



Cisco MGC Node Manager Provisioning Tool User's Guide Version 2.4(1)

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Preface	v
Document Objective	v
Audience	vi
Document Organization	vi
Terminology	vi
Document Conventions	vii
Documentation Suite	vii
MNM-PT Release Notes	vii
Cisco Media Gateway Controller Node Manager Documentation	vii
Cisco MGC Documentation	viii
Documentation Map	viii
Obtaining Documentation	ix
World Wide Web	ix
Documentation CD-ROM	x
Ordering Documentation	x
Documentation Feedback	x
Obtaining Technical Assistance	x
Cisco.com	xi
Technical Assistance Center	xi
Cisco TAC Web Site	xi
Cisco TAC Escalation Center	xii
Document Change History	xii
Cisco MGC Node Manager Provisioning Tool Overview	13
Provisioning Introduction	13
MNM-PT Introduction	14
MNM-PT Basics	15
MNM-PT Field Definitions	15
MNM-PT Data Entry Requirements	18
Starting the MNM-PT	18
Using the MNM-PT	19
Menus	19
File Menu	20
View Menu	20

Tools Menu	21
Help Menu	21
Configuration Editor Views	21
Defining Users and Permissions	22
Exiting the MNM-PT	23
MNM-PT Utilities	25
Perform an Integrity Check	25
Integrity Check Dialog Box Options	27
Check Integrity for MGC Signaling Configuration	27
Check Traffic Against MGC Configuration	28
Check Dial Plan Results	28
View Generated Output	28
View Generated MML Commands	29
View Generated Cisco MGW Commands	29
Deploy a Configuration	30
Deploying a New Configuration	30
Configuring an Incremental Deployment	33
Use Telnet or ssh	35
MGC Viewer	36
State Operation	38
P	39
Back Up and Restore	41
Backup and Restore Requirements	42
Schedule a Backup or Restore	42
Check Status of Backup or Restore	44
44	



Preface

This preface describes the objectives, audience, organization, and conventions of this document. It contains the following sections:

- [Document Objective, page v](#)
- [Audience, page vi](#)
- [Document Organization, page vi](#)
- [Terminology, page vi](#)
- [Document Conventions, page vii](#)
- [Documentation Suite, page vii](#)
- [Obtaining Documentation, page ix](#)
- [Obtaining Technical Assistance, page x](#)
- [Document Change History, page xii](#)

Document Objective

This document provides the information you need to get started using the Cisco MNM Provisioning Tool (MNM-PT), Version 2.4(1). You should read the system-level documentation supplied with your system before using this guide. A complete list of these documents is included in the *Cisco Media Gateway Controller Software Version 9 Installation and Configuration Guide* that ships with your system.



Note

The Cisco MNM Provisioning Tool (MNM-PT) was previously known as the Voice Services Provisioning Tool (VSPT).

Installation is covered in the separate *Cisco MGC Node Manager Installation Guide* at:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/emins/index.htm>

Detailed provisioning instructions are beyond the scope of this Guide, and are covered in the *Cisco Media Gateway Controller Software Version 9 Provisioning Guide* at:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/prvgde/index.htm>, in particular Chapter 3, Provisioning with the Voice Services Provisioning Tool at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/prvgde/r9gui.htm>

Detailed instructions for provisioning dial plans are covered in the *Cisco Media Gateway Controller Software Version 9 Dial Plan Guide* at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/dplan/index.htm>, in particular Chapter 3, “Provisioning Dial Plans with the VSPT”, at http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/dplan/dp_vspt.htm

**Note**

This document uses the term *media gateway controller software* or *MGC application* to mean the Cisco MGC software that runs in the UNIX environment on a server. The term *MGC* refers to the combination of this software and the server. The Cisco MGC communicates with the SS7 network to process and route calls between a traditional time-division multiplexing (TDM) network and a packet data network. This routing takes place through a variety of media gateways, standalone devices that perform the conversion between the TDM and data network formats.

**Note**

The Cisco PGW 2200 Softswitch was formerly known as the Cisco PGW 2200 PSTN Gateway. Older names of this product are the Cisco VSC 3000 and Cisco SC 2200. Some parts of this document may still use the older names.

Audience

This document is designed for network operators and administrators who have experience with telecommunications networks, protocols, and equipment and who have familiarity with data communications networks, protocols, and equipment. Software and hardware installers and network designers will also find this document useful.

Document Organization

Table 1 describes the major sections of this document.

Table 1 Document Organization

Chapter	Title	Description
Chapter 1		This chapter describes the MNM-PT and provides information on how to get started using the tool.
Chapter 2		This chapter describes the utilities included with MNM-PT and provides instructions for using them.

Terminology

The following terms are used in this document:

Cisco MGC host—A Sun host server running Cisco MGC software. If your product is the Cisco SC2200, this is also known as an SC host. If your product is the Cisco PGW 2200 Softswitch, this is also known as a PSTN Gateway host.

Cisco *SC node*—The combination of the Cisco SC2200 product and the control signaling network. The SC node consists of all solution components except the media gateway.

Cisco *MGC node*—The logical grouping of the active and standby MGC hosts, the control signaling network, and the Cisco Signaling Link Terminals (SLTs).

Simplex MGC node—A node that uses a single Cisco MGC host. Typically, nodes of this type are used for solution evaluation tests or for small installations. Any loss of service in the Cisco MGC host disrupts all call traffic. If your product is the Cisco SC2200, this is also called a simplex SC node.

Continuous-service MGC node—A node that uses two Cisco MGC hosts to prevent system downtime that might otherwise result from the failure of a single MGC host. Calls in progress are maintained when one MGC host fails. Continuous-service nodes use SLTs to preprocess SS7 signaling and distribute signaling to both MGC hosts. If a failover occurs, all stable calls are maintained. If your product is the Cisco SC2200, this is also called a continuous-service SC node.

Document Conventions

Notes use the following conventions:



Caution

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



Note

Means *reader take note*. Notes contain helpful suggestions or references to material not covered in the publication.

Documentation Suite

The following documentation provides information about the Cisco MGC software and the solutions it supports.

MNM-PT Release Notes

Release Notes for MNM-PT Version 2.4(1) (includes release information through this version):

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/relnote/vspt24.htm>

Cisco Media Gateway Controller Node Manager Documentation

The Cisco Media Gateway Controller Node Manager (Cisco MGC Node Manager) provides an integrated graphical user interface for managing the Cisco PGW 2200 Softswitch node, and MNM-PT may be launched from Cisco MGC Node Manager. The following documentation is available for Cisco MGC Node Manager:

Cisco MGC Node Manager User's Guide Version 2.4(1) at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/cmnm243/index.htm>.

Cisco MGC Node Manager Release Notes Version 2.4 at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/relnote/cmm24.htm>.

Unlike MNM-PT, where each version is designed to work with a specific version of Cisco MGC software, each version of Cisco MGC Node Manager is backward-compatible with earlier Cisco MGC software versions.

Cisco MGC Documentation

The following documentation available for the Cisco MGC Release 9 is on the CD that ships with your software and at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/index.htm>:

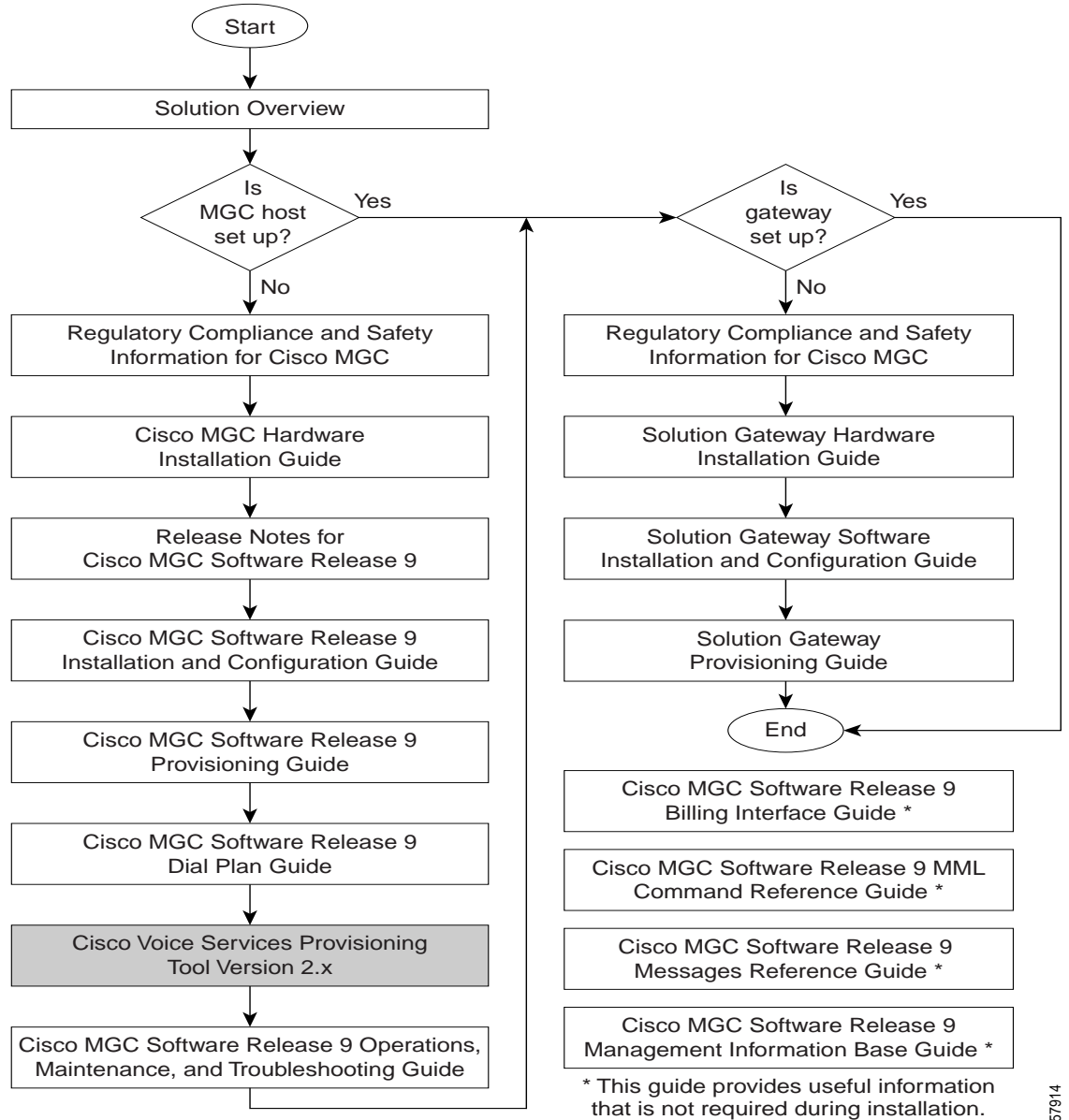
- *Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide*
- *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*
- *Cisco Media Gateway Controller Software Release 9 Dial Plan Guide*
- *Cisco Media Gateway Controller Software Release 9 MML Command Reference*
- *Cisco Media Gateway Controller Software Release 9 Messages Reference Guide*
- *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide*
- *Cisco Media Gateway Controller Hardware Installation Guide*
- *Cisco Media Gateway Controller Software Release 9 Billing Interface Guide*
- *Cisco MGC Software Release 9.3(2) Feature Modules*
- *Cisco Media Gateway Controller Management Information Base (MIB) Guide*
- *Cisco Signaling Link Terminal*
- *Cisco Billing and Measurements Server, Release 2 and Cisco Billing and Measurements Server, Release 3.10*
- *H.323 Signaling Interface Guide*
- *Cisco Media Gateway Controller Software Release 9 Solutions*, with link to solution documentation at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/soln/index.htm>.
- *Cisco Media Gateway Controller Software Master Index*
- *Voice Services Provisioning Tool Release User's Guides* for Version 2.1 through 2.4(1)
- *Release Notes for the Cisco Media Gateway Controller Software Release 9*. Includes Release Notes for Version 9, Cisco MNM 2.x, and VSPT 2.x, Solaris 2.6 and 8, and HSI 2.20.

If you are using Cisco MGC Release 7, you can find documentation at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel7/index.htm>.

Documentation Map

Figure 1 shows the sequence in which the various manuals documenting Cisco telephony solutions should be read.

Figure 1 Documentation Map



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Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

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

<http://www.cisco.com>

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped 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 through 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, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

If you are reading Cisco product documentation on Cisco.com, you can submit technical comments electronically. Click **Leave Feedback** at the bottom of the Cisco Documentation home page. After you complete the form, print it out and fax it to Cisco at 408 527-0730.

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:

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

We appreciate your comments.

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 by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you to

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

You can self-register on Cisco.com to obtain customized information and service. To access Cisco.com, go to the following URL:

<http://www.cisco.com>

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

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

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

<http://tools.cisco.com/RPF/register/register.do>

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

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

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

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

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

Document Change History

Table 2 Change History

Subject	Document #, Change Date	Change Summary
Updated to document features new in MNM-PT 2.4(1)	OL-3871-01, June, 2003	Updated to document features new in Cisco MGC software release 9.4(1) and to reflect name change and tighter integration with Cisco MGC Node Manager.
Updated to document features new in VSPT 2.3(2)	OL-3541-01, December 05, 2002	Updated to document features new in Cisco MGC software release 9.3(2).
Updated to document features new in VSPT 2.3(1)	OL-1910-02, July 30, 2002	Updated to document HSI adjunct, 6509 LAN Switch, and integrated SLT.
Initial release, VSPT 2.2	OL-1910-01, February 15, 2002	Initial online release



Cisco MGC Node Manager Provisioning Tool Overview

Cisco Open Packet Telephony (OPT) provides the framework for delivering voice services over packet-based data, voice, and video networks. OPT encompasses a broad range of hardware platforms and Cisco software, delivering a continuum of voice solutions from core infrastructure to enhanced services over circuit and packet networks. The Cisco Media Gateway Controller (MGC) is at the center of Cisco OPT solutions.

Provisioning a Cisco MGC is the process of preparing it to communicate with an SS7 network, with Cisco media gateways, and with the other components of an OPT solution. The Cisco MNM Provisioning Tool (MNM-PT) provides an easy-to-use graphical tool to provision Cisco MGCs.

Individual releases of the MNM-PT are designed to be used with specific releases of the Cisco MGC software. MNM-PT Version 2.4(1) is designed to be used with Cisco MGC Version 9.4(1). If you are using a different release of the Cisco MGC software, see the Installation Guide Table 1-1 to identify the release of MNM-PT that you need.

This chapter introduces the MNM-PT and provides directions for obtaining, installing, and using the software.

This chapter contains the following sections:

- [Provisioning Introduction, page 1-13](#)
- [MNM-PT Introduction, page 1-14](#)
- [MNM-PT Basics, page 1-15](#)
- [Starting the MNM-PT, page 1-18](#)
- [Using the MNM-PT, page 1-19](#)
- [Defining Users and Permissions, page 1-22](#)
- [Exiting the MNM-PT, page 1-23](#)

Provisioning Introduction

All solutions involving the Cisco MGC are configured through the use of one or more Cisco MGC hosts, one or more Signaling System 7 (SS7) network signaling options, and one or more media gateways that control bearer-traffic routing.

**Note**

In this document, a *solution* is a logical combination of Cisco hardware and software configured to perform a specific network task.

Prior to starting any provisioning session, you should have a clear understanding of the network topology for your solution. Create a network drawing, and refer to it while configuring your network.

In addition, you should perform the following tasks before starting a provisioning session:

- Thoroughly plan your network configuration. Refer to the documentation for your solution for detailed network configuration information.
- Set up your system hardware, and install all required software. For more information, refer to Prerequisites in Chapter 1 of the Installation Guide, and the *Cisco Media Gateway Controller Software Version 9 Installation and Configuration Guide* at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/swinstl/index.htm>

MNM-PT Introduction

The MNM-PT allows you to import an existing configuration, modify the configuration, and export it to the same or different devices. The MNM-PT can also facilitate provisioning of individual call parameters, simplifying the provisioning of a large live network.

Using the MNM-PT helps avoid common errors that might arise if devices are provisioned independently, eliminates the need to enter duplicate data, and enables importing and exporting configurations to and from the Cisco PGW 2200. The MNM-PT generates configuration files necessary to provision the PGW 2200, including the following provisioning information:

- Signaling
- Trunk groups
- Trunks
- Routes
- Dial plans

The MNM-PT also allows provisioning Cisco Media Gateways (MGX), specifically the Cisco MGX 8850 with the Voice Interworking Service Module (VISM) Version 3.1. With the MNM-PT, you can carry out Cisco MGX 8850 chassis provisioning tasks and VISM provisioning tasks.

During a provisioning session, the MNM-PT automatically generates the Man Machine Language (MML) or command line interface (CLI) scripts used to configure network elements, assembles these commands into a batch file, and deploys the file to the appropriate network device.

The MNM-PT allows scheduled backups and restores of configurations on the following devices:

- The Cisco MGC host (active configuration)
- BAMS Phase 3 (active configuration of the system, plus eight nodes)
- The Cisco SLT 2600 (running configuration and image on flash)
- The Cisco Catalyst 5500 (configuration and image on flash)
- The Cisco Catalyst 2900XL (running configuration and image on flash)

MNM-PT can be installed with the CSCOk9000 package to support secure communications to SSH-enabled devices, the Cisco MGC host, the BAMS server, or the HSI server. The following operations all can use SSH:

- Provisioning of an SSH-enabled Cisco PGW 2200
- Launching of ssh rather than Telnet for communicating with SSH-enabled network devices through a command-line interface
- Use of SSH to secure X windows communications with the end-user display device
- Use of SSH in place of Telnet for the initial step (logging into the component to be backed up and getting the configuration) in a backup and restore operation. The configuration is copied to a TFTP server using standard TFTP.

The MNM-PT can be deployed as an integrated component of the Cisco MGC Node Manager or as a standalone application. If it is installed on the Cisco MGC, call throughput might be impacted when the MNM-PT is active. It typically runs on a standalone UNIX server that is also running the Cisco MGC Node Manager (Cisco MNM) and supports multiple users and provisioning sessions. You can launch the MNM-PT from the managed object icon in the Cisco MNM Map Viewer. For information about Cisco MNM, refer to the *Cisco MGC Node Manager User's Guide Version 2.4(1)* at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/cmnm241/index.htm>

This document is designed to help you get started using the MNM-PT, and does not include complete provisioning instructions, which are found in the *Cisco Media Gateway Controller Software Version 9 Provisioning Guide* at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/prvgde/index.htm>, in particular Chapter 3, Provisioning with the Voice Services Provisioning Tool at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/prvgde/r9gui.htm>

Detailed instructions for provisioning dial plans are covered in the *Cisco Media Gateway Controller Software Version 9 Dial Plan Guide* at

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/dplan/index.htm>, in particular Chapter 3, "Provisioning Dial Plans with the VSPT", at

http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/dplan/dp_vspt.htm

MNM-PT Basics

This section describes the requirements for entering provisioning data using the VSPT.

MNM-PT Field Definitions

Table 1-1 lists MNM-PT field names, which correspond to system components in the Cisco MGC, and their definitions. For more information about system components, refer to the *Cisco Media Gateway Controller Software Version 9 Provisioning Guide*.

[this table is not a comprehensive list of provisioning components but a list and description of the major fields displayed in the MGC Config window]

Table 1-1 Field Name Definitions

Field Name	Definition
MGCP ¹ Signaling Service	An MGCP signaling service is a signaling service between the Cisco MGC and a media gateway.
IP Link for MGCP	An IP Link for MGCP is a link for the MGCP signaling services.

Table 1-1 Field Name Definitions (continued)

Field Name	Definition
MGC Host	An origination point code (OPC) is the address of the Cisco MGC you are provisioning.
Interfaces	Hardware card provisioning for the Ethernet cards in the Cisco MGC host.
Point Codes	
Originating Point Code	An originating point code (OPC) is the address for the Cisco MGC.
Adjacent Point Code	An adjacent point code (APC) is the address of an STP ² that sends and receives signaling messages to and from the Cisco MGC.
Destination Point Code	A destination point codes (DPC) is the address of an endpoint, such as a PSTN ³ switch that carries the bearer traffic.
Routing Keys	
M3UA Route Key	A Transpath NE component that represents the M3UA Routing key, a child of an OPC.
SUA Route Key	A Transpath NE component that represents an SUA Routing key, a child of an OPC.
LinkSet	A LinkSet is a set of links from the MGC to an endpoint, such as an adjacent STP.
SS7 Subsystem)	A logical connection between a pair of mated STPs that allows the Cisco MGC to route through either STP to an endpoint.
ISUP Timer Profile	ISDN User Part (ISUP) timer profile provisioned for signaling service.
INservice	Intelligent network services table; can be changed at any time and is dynamically reconfigurable.
SS7 Path (SS7 Signaling Service)	An SS7 path is a connection between the Cisco MGC and a specified point code.
SS7 Route	An SS7 route is a route for each signaling path from the Cisco MGC to the PSTN switch through the linksets you have created to the STPs.
IP Route	A static IP route.
M3UA Route	An M3UA route is a route for each signaling path from the Cisco MGC to the PSTN switch through the SGNode using M3UA.
SUA Route	An M3UA route is a route for each signaling path from the Cisco MGC to the PSTN switch through the SGNode using M3UA.
SS7 Signaling Gateway	
SS7 SG Nodes	SS7 signaling gateway nodes
SS7 SG Subsystem	SS7 signaling gateway subsystem.
SS7 SG Pairs	SS7 signaling gateway pair
SS7 SG Sigpaths	SS7 service to a signaling gateway
Line Number Translation	Line number translation represents a line number and internal number translation.and is dynamically reconfigurable.

Table 1-1 Field Name Definitions (continued)

Field Name	Definition
SIP	SIP (session initiation protocol) service, the connection between an MGC and a SIP server.
Auto Congestion Ctrl	
Response Category	Auto Congestion Control response categories that may be associated with a trunkgroup (MGC configuration) or a signalling path (SC configuration).
MCL Threshold	Definition of onset and abate values of different contributing factors for Machine Congestion Level(MCL).
MCL Callreject	The definition of call reject percentage in different machine congestion levels (MCL)
Advice of Charge	
Holiday	Holiday table that provides the capability to distinguish specific days of the year and charge them differently from the actual day of the week that the holiday falls on.
Charge	Charge table that defines the tariff rates (table index key for tariff.dat) and their durations.
Tariff	Tariff table contains the tariff rates and scale factors. Each row is referenced by a tariff id which call processing will obtain by accessing the Charge table.
GTD Parameters	GTD (generic transparency descriptor) transports ISUP messages and parameters, using a generic format, between the ingress and egress Cisco PGW 2200 Signaling Controllers..
External Node	
ITP	ITP (Internet Transfer Point), a signaling gateway to the SS7 network
DPNSS	DPNSS ⁵ signaling path that is backhauled over IP to/from a Network Access Server (destination).
Association	An SCTP ⁶ association represents the connection between the Cisco MGC and a Cisco access server.
SGP	Signaling gateway process
EISUP	EISUP signaling service or signaling path, the signaling path to an externally located MGC (destination).
C7 IP Link	A link to the SS7 network (for example, an SSP ⁷ or STP) from the Cisco MGC through a Cisco SLT.
Sessionset	A pair of backhaul IP links used on the PGW, used to communicate with external nodes that support IPFAS or BSMV0.
NASPath	Network access server (NAS) signaling path, the Q.931 protocol path between the MGC and the media gateway

1. MGCP = Media Gateway Control Protocol.
2. STP = signal transfer point.
3. PSTN = Public Switched Telephone Network.
4. BSC = Broadband Service Card.
5. Digital Private Network Signaling System

6. SCTP = Stream Control Transmission Protocol
7. SSP = service switching point.

MNM-PT Data Entry Requirements

When you are entering data into the MNM-PT windows, follow standard MML conventions for names and descriptions. Each MML name must have the following characteristics:

- A maximum of 20 alphanumeric characters, including dashes
- No space, underscore, or special characters
- Must start with an alphabetic character

For example: `name="dpc1"`

MML descriptions can be as many as 128 characters and can include spaces and symbols. You should use a description that helps to identify the component or link that you are provisioning. For example, for an SS7 route, which indicates the signaling path from the Cisco MGC to a switch through a linkset, you could create a description "SS7 Route to PSTN Switch A through Linkset 1." For more information about MML, refer to the Cisco *Media Gateway Controller Software Version 9 MML Command Reference Guide*.

The MNM-PT GUI enables you to step through the provisioning process in a logical sequence. The sequence of steps is described in the Cisco *Media Gateway Controller Software Version 9 Provisioning Guide*.

Starting the MNM-PT



Note

See the Cisco *Media Gateway Controller Software Version 9 Installation and Configuration Guide* for information on setting up user privileges and access rights.

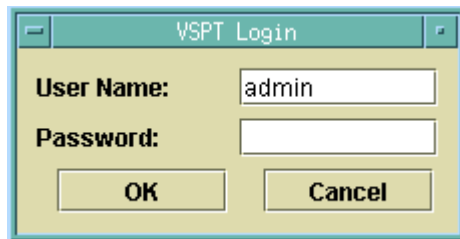
Perform the following steps to start the MNM-PT:

- Step 1** Do one of the following:
- To start MNM-PT from Cisco MGC Node Manager, in the Map Viewer, right-click a Cisco MGC host and choose **Tools > Provisioning Tool**.
 - To start MNM-PT standalone:
 - Log in to the MNM-PT server or access it from a machine with X window capability.
 - In a terminal window, change to the default directory:


```
>cd /opt/CSCOVsp24
```
 - Navigate to the appropriate directory if you installed the MNM-PT in a different location.
 - Enter the following command to start the MNM-PT:


```
>./vspt
```

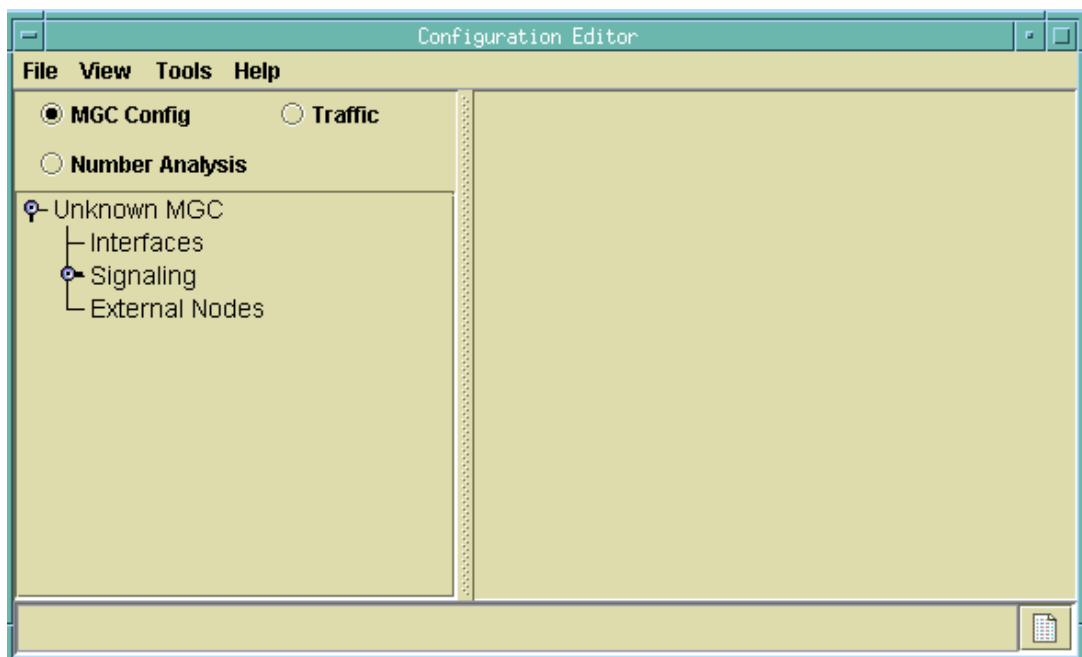
The login screen shown in [Figure 1-1](#) appears.

Figure 1-1 Login Screen

Step 2 Enter your user name and password and click **OK**.

The default user name is admin, and the password is also admin.

The Welcome screen is displayed briefly during the login process, and the main window appears (see [Figure 1-2](#)).

Figure 1-2 Main MNM-PT Window

Using the MNM-PT

This section describes the MNM-PT menus and Configuration Editor views, and provides directions for using the tool functions.

Menus

The MNM-PT menu bar contains these menus:

- File
- View
- Tools
- Help

These menus are described in the following sections.

File Menu

Table 1-2 describes File menu commands.

Table 1-2 File Menu commands

Command	Description
New	Begin a new configuration session
Open	Open an existing configuration
Import	Import an existing configuration from an MGC, or import trunk group, trunk, routing, or dial plan files into the MNM-PT
Export	Export configuration files from the MNM-PT to a specified directory
Save	Save the current configuration: <ul style="list-style-type: none"> • As Working: Use to save a new configuration, either a configuration imported from the Cisco PGW or a configuration created in MNM-PT, and to save modifications to an existing configuration, overwriting the last version. The configuration is saved in the <code>/var/opt/CSCOVsp24/data/mgc/mistral</code> directory. • As Snapshot: Use to save modifications to an existing configuration under a new name in the ARCHIVE directory. The snapshot configuration is saved in <code>/var/opt/CSCOVsp24/data/mgc/mistral/<configname>/ARCHIVE</code> • As New Config: Use to save a modified configuration under a new name, leaving the original intact.
Exit	Stop any open provisioning sessions and close the MNM-PT.

View Menu

Table 1-3 describes View menu commands.

Table 1-3 View Menu commands

Command	Description
MML	Show generated MML for the current configuration
MGW Commands	Show generated Cisco MGX 8850 commands for the current configuration.
Trunk Group File	Show generated trunk group file for the current configuration
Trunk File	Show generated trunk file for the current configuration

Tools Menu

Table 1-4 describes Tools menu commands.

Table 1-4 Tools Menu commands

Command	Description
Integrity Check	Check your configuration for inconsistencies and missing information
Deploy	Move the configuration to one or more target hosts and Cisco media gateways (MGWs)
Telnet	Open a Telnet or SSH session
MGC Viewer	View, activate, remove, and synchronize configurations on the MGC.
BAMS Config	View and configure a Billing and Measurements Server (BAMS). Refer to the Billing and Measurements Server User's Guide for your release of BAMS for information about BAMS configuration.
State Operation	View and configure the state of MGC components.
Screening Editor	View and configure screening number provisioning. Refer to the Cisco MGC Software Version 9 Dial Plan Guide for information about using the VSPT Screening Editor.
Audit	Audit bearer trunk information between the Cisco MGC and the BAMS.
Backup and Restore	Create, modify, or delete scheduled backups or restores on the Cisco MGC Host, Catalyst 2900XL, Catalyst 5500, Catalyst 6509, SLT 2600, BAMS P3, and HSI server components.
Administrators:	
Change Password	Change your password.
User Administration	Add, modify, or delete users.

Help Menu

Table 1-5 describes Help menu commands.

Table 1-5 Help Menu commands

Command	Description
MNM-PT User Guide	View a local version of the MNM-PT User Guide.
About MNM-PT	View information about the current version of MNM-PT, including the software release number.

Configuration Editor Views

You create, view, and modify configurations using the MNM-PT Configuration Editor, which has three different views. Select a view by clicking one of the radio buttons at the top of the Configuration Editor window:

- MGC Config—MGC Configuration view. Use to add components and provision component properties.
- Traffic—Traffic view. Use to create customer-specific files, including trunk groups, trunks, and routing.
- Number Analysis—Number Analysis view. Use to provision dial plans.

In each view, the left pane displays selectable components in an Explorer-type tree view. The right pane displays data entry fields for the selected component. Click a component to select it. To see all of the subcomponents for the component you select, click the icon next to the component name to expand the component list.

**Note**

For instructions for using the MNM-PT to provision components, component properties, trunk groups, trunks, and routing, refer to the *Cisco Media Gateway Controller Software Version 9 Provisioning Guide*. For instructions for using the MNM-PT to provision a dial plan, refer to the *Cisco Media Gateway Controller Software Version 9 Dial Plan Guide*.

Defining Users and Permissions

After you install the MNM-PT, you define users and their respective permissions using the following procedure:

-
- Step 1** Log in to the server as root.
 - Step 2** Start MNM-PT, either by first starting Cisco MGC Node Manager and then starting MNM-PT, or by starting it standalone.
 - Step 3** Click **Tools > User Admin**.
The screen in [Figure 1-3](#) appears.

Figure 1-3 MNM-PT User Administration

Username:	Permission:
admin	admin

Username:
 Password:
 Permission:

- Step 4** To add a user, do the following:
- Enter a user name and password.
 - From the **Permission** dropdown list, select the desired permission level, **viewer**, **user**, or **admin**.
 - Click **Add**.
- Step 5** To modify a user, select the user name, change the password or permission level, and click **Modify**.
- Step 6** To delete a user, select the user name, and click **Delete**.

Exiting the MNM-PT

You can exit the MNM-PT by performing one of these actions:

- Click **File > Exit**. Click **OK** at the resulting prompt.
- Click the close box in the upper right of the MNM-PT screen. Click **OK** at the prompt.



MNM-PT Utilities

MNM-PT Version 2.4(1) provides utilities to accomplish the following tasks:

- [Perform an Integrity Check, page 2-25](#)
- [View Generated Output, page 2-28](#)
- [View Generated Cisco MGW Commands, page 2-29](#)
- [Deploy a Configuration, page 2-30](#)
- [Use Telnet or ssh, page 2-35](#)
- [MGC Viewer, page 2-36](#)
- [State Operation, page 2-38](#)
- [P, page 2-39](#)
- [Back Up and Restore, page 2-41](#)

Perform an Integrity Check

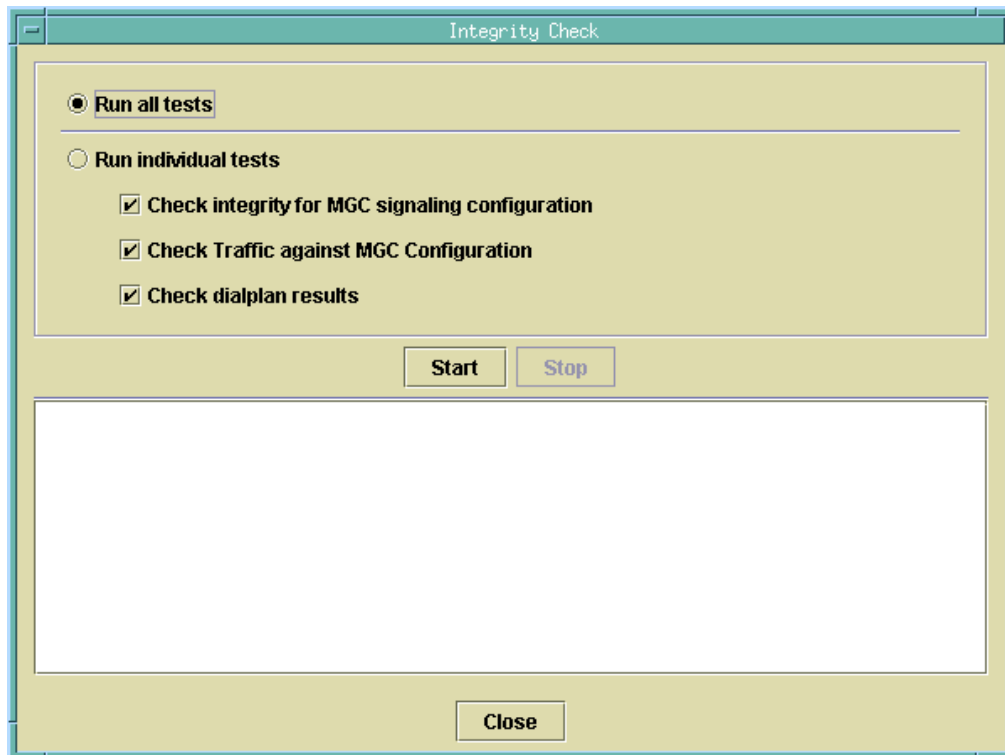
When provisioning is complete, you can perform an integrity check to prevent possible configuration errors. You can check one or all of the following:

- Integrity for the MGC signaling configuration
- Traffic against the MGC configuration
- Dial plan results

Use the following procedure to perform an integrity check of the currently open configuration:

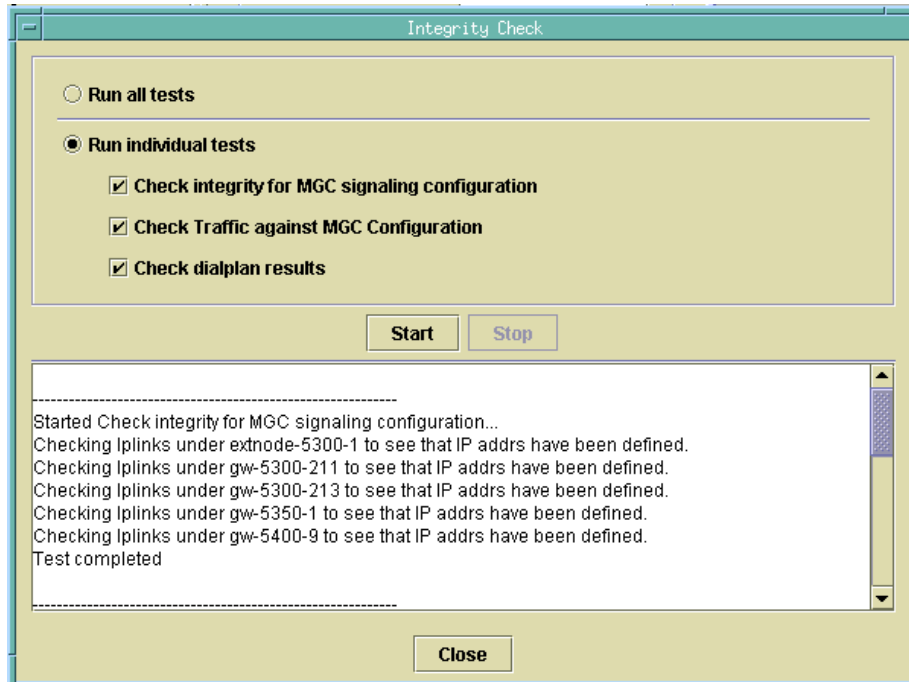
-
- Step 1** Click **Tools > Integrity Check**. The Integrity Check dialog box appears ([Figure 2-1](#)).

Figure 2-1 Integrity Check



- Step 2** Select the tests you want to run:
- Click **Run all tests** to run all three tests. See [Integrity Check Dialog Box Options](#) below for a description of each test.
 - To run one or more individual tests, click **Run individual tests**. All tests are checked. Uncheck the tests you do not want to run.
- Step 3** Click **Start**. MNM-PT runs the selected tests.
- When the tests finish, a screen similar to the one in [Figure 2-2](#) appears showing the results of the integrity checks.

Figure 2-2 Integrity Check Results



Integrity Check Dialog Box Options

This section describes the options in the Integrity Check dialog box.

Check Integrity for MGC Signaling Configuration

When you perform an integrity check for MGC signaling configuration, the MNM-PT does the following:

- Checks that the hostname is specified for MGC
- Checks that login/passwords are specified for MGC
- Checks that MGC ipaddds are specified
- Checks that if MGC failover is specified, the failover IPs are specified
- Checks that MGX hostname is specified
- Checks that MGX login/password is specified
- Checks the MGX IPaddds
- For EXTNODES where the configuration refers to an MGX, checks PeerAddds on IPLNK to ensure that they are addresses on the specified MGX
- For IPFAS IPLNK:
 - Ensures that SigSlot/SigPort is specified

- Checks SigSlot/SigPort on MGX to ensure that the values are valid as specified on the MGX
- Ensures that MGC ports and MGX ports match on the IPLNK
- Checks that all IPLNK under a single IPFASPATH map to the same port number

**Note**

The number of IPFAS sessions using a given port is displayed because some IPLNKs might use different port IDs.

**Note**

After Cisco MGC Version 9.3(2) and MNM-PT Version 2.3(2), IPFAS signaling services apply only to the VISM card.

Check Traffic Against MGC Configuration

When you perform an integrity check of traffic against the MGC configuration, the MNM-PT does the following:

- When D-channels are defined as FAS and NFAS PRI in the trunk group/trunk section, verifies that there are corresponding IPFASPATH signaling services with corresponding IPLNKs
- Checks if there are any defined IPFASPATH signaling services defining a D-channel but no corresponding trunk group/trunk in the traffic information with a corresponding NFAS/FAS PRI.
- Checks that signaling services defined for trunk groups exist in the configuration

Check Dial Plan Results

The dial plan integrity check validates that the route names used within the dial plan route results actually exist on the traffic side.

Background Information

In the dial plan, the Bdigittree maps a called digit string to select the desired result. For the Bdigittree, the digit string indicates what it should do when a call destined for the number xxx-xxxx is received. The selected value identifies what to do with the call. The result set contains results (processing actions for the call). One of the results can be a route result. Associated with the route result is the name of a route (from the traffic branch) that shows the trunk groups that exist within a route. This implies that the call should be routed onto the specified route and routed onto one of the trunk groups within the route.

View Generated Output

The MNM-PT automatically generates output of various types which you can view using View menu commands:

- Generated MML commands
- Generated Cisco MGW commands
- Trunk group file
- Trunk group

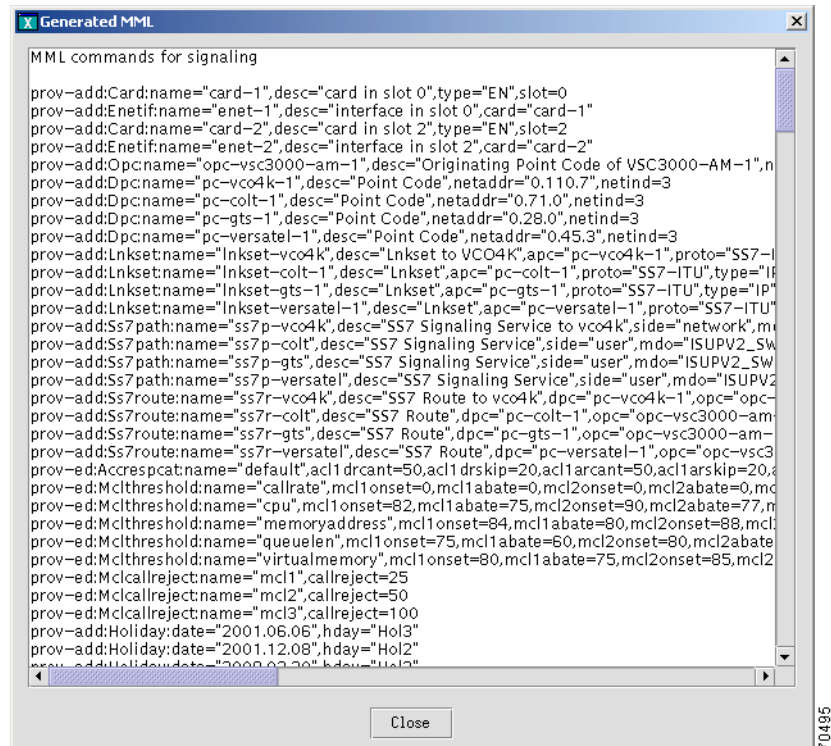
View Generated MML Commands

MNM-PT automatically generates MML commands to provision your Cisco MGC and saves these commands in a file to be executed when you deploy the configuration.

To view the MML commands generated from your MNM-PT provisioning session, click **View > MML**.

A screen displaying generated MML, similar to the one shown in [Figure 2-3](#), appears.

Figure 2-3 First Generated MML Screen



The screenshot shows a window titled "Generated MML" with a scrollable text area containing MML commands for signaling. The commands include provisioning for cards, interfaces, point codes, linksets, signaling services, and routes. A "Close" button is visible at the bottom of the window.

```

MML commands for signaling
prov-add:Card:name="card-1",desc="card in slot 0",type="EN",slot=0
prov-add:Enetif:name="enet-1",desc="Interface in slot 0",card="card-1"
prov-add:Card:name="card-2",desc="card in slot 2",type="EN",slot=2
prov-add:Enetif:name="enet-2",desc="Interface in slot 2",card="card-2"
prov-add:Opc:name="opc-vsc3000-am-1",desc="Originating Point Code of VSC3000-AM-1",n
prov-add:Dpc:name="pc-vco4k-1",desc="Point Code",netaddr="0.110.7",netind=3
prov-add:Dpc:name="pc-colt-1",desc="Point Code",netaddr="0.71.0",netind=3
prov-add:Dpc:name="pc-gts-1",desc="Point Code",netaddr="0.28.0",netind=3
prov-add:Dpc:name="pc-versatel-1",desc="Point Code",netaddr="0.45.3",netind=3
prov-add:Lnkset:name="lnkset-vco4k",desc="Lnkset to VCO4K",apc="pc-vco4k-1",proto="SS7-I
prov-add:Lnkset:name="lnkset-colt-1",desc="Lnkset",apc="pc-colt-1",proto="SS7-ITU",type="IP
prov-add:Lnkset:name="lnkset-gts-1",desc="Lnkset",apc="pc-gts-1",proto="SS7-ITU",type="IP
prov-add:Lnkset:name="lnkset-versatel-1",desc="Lnkset",apc="pc-versatel-1",proto="SS7-ITU
prov-add:Ss7path:name="ss7p-vco4k",desc="SS7 Signaling Service to vco4k",side="network",m
prov-add:Ss7path:name="ss7p-colt",desc="SS7 Signaling Service",side="user",mdo="ISUPV2_SW
prov-add:Ss7path:name="ss7p-gts",desc="SS7 Signaling Service",side="user",mdo="ISUPV2_SW
prov-add:Ss7path:name="ss7p-versatel",desc="SS7 Signaling Service",side="user",mdo="ISUPV2
prov-add:Ss7route:name="ss7r-vco4k",desc="SS7 Route to vco4k",dpc="pc-vco4k-1",opc="opc
prov-add:Ss7route:name="ss7r-colt",desc="SS7 Route",dpc="pc-colt-1",opc="opc-vsc3000-am
prov-add:Ss7route:name="ss7r-gts",desc="SS7 Route",dpc="pc-gts-1",opc="opc-vsc3000-am
prov-add:Ss7route:name="ss7r-versatel",desc="SS7 Route",dpc="pc-versatel-1",opc="opc-vsc3
prov-ed:Accrespca:name="default",acl1drcant=50,acl1drskip=20,acl1arcant=50,acl1arskip=20,
prov-ed:Mclthreshold:name="callrate",mcl1onset=0,mcl1abate=0,mcl2onset=0,mcl2abate=0,m
prov-ed:Mclthreshold:name="cpu",mcl1onset=82,mcl1abate=75,mcl2onset=90,mcl2abate=77,m
prov-ed:Mclthreshold:name="memoryaddress",mcl1onset=84,mcl1abate=80,mcl2onset=88,mcl
prov-ed:Mclthreshold:name="queueulen",mcl1onset=75,mcl1abate=60,mcl2onset=80,mcl2abate
prov-ed:Mclthreshold:name="virtualmemory",mcl1onset=80,mcl1abate=75,mcl2onset=85,mcl2
prov-ed:Mclcallreject:name="mcl1",callreject=25
prov-ed:Mclcallreject:name="mcl2",callreject=50
prov-ed:Mclcallreject:name="mcl3",callreject=100
prov-add:Holiday:date="2001.06.06",hday="Hol3"
prov-add:Holiday:date="2001.12.08",hday="Hol2"
prov-add:Holiday:date="2000.02.26",hday="Hol3"

```

View Generated Cisco MGW Commands

To view the Cisco MGW commands generated from your provisioning session, click **View > MGW Commands** on the main MNM-PT menu bar. A screen with generated Cisco MGW commands, similar to that shown in [Figure 2-4](#), appears.

Figure 2-4 Example of Generated Cisco MGW Commands

```

-----[MGW CLI Commands For 10.3.4.5]-----
chidle 20
chsyslnmd 2
y
chsysip1 10.233.20.9 0.0.0.0
chsysip2 10.233.20.73 0.0.0.0
addsonetln 9.1
chmpc 3
chndinf # # 1
chpcksrc 9 1 3 1
addmacsapprof 1 1 # 15
adddsp 1 # # # # # # 0
chmgcpdname mgx8260-am-1
chmgcplocaladdr1 10.233.20.9 2427
chmgcplocaladdr2 10.233.20.73 2427
chpmgcpaddr 172.18.126.51 2427 0.0.0.0 0
chsmgcpaddr 0.0.0.0 0 0.0.0.0 0
chmgcpcore # # 1 # # 2000
addssset 1 1 1 12 3 1
addsgpr 1 1
addss 1 1 1 10.233.20.9 7009 172.18.126.51 7009 1
addds1ln 1.1 1 4 # # # 1
addds1ln 2.2 1 4 # # # 1
addds1ln 3.3 1 4 # # # 1
addds1ln 4.1 16 4 # # # 1
addds1ln 5.4 1 4 # # # 1
addvport 1 1 1 1 15
addvport 1 17 1 17 15
addvport 2 32 2 0 31
addvport 3 63 2 31 31
addvport 4 1 1 1 496 512
addvport 5 94 3 30 31
adddchan 1.1 1 # 1

```

Deploy a Configuration

When you finish defining a configuration, you must deploy that configuration to the Cisco MGC. You can deploy to the Cisco MGC alone, to the Cisco MGC and one or more gateways, or to gateways only.



Note

A new configuration should not be deployed during times of peak load on the Cisco MGC.

A configuration created in MNM-PT can be deployed to a Cisco MGC as a new configuration or incrementally. Deploying incrementally allows you to more quickly deploy modifications to an existing configuration without having to redeploy the entire configuration. MNM-PT also allows you to visually check the incremental commands it generates before deploying those commands to the MGC.

If the Cisco MGC has SSH enabled, you should deploy the configuration using the SSH protocol.

Deploying a New Configuration

Use the following procedure to deploy a new configuration.

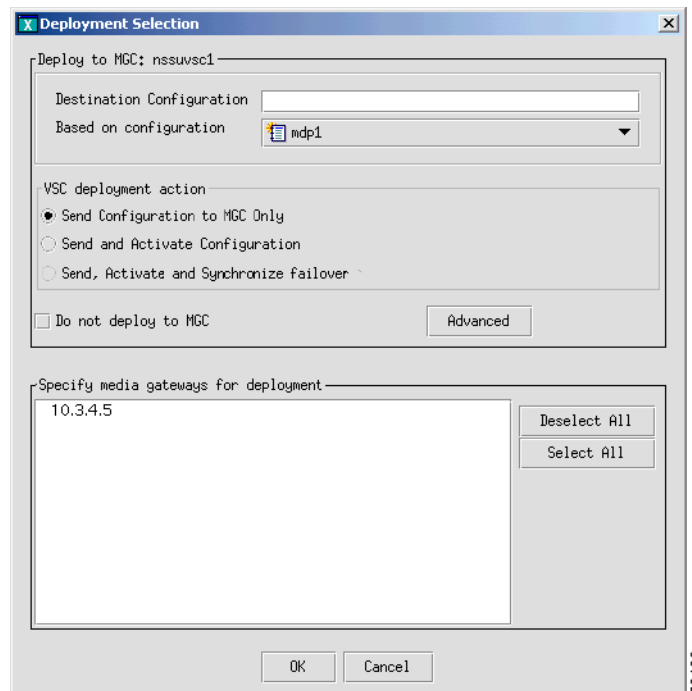


Note

If you want to delete a component and plan to reuse the component name, first delete the component, deploy the session, and verify that the component name has been deleted before reusing the name.

- Step 1** Click **Tools > Deploy** on the main MNM-PT menu bar (see [Figure 1-3 on page 1-12](#)). The Protocol Options dialog box appears.
- Step 2** Select the desired protocol:
- Choose **SSH** if SSH is enabled on the device.
 - Choose **None** if SSH is not enabled on the device.
- The screen shown in [Figure 2-5](#) appears.

Figure 2-5 Deploying a Configuration



- Step 3** Indicate how you want to deploy the configuration:
- To deploy to the Cisco MGC only, do one of the following:
 - If you want to send the configuration to the MGC but not activate it, click the button next to **Send Configuration to MGC Only**.
 - If you want to send the configuration to the MGC and activate it, click the button next to **Send and Activate Configuration**.
 - If you have a continuous-service configuration with two Cisco MGC hosts, click the button next to **Send, Activate and Synchronize failover**. The configuration is saved on the active host and copied to the standby host. You must restart the standby server after reconfiguration to apply changes.
 - To deploy to the Cisco MGC and one or more selected gateways, select one of the above three options and in Step 4 also select one or more gateways from the list in **Specify media gateways for deployment**.
 - To deploy to selected gateways only (and not the Cisco MGC): Check the box next to **Do not deploy to MGC** and in Step 4 select one or more gateways from the list in **Specify media gateways for deployment**.



Note If you select an option other than New, the Advanced button is enabled. For information about the options this button provides, see the [“Configuring an Incremental Deployment” section on page 2-33](#).

- Step 4** Select a configuration in the **Based on configuration** drop-down list. This list displays all existing configurations on the selected MGC and the [LAST IMPORT] and [NEW] options.
- Last Import—The MNM-PT compares your provisioning session to the last imported configuration and deploys only changes you have made.



Note The LAST IMPORT option allows multiple users to modify an existing configuration. However, they must each be modifying a different area of the configuration for this option to work properly.

- New—Your entire provisioning session is deployed as a new configuration.
- Existing Configurations—MNM-PT imports the selected configuration from the Cisco MGC, compares the differences between that configuration and your current provisioning session, and deploys changes you have made.



Note Since you are deploying a new configuration, make sure to choose the New option in the Based on configuration drop-down list.

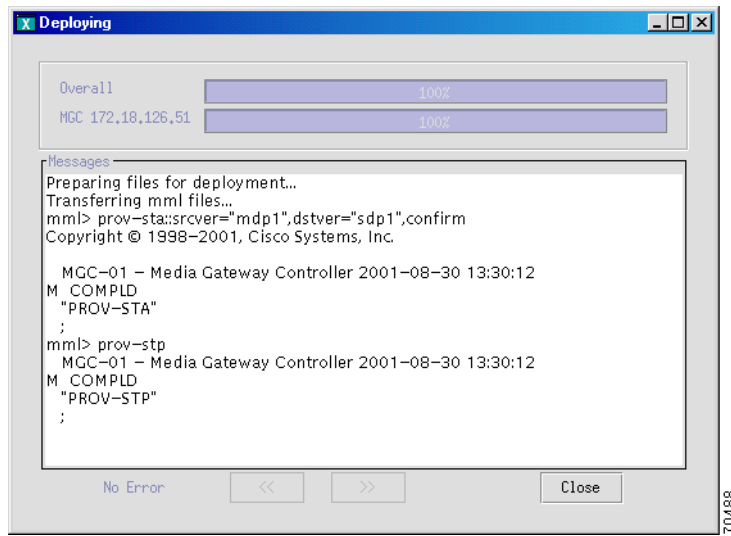
- Step 5** Select the gateways you want to deploy, if applicable.



Note To select multiple gateways, you can use standard selection methods: Shift+click to select a contiguous range, Ctrl+click to select or deselect noncontiguous gateways.

- Step 6** Click **OK**. The screen shown in [Figure 2-6](#) appears and displays the status as the current provisioning session is deployed.

Figure 2-6 Deployment Progress

**Note**

In a continuous-service configuration, the XECfgParm.dat file on each machine must be configured. If you experience problems, verify the integrity of the XECfgParm.dat files on both machines. Refer to Chapter 2, “Installing Cisco Media Gateway Controller Software,” in the *Cisco Media Gateway Controller Software Version 9 Installation and Configuration Guide*.

Configuring an Incremental Deployment

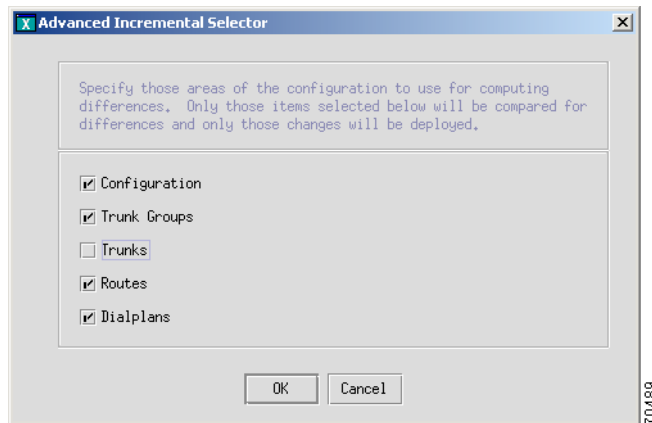
An incremental deployment allows you to modify an existing configuration and deploy only the modified areas to the Cisco MGC. Modifications can be made more quickly, and errors affecting unmodified areas are minimized. In addition, provisioning modifications made by other users in separate areas are not affected.

**Note**

The Cisco MGC does not support some incremental deployment processes. If you have a problem with an incremental deployment, examine the MML commands to ensure that you have properly configured the desired components. Modify the component presenting the problem, or cancel the deployment and redeploy the component as a new configuration.

Use the following procedure to configure an incremental deployment:

- Step 1** Follow Step 1 through Step 5 in the “[Deploying a New Configuration](#)” section on page 2-30.
- Step 2** Click **Advanced** in the window shown in [Figure 2-5](#). The screen shown in [Figure 2-7](#) appears.

Figure 2-7 Incremental Deployment Component Selector

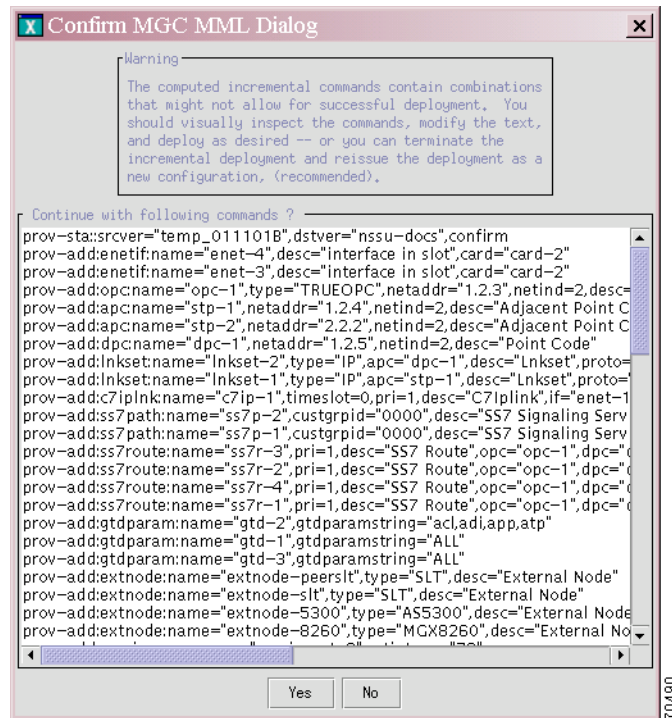
If you have only made configuration changes to one or more of the areas listed, you can direct the MNM-PT to compare only those areas with the current configuration, and your modifications can be deployed more quickly.

**Note**

If you select areas in this window, make sure to include all areas that you have modified.

- Step 3** Select one or more component types to deploy, and click **OK**.
- Step 4** Go to Step 7 in the “[Deploying a New Configuration](#)” section on page 2-30, and complete the procedure described there. When you click **OK**, a screen similar to the one displayed in [Figure 2-8](#) appears.

Figure 2-8 Confirm MML Commands



- Step 5** Inspect the MML commands, modify them if desired, and click **Yes** to continue with the incremental deployment. Click **No** to reissue the deployment as a new configuration.

Use Telnet or ssh

MNM-PT provides a utility to open a Telnet session directly to a device. Once you have established your Telnet connection, you then log in to the device and execute commands remotely on the device through the Telnet interface.

If you have installed SSH for MNM-PT and the remote device also supports SSH, you can select the ssh utility instead of Telnet.

Use the following procedure to open a Telnet or ssh session with a network device:

- Step 1** Click **Tools > Telnet**. A screen similar to that shown in [Figure 2-9](#) appears.

Figure 2-9 Select Remote Network Device



- Step 2** Select the device and connection method:
- Select a device from the dropdown list, or enter the name or IP address of a device on your network.
 - Select the connection method, **SSH** (if the device supports it) or **None** for Telnet.
 - Click **Go**.

A Telnet or SSH window opens for you to log in to the device.

MGC Viewer

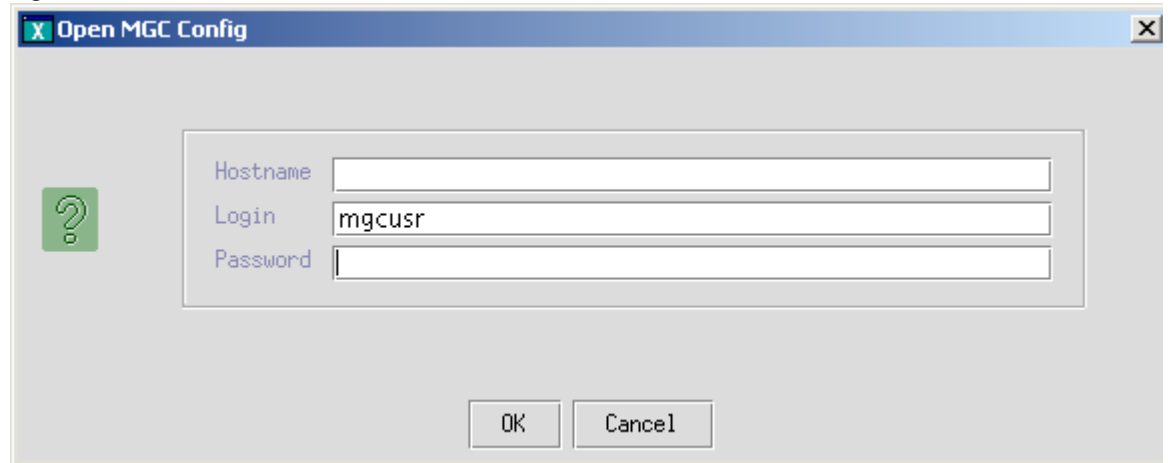
The MGC Viewer allows you to view, activate, remove, and synchronize configurations on the MGC. If you are communicating with an SSH-enabled Cisco MGC, you can use SSH instead of Telnet for the communication.

Use the following procedure to view configurations on a Cisco MGC:

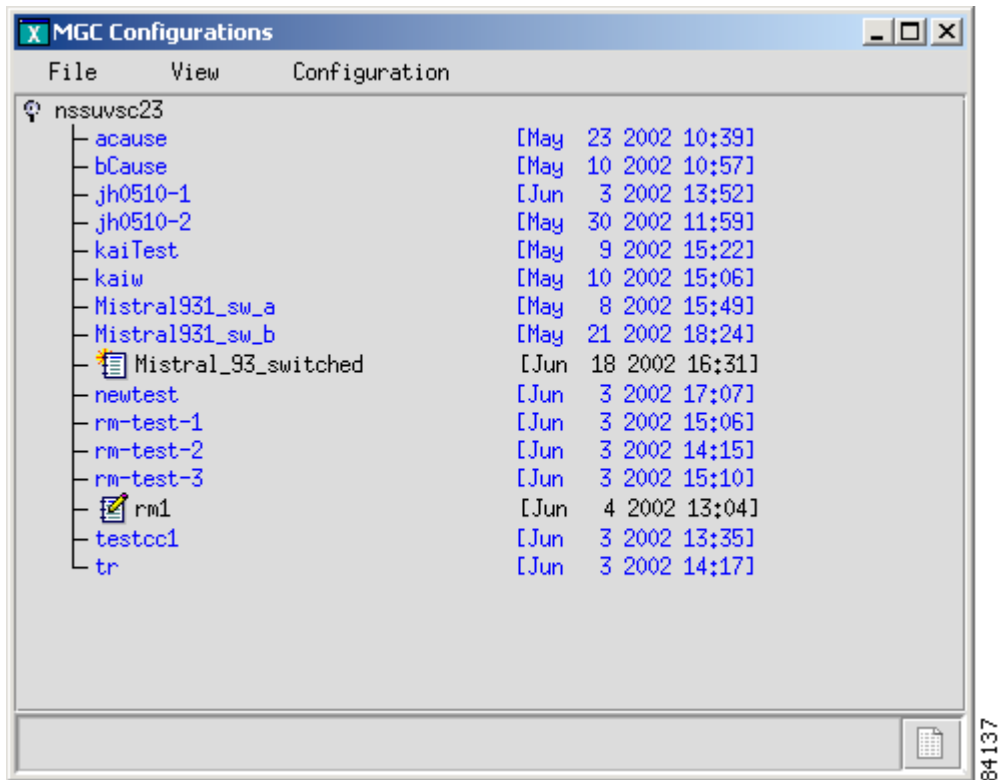
- Step 1** Click **Tools > MGC viewer** on the main MNM-PT menu. On the MGC Configuration screen that appears, click **File > Open MGC**. The Protocol Options dialog box appears.
- Step 2** Select the desired protocol:
- Choose **SSH** if SSH is enabled on the device.
 - Choose **None** if SSH is not enabled on the device.

A screen similar to the one in [Figure 2-10](#) appears.

Figure 2-10 Select MGC



- Step 3** Enter the host name of the MGC in the **Hostname** box, enter the MGC login and password, and click **OK**. A screen similar to the one in appears and lists all configurations on the specified MGC.



- Step 4** Click **Configuration** on the MGC Viewer menu bar, and select one of the following actions:
- Activate—Choose to activate the configuration.
 - Synchronize—Choose to synchronize with the current configuration.
 - Delete—Choose to delete the configuration.

State Operation

The State Operation utility provides the ability to query the active configuration on the Cisco MGC for the state of managed objects. After a query, you can modify the state of an object and apply the update to the MGC. If you are querying the state of an SSH-enabled Cisco MGC, you can use SSH instead of Telnet for the communication.

Use the following procedure to query the state of managed objects on the Cisco MGC:

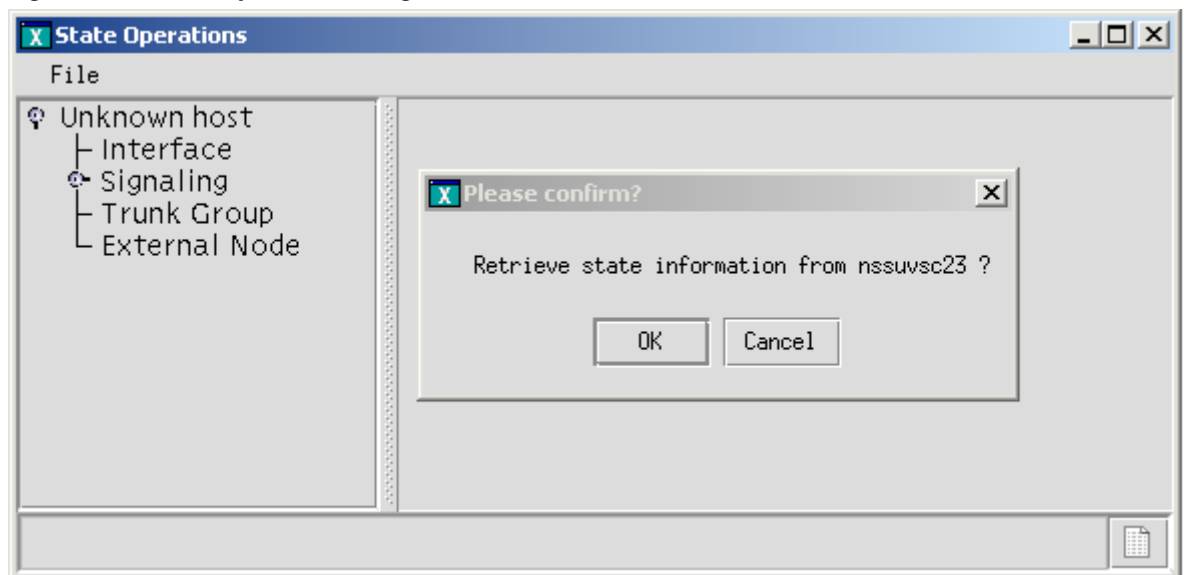
Step 1 Click **Tools > State Operation** on the main MNM-PT menu. The Protocol Options dialog box appears.

Step 2 Select the desired protocol:

- Choose **SSH** if SSH is enabled on the device.
- Choose **None** if SSH is not enabled on the device.

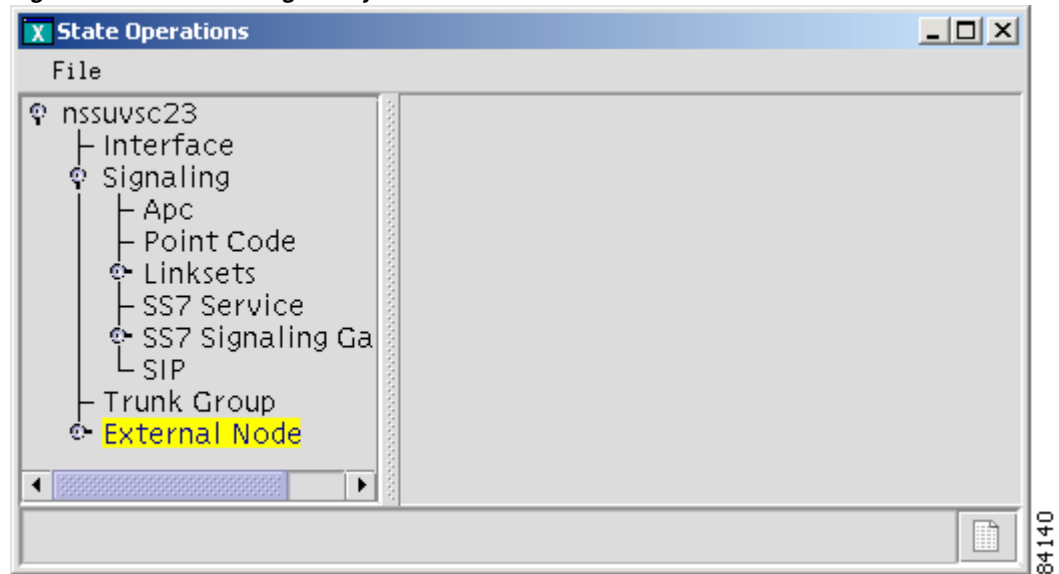
A screen similar to the one in [Figure 2-11](#) appears.

Figure 2-11 State Operation Dialog



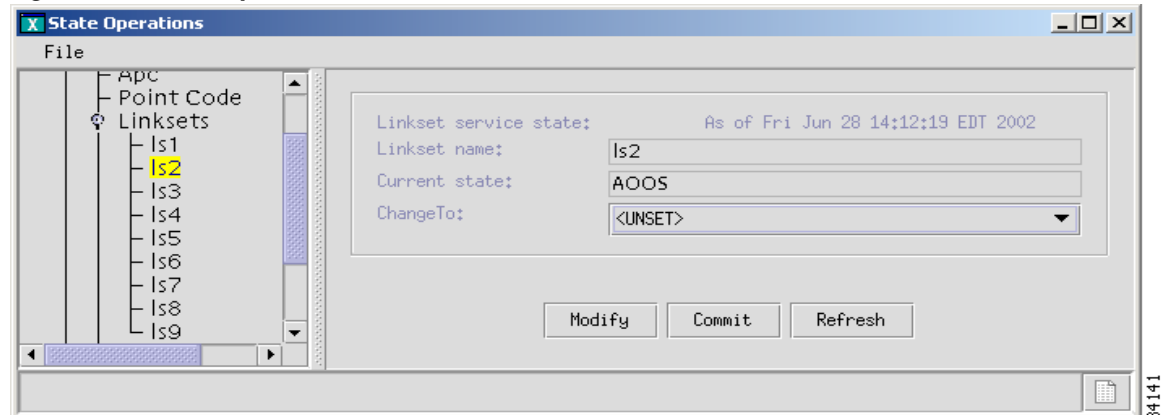
Step 3 Click OK. The MNM-PT queries the MGC and a screen similar to the one in [Figure 2-12](#) appears.

Figure 2-12 MGC Managed Objects



- Step 4** Expand the hierarchical tree in the left pane of the State Operations window to locate and highlight the object for which you want to know the state. In this example, we will display the state of linkset2. A window similar to the one in will appear and the right pane will display information about the state of the object you selected.

Figure 2-13 State Operations



- Step 5** From this window, you can modify the state by selecting the desired state in the **ChangeTo** box. Click **Modify** to change the state in this window, and click **Commit** to change the state on the Cisco MGC. To query the object again, click **Refresh**.

P

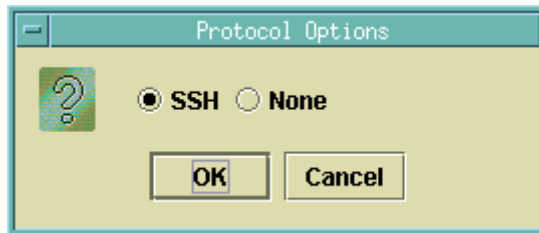
perform an Audit

You can use an audit to ensure that both the Cisco MGC and a BAMS server supporting the Cisco MGC host have consistently configured signal paths. The audit involves examines signal path and bearer channel data on both servers, comparing the data, and reporting any differences. If you are auditing an SSH-enabled Cisco MGC, you can use SSH instead of Telnet for the communication.

Use the following procedure to perform an audit:

- Step 1** Click **Tools > Audit**. The Protocol Options dialog box appears as shown in [Figure 2-14](#).

Figure 2-14 Protocol Options Dialog Box



- Step 2** Select the desired communication protocol, **SSH** (if SSH is installed on MNM-PT and on the devices you are auditing) or **None** (uses Telnet). Click **OK**. The Audit Dialog Box appears.
- Step 3** Enter the MGC hostname, login, and password in the top pane of the window.
- Step 4** To specify the configuration to audit, click **Select**, highlight the configuration to audit, and click **OK**.
- Step 5** Enter the BAMS hostname, login, and password in the bottom pane of the window.
- Step 6** To specify the configuration to audit, click **Select**, highlight the configuration to audit, and click **OK**.
- Step 7** Click **Audit**. A screen similar to the one displayed in [Figure 2-15](#) appears.

Figure 2-15 Audit Results

Trunkgrp	# of Circuits	Trunkgrp	# of Circuits
2182	120		
4040	30		
2181	30		
2016	1710		
4012	120		
4011	30		
4010	30		
2012	120		
2011	30		
1221	120		
1021	30		
4032	1200		
2173	60		
4031	120		
2172	30		
4030	30		
2171	30		
1181	30		
3012	210		
1015	1710		
3011	30		
1012	60		

The left pane displays the signal path and bearer channel data configured on the MGC host, and the right pane displays the same data configured on the BAMS server.

Back Up and Restore

The MNM-PT backup and restore tool allows you to create, modify, and delete scheduled backups and restores hourly, daily, weekly, monthly, or on demand.

You can perform back up and restore activities on any of the following devices if they have been configured for the MGC:

- MGC Host—Active configuration
- CAT5500—Configuration and image in Flash
- CAT2900XL—Running-config and image in Flash
- SLT2600—Running-config and image in Flash
- BAMS P3—Active configuration
- HSI Adjunct Server—Active configuration

The backup and restore tool also provides the status of each activity and generates user-viewable status logs.

Backup and restore support using SSH for the log in to the device you are backing up. See [Backup and Restore Requirements](#) for details.

Backup and Restore Requirements

You typically use MNM-PT Backup to back up the configuration on Server A (one of the supported components) onto a different server, Server B. The configuration can then be restored if needed back to Server A, or copied to other components of the same type (Server C, D, etc), as a way to clone a configuration.

In the Backup process, MNM-PT logs into Server A, copies the configuration, and transfers it to Server B using TFTP. Server B must have the TFTP server enabled. Refer to the *Cisco MGC Node Manager Installation Guide* at <http://www.cisco.com/univercd/cc/td/doc/product/access/sc/rel9/emins/index.htm> for instructions on enabling TFTP.

If you are using SSH on a managed Cisco PGW, BAMS, or HSI server, please keep the following in mind:

- The log in to Server A to get the configuration can (and should) be done securely, using SSH. You specify the Server A's IP address, Login, and Password, and you select SSH, in the Add ... Schedule dialog box when you set up the backup.
- The transfer of the configuration onto Server B is done using TFTP. You also specify Server B's IP address, Login, and Password in the Add Schedule dialog box. The TFTP transfer is nonsecure, although the password is encrypted.
- The TFTP server on Server A (and any server where SSH is installed) is turned off (along with ftp) in conjunction with the CSCOh013 package, and thus configurations cannot be backed up onto such a server. Generally you would not want to do this anyway, since it would defeat the purpose of the backup operation.
- Although MNM-PT has SSH installed, it uses the CSCOk9000 package only, and not CSCOh013. As long as MNM-PT is not on a server where CSCOh013 is installed (such as the PGW server), you can back up configurations onto the MNM-PT server.

Schedule a Backup or Restore

To schedule a backup or restore, use the following procedure:

Step 1 Click **Tools > Backup and Restore** on the main MNM-PT menu bar. The Backup and Restore window appears listing components that can have scheduled backups.

Step 2 Click the component for which you want to schedule a backup. In the following example, the MGC component configuration is backed up. On the right side of the window, the schedules list for that component appears.



Note If you want to perform a restore, you must have a backup file already created and available on the MGC.

Step 3 In the Add/View Schedules pane, click **Add**. A screen similar to the one shown in [Figure 2-16](#) appears.

Figure 2-16 Add MGC Schedule

**Note**

The fields available in the dialog box vary according to the component selected.

- Step 4** In the Action field, select the action you want to perform. Choices include Backup and Restore.
- Step 5** Enter information for the component you are backing up:
- Enter the IP address of the Cisco MGC.
 - Enter the MGC login and password.
- Step 6** In the File Name field, enter a name for the backup file.
- Step 7** In the File Type drop-down list, select one of the following:
- MGC System—Backs up data files for the active configuration, the Times Ten database, the XEconfigParm.dat file, and UNIX configuration files.
 - MML Config—Backs up exported MML files for the active configuration on the MGC
- Step 8** Enter TFTP information for the server to which you are backing up (destination for the configuration file):
- Enter the IP address of the TFTP server.
 - Enter the TFTP login and password.
- Step 9** Specify whether or not to use verbose log mode. Verbose mode records all commands issued by the MNM-PT and any system responses.
- Step 10** Select whether to set up the backup operation using **SSH** or Telnet (**None**).

**Note**

The operation itself is executed with TFTP.

- Step 11** Select the schedule type. Choices include:

- Monthly
- Daily
- Hourly
- Weekly
- Now
- Later

Step 12 Select the protocol to use when connecting to and logging in to the component you are backing up:

- Choose **SSH** to use ssh.
- Choose **None** to use Telnet.

Step 13 Select the hour and minute that the backup should begin.

Step 14 Click **OK**. The backup activity is scheduled, and the scheduled event appears in the schedule list.

After the backup has been completed, the status of the activity is immediately available. The backup file with the name you specified is available for use with the MNM-PT.

Check Status of Backup or Restore

The MNM-PT generates status logs that provide information about each scheduled activity. The status log displays the following information for the activity:

- Date and time when activity began
- Success or failure
- File name on the TFTP server
- Directory of configuration files
- Image file name

If you specified verbose log mode, the status log also displays the sequence of commands issued by the MNM-PT and any system responses.

Use the following procedure to check the status of a backup or restore activity:

Step 1 In the left pane of the backup and restore tool window, click the device that has been backed up or restored. Click the **Status** tab in the right pane.

Step 2 Highlight the backup or restore for which you want information.

Step 3 Select the appropriate button for the action you want to perform. Choices are:

- Show status—Displays the log file for the activity.
 - Acknowledge—Removes the text from the Status window and deletes the log file from the server.
 - Clear—Removes the text from the Status window, but the log file remains on the server.
-



A

- adapter
 - component [16](#)
- adjacent point code [16](#)
- APC
 - component [16](#)

B

- basics [15](#)

C

- C7 IP link
 - component [17](#)
- committing, configuration [31](#)
- component
 - adapter [16](#)
 - APC [16](#)
 - C7 IP link [17](#)
 - external node [17](#)
 - ExtNode [17](#)
 - IP link [15](#)
 - linkset [16](#)
 - point code [16](#)
 - SigMGCP [15](#)
 - SS7 Route [16](#)
 - SS7 SubSys [16](#)
 - SS7SubSys [16](#)
- configuration
 - committing [31](#)
 - deploying [31](#)

D

- deploy command [21](#)
- deploying, configuration [31](#)
- descriptions [18](#)
- destination point code [16](#)

E

- exit command [20](#)
- exiting the MNM-PT [23](#)
- ExtNode component [17](#)

F

- field definitions [15](#)
- field names [15](#)

H

- Help menu [20](#)

I

- IP link component [15](#)

L

- linkset component [16](#)
- logging in to the MNM-PT [18](#)
- login screen [18](#)

M

menu

Session 20

View 20

menus 20

MNM-PT

exiting 23

logging in 18

starting 18

MNM-PT basics 15

MNM-PT field definitions 15

MNM-PT overview 14

N

Number Analysis tab 22

O

origination point code 16

P

point code component 16

S

secure communication 38

secure communications 14, 39

Session menu 20

SigMGCP component 15

SS7 route

component 16

SS7SubSys component 16

SSH 14, 36, 38, 39

starting

MNM-PT 18

STP 16

STP, mated pair 16

sync command 20

T

tabs

Number Analysis 22

Telephony Controller 22

Traffic 22

Telephony Controller tab 22

Traffic tab 22

V

View menu 20

X

X windows 18