



## Preface

---

This preface describes the objectives, audience, organization, and conventions of this document. It also explains how to find additional information on related Cisco products and services and how to obtain technical assistance, should it be needed. It contains the following sections:

- [Document Objectives, page ix](#)
- [Audience, page ix](#)
- [Document Organization, page x](#)
- [Document Change History, page x](#)
- [Documentation Map, page xi](#)
- [Documentation Suite, page xii](#)
- [Document Conventions, page xiii](#)
- [Obtaining Documentation, page xvi](#)
- [Obtaining Technical Assistance, page xvii](#)

## Document Objectives

This document describes the information that you will need to create, implement, and deploy dial plans for the Cisco Media Gateway Controller (MGC) software Release 7.4(x).

This document also contains tables and worksheets for you to use to create dial plans for your system.

## Audience

The primary audience for this document is network operators and administrators who have experience in the following areas:

- Telecommunications and data network hardware and software
- Telecommunications and data network design, planning, and operations
- Signaling, switching, dial planning, and routing

In addition, the following audiences might also find this document useful:

- Software and hardware installers
- Network designers

# Document Organization

This document explains dial plan functions and how the dial plan is provisioned in Cisco MGC Software Release 7.4(x).

This document contains five chapters, three appendixes, and an index as described in [Table 1](#):

**Table 1** Major Sections of the Cisco MGC Software Release 7 Dial Plan Guide

Chapter/ Appendix	Title	Description
Chapter 1	<a href="#">Dial Plan Overview</a>	This chapter describes the functions that the dial plan enables the Cisco MGC to perform. It describes the information you need before you can create a dial plan.
Chapter 2	<a href="#">Preparing for Dial Plan Provisioning</a>	This chapter describes the actual process of creating, implementing, and deploying a dial plan.
Chapter 3	<a href="#">Provisioning Dial Plans with CMM</a>	This chapter describes dial plan provisioning procedures using the Cisco MGC Manager (CMM).
Chapter 4	<a href="#">Provisioning Dial Plans with VSPT<sup>1</sup></a>	This chapter describes dial plan provisioning procedures using the Voice Services Provisioning Tool (VSPT).
Chapter 5	<a href="#">Provisioning Dial Plans with MML<sup>2</sup></a>	This chapter describes the MML commands and provisioning procedures for dial plans.
Appendix A	<a href="#">NOA and NPI Codes<sup>3</sup></a>	This appendix lists NOA codes and NPI codes for the result types described in <a href="#">Chapter 1</a> .
Appendix B	<a href="#">Cause and Location Codes</a>	This appendix lists the cause and location codes for the result types described in <a href="#">Chapter 1</a> .
Appendix C	<a href="#">Dial Plan Worksheets</a>	This appendix contains page-size copies of all the worksheets used in this guide.

1. VSPT = Voice Services Provisioning Tool
2. MML = Man-Machine Language
3. NOA = Nature of Address  
NPI = Numbering Plan Indicator

# Document Change History

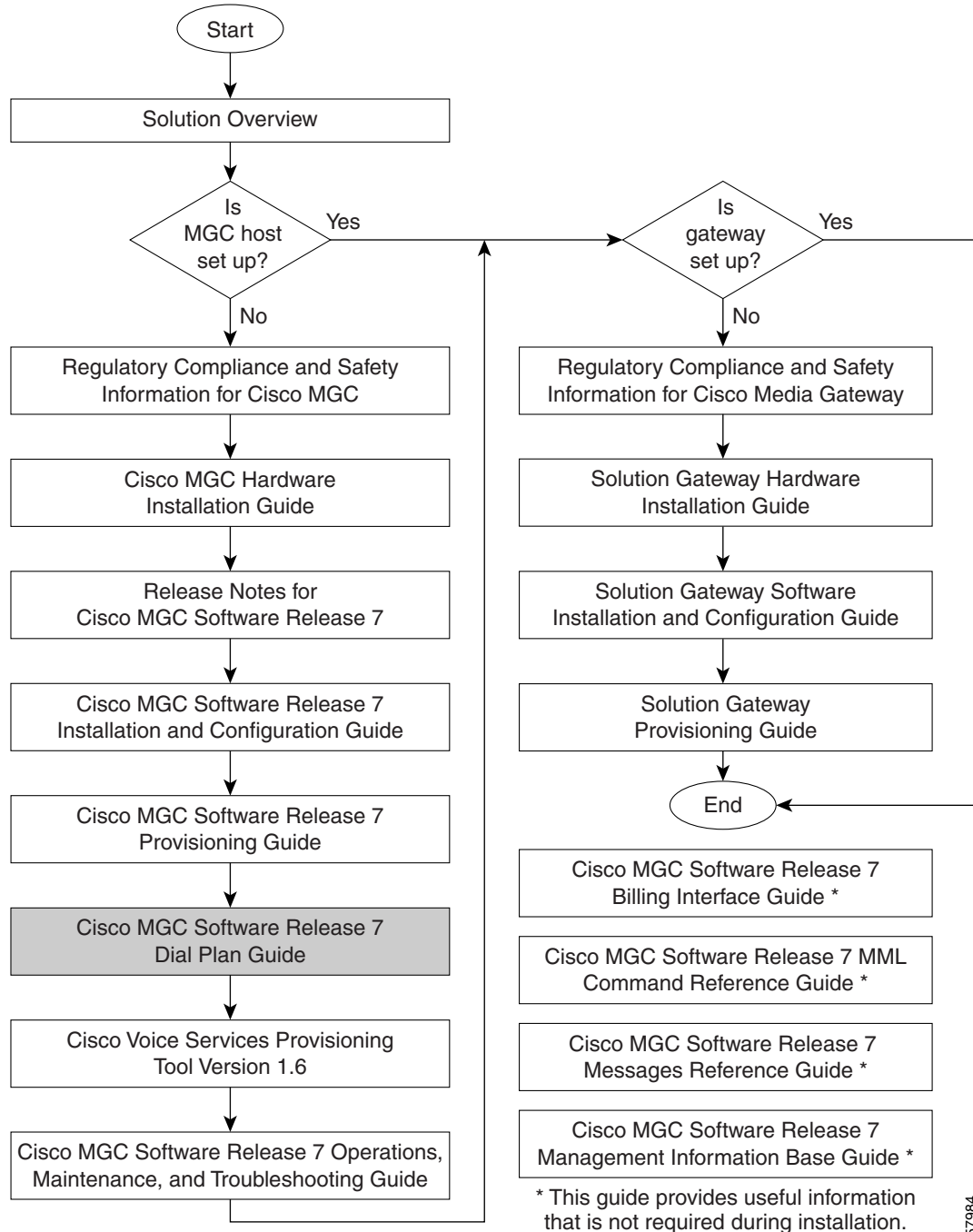
[Table 2](#) describes the document changes made after the initial release of the *Cisco Media Gateway Controller Software Release 7 Dial Plan Guide*.

**Table 2** Summary History of Document Changes

Subject	Document Number, Change Date	Change Summary
	OL-1204-01, July 23, 2001	Initial release.

# Documentation Map

Refer to the following documentation map to navigate through the Cisco MGC Software Release 7 documentation suite. This document is indicated by the shaded background.



57984

# Documentation Suite

Consult the related documentation listed in the following subsections for information about the Cisco MGC and media gateway hardware, as well as the Cisco MGC Release 7 software and the solutions it supports.

## Documentation Guide

For an overview of the content of all of the documentation for Cisco MGC Software Release 7, refer to

- *Cisco Media Gateway Controller Software Release 7 Documentation Guide*

The Documentation Guide a master index that provides information for the entire Cisco MGC Software Release 7 documentation suite. In addition, each individual book also contains a book-specific index.

## Release Notes

For information regarding subsequent releases of the Cisco Media Gateway Controller Software Release 7, refer to:

- *Release Notes for Cisco Media Gateway Controller Software Release 7.3 (x)*
- *Release Notes for Cisco Media Gateway Controller Software Release 7.4 (x)*

## Hardware Documentation

- *Cisco Media Gateway Controller Hardware Installation Guide*
- *Regulatory Compliance and Safety Information for Cisco Media Gateway Controller Hardware*
- *Cisco Media Gateway Hardware Installation Guide*

## Software Documentation

- *Cisco Media Gateway Controller Software Release 7 Installation and Configuration Guide*
- *Cisco Media Gateway Controller Software Release 7 Provisioning Guide*
- *Cisco Media Gateway Controller Software Release 7 Billing Interfaces Guide*
- *Cisco Media Gateway Controller Software Release 7 MML Command Reference Guide*
- *Cisco Media Gateway Controller Software Release 7 Messages Reference Guide*
- *Cisco Media Gateway Controller Software Release 7 Operations, Maintenance, and Troubleshooting Guide*
- *Cisco Media Gateway Controller Software Release 7 Management Information Base Guide*
- *Cisco Media Gateway Controller Node Manager User's Guide 2.0*
- *Cisco Voice Services Provisioning Tool User's Guide 2.0*
- *Cisco Signaling Link Terminal*
- *Cisco Media Gateway Controller Online Documentation Notice*
- *Cisco Media Gateway Controller SLT Documentation Notice*

## Related Documentation

Other useful reference publications include:

- *Solution Overviews* of related Cisco telephony solutions—Describe the Cisco telephony solutions with which the Cisco MGC is associated.
- *Solution Provisioning Guides* for related Cisco telephony solutions—Describe the provisioning steps for the Cisco telephony solutions with which the Cisco MGC is associated.
- *Solution Media Gateway Installation and Configuration Guides*—Describe how to install and configure the media gateway for a particular Cisco telephony solution.

## Document Conventions

In [Chapter 5, “Provisioning Dial Plans with MML,”](#) the same command syntax conventions are used as those shown by MML itself when the **HELP** command is entered within an MML session. For MML commands, Backus-Naur conventions are used. For additional information on MML command syntax, refer to the *Cisco Media Gateway Controller Software Release 7 MML Command Reference Guide*.

Notes use the following conventions:



### Note

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

Cautions 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.

Other conventions used in this guide are shown in [Table 3](#).

**Table 3** Conventions

Convention	Meaning	Description / Comments
<b>Boldface</b>	Commands and keywords you enter as shown.	<b>offset-list</b>
<i>Italics</i>	Variables for which you supply values.	<b>command</b> <i>type interface</i> You replace the variable with the type of interface. In contexts that do not allow italics, such as online help, arguments are enclosed in angle brackets (< >).
Square brackets ([ ])	Optional elements.	<b>command</b> [abc] abc is optional (not required), but you can choose it.

**Table 3** Conventions (continued)

Convention	Meaning	Description / Comments
Vertical bars (   )	Separated alternative elements.	<b>command</b> [ abc   def ] You can choose either abc or def, or neither, but not both.
Braces ( { } )	Required choices.	<b>command</b> { abc   def } You <b>must</b> choose either abc <b>or</b> def, but not both.
Braces and vertical bars within square brackets ( [ {   } ] )	A required choice within an optional element.	<b>command</b> [ abc { def   ghi } ] You have three options: <ol style="list-style-type: none"> <li>1. nothing</li> <li>2. abc def</li> <li>3. abc ghi</li> </ol>
Caret character (^)	Control key.	The key combinations ^D and Ctrl-D are equivalent: Both mean “hold down the Control key while you press the D key.” Keys are indicated in capital letters, but are not case sensitive.
A nonquoted set of characters	A string.	For example, when setting an SNMP community string to <i>public</i> , do not use quotation marks around the string; otherwise, the string will include the quotation marks.
System prompts	Denotes interactive sessions, indicates that the user enters commands at the prompt.	The system prompt indicates the current command mode. For example, the prompt Router (config) # indicates global configuration mode.
Screen font	Terminal sessions and information the system displays.	
Angle brackets (< >)	Nonprinting characters such as passwords.	

Data types used in the Cisco MGC system (such as in MML commands) are shown in [Table 4](#).

**Table 4 Data Type Definitions**

Data Type	Definition	Example
Integer	A series of decimal digits from the set of 0 through 9 that represents a positive integer. An integer can have one or more leading zero digits (0) added to the left side to align the columns. Leading zeros are always valid as long as the number of digits is less than or equal to ten digits. Values of this type have a range of zero through 4294967295.	123 000123 4200000000
Signed integer	This data type has the same basic format as the integer but can be either positive or negative. When negative, it is preceded by the minus sign character (-). As with the integer data type, this data type can be as many as ten digits in length, not including the sign character. The value of this type has a range of 0 minus 2147483647 through 2147483647.	123 -000123 -21000000001
Hexadecimal	A series of 16-based digits from the set of 0 through 9, a through f, or A through F. The hexadecimal number can have one or more leading zeros (0) added to the left side. For all hexadecimal values, the maximum size is 0xffffffff (eight hexadecimal digits).	1f3 01f3000
Text	A series of alphanumeric characters from the ASCII character set, where defined. Tab, space, and double quote (") characters cannot be used. Text can be as many as 255 characters; however, it is recommended that you limit the text to no more than 32 characters for readability.	EntityID LineSES_Threshold999
String	A series of alphanumeric characters and white-spaces. A string is surrounded by double quotes ("). Strings can be as many as 255 characters; however, it is recommended that you limit the strings to no more than 80 characters for readability.	"This is a descriptive string."

**Note**

Hexadecimal and integer fields in files might have different widths (number of characters) for column alignment.

## Terminology

The following terms are used in this document and in other documents in the documentation suite:

- **Cisco MGC host**—A Sun host server running Cisco MGC software. If your product is the Cisco SC2200 signaling controller, this is called an SC host. If your product is the Cisco PGW 2200 virtual switch controller, this is called a VSC host.
- **Cisco SC2200 node**—The combination of the Cisco SC2200 software product and the control network. The Cisco SC2200 node consists of all solution components except the media gateways.
- **Cisco PGW 2200 node**—The logical grouping of the active and standby Cisco PGW 2200 hosts, the control network, and the Cisco Signaling Link Terminals (SLTs).
- **Cisco MGC node**—A generic term that can mean either the Cisco SC node or the Cisco VSC node.
- **Simplex Cisco MGC node**—A node that uses a single Cisco MGC host. Typically, these types of nodes are used only for solution evaluation tests or for small, noncritical installations. In this configuration, any loss of service in the Cisco MGC host disrupts all call traffic. If the product is the Cisco SC2200, this is also called a simplex SC node. If the product is the Cisco PGW 2200, this is also called a simplex VSC node.
- **Continuous-service Cisco MGC node**—A node that uses two Cisco MGC hosts to prevent system downtime caused by failure of a single MGC host. Calls in progress are maintained when one Cisco MGC host fails. Continuous-service nodes use Cisco SLTs to distribute SS7 signaling to both Cisco MGC hosts. If a failover occurs, all stable calls are maintained. If the product is the Cisco SC2200, this is also called a continuous-service SC node. If the product is the Cisco PGW 2200, this is also called a continuous-service VSC node.

## Obtaining Documentation

These 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 this URL:

<http://www.cisco.com>

Translated documentation is available at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](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

You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products Marketplace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](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 Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

## Documentation Feedback

You can submit comments electronically on Cisco.com. In the Cisco Documentation home page, click the **Fax** or **Email** option in the “Leave Feedback” section at the bottom of the page.

You can e-mail your comments to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

You can submit your comments by mail by using the response card behind the front cover of your document or by writing 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 online 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 with these tasks:

- 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

If you want to obtain customized information and service, you can self-register on Cisco.com. To access Cisco.com, go to this URL:

<http://www.cisco.com>

## Technical Assistance Center

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

Cisco TAC inquiries 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.

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

## Cisco TAC Web Site

You can use the Cisco TAC Web Site 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 this URL:

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

All customers, partners, and resellers who have a valid Cisco service 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 this URL to register:

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

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

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

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

## Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. 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 automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this 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). When you call the center, please have available your service agreement number and your product serial number.

