



About This Manual

Welcome to the command line interface (CLI) reference for the Cisco MGX™ 8950 and MGX™ 8850 wide area routing switches, Release 2.1.

This chapter discusses:

- [Objectives](#)
- [Audience](#)
- [Organization](#)
- [Related Documentation](#)
- [Conventions](#)
- [Command Changes for Release 2.1](#)

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

If you are reading Cisco product documentation on the World Wide Web, you can submit comments electronically. Click **Feedback** in the toolbar, select **Documentation**, and click **Enter the feedback form**. After you complete the form, click **Submit** to send it to Cisco. We appreciate your comments.

Objectives

This publication provides instructions for using the MGX 8950 and MGX 8850 commands in the CLI.

Audience

The Cisco command line interface lets you control the network from a level somewhat below that provided by Cisco WAN Manager (formerly Cisco StrataView Plus). This document helps network designers and operators to set up, manage, and troubleshoot networks.

Organization

The chapters in this guide are as follows:

- Chapter 1 [Command Line Interface Overview](#)
Describes the how to use the command line interface CLI and includes descriptions of user-oriented commands.
- Chapter 2 [Shelf Management Commands](#)
Describes commands that pertain primarily to switch-level configuration.
- Chapter 3 [Equipment and Resource Provisioning](#)
Describes commands for specifying physical characteristics to the node and logical resources to the controllers.
- Chapter 4 [ILMI and LMI Commands](#)
Describes commands that add, modify, display status, and clear statistics for ILMI and LMI.
- Chapter 5 [PNNI Commands](#)
Describes commands to add, delete, configure, display status, and create statistics for the PNNI routing protocol.
- Chapter 6 [Logical Node, Port, and Signaling Commands](#)
Describes commands to specify node-level and PNNI logical port parameters.
- Chapter 7 [SPVC and SVC Commands](#)
Describes commands to add, delete, configure, display, and specify statistics for SPVCs.
- Chapter 8 [Network Optimization Commands](#)
Describes commands to optimize PNNI routing.
- Chapter 9 [Troubleshooting Commands](#)
Describes commands that help you troubleshoot the node and the network.
- Index [Index](#)
Lists the name and chapter and page number for every command in the manual.

Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:
http://www.cisco.com/cgi-bin/order/order_root.pl
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:
<http://www.cisco.com/go/subscription>
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

Documentation Feedback

If you are reading Cisco product documentation on the World Wide Web, you can submit technical comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco.

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Attn Document Resource Connection
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-9883

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For Cisco.com registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

Cisco.com provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through Cisco.com, you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on Cisco.com to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access Cisco.com, go to the following website:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

Related Documentation

The following Cisco publications contain additional information related to the operation of this product and associated equipment in a Cisco WAN switching network.

Cisco WAN Manager Release 10.5 Documentation

The product documentation for the Cisco WAN Manager (CWM) network management system for Release 10.5 is listed in [Table 1](#).

Table 1 Cisco WAN Manager Release 10.5 Documentation

Title	Description
<i>Cisco WAN Manager Installation Guide for Solaris, Release 10.5</i> DOC-7812948=	Provides procedures for installing Release 10 of the CWM network management system and Release 5.3 of CiscoView.
<i>Cisco WAN Manager User's Guide, Release 10.5</i> DOC-7812945=	Describes how to use the CWM Release 10 software which consists of user applications and tools for network management, connection management, network configuration, statistics collection, and security management.
<i>Cisco WAN Manager SNMP Service Agent, Release 10.5</i> DOC-7812947=	Provides information about the CWM Simple Network Management Protocol Service Agent, an optional adjunct to CWM used for managing Cisco WAN switches using SNMP.
<i>Cisco WAN Manager Database Interface Guide, Release 10.5</i> DOC-7812944=	Provides information about accessing the CWM Informix OnLine database that is used to store information about the network elements.

Table 2 WAN CiscoView Release 10 Documentation

Title	Description
<i>WAN CiscoView Release 3 for the MGX 8850 Edge Switch, Release 1</i> DOC-7811242=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.
<i>WAN CiscoView Release 3 for the MGX 8250 Edge Concentrator, Release 1</i> DOC-7811241=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.
<i>WAN CiscoView Release 3 for the MGX 8230 Multiservice Gateway, Release 1</i> DOC-7810926=	Provides instructions for using this network management software application that allows you to perform minor configuration and troubleshooting tasks.

Cisco MGX 8850 Release 2.1 Documentation

The product documentation for the installation and operation of the MGX 8950 and MGX 8850 Release 2.1 switch is listed in [Table 3](#).

Table 3 Cisco MGX 8950 and MGX 8850 Switch Release 2.1 Documentation

Title	Description
<i>Cisco MGX 8850 Routing Switch Hardware Installation Guide, Release 2.1</i> DOC-7812561=	Describes how to install the MGX 8850 routing switch. It explains what the switch does, and covers site preparation, grounding, safety, card installation, and cabling.
<i>Cisco MGX 8950 Routing Switch Hardware Installation Guide, Release 2.1</i> DOC-7812561=	Describes how to install the MGX 8950 routing switch. It explains what the switch does, and covers site preparation, grounding, safety, card installation, and cabling.
<i>Cisco MGX 8850 and MGX 8950 Switch Command Reference, Release 2.1</i> DOC-7812563=	Describes how to use the commands that are available in the CLI ¹ of the MGX 8850 and MGX 8950 switches.
<i>Cisco MGX 8850 and MGX 8950 Switch Software Configuration Guide, Release 2.1</i> DOC-7812551=	Describes how to configure the MGX 8850 and MGX 8950 switches to operate as ATM edge and core switches. This guide also provides some operation and maintenance procedures.
<i>Cisco MGX 8850 and MGX 8950 SNMP Reference, Release 2.1</i> DOC-7812562=	Provides information on all supported MIB ² objects, support restrictions, traps, and alarms for the AXSM, PXM45, and RPM. PNNI is also supported.
<i>Cisco MGX and SES PNNI Network Planning Guide</i> DOC-7813543=	Provides guidelines for planning a PNNI network that uses the MGX 8850 and the MGX 8950 switches and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a Service Expansion Shelf (SES) for PNNI routing.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1</i> DOC-7812510=	Describes how to install and configure the MGX Route Processor Module (RPM-PR) in the MGX 8850 and MGX 8950 Release 2.1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.

1. CLI = command line interface

2. MIB = Management Information Base

Cisco MGX 8850 and MGX 8950 Release 2.1 Documentation

The product documentation for the installation and operation of an MGX 8850 or MGX 8950 Release 2.1 switch is listed in [Table 4](#).

Table 4 Cisco MGX 8850 and MGX 8950 Switch Release 2.1 Documentation

Title	Description
<p><i>Cisco MGX 8950 Switch Hardware Installation Guide, Release 2.1</i> DOC-7812564=</p>	<p>Describes how to install the MGX 8950 core switch. It explains what the switch does, and covers site preparation, grounding, safety, card installation, and cabling.</p>
<p><i>Cisco MGX 8850 and MGX 8950 Switch Command Reference, Release 2.1</i> DOC-7812563=</p>	<p>Describes how to use the commands that are available in the CLI of an MGX 8850 or MGX 8950 switch.</p>
<p><i>Cisco MGX 8850 and MGX 8950 SNMP Reference, Release 2.1</i> DOC-7812562=</p>	<p>Provides information on all supported MIB objects, support restrictions, traps, and alarms for the AXSM, PXM45, and RPM. PNNI is also supported.</p>
<p><i>Cisco MGX and SES PNNI Network Planning Guide</i> DOC-7813543=</p>	<p>Provides guidelines for planning a PNNI network that uses an MGX 8850 or MGX 8950 switch and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a SES¹ for PNNI route processing.</p>
<p><i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 2.1</i> DOC-7812510=</p>	<p>Describes how to install and configure the MGX Route Processor Module (RPM-PR) in the MGX 8850 and MGX 8950 Release 2.1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.</p>

1. SES = Service Expansion Shelf

SES PNNI Release 1.1 Documentation

The product documentation that contains information for the understanding, the installation, and the operation of the Service Expansion Shelf (SES) PNNI Controller is listed in [Table 5](#).

Table 5 SES PNNI Controller Release 1.1 Documentation

Title	Description
<p><i>Cisco SES PNNI Controller Software Configuration Guide, Release 1.1</i> DOC-7813539=</p>	<p>Describes how to configure, operate, and maintain the SES PNNI Controller.</p>
<p><i>Cisco SES PNNI Controller Software Command Reference, Release 1.1</i> DOC-7813541=</p>	<p>Provides a description of the commands used to configure and operate the SES PNNI Controller.</p>
<p><i>Cisco MGX and SES PNNI Network Planning Guide</i> DOC-7813543=</p>	<p>Provides guidelines for planning a PNNI network that uses the MGX 8850 and the MGX 8950 switches and the BPX 8600 switches. When connected to a PNNI network, each BPX 8600 series switch requires a SES for PNNI routing.</p>

Cisco WAN Switching Software, Release 9.3 Documentation

The product documentation for the installation and operation of the Cisco WAN Switching Software Release 9.3 is listed in [Table 6](#).

Table 6 Cisco WAN Switching Release 9.3 Documentation

Title	Description
<i>Cisco BPX 8600 Series Installation and Configuration, Release 9.3.30</i> DOC-7812907=	Provides a general description and technical details of the BPX broadband switch.
<i>Cisco WAN Switching Command Reference, Release 9.3.30</i> DOC-7812906=	Provides detailed information on the general command line interface commands.
<i>Cisco IGX 8400 Series Installation Guide, Release 9.3.30</i> OL-1165-01 (online only)	Provides hardware installation and basic configuration information for IGX 8400 Series switches running Switch Software Release 9.3.30 or earlier.
<i>Cisco IGX 8400 Series Provisioning Guide, Release 9.3.30</i> OL-1166-01 (online only)	Provides information for configuration and provisioning of selected services for the IGX 8400 Series switches running Switch Software Release 9.3.30 or earlier.
<i>Cisco IGX 8400 Series Regulatory Compliance and Safety Information</i> DOC-7813227=	Provides regulatory compliance, product warnings, and safety recommendations for the IGX 8400 Series switch.

MGX 8850 Multiservice Switch, Release 1.1.40 Documentation

The product documentation that contains information for the installation and operation of the MGX 8850 Multiservice Switch is listed in [Table 7](#).

Table 7 MGX 8850 Multiservice Gateway Documentation

Title	Description
<i>Cisco MGX 8850 Multiservice Switch Installation and Configuration, Release 1.1.3</i> DOC-7811223=	Provides installation instructions for the MGX 8850 multiservice switch.
<i>Cisco MGX 8800 Series Switch Command Reference, Release 1.1.3.</i> DOC-7811210=	Provides detailed information on the general command line for the MGX 8850 switch.
<i>Cisco MGX 8800 Series Switch System Error Messages, Release 1.1.3</i> DOC-7811240=	Provides error message descriptions and recovery procedures.
<i>Cisco MGX 8850 Multiservice Switch Overview, Release 1.1.3</i> OL-1154-01 (online only)	Provides a technical description of the system components and functionary of the MGX 8850 multiservice switch from a technical perspective.

Table 7 *MGX 8850 Multiservice Gateway Documentation (continued)*

Title	Description
<p><i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=</p>	<p>Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.</p>
<p><i>1.1.40 Version Software Release Notes Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=</p>	<p>Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.</p>

MGX 8250 Edge Concentrator, Release 1.1.40 Documentation

The documentation that contains information for the installation and operation of the MGX 8250 Edge Concentrator is listed in [Table 8](#).

Table 8 *MGX 8250 Multiservice Gateway Documentation*

Title	Description
<p><i>Cisco MGX 8250 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811217=</p>	<p>Provides installation instructions for the MGX 8250 Edge Concentrator.</p>
<p><i>Cisco MGX 8250 Multiservice Gateway Command Reference, Release 1.1.3</i> DOC-7811212=</p>	<p>Provides detailed information on the general command line interface commands.</p>
<p><i>Cisco MGX 8250 Multiservice Gateway Error Messages, Release 1.1.3</i> DOC-7811216=</p>	<p>Provides error message descriptions and recovery procedures.</p>
<p><i>Cisco MGX 8250 Edge Concentrator Overview, Release 1.1.3</i> DOC-7811576=</p>	<p>Describes the system components and functionality of the MGX 8250 edge concentrator from a technical perspective.</p>
<p><i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=</p>	<p>Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.</p>
<p><i>1.1.40 Version Software Release Notes Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=</p>	<p>Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.</p>

MGX 8230 Multiservice Gateway, Release 1.1.40 Documentation

The documentation that contains information for the installation and operation of the MGX 8230 Edge Concentrator is listed in [Table 9](#).

Table 9 *MGX 8230 Multiservice Gateway Documentation*

Title	Description
<i>Cisco MGX 8230 Edge Concentrator Installation and Configuration, Release 1.1.3</i> DOC-7811215=	Provides installation instructions for the MGX 8230 Edge Concentrator.
<i>Cisco MGX 8230 Multiservice Gateway Command Reference, Release 1.1.3</i> DOC-7811211=	Provides detailed information on the general command line interface commands.
<i>Cisco MGX 8230 Multiservice Gateway Error Messages, Release 1.1.3</i> DOC-78112113=	Provides error message descriptions and recovery procedures.
<i>Cisco MGX 8230 Edge Concentrator Overview, Release 1.1.3</i> DOC-7812899=	Provides a technical description of the system components and functionary of the MGX 8250 edge concentrator from a technical perspective.
<i>Cisco MGX Route Processor Module Installation and Configuration Guide, Release 1.1</i> DOC-7812278=	Describes how to install and configure the MGX Route Processor Module (RPM/B and RPM-PR) in the MGX 8850, MGX 8250, and MGX 8230 Release 1 switch. Also provides site preparation, troubleshooting, maintenance, cable and connector specifications, and basic IOS configuration information.
<i>1.1.40 Version Software Release Notes Cisco WAN MGX 8850, MGX 8230, and MGX 8250 Switches</i> DOC-7813594=	Provides new feature, upgrade, and compatibility information, as well as known and resolved anomalies.

Conventions

This publication uses the following conventions to convey instructions and information.

Command descriptions use these conventions:

- Commands and keywords are in **boldface**.
- Arguments for which you supply values are in *italics*.
- Elements in square brackets ([]) are optional.
- Alternative but required keywords are grouped in braces ({ }) and are separated by vertical bars (|).

Examples use these conventions:

- Terminal sessions and information the system displays are in `screen` font.
- Information you enter is in **boldface screen** font.
- Nonprinting characters, such as passwords, are in angle brackets (< >).
- Default responses to system prompts are in square brackets ([]).



Note

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



Caution

Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Command Changes for Release 2.1

This section contains lists of commands. These commands are either new to—and possibly unique to—Release 2.1, modified for 2.0 and 2.1, removed from Release 2.1, or *unsupported*. The unsupported commands exist in the software and appear in the Help display of the PXM45, but they do not yet apply to the node. Often, the unsupported commands have been operational on the AXSM but are not yet usable on the PXM45.

New Commands

These commands are new to the current Release of 2.1.70:

- addlmi
- dellmi
- clrlmistat
- dsplmi
- dsplmis
- dsplmistat
- cnfxbaradmin
- dspdevalms (was clrxbaralm(s))
- dspdeverr
- dspdeverrhist (was dspxbarerrrent)
- dspxbarplanealms
- dspxbarslotbwalms
- dspdbgfailspsc
- dspdbgfailsvc
- dspdbinfo
- dbgfailpsc
- dbgfailsvc
- clralment
- clrchannts
- clrportnts
- clrqosdefault
- cnfcblk
- cnfintfvsd
- cnfqosdefault
- cnfpasswdreset or cnfpasswdreset
- cnfxbaradmin
- core
- dellpback

- dspcbclk
- dsplnbucketcnt
- dsplpback
- dsppatterns
- dsppnallgrpaddr
- dsppngrpmbrs
- dsppswdreset or dsppasswdreset
- dspqosdefault
- mkfs
- smgrDataShow
- switchback
- dnallports
- upallports

Changed Commands

The commands that changed in this release by being executed on a different board, by requiring different parameters, or by having different keywords are not listed here. See individual commands for details.

The following commands were replaced in this release:

- dspxbaralm(s) is now dspdevalms
- dspxbarerrcnt is now dspdeverrhist
- dspclksrcs now on active card only

Removed Commands

The following commands have been removed:

- addln—removed from AXSM
- addmaster (obsolete)
- addslave (obsolete)
- cnfifip (obsolete)
- delln—removed from AXSM
- dspifip (obsolete)
- dspnddebug
- dspshelfalm (obsolete)—replaced by dspenvalms
- dspslotalms
- dspxbaralm, replaced by dspdevalms
- formatdisk
- hmkfs

- offdiagstat
- shutdisk
- syncdisk
- dspxbaralm
- dspxbarerrcnt
- dspxbaralarm

Unsupported Commands

The following commands are not yet functional in Release 2.1, but may appear on the PXM45:

- addlink
- addlnloop (on the PXM45)
- clsrsmcnf
- cnfcellfilter
- cnfln (not supported on PXM45 only)
- cnfsrcmelksrc
- delbert
- dellink
- dellnloop (on the PXM45)
- delslotlink
- dsplink
- dspln not supported on PXM45 only
- dsplns not supported on PXM45 only
- dspslotlink
- dspsrcmelksrc

