • Indicator 19: BES 24 hour threshold exceeded • Indicator 20: PCSS 15 minute threshold exceeded • Indicator 21: PCSS 24 hour threshold exceeded

To clear the counters, click the - icon on the row with the desired line. To view more alarm information, click the i icon on the row with the desired line. See the “Viewing DS1 Performance Alarms” section on page 6-11. To filter the display, click the check box for rows you want to display. The display updates on the next poll.

To change the polling interval, follow these steps:

-
- Step 1** Set the Poll Interval in Secs field.
 - Step 2** Click **Start** to restart the interval.
 - Step 3** Click **Stop** to stop polling.
-

Viewing Interval DS1 Statistics

Interval statistics are collected by each interface for the previous 24 hours of operation. The 24 hours are broken into 96 15-minute intervals. As time progresses, the system drops the oldest interval and adds the latest one, creating a sliding 24-hour window that moves with time.

To view interval DS1 statistics, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx1-T1**.

Step 3 Click **All-Lines**.

The Dsx1-T1 Line Configuration screen opens.

Step 4 Click the **P** icon on the row with the desired line.

The Dsx1-T1 Line Performance Statistics screen opens.

Dsx1-T1 Line Performance Statistics											Slot: 1	Line: 1	Poll interval in Secs: 300	start	stop
Interval	Err.Sec	Sev Err.Sec	Sev Err Frm Sec	Unavl.Sec	Cntl Slip.Sec	Path Code Violation	Path SEF/AIS	Bursty Err Sec	Line Err.Sec	Line Sev Err Sec	Line Code Violation	Degraded Min			
current	0	0	0	249	0	0	0	0	0	0	0	0			
total	0	0	0	15503	0	0	0	0	0	0	0	0			
1	0	0	0	900	0	0	0	0	0	0	0	0			
2	0	0	0	900	0	0	0	0	0	0	0	0			
3	0	0	0	900	0	0	0	0	0	0	0	0			
4	0	0	0	900	0	0	0	0	0	0	0	0			
5	0	0	0	900	0	0	0	0	0	0	0	0			
6	0	0	0	900	0	0	0	0	0	0	0	0			
7	0	0	0	900	0	0	0	0	0	0	0	0			
8	0	0	0	900	0	0	0	0	0	0	0	0			
9	0	0	0	900	0	0	0	0	0	0	0	0			
10	0	0	0	900	0	0	0	0	0	0	0	0			
11	0	0	0	900	0	0	0	0	0	0	0	0			
12	0	0	0	900	0	0	0	0	0	0	0	0			
13	0	0	0	900	0	0	0	0	0	0	0	0			
14	0	0	0	900	0	0	0	0	0	0	0	0			

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Step 5 Interpret the table as follows:

Displayed Information	Description
Interval	The 15 minute interval for the statistics. The Total interval lists statistics for the past 24 hours
Err Sec	The number of errored seconds
Sev Err Sec	The number of severely errored seconds
Sev Err Frm Sec	The number of severely errored frame seconds
Unavl Sec	The number of unavailable seconds
Cntl Slip Sec	The number of seconds with timing slips
Path Code Violation	The number of seconds with path code violations
Path SEF/AIS	The number of path alarm indication seconds
Bursty Err Sec	The number of seconds with burst errors
Line Err Sec	The number of seconds with line errors
Line Sev Err Sec	The number of line severely errored seconds
Line Code Violation	The number of line code violations
Degraded Min	The number of minutes with degraded performance

To change the polling interval, follow these steps:

Step 1 Set the Poll Interval in Secs field.

Step 2 Click **Start** to restart the interval.

E1 Alarms and Performance

The MGX 8260 Media Gateway groups alarm and performance information as follows:

- Alarms for all lines
- Operational alarms
- Performance alarms
- Real-time statistics
- Interval statistics

In addition to viewing alarms and statistics, you can set thresholds for performance alarms.

- Indicator 5: Near end LOF (Red Alarm)
- Indicator 6: Near end LOS (N/A for BSC)
- Indicator 7: Near end is looped
- Indicator 8: T16AIS—E1 TS16 AIS (reserved for future use)
- Indicator 9: Far end sending TS16 LOMF
- Indicator 10: Near end sending TS16 LOMF
- Indicator 11: Near end detects a test code
- Indicator 12: Any other line status
- Indicator 13: LED in solid RED
- Indicator 14: LED in solid YELLOW
- Indicator 15: LED in blinking YELLOW
- Indicator 16: LED in solid GREEN
- Indicator 17: LED in blinking GREEN
- Indicator 18: Far End sending Remote Multiframe Alarm Indication
- Indicator 19: Near End Sending Remote Multiframe Alarm Indication
- Indicator 20: Far End sending Loss of CRC Multiframe
- Indicator 21-28: Reserved for future use
- Indicator 29: minor alarm
- Indicator 30: major alarm
- Indicator 31: Line is DOWN, 0 Line is UP.

**Note**

Read the indicators from right to left.

Viewing E1 Alarms for Individual Lines

You can open the E1 Line Status and Configuration screen for an individual line two ways:

- Click the line status LED for the desired line on the chassis view.
- Use the Navigation pane to open the E1 Line Configuration screen and then click the **i** icon for the desired line.

To view line alarms for individual E1 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **All-Lines**.

The E1 Line Configuration screen opens.

Step 4 On the E1 Line Configuration screen, click the **i** icon on the row with the desired line.

The E1 Line Status and Configuration form opens with the following alarm pane:

E1 Line Status and Configuration

Slot: <input type="text" value="2"/>	Line: <input type="text" value="1"/>	Contiguous Modifying Lines: <input type="text" value="1"/>
--------------------------------------	--------------------------------------	--

E1 Line Status	
Alarm Present	Major
Far end LOF (Yellow Alarm) <input type="checkbox"/>	Near end sending LOF Indication <input checked="" type="checkbox"/>
Far end sending AIS <input type="checkbox"/>	Near end sending AIS <input checked="" type="checkbox"/>
Near End Loss of Frame (Red Alarm) <input checked="" type="checkbox"/>	Near End Loss of Signal <input checked="" type="checkbox"/>
Near end is looped <input type="checkbox"/>	E1 TS16 AIS <input type="checkbox"/>
Far End Sending TS16 LOMF <input type="checkbox"/>	Near End Sending TS16 LOMF <input type="checkbox"/>
Near End detects a test code <input type="checkbox"/>	Any Other Line Status Failure <input type="checkbox"/>
Far End sending Remote Multiframe Alarm Indication <input type="checkbox"/>	Near End Sending Remote Multiframe Alarm Indication <input type="checkbox"/>
Far End sending LOMF(CRC) <input type="checkbox"/>	
LED Status	Solid RED
Line Status	UP

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Operational status is displayed as color-coded indicators with the following meaning:

- Green—normal operation
- Red—alarm present

Step 5 Interpret the alarms as follows:

Alarm	Description
Far End LOF	Far end receiving Yellow Alarm
Far End Sending AIS	Near end receiving AIS
Near End Loss of Frame	Near end receiving Red alarm
Near End Is Looped	Near end loopback is active
Far End Sending TS16 LOMF	Near end sending Loss of Signaling Multiframe Indication (E1 only)
Near End Detects a Test Code	Near end detects a test code (DS1 only)
Near End Sending LOF Indication	Near end sending loss of frame
Near End Sending AIS	Near end sending alarm indication signal
Near End Loss of Signal	Near end detected loss of signal
E1 TS16 AIS	Near end receiving Time Slot 16 AIS (E1 only)
Near End Sending TS16 LOMF	Near End sending Loss of Signaling Multiframe Indication (E1 only)
Any Other Line Status	Other DS1/E1 failure

Alarm	Description
Far End sending Remote Multiframe Alarm Indication	Far End sending Remote Multiframe Alarm Indication
Near End Sending Remote Multiframe Alarm Indication	Near End Sending Remote Multiframe Alarm Indication
Far End sending LOMF	Far End sending Loss of Multiframe
LED Status	The color of the front panel LED
Line Status	The line status, either up or down

Setting E1 Alarm Thresholds

This section describes changing the configuration settings for alarm severity, integration period, and thresholds for various error conditions, such as LCV, LES, and LSES. The performance alarm is set if the E1 errors exceed any of the threshold counts.

To change alarm threshold values, follow these steps.

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **Dsx1-T1**.
 - Step 3** Click **All-Lines**.
The E1 Line and Configuration screen opens.
 - Step 4** On the E1 Line and Configuration screen, click the **A** icon on the row with the desired line.

The E1 Line Alarm Configuration form opens.

RED Alarm Severity:	major ▾	RAI Alarm Severity:	minor ▾
RMAI Alarm Severity:	minor ▾	TS16 Alarm Severity:	minor ▾
Perf. Alarm Severity:	minor ▾		
BE 15 Min Threshold:	1	BE 24 Hour Threshold:	2
ES 15 Min Threshold:	3	ES 24 Hour Threshold:	4
CSS 15 Min Threshold:	5	CSS 24 Hour Threshold:	6
LCV 15 Min Threshold:	7	LCV 24 Hour Threshold:	8
LES 15 Min Threshold:	9	LES 24 Hour Threshold:	0
PCV 15 Min Threshold:	11	PCV 24 Hour Threshold:	12
SES 15 Min Threshold:	13	SES 24 Hour Threshold:	14
UAS 15 Min Threshold:	15	UAS 24 Hour Threshold:	16
ES ESR 15 Min Threshold:	17	ES ESR 24 Hour Threshold:	18
SES ESR 15 Min Threshold:	19	SES ESR 24 Hour Threshold:	20
CRC ESR 15 Min Threshold:	21	CRC ESR 24 Hour Threshold:	22
CRC SESR 15 Min Threshold:	23	CRC SESR 24 Hour Threshold:	24
FE ESR 15 Min Threshold:	25	FE ESR 24 Hour Threshold:	26
FE SESR 15 Min Threshold:	27	FE SESR 24 Hour Threshold:	28
FEBE ESR 15 Min Threshold:	29	FEBE ESR 24 Hour Threshold:	30
FEBE SESR 15 Min Threshold:	31	FEBE SESR 24 Hour Threshold:	32

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The current slot and line number are displayed at the top.

Step 5 Set the thresholds as follows:

Displayed Information	Description
DS1 Line	The slot and line number of the DS1 line
Red Alarm Severity	Severity of near end Loss Of Frame. Values: major or minor. Default: major
RMAI Alarm Severity	Severity of the RMAI alarm. Values: major or minor. Default: minor
Perf. Alarm Severity	Severity of any performance alarms. Values: major or minor. Default: minor
RAI Alarm Severity	Severity of Remote Alarm Indication. Values: major or minor. Default: minor
TS16 Alarm Severity	Severity of the TS16 alarm. Values: major or minor. Default: minor
Threshold counters (Table 6-2)	The thresholds for line errors that invoke a performance alarm.

Refer to the following table for a list of threshold counters:

Table 6-2 E1 Performance Alarm Thresholds

Threshold	Description	Default ¹
LCV 15	15 minute line code violations	14
LCV 24	24 hour line code violations	134
LES 15	15 minute line errored seconds	12
LES 24	24 hour line errored seconds	121
UAS 15	15 minute unavailable seconds	10
UAS 24	24 hour unavailable seconds	10
FE ESR 15	15 minute errored second ratio caused by frame errors	800
FE ESR 24	24 hour errored second ratio caused by frame errors	800
FE SESR 15	15 minute severely errored second ratio caused by frame errors	20
FE SESR 24	24 hour severely errored second ratio caused by frame errors	20
FEBE ESR 15	15 minute far end block error resulting from ESR	800
FEBE ESR 24	24 hour far end block error resulting from ESR	800
FEBE SESR 15	15 minute far end block error resulting from SESR	20
FEBE SESR 24	24 hour far end block error resulting from SESR	20
CRC ESR 15	15 minute errored second ratio caused by CRC errors	800
CRC ESR 24	24 hour errored second ratio caused by CRC errors	800
CRC SESR 15	15 minute severely errored second ratio caused by CRC errors	20
CRC SESR 24	24 hour severely errored second ratio caused by CRC errors	20
ESR 15	15 minute errored second ratio caused by errored seconds	800
ESR 24	24 hour errored second ratio caused by errored seconds	800
SESR 15	15 minute severely errored second ratio caused by severely errored seconds	20
SESR 24	24 hour severely errored second ratio caused by severely errored seconds	20
ES 15	15 minute errored seconds	35
ES 24	24 hour errored seconds	50
SES 15	15 minute severely errored seconds	35
SES 24	24 hour severely errored seconds	50
BE 15	15 minute burst errors	35
BE 24	24 hour burst errors	50
PCV 15	15 minute path coding violations	35
PCV 24	24 hour path coding violations	50
CSS 15	15 minute controlled slip seconds	35
CSS 24	24 hour controlled slip seconds	50

1. For ESR thresholds, the value shown equals 1000 time the actual ratio.

Step 6 Click **Modify**.

The system applies the new thresholds.

Viewing E1 Performance Alarms

To view E1 counters and performance alarms, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **All-Lines**.

The E1 Line Configuration screen opens.

Step 4 On the E1 Line Configuration screen, click the **C** icon on the row with the desired line.

The E1 Line Alarm State and Statistics form opens, displaying the following three panes:

E1 Line Alarms		
Receiving RAI	<input type="checkbox"/> Transmitting RAI	<input type="checkbox"/>
Receiving AIS	<input type="checkbox"/> Transmitting AIS	<input type="checkbox"/>
Receiving OOF	<input type="checkbox"/> Receiving LOS	<input type="checkbox"/>
Near End Local Loopback in effect	<input type="checkbox"/> Near End Remote Loopback in effect	<input type="checkbox"/>
Near End Remote Payload Loopback	<input type="checkbox"/> BERT in effect	<input type="checkbox"/>
Far End Remote Loopback in effect	<input type="checkbox"/> Detected Near End Remote Loopback in effect	<input type="checkbox"/>
Receiving Out Of CRC Multi-Frame	<input type="checkbox"/> Receiving RMAI	<input type="checkbox"/>
Transmitting RMAI	<input type="checkbox"/> Receiving TS16 Alarm Indication	<input type="checkbox"/>
Receiving Out Of Multi-Signaling Frame	<input type="checkbox"/>	<input type="checkbox"/>

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E1 Line Performance Alarms		
LCV 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	LCV 24 Hour Thresh Exceeded <input checked="" type="checkbox"/>
LES 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	LES 24 Hour Thresh Exceeded <input checked="" type="checkbox"/>
PCV 15 Min Thresh Exceeded	<input type="checkbox"/>	PCV 24 Hour Thresh Exceeded <input type="checkbox"/>
ES 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	ES 24 Hour Thresh Exceeded <input checked="" type="checkbox"/>
SES 15 Min Thresh Exceeded	<input type="checkbox"/>	SES 24 Hour Thresh Exceeded <input type="checkbox"/>
CSS 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	CSS 24 Hour Thresh Exceeded <input checked="" type="checkbox"/>
BES 15 Min Thresh Exceeded	<input type="checkbox"/>	BES 24 Hour Thresh Exceeded <input type="checkbox"/>
UAS 15 Min Thresh Exceeded	<input type="checkbox"/>	UAS 24 Hour Thresh Exceeded <input type="checkbox"/>
ESR 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	ESR 24 Hour Thresh Exceeded <input type="checkbox"/>
SES ESR 15 Min Thresh Exceeded	<input type="checkbox"/>	SES ESR 24 Hour Thresh Exceeded <input type="checkbox"/>
FE ESR 15 Min Thresh Exceeded	<input type="checkbox"/>	FE ESR 24 Hour Thresh Exceeded <input type="checkbox"/>
FE SESR 15 Min Thresh Exceeded	<input type="checkbox"/>	FE SESR 24 Hour Thresh Exceeded <input type="checkbox"/>
FEBE ESR 15 Min Thresh Exceeded	<input type="checkbox"/>	FEBE ESR 24 Hour Thresh Exceeded <input type="checkbox"/>
FEBE SESR 15 Min Thresh Exceeded	<input type="checkbox"/>	FEBE SESR 24 Hour Thresh Exceeded <input type="checkbox"/>
CRC ESR 15 Min Thresh Exceeded	<input type="checkbox"/>	CRC ESR 24 Hour Thresh Exceeded <input type="checkbox"/>
CRC SESR 15 Min Thresh Exceeded	<input type="checkbox"/>	CRC SESR 24 Hour Thresh Exceeded <input type="checkbox"/>

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E1 Line Statistics	
Loss of Signal(LOS) Detected:	14723130
Out of Frame(OOF) Detected:	0
Remote Alarm Indications(RAI) Detected:	0
Remote Multiframe Alarm Indications(RMAI) Detected:	0
Framing Pattern Errors(FPE) Detected:	0
Far End Block Errors(FEBE) Detected:	0
CRC Errors Detected:	0

Select your reset counter type, then click Reset Counter button for clearing counters

Reset Dsx1-E1 Line Counter Type:

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Alarm status is displayed as color-coded indicators with the following meaning:

- Green—normal operation
- Red—alarm present

Step 5 Interpret the alarm and counter panes as follows:

Pane	Interpretation
E1 Line Alarms	This group of indicators display E1 alarms and current test conditions. For more information on E1 alarms, see “Viewing E1 Alarms for Individual Lines” section on page 6-19.
Line Performance Alarms	This group of indicators show performance alarms. For more information, see Table 6-2.
Line Statistics	This group shows the number of times selected conditions occurred.

To reset the counters, select the desired counter with **Reset E1 Line counter Type** and click the **Reset Counter** button on the bottom of the screen.

Viewing Real-Time E1 Statistics

To view E1 real-time statistics, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **E1**.

Step 3 Click **Counters and Alarm**.

The E1 Line Counters/Alarm screen opens.

CISCO SYSTEMS EXIT

WEBVIEWER

NODE NAME: Cisco LOGIN USER: SuperUser
SYSTEM TIME: 15:13 07/16/2000 DEVICE TYPE: MGX8260

E1 Line(s) Counters/Alarm reset counters. detail. Poll interval in Secs: 300 start stop

Select	Slot	Line	Number LOS	Number OOF	Number RAI	Number RMAI	Number FE	Number FEBE	Number CRC	Line Alarms: Bit Order 16-0
<input type="checkbox"/>	4	1	4755	5	3	0	81	0	0	
<input type="checkbox"/>	4	2	5495	11	3	0	66	0	0	
<input type="checkbox"/>	4	3	796780	82897	7231	420	417984	0	0	
<input type="checkbox"/>	4	4	9926547	0	0	0	0	0	0	

Navigation pane:

- Chassis View
- Node
- Card
- Line
 - Dsx:0
 - Dsx:1-T1
 - Dsx:1-E1
 - All-Lines
 - Selective-Lines
 - Counters and Alarm
 - Dsx:3
 - DMC T3-T1 Mapping
 - Ether
 - Sonet
 - All Lines
- Port
- Calls
- Protocol
- Route
- Email
- File Download
- Event Log
- Exit

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Step 4 Interpret the table as follows:

Displayed Information	Description
Slot	The slot hosting this line
Line	The E1 line number for these statistics
Number LOS	The number of times Loss of Signal was detected, with or without integrating to a LOS alarm
Number OOF	The number of times Out of Frame was detected, with or without integrating to a OOF alarm
Number RAI	The number of times RAI was detected, with or without integrating to a RAI alarm
Number RMAI	The number of times RMAI was detected
Number FE	The number of framing pattern errors detected
Number FEBE	The number of far end block errors detected
Number CRC	The number of CRC errors detected
Line Alarms	<p>The E1 line alarms, displayed as a row of indicators.</p> <ul style="list-style-type: none"> • Indicator 0: Receiving RAI • Indicator 1: Transmitting RAI • Indicator 2: Receiving AIS • Indicator 3: Transmitting AIS • Indicator 4: Receiving OOF • Indicator 5: Receiving LOS • Indicator 6: Near End Local Loopback • Indicator 7: Near End Remote Loopback • Indicator 8: Near End Remote Payload Loopback • Indicator 9: BERT in effect • Indicator 10: Far End Remote Loopback in effect • Indicator 11: Detected Near End Remote Loopback • Indicator 12: Receiving Out of CRC Multi-Frame • Indicator 13: Receiving Remote Multiframe Alarm Indication (RMAI) • Indicator 14: Transmitting Remote Multiframe Alarm Indication (RMAI) • Indicator 15: Receiving TS16 Alarm Indication Signal • Indicator 16: Receiving Out of Multi-Signaling Frame

Displayed Information	Description
Line Performance Alarms	<p>The E1 line performance alarms, displayed as a row of indicators.</p> <ul style="list-style-type: none"> • Indicator 0: LCV 15 minutes threshold exceeded • Indicator 1: LCV 24 hour threshold exceeded • Indicator 2: LES 15 minutes threshold exceeded • Indicator 3: LES 24 hour threshold exceeded • Indicator 4: PCV 15 minutes threshold exceeded • Indicator 5: PCV 24 hour threshold exceeded • Indicator 6: ES 15 minutes threshold exceeded • Indicator 7: ES 24 hour threshold exceeded • Indicator 8: SES 15 minutes threshold exceeded • Indicator 9: SES 24 hour threshold exceeded • Indicator 10: CSS 15 minutes threshold exceeded • Indicator 11: CSS 24 hour threshold exceeded • Indicator 12: BES 15 minutes threshold exceeded • Indicator 13: BES 24 hour threshold exceeded • Indicator 14: UAS 15 minutes threshold exceeded • Indicator 15: UAS 24 hour threshold exceeded • Indicator 16: ESR 15 minutes threshold exceeded • Indicator 17: ESR 24 hour threshold exceeded • Indicator 18: SESR 15 minutes threshold exceeded • Indicator 19: SESR 24 hour threshold exceeded • Indicator 20: FEESR 15 minutes threshold exceeded • Indicator 21: FEESR 24 hour threshold exceeded • Indicator 22: FESESR 15 minutes threshold exceeded • Indicator 23: FESESR 24 hour threshold exceeded • Indicator 24: FEBEESR 15 minutes threshold exceeded • Indicator 25: FEBEESR 24 hour threshold exceeded • Indicator 26: FEBESESR 15 minutes threshold exceeded • Indicator 27: FEBESESR 24 hour threshold exceeded • Indicator 28: CRCESR 15 minutes threshold exceeded • Indicator 29: CRCESR 24 hour threshold exceeded • Indicator 30: CRCSESR 15 minutes threshold exceeded • Indicator 31: CRCSESR 24 hour threshold exceeded

To clear the counters, click the **-** icon on the row with the desired line. To view more alarm information, click the **i** icon on the row with the desired line. See the “Viewing E1 Performance Alarms” section on page 6-24. To filter the display, click the check box for rows you want to display. The display updates on the next poll.

To change the polling interval, follow these steps:

-
- Step 1** Set the Poll Interval in Secs field.
 - Step 2** Click **Start** to restart the interval.
 - Step 3** Click **Stop** to stop polling.
-

Viewing Interval E1 Statistics

Interval statistics are collected by each interface for the previous 24 hours of operation. The 24 hours are broken into 96 15-minute intervals. As time progresses, the system drops the oldest interval and adds the latest one, creating a sliding 24-hour window that moves with time.

To view interval E1 statistics, follow these steps:

-
- Step 1** On the Navigation pane, click **Line**.
 - Step 2** Click **E1**.
 - Step 3** Click **All-Lines**.
The E1 Line Configuration screen opens.
 - Step 4** On the E1 Line Configuration screen, click the **P** icon on the row with the desired line.
The E1 Line Performance Statistics screen opens:

E1 Line Performance Statistics								Slot: 4	Line: 1	Poll interval in Secs: 300	start	stop
Interval	Err_Sec	Sev Err_Sec	Unavl_Sec	Control Slip_Sec	Path Code Violation	Line Err_Sec	Bursty Err_Sec					
current	0	0	0	0	0	0	0					
total	0	0	0	0	0	0	0					
1	0	0	0	0	0	0	0					
2	0	0	0	0	0	0	0					
3	0	0	0	0	0	0	0					
4	0	0	0	0	0	0	0					
5	0	0	0	0	0	0	0					
6	0	0	0	0	0	0	0					
7	0	0	0	0	0	0	0					
8	0	0	0	0	0	0	0					
9	0	0	0	0	0	0	0					
10	0	0	0	0	0	0	0					
11	0	0	0	0	0	0	0					
12	0	0	0	0	0	0	0					

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Step 5 Interpret the table as follows:

Displayed Information	Description
Interval	The 15 minute interval, where interval 1 is the most recent and 96 is the oldest. The Current interval is the interval currently accumulating statistics. The Total interval lists statistics for the past 24 hours
<Statistic>	The statistics for each E1 performance metric. For a summary of statistic definitions, see “Setting E1 Alarm Thresholds” section on page 6-21

To change the polling interval, follow these steps:

Step 1 Set the Poll Interval in Secs field.

Step 2 Click **Start** to restart the interval.

DS3 Alarms and Performance

The MGX 8260 groups alarm and performance information as follows:

- Alarms for all lines
- Operational alarms
- Performance alarms
- Real-time statistics
- Interval statistics

In addition to viewing alarm and performance information, you can set thresholds for performance alarms.

Viewing DS3 Alarms for All Lines

To view DS3 alarms, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration form opens.

The screenshot shows the Cisco WebViewer interface for the Dsx3 Line Configuration. The header displays the following information:

- NODE NAME: mgsww233
- LOGIN USER: SuperUser
- SYSTEM TIME: 22:43 08/10/2000
- DEVICE TYPE: MGX8260

The main content area is titled "Dsx3 Line(s) Configuration" and contains a table with the following columns:

Select	Slot	Line	Line Type	Line Coding	Line Status: Bit Order 9-0	Loopback Config
[Icons]	12	501	dsx3M23	dsx3B3ZS		dsx3NoLoop
[Icons]	12	502	dsx3M23	dsx3B3ZS		dsx3NoLoop
[Icons]	12	503	dsx3M23	dsx3B3ZS		dsx3NoLoop

The navigation menu on the left includes the following options:

- Chassis View
- Node
- Card
- Line
 - Dsx0
 - Dsx1-T1
 - Dsx1-E1
 - Dsx3
 - All-Lines
 - Selective-Lines
 - Counters and Alarm
 - DMC T3-T1 Mapping
 - Ether
 - Sonet
 - All Lines
- Port
- Calls
- Protocol
- Route
- Email
- File Download
- Event Log
- Exit

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DS3 alarms are displayed as rows of indicators in the Line Status column.

Step 4 Interpret the color as follows:

- Green—normal operation
- Yellow—minor alarm
- Red—major alarm

Interpret the DS3 line status alarm display from right to left as follows:

- Indicator 0: dsx3NoAlarm
- Indicator 1: dsx3RcvRAIFailure—receive RAI (Yellow)
- Indicator 2: dsx3XmitRAIAlarm—transmit RAI (Yellow)
- Indicator 3: dsx3RcvAIS—receive AIS
- Indicator 4: dsx3XmitAIS—transmit AIS
- Indicator 5: dsx3LOF—receiving LOF
- Indicator 6: dsx3LOS—receiving LOS
- Indicator 7: dsx3LoopbackState—looping the received signal
- Indicator 8: dsx3RcvTestCode—receiving a test pattern
- Indicator 9: dsx3OtherFailure

Viewing DS3 Alarms for Individual Lines

You can open the Dsx3 Line Status and Configuration form for an individual line two ways:

- Click the line status LED for the desired line on the chassis view.
- Use the Navigation pane to open the Dsx3 Line Configuration screen and then click the **i** icon for the desired line.

To view line alarms for individual DS3 lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

On the Dsx3 Line and Configuration screen, click the **i** icon on the row with the desired line. The Dsx3 Line Status and Configuration form opens with the following alarm pane:

Dsx3 Line Status and Configuration

Slot: <input type="text" value="12"/>	Line: <input type="text" value="502"/>	Contiguous Modifying Lines: <input type="text" value="1"/>
---------------------------------------	--	--

Dsx3 Line Status	
Alarm Present	Yes
Receiving Remote Alarm Indication <input type="checkbox"/>	Transmitting Remote Alarm Indication <input checked="" type="checkbox"/>
Receiving AIS failure state <input type="checkbox"/>	Transmitting AIS <input type="checkbox"/>
Receiving LOF failure state <input checked="" type="checkbox"/>	Receiving LOS failure state <input checked="" type="checkbox"/>
Looping the Received Signal <input type="checkbox"/>	Receiving a Test Pattern <input type="checkbox"/>
Any Other Line Status <input type="checkbox"/>	
LED Status	Solid RED

Operational status is displayed as color-coded indicators.

Step 4 Interpret the color as follows:

- Green—normal operation
- Red—alarm present

Step 5 Interpret the alarms as follows:

Alarm	Description
No alarm present	Summary alarm indicator: <ul style="list-style-type: none"> • Yes—alarm present • No—no alarm
Receiving Remote Alarm Indication	Yellow alarm
Transmitting Remote Alarm Indication	Yellow alarm
Receiving AIS	Alarm indication signal
Transmitting AIS	Transmitting alarm indication signal
Receiving LOF	Loss of Frame detected
Receiving LOS	Loss of signal detected
Looping the received signal	Loopback is active
Receiving a Test Pattern	Test signal detected
Any other line status	Other DS3 failure

Setting DS3 Alarm Thresholds

This section describes how to change the configuration settings for alarm severity, integration period, and thresholds for various error conditions, such as LCV, LES, and LSES. The performance alarm is set if the DS3 errors exceed any of the threshold counts.

To change alarm threshold values, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line and Configuration screen opens.

Step 4 On the Dsx3 Line and Configuration screen, click the **A** icon on the row with the desired line.

The Dsx3 Line Alarm Configuration form opens.

Dsx3 Line Alarm Configuration

Slot: Line:

RED Alarm Severity:	<input type="text" value="major"/>	RAI Alarm Severity:	<input type="text" value="minor"/>
Perf. Alarm Severity:	<input type="text" value="minor"/>		
LCV 15 Min Threshold:	<input type="text" value="14"/>	LCV 24 Hour Threshold:	<input type="text" value="134"/>
LES 15 Min Threshold:	<input type="text" value="12"/>	LES 24 Hour Threshold:	<input type="text" value="121"/>
PCV 15 Min Threshold:	<input type="text" value="10"/>	PCV 24 Hour Threshold:	<input type="text" value="10"/>
PES 15 Min Threshold:	<input type="text" value="10"/>	PES 24 Hour Threshold:	<input type="text" value="10"/>
PSES 15 Min Threshold:	<input type="text" value="10"/>	PSES 24 Hour Threshold:	<input type="text" value="10"/>
SEFS 15 Min Threshold:	<input type="text" value="2"/>	SEFS 24 Hour Threshold:	<input type="text" value="17"/>
AISS 15 Min Threshold:	<input type="text" value="10"/>	AISS 24 Hour Threshold:	<input type="text" value="10"/>
UAS 15 Min Threshold:	<input type="text" value="10"/>	UAS 24 Hour Threshold:	<input type="text" value="10"/>

The current slot and line number are displayed at the top.

Step 5 Set the thresholds as follows:

Displayed Information	Description
Red Alarm Severity	The severity of near end LOF or LOS conditions: <ul style="list-style-type: none"> • minor (default) • major
RAI Alarm Severity	The severity of remote alarm indication <ul style="list-style-type: none"> • minor (minor) • major
Perf. Alarm Severity	The severity of any performance alarms. The performance alarm is raised if any of the threshold counters are exceeded. <ul style="list-style-type: none"> • minor (default) • major
Threshold counters	The thresholds for line errors that invoke a performance alarm. All counter thresholds are integers greater than zero.

Step 6 Click **Modify**.

The system applies the new thresholds.

Viewing DS3 Performance Alarms

To view DS3 statistics and performance alarms, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Dsx3**.
- Step 3** Click **All-Lines**.
- The Dsx3 Line Configuration screen opens.
- Step 4** On the Dsx3 Line Configuration screen, click the **C** icon on the row with the desired line.
- The Dsx3 Line Alarm State and Statistics form opens.

Slot: 14 Line: 501

Dsx3 Performance Alarms			
LCV 15 Min Thresh Exceeded	<input type="checkbox"/>	LCV 24 Hour Thresh Exceeded	<input type="checkbox"/>
LES 15 Min Thresh Exceeded	<input type="checkbox"/>	LES 24 Hour Thresh Exceeded	<input type="checkbox"/>
PCV 15 Min Thresh Exceeded	<input type="checkbox"/>	PCV 24 Hour Thresh Exceeded	<input checked="" type="checkbox"/>
PES 15 Min Thresh Exceeded	<input type="checkbox"/>	PES 24 Hour Thresh Exceeded	<input type="checkbox"/>
PSES 15 Min Thresh Exceeded	<input type="checkbox"/>	PSES 24 Hour Thresh Exceeded	<input type="checkbox"/>
SEFS 15 Min Thresh Exceeded	<input type="checkbox"/>	SEFS 24 Hour Thresh Exceeded	<input type="checkbox"/>
AISS 15 Min Thresh Exceeded	<input type="checkbox"/>	AISS 24 Hour Thresh Exceeded	<input type="checkbox"/>
UAS 15 Min Thresh Exceeded	<input checked="" type="checkbox"/>	UAS 24 Hour Thresh Exceeded	<input checked="" type="checkbox"/>

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Alarm status is displayed as color-coded indicators. Interpret the color as follows:

- Green—normal operation
- Red—alarm present

- Step 5** Interpret the alarm and counter panes as follows:

Pane	
Performance Alarms pane	This group of eighteen indicators show the performance alarm thresholds this line has exceeded
Statistics pane	This group shows the number of times the error condition occurred

To reset the counters, click **Reset Counter**.

Displayed Information	Description
Number FE	The number of framing pattern errors per second encountered by the DS3 interface
Line Performance Alarms	<p>The DS3 line performance alarms, displayed as a row of indicators:</p> <ul style="list-style-type: none"> • Indicator 0: LCV 15 minute threshold exceeded • Indicator 1: LCV 24 hour threshold exceeded • Indicator 2: LES 15 minute threshold exceeded • Indicator 3: LES 24 hour threshold exceeded • Indicator 4: PCV 15 minute threshold exceeded • Indicator 5: PCV 24 hour threshold exceeded • Indicator 6: PES 15 minute threshold exceeded • Indicator 7: PES 24 hour threshold exceeded • Indicator 8: PSES 15 minute threshold exceeded • Indicator 9: PSES 24 hour threshold exceeded • Indicator 10: SEFS 15 minute threshold exceeded • Indicator 11: SEFS 24 hour threshold exceeded • Indicator 12: AISS 15 minute threshold exceeded • Indicator 13: AISS 24 hour threshold exceeded • Indicator 14: UAS 15 minute threshold exceeded • Indicator 15: UAS 24 hour threshold exceeded • Indicator 16: CCV 15 minute threshold exceeded • Indicator 17: CCV 24 hour threshold exceeded • Indicator 18: CES 15 minute threshold exceeded • Indicator 19: CES 24 hour threshold exceeded • Indicator 20: CSES 15 minute threshold exceeded • Indicator 21: CSES 24 hour threshold exceeded

To clear the counters, click the - icon on the row with the desired line.

To view more alarm information, click the i icon on the row with the desired line. See the “Viewing DS1 Performance Alarms” section on page 6-11.

To change the polling interval, follow these steps:

-
- Step 1** Set the Poll Interval in Secs field.
- Step 2** Click **Start** to restart the interval.
- Step 3** Click **Stop** to stop polling.
-

Viewing Interval DS3 Statistics

Interval statistics are collected by each interface for the previous 24 hours of operation. The 24 hours are broken into 96 15-minute intervals. As time progresses, the system drops the oldest interval and adds the latest one, creating a sliding 24-hour window that moves with time.

To view interval DS3 statistics, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Dsx3**.

Step 3 Click **All-Lines**.

The Dsx3 Line Configuration screen opens.

Step 4 On the Dsx3 Line Configuration screen, click the **P** icon on the row with the desired line.

The Dsx3 Line Performance Statistics screen opens.

Dsx3 Line Performance Statistics Slot: 14 Line: 501								
Poll interval in Secs: <input type="text" value="300"/> <input type="button" value="start"/> <input type="button" value="stop"/>								
Interval	P-Bit Error Sec	P-Bit Severely Err Sec	Severely Error Frm Sec	Path Unavailable Sec	Line Code Violation	P-Bit Code Violation	Line Err Sec	Alarm Indication Signal Sec
current	0	0	0	832	0	0	0	0
total	3	3	3	3596	0	14991	0	0
1	0	0	0	900	0	0	0	0
2	0	0	0	900	0	0	0	0
3	0	0	0	900	0	0	0	0
4	3	3	3	896	0	14991	0	0

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Step 5 Interpret the table as follows:

Displayed Information	Description
Interval	The 15 minute interval for the statistics. The Total interval lists statistics for the past 24 hours
P Bit Err Sec	The number seconds with P Bit errors
P Bit Sev Err Sec	The number seconds with severe P Bit errors
Sev Err Frm Sec	The number of seconds with severe frame errors
Unavailable Sec	The number of unavailable seconds
Line Code Violations	The number of line code violations
P Bit Code Violation	The number of seconds with P Bit violations
Line Err Sec	The number of seconds with line errors
C Bit Code Violation	The number of C Bit code violations
C Bit Err Sec	The number of seconds with C Bit errors
C Bit Sev Err Sec	The number of seconds with severe C Bit errors
AIS Seconds	The number of seconds with AIS

To change the polling interval, follow these steps:

- Step 1** Set the polling interval field at the top of the form.
- Step 2** Click **Start** to restart the interval.
- Step 3** Click **Stop** to stop polling

Fast Ethernet Alarms

To view Fast Ethernet alarms, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Ether**.
- Step 3** Click **All-Lines**.

The Ether Line Configuration form opens.

The screenshot shows the Cisco WebViewer interface for a Cisco MGX8260 device. The top navigation pane is open to 'Line' > 'Ether' > 'All-Lines'. The main content area displays the 'Ether Line Configuration' table. The table has columns for Select, Slot, Line, Mac Address, IP Address, Alarm Status, Oper Status, Subnet Mask, Gateway Address, and RDP. All four lines listed have a green alarm status indicator and are operational.

Select	Slot	Line	Mac Address	IP Address	Alarm Status	Oper Status	Subnet Mask	Gateway Address	RDP
	9	1	00.00.00.00.00.40	10.1.1.2		linkDownActive	255.255.255.0	10.1.1.1	enabled
	9	2	00.00.00.00.00.41	10.1.1.3		linkDownActive	255.255.255.0	10.1.1.1	enabled
	9	3	00.00.00.00.00.42	10.1.1.4		linkDownActive	255.255.255.0	10.1.1.1	enabled
	9	4	00.00.00.00.00.43	10.1.1.5		linkDownActive	255.255.255.0	10.1.1.1	enabled

- Step 4** Interpret the alarm status indicator as follows:
 - Green—normal operation
 - Yellow—minor alarm
 - Red—major alarm

SONET Alarms and Performance

The MGX 8260 groups alarm and performance information as follows:

- Alarms for all lines
- Operational alarms

- Performance alarms
- Real-time and interval statistics
- Section, line, and path statistics

In addition to viewing alarm and performance information, you can set thresholds for performance alarms.

Viewing SONET Alarms for All Lines

To view SONET alarms, follow these steps:

- Step 1** On the Navigation pane, click **Line**.
- Step 2** Click **Sonet**.
- Step 3** Click **All-Lines**.

The Sonet Line Configuration form opens.

The screenshot shows the Cisco WebViewer interface for a Sonet Line Configuration. The top navigation pane includes options like Chassis View, Node, Card, Line, Port, Calls, Protocol, Route, Email, File Download, Event Log, and Exit. The main content area displays the Sonet Line Configuration form for a specific line (Slot 9, Line 1). The form includes a table with columns for Slot, Line, Line Type, Frame Type, Line Status, Admin Status, and Support ERDI. The Line Status is indicated by a green square, signifying normal operation.

Select	Slot	Line	Line Type	Frame Type	Line Status	Admin Status	Support ERDI
	9	1	sonet	sts3c	■	up	disable

- Step 4** Interpret the Line Status indicator as follows:
- Green—normal operation
 - Yellow—minor alarm
 - Red—major alarm

Viewing SONET Alarms for Individual Lines

You can open the Sonet Line Status form for an individual line two ways:

- Click the line status LED for the desired line on the chassis view.
- Use the Navigation pane to open the Sonet Configuration screen and then click the **i** icon for the desired line.

To view line alarms for individual SONET lines, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **All-Lines**.

The Sonet Line Configuration screen opens.

Step 4 On the Sonet Configuration screen, click the **i** icon on the row with the desired line.

The Sonet Line Status pane opens.

Sonet Line Status		
Defect Present	Yes	
LOS	<input type="checkbox"/> Section LOF	<input type="checkbox"/>
Line AIS	<input type="checkbox"/> Line RDI	<input type="checkbox"/>
Path AIS	<input type="checkbox"/> Path LOP	<input type="checkbox"/>
Path UEQ	<input type="checkbox"/> Path TIM	<input type="checkbox"/>
Path SLM	<input type="checkbox"/> Path RDI	<input type="checkbox"/>
Path ERDI SERVER	<input type="checkbox"/> Path ERDI CONNECTIVITY	<input type="checkbox"/>
Path ERDI PAYLOAD	<input type="checkbox"/> LOS (performance failure states)	<input checked="" type="checkbox"/>
Section LOF (performance failure states)	<input type="checkbox"/> Line AIS (performance failure states)	<input checked="" type="checkbox"/>
Line RFI (performance failure states)	<input type="checkbox"/> Path AIS (performance failure states)	<input checked="" type="checkbox"/>
Path LOP (performance failure states)	<input type="checkbox"/> Path UEQ (performance failure states)	<input type="checkbox"/>
Path TIM (performance failure states)	<input type="checkbox"/> Path SLM (performance failure states)	<input type="checkbox"/>
Path RFI (performance failure states)	<input type="checkbox"/> Path ERDI SERVER (performance failure states)	<input type="checkbox"/>
Path ERDI CONNECTIVITY (performance failure states)	<input type="checkbox"/> Path ERDI PAYLOAD (performance failure states)	<input type="checkbox"/>
Line Loopback(remote)	<input type="checkbox"/> Serial Loopback(local)	<input type="checkbox"/>
Parallel Loopback(local)	<input type="checkbox"/>	

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Line status is displayed as color-coded indicators.

Step 5 Interpret the color as follows:

- Green—normal operation
- Red—alarm present

Viewing SONET Performance Alarms

To view SONET statistics and performance alarms, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **All-Lines**.

The Sonet Line Configuration screen opens.

Step 4 On the Sonet Line Configuration screen, click the **C** icon on the row with the desired line.

The Sonet Line Statistics screen opens, which includes the Sonet Line Alarms, Sonet Line Performance Alarms, Sonet Current Status, Line Current Status, and Path Current Status panes.

Sonet Line Alarms	
sonetStatsLOS	<input checked="" type="checkbox"/>
sonetStatsLOF	<input type="checkbox"/>
sonetStatsLineAIS	<input checked="" type="checkbox"/>
sonetStatsLineRFI	<input type="checkbox"/>
sonetStatsPathAIS	<input checked="" type="checkbox"/>
sonetStatsPathLOP	<input type="checkbox"/>
sonetStatsPathUEQ	<input type="checkbox"/>
sonetStatsPathTIM	<input type="checkbox"/>
sonetStatsPathSLM	<input type="checkbox"/>
sonetStatsPathRFI	<input type="checkbox"/>
sonetStatsPathRFIServer	<input type="checkbox"/>
sonetStatsPathRFIConnectivity	<input type="checkbox"/>
sonetStatsPathRFIPayload	<input type="checkbox"/>

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Sonet Line Performance Alarms		
section CV 15 minute threshold exceeded	<input type="checkbox"/>	section CV 24 hour threshold exceeded
section ES 15 minute threshold exceeded	<input checked="" type="checkbox"/>	section ES 24 hour threshold exceeded
section SES 15 minute threshold exceeded	<input checked="" type="checkbox"/>	section SES 24 hour threshold exceeded
section SEFS 15 minute threshold exceeded	<input type="checkbox"/>	section SEFS 24 hour threshold exceeded
line CV 15 minute threshold exceeded	<input type="checkbox"/>	line CV 24 hour threshold exceeded
line ES 15 minute threshold exceeded	<input type="checkbox"/>	line ES 24 hour threshold exceeded
line SES 15 minute threshold exceeded	<input type="checkbox"/>	line SES 24 hour threshold exceeded
line UAS 15 minute threshold exceeded	<input checked="" type="checkbox"/>	line UAS 24 hour threshold exceeded
path CV 15 minute threshold exceeded	<input type="checkbox"/>	path CV 24 hour threshold exceeded
path ES 15 minute threshold exceeded	<input type="checkbox"/>	path ES 24 hour threshold exceeded
path SES 15 minute threshold exceeded	<input type="checkbox"/>	path SES 24 hour threshold exceeded
path UAS 15 minute threshold exceeded	<input checked="" type="checkbox"/>	path UAS 24 hour threshold exceeded

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Section Current Status	
Section Defect	Yes
Section LOS <input type="checkbox"/>	Section LOF <input type="checkbox"/>

Line Current Status	
Line Defect	Yes
Line AIS <input type="checkbox"/>	Line RDI <input type="checkbox"/>

Path Current Status	
Sonet Path Defect	Yes
Sonet Path STS AIS <input checked="" type="checkbox"/>	Sonet Path STS LOP <input type="checkbox"/>
Sonet Path STS Unequipped <input type="checkbox"/>	Sonet Trace Identifier Mismatch <input type="checkbox"/>
Sonet Path Signal Label Mismatch <input type="checkbox"/>	Sonet Path RDI <input type="checkbox"/>
Sonet Path ERDI Server <input type="checkbox"/>	Sonet Path ERDI Connectivity <input type="checkbox"/>
Sonet Path ERDI Payload <input type="checkbox"/>	

46377

Alarm status is displayed as color-coded indicators. Interpret the color as follows:

- Green—normal operation
- Red—alarm present

Step 5 Interpret the alarm and counter panes as follows:

Pane	Information Displayed
Sonet Line Alarms	This group of indicators shows line alarms
Sonet Line Performance Alarms	This group of indicators shows line performance alarms
Section Current Status	This group of indicators shows section defects
Line Current Status	This group of indicators shows line defects
Path Current Status	This group of indicators shows path defects

Setting SONET Alarm Thresholds

This section describes how to change the thresholds for SONET performance alarms. A performance alarm is set if the number of errors exceed the corresponding threshold.

To change alarm threshold values, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **All-Lines**.

The Sonet Line and Configuration screen opens.

Step 4 On the Sonet Line and Configuration screen, click the **A** icon on the row with the desired line.

The Sonet Line Alarm Configuration form opens.

Sonet Line Alarm Configuration

Slot: <input type="text" value="9"/>		Line: <input type="text" value="1"/>	
RED Alarm Severity:	<input type="text" value="major"/>	Yellow Alarm Severity:	<input type="text" value="minor"/>
Perf. Alarm Severity:	<input type="text" value="minor"/>		
SeCV 15 Min Threshold:	<input type="text" value="15"/>	SeCV 24 Hour Threshold:	<input type="text" value="134"/>
SeES 15 Min Threshold:	<input type="text" value="12"/>	SeES 24 Hour Threshold:	<input type="text" value="120"/>
SeSES 15 Min Threshold:	<input type="text" value="10"/>	SeSES 24 Hour Threshold:	<input type="text" value="100"/>
SeSEFS 15 Min Threshold:	<input type="text" value="5"/>	SeSEFS 24 Hour Threshold:	<input type="text" value="20"/>
LCV 15 Min Threshold:	<input type="text" value="15"/>	LCV 24 Hour Threshold:	<input type="text" value="134"/>
LES 15 Min Threshold:	<input type="text" value="12"/>	LES 24 Hour Threshold:	<input type="text" value="120"/>
LSES 15 Min Threshold:	<input type="text" value="10"/>	LSES 24 Hour Threshold:	<input type="text" value="100"/>
LUAS 15 Min Threshold:	<input type="text" value="12"/>	LUAS 24 Hour Threshold:	<input type="text" value="20"/>
PCV 15 Min Threshold:	<input type="text" value="15"/>	PCV 24 Hour Threshold:	<input type="text" value="134"/>
PES 15 Min Threshold:	<input type="text" value="12"/>	PES 24 Hour Threshold:	<input type="text" value="120"/>
PSES 15 Min Threshold:	<input type="text" value="10"/>	PSES 24 Hour Threshold:	<input type="text" value="100"/>
PUAS 15 Min Threshold:	<input type="text" value="12"/>	PUAS 24 Hour Threshold:	<input type="text" value="20"/>

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The current slot and line number are displayed at the top.

Step 5 Set the thresholds as follows:

Displayed Information	Description
Red Alarm Severity	The severity of near end LOF or LOS conditions: <ul style="list-style-type: none"> • minor (default) • major
RAI Alarm Severity	The severity of remote alarm indication <ul style="list-style-type: none"> • minor (minor) • major
Perf. Alarm Severity	The severity of any performance alarms. The performance alarm is raised if any of the threshold counters are exceeded. <ul style="list-style-type: none"> • minor (default) • major
Threshold counters	The thresholds for line errors that invoke a performance alarm. All counter thresholds are integers greater than zero (see Table 6-3).

Table 6-3 OC-3 Performance Alarm Thresholds

Threshold	Description	Default
Section CV 15 Min Threshold	Section code violation threshold for 15 minutes.	15
Section CV 24 Hr Threshold	Section code violation threshold for 24 hours.	134
Section ES 15 Min Threshold	Section errored seconds threshold for 15 minutes.	12
Section ES 24 Hr Threshold	Section errored seconds threshold for 24 hours.	120
Section SES 15 Min Threshold	Section severely errored seconds threshold for 15 minutes.	10
Section SES 24 Hr Threshold	Section severely errored seconds threshold for 24 hours.	100
Section SEFS 15 Min Threshold	Section severely errored frame seconds threshold for 15 minutes.	5
Section SEFS 24 Hr Threshold	Section severely errored frame seconds threshold for 24 hours.	20
Line CV 15 Min Threshold	Line code violation threshold for 15 minutes.	15
Line CV 24 Hr Threshold	Line code violation threshold for 24 hours.	134
Line ES 15 Min Threshold	Line errored seconds threshold for 15 minutes.	12
Line ES 24 Hr Threshold	Line errored seconds threshold for 24 hours.	120
Line SES 15 Min Threshold	Line severely errored seconds threshold for 15 minutes.	10
Line SES 24 Hr Threshold	Line severely errored seconds threshold for 24 hours.	100
Line UAS 15 Min Threshold	Line unavailable seconds threshold for 15 minutes.	12
Line UAS 24 Hr Threshold	Line unavailable seconds threshold for 24 hours.	20
Path CV 15 Min Threshold	Path code violation threshold for 15 minutes.	15

Table 6-3 OC-3 Performance Alarm Thresholds (continued)

Threshold	Description	Default
Path CV 24 Hr Threshold	Path code violation threshold for 24 hours.	134
Path ES 15 Min Threshold	Path errored seconds threshold for 15 minutes.	12
Path ES 24 Hr Threshold	Path errored seconds threshold for 24 hours.	120
Path SES 15 Min Threshold	Path severely errored seconds threshold for 15 minutes.	10
Path SES 24 Hr Threshold	Path severely errored seconds threshold for 24 hours.	100
Path UAS 15 Min Threshold	Path unavailable seconds threshold for 15 minutes.	12
Path UAS 24 Hr Threshold	Path unavailable seconds threshold for 24 hours.	20

Step 6 Click **Modify**.

The system applies the new thresholds.

Viewing Real-Time SONET Statistics

To view SONET real-time statistics, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **Section Performance**, **Line Performance**, or **Path Performance**.

The system displays the real-time statistics.

Viewing Interval SONET Statistics

Interval statistics are collected by each interface for the previous 24 hours of operation. The 24 hours are broken into 96 15-minute intervals. As time progresses, the system drops the oldest interval and adds the latest one, creating a sliding 24-hour window that moves with time.

To view interval SONET statistics, follow these steps:

Step 1 On the Navigation pane, click **Line**.

Step 2 Click **Sonet**.

Step 3 Click **All-Lines**.

The Sonet Configuration screen opens.

Step 4 On the Sonet Configuration screen, click the **S**, **L**, or **P** icon to view section, line, or path interval statistics for the desired line.

The corresponding screen opens. The line performance screen is shown below:

Sonet Line Performance Statistics					Slot: 9	Line: 1	Poll interval in Secs: 300	start	stop
Interval	Error Sec	Severely Err Sec	Coding Violations	Unavailable Sec					
current	0	0	0	319					
total	0	0	0	87291					
1	0	0	0	893					
2	0	0	0	900					
3	0	0	0	900					
4	0	0	0	900					
5	0	0	0	900					
6	0	0	0	899					
7	0	0	0	900					
8	0	0	0	899					
9	0	0	0	900					
10	0	0	0	900					
11	0	0	0	900					
12	0	0	0	900					
13	0	0	0	900					
14	0	0	0	900	46379				

Environmental Alarms

The MGX 8260 monitors three key environmental conditions:

- Temperature of the SCC, NSC, BSC, and DMC
- Voltage on the backplane and at each card
- Fan speed

Sensor readings translate to alarm conditions according to four fixed threshold levels.

Viewing Shelf EMM Alarms

To view shelf EMM alarms, follow these steps:

- Step 1** On the upper right corner of any screen, click the **Alarm** icon. Alternatively, click **Node** and then click **Alarm** on the Navigation pane.

The Alarm Status screen opens.

- Step 2** Click the **i** icon above the Shelf Alarm pane.

The Alarm Status screen for the shelf opens.

Alarm Status		Shelf	Poll interval in Secs:		start	stop			
Select	Status	Sensor Type	Sensor Id	Sensor Reading	MajorHi Thr.	MajorLow Thr.	MinorHi Thr.	MinorLow Thr.	
<input type="checkbox"/>	<input type="checkbox"/>	voltage (mv)	2	1510	1650	1350	1590	1410	
<input type="checkbox"/>	<input type="checkbox"/>	voltage (mv)	4	47320	58000	40000	56000	44000	
<input type="checkbox"/>	<input type="checkbox"/>	fan	1	3229	4100	2900	3900	3100	
<input type="checkbox"/>	<input type="checkbox"/>	fan	2	3260	4100	2900	3900	3100	
<input type="checkbox"/>	<input type="checkbox"/>	fan	3	3375	4100	2900	3900	3100	
<input type="checkbox"/>	<input type="checkbox"/>	fan	4	3308	4100	2900	3900	3100	
<input type="checkbox"/>	<input type="checkbox"/>	fan	5	3276	4100	2900	3900	3100	
<input type="checkbox"/>	<input type="checkbox"/>	fan	6	3358	4100	2900	3900	3100	

Step 3 Interpret the table as follows:

Displayed Information	Description
Status	The status of the environmental alarm: <ul style="list-style-type: none"> Green—clear Yellow—minor Red—major
SensorType	The type of environmental sensor
SensorID	The number of a sensor on a unit
Sensor Reading	The sensor reading: <ul style="list-style-type: none"> Temperature in degrees celsius Chassis voltage in volts Card voltage, expressed as a percentage of nominal
Major Hi Threshold	The threshold value separating a major alarm from a minor alarm for high readings
Major Lo Threshold	The threshold value separating a minor alarm for a high reading from normal operation
Minor Hi Threshold	The threshold value separating a major alarm from a minor alarm for a low reading
Minor Lo Threshold	The threshold value separating a minor alarm for a low reading from normal operation

To filter the display, click the check box on the desired rows. The display updates on the next poll.

To change the polling interval, follow these steps:

Step 1 Set the Poll Interval in Secs field.

Step 2 Click **Start** to restart the interval.

Step 3 Click **Stop** to stop polling.

Viewing Card EMM Alarms

To view card EMM alarms, follow these steps:

Step 1 On the upper right corner of any screen, click the **Alarm** icon. Alternatively, click **Node** and then click **Alarm** on the Navigation pane.

The Alarm Status screen opens.

Step 2 Click the **i** icon above the Logical Card Alarm pane.

The Alarm Status for cards screen opens.

Alarm Status		Poll interval in Secs: 300		start	stop					
Select	Status	Card Num	Sensor Type	Sensor Id	Sensor Reading	MajorHi Thr.	MajorLow Thr.	MinorHi Thr.	MinorLow Thr.	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	1	27	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	2	34	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	3	31	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	4	32	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	5	32	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	6	0	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	7	0	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	temperature	8	31	75	-5	70	0	
<input type="checkbox"/>	<input type="checkbox"/>	3	voltage	1	4970	5500	4500	5300	4700	31124

Step 3 Interpret the table as follows:

Displayed Information	Description
Status	The status of the environmental alarm: <ul style="list-style-type: none"> • Green—clear • Yellow—minor • Red—major
Card Num	The number of the card for the EMM status
SensorType	The type of environmental sensor
SensorID	The number of a sensor on a unit
Sensor Reading	The sensor reading: <ul style="list-style-type: none"> • Temperature in degrees celsius • Voltage in mv • Fan speed in RPM
Major Hi Threshold	The threshold value separating a major alarm from a minor alarm for high readings

Displayed Information	Description
Major Lo Threshold	The threshold value separating a minor alarm for a high reading from normal operation
Minor Hi Threshold	The threshold value separating a major alarm from a minor alarm for a low reading
Minor Lo Threshold	The threshold value separating a minor alarm for a low reading from normal operation

To filter the display, click the check box on the desired rows. The display updates on the next poll.

To change the polling interval, follow these steps:

- Step 1** Set the Poll Interval in Secs field.
- Step 2** Click **Start** to restart the interval.
- Step 3** Click **Stop** to stop polling.

Viewing the Log

To view the event log, follow these steps:

- Step 1** On the Navigation pane, click **Log**.
- Step 2** Click the **Trap Log** submenu item.

The trap criteria form opens.

CISCO SYSTEMS EXIT

WEBVIEWER

NODE NAME: MMS LOGIN USER: SuperUser
SYSTEM TIME: 19:58 09/03/2000 DEVICE TYPE: MGX8260

Please enter your criteria of Trap Log for display:

Slot Number: All Log Type: Trap
Trap Severity: All

Enter Filter Date (mm/dd/yy) month: 00 day: 00 year: 0000

**Note: Date filter will be turn off (All) if you leave it as (00/00/0000).

Display Back

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Step 3 Enter one of the following types of events to display:

Event	Description
Slot Number	The slot number, 1-16 or all
Event Severity	The event severity: <ul style="list-style-type: none"> • Fatal • Major • Minor • Info • All
Event Type	The type of event: Trap only

Step 4 Click **Display**.

After a delay, the trap log opens:

Trap Log Display					
Date	Time	Slot	Phy. Slot	Severity	Message
09/03/2000	19:56:39	02	02	MINOR	Line 2 is in performance minor alarm 0x00010ccf; Line IfType: 2
09/03/2000	19:56:39	02	02	MINOR	Line 1 is in performance minor alarm 0x00010ccf; Line IfType: 2
09/03/2000	19:56:39	04	04	MINOR	Line 1 is in performance minor alarm 0x00010ccf; Line IfType: 2
09/03/2000	19:55:09	02	02	MINOR	Line 2 is in performance minor alarm 0x00010c8f; Line IfType: 2
09/03/2000	19:55:09	02	02	MINOR	Line 1 is in performance minor alarm 0x00010ccf; Line IfType: 2
09/03/2000	19:55:09	04	04	MINOR	Line 1 is in performance minor alarm 0x00010c8f; Line IfType: 2
09/03/2000	19:53:39	02	02	MINOR	Line 16 is in performance minor alarm 0x00000c8f; Line IfType: 2
09/03/2000	19:53:39	02	02	MINOR	Line 11 is in performance minor alarm 0x00000c8f; Line IfType: 2
09/03/2000	19:53:39	02	02	MINOR	Line 2 is in performance minor alarm 0x00010c8f; Line IfType: 2
09/03/2000	19:53:39	02	02	MINOR	Line 1 is in performance minor alarm 0x00010ccf; Line IfType: 2
09/03/2000	19:53:39	04	04	MINOR	Line 1 is in performance minor alarm 0x00010c8f; Line IfType: 2
09/03/2000	19:52:09	02	02	MINOR	Line 16 is in performance minor alarm 0x0000088f; Line IfType: 2
09/03/2000	19:52:09	02	02	MINOR	Line 11 is in performance minor alarm 0x00000c8f; Line IfType: 2

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Step 5 Interpret the event log as follows:

Displayed Information	Description
Date	The event date
Time	The event time
Slot	The slot number generating the event
Severity	The event severity
Type	The event type
Message	The event description

To clear the event log, follow these steps:

-
- Step 1** On the Navigation pane, click **Log**.
 - Step 2** Click **Clear Trap Log**.
A confirmation screen opens.
 - Step 3** Confirm your action by clicking **Clear Trap Log**.
-



Email Notifications

The email feature works in conjunction with SNMP traps to notify registered users of alarms or significant events in the MGX 8260 Media Gateway. A system administrator can register up to ten users for email notifications and up to twenty trap events for each user. Upon an event, the system sends an email to all registered users that contains alarm or event details and related system information.

Configuration Tasks for Email Alerts

To use email alerts, you perform two steps:

- Register the IP address of your existing email server
- Register the trap events you want users to receive

Registering the Email Server

To configure the email server and source email address, follow these steps:

Step 1 On the Navigation pane, click **Email**.

Step 2 Click **Server Config**.

The Email Server Setting form opens.

Email Server Setting

Email Server Domain Name:	<input type="text" value="trsmidia1.com"/>
Email Server IP Address:	<input type="text" value="16"/> . <input type="text" value="16"/> . <input type="text" value="16"/> . <input type="text" value="16"/>
Sender/Source Email Address:	<input type="text" value="support@trsmidia.com"/>

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Step 3 Enter the email server settings:

Setting	Description
Email Server Domain Name	The domain name of the email server on your network, expressed as text string up to 30 characters.
Email Server IP Address	The IP address of the email server on your network, expressed in standard IP dot notation. The default is 0.0.0.0, which disables email notifications. Any valid IP address enables email notifications.
Sender/Source Email Address	The 'from' email address for messages from the MGX 8260 Media Gateway, expressed as a text string up to 40 characters. For example, enter node1@cisco.com

Step 4 Click **Set**.

The system applies the new settings.

Viewing Email Registrations

To view email registrations, follow these steps:

Step 1 On the Navigation pane, click **Email**.

Step 2 Click **Registration**.

The Email Registration form opens.

The screenshot shows the Cisco WebViewer interface for an MGX8260 device. The top status bar displays: NODE NAME: MMS, LOGIN USER: SuperUser, SYSTEM TIME: 20:26 09/03/2000, and DEVICE TYPE: MGX8260. The left navigation pane is expanded to 'Email' > 'Registration'. The main content area shows the 'Email Registration' form with a table of registrations:

Select	Num	Reg	Email Address	Trap1	Trap2	Trap3	Trap4	Trap5	Trap6	Trap7
<input type="checkbox"/>	1		support@cisco.com	1000	0	0	0	0	0	0

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Step 3 Interpret the table as follows:

Displayed Information	Description
Num	The unique index number for this entry
Reg. Email Address	The email address where the alarm notifications are sent
Trap 1 to Trap 20	The number of the registered trap condition.

Registering Email Alerts

To register email traps, follow these steps:

- Step 1** On the Navigation pane, click **Email**.
- Step 2** Click **Registration**.
The Email Registration form opens.
- Step 3** On the Email Registration form, click the + icon.
The Add Email Registration form opens.

ADD Email Registration

Email Index Number(1 - 10):	<input type="text"/>
Reg. Email Address:	<input type="text"/>

Shelf (Please select up to 20 traps for email registration)			
shelfMajorAlarm (1000)	<input type="checkbox"/>	shelfMinorAlarm (1001)	<input type="checkbox"/>
shelfAlarmClear (1002)	<input type="checkbox"/>	shelfSecurityAlert (1003)	<input type="checkbox"/>
shelfColdStart (1004)	<input type="checkbox"/>	shelfAlarmHistoryChg (1005)	<input type="checkbox"/>
shelfDs1TypeChg (1006)	<input type="checkbox"/>	shelfCnfgCleared (1007)	<input type="checkbox"/>
Card			
cardInserted (1100)	<input type="checkbox"/>	cardRemoved (1101)	<input type="checkbox"/>
cardFailed (1102)	<input type="checkbox"/>	cardCoreSwitched (1103)	<input type="checkbox"/>
cardServiceSwitched (1104)	<input type="checkbox"/>	cardMajorAlarm (1105)	<input type="checkbox"/>
cardMinorAlarm (1106)	<input type="checkbox"/>	cardAlarmCleared (1107)	<input type="checkbox"/>

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Step 4 Specify user and trap registrations:

Displayed Information	Description
Email Index Number	A unique number identifying the user, expressed as an integer from 1 to 10
Reg. Email Address	The email address where the alarm notifications are sent, expressed as a text string up to 40 characters in length. For example, admin@cisco.com
<Alarm and event traps>	The the trap condition to register. When the trap occurs, the system sends an email to the user. Trap numbers start at 1000 and map directly to alarms and events. You must specify at least one trap.

Step 5 Click **Add**.

The system adds the email registration.

Changing Email Alerts

To change email alerts, follow these steps:

Step 1 On the Navigation pane, click **Email**.

Step 2 Click **Registration**.

The Email Registration screen opens.

Step 3 On the Email Registration screen, click the **I** icon on the registration you want to change.

The Modify Email Registration form opens.

Step 4 Change the user and trap registrations:

Displayed Information	Description
Email Index Number	A unique number identifying the user, expressed as an integer from 1 to 10
Reg. Email Address	The email address where the alarm notifications are sent, expressed as a text string up to 40 characters in length. For example, admin@cisco.com
Current Registered Traps	A list of currently-registered traps for the user
<Alarm and event traps>	The the trap condition to register. When the trap occurs, the system sends an email to the user. Trap numbers start at 1000 and map directly to alarms and events.

Step 5 Click **Modify**.

The system updates the email registration.



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