



Cisco H.323 Signaling Interface User Guide

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Preface

This preface describes the objectives, audience, organization, and conventions of the *Cisco H.323 Signaling Interface User Guide*, and explains how to find additional information on related products and services. It contains the following sections:

- [Document Objectives, page xi](#)
- [Audience, page xi](#)
- [Document Organization, page xii](#)
- [Document Conventions, page xiii](#)
- [Related Documentation, page xiv](#)
- [Obtaining Documentation, page xv](#)
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Document Objectives

This guide contains installation, configuration, system management, troubleshooting, and Man-Machine Language (MML) command information for the Cisco H.323 Signaling Interface (HSI).

Audience

The intended audience is the system administrator, the system operator, and the system technician.

System Administrator

The system administrator is required to manage the host administrative functions, including:

- Configuring and maintaining system parameters
- Granting group and user IDs
- Managing all Cisco Public Switched Telephone Network (PSTN) Gateway (PGW 2200) files and directories

The system administrator should have an in-depth knowledge of UNIX and a basic knowledge of data and telecommunications networking.

System Operator

The system operator is assumed to have knowledge of the following:

- Telecommunications protocols
- Basic computer software operations
- Computer terminology and concepts
- Hierarchical file systems
- Common UNIX shell commands

System Technician

The system technician is assumed to have knowledge of the following:

- Telecommunications protocols
- Basic computer software operations
- Computer terminology and concepts
- Hierarchical file systems
- Common UNIX shell commands
- Log files
- Configuration of telephony switching systems
- Use of electrical and electronic telephony test equipment
- Basic troubleshooting techniques

Document Organization

This document is organized as follows:

- Preface
- [Chapter 1, “Cisco HSI System Overview”](#)
- [Chapter 2, “Installing and Configuring Cisco HSI Software”](#)
- [Chapter 3, “MML User Interface”](#)
- [Chapter 4, “System Management”](#)
- [Chapter 5, “Provisioning the Cisco HSI”](#)
- [Chapter 6, “Cisco HSI Alarms and Troubleshooting”](#)
- [Appendix A, “MML Commands”](#)
- [Appendix B, “Skeleton Configuration File”](#)
- [Appendix C, “E-ISUP Name-to-Cause Value Lookup”](#)
- [Appendix D, “E-ISUP Cause Value-to-Name Lookup”](#)
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- [Appendix F, “H.323 Cause Value-to-Name Lookup”](#)
- [Appendix G, “Dual Cisco HSI with a Redundant PGW 2200 Configuration”](#)

Document Conventions

This manual uses the document conventions listed in this section.

Table 1 Document Conventions

Convention	Meaning	Comments and Examples
Boldface	Commands and keywords you enter literally as shown	prov-sta
<i>Italics</i>	Variables for which you supply values	command <i>interface type</i> You replace the variable with the type of interface.
Courier	Font used for screen displays, prompts, and scripts.	Are you ready to continue? [Y]
Courier bold	Font used to indicate what the user enters in examples of command environments.	Login: root Password: <password>
Square brackets ([])	Optional elements	command [abc] abc is optional (not required), but you can choose it.
Vertical bars ()	Separated alternative elements	command [abc def] You can choose either abc or def, or neither, but not both.
Braces ({ })	Required choices	command { abc def } You must use either abc or def, but not both.
Braces with vertical bars within square brackets ([{ }])	A required choice within an optional element	command [abc { def ghi }] You have three options: <ul style="list-style-type: none"> • No entry • abc def • abc ghi
A string	A nonquoted set of characters	For example, when setting an SNMP community string to public, do not use quotation marks around the string; otherwise, the string will include the quotation marks.

Table 1 Document Conventions (continued)

Convention	Meaning	Comments and Examples
System prompt	Denotes interactive sessions; indicates that the user enters commands at the prompt	The system prompt indicates the current command mode. For example, the prompt <code>Router (config)#</code> indicates global configuration mode.
Exclamation point (!) at the beginning of a line	A comment line	Comments are sometimes displayed.

**Note**

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

**Tip**

Means *the following information will help you solve a problem*. The tip information might not be troubleshooting or even an action, but could be useful information, similar to a Timesaver.

**Caution**

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

Related Documentation

The following sections provide the titles of documents related to the *Cisco H.323 Signaling Interface User Guide*.

Release Notes

For information regarding subsequent releases of the Cisco H.323 signaling interface, refer to:

- *Release Notes for Cisco H.323 Signaling Interface*

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 9 Installation and Configuration Guide*
- *Cisco Media Gateway Controller Software Release 9 Provisioning Guide*
- *Cisco Media Gateway Controller Software Release 9 MML Command Reference Guide*
- *Cisco Media Gateway Controller Software Release 9 Messages Reference Guide*
- *Cisco Media Gateway Controller Software Release 9 Billing Interface Guide*
- *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide*
- *Cisco Media Gateway Controller Software Release 9 Management Information Base Guide*
- *Cisco Media Gateway Controller Node Manager 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

- *ITU Recommendation H.323, 1999*
- *ITU Recommendation H.225, 1998*
- *ITU Recommendation H.245, 1998*
- *ITU Recommendation H.246 Annex C*

Obtaining Documentation

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

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- <http://www.cisco.com>
- <http://www-china.cisco.com>
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San Jose, CA 95134-9883

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Obtaining Technical Assistance

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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.



Cisco HSI System Overview

Introduction

This chapter provides an overview of the Cisco H.323 Signaling Interface (HSI) system and subsystems and contains the following sections:

- [Cisco HSI Overview, page 1-1](#)
- [Cisco HSI System Description, page 1-2](#)
- [Operational Environment, page 1-4](#)
- [Cisco HSI Recovery, page 1-5](#)
- [Cisco HSI System Limitations, page 1-5](#)

Cisco HSI Overview

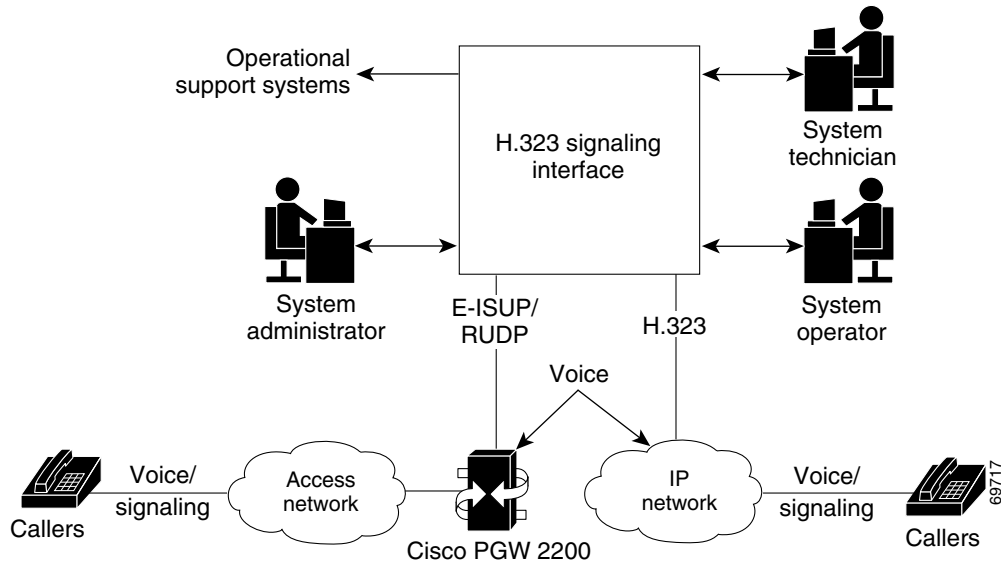
The Cisco HSI adds an H.323 interface to the Cisco Public Switched Telephone Network (PSTN) Gateway (PGW 2200). This interface allows calls to be established between the PSTN and an H.323 network (see [Figure 1-1](#)).

The Cisco HSI provides the following services:

- Translation of signaling protocols for establishing, controlling, and releasing calls
- Administration of network parameters and protocol capabilities
- System and call-related statistics
- Fault reporting
- Overload management
- Event logging
- Simple Network Management Protocol (SNMP) interface

The Cisco HSI does not operate in an active/standby configuration and, therefore, does not provide the same level of redundancy as the PGW 2200 which is configured as active/standby. We therefore recommend that you use enough HSI nodes to support the number of simultaneous calls plus one. This ensures (Trunk Group Caveats dependant) that, if one HSI fails, the calls would be supported adequately by the remaining active HSI's.

Figure 1-1 Cisco HSI System Overview



PGW 2200

The PGW 2200 consists of the hardware and software that perform the signaling and call control tasks (such as digit analysis, routing, and circuit selection) and seamlessly switch calls from the PSTN through to the IP network.

IP Network

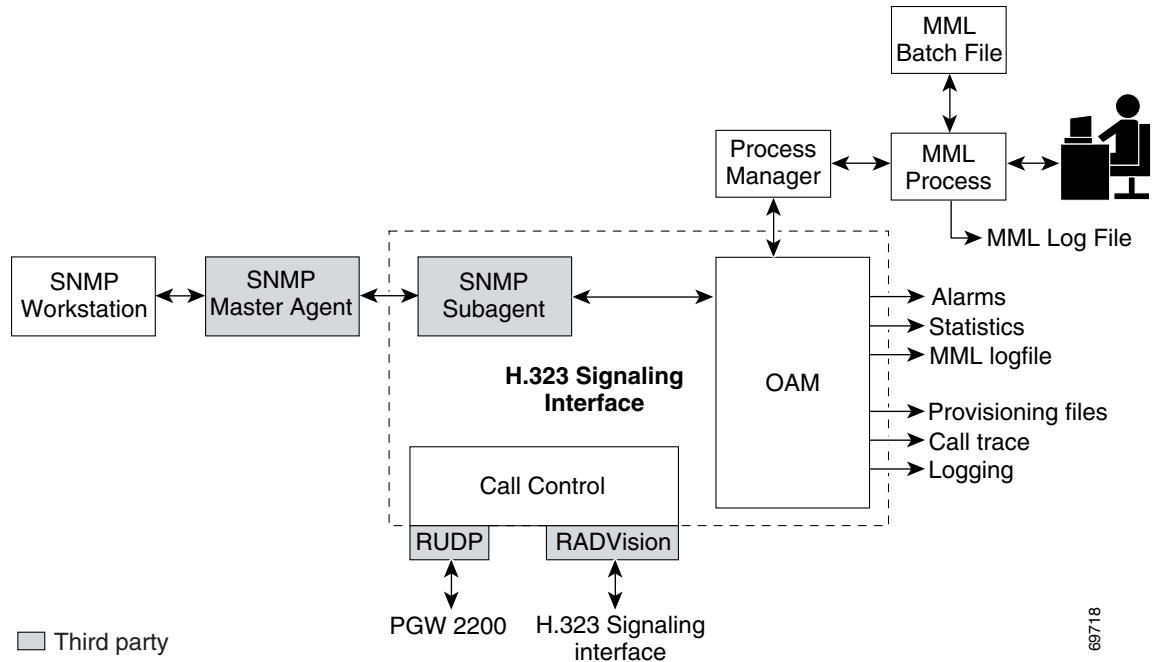
The purpose of the Cisco HSI is to enable the PGW 2200 to interoperate with the H.323 network.

Cisco HSI System Description

The Cisco HSI system has two subsystems (see [Figure 1-2](#)):

- Operations, Administration, and Maintenance (OAM) subsystem
- Call control subsystem

Figure 1-2 Cisco HSI Subsystems



OAM Subsystem

The OAM subsystem provides the following services:

- Man-Machine Language (MML) interface that enables the user to retrieve operational parameters and modify configuration values through direct input or through batch files
- SNMP interface that allows statistics and alarm retrieval
- Process management to provide automatic restart of the Cisco HSI application process and control over the running of the process
- Statistics, events, call trace, and alarm output to files
- Alarm events output to the MML interface
- Overload control

Call Control Subsystem

The call control subsystem provides the following services:

- Manages the Reliable User Data Protocol (RUDP) and H.323 stacks
- Implements Enhanced ISDN User Part (E-ISUP)
- Manages H.323 call control
- Performs the conversion of calls between H.323 and E-ISUP call control messages
- Provides call management and overload reduction actions

RUDP

RUDP transports the E-ISUP messages between the PGW 2200 and the Cisco HSI.

RUDP is a Cisco proprietary, connection-oriented, packet-based transport protocol.

RADVision H.323

The Cisco HSI uses the RADVision H.323 stack. The system uses the H.225 (Q.931 and registration, admission, and status [RAS] protocol) and H.245 protocols to implement the H.323 endpoint signaling function.

RADVision H.323 enables the creation of real-time voice H.323 calls over IP networks.

E-ISUP

E-ISUP is a proprietary Cisco protocol based on ISUP. E-ISUP is used for inter-PGW 2200 call control. E-ISUP uses a subset of ISUP messages. The main differences between ISUP and E-ISUP are as follows:

- E-ISUP is for the control of packet voice connection. It does not have circuit management messages such as circuit reset and blocking.
- E-ISUP is transported over RUDP in an IP network.
- E-ISUP provides the ability to transport Session Description Protocol (SDP) information (such as endpoint IP address and codec specifications) for call endpoints.

The Cisco HSI provides a conversion between the E-ISUP call control protocol originating from the PGW 2200 and the H.323 call control protocol originating from the IP network (see [Figure 1-1](#)).

Operational Environment

This section provides operational environment requirements for the Cisco HSI.

Hardware Requirements

The Cisco HSI is targeted to run on a Sun Netra T1 100/105 platform with an 18-GB hard disk drive, a Sun Netra 120 platform with a 36-GB hard disk drive, or a Sun Fire V120 platform with a 36-GB hard disk drive. These platforms run on the Sun Solaris 8 operating system.

Software Requirements

The Sun Netra T1 100/105 platform, Sun Netra 120 platform, and Sun Fire V120 platform run on the Solaris 8 operating system.

Security

The application does not directly provide security features. All security must be implemented at the UNIX level.

Cisco HSI Recovery

The Cisco HSI automatically restarts the main application process if that process terminates.

Cisco HSI System Limitations

The Cisco HSI does not implement security features.



Installing and Configuring Cisco HSI Software

Introduction

This chapter contains instructions for the system administrator on how to install, configure, upgrade, and remove the Cisco H.323 Signaling Interface (HSI). This chapter contains the following sections:

- [Hardware and Software Requirements, page 2-1](#)
- [Installing the Sun Solaris 8 Operating System, page 2-1](#)
- [Installing the Cisco HSI, page 2-2](#)
- [Starting the Cisco HSI, page 2-10](#)
- [Stopping the Cisco HSI, page 2-10](#)
- [Configuring the Cisco HSI, page 2-11](#)
- [Upgrading the Cisco HSI, page 2-11](#)
- [Removing the Cisco HSI, page 2-11](#)

Hardware and Software Requirements

The Cisco HSI is targeted to run on a Sun Netra T1 100/105 platform with an 18-GB hard disk drive, a Sun Netra 120 platform with a 36-GB hard disk drive, or a Sun Fire V120 platform with a 36-GB hard disk drive. These platforms run on the Sun Solaris 8 operating system.

Installing the Sun Solaris 8 Operating System

The Sun Solaris 8 operating system must be installed before installing the Cisco HSI. Instructions for installing Solaris 8 on the Sun Netra T1 100/105, Sun Netra 120, and Sun Fire V120 are in the *Cisco Media Gateway Controller Software Release 9 Installation and Configuration Guide*, located at the following URL:

<http://www.cisco.com/univercd/cc/td/doc/product/access/sc/re19/swinstl/index.htm>

After completing the Solaris 8 operating system installation, return to this document for Cisco HSI installation procedures.

Partitioning an 18-GB Hard Disk Drive

The Solaris 8 installation procedures require you to configure the disk partitions on the Sun Netra T1 100/105 18-GB hard disk drive. [Table 2-1](#) provides information you will need to customize the disk partitions.

Table 2-1 18-GB Disk Drive

Slice Number	Slice Name	Slice Size (Mb)
0	/	512
1	swap	4096
2	overlap	17269
3	/opt	6144
4	/var	1024
5	/usr	1024
7	/export/home	4096

Partitioning a 36-GB Hard Disk Drive

The Solaris 8 installation procedures require you to configure the disk partitions on the Sun Netra 120 36-GB hard disk drive and the Sun Fire V120 36-GB hard disk drive. [Table 2-2](#) provides information you will need to customize the disk 0 (c1t0d0) partitions. Disk 1 (c1t1d0) partitions are not used in this release.

Table 2-2 36-GB Disk 0 Partitions

Slice Number	Slice Name	Slice Size (Mb)
0	/	1024
1	swap	4096
2	overlap	34730
3	/opt	25600
4	/var	1024
5	/usr	2048
6		0
7	/export	936

Installing the Cisco HSI

This section provides step-by-step instructions for installing the Cisco HSI.

Before You Start

Complete the preinstallation tasks listed in [Table 2-3](#) before installing the Cisco HSI. Use the checklist to ensure that each task is completed. Detailed instructions for completing some tasks follow the checklist.

Table 2-3 Preinstallation Tasks Checklist

Check	Preinstallation Task
	Ensure that Solaris 8 is installed on the Sun Netra T1 100/105, Sun Netra 120, or Sun Fire V120 platform, as described in the “Installing the Sun Solaris 8 Operating System” section on page 2-1 .
	Configure group and user names, as described in the “Configuring Groups and Users” section on page 2-3 .
	Gather the information listed in Table 2-4 and note it in the table for reference during the installation.
	Have your company internal support information and Cisco support contact information readily available so you can get help with the installation if needed. If you have questions or need assistance, see the Obtaining Technical Assistance on page xvi.

Configuring Groups and Users

You must set up groups and users for the Cisco HSI on each host server. A user must be a member of the “mgcgrp” group to use certain Cisco HSI functions, such as Man-Machine Language (MML).

To configure groups and users, complete the following steps:

-
- Step 1** Log in as root.
- Step 2** At the # prompt, enter the following commands:
- ```
mkdir -p /export/home/users/mgcusr
mkdir /export/BUILDS
mkdir /export/PATCHES
cd /export/home/users
groupadd -g 20000 mgcgrp
useradd -u 20001 -g 20000 -d /export/home/users/mgcusr -s /bin/csh mgcusr
chown mgcusr:mgcgrp mgcusr
passwd mgcusr <type password twice>
```
- (Enter and confirm password)
- Step 3** Log out, then log in as **user mgcusr**, using the password you have just applied in Step 2.
- Step 4** Verify that you are in directory /export/home/users/mgcusr by entering the following command:
- ```
# pwd
```
- Step 5** Enter the following command:
- ```
vi .cshrc
```
- Step 6** Enter the vi insert mode by entering the following command:

- # **i** (enter insert mode)
- Step 7** Enter the following text on the first line:  
**source /opt/GoldWing/currentPM/local/setup.gw.csh**
- Step 8** Save the file and quit vi by entering the following commands:  
[Esc] (exit insert mode)  
**:wq** (write file and quit)
- Step 9** Enter the following command:  
**# chmod 777 .cshrc**

## Cisco HSI Installation Information

Gather the information listed in [Table 2-4](#) before you begin the Cisco HSI installation. Use the Notes column in this table to record the information. Several steps in the installation procedure require you to provide this information. Refer to this table as you proceed through the Cisco HSI installation steps.

**Table 2-4 Cisco HSI Installation Information**

| Required Information                                                                                                                        | Notes                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Base Directory Path                                                                                                                         | <b>Note</b> We strongly recommend that you accept the default base directory path.                                             |
| Cisco HSI User Name                                                                                                                         | Default: mgcusr                                                                                                                |
| Cisco HSI Group Name                                                                                                                        | Default: mgcgrp                                                                                                                |
| Gatekeeper IP Address                                                                                                                       |                                                                                                                                |
| Gatekeeper Port                                                                                                                             | Default: 1719                                                                                                                  |
| Gateway Prefix                                                                                                                              |                                                                                                                                |
| Terminal Alias                                                                                                                              |                                                                                                                                |
| Gatekeeper ID                                                                                                                               | <b>Note</b> This ID must match the entry configured in the gatekeeper.                                                         |
| E-ISUP host port                                                                                                                            | <b>Note</b> Typically 8003, but this entry must match the peer port setting of the IPLNK object in the PGW 2200 configuration. |
| VSC1 <sup>1</sup> name (either the DNS <sup>2</sup> host name, if DNS is configured, or the IP address of the Cisco PGW 2200 <sup>3</sup> ) |                                                                                                                                |
| VSC1 Port                                                                                                                                   | <b>Note</b> Typically 8003, but this entry must match the peer port setting of the IPLNK object in the PGW 2200 configuration. |
| Installation Node Id                                                                                                                        |                                                                                                                                |
| Hardware Platform                                                                                                                           | Sun Netra T1 (Default)<br>Sun Netra 120<br>Sun Fire V120                                                                       |
| Installation Location                                                                                                                       |                                                                                                                                |

1. VSC = virtual switch controller
2. DNS = domain name system
3. PGW = PSTN Gateway

The Cisco HSI application software is distributed in the OTTgw000.pkg file, which is in a Sun Packaging Stream file format.

The Cisco HSI application software is distributed as a tar file with a name format GoldWing-xxxx.tar, where xxxx is the version ID: for example, GoldWing-2.20.tar.

The default installation directory is /opt/GoldWing. You can specify a different directory. More than one version of the software can exist. The parent directory is in /opt/GoldWing/2.20.

Links point to the current active version of the Cisco HSI application, as follows:

- currentPM points to the current version to use for all software except the call processing application.
- currentGW points to the version that may not be the latest version of the call processing application. (GWmain)

Table 2-5 shows the subdirectories of the /opt/GoldWing/currentPM directory.

**Table 2-5 CurrentPM Subdirectories**

| Subdirectory | Contents                                               |
|--------------|--------------------------------------------------------|
| ./bin        | All compiled executables                               |
| ./local      | All scripts                                            |
| ./etc        | Base configuration files                               |
| ./lib        | Shared libraries required by executables               |
| ./toolkit    | Toolkit files                                          |
| ./var        | Volatile directory that contains file locks and so on  |
| ./var/log    | Default log directory                                  |
| ./var/prov   | Provision system writes provisioning config files here |
| ./var/trace  | Trace logs are written here                            |

Exported provisioning files are stored in /opt/GoldWing/export.

## Installing the Cisco HSI

This section provides step-by-step instructions for installing a single Cisco HSI for use with a simplex PGW 2200 configuration (a configuration with one Cisco PGW 2200 host). To install a dual Cisco HSI for use with a redundant PGW 2200 configuration (a configuration with two Cisco PGW 2200 hosts), complete the steps in this section and then proceed to the [“Installing a Dual Cisco HSI for a Redundant PGW 2200 Configuration”](#) section on page 2-10.



**Note**

In the following installation procedure, the package name is OTTgw000 and the version of the software is 2.20; the /export/BUILDS directory is used to install the system software.

To install the Cisco HSI, complete the following steps:

- Step 1** Verify that the Sun Solaris 8 operating system is installed. See the “[Installing the Sun Solaris 8 Operating System](#)” section on page 2-1 for more information.
- Step 2** Insert the Cisco HSI software CD in the CD-ROM drive.
- Step 3** Log in as root and enter the following commands at the # prompt:

```
cd /export/home
tar xvf /mnt/cdrom/GoldWing-2.20.tar
```

The following text displays:

```
x ./2.20/APPLICATIONS, 0 bytes, 0 tape blocks
x ./2.20/APPLICATIONS/OTTgw000.pkg, 38954496 bytes, 76083 tape blocks
x ./2.20/install.sh, 5223 bytes, 11 tape blocks
x ./2.20/uninstall.sh, 3053 bytes, 6 tape blocks
```

- Step 4** At the # prompt, enter the following commands:

```
cd /export/BUILDS/2.20
./install.sh
```

The following text displays:

```
Processing package instance <OTTgw000> from
</export/BUILDS/2.20/APPLICATIONS/OTTgw000.pkg>
GoldWing H323 Adjunct Processor V0.1.6
(sparc) 2.20
Copyright (c) 2001 Cisco Systems, Ltd.
All Rights Reserved
This product is protected by copyright and distributed under
licenses restricting copying, distribution and decompilation.
Enter GoldWing base directory path (default /opt/GoldWing) [?,q]
```

- Step 5** Press **Enter** to select the default HSI base directory path.



**Caution** We strongly recommend that you select the default base directory path. Operational issues might arise if other directories are used.

The following text displays:

```
Enter base directory path (default /opt/GoldWing/2.20) [?,q]
```

- Step 6** Press **Enter** to select the default base directory path. The following text displays:
- ```
Enter GoldWing user name
```
- Step 7** Type the Cisco HSI user name **mgcusr** and press **Enter** (the default user name is cisco). The following text displays:
- ```
Enter GoldWing group name
```
- Step 8** Type the Cisco HSI group name **mgcgrp** and press **Enter** (the default user group name is sysadmin). The following text displays:
- ```
Enter GateKeeper IP Address
```
- Step 9** Type the gatekeeper IP address (see [Table 2-4](#)) and press **Enter**. The following text displays:
- ```
Enter GateKeeper Port
```

- Step 10** Type the gatekeeper port (see [Table 2-4](#)) and press **Enter** (the default port is 1719). The following text displays:

```
Enter GateWay Prefix
```

- Step 11** Type the gateway prefix (see [Table 2-4](#)) and press **Enter**.



---

**Note** The gateway prefix is the prefix that, when dialed from the H.323 network, causes the Cisco HSI to route the call over E-ISUP to the PGW 2200.

---

The following text displays:

```
Enter Terminal Alias
```

- Step 12** Type the terminal alias (see [Table 2-4](#)) and press **Enter**. The following text displays:

```
Enter GateKeeper Id
```

- Step 13** Type the gatekeeper ID (see [Table 2-4](#)) and press **Enter**.



---

**Note** The gatekeeper ID must match the entry configured in the gatekeeper.

---

The following text displays:

```
Enter E-ISUP Host Port
```

- Step 14** Type the E-ISUP host port (see [Table 2-4](#)) and press **Enter**.



---

**Note** The E-ISUP host port is typically 8003, but it must match the peer port setting of the IPLNK object in the PGW 2200 configuration.

---

The following text displays:

```
Enter VSC1 Name
```

- Step 15** Type the VSC1 name and press **Enter**.



---

**Note** The VSCI name is either the DNS host name (if DNS is configured) or the IP address of the PGW 2200.

---

The following text displays:

```
Enter VSC1 Port
```

- Step 16** Type the VSC1 port number (see [Table 2-4](#)) and press **Enter**.



---

**Note** The VSCI port is typically 8003, but it must match the port setting of the IPLNK object in the PGW 2200 configuration.

---

The following text displays:

```
Enter Installation NodeId
```

- Step 17** Type the installation node ID (see [Table 2-4](#)) and press **Enter**.



**Note** The installation node ID is a text field typically used by network designers for identification purposes. Entering a value in this field does not affect functionality.

The following text displays:

```
Enter Hardware Platform
```

**Step 18** Type the hardware platform name (see [Table 2-4](#)) and press **Enter** (typically, accept the default platform name). The following text displays:

```
Enter Installation Location
```

**Step 19** Type the installation location (see [Table 2-4](#)) and press **Enter**.



**Note** The installation location field is a text field typically used by network designers for identification purposes. Entering a value in this field does not affect functionality.

The following is an example of the screen that displays:

```
Executing checkinstall script.
Modified Environment is:

BASEDIR=/opt/GoldWing/2.20
GWHOME=/opt/GoldWing
GWUSR=mgcusr
GWGRP=mgcgrp
GWCONF_IP="10.70.54.53"
GWCONF_PORT="1719"
GWCONF_PREFIX="0208"
GWCONF_ALIAS="cisco@OuterLondonDomain.com"
GWCONF_GKID="OuterLondon"
GWCONF_HOST_PORT=8003
GWCONF_VSC1_NAME=goliath
GWCONF_VSC1_PORT=8003
GWCONF_NODEID="H323-GW1"
GWCONF_HARDWARE="Sun Netra T1"
GWCONF_LOCATION="H323 - GW1"

The selected base directory </opt/GoldWing/2.20> must exist before installation is
attempted.
Do you want this directory created now [y,n,?,q]
```

**Step 20** Type **y** to create the version directory. The following text displays:

```
Using </opt/GoldWing/2.20> as the package base directory.
Processing package information.
Processing system information.
Verifying disk space requirements.
Checking for conflicts with packages already installed.
Checking for setuid/setgid programs.
This package contains scripts which will be executed with super-user
permission during the process of installing this package.
Do you want to continue with the installation of <OTTgw000> [y,n,?]
```

**Step 21** Review the output before you continue the installation. Type **y** to continue. The files are installed. The following text displays:

```
Installing GoldWing H323 Adjunct Processor V0.1.6 as <OTTgw000>
Installing part 1 of 1.
```



```

/etc/init.d/CiscoGW
/etc/rc3.d/S95CiscoGW <symbolic link>
/opt/GoldWing/2.20/bin/GWmain
/opt/GoldWing/2.20/bin/PMmain
/opt/GoldWing/2.20/bin/mml
/opt/GoldWing/2.20/bin/msg.conf
/opt/GoldWing/2.20/bin/parse
/opt/GoldWing/2.20/etc/GWmain.base.conf
/opt/GoldWing/2.20/etc/GWmain.default.conf
/opt/GoldWing/2.20/etc/GWmain.static.conf
/opt/GoldWing/2.20/etc/H323SkeletonFileSimple.dat
/opt/GoldWing/2.20/etc/parse.exclude.list
/opt/GoldWing/2.20/etc/parse.list
/opt/GoldWing/2.20/lib/libgwMib_shlib.so
/opt/GoldWing/2.20/var/prov/active_config <symbolic link>
[verifying class <none>]
[verifying class <script>]
Executing postinstall script.
Installed package instance is: OTTgw000
Installation of <OTTgw000> was successful.
Installed package instance environment variables are:

PKGINST=OTTgw000
VERSION=2.20
BASEDIR=/opt/GoldWing/2.20
GWHOME=/opt/GoldWing
MGCUSR=mgcusr
MGCGRP=mgcgrp

Setting link /opt/GoldWing/currentPM.
Setting link /opt/GoldWing/currentGW.

```

Installation of the Cisco HSI is now complete. The directory /opt/GoldWing now displays as follows:

```

drwxr-xr-x 7 cisco sysadmin 512 Jan 9 18:31 2.20
lrwxrwxrwx 1 cisco sysadmin 19 Jan 9 18:31 currentGW -> /opt/GoldWing/2.20
lrwxrwxrwx 1 cisco sysadmin 19 Jan 9 18:31 currentPM -> /opt/GoldWing/2.20
-rwxrwxr-x 1 root other 3053 Jan 9 18:31 uninstall.sh

```



#### Note

The links currentPM and currentGW point to the currently active version of the Cisco HSI. The uninstall script has been copied here for convenience, but can only be run by root user.

To check the Cisco HSI installation, enter **pkgchk OTTgw000**.



#### Note

The package name is OTTgw000. If more than one instance of the package is installed, the package name has a suffix (for example, OTTgw000.2, OTTgw000.3, and so on).

Outside of the /opt/GoldWing directory, the start/stop script CiscoGW is copied to the /etc/init.d directory, and the link /etc/rc3.d/S95CiscoGW is created to facilitate automatic startup of the Cisco HSI on system reboot.

When the installation is complete, a file named PKINST is written to the base directory on the installed software.



#### Caution

Do not modify the PKINST file. It contains information derived from the installation, and the uninstall script uses the PKINST file in the version directory to determine which package name to remove if more than one instance of the package is installed.

## Installing a Dual Cisco HSI for a Redundant PGW 2200 Configuration



### Caution

To ensure the successful installation of a dual Cisco HSI, after [Step 21](#) of the “[Installing the Cisco HSI](#)” section on [page 2-5](#), make sure that you provision the software for the active host first before proceeding to [Step 1](#) below. See “[Configuring the Cisco HSI](#)” section on [page 2-11](#) for configuration information.

Only one active provisioning session is permitted and provisioning is permitted only on the active Cisco HSI.

Exit the provisioning session on the active host and continue to [Step 1](#) below. If software is not provisioned after it is installed on the active host, the standby host is not synchronized with the active host. As a result, a forced switchover might fail.



### Note

To view a sample configuration of a dual Cisco HSI installation, see [Appendix G](#), “[Dual Cisco HSI with a Redundant PGW 2200 Configuration](#).”

To install a dual Cisco HSI for a redundant PGW 2200 configuration (a configuration with two Cisco PGW 2200 hosts), complete the following steps:

- Step 1** Continuing from [Step 21](#) of the “[Installing the Cisco HSI](#)” section on [page 2-5](#), exit server 1.
- Step 2** Log in to server 2 as root and go to the # prompt.
- Step 3** Insert the Cisco HSI CD in the CD-ROM drive.
- Step 4** Follow the installation instructions found in [Step 3](#) through [Step 21](#) of the “[Installing the Cisco HSI](#)” section on [page 2-5](#).

Installation of the dual Cisco HSI for a redundant PGW 2200 configuration is now complete.

## Starting the Cisco HSI

To start the Cisco HSI, execute the start script as the root user and enter the following command:

```
/etc/init.d/CiscoGW start
```



### Note

The application runs as root user because this is a requirement of a Simple Network Management Protocol (SNMP) subagent application. If this script is not run as root, the SNMP subagent fails to connect to the master agent.

## Stopping the Cisco HSI

To stop the Cisco HSI, log in as root user and enter the following command:

```
/etc/init.d/CiscoGW stop
```

## Configuring the Cisco HSI

To access the user interface, use the **mml** command (see [Chapter 3, “MML User Interface”](#) for more information). If the `setup.gw` file has been sourced, it is in the user path. Use the provisioning commands to configure the Cisco HSI as required (see [Chapter 5, “Provisioning the Cisco HSI”](#) and [Appendix A, “MML Commands”](#) for more information).

## Upgrading the Cisco HSI

Before removing an old version of the Cisco HSI, install the new version of the software. A provisioning session can be exported to a flat file in a format that can be used as input to another provisioning session (see [prov-exp](#) in [Appendix A, “MML Commands,”](#) for more information).

When you upgrade the Cisco HSI version, the following conditions apply:

- The Cisco HSI must first be stopped before installation is allowed to proceed.
- The installation of the same version of the software overwrites the existing installed version of the software.
- The installation of a new version results in a new version directory being created in the `/opt/GoldWing` parent directory. The links `currentPM` and `currentGW` are updated to point to this new version.



**Note** To revert to a previous version of the software, manually modify the `currentPM` and `currentGW` links in the `/opt/GoldWing` parent directory to point to the previous version.

The `uninstall.sh` script uses the `PKINST` file in the version directory to determine which package name to remove.

## Removing the Cisco HSI

To remove the Cisco HSI, complete the following steps:

- 
- Step 1** Log in as root.
- Step 2** Enter the following command to stop the Cisco HSI:
- ```
# /etc/init.d/CiscoGW stop
```
- Step 3** Enter the following commands:
- ```
cd /opt/GoldWing
ls -l
```

The following is an example of the screen that displays:

```
drwxr-xr-x 7 cisco sysadmin 512 Jan 9 18:31 2.20
lrwxrwxrwx 1 cisco sysadmin 19 Jan 9 18:31 currentGW -> /opt/GoldWing/2.20
lrwxrwxrwx 1 cisco sysadmin 19 Jan 9 18:31 currentPM -> /opt/GoldWing/2.20
-rwxrwxr-x 1 root other 3053 Jan 9 18:31 uninstall.sh
```

- Step 4** Enter the **uninstall** command and specify the version of the software that you want to uninstall; for example:

```
./uninstall.sh 2.20
```

The following text displays:

```
Warning: This script will remove the package OTTgw000
Do you wish to proceed? [n] [y,n,?,q]
```

- Step 5** Type **y** and press **Enter**. The following text displays:

```
Deleting generated files in /opt/GoldWing/2.20
The following package is currently installed:
OTTgw000 GoldWing H323 Adjunct Processor V0.1.6
(sparc) 2.20
Do you want to remove this package?
```

- Step 6** Type **y** and press **Enter**. The following text displays:

```
Removing installed package instance <OTTgw000>
This package contains scripts which will be executed with super-user
permission during the process of removing this package.
Do you want to continue with the removal of this package [y,n,?,q]
```

- Step 7** Type **y** and press **Enter**. The following text displays:

```
Verifying package dependencies.
Processing package information.
Executing preremove script.
Removing pathnames in class <script>
/opt/GoldWing/2.20/local/setup.gw
/opt/GoldWing/2.20/local/pmStart.sh
/opt/GoldWing/2.20/local/gwhalt
/opt/GoldWing/2.20/local/CiscoGW
Removing pathnames in class <none>
/opt/GoldWing/2.20/local
/opt/GoldWing/2.20/lib/libgwMib_shlib.so
/opt/GoldWing/2.20/lib
/opt/GoldWing/2.20/etc/parse.list
/opt/GoldWing/2.20/etc/parse.exclude.list
/opt/GoldWing/2.20/etc/H323SkeletonFileSimple.dat
/opt/GoldWing/2.20/etc/GWmain.static.conf
/opt/GoldWing/2.20/etc/GWmain.request.conf
/opt/GoldWing/2.20/etc/GWmain.default.conf
/opt/GoldWing/2.20/etc/GWmain.conf
/opt/GoldWing/2.20/etc/GWmain.base.conf
/opt/GoldWing/2.20/etc
/opt/GoldWing/2.20/bin/parse
/opt/GoldWing/2.20/bin/msg.conf
/opt/GoldWing/2.20/bin/mml
/opt/GoldWing/2.20/bin/PMmain
/opt/GoldWing/2.20/bin/GWmain
/opt/GoldWing/2.20/bin
/opt/GoldWing/2.20/PKGINST
/etc/rc3.d/S95CiscoGW
/etc/rc3.d <shared pathname not removed>
/etc/init.d/CiscoGW
/etc/init.d <shared pathname not removed>
/etc <shared pathname not removed>
Executing postremove script.
Updating system information.

Removal of <OTTgw000> was successful.
```



# MML User Interface

---

## Introduction

This chapter provides information about Man-Machine Language (MML) command syntax and conventions, batch files, and procedures for starting and stopping MML sessions in the Cisco H.323 Signaling Interface (HSI) application. This chapter contains the following sections:

- [Configuring the Cisco HSI Environment for MML Sessions, page 3-1](#)
- [MML Commands, page 3-2](#)
- [Starting an MML Session, page 3-3](#)
- [Batch Files, page 3-3](#)
- [MML Responses, page 3-5](#)
- [MML Help, page 3-6](#)
- [Quitting an MML Session, page 3-6](#)

## Configuring the Cisco HSI Environment for MML Sessions

To configure the Cisco HSI to start an MML session when you are logged in as a Cisco user, complete the following steps:

- 
- Step 1** Log in as mgusr.
- Step 2** To start the software, become super-user and enter the following command:  
**/etc/init.d/CiscoGW start**
- Step 3** Exit out of super-user.
- Step 4** Type **mml** to start the MML command-line interpreter.



**Tip** Press the **Tab** key twice to see a list of MML commands.

---

# MML Commands

To execute MML commands, use the **rlogin** command to log in as a Cisco user and perform one of the following tasks:

- Start the MML session (see the “Starting an MML Session” section on page 3-3) and enter a command.
- Type a batch file command to start an MML session (see the “Starting a Batch File” section on page 3-4).

## MML Command Syntax

MML commands use the following syntax:

```
command_name:target:[Parameter_List][;comments]
```

Parameter\_list consists of a parameter name, an equal sign, and a value for the parameter.

The keywords and the value strings need not be enclosed in quotation marks. Anything you enter after a semicolon (;) is treated as a comment. Use only one MML command on each line.

[Appendix A, “MML Commands”](#) contains detailed information about the individual MML commands.



Tip

- Use the **Up** arrow key to scroll through all previous MML commands in turn.
- Use the **Down** arrow key to move forward in the command buffer.
- Use the **Left** and **Right** arrow keys to move along the command line.
- Use the **Backspace**, **Delete**, and alphanumeric keys to edit an MML command.

## MML Command Conventions

The MML commands use the conventions shown in [Table 3-1](#).

**Table 3-1 MML Command Conventions**

| Convention            | Meaning                                 | Comments and Examples                                                                     |
|-----------------------|-----------------------------------------|-------------------------------------------------------------------------------------------|
| Square brackets ([ ]) | Optional elements                       | <b>command</b> [abc]<br>abc is optional (not required), but you can choose it.            |
| Vertical bars ( )     | Separated alternative elements          | <b>command</b> [abc   def]<br>You can choose either abc or def, or neither, but not both. |
| Braces ({   })        | Required choice of alternative elements | <b>command</b> {abc   def}<br>You must use either abc or def, but not both.               |
| Angle brackets (< >)  | Symbol specifier                        | —                                                                                         |

The MML commands can be interpreted and monitored through a network Transaction Language 1 (TL1) interface. The TL1 symbols shown in [Table 3-2](#) are used in MML

**Table 3-2 TL1 Symbols Used in MML**

| Symbol | Description                                                                                     |
|--------|-------------------------------------------------------------------------------------------------|
| :      | A parameter separator.                                                                          |
| ::     | An empty parameter block.                                                                       |
| &      | Arguments are grouped together so that one parameter may convey several arguments.              |
| ;      | End of command (optional). Anything on the same line after this symbol is treated as a comment. |

## Case Sensitivity

Command names and parameter names are not case sensitive. You can enter commands and parameters in either upper- or lowercase. Filenames *are* case sensitive when used as arguments in MML commands.

## Starting an MML Session

To start an MML session, complete the following steps:

- 
- Step 1** Type `rlogin hostname -l username` to log in to the machine.
- Step 2** Type one of the following commands at the prompt:
- `mml`
  - `mml -b batchfile` (see the “Starting a Batch File” section on page 3-4)
- 

The following example shows the start of an MML session:

```
user@host> mml

Welcome to the Cisco H.323 Signaling Interface.

gw mml>
```

## Batch Files

The Cisco HSI application supports the use of batch files. You can create an ASCII file of MML provisioning commands for use as a batch file. You can also use a script file. When the commands are read, the Cisco HSI sequentially executes them.

The following is an example of an MML provisioning batch file:

```
prov-sta::srcver="new",dstver="first"
prov-add:name="sys_config",nodeid="H323-GW1"
prov-add:name="h323_sys",messages=30000,channels=5000
prov-add:name="ras",responsetimeout=10,allowcallswhennonreg=1
```

```
prov-add:name="ras",terminaltype="gateway",timetolive=900
prov-add:name="q931",reponsetimeout=20,connecttimeout=20,maxcalls=5000
prov-cpy
```

The **prov-sta** command establishes a provisioning session. The **prov-cpy** command copies configuration settings from the current provisioning session to the Cisco HSI and activates the configuration. If the command is successful, it also terminates the current provisioning session. If you are not ready to commit a session, use the **prov-stp** command to save and stop the provisioning session.

The application provides a log function (**diaglog** command) that records the MML commands and responses in a log file.

In the MML batch file, you can place a **diaglog** command at the beginning to start logging and a **diaglog** command at the end to stop logging. For more information about the **diaglog** command, see [Appendix A, "MML Commands."](#)

The application logs the user ID, the date and time, and the name of each command that has been executed in batch mode to the `mml_batch_log` file for commands executed in both the process manager and the application.

**Note**


---

Batch files can be defined for complete systems or to modify parts of an existing system.

---

## Creating a Batch File

To create a batch file, use an ASCII text editor program to create a new file. Each command should be on a separate line.

## Starting a Batch File

To start executing a batch file, type **mml -b *batchfilename*** at the UNIX prompt.

After you enter the batch file command, the application displays the result of each MML command as it is executed. Each command and its results are saved in the `mml.log` file. When the batch file is completed, the MML session is ready to accept user commands.

The following example shows the start of a batch file named `nolog.bat` with these contents:

```
prov-sta:srcver=active,dstver=nolog
prov-ed:name=logging,eisup=0x0000
prov-cpy
```

and this output:

```
gp-capetown-16-> mml -b nolog.bat
Starting in batch mode.
Connecting to port 10129 on host gp-capetown
```

```
Welcome to the Cisco H.323 Signaling Interface.
gw mml> gw mml> prov-sta:srcver=active,dstver=nolog
H323 Signaling Interface Tue Jan 22 05:57:12 2002
M SUCC
Successfully started provisioning session "nolog" from "active".Note: This provisioning
session has not been verified.
gw mml> prov-ed:name=logging,eisup=0x0000
H323 Signaling Interface Tue Jan 22 05:57:12 2002
M SUCC
```



```

Successfully edited provisioning element(s) :
MML Name : logging.
Parameter: EISUP.
Value : 0x0000.
gw mml> prov-cpy
H323 Signalling Gateway Tue Jan 22 05:57:13 2002
M SUCC
Successfully activated provisioning session nolog.
gw mml>

```

## MML Responses

The following sections describe the two types of response messages that are displayed by the MML user interface:

- Status messages
- Error messages

### Status Messages

[Table 3-3](#) lists the MML status messages and their descriptions.

**Table 3-3 MML Status Messages and Descriptions**

| Status | Definition | Description                                             |
|--------|------------|---------------------------------------------------------|
| RTRV   | Retrieve   | Retrieve and display the contents of the specified file |
| SUCC   | Successful | Successful completion                                   |

### Error Messages

If an MML command does not perform, an error message is displayed. [Table 3-4](#) lists the MML error messages and their descriptions

**Table 3-4 MML Error Messages and Descriptions**

| Error Message | Definition              | Description                                                                                              |
|---------------|-------------------------|----------------------------------------------------------------------------------------------------------|
| DENY          | Command denied          | The command is recognized, but the system does not allow the requested function to be performed.         |
| ICNV          | Input command not valid | The MML command is not recognized.                                                                       |
| IDNV          | Input data not valid    | An unknown parameter has been entered.                                                                   |
| IISP          | Input syntax error      | An incorrect syntax has been entered.                                                                    |
| IITA          | Invalid target          | The requested operation cannot be performed on the specified component, or the component does not exist. |
| IPRM          | Input parameter missing | An expected parameter has not been entered.                                                              |

**Table 3-4 MML Error Messages and Descriptions (continued)**

| Error Message | Definition                        | Description                                                                                                                                             |
|---------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| SABT          | Status abort                      | The requested operation did not complete within the allotted time.                                                                                      |
| SNVS          | Component not in valid state      | The requested operation failed because the component is either not configured to accept the operation or the component is already in the desired state. |
| SNSP          | State not supported               | The operation is not supported by the component.                                                                                                        |
| SROF          | Status requested operation failed | The requested operation failed.                                                                                                                         |

## MML Help

MML has an online help feature. The MML **help** command displays a list of valid system commands and an explanation of their use. To display the online help, start an MML session and type **help** at the command line prompt. See [Appendix A, “MML Commands”](#) for an example of the **help** command.

## Quitting an MML Session

To quit an MML session, type **quit** at the prompt.



# System Management

---

## Introduction

This chapter provides information about operation and management tasks for the Cisco H.323 Signaling Interface (HSI) application. This chapter contains the following sections:

- [Restarting the Cisco HSI Application, page 4-1](#)
- [Stopping Call Processing, page 4-1](#)
- [Starting Call Processing, page 4-2](#)
- [Stopping the Call Processing Application, page 4-2](#)
- [Starting the Call Processing Application, page 4-2](#)
- [Reporting the Cisco HSI Status, page 4-2](#)
- [Measurements, page 4-2](#)
- [Overload, page 4-6](#)
- [Logging, page 4-8](#)
- [Gapping, page 4-11](#)

## Restarting the Cisco HSI Application

To restart the Cisco HSI at the MML command prompt, use the **restart-softw** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

To start the Cisco HSI application, see the [“Starting the Cisco HSI” section on page 2-10.](#)

## Stopping Call Processing

To stop call processing, use the **stp-callproc** MML command. This command causes the handling of new call requests to cease immediately, and, if no timeout period is specified, all existing calls are released immediately. If a timeout period is specified, existing calls are released after the specified amount of time has elapsed. For more information about the **stp-callproc** command, see [Appendix A, “MML Commands.”](#)

## Starting Call Processing

To start call processing, use the **sta-callproc** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

## Stopping the Call Processing Application

To stop the call processing application, use the **stp-softw** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

## Starting the Call Processing Application

To start the call processing application, use the **sta-softw** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

## Reporting the Cisco HSI Status

To display the status of the Cisco HSI, use the **rtrv-softw** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

## Measurements

The following sections describe the two measurement categories:

- System-related measurements
- Call-related measurements

### System-Related Measurements

The CIagent is a Simple Network Management Protocol (SNMP) subagent. It handles the collection and storage of the following system performance measurements:

- CPU occupancy
- RAM occupancy
- Disk occupancy
- TCP usage

Use the CIAGENTSCANPERIOD parameter to define the period that the CIagent polls the CPU utilization (see [Chapter 5, “Provisioning the Cisco HSI”](#)).

## Call-Related Measurements

The Cisco HSI application handles all call-related measurements. An SNMP MIB handles the collection of call-related measurement data.

The call-related measurements are organized into counter groups. The following MML counter groups are required:

- RAS (see [Table 4-1 on page 4-3](#))
- Q.931 (see [Table 4-2 on page 4-4](#))
- H.245 (see [Table 4-3 on page 4-5](#))

The measurements in these groups are written to disk every 30 minutes in a file. The file name includes the date and time that measurements were written to disk.

**Table 4-1 RAS Counter Group**

| Counter Name         | Measurement                           | Type    | Comments                                                                                     |
|----------------------|---------------------------------------|---------|----------------------------------------------------------------------------------------------|
| GK_DISC_ATT_TOT      | Gatekeeper Discovery Attempts         | Integer | Incremented for every unicast gatekeeper request (GRQ) sent or for every multicast operation |
| GK_REG_ATT_TOT       | Registration Request Attempts         | Integer | Incremented for every registration request (RRQ) sent                                        |
| GK_REG_SUCC_TOT      | Registration Request Successes        | Integer | Incremented for every registration confirmation (RCF) received                               |
| GK_RCV_UNR_ATT_TOT   | GK Initiated Unregistration Attempts  | Integer | Incremented for every unregistration request (URQ) received from a gatekeeper (GK)           |
| GK_XMIT_UNR_SUCC_TOT | GK Initiated Unregistration Successes | Integer | Incremented for every unregistration confirmation (UCF) sent to a GK                         |
| GK_XMIT_UNR_ATT_TOT  | TC Initiated Unregistration Attempts  | Integer | Incremented for every URQ sent to a GK                                                       |
| GK_RCV_UNR_SUCC_TOT  | TC Initiated Unregistration Successes | Integer | Incremented for every UCF received from a GK                                                 |
| GK_RLS_ATT_TOT       | Disengage Attempts                    | Integer | Incremented for every disengage request (DRQ) sent to a GK                                   |
| GK_RLS_SUCC_TOT      | Disengage Successes                   | Integer | Incremented for every disengage confirmation (DCF) returned by a GK                          |
| GK_INFO_REPORT_TOT   | Information Reports                   | Integer | Incremented for every information request (IRQ) sent to the GK                               |

Table 4-2 Q.931 Counter Group

| Counter Name         | Measurement                                | Type    | Comments                                                                                                                                                                         |
|----------------------|--------------------------------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FC_INC_CALL_ATT_TOT  | H.225 Incoming Fast Connect Call Attempts  | Integer | Incremented when a setup containing the fastStart element is received                                                                                                            |
| FC_INC_CALL_SUCC_TOT | H.225 Incoming Fast Connect Call Successes | Integer | Incremented when the Fast Connect procedure is used to establish an incoming H.323 call                                                                                          |
| FC_OTG_CALL_ATT_TOT  | H.225 Outgoing Fast Connect Call Attempts  | Integer | Incremented when a setup containing the fastStart element is sent to an H.323 endpoint<br>Decrementd when reverting to Version 1 signaling (and another measurement incremented) |
| FC_OTG_CALL_SUCC_TOT | H.225 Outgoing Fast Connect Call Successes | Integer | Incremented when the Fast Connect procedure is used to establish an outgoing H.323 call                                                                                          |
| V1_INC_CALL_ATT_TOT  | H.225 Incoming Version 1 Call Attempts     | Integer | Incremented when an incoming H.323 Version 1 Setup is received (that is, no fastStart element or H.245 tunneling)                                                                |
| V1_INC_CALL_SUCC_TOT | H.225 Incoming Version 1 Call Successes    | Integer | Incremented when an incoming H.323 Version 1 call is established                                                                                                                 |
| V1_OTG_CALL_ATT_TOT  | H.225 Outgoing Version 1 Call Attempts     | Integer | Incremented when an outgoing H.323 call reverts to Version 1 signaling                                                                                                           |
| V1_OTG_CALL_SUCC_TOT | H.225 Outgoing Version 1 Call Successes    | Integer | Incremented when an outgoing H.323 call using Version 1 is established                                                                                                           |
| INC_NORM_REL_TOT     | H.225 Incoming Call Normal Releases        | Integer | Incremented when an established incoming H.323 call is taken down due to user on-hook                                                                                            |
| INC_ABNORM_REL_TOT   | H.225 Incoming Call Abnormal Releases      | Integer | Incremented when an established incoming H.323 call is taken down due to anything other than user on-hook                                                                        |
| OTG_NORM_REL_TOT     | H.225 Outgoing Call Normal Releases        | Integer | Incremented when an established outgoing H.323 call is taken down due to user on-hook                                                                                            |
| OTG_ABNORM_REL_TOT   | H.225 Outgoing Call Abnormal Releases      | Integer | Incremented when an established outgoing H.323 call is taken down due to anything other than user on-hook                                                                        |

Table 4-3 H.245 Counter Group

| Counter Name           | Measurement                                  | Type         | Comments                                                                                                                                                       |
|------------------------|----------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MASTER_SLAVE_ATT_TOT   | H.245 Master Slave Determination Attempts    | Integer      | Incremented whenever either side of the call initiates the Master Slave Determination procedure (by either H.245 tunneling or a separate H.245 signaling path) |
| MASTER_SLAVE_SUCC_TOT  | H.245 Master Slave Determination Successes   | Integer      | Incremented whenever a Master Slave Determination procedure is completed                                                                                       |
| TERM_CAP_XCHG_ATT_TOT  | H.245 Terminal Capability Exchange Attempts  | Integer      | Incremented whenever either side of the call initiates the Capability Exchange procedure (by either H.245 tunneling or a separate H.245 signaling path)        |
| TERM_CAP_XCHG_SUCC_TOT | H.245 Terminal Capability Exchange Successes | Integer      | Incremented whenever a Capability Exchange procedure is completed                                                                                              |
| OPEN_CH_ATT_TOT        | H.245 Open Logical Channel Attempts          | Integer      | Incremented whenever either side of the call initiates the Open Logical Channel procedure (by either H.245 tunneling or a separate H.245 signaling path)       |
| OPEN_CH_SUCC_TOT       | H.245 Open Logical Channel Successes         | Integer      | Incremented whenever an Open Logical Channel procedure is completed                                                                                            |
| CLOSE_CH_ATT_TOT       | H.245 Close Logical Channel Attempts         | Integer      | Incremented whenever either side of the call initiates the Close Logical Channel procedure (by either H.245 tunneling or a separate H.245 signaling path)      |
| CLOSE_CH_SUCC_TOT      | H.245 Close Logical Channel Successes        | Integer      | Incremented whenever a Close Logical Channel procedure is completed                                                                                            |
| AVG_ROUND_TRIP_DELAY   | H.245 Round Trip Delay Determination         | Average (ms) | The average time (in ms) for Round Trip Delay measured as a result of successful Round Trip Delay Determination procedures                                     |

## Resetting Measurements

The **clr-meas** MML command resets the measurement counters. This command resets an individual counter or all counters in a counter group. The following are valid counter groups:

- RAS
- Q.931
- H.245

For more information about the **clr-meas** command, see [Appendix A, “MML Commands.”](#)

## Retrieving Counters

Use the **rtrv-ctr** MML command to retrieve measurement counters. This command displays the measurements for a counter group. Valid counter groups are RAS, Q.931, and H.245. For more information about the **rtrv-ctr** command, see [Appendix A, “MML Commands.”](#)

## Overload

The system continuously checks call total and CPU utilization. Each of these values is compared to predefined limits. For the call total, three limits are available. Each limit has a hysteresis value and an alarm associated with it. When the call total reaches the limit, an alarm is raised. When the call total falls below the limit minus the hysteresis value, the alarm is cleared when the appropriate recovery action is taken.

Cisco HSI supports the ability to maintain the following three levels of overload:

- Overload level 1
- Overload level 2
- Overload level 3

The following factors can trigger each level of overload:

- CPU usage (the OVLDSAMPLERATE parameter defines the frequency of CPU sampling and threshold checking)
- Maximum calls allowed

Disk usage can trigger a LOW\_DISK\_SPACE alarm. For more information about this alarm, see [Chapter 6, “Cisco HSI Alarms and Troubleshooting.”](#)

See [Chapter 6, “Cisco HSI Alarms and Troubleshooting,”](#) for information about overload alarms.

## Overload Level 1

Use the following configuration parameters for overload level 1 (see [Chapter 5, “Provisioning the Cisco HSI”](#)):

- OVLLEVEL1PERCENT
- OVLLEVEL1FILTER
- OVLLEVEL1THRESHLOWERCALLS
- OVLLEVEL1THRESHUPPERCALLS
- OVLLEVEL1THRESHLOWERCPU
- OVLLEVEL1THRESHUPPERCPU



## Overload Level 2

Use the following configuration parameters for overload level 2 (see [Chapter 5, “Provisioning the Cisco HSI”](#)):

- OVLLEVEL2PERCENT
- OVLLEVEL2FILTER
- OVLLEVEL2THRESHLOWERCALLS
- OVLLEVEL2THRESHUPPERCALLS
- OVLLEVEL2THRESHLOWERCPU
- OVLLEVEL2THRESHUPPERCPU

## Overload Level 3

Use the following configuration parameters for overload level 3 (see [Chapter 5, “Provisioning the Cisco HSI”](#)):

- OVLLEVEL3PERCENT
- OVLLEVEL3FILTER
- OVLLEVEL3THRESHLOWERCALLS
- OVLLEVEL3THRESHUPPERCALLS
- OVLLEVEL3THRESHLOWERCPU
- OVLLEVEL3THRESHUPPERCPU

## Setting Overload Data

The following MML commands set overload data:

```
set-overload:level1|level2|level3:cpu, lower=number, upper=number
```

```
set-overload:level1|level2|level3:calls, lower=number, upper=number
```

```
set-overload:level1|level2|level3:gap, filter=normal|all, percent=number
```

The upper parameter specifies the threshold for overload detection, and the lower parameter specifies the hysteresis point at which the overload condition is removed.

The lower value should be greater than the upper value of a lower severity level.

For example:

```
set-overload:level1:cpu, lower=45, upper=50
```

```
set-overload:level1:gap, filter=normal, percent=50
```

```
set-overload:level2:cpu, lower=63, upper=70
```

```
set-overload:level2:gap, filter=normal, percent=75
```

```
set-overload:level3:cpu, lower=81, upper=90
```

```
set-overload:level3:gap, filter=normal, percent=95
```

These values would mean that:

- At less than 50 percent CPU usage, no call is gapped.
- From 50 percent to 70 percent CPU usage, 50 percent of calls are gapped.
- From 70 percent to 90 percent CPU usage, 75 percent of calls are gapped.
- At more than 90 percent CPU usage, 95 percent of calls are gapped.
- Before the overload level returns from level 3 to level 2, the CPU usage must fall to less than 81 percent.

## Retrieving Overload Data

Use the **rtrv-overload** MML command to display the overload status and related overload data. For information about this command, see [Appendix A, “MML Commands.”](#)

## Logging

The logging level of one or more service packages is set using the **set-log** MML command. For more information about this command, see [Appendix A, “MML Commands.”](#)

## Rotating Log Files

Log files are rotated at system startup or when either of the following conditions occurs:

- The size limit for the corresponding file is reached. The size of the corresponding log file is equal to or greater than the value that the LOGFILEROTATESIZE configuration parameter specifies. The default value for this parameter is 10 Mb (see [Chapter 5, “Provisioning the Cisco HSI”](#)).
- The age limit for the corresponding file is reached. The corresponding log file is equal to or older than the interval that the LOGFILEROTATEINTERVAL parameter specifies. The default value for this parameter is 1440 minutes (24 hours). See [Chapter 5, “Provisioning the Cisco HSI,”](#) for more information about this parameter.

## Log File Naming Convention

Log rotation occurs when the system ceases to write to the current log file and commences to write to a new log file. The LOGFILENAMEPREFIX parameter defines the name of the active log file (see [Chapter 5, “Provisioning the Cisco HSI”](#)). The default is platform.log.

When log rotation is triggered, the existing file (for example, platform.log) is renamed with the format *platform\_yyyymmddhhmmss.log* (see [Table 4-4](#)). For example, a platform error file rotated on September 30, 1999 at 12:36:24 is renamed platform\_19990930123624.

**Table 4-4 Log Filename Format**

| Format            | Definition                                     |
|-------------------|------------------------------------------------|
| LOGFILENAMEPREFIX | Provisioned filename (default is platform.log) |
| yyyy              | Year                                           |
| mm                | Month                                          |
| dd                | Day                                            |
| hh                | Hour                                           |
| mm                | Minute                                         |
| ss                | Second                                         |

**Note**

The time stamp is the coordinated universal time (CUT) from the machine at the time of rotation.

## Log File Location

The LOGDIRECTORY parameter defines the directory for active log files and rotated log files (see [Chapter 5, “Provisioning the Cisco HSI”](#)). The default is \$GWHOME/var/log/.

## Log Messages

Log messages have the following format:

*Date and timestamp, Package Name, <log level>, LogID:<text of the message>.*

The following are examples of log messages:

```
Thu Dec 7 03:55:32:837 2000, Infrastructure, <DEBUG>, 205: GWModule Registration -
shutdownList() - NbOfItems 10 - Item 8
Thu Dec 7 03:55:32:837 2000, Infrastructure, <DEBUG>, 206 : GWModuleRegistration -
shutdownList() - NbOfItems 10 - Item 9
Thu Dec 7 03:55:32:838 2000, Infrastructure, <DEBUG>, 207 : GWReactor::thdId() returns 6.
Thu Dec 7 03:55:32:838 2000, Infrastructure, <DEBUG>, 208 : GWReactorModule::shutdown() -
Thread has joined.
```

## Log Message Packages

The following service packages can log messages:

- Application
- CallControl
- Connection
- DataManager
- Eisup
- FaultManager
- Gapping
- H323

- Infrastructure
- Overload
- ProcessManager
- Provisioning
- Signal
- Snmp
- SnmpSubagent
- Statistics
- Trace
- UserInterface

## Logging Levels

Logging levels determine how much debug information is stored in the platform.log file for each package. Levels are set through use of a hexadecimal number between 0x0000 and 0xFFFF. 0x0000 is the lowest level, and will switch off logging for a particular package. 0xFFFF is the highest logging level.

**Note**

---

We strongly recommend that you set all packages to log level 0x0000 in a live network. Set them to higher levels only when you debug on an offline network.

---

## Setting Logging Levels

The **set-log** MML command dynamically alters the log level setting during the execution of the system. However, the **set-log** MML command does not affect the logging level of any current MML processes. For more information about the **set-log** command, see [Appendix A, “MML Commands.”](#)

**Note**

---

The enabling of logging will severely impact the performance of the HSI. We recommend that the HSI should be running at less than 2 calls per second when you enable logging. Logging will be automatically disabled when the HSI enters overload level 3. You can re-enable logging when the HSI exits overload.

---

## RADVision Logging

The Cisco HSI application provides the capability (through MML) to initiate RADVision logging. The contents of the resultant log file are not under the control of the Cisco HSI application.

Use the **radlog** MML command to start and stop RADVision logging. RADVision logging can be directed to a file or into the standard logging output. For information about this command, see [Appendix A, “MML Commands.”](#)

# Gapping

The gapping level can be set from 0 to 100 percent. From 0 to 99 percent, the call type (normal or priority) is checked against the gapping level call status type. At 100 percent gapping, all calls are gapped regardless of call type.

## Setting Gapping

To activate call gapping, complete the following steps:

- 
- Step 1** Determine the direction of the call to be gapped:
- Incoming (inc) for calls originating from the H.323 network
  - Outgoing (otg) for calls originating from the PSTN Gateway (PGW 2200)
  - Both (both) for calls originating from either side
- Step 2** Determine what type of calls are to be gapped:
- Normal calls (nonpriority calls)
  - All calls
- Step 3** Determine the percentage of calls to be gapped. The percentage can range from 0 to 100 percent. If 100 percent is selected, all calls are gapped, regardless of the type of call.
- Step 4** Enter the **set-gapping** MML command. For example, to gap 60 percent of all calls for both directions, enter:
- ```
set-gapping:both:calltype=all,percent=60
```
-

Retrieving Call Gapping Data

To retrieve the current levels of call gapping for all gapping clients, enter the **rtrv-gapping** command. The following text displays:

Client Name	Direction	Level	Call Type	Active
Overload	Outgoing	10	Normal	No
Overload	Incoming	10	Normal	No
MML	Outgoing	20	All	Yes
MML	Incoming	30	All	Yes

The output shows the gapping levels set by the overload function and the MML command **set-gapping**. The highest gapping level is used as the level to gap calls, which is indicated as Yes in the column titled Active. In this example, the MML levels for outgoing and incoming calls are active.



Provisioning the Cisco HSI

Introduction

This chapter describes the provisionable data requirements for the Cisco H.323 Signaling Interface (HSI). The data is divided into two areas: system configuration and H.323 stack data. This chapter contains the following sections:

- [Cisco HSI Configuration, page 5-1](#)
- [H.323 Stack Configuration, page 5-6](#)

Cisco HSI Configuration

All configuration data is contained within configuration files. Cisco HSI starts with an initial configuration file in `$BASEDIR/currentGW/etc/GWmain.conf`. This file is created during installation of the software.

The configuration data within the file is defined as dynamic, static, or constant:

- Dynamic data can be modified by a provisioning session (see [Appendix A, “MML Commands”](#)). It can be activated on the currently running Cisco HSI.
- Static data can be modified by a provisioning session but cannot be activated on a running Cisco HSI. Changes to dynamic and static data can be written to a separate provisioning file (in `$BASEDIR/currentGW/var/prov/configname/session.dat`) that can be used during subsequent restarts of the Cisco HSI.
- Constant configuration data is contained within the configuration file and cannot be modified by provisioning sessions. Constant configuration data can be modified only by system technicians or administrators who use UNIX editing tools. This data is replicated from the initial configuration file into the provisioning files, and between subsequent provisioning sessions.

Examples of the use of constant data are given in Appendixes C, D, E, and F. These appendixes determine the mapping of cause values for incoming and outgoing H.323 and E-ISUP messages. System technicians can modify these values in the initial configuration file to explicitly choose the mappings for their system.

When a provisioning session creates a new configuration file, it also verifies that provisioned data is within allowable ranges and indicates this in the start of the file. It checksums the file and writes the checksum as `$BASEDIR/currentGW/var/prov/configname/checksum.dat`. When the Cisco HSI starts up, it attempts to read the active configuration, checks that the configuration has been verified, and ensures that the checksum matches. If the active configuration is not verified or if the checksum is faulty, the configuration reverts to using the `$BASEDIR/currentGW/etc/GWmain.conf` file.

All configuration data that can be set in the system is defined in the Skeleton Configuration file (see [Appendix B, “Skeleton Configuration File”](#)). The Skeleton Configuration file defines the data names and types (strings or numbers), and defines whether the data is dynamic, static, or constant. Flexibility in changing data types to allow or deny provisioning is therefore provided.

MML Configuration Commands

The three types of MML configuration commands are as follows:

- Configuration session commands that work with entire provisioning data files (see [Table 5-1](#))
- Configuration component or parameter commands that perform actions on components or parameters affecting a specific data file (see [Table 5-2](#))
- Configuration export commands

For more information about MML configuration commands, see [Appendix A, “MML Commands.”](#)



Note

Parameter names are not case sensitive.

Table 5-1 Configuration Session Commands

Command	Description
prov-sta	Starts a provisioning session to create a new configuration or modify an existing configuration
prov-cpy	Activates the configuration settings in the current provisioning session
prov-stp	Terminates the provisioning session and saves the configuration

Table 5-2 Configuration Component or Parameter Commands

Command	Description
prov-add	Adds a component to the Cisco HSI
prov-dlt	Deletes a provisioned component
prov-ed	Modifies a provisioned component
prov-rtrv	Retrieves information about an existing provisioning session

The configuration export command is the **prov-exp** command, which exports the current provisioned configuration of the Cisco HSI in MML command form to a file.

System Configuration Data

System configuration data can be static or dynamic. Static data can be activated only at startup. Dynamic data can be activated during system run time.

Static System Data

To modify the static system data parameters in [Table 5-3](#), use the `sys_config_static` MML name variable for the `prov-add`, `prov-dlt`, and `prov-ed` commands. Halt and restart the application for the changes to take effect.

The parameters in [Table 5-3](#) are written to a static configuration file or to a section within a file.

Table 5-3 Static System Data Parameters

Parameter	Description
HOST_PORT_NUMBER1	The first port number to be used by the Cisco HSI. The default value is 0. Note This value must match the peer port setting on the PGW ¹ 2200 E-ISUP IPLNK object.
HOST_PORT_NUMBER2	The second port number to be used by the Cisco HSI. The default value is 0. Note This value should always be set to 0.
VSCA_IPADDR1	The primary IP address of the primary PGW 2200.
VSCA_IPADDR2	The secondary IP address of the primary PGW 2200. Note This value must match that of VSCA_IPADDR1.
VSCB_IPADDR1	The primary IP address of the secondary PGW 2200. Note This parameter is not used in a standalone PGW configuration.
VSCB_IPADDR2	The secondary IP address of the secondary PGW 2200. Note This value must match that of VSCB_IPADDR1. Note This parameter is not used in a standalone PGW configuration.
VSCA_PORT_NUMBER1	The first port number of the primary PGW 2200.
VSCA_PORT_NUMBER2	The second port number of the primary PGW 2200. Note This value must match that of VSCA_PORT_NUMBER1.
VSCB_PORT_NUMBER1	The first port number of the secondary PGW 2200. Note This parameter is not used in a standalone PGW configuration.
VSCB_PORT_NUMBER2	The second port number of the secondary PGW 2200. Note This value must match that of VSCA_PORT_NUMBER2. Note This parameter is not used in a standalone PGW configuration.

1. PGW = Public Switched Telephone Network (PSTN) Gateway

Dynamic System Data

To modify the dynamic system data parameters in [Table 5-4](#), use the `sys_config_dynamic` MML name variable for the `prov-add`, `prov-dlt`, and `prov-ed` commands. You need not halt and restart call processing for the changes to take effect.

The parameters in [Table 5-4](#) are written to a dynamic configuration file or to a section within a file.

Table 5-4 Dynamic System Data Parameters

Parameter	Description	Default
LOGDIRECTORY	Defines the directory used when the active log file is created, and also defines the directory where the rotated log file is stored.	/var/log/
LOGFILENAMEPREFIX	Defines the filename prefix used when the log files are created or rotated. The .log postfix is appended to the end of the prefix to establish the name of the active log file.	platform.log
LOGPRIO	This parameter defines the initial logging levels, and by default it is set to TRACE. As soon as the system has initialized and is running, the log levels are determined by the levels set for individual packages (0x0000 to 0xFFFF). See the “ Logging Levels ” section on page 4-10.	TRACE
LOGFILEROOTATESIZE	Triggers a log file rotation based on the size of the active file. The application regularly checks the current size of the file to determine whether a rotation is required. If a file rotation is triggered due to this parameter, the size of the rotated file might be slightly larger than the actual size specified by this parameter. A file rotation triggered by this parameter causes the timer associated with the LOGFILEROotateInterval parameter to be reset as well.	10 Mb
LOGFILEROtateInterval	Triggers a log file rotation based on the time elapsed since the previous rotation. This timer is reset after any rotation occurs, regardless of the cause or trigger of the rotation.	1440 minutes (24 hours)
IPADDRNMS	Defines the IP address of the network management system.	—
OVLDSAMPLERATE	Defines the frequency of CPU sampling and threshold checking.	3000 millisecond (ms) polling rate
OVLdLEVEL1PERCENT	Indicates what percentage of calls should be rejected when an overload condition occurs. This parameter is used in conjunction with the OVLdLEVEL1FILTER parameter. The overload level 1 value is the lowest level of overload and must be less than or equal to the provisioned values for OVLdLEVEL2PERCENT and OVLdLEVEL3PERCENT. Note If this value is set to zero, no overload level 1 treatment occurs.	20
OVLdLEVEL1FILTER	Indicates what call types should be gapped if an overload level 1 condition occurs. The possible values are: <ul style="list-style-type: none"> Normal—Emergency or priority calls are not gapped All—All calls are gapped, regardless of type Note If the overload percentage is set to 100, all calls are gapped irrespective of this setting.	Normal

Table 5-4 Dynamic System Data Parameters (continued)

Parameter	Description	Default
OVLLEVEL1THRESHLOWER CALLS	Determines the number of active calls below which the application load must fall in order for the overload level 1 condition to be removed.	1800
OVLLEVEL1THRESHUPPER CALLS	Determines how many simultaneous active calls trigger an overload level 1 condition.	1900
OVLLEVEL1THRESHLOWER CPU	Determines the CPU utilization level below which the application must fall in order for the overload level 1 condition to be removed.	60
OVLLEVEL1THRESHUPPER CPU	Determines the level of CPU utilization that triggers an overload level 1 condition.	65
OVLLEVEL2PERCENT	Indicates what percentage of calls should be rejected when an overload condition occurs. The parameter is used in conjunction with the OVLLEVEL2FILTER parameter. This is the second level of overload and must be less than or equal to the provisioned value of OVLLEVEL3PERCENT and greater than or equal to the provisioned value of OVLLEVEL1PERCENT. Note If this value is set to zero, no overload level 1 or 2 treatment occurs (by definition, the level 1 value must also be zero).	75
OVLLEVEL2FILTER	Indicates what call types should be gapped if an overload level 2 condition occurs (see OVLLEVEL1FILTER).	Normal
OVLLEVEL2THRESHLOWER CALLS	Determines the number of active calls below which the application load must fall in order for the overload level 2 condition to be removed.	2000
OVLLEVEL2THRESHUPPER CALLS	Determines how many simultaneous active calls trigger an overload level 2 condition.	2200
OVLLEVEL2THRESHLOWER CPU	Determines the level of CPU utilization below which the application must fall in order for the overload level 2 condition to be removed.	70
OVLLEVEL2THRESHUPPER CPU	Determines the level of CPU utilization that triggers an overload level 2 condition.	80
OVLLEVEL3PERCENT	Indicates what percentage of calls should be rejected when an overload condition occurs. The parameter is used in conjunction with the OVLLEVEL3FILTER parameter. This is the highest level of overload and must be greater than or equal to the provisioned values for OVLLEVEL1PERCENT and OVLLEVEL2PERCENT. Note If this value is set to zero, no overload treatment occurs (by definition, the level 1 and level 2 values must also be zero).	90
OVLLEVEL3FILTER	Indicates what call types should be gapped if an overload level 3 condition occurs (see OVLLEVEL1FILTER).	Normal
OVLLEVEL3THRESHLOWER CALLS	Determines the number of active calls below which the application load must fall in order for the overload level 3 condition to be removed.	2300
OVLLEVEL3THRESHUPPER CALLS	Determines how many simultaneous active calls trigger an overload level 3 condition.	2400

Table 5-4 Dynamic System Data Parameters (continued)

Parameter	Description	Default
OVLDLEVEL3THRESHLOWER CPU	Determines the level of CPU utilization below which the application must fall in order for the overload level 3 condition to be removed.	85
OVLDLEVEL3THRESHUPPER CPU	Determines the level of CPU utilization that triggers an overload level 3 condition.	95
CIAGENTSCANPERIOD	Defines the frequency with which the CIagent polls the CPU utilization.	—
ALARMDEBOUNCETIME	Defines the length of time that an alarm condition must persist before being reported, and any associated action taken.	0
CALLREFERENCEUSAGE	Determines which call reference identity is passed on to the PGW 2200 (call reference field or Conference ID).	—
DISKUSAGELIMIT	Represents a percentage of disk occupancy. The application continually polls for disk occupancy, and if the percentage rises above the limit set by DISKUSAGELIMIT, the LOW_DISK_SPACE alarm is raised. DISKUSAGELIMIT has a default value of 95 percent. The value range is 0–100, inclusive. When dynamically provisioned, the DISKUSAGELIMIT, if not set within that range, is set to the default value (95) and the CONFIGURATION_FAILURE alarm is raised.	95

H.323 Stack Configuration

Refer to the *RADVision H.323 Protocol Stack Programmer's Guide* for definitions of each of the RADVision parameters.

The parameter name is based on the ASN.1 paths, but in some cases the parameter name has been shortened for convenience. For example, “capabilities” has been shortened to “caps.”

The case of the parameter name reflects exactly the ASN.1 definitions, but is not important to MML configuration.

Nonprovisionable Data

The parameters in [Table 5-5](#) cannot be altered through MML commands.

Table 5-5 Nonprovisionable Data Parameters

H323_SYS	Description
system.manualstart	Present
system.pdlname	Absent
system.delimiter	#FF
ras.gatekeeper	Absent
ras.rasmulticastaddress	224.0.1.41.1718
h245.capabilities.manualoperation	Present

Table 5-5 Nonprovisionable Data Parameters (continued)

H323_SYS	Description
h245.masterslave.manualoperation	Present
q931.manualaccept	Present
q931.earlyH245	Present
q931.autoanswer	Present
q931.manualcallprocessing	Present
q931.h245tunneling	Present

MML Provisionable Data

H.323 System Parameters

The parameters in [Table 5-6](#) are required for H.323 stack initialization. To modify the parameters in [Table 5-6](#), use the `h323_sys` MML name variable for the `prov-add`, `prov-dlt`, and `prov-ed` commands. Halt and restart the application for these changes to take effect.


Note

The asterisk (*) after a parameter name in the first column of [Table 5-6](#) denotes a mandatory RADVision parameter that has an inbuilt default value if a value is not set in provisioning.

Table 5-6 H.323 System Initialization Parameters

Parameter	Description	Type	Example
maxCalls*	Maximum number of concurrent calls allowed	INTEGER(0, 65535)	2500
maxChannels*	Maximum number of concurrent channels allowed	INTEGER(0, 65535)	2

Q.931 Parameters

To modify the parameters listed in [Table 5-7](#), use the Q.931 MML name variable for the `prov-add`, `prov-dlt`, and `prov-ed` commands.

The Update Type column in [Table 5-7](#) shows when the change to a parameter takes effect after it is modified:

- Immediate means that the effect of the change is immediate.
- Start means that the application needs to be restarted for the change to take effect.
- Next Call means that the next call has the new parameter set.


Note

Immediate and Next Call update types refer to dynamic system data.


Note

The asterisk (*) after a parameter name in the first column of [Table 5-7](#) denotes a mandatory RADVision parameter with an inbuilt default value that will be used if the value is not set in provisioning.

Table 5-7 Q.931 Parameters

Parameter Name	Description	Type	Example	Update Type
responseTimeOut*	The maximum waiting time (in seconds) to receive the first response to a call. If this parameter expires, the call is disconnected.	INTEGER(1,200)	20	Immediate
connectTimeOut*	The maximum time (in seconds) the stack waits for call establishment after the first response is received. If this parameter expires, the call is disconnected.	INTEGER(1,20000)	180	Immediate
callSignalingPort*	The number of the port receiving the calls destined for the PGW 2200.	INTEGER(0,65535)	1720	Start
maxCalls*	The maximum number of simultaneous calls. If this parameter is exceeded, the next call attempt returns busy.	INTEGER(0,65535)	2500	Next Call
notEstablishControl	The stack does not allow the switching of control from the Q.931 to the H.245 stack.	NULL	Not present	Next Call
overlappedSending	Because the Q.931 configuration flag indicates that both parties support overlap sending, this state notifies the other party that it can send an overlap sending message.	NULL	Present	Immediate

**Note**

The Q.931 parameter overlappedSending has been combined with the RAS overlappedSending parameter. The presence of the Q.931 overlappedSending parameter sets the presence of the RAS overlappedSending parameter.

RAS Parameters

The parameters in [Table 5-8](#) are required for RAS stack initialization. To modify the RAS parameters, use the RAS MML name variable for the **prov-add**, **prov-dlt**, and **prov-ed** commands.

The array index [i] in some of the parameter names in the first column of [Table 5-8](#) must be replaced with a valid braced index from 1 to 20, and must be continuous and unique (that is, must contain no duplicates).

The Update Type column in [Table 5-8](#) shows when the change to a parameter takes effect after it is modified:

- Immediate means that the effect of the change is immediate.
- Start means that the application needs to be restarted for the change to take effect.
- Next Call means that the next call has the new parameter set.

**Note**

Immediate and next call update types are dynamic system data.

**Note**

The RAS parameter `overlappedSending` is not available here because it has been combined with the Q.931 `overlappedSending` parameter. The presence of the Q.931 `overlappedSending` parameter sets the presence of the RAS `overlappedSending` parameter.

**Note**

The asterisk (*) after a parameter name in the first column of [Table 5-8](#) denotes a mandatory RADVision parameter with an inbuilt default value that will be used if the value is not set in provisioning.

Table 5-8 RAS Parameters

Parameter Name	Description	Type	Example	Update Type
manualRAS	If this parameter is present, the stack does not perform automatic RAS procedures (it waits to be driven by the application).	NULL	—	Start
responseTimeOut*	The time (in seconds) that the stack waits until it notifies the application that the called party has failed to respond to a transaction.	INTEGER(1, 200)	10	Immediate
maxFail*	Maximum number of retry gatekeeper registration attempts.	INTEGER(1, 200)	3	Immediate
allowCallsWhenNonReg	If this parameter is present, it allows calls to proceed even if gatekeeper registration has not been done for the PGW 2200.	NULL	Not present	Immediate
manualRegistration	If this parameter is present, the stack does not perform automatic gatekeeper registration procedures (it waits to be driven by the application).	NULL	Not present	Stop/Start
timeToLive	The maximum time (in seconds) the registration of the PGW 2200 with a gatekeeper remains valid. The stack reregisters periodically.	INTEGER(1, 65535)	400	Immediate
rasPort*	Number of the port receiving all RAS transactions for the current endpoint. Set to 0 to allow the OS to look for the available port.	INTEGER(0, 65535)	0	Start

Table 5-8 RAS Parameters (continued)

Parameter Name	Description	Type	Example	Update Type
compare15bitRasCrv	If this parameter is present, it causes the stack to ignore the call reference value (CRV) MSBit in RAS messages.	NULL	—	Immediate
maxRetries*	Maximum number of RAS retransmissions.	INTEGER(1, 200)	3	Immediate
maxMulticastTTL	Maximum number of multicast time to live (TTL).	INTEGER(0, 200)	3	Start
preGrantedArqUse	Choice of direct or routed. If direct, the pregranted admission request (ARQ) feature is used for both direct and routed calls. If routed, the pregranted ARQ feature is used only for routed calls. If absent, the pregranted ARQ is not used.	STRING	direct	Next Call
manualDiscovery.ipAddress	The IP address of a known gatekeeper with which an endpoint might attempt to register.	STRING	10.70.54.53	Start
manualDiscovery.port	The port associated with the manualDiscovery.ipAddress, which can be either a well-known port or another port by agreement.	INTEGER(0, 65535)	1719	Start
gateway.prefix[i]	The telephone prefix for which the gateway is registering as being able to terminate.	STRING	0208	Immediate
gatekeeperId	Identifies the gatekeeper with which the endpoint is trying to register.	STRING	OuterLondon	Immediate
terminalAlias[i].e164	Two variants of the same address; e164 is numeric and h323ID is text by which the endpoint is known.	STRING	0208001000	Immediate
terminalAlias[i].h323ID		STRING	GW@ot.com.au	Immediate
endpointVendor.t35CountryCode	Denote manufacturer of the endpoint.	INTEGER(0, 255)	11	Immediate
endpointVendor.t35Extension		INTEGER(0, 255)	11	Immediate
endpointVendor.manufacturerCode		INTEGER(0, 65535)	9	Immediate

Table 5-8 RAS Parameters (continued)

Parameter Name	Description	Type	Example	Update Type
endpointVendor.productId	Data that the manufacturer assigns to each product.	STRING	H323ESP	Immediate
endpointVendor.versionId	Data that the manufacturer assigns to each version.	STRING	R0.2.4	Immediate

H.245 Parameters

To modify the H.245 parameters listed in Table 5-9, use the H.245 MML name variable for the **prov-add**, **prov-dlt** and **prov-ed** commands.

The Update Type column in Table 5-9 shows when a change to an H.245 parameter takes effect after it is modified:

- Immediate means that the effect of the change is immediate.
- Start means that the application needs to be restarted for the change to take effect.
- Next Call means that the next call has the new parameter set.



Note

Immediate and Next Call update types are dynamic system data.

Table 5-9 H.245 Parameters

Parameter Name	Description	Type	Example	Update Type
masterSlave.terminalType	The terminal type for the PGW 2200.	INTEGER(0, 255)	60	Next Call
masterSlave.manualResponse	If this parameter is present, it cancels automatic acknowledgement of master or slave determination.	NULL	Present	Next Call
masterSlave.timeout	The maximum time (in seconds) the stack waits before it gives up on the master/slave procedure.	INTEGER(0, 65535)	5	Immediate
channelsTimeout	The time (in seconds) the stack waits for a response to a channel establishment message.	INTEGER(0, 65535)	10	Immediate
roundTripTimeout	The time (in seconds) the stack waits for round-trip procedure completion.	INTEGER(0, 65535)	5	Immediate
requestCloseTimeout	The time (in seconds) the stack waits for request close procedure completion.	INTEGER(0, 65535)	5	Immediate

Table 5-9 H.245 Parameters (continued)

Parameter Name	Description	Type	Example	Update Type
requestModeTimeout	The time (in seconds) the stack waits for request mode procedure completion.	INTEGER(0, 65535)	5	Immediate
caps.timeout	The maximum time (in seconds) the stack waits before it gives up on the capability exchange procedure.	INTEGER(0, 65535)	5	Immediate
caps.maxAudioDelay	Maximum H.255 multiplex audio delay jitter.	INTEGER(0, 1023)	60	Immediate
mediaLoopTimeout	The timeout (in seconds) of the media loop procedure.	INTEGER(0, 65535)	5	Immediate

Table 5-10, Table 5-11, and Table 5-12 list the parameters and modes related to configuring codecs. The array index [i] must be replaced with a valid braced index from 1 to 20. The braced index must be continuous and unique (that is, no duplicates).

Table 5-10 H.245 Terminal Capability Codec Parameters

Parameter Name	Type
caps.table[i].entryNo	INTEGER(1, 65535)
caps.table[i].audio.g711Alaw64k	INTEGER(1, 256)
caps.table[i].audio.g711Alaw56k	INTEGER(1, 256)
caps.table[i].audio.g711Ulaw64k	INTEGER(1, 256)
caps.table[i].audio.g711Ulaw56k	INTEGER(1, 256)
caps.table[i].audio.g722at64k	INTEGER(1, 256)
caps.table[i].audio.g722at56k	INTEGER(1, 256)
caps.table[i].audio.g722at48k	INTEGER(1, 256)
caps.table[i].audio.g728	INTEGER(1, 256)
caps.table[i].audio.g729	INTEGER(1, 256)
caps.table[i].audio.g729AnnexA	INTEGER(1, 256)
caps.table[i].audio.g729wAnnexB	INTEGER(1, 256)
caps.table[i].audio.g729AnnexAwAnnexB	INTEGER(1, 256)

Table 5-11 H.245 Channel Codec Parameters

Parameter Name	Type
chan[i].name	STRING
chan[i].audio.g711Alaw64k	INTEGER(1, 256)
chan[i].audio.g711Alaw56k	INTEGER(1, 256)
chan[i].audio.g711Ulaw64k	INTEGER(1, 256)

Table 5-11 H.245 Channel Codec Parameters (continued)

Parameter Name	Type
chan[i].audio.g711Ulaw56k	INTEGER(1, 256)
chan[i].audio.g722at64k	INTEGER(1, 256)
chan[i].audio.g722at56k	INTEGER(1, 256)
chan[i].audio.g722at48k	INTEGER(1, 256)
chan[i].audio.g728	INTEGER(1, 256)
chan[i].audio.g729	INTEGER(1, 256)
chan[i].audio.g729AnnexA	INTEGER(1, 256)
chan[i].audio.g729wAnnexB	INTEGER(1, 256)
chan[i].audio.g729AnnexAwAnnexB	INTEGER(1, 256)

Table 5-12 H.245 Modes

Parameter Name	Type
modes[i].name	STRING
modes[i].audio.g711Alaw64k	NULL
modes[i].audio.g711Alaw56k	NULL
modes[i].audio.g711Ulaw64k	NULL
modes[i].audio.g711Ulaw56k	NULL
modes[i].audio.g722at64k	NULL
modes[i].audio.g722at56k	NULL
modes[i].audio.g722at48k	NULL
modes[i].audio.g728	NULL
modes[i].audio.g729	NULL
modes[i].audio.g729AnnexA	NULL
modes[i].audio.g729wAnnexB	INTEGER(1, 256)
modes[i].audio.g729AnnexAwAnnexB	INTEGER(1, 256)

The following is an example of a configuration file.

**Note**

The configuration file example does not contain a complete list of all configurable items.

```
# $Id: GWmain.base.conf,v 1.7 2001/01/24 06:47:56 arthurv Exp $
#

# This is the base configuration file which will be concatenated together
# with a file derived from questions at install time, to generate the GWmain.conf
# file to be used by the Application GWmain.

#####
# LOGGING PACKAGE
#
# The Logging package determines the logging level for all defined packages.
# This is a bit mask which controls the 16 debug levels
#
Package = Logging
#
OTLogging = "OFF"#Choice {ON, OFF}. Default: "OFF"

Application = 0xFF00
CallControl = 0xFFFF
Connection = 0xFF00
#Connection = 0xFF00
DataManager = 0xFF00
Eisup = 0xFF00
FaultManager = 0xFF00
Gapping = 0xFF00
H323 = 0xFFFF
Infrastructure = 0xFF00
Overload = 0xFF00
ProcessManager = 0xFF00
Provisioning = 0xFE00
Signal = 0xFE00
Snmp = 0xFE00
SnmpSubagent = 0xFE00
Statistics = 0xFE00
Trace = 0xFE00
UserInterface = 0xFF00

#####
# H323 SYSTEM Package
#
# Not modifiable at runtime (Static Provisionable Data)
#
Package = H323_SYS
#
maxCalls = 2500
maxChannels = 2

#####
# Q931 PACKAGE
#
Package = Q931
#
responseTimeOut = 20
```

```

connectTimeOut = 180
callSignalingPort = 1720
maxCalls = 2500
overlappedSending =
earlyH245 =
h245Tunneling =

#####
# H323 RAS Package
#
# Modifiable at runtime (Dynamic Provisionable Data) except for manualRAS
#
Package = RAS
#
responseTimeOut = 10
endpointVendor.productID = "GoldWing"
endpointVendor.t35CountryCode = 11
endpointVendor.t35Extension = 11
endpointVendor.manufacturerCode = 9
timeToLive = 400
rasPort = 0
maxRetries = 3
maxMulticastTTL = 3
preGrantedArqUse = direct

#####
# H245 PACKAGE
#
# Dynamically Provisionable except for manualOperation(s)
Package = H245
#
channelsTimeout = 10
masterSlave.terminalType = 60
masterSlave.manualOperation =
masterSlave.manualResponse =
masterSlave.timeout = 5
caps.manualOperation =
caps.timeout = 5
caps.maxAudioDelay = 60
caps.table[1].entryNo = 7111
caps.table[1].audio.g711Ulaw64k = 20
caps.table[2].entryNo = 7110
caps.table[2].audio.g711Alaw64k = 20
caps.table[3].entryNo = 728
caps.table[3].audio.g728 = 60
chan[1].name = g711Alaw64k
chan[1].audio.g711Alaw64k = 20
chan[2].name = g711Ulaw64k
chan[2].audio.g711Ulaw64k = 20
chan[3].name = g728
chan[3].audio.g728 = 60
modes[1].name = g711Alaw64k
modes[1].audio.g711Alaw64k =
modes[2].name = g711Ulaw64k
modes[2].audio.g711Ulaw64k =
modes[3].name = g728
modes[3].audio.g728 =

```

```

#####
# CALL CONTROL PACKAGE
#
Package = CCPackage
#
Hash = A
Pound = A
Star = B
StopDigit = "#"

A_CC_ChargeInd = # BCI
A_CC_tEndToEndMethod =
A_CC_tLineUser =
A_CC_tLineStatus =
A_CC_MLC_Action =
A_CC_tSCCPMethod =
A_CC_Interworking =
A_CC_tEndToEndInfAvail =
A_CC_tIsdnAllTheWay =
A_CC_tEchoCancIr =
A_CC_tLineAccess =
A_CC_BNumDataNOA = # CalledPN
A_CC_BNumDataNPI =
A_CC_BNumDataINN =
A_CC_ANumDataNOA = # CallingPN
A_CC_Clr =
A_CC_ANumDataSI =
A_CC_ANumDataNPI =
A_CC_A_Cli =
A_CC_oLinecall = # CallingPC
A_CC_Location = # CauseInd
A_CC_CodeStandard =
A_CC_ProgressRestrict = # Event Info
A_CC_oIsdnPref = # FCI
A_CC_oIsdnAllTheWay =
A_CC_oEndToEndInfAvail =
A_CC_oNatInd =
A_CC_oLSPP =
A_CC_oNBit =
A_CC_oPORC =
A_CC_oPBit =
A_CC_oEndToEndMethod =
A_CC_CollectCallInd =
A_CC_oSCCPMethod =
A_CC_GDES = # GenericDigits
A_CC_GDTD =
A_CC_NOCI_VC = # NatureOfConnection
A_CC_NOCI_ECEDI =
A_CC_NOCI_CCI =
A_CC_NOCI_SI =
A_CC_TMR = # TransmissionMediumRequired
A_CC_INFO_CFN = # confusion code on INFO receipt
A_CC_GAPPEDCALLCAUSE = 60 # congestion cause for releasing on gapping
A_CC_WAIT_CONFIRM = 30 #20..30 seconds (default is 30), from q764
A_CC_WAIT_ANSWER = 180 #90..180 seconds (default is 180), from q118, refd in

# ----- Cause Codes
-----
# CC: Call Control, EC: Eisup Cause, HC: H323 Cause

# For the Eisup cause code values see CISCO: EISUP Protocol Specification ENG-46168 version 19
# For the H323 cause code values see ITU-T: Q.850

```

```

# The mappings below are considered constant and not provisionable.
# They can be made provisionable by moving them from the CCPackage
# to the SYS_CONFIG_STATIC package.

# The following is the Eisup to H323 cause code map.
# When the Eisup cause on the left is received from Eisup,
# the H323 cause on right is sent to H323.
# Note: the reverse is not true, this is a one way mapping.
# The H323 to Eisup cause map is defined further down.

CC_EC_UnallocatedNumber = CC_HC_UnallocatedNumber
CC_EC_NoRouteToTns =
CC_HC_NoRouteToSpecifiedTransitNetwork
CC_EC_NoRouteToDest = CC_HC_NoRouteToDestination
CC_EC_SpecialInformationTone = CC_HC_SendSpecialInformationTone
CC_EC_MisdialledTkPrefix = CC_HC_MisdialedTrunkPrefix
CC_EC_ChUnacceptable = CC_HC_ChannelUnacceptable
CC_EC_CallAwardedDeliveredEstCh = CC_HC_CallAwardedEstablishedChannel
CC_EC_Preemption = CC_HC_Preemption
CC_EC_PreemptionCctRes = CC_HC_PreemptionCircuitReservedForReuse
CC_EC_NormalClearing = CC_HC_NormalCallClearing
CC_EC_UserBusy = CC_HC_UserBusy
CC_EC_NoUserResponding = CC_HC_NoUserresponding
CC_EC_NoAnswerAlertedUser = CC_HC_NoAnswerFromAlertedUser
CC_EC_SubAbsent = CC_HC_SubscriberAbsent
CC_EC_CallRejected = CC_HC_CallRejected
CC_EC_NumberChanged = CC_HC_NumberChanged
CC_EC_RedirectionToNewDest = CC_HC_RedirectionToNewDestination
CC_EC_RoutingError = CC_HC_ExchangeRouteError
CC_EC_NonSelectedUserClearing = CC_HC_NonSelectedUserClearing
CC_EC_DestOutOfOrder = CC_HC_DestinationOutOfOrder
CC_EC_InvalidNumberFormat = CC_HC_InvalidNumberFormat
CC_EC_FacilityRejected = CC_HC_FacilityRejected
CC_EC_ResponseToStatusEnquiry = CC_HC_ResponseToStatusEnquiry
CC_EC_NormalUnspecified = CC_HC_NormalUnspecified
CC_EC_NoCircuitAvailable = CC_HC_NoCircuitChannelAvailable
CC_EC_NetworkOutOfOrder = CC_HC_NetworkOutOfOrder
CC_EC_PermanentFrameModeOos = CC_HC_PermanentFrameModeConnectionOutOfService
CC_EC_PermanentFrameModeOperational = CC_HC_PermanentFrameModeConnectionOperational
CC_EC_TemporaryFailure = CC_HC_TemporaryFailure
CC_EC_SwitchingEquipCongestion = CC_HC_SwitchingEquipmentCongestion
CC_EC_AccessInfoDiscarded = CC_HC_AccessInformationDiscarded
CC_EC_ReqCircuitUnavail =
CC_HC_RequestedCircuitChannelNotAvailable
CC_EC_PrecedenceBlocked = CC_HC_PrecedenceCallBlocked
CC_EC_ResourcesUnavailUnspec = CC_HC_ResourceUnavailable
CC_EC_QualityUnavail = CC_HC_QualityOfServiceNotAvailable
CC_EC_ReqFacilityNotSubscr = CC_HC_RequestedFacilityNotSubscribed
CC_EC_OutgoingCallsBarredInCug = CC_HC_OutgoingCallsBaredWithinCUG
CC_EC_IncomingCallsBarredInCug = CC_HC_IncomingCallsBaredWithinCUG
CC_EC_BearcapNotAuthorized = CC_HC_BearerCapabilityNotAuthorized
CC_EC_BaercapNotAvail = CC_HC_BearerCapabilityNotPresentlyAvailable
CC_EC_InconOutgoingAccAndSubClass = CC_HC_InconsistencyAccessInfoSubscriberClass
CC_EC_ServiceOrOptionNotAvail = CC_HC_ServiceOrOptionUnavailable
CC_EC_BearcapNotImp = CC_HC_BearerCapabilityNotImplemented
CC_EC_ChTypeNotImp = CC_HC_ChannelTypeNotImplemented
CC_EC_ReqFacilityNotImp = CC_HC_RequestedFacilityNotImplemented
CC_EC_OnlyRestrictDigInfoBearer = CC_HC_OnlyRestrictedDigitalBearerInfoCapability
CC_EC_ServiceOrOptionNotImpUnspec = CC_HC_ServiceOrOptionNotImplemented
CC_EC_InvalidCallReferenceValue = CC_HC_InvalidCallreferenceValue
CC_EC_ChIdNotExist = CC_HC_IdentifiedChannelDoesNotExist
CC_EC_SuspendExistButNotThisId = CC_HC_ASuspendedCallExistsThisCallIdDoesNot
CC_EC_CallIdInUse = CC_HC_CallIdentityInUse

```

H.323 Stack Configuration

```

CC_EC_NoCallSuspended                = CC_HC_NoCallSuspended
CC_EC_CallIdHasBeenCleared            = CC_HC_CallHavingTheRequestedCallIdHasBeenCleared
CC_EC_UserNotMemberOfCug              = CC_HC_UserNotMemberOfCUG
CC_EC_IncompatibleDest                 = CC_HC_IncompatibleDestination
CC_EC_NonExistentCug                  = CC_HC_NonExistantCUG
CC_EC_InvalidTns                      = CC_HC_InvalidTransitNetworkSelection
CC_EC_InvalidMsgUnspec                = CC_HC_InvalidMessage
CC_EC_MandatoryElementMissing         = CC_HC_MandatoryInformationElementIsMissing
CC_EC_MsgTypeNotImp                  = CC_HC_MessageTypeNonExistantOrNotImplemented
CC_EC_MsgTypeNotImpOrWrongState      = CC_HC_MessageTypeNotCompatibleWithState
                                       OrNonExistantOrNotImplemented
CC_EC_ElemTypeNotImp                  = CC_HC_InformationElementParameterNonExistantOrNotImplemented
CC_EC_InvalidElemContents             = CC_HC_InvalidInformationElementContents
CC_EC_MsgInWrongState                 = CC_HC_MessageNotCompatibleWithCallState
CC_EC_RecoveryOnTimerExpiry           = CC_HC_RecoveryOnTimerExpiry
CC_EC_ParamUnrecPassed                = CC_HC_ParameterNonExistantOrNotImplementedPassedOn

# When the H323 cause on the left is received from H323,
# the Eisup cause on the right is sent to Eisup.
# Note: the reverse is not true, this is a one way mapping.
# The Eisup to H323 cause map is defined in above.

CC_HC_UnallocatedNumber               = CC_EC_UnallocatedNumber
CC_HC_NoRouteToSpecifiedTransitNetwork = CC_EC_NoRouteToTns
CC_HC_NoRouteToDestination            = CC_EC_NoRouteToDest
CC_HC_SendSpecialInformationTone      = CC_EC_SpecialInformationTone
CC_HC_MisdialedTrunkPrefix            = CC_EC_MisdialledTkPrefix
CC_HC_ChannelUnacceptable             = CC_EC_ChUnacceptable
CC_HC_CallAwardedEstablishedChannel   = CC_EC_CallAwardedDeliveredEstCh
CC_HC_Preemption                      = CC_EC_Preemption
CC_HC_PreemptionCircuitReservedForReuse = CC_EC_PreemptionCctRes
CC_HC_NormalCallClearing              = CC_EC_NormalClearing
CC_HC_UserBusy                        = CC_EC_UserBusy
CC_HC_NoUserresponding                = CC_EC_NoUserResponding
CC_HC_NoAnswerFromAlertedUser        = CC_EC_NoAnswerAlertedUser
CC_HC_SubscriberAbsent                = CC_EC_SubAbsent
CC_HC_CallRejected                    = CC_EC_CallRejected
CC_HC_NumberChanged                   = CC_EC_NumberChanged
CC_HC_RedirectionToNewDestination     = CC_EC_RedirectionToNewDest
CC_HC_ExchangeRouteError              = CC_EC_RoutingError
CC_HC_NonSelectedUserClearing        = CC_EC_NonSelectedUserClearing
CC_HC_DestinationOutOfOrder           = CC_EC_DestOutOfOrder
CC_HC_InvalidNumberFormat             = CC_EC_InvalidNumberFormat
CC_HC_FacilityRejected                = CC_EC_FacilityRejected
CC_HC_ResponceToStatusEnquiry         = CC_EC_ResponseToStatusEnquiry
CC_HC_NormalUnspecified               = CC_EC_NormalUnspecified
CC_HC_NoCircuitChannelAvailable       = CC_EC_NoCircuitAvailable
CC_HC_NetworkOutOfOrder               = CC_EC_NetworkOutOfOrder
CC_HC_PermanentFrameModeConnectionOutOfService = CC_EC_PermanentFrameModeOos
CC_HC_PermanentFrameModeConnectionOperational = CC_EC_PermanentFrameModeOperational
CC_HC_TemporaryFailure                = CC_EC_TemporaryFailure
CC_HC_SwitchingEquipmentCongestion    = CC_EC_SwitchingEquipCongestion
CC_HC_AccessInformationDiscarded      = CC_EC_AccessInfoDiscarded
CC_HC_RequestedCircuitChannelNotAvailable = CC_EC_ReqCircuitUnavail
CC_HC_PrecedenceCallBlocked           = CC_EC_PrecedenceBlocked
CC_HC_ResourceUnavailable              = CC_EC_ResourceUnavailUnspec
CC_HC_QualityOfServiceNotAvailable    = CC_EC_QualityUnavail

```



```

CC_HC_RequestedFacilityNotSubscribed = CC_EC_ReqFacilityNotSubscr
CC_HC_OutgoingCallsBaredWithinCUG = CC_EC_OutgoingCallsBarredInCug
CC_HC_IncomingCallsBaredWithinCUG = CC_EC_IncomingCallsBarredInCug
CC_HC_BearerCapabilityNotAuthorized = CC_EC_BearcapNotAuthorized
CC_HC_BearerCapabilityNotPresentlyAvailable = CC_EC_BaercapNotAvail
CC_HC_InconsistencyAccessInfoSubscriberClass = CC_EC_InconOutgoingAccAndSubClass
CC_HC_ServiceOrOptionUnavailable = CC_EC_ServiceOrOptionNotAvail
CC_HC_BearerCapabilityNotImplemented = CC_EC_BearcapNotImp
CC_HC_ChannelTypeNotImplemented = CC_EC_ChTypeNotImp
CC_HC_RequestedFacilityNotImplemented = CC_EC_ReqFacilityNotImp
CC_HC_OnlyRestrictedDigitalBearerInfoCapability = CC_EC_OnlyRestrictDigInfoBearer
CC_HC_ServiceOrOptionNotImplemented = CC_EC_ServiceOrOptionNotImpUnspec
CC_HC_InvalidCallreferenceValue = CC_EC_InvalidCallReferenceValue
CC_HC_IdentifiedChannelDoesnotExist = CC_EC_ChIdNotExist
CC_HC_ASuspendedCallExistsThisCallIdDoesNot = CC_EC_SuspendExistButNotThisId
CC_HC_CallIdentityInUse = CC_EC_CallIdInUse
CC_HC_NoCallSuspended = CC_EC_NoCallSuspended
CC_HC_CallHavingTheRequestedCallIdHasBeenCleared = CC_EC_CallIdHasBeenCleared
CC_HC_UserNotMemberOfCUG = CC_EC_UserNotMemberOfCug
CC_HC_IncompatibleDestination = CC_EC_IncompatibleDest
CC_HC_NonExistantCUG = CC_EC_NonExistentCug
CC_HC_InvalidTransitNetworkSelection = CC_EC_InvalidTns
CC_HC_InvalidMessage = CC_EC_InvalidMsgUnspec
CC_HC_MandatoryInformationElementIsMissing = CC_EC_MandatoryElementMissing
CC_HC_MessageTypeNonExistantOrNotImplemented = CC_EC_MsgTypeNotImp
CC_HC_MessageTypeNotCompatibleWithStateOrNonExistantOrNotImplemented = CC_EC_MsgTypeNotImpOrWrongState
CC_HC_InformationElementParameterNonExistantOrNotImplemented = CC_EC_ElemTypeNotImp
CC_HC_InvalidInformationElementContents = CC_EC_InvalidElemContents
CC_HC_MessageNotCompatibleWithCallState = CC_EC_MsgInWrongState
CC_HC_RecoveryOnTimerExpiry = CC_EC_RecoveryOnTimerExpiry
CC_HC_ParameterNonExistantOrNotImplementedPassedOn = CC_EC_ParamUnrecPassed

#
#####
# FAULTMANAGEMENT PACKAGE
#
Package = FaultManagement
#
FMRaiseRecoveryAction = "ON"
FMClearRecoveryAction = "ON"

#####
# GAPPING PACKAGE
#
# Set the gapping percentage level for each side. A level of 0 indicates no gapping
# A level of 100 indicates gap all calls (except priority calls - see treatment below)
#
Package = Gapping
#
H323level = 0
EISUPlevel = 0

#
# Priority treatment determines the treatment of priority calls during gapping.
# GapAlways indicates priority calls are treated as normal calls
# GapNever indicate priority calls are never to be gapped
# GapOn100PercentGapping indicates priority calls are only gapped when 100 percent
# gapping is applied.
#
#PriorityCallTreatment = GapOn100PercentGapping
#PriorityCallTreatment = GapNever
PriorityCallTreatment = GapAlways

```

```
#####
# APPLICATION PACKAGE
#
#
Package = Application
#
DefaultCallProcessingStatus = "UP" #Choice {"UP", "DOWN"}

WaitBeforeCallReleaseTimer = 60 #Default is 60
RestartPendingTimer = 60 #Default is 60
HaltPendingTimer = 60 #Default is 60
RebootPendingTimer = 60 #Default is 60

#####
# DYNAMIC SYSTEM DATA
#
#
Package = SYS_CONFIG_DYNAMIC

# Logging
#
LOGDIRECTORY = "var/log/" #Default: "var/log/"
LOGFILENAMEPREFIX = "platform" #Default: "platform.log"
LOGPRIO = "TRACE" #Choice {DEBUG, TRACE, INFO, WARN, ERR, CRIT}. Default: "WARN"
LOGFILEROTATESIZE = 10240 #Default: 10240 bytes (10Mb)
LOGFILEROTATEINTERVAL = 1440 #Default: 1440 min (24hrs)

# Overload
#
OVLDSAMPLERATE = 3000 #Default: 3000 msec polling rate

OVLDDLEVEL1PERCENT = 20 #Default: 99
OVLDDLEVEL1FILTER = "NORMAL" #Choice {"NORMAL", "ALL"}. Default: "NORMAL"
OVLDDLEVEL1THRESHUPPERCPU = 65 #Default: 100
OVLDDLEVEL1THRESHLOWERCPU = 60 #Default: 100
OVLDDLEVEL1THRESHUPPERCALLS = 1900 #Default: 1000
OVLDDLEVEL1THRESHLOWERCALLS = 1800 #Default: 1000

OVLDDLEVEL2PERCENT = 75 #Default: 99
OVLDDLEVEL2FILTER = "NORMAL" #Choice {"NORMAL", "ALL"}. Default: "NORMAL"
OVLDDLEVEL2THRESHUPPERCPU = 80 #Default: 100
OVLDDLEVEL2THRESHLOWERCPU = 70 #Default: 100
OVLDDLEVEL2THRESHUPPERCALLS = 2200 #Default: 1000
OVLDDLEVEL2THRESHLOWERCALLS = 2000 #Default: 1000

OVLDDLEVEL3PERCENT = 90 #Default: 99
OVLDDLEVEL3FILTER = "NORMAL" #Choice {"NORMAL", "ALL"}. Default: "NORMAL"
OVLDDLEVEL3THRESHUPPERCPU = 95 #Default: 100
OVLDDLEVEL3THRESHLOWERCPU = 85 #Default: 100
OVLDDLEVEL3THRESHUPPERCALLS = 2400 #Default: 1000
OVLDDLEVEL3THRESHLOWERCALLS = 2300 #Default: 1000
DISKUSAGELIMIT = 98 #Default: 95% Disk Usage
```

```
#####
#
Package = SYS_CONFIG_STATIC

# Call Control

# For the Eisup cause code values see CISCO: EISUP Protocol Specification ENG-46168 version 19
# For the H323 cause code values see ITU-T: Q.850

# The default cause codes, used when there is no map entry for a received cause

CC_EC_DEFAULT          = CC_EC_NormalUnspecified
CC_HC_DEFAULT          = CC_HC_NormalUnspecified

# Unassigned Eisup cause codes
#

CC_EC_AccessBarred     = CC_HC_DEFAULT
CC_EC_Acknowledgement = CC_HC_DEFAULT
CC_EC_AddressIncomplete = CC_HC_DEFAULT
CC_EC_AnonymousCallRejection = CC_HC_DEFAULT
CC_EC_BlacklistBNumberMatched = CC_HC_DEFAULT
CC_EC_BlacklistCliLengthInvalid = CC_HC_DEFAULT
CC_EC_BlacklistCliMatched = CC_HC_DEFAULT
CC_EC_BlacklistCpcRestricted = CC_HC_DEFAULT
CC_EC_BlacklistNoCli = CC_HC_DEFAULT
CC_EC_BlacklistNoaRestricted = CC_HC_DEFAULT
CC_EC_Busy = CC_HC_DEFAULT
CC_EC_CallRejectCallGapping = CC_HC_DEFAULT
CC_EC_CallTerminated = CC_HC_DEFAULT
CC_EC_CallTypeIncompatible = CC_HC_DEFAULT
CC_EC_CallingDroppedWhileOnHold = CC_HC_DEFAULT
CC_EC_CallingPartyOffHold = CC_HC_DEFAULT
CC_EC_ChannelOutOfService = CC_HC_DEFAULT
CC_EC_Congestion = CC_HC_DEFAULT
CC_EC_CotFailure = CC_HC_DEFAULT
CC_EC_CugAccessBarred = CC_HC_DEFAULT
CC_EC_DteControlledNotReady = CC_HC_DEFAULT
CC_EC_DteUncontrolledNotReady = CC_HC_DEFAULT
CC_EC_ExcessiveDigCallProceeding = CC_HC_DEFAULT
CC_EC_FacilityNotRegistered = CC_HC_DEFAULT
CC_EC_FlowControlledCongestion = CC_HC_DEFAULT
CC_EC_GroupRestrictions = CC_HC_DEFAULT
CC_EC_IncomingCallsBarred = CC_HC_DEFAULT
CC_EC_InterceptedSubscriber = CC_HC_DEFAULT
CC_EC_InterworkUnspec = CC_HC_DEFAULT
CC_EC_InvalidCallRef = CC_HC_DEFAULT
CC_EC_MesgWithUnrecElemDiscarded = CC_HC_DEFAULT
CC_EC_MessageNotUnderstood = CC_HC_DEFAULT
CC_EC_MisroutedCallPortedNumber = CC_HC_DEFAULT
CC_EC_NetworkAddressExtensionError = CC_HC_DEFAULT
CC_EC_NetworkTermination = CC_HC_DEFAULT
CC_EC_NewDestination = CC_HC_DEFAULT
CC_EC_NumberUnobtainable = CC_HC_DEFAULT
CC_EC_OperatorPriorityAccess = CC_HC_DEFAULT
CC_EC_OutOfCatchmentArea = CC_HC_DEFAULT
CC_EC_OutgoingCallsBarred = CC_HC_DEFAULT
CC_EC_PermanentIcb = CC_HC_DEFAULT
CC_EC_PortedNumber = CC_HC_DEFAULT
CC_EC_PreemptionCctUnavailable = CC_HC_DEFAULT
CC_EC_Prefix0DialledInError = CC_HC_DEFAULT
CC_EC_Prefix1DialledInError = CC_HC_DEFAULT
CC_EC_Prefix1NotDialled = CC_HC_DEFAULT
```

```

CC_EC_PriorityForcedRelease           = CC_HC_DEFAULT
CC_EC_Proprietary                     = CC_HC_DEFAULT
CC_EC_ProtErrThresholdExceeded        = CC_HC_DEFAULT
CC_EC_ProtocolErrorUnspec             = CC_HC_DEFAULT
CC_EC_Reject                           = CC_HC_DEFAULT
CC_EC_RejectedDivertedCall            = CC_HC_DEFAULT
CC_EC_RemoteProcError                 = CC_HC_DEFAULT
CC_EC_RepeatAttempt                   = CC_HC_DEFAULT
CC_EC_RouteOutOfService               = CC_HC_DEFAULT
CC_EC_SelectiveCallBarring            = CC_HC_DEFAULT
CC_EC_ServiceIncompatible             = CC_HC_DEFAULT
CC_EC_ServiceTemporarilyUnavailable   = CC_HC_DEFAULT
CC_EC_ServiceUnavailable              = CC_HC_DEFAULT
CC_EC_SignalNotUnderstood             = CC_HC_DEFAULT
CC_EC_SignalNotValid                 = CC_HC_DEFAULT
CC_EC_SignalingSystemIncompatible     = CC_HC_DEFAULT
CC_EC_SubControlledIcb                = CC_HC_DEFAULT
CC_EC_SubNotFoundDle                  = CC_HC_DEFAULT
CC_EC_SubscriberCallTerminate         = CC_HC_DEFAULT
CC_EC_SubscriberIncompatible         = CC_HC_DEFAULT
CC_EC_SubscriberMoved                 = CC_HC_DEFAULT
CC_EC_SubscriberOutOfService          = CC_HC_DEFAULT
CC_EC_TemporaryOos                   = CC_HC_DEFAULT
CC_EC_TerminalCongestion              = CC_HC_DEFAULT
CC_EC_Transferred                     = CC_HC_DEFAULT
CC_EC_TranslationOos                  = CC_HC_DEFAULT
CC_EC_UnallocatedDestNumber           = CC_HC_DEFAULT
CC_EC_UndefinedBg                     = CC_HC_DEFAULT
CC_EC_Unknown                         = CC_HC_DEFAULT
CC_EC_UnrecElemPassedOn               = CC_HC_DEFAULT
CC_EC_VacantCode                      = CC_HC_DEFAULT
CC_EC_WhitelistCliNotMatched         = CC_HC_DEFAULT

```

```

#####
# INSTALLATION DERIVED CONFIG PARAMETERS
Package = RAS
manualDiscovery.ipAddress = "10.70.54.53"
manualDiscovery.port = "1719"
gateway.prefix[1] = "0208"
terminalAlias[1].h323ID = "cisco@OuterLondonDomain.com"
gatekeeperId = "OuterLondon"
endpointVendor.versionID = "0.2.3"
#####
Package = SYS_CONFIG_STATIC
HOST_PORT_NUMBER1= "8003"
VSC1_NAME= "goliath"
VSC1_PORT_NUMBER="8003"
NodeId = "H323-GW1"
#####
Package = Application
Hardware = "Sun Netra T1"
Location = "H323 - GW1"
#####

```



Cisco HSI Alarms and Troubleshooting

Introduction

This chapter contains information about Cisco H.323 Signaling Interface (HSI) alarms, troubleshooting procedures for these alarms, and information about detailed logging. This chapter contains the following sections:

- [Alarms Overview, page 6-1](#)
- [Troubleshooting, page 6-6](#)
- [Detailed Logging, page 6-16](#)

Alarms Overview

An alarm can be in one of the following states:

- Raised, when a persistent fault occurs in the system
- Cleared, when the fault is fixed

Debounce

The alarms have a timeout (debounce) period. The debounce period is the delay time that occurs before an alarm condition is accepted. Use the `ALARMDEBOUNCETIME` parameter to set the debounce period (see [Chapter 5, “Provisioning the Cisco HSI”](#)). The default debounce period is 0.

Severity Levels

The Cisco HSI generates autonomous messages, or events, to notify you of problems or atypical network conditions. Depending on the severity level, events are considered alarms or informational events. [Table 6-1](#) lists the severity levels and the required responses.

Table 6-1 Alarm Severity Levels

Severity Level	Description
Critical	A serious problem exists in the network. Clear critical alarms immediately. A critical alarm should force an automatic restart of the application.
Major	A disruption of service has occurred. Clear this alarm immediately.
Minor	No disruption of service has occurred, but clear this alarm as soon as possible.
Informational	A warning that an abnormal condition that does not require corrective action has occurred (for example, an invalid protocol call state transition). An informational event is reported but is transient. No corrective action is required by the management center to fix the problem.

Alarms

Events with a severity level of critical, major, or minor are classified as alarms and can be retrieved through the Man-Machine Language (MML) interface and a Simple Network Management Protocol (SNMP) manager.

An alarm must be reported when an alarm state changes (assuming the alarm does not have a nonreported severity).

Informational Events

Informational events do not require state changes. An informational event is a warning that an abnormal condition that does not require corrective action has occurred. An invalid protocol call state transition is an example of an informational event. The informational event needs to be reported, but it is transient. No corrective action is required by the management center to fix the problem.

An informational event is reported once, upon occurrence, through the MML and SNMP interfaces. The MML interface must be in the `rtrv-arms:cont` mode for the event to be displayed. The event is not displayed in subsequent `rtrv-arms` requests.

SNMP Trap Types

Alarms have SNMP trap types associated with them. Table 6-2 identifies the trap types.

Table 6-2 SNMP Trap types

Trap Type	Description
0	No error
1	Communication alarm
2	Quality of service
3	Processing error
4	Equipment error
5	Environment error

Retrieving Alarm Messages

Alarms can be displayed in noncontinuous mode or in continuous mode.

Noncontinuous Mode

To display all current alarms, use the **rtrv-alm**s MML command.

Figure 6-1 shows an example of an alarm message displayed with the **rtrv-alm**s MML command (noncontinuous mode). For more information about the **rtrv-alm**s MML command, see Appendix A, “MML Commands.”

Figure 6-1 Sample Alarm Message

Node ID	Alarm Category	Severity Level	Displayed only if state=cleared
"H323-GW1:ALM="	"VSC FAILURE"	,SEV=MJ	STATE=CLEARED

The example in Figure 6-1 shows a Cisco Public Switched Telephone Network (PSTN) Gateway (PGW 2200) communication failure on the Cisco HSI with the ID H323-GW1 and indicates that the message is an alarm with a *major* severity level.

Continuous Mode

To display the names of active alarms and new alarm events, use the **rtrv-alm**s:cont MML command.

Table 6-3 defines the message components that are displayed when the **rtrv-alm**s:cont MML command is used. The following is sample output from this command. For more information about the **rtrv-alm**s:cont MML command, see Appendix A, “MML Commands.”

```

GW Signaling Gateway      2000-12-05 14:19:22
M   RTRV
"H323-GW1: 2000-11-27 11:25:12.259, ** ALM=\"VSC FAILURE\", SEV=MJ"
"H323-GW1: 2000-11-27 11:25:13.259,   ALM=\"VSC FAILURE\", SEV=MJ" STATE=CLEARED
"H323-GW1: 2000-11-27 11:25:13.260, ** ALM=\"CONFIGURATION FAILURE\", SEV=MJ"
"H323-GW1: 2000-11-27 11:25:14.011, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\", SEV=IF"
"H323-GW1: 2000-11-27 11:25:14.012, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\", SEV=IF"

/* Listening for alarm events... (Ctrl-C to stop) */

"H323-GW1: 2000-11-27 11:25:13.259, ** ALM=\"VSC FAILURE\", SEV=MJ"

/* Ctrl-C pressed */

```

Table 6-3 Continuous Mode Messages

Element	Description
systemId	The name of your device and its identifier.
YYYY-MM-DD	The year, month, and day that the alarm or information event occurred.
hh-mm-ss-ms	The hour, minute, second, and millisecond that the alarm or information event occurred.
severity	<p>The severity level of the alarm or information event. Severity is represented by a two-character indicator with the following meanings:</p> <ul style="list-style-type: none"> • *C—Critical alarm. Critical alarms indicate that a serious problem exists in the network. Critical alarms cause a restart or reboot of the Cisco HSI. Clear critical alarms immediately. • **—Major alarm. Major alarms indicate that a problem that disrupts service exists. Clear major alarms immediately. Major alarms differ from critical alarms in that they do not initiate automatic recovery processes. • *^—Minor alarm. Minor alarms indicate a problem that does not disrupt service. Minor alarms should be noted and cleared as soon as possible. • A^—Informational event. Informational events indicate atypical network conditions, such as timer expirations, values that have exceeded preset thresholds, or unexpected responses from end points to signaling messages sent by the Cisco HSI. • — (Empty spaces in two leftmost columns). The alarm or event has been cleared. “STATE=CLEARED” is displayed.
almCat	<p>Alarm category. A text string that indicates whether the message is an alarm or an informational event and the MML alarm or event message. See Table 6-4 for a list of alarm categories.</p> <p>Note Despite its name, the alarm category field is used for both alarms and informational events.</p>
Acknowledgement	Determines whether the alarm has been acknowledged.

Acknowledging and Clearing Alarms

To acknowledge that an alarm is recognized but not cleared, use the **ack-alm** MML command. See [Appendix A, “MML Commands,”](#) for more information.

To clear an alarm, use the **clr-alm** MML command. See [Appendix A, “MML Commands,”](#) for more information.

Alarms List

Table 6-4 lists the alarms and information events. Troubleshooting information for each of the alarms and information events can be found in the “Troubleshooting” section on page 6-6.

Table 6-4 Alarms and Informational Events

Alarm Events and Reference	Severity Level
H323_STACK_FAILURE , page 6-6	Critical
CONFIGURATION_FAILURE , page 6-6	Major
EISUP_PATH_FAILURE , page 6-7	Major
GATEKEEPER_INTERFACE_FAILURE , page 6-8	—
GENERAL_PROCESS_FAILURE , page 6-8	Major
IP_LINK_FAILURE , page 6-8	Major
LOW_DISK_SPACE , page 6-9	Major
OVERLOAD_LEVEL3 , page 6-9	Major
VSC_FAILURE , page 6-10	Major
OVERLOAD_LEVEL2 , page 6-11	Minor
CONFIG_CHANGE , page 6-11	Information
ENDPOINT_CALL_CONTROL_INTERFACE_FAILURE , page 6-12	Information
ENDPOINT_CHANNEL_INTERFACE_FAILURE , page 6-12	Information
GAPPED_CALL_NORMAL , page 6-13	Information
GAPPED_CALL_PRIORITY , page 6-13	Information
OVERLOAD_LEVEL1 , page 6-14	Information
PROVISIONING_INACTIVITY_TIMEOUT , page 6-14	Information
PROVISIONING_SESSION_TIMEOUT , page 6-15	Information
STOP_CALL_PROCESSING , page 6-15	Information

Troubleshooting

This section provides troubleshooting procedures for the alarms listed in [Table 6-4](#).

H323_STACK_FAILURE

Description

Irrecoverable failure in the RADVision stack. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is critical. The trap type is 4.

Cause

The H.323 RADVision stack has failed to correctly initialize on an application startup. An automatic application restart is initiated, and the application reverts to the base configuration data.

Troubleshooting

To clear the H.323 stack failure alarm, complete the following steps:

-
- Step 1** Allow the application to restart and revert back to the base configuration data that is known to be reliable.
 - Step 2** Review the H323_SYS parameters in a provisioning session, ensuring that the values are correct and within the memory limits of the machine.
 - Step 3** Use the **prov-cpy** MML command to recommit the new H323_SYS parameters.
 - Step 4** Use the **restart-softw** MML command to initiate a software restart.
 - Step 5** Use the **rtrv-alm**s MML command to check the alarm list to see if the H.323 stack correctly initializes.
-

CONFIGURATION_FAILURE

Description

The configuration has failed. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

A major error has occurred in the configuration of the software packages. This is a potentially nonrecoverable situation that requires an application restart.

Troubleshooting

To clear the CONFIGURATION_FAILURE alarm, complete the following steps:

-
- Step 1** Use the **restart-softw:init** command to restart the application and revert to the base configuration.
 - Step 2** Review the modified parameters and ensure that the values are correct.
 - Step 3** Use the **prov-cpy** MML command to recommit the new parameters.
 - Step 4** Use the **restart-softw** MML command to initiate a software restart.
 - Step 5** Use the **rtrv-alm**s MML command to check the alarm list to see if the problem has been resolved.
-

EISUP_PATH_FAILURE

Description

A failure of the RUDP layer has occurred. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

Both IP links A and B to a single Cisco PGW 2200 have gone down.

Troubleshooting

To clear the EISUP_Path_Failure alarm, complete the following steps:

-
- Step 1** Use the **rtrv-dest** command to assess which Cisco PGW 2200 (standby or active) has been lost.
 - Step 2** Check the network connections, cables, and routers.
 - Step 3** Use the **clr-alm**s MML command to attempt to clear the alarm.
-

GATEKEEPER_INTERFACE_FAILURE

This alarm has not been implemented.

GENERAL_PROCESS_FAILURE

Description

A general process failure has occurred. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

The Cisco HSI (GWmain program) quit unexpectedly (that is, there were no requests to stop or restart the application). The process manager (PMmain) raises the GENERAL_PROCESS_FAILURE alarm so that a trap is sent to the Rambler.

The process manager clears the GENERAL_PROCESS_FAILURE alarm when it restarts the Cisco HSI (GWmain).

Troubleshooting

To trace the problem, look at either the core file or the log files.

IP_LINK_FAILURE

Description

A failure of the IP link has occurred. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

One of the two links to a single Cisco PGW 2200 has failed.

Troubleshooting

To clear the IP link failure alarm, complete the following steps:

-
- Step 1** Use the **rtrv-dest** command to assess which PGW 2200 (standby or active) has been lost.
 - Step 2** Check the network connections, cables, and routers.
 - Step 3** Use the **clr-alm** MML command to attempt to clear the alarm.
-

LOW_DISK_SPACE

Description

The disk space is low. This alarm is reported to the management interface and can be obtained with SNMP. The alarm automatically clears when the disk usage decreases below the alarm limit.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

The percentage of disk usage is greater than the alarm limit.

Troubleshooting

To obtain more disk space, remove old versions of installed software that are no longer required, or archive log files from the *\$GWHOME/var/log* directory, for example.

OVERLOAD_LEVEL3

Description

An overload level 3 condition exists. This alarm is reported to the management interface and can be obtained with SNMP. This alarm automatically clears when the CPU occupancy or the number of active calls drops below the lower limits set in the overload configuration for level 3.

Severity Level and Trap Type

The severity level is major. The trap type is 4.

Cause

The OVERLOAD_LEVEL3 alarm is triggered when the CPU occupancy or the number of active calls rises above the upper limits set in the overload configuration for level 3. Gapping is then initiated.

Troubleshooting

To clear the OVERLOAD_LEVEL3 alarm, complete the following steps:

-
- Step 1** Wait for the number of calls to drop.
 - Step 2** If CPU occupancy remains high, request assistance from the system administrator.
-

VSC_FAILURE

Description

This alarm is derived by the Cisco HSI application from RUDP/SM events. This alarm is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is major. The trap type is 5.

Cause

Links to both (active and standby) Cisco PGW 2200s have gone down.

Troubleshooting

To clear the VSC_FAILURE alarm, complete the following steps:

-
- Step 1** Use the **rtrv-dest** command to confirm that links to the Cisco PGW 2200s have gone down.
 - Step 2** Check the network connections, cables, and routers.
 - Step 3** Refer to the *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide* for detailed information about this alarm.
 - Step 4** Use the **clr-alm** command to attempt to clear the alarm.
-

OVERLOAD_LEVEL2

Description

An overload level 2 condition exists. This alarm is reported to the management interface and can be obtained with SNMP. This alarm automatically clears when the CPU occupancy or the number of active calls drops below the lower limits set in the overload configuration for level 2.

Severity Level and Trap Type

The severity level is minor. The trap type is 4.

Cause

The OVERLOAD_LEVEL2 alarm is triggered when the CPU occupancy or the number of active calls rises above the upper limits set in the overload configuration for level 2. Gapping is then initiated.

Troubleshooting

To clear the OVERLOAD_LEVEL2 alarm, complete the following steps:

-
- Step 1** Wait for the number of calls to drop.
 - Step 2** If CPU occupancy remains high, request assistance from the system administrator.
-

CONFIG_CHANGE

Description

The running configuration has been modified.

Severity Level and Trap Type

The severity level is information. The trap type is 0.

Cause

A new configuration has been activated within a provisioning session.

Troubleshooting

This is an informational event.

ENDPOINT_CALL_CONTROL_INTERFACE_FAILURE

Description

An individual call failure has occurred. This informational event is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is information. The trap type is 3.

Cause

The RADVision stack reports this alarm.

Troubleshooting

This is an informational event.

ENDPOINT_CHANNEL_INTERFACE_FAILURE

Description

An individual call failure has occurred. This informational event is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is information. The trap type is 3.

Cause

The RADVision stack reports this alarm.

Troubleshooting

This is an informational event.

GAPPED_CALL_NORMAL

Description

A normal call has been rejected due to call gapping. This informational event is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is information. The trap type is 2.

Cause

The GAPPED_CALL_NORMAL alarm is triggered when gapping levels cause a normal call to be rejected.

Troubleshooting

To clear the GAPPED_CALL_NORMAL informational event, complete the following steps:

-
- Step 1** Use the **rtrv-gapping** MML command to retrieve gapping information.
 - Step 2** If the MML-specific gap levels are active, use the **set-gapping** MML command to modify them.
 - Step 3** If the overload-specific gap levels are active, either modify the provisioned overload gapping percent levels or reduce the cause of the overload (see [OVERLOAD_LEVEL1](#), page 6-14, [OVERLOAD_LEVEL2](#), page 6-11, and [OVERLOAD_LEVEL3](#), page 6-9).
-

GAPPED_CALL_PRIORITY

Description

A priority or emergency call has been rejected due to call gapping. This informational event is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is information. The trap type is 2.

Cause

The GAPPED_CALL_NORMAL alarm is triggered when gapping levels cause a priority or emergency call to be rejected.

Troubleshooting

To clear the GAPPED_CALL_PRIORITY informational event, complete the following steps:

-
- Step 1** Change the MML gapping levels to less than 100 percent and change the call type to normal.
 - Step 2** Change the provisioned overload call filter type to normal.
-

OVERLOAD_LEVEL1

Description

An overload level 1 condition exists. This informational event is reported to the management interface and can be obtained with SNMP.

Severity Level and Trap Type

The severity level is information. The trap type is 4.

Cause

The OVERLOAD_LEVEL1 alarm is triggered when the CPU occupancy or the number of active calls rises above the upper limits set in the overload configuration for level 1. Gapping is then initiated.

Troubleshooting

To clear the OVERLOAD_LEVEL1 informational event, complete the following steps:

-
- Step 1** Wait for the number of calls to drop.
 - Step 2** If CPU occupancy remains high, request assistance from the system administrator.
-

PROVISIONING_INACTIVITY_TIMEOUT

Description

A provisioning session has been inactive for 20 minutes. The text of the output is:

```
"H323-GW1:2001-01-30 11:12:57.421,A^ ALM="\PROVISIONING INACTIVITY TIMEOUT\","SEV=IF"
```

Severity Level and Trap Type

The severity level is information. The trap type is 3.

Cause

The provisioning session has been inactive for 20 minutes. The provisioning session will be closed if there is no activity within the next 5 minutes.

Troubleshooting

Ensure that activity in the provisioning session occurs at least every 20 minutes.

PROVISIONING_SESSION_TIMEOUT

Description

The current session has been terminated. The text of the output is:

```
"H323-GW1:2001-01-30 11:17:57.422,A^ ALM=\"PROVISIONING_SESSION_TIMEOUT\",SEV=IF"
```

Severity Level and Trap Type

The severity level is information. The trap type is 3.

Cause

The provisioning session has been inactive for longer than the time allowed.

Troubleshooting

Ensure that activity within the provisioning session occurs at least every 20 minutes.

STOP_CALL_PROCESSING

Description

A stop call processing request has been entered through the MML.

Severity Level and Trap Type

The severity level is information. The trap type is 4.

Cause

A user has entered the **stp-callproc** command through the MML.

Troubleshooting

This is an informational event.

Detailed Logging

Logging occurs on 16 different levels for each package, and the logging mask (which is a 16-bit number from 0x0000 to 0xFFFF) allows each specific log level to be turned on and off. The most-significant-bit positions correspond to higher (that is, more processor intensive) levels of debugging.

We recommend that you set the logging level of all packages to 0x0000 in a live network. For debugging a single call in an off-line network, the recommended level of debug is:

- Set Eisup, CallControl, and H323 package log levels to 0xFFFF.
- Set all other package log levels to 0x0000.
- Turn radlog on by entering the MML command **radlog::start**.

Once the test call has been made, remember to set all the logging levels back to 0x0000 and to turn radlog off by entering the MML command **radlog::stop**.



MML Commands

This appendix describes the following MML commands:

- **ack-alm**
- **clr-alm**
- **clr-meas**
- **diaglog**
- **h**
- **help**
- **prov-add**
- **prov-cpy**
- **prov-dlt**
- **prov-ed**
- **prov-exp**
- **prov-rtrv**
- **prov-sta**
- **prov-stp**
- **quit**
- **radlog**
- **restart-softw**
- **rtrv-alms**
- **rtrv-calls**
- **rtrv-ctr**
- **rtrv-dest**
- **rtrv-gapping**
- **rtrv-log**
- **rtrv-mml**
- **rtrv-ne**
- **rtrv-ne-health**
- **rtrv-overload**

- [rtrv-softw](#)
- [set-dest-state](#)
- [set-gapping](#)
- [set-log](#)
- [set-overload](#)
- [sta-callproc](#)
- [sta-softw](#)
- [sta-trc](#)
- [stp-call](#)
- [stp-callproc](#)
- [stp-softw](#)
- [stp-trc](#)

ack-alm

The **ack-alm** command acknowledges that an alarm event is recognized but does not clear the alarm.

ack-alm:event=*alarm event*

Syntax Description

<i>alarm event</i>	The alarm category or the text that appears in the body of the alarm. Alarm event names are defined in Chapter 6, “Cisco HSI Alarms and Troubleshooting.”
--------------------	---

Usage Guidelines

The format of the alarm category name must be the same as the format of the alarm category name that the **rtrv-arms** command displays. It is case sensitive.

Examples

This example recognizes the **VSC_FAILURE** alarm event but does not clear the alarm:

```
gw mml> ack-alm:event=VSC_FAILURE

GW Signaling Interface    2000-12-05 14:19:22
M   SUCC

mml>
```

Related Commands

Command	Description
clr-alm	Clears an alarm event
rtrv-arms	Displays all active alarms.

clr-alm

The **clr-alm** command clears an alarm event.

clr-alm:event=alarm event

Syntax Description	<i>alarm event</i>	The alarm event name or the text that appears in the body of the alarm. Alarm names are defined in Chapter 6, “Cisco HSI Alarms and Troubleshooting.”
---------------------------	--------------------	---

Usage Guidelines The alarm category must match the format shown in the alarm when the **rtrv-arms** command displays it. It is case sensitive.

Examples This example clears the alarm event **VSC_FAILURE**.

```

gw mml> clr-alm:event=VSC_FAILURE

GW Signaling Interface      2000-12-05 14:19:22
M   SUCC

mml>

```

Related Commands	Command	Description
	ack-alm	Acknowledges that an alarm event is recognized but does not clear the alarm.
	rtrv-arms	Displays all active alarms

clr-meas

The **clr-meas** command resets a measurement counter.

clr-meas:counter group:name=measurement name

clr-meas:counter group

Syntax Description	<i>counter group</i>	Valid counter groups are: <ul style="list-style-type: none"> • RAS • Q931 • H245
	<i>measurement name</i>	For a list of measurement names, see Table 4-1 , Table 4-2 , and Table 4-3 .

Examples

This example resets a measurement counter GK_DISC_ATT_TOT (Gatekeeper Discovery Attempts) in the counter group RAS.

```
gw mml> clr-meas:RAS

GW Signaling Interface    2000-12-05 14:19:22
M   SUCC
mml>

mml> clr-meas:RAS:name=GK_DISC_ATT_TOT

GW Signaling Interface    2000-12-05 14:19:22
M   SUCC
```

Related Commands

Command	Description
rtrv-ctr	Displays the measurements for a counter group.

diaglog

The **diaglog** command starts and stops event logging into a diagnostics log.

diaglog:*file name:start | stop*

Syntax Description

<i>file name</i>	The user-defined name of the log file. The actual file name has a .log suffix applied. The file is located in the logging directory defined in the configuration data (see Chapter 5, “Provisioning the Cisco HSI”).
------------------	---

Examples

This example starts event logging into a diagnostics log named **test5**.

```
gw mml> diaglog:test5:start
test5_davek15823_20010130053323.log
```

In this example, davek is the user who runs the command, and 15823 is the process ID of the MML process from which the command is run.

Related Commands

Command	Description
radlog	Starts and stops RADVision logging into a specified log file.
rtrv-log	Displays the logging level of a package or all packages.
set-log	Sets the logging level of a package or all packages.

h

The **h** command redisplay a command or a series of commands, depending on a specified number or range. If no number is specified, only the last command is displayed.

h[::start=*number*[,end=*number*]]

Syntax Description

start	Entered as a number; specifies the first command to redisplay.
end	Entered as a number; specifies the end of the range of commands to redisplay.

Examples

The MML command in the following example displays the last successful command entered:

```
mml> h
VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
  "rtrv-log:all"
  /* command 1 */
```

The MML command in the following example displays the third previous successful command entered:

```
mml> h::3
VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
  "rtrv-ne"
  /* command 3 */
```

The MML command in the following example displays the first and second previous commands entered.

```
mml> h::start=1,end=2
VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
  "rtrv-log:all"
  /* command 1 */
  "rtrv-ne"
  /* command 2 */
```

help

The help command displays a list of valid system commands and an explanation of their use. If you do not enter a command name as a parameter, the **help** command provides a list of MML commands, descriptions, and values. If you enter a command name as a parameter, a description of that command displays.

help[:*command name*]

Syntax Description

<i>command name</i>	The name of the MML command.
---------------------	------------------------------

Examples

The command shown in the following example displays help for a specific command:

```
mml> help:rtrv-ctr
H323 Signalling Gateway   Tue Feb 12 19:09:58 2002
M SUCC

RTRV-CTR -- Display the measurements for a counter group
-----

Purpose:      This MML command displays a measurement counter for a counter group

Format:      rtrv-ctr:<counter group>
```

Description: * counter group -- The name of an MML counter group (RAS, Q931 or H245)

Example: The MML command shown in the following example displays measurement counters for the counter group RAS.

```
mml> rtrv-ctr:ras;
      GW Signalling GateWay 2000-12--5 14:19:32
M RTRV
"H323-GW1:GROUP=RAS,NAME=\"GK_DISC_ATT_TOT\",VAL=1000"
"H323-GW1:GROUP=RAS,NAME=\"GK_REG_ATT_TOT\",VAL=1000"
"H323-GW1:GROUP=RAS,NAME=\"GK_REG_SUCC_TOT\",VAL=1000"

mml>
```

If you enter the help command without a parameter, the help file displays information about all available commands. The following example shows a portion of the help file that displays if you do not enter a parameter:

```
mml> help

VSC H323 signaling interface - H323-GW1 2000-06-20 10:04:28
M RTRV
Available commands (in alphabetical order):
ack-alm:"<alm cat>" Acknowledges an alarm category on a component
clr-alm:"<alm cat>" Clears an alarm category on a component
clr-meas:"<meas cat>" Resets a measurement category on a component
diaglog:<file name>:START|STOP Starts/stops diagnostics log
h[:<number>[,<number>]] Displays a history of commands for a specified backward number or
range; the last command by default
help[:<command name>] Displays the list of MML commands or the help information on a
specified command
prov-add:name=<MML name>,<param name>=<param value>,... Adds the component
prov-cpy Commits provisioning data
prov-dlt:name=<MML name> Deletes the component
```

prov-add

The **prov-add** command adds a component to the Cisco H.323 Signaling Interface (HSI).

prov-add:name=MML name,param name=param value,...

Syntax Description	MML name	MML name for the element you are adding. Valid MML names are:
		<ul style="list-style-type: none"> • sys_config_static • sys_config_dynamic • h323_sys • ras • h245 • q931
	<i>param name</i>	The name of a valid configuration parameter for the specified name.
	<i>param value</i>	The value you want to assign to the parameter.

Usage Guidelines

To define more than one parameter, enter additional *param name=param value* descriptions on the command line. See [Chapter 5, “Provisioning the Cisco HSI,”](#) for the list of MML names, parameter names, and their associated values.

Examples

The command shown in the following example adds a provisioning element with the MML name `ras`, parameter name `maxFail`, and value `3`.

```
gw mml> prov-add:name=ras,maxfail=3
H323 Signaling Interface Sun Jan 7 15:15:02 2001
M SUCC
Successfully added provisioning element(s):
MML Name : ras.
Parameter: maxFail.
Value : 3.
```

Related Commands

Command	Description
<code>prov-cpy</code>	Activates the configuration settings in the current provisioning session.
<code>prov-dlt</code>	Deletes a provisioned component.
<code>prov-ed</code>	Modifies a provisioned component.
<code>prov-exp</code>	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
<code>prov-rtrv</code>	Retrieves information about an existing provisioning session.
<code>prov-sta</code>	Establishes a provisioning session.
<code>prov-stp</code>	Terminates either a specified or the current provisioning session.

prov-cpy

The `prov-cpy` command copies configuration settings from the current provisioning session to the Cisco HSI to activate the configuration. If this command is successful, it terminates the current provisioning session. If this command fails, there is no active provisioning session. If any client level parsing fails during the data session, a **confirm** is needed for the data to be activated.

`prov-cpy[:confirm]`

Syntax Description

confirm	If any client level parsing fails during the data session, a confirm is needed for the data to be activated.
----------------	---

Examples

The command shown in the following example copies the configuration changes from the current session to the Cisco HSI.

```
gw mml> prov-cpy
H323 Signaling Interface Sun Jan 7 13:53:42 2001
M SUCC
Successfully activated the provisioning session.
```

Usage Guidelines

See [Chapter 5, “Provisioning the Cisco HSI,”](#) for a list of MML names, parameter names and their associated values.

Related Commands

Command	Description
prov-add	Adds a component.
prov-dlt	Deletes a provisioned component.
prov-ed	Modifies a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-rtrv	Retrieves information about an existing provisioning session.
prov-sta	Establishes a provisioning session.
prov-stp	Terminates either a specified or the current provisioning session.

prov-dlt

The **prov-dlt** command deletes a provisioned component. This command allows you to delete a parameter rather than deleting the MML group.

prov-dlt:name=MML name

prov-dlt:name=MML name,param=param name

prov-dlt:name=MML name param name

Syntax Description

<i>MML name</i>	MML name for the element you are deleting. Valid MML names are: <ul style="list-style-type: none"> • sys_config_static • sys_config_dynamic • h323_sys • ras • h245 • q931
<i>param name</i>	The name of a valid configuration parameter for the specified name.

Usage Guidelines

See [Chapter 5, “Provisioning the Cisco HSI,”](#) for a list of MML names, parameter names, and their associated values.

Examples

The MML command in the following example deletes the **ras** element:

```
gw mml> prov-dlt:name=ras
H323 Signaling Interface Sun Jan 7 14:13:05 2001
M SUCC
Successfully deleted provisioning data for ras
```

The MML command in the following examples delete the **maxCalls** parameter of the **ras** element:

```
gw mml> prov-dlt:name=ras,param=maxCalls
gw mml> prov-dlt:name=ras,maxCalls
H323 Signaling Interface Sun Jan 7 14:46:01 2001
M SUCC
Successfully deleted provisioning data for ras:maxCalls
```

Related Commands

Command	Description
prov-add	Adds a component.
prov-cpy	Activates the configuration settings in the current provisioning session.
prov-ed	Modifies a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-rtrv	Retrieves information about an existing provisioning session.
prov-sta	Establishes a provisioning session.
prov-stp	Terminates either a specified or the current provisioning session.

prov-ed

The **prov-ed** command modifies a provisioned component.

prov-ed:name=MML name,param name=param value,...



Note Enter only those parameters that must be modified.

Syntax Description

<i>MML name</i>	MML name for the element you are modifying. Valid MML names are: <ul style="list-style-type: none"> • sys_config_static • sys_config_dynamic • h323_sys • ras • h245 • q931
<i>param name</i>	The name of a valid configuration parameter for the specified name.
<i>param value</i>	The value you want to assign to the parameter.

Usage Guidelines

To change more than one parameter, enter additional *param name=value* descriptions on the command line. See [Chapter 5, “Provisioning the Cisco HSI,”](#) for a list of MML names, parameter names, and their associated values.

Examples

Use the MML command shown in the following example to edit a provisioning element with the MML name `ras`, parameter name `maxFail`, and value 7:

```
gw mml> prov-ed:name=ras,maxfail=7
H323 Signaling Interface Sun Jan 7 15:22:02 2001
M SUCC
Successfully edited provisioning element(s):
MML Name : ras.
Parameter: maxFail.
Value : 7.
```

Related Commands

Command	Description
prov-add	Adds a component.
prov-cpy	Activates the configuration settings in the current provisioning session.
prov-dlt	Deletes a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-rtrv	Retrieves information about an existing provisioning session.
prov-sta	Establishes a provisioning session.
prov-stp	Terminates either a specified or the current provisioning session.

prov-exp

The **prov-exp** command exports the current provisioned configuration of the Cisco HSI in MML command form to a file. This configuration file allows a system to be primed with a cloned configuration from an existing system or to be restored to a baseline configuration. You can use the MML batch feature to import the exported data.

Start a dummy provisioning session with the **prov-sta** command before you use the **prov-exp** command.

```
prov-sta:srcver=active, dstver=dummy1
```

```
prov-exp:dirname=export directory name
```

```
prov-stp
```

Syntax Description

<i>export directory name</i>	Name of the directory to which the data is exported. This directory is a subdirectory within the <code>/opt/GoldWing/export</code> directory established at installation.
------------------------------	---

Examples

The MML command shown in the following example saves the active file as `config.mml` to the `export/uk9/` directory:

```
gw mml> prov-exp:dirname=uk9
H323 Signaling Interface Sun Jan 7 14:29:11 2001
M SUCC
Successfully exported "active" to export/uk9/config.mml
```

The UNIX command shown in the following example executes MML in batch mode and imports the configuration file that was exported in the previous example:

```
mm1> -b /opt/GoldWing/currentGW/export/uk9/config.mml
```

Related Commands	Command	Description
	prov-add	Adds a component.
	prov-cpy	Activates the configuration settings in the current provisioning session.
	prov-dlt	Deletes a provisioned component.
	prov-ed	Modifies a provisioned component.
	prov-rtrv	Retrieves information about an existing provisioning session.
	prov-sta	Establishes a provisioning session.
	prov-stp	Terminates either a specified or the current provisioning session.

prov-rtrv

This command retrieves information about an existing provisioning session.

prov-rtrv:name=*MML name*

prov-rtrv:all

prov-rtrv:session

prov-rtrv:list



Note

The **prov-rtrv:list** command is the only **prov-rtrv** command that can be executed outside of a provisioning session. The other **prov-rtrv** commands must be executed within a provisioning session. Use the **prov-sta** command to start a provisioning command.

Syntax Description	name	The MML name for the elements that you want to display.
	<i>MML name</i>	The MML component name for the component you want to display. Valid MML names are: <ul style="list-style-type: none"> • sys_config_static • sys_config_dynamic • h323_sys • ras • h245 • q931
	all	Displays all components that have been provisioned.

session	Displays information about the provisioning session.
list	Provides a list of possible session names that you can use as the srcver parameter to prov-sta:srcver=uk9,dstver=uk10.

Usage Guidelines

See [Chapter 5, “Provisioning the Cisco HSI,”](#) for a list of MML names, parameter names and their associated values.

Examples

The MML command shown in the following example displays information about the MML name ras:

```
gw mml> prov-rtrv:name=ras
H323 Signaling Interface Sun Jan 7 14:46:01 2001
M SUCC
MML Name : ras.
Parameter: maxFail.
Value : 33.
```

The MML command shown in the following example displays information about the MML session:

```
gw mml> prov-rtrv:session
H323 Signaling Interface Sun Jan 7 14:46:01 2001
M RTRV
Session ID = mml 6 | davek
SRCVER = uk9
DSTVER = inter
```

```
gw mml> prov-rtrv:list
H323 Signaling Interface Sun Jan 7 14:46:01 2001
M RTRV
```

The following provisioning sessions are available:
uk9 matt inter
gw mml>

Related Commands

Command	Description
prov-add	Adds a component.
prov-cpy	Activates the configuration settings in the current provisioning session.
prov-dlt	Deletes a provisioned component.
prov-ed	Modifies a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-sta	Establishes a provisioning session.
prov-stp	Terminates either a specified or the current provisioning session.

prov-sta

The **prov-sta** command establishes a provisioning session. The data files are copied from the source version to the destination version.

prov-sta::srcver=version,dstver=version

Syntax Description

srcver=version	Selects a specific configuration version as the source for configuration changes. The srcver variable represents a directory that exists in \$GWBASE/var/prov/. In place of the configuration version, you can also enter: <ul style="list-style-type: none"> new—Specifies a new default session configuration; no existing source configuration is used. active—Selects the active configuration as the source for configuration changes.
dstver=version	Specifies the output version directory for the configuration session results. The dstver variable represents a directory stored in \$GWBASE/var/prov/.

Usage Guidelines

If the source and destination filenames are the same, the new configuration overwrites the old configuration. It is a good practice to copy an existing configuration instead of overwriting it so that you can return to a known configuration if there are problems with the new one.

If the source provisioning session has not been verified, the message “Note: This provisioning session has not been verified” is displayed, but the session starts normally.

If you try to start with a provisioning session that does not exist, an error is displayed along with a list of available sessions.

Examples

The MML command in the following example starts a provisioning session named **nowt** and creates a new configuration named **blah**:

```
gw mml> prov-sta::srcver=nowt,dstver=blah
H323 Signaling Interface Sun Jan 7 13:32:07 2000
M DENY
The provisioning session called "nowt" does not exist.
The following configurations are available:
sanfran2 uk9 final
telco mgcpvia miki
transit dave matt
```

The MML command in the following example starts a provisioning session and creates a new configuration named **ver1**:

```
gw mml> PROV-STA::SRCVER="new", DSTVER="ver1"
H323 Signaling Interface Sun Jan 7 13:32:07 2001
M SUCC
Successfully started provisioning session "ver1" from "new".
```

The MML command in the following example starts a provisioning session, opens the existing configuration named **ver1**, and overwrites that configuration:

```
gw mml> PROV-STA::SRCVER="ver1", DSTVER="ver1"
```

The MML command shown in the following example starts a provisioning session, opens the existing configuration named **ver1**, and saves the updated configuration as **ver2**:

```
gw mml> PROV-STA::SRCVER="ver1", DSTVER="ver2"
```

Related Commands

Command	Description
prov-add	Adds a component.
prov-cpy	Activates the configuration settings in the current provisioning session.
prov-dlt	Deletes a provisioned component.
prov-ed	Modifies a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-rtrv	Retrieves information about an existing provisioning session.
prov-stp	Terminates either a specified or the current provisioning session.

prov-stp

The **prov-stp** command terminates the provisioning session and saves the configuration.



Note

This command does not activate the new configuration. Use the **prov-cpy** command to activate the configuration. You must also add **confirm** to the **prov-stp** command to successfully complete it.

prov-stp:confirm

prov-stp:session name:confirm

Syntax Description

session name	Use the rtrv-mml command to retrieve the MML name given to the MML process that started the provisioning session.
confirm	If no confirm option is entered, the command is rejected and a message notifies you of the potential performance impact of this command.

Usage Guidelines

You can use the name given to an MML session to stop a provisioning session. Each MML session (not Telnet) gets an MML name: for example, mml1 or mml2. The maximum number of allowable MML sessions is 12.

If you log in to the Cisco HSI from an MML session and start a provisioning session (for example, gw mml> **prov-sta:srcver=new,dstver=uk9**), you can use the MML name (for example, mml2) to stop the session with **prov-stp** (for example, **prov-stp:mml2:confirm**).

Use the **rtrv-mml** command to display all active MML sessions (see [rtrv-mml](#), page A-22).

Examples

The MML command in the following example terminates the current provisioning session:

```
gw mml> prov-stp:confirm
H323 Signaling Interface Sun Jan 7 14:46:01 2001
M SUCC
Successfully stopped provisioning session "ver1"
```

The MML command in the following example terminates the **uk9** provisioning session:

```
gw mml> prov-stp:uk9:confirm
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
Successfully stopped provisioning session "uk9"
gw mml>
```

If the previous session starts from an MML process assigned the name **mml2**, you can use the following MML command:

```
gw mml> prov-stp:mml2:confirm
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
Successfully stopped provisioning session "uk9"
gw mml>
```

Related Commands

Command	Description
prov-add	Adds a component.
prov-cpy	Activates the configuration settings in the current provisioning session.
prov-dlt	Deletes a provisioned component.
prov-ed	Modifies a provisioned component.
prov-exp	Exports the current configuration of the Cisco HSI in MML command form to a file or files.
prov-rtrv	Retrieves information about an existing provisioning session.
prov-sta	Establishes a provisioning session.

quit

The **quit** command ends an MML session.

quit

Syntax Description

This command has no arguments or keywords.

Examples

The command in following example ends an MML session.

```
gw mml> quit
```

radlog

The **radlog** command starts and stops RADVision logging into a specified log file.

radlog:*[file name]:start | stop*



Caution

This command is processor intensive and results in very large log files. Use this command only to retrieve information for single test calls, and do not run on a live network that is processing numerous calls.

Syntax Description.

<i>file name</i>	The user-defined name of the log file. The actual filename has a <i>.log</i> suffix. The file is located in the logging directory defined in the configuration data (see Chapter 5, “Provisioning the Cisco HSI”).
------------------	---

Examples

The command in the following example starts logging into a diagnostics log named file1:

```
gw mml> radlog:file1:start
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
RADLogging requested to start
```

The following command logs RADVision to the standard log file:

```
gw mml> radlog::start
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
RADLogging to standard log file
```

Related Commands

Command	Description
diaglog	Starts and stops event logging into a diagnostics log.
rtrv-log	Displays the logging level of a package or all packages.
set-log	Sets the logging level of a package or all packages.

restart-softw

The **restart-softw** command restarts the call processing application. It applies the provisioning data specified in the *configVersion* (if present) that overrides the existing active provisioning data.

restart-softw[:*configVersion*][:*confirm*]

Syntax Description

<i>configVersion</i>	In <i>configVersion</i> , init is a keyword, and this command restarts the call processing application applying the <i>etc/GWmain.conf</i> configuration file as the provisioning data. If <i>configVersion</i> is an unverified provisioning session, the command fails.
<i>confirm</i>	If there are active calls, a notification is sent to the craft, and the command must be reentered with the <i>confirm</i> parameter to take effect.

Examples

In the following example, the call processing application restarts using the *etc/GWmain.conf* configuration files as the provisioning data.

```
gw mml> restart-softw:init
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
```

```
Application is now restarting using the default provisioning session.
There are no active calls.
New call requests are rejected.
Call Processing now stopped.
Application will restart in 60 seconds
```

In the following example, the application would restart using the active provisioning session. There are no active calls. New call requests are rejected. Call processing is now stopped. The application is set to restart in 12 seconds.

```
gw mml> restart-softw
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
```

In the following example, a restart passes an unverified provisioning session. The command fails. You cannot use an unverified provisioning session:

```
gw mml> restart-softw:config2
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M DENY
```

In the following example, a restart uses a specified verified provisioning session. The application restarts by using *original* as the provisioning session. There are no active calls. New call requests are rejected. Call processing is now stopped. The application is set to restart in 12 seconds.

```
gw mml> restart-softw:original
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
```

rtrv-alms

The **rtrv-alms** command retrieves all active alarms.

rtrv-alms

rtrv-alms:cont

Syntax Description

cont	This parameter displays alarm events until you press Ctrl-C . All active alarms are displayed, and then a message appears (for example: “/* Listening for alarm events . . . (Ctrl-C to stop) */”).
-------------	--

Examples

In the following example, the output contains the standard alarm definition and also NACK or ACK for noninformational alarms to indicate the acknowledgement status of the alarm.

```
gw mml> rtrv-alms
GW Signaling Interface      2000-12-05 14:19:22
M   RTRV
"H323-GW1: 2000-11-27 11:25:12.259, ** ALM=\"VSC FAILURE\",SEV=MJ" NACK
"H323-GW1: 2000-11-27 11:25:13.260, ** ALM=\"CONFIGURATION FAILURE\",SEV=MJ" ACK
"H323-GW1: 2000-11-27 11:25:14.011, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\",SEV=IF"
"H323-GW1: 2000-11-27 11:25:14.012, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\",SEV=IF"
```

In the following example, the output displays alarm events until you press **Ctrl-C**.

```
gw mml> rtrv-alms:cont
GW Signaling Interface      2000-12-05 14:19:22
M   RTRV
"H323-GW1: 2000-11-27 11:25:12.259, ** ALM=\"VSC FAILURE\",SEV=MJ"
"H323-GW1: 2000-11-27 11:25:13.259,     ALM=\"VSC FAILURE\",SEV=MJ" STATE=CLEARED
"H323-GW1: 2000-11-27 11:25:13.260, ** ALM=\"CONFIGURATION FAILURE\",SEV=MJ"
"H323-GW1: 2000-11-27 11:25:14.011, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\",SEV=IF"
"H323-GW1: 2000-11-27 11:25:14.012, A^ ALM=\"ENDPOINT CHANNEL INTERFACE FAILURE\",SEV=IF"

/* Listening for alarm events... (Ctrl-C to stop) */

"H323-GW1: 2000-11-27 11:25:13.259, ** ALM=\"VSC FAILURE\",SEV=MJ"

/* Ctrl-C pressed */
```

Related Commands

Command	Description
ack-alm	Acknowledges that an alarm event is recognized but does not clear the alarm.
clr-alm	Clears an alarm event.

rtrv-calls

The **rtrv-calls** command displays all actively connected calls. If the *time elapsed* parameter is provided (in units of minutes), calls display only if they exceed the specified time. The format of the output includes the call direction, time connected, calling and called address, and call reference.

rtrv-calls*[:time elapsed]*

Syntax Description	<i>time elapsed</i>	If the time elapsed parameter is provided (in units of minutes), calls display only if they have exceeded the specified time.
---------------------------	---------------------	---

Examples

In the following example, the command displays all actively connected calls.

```
gw mml> rtrv-calls
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC

CallId SrcAddr DestAddr StartTime
124 04161234567 0299598125 2000-11-27 11:25:13.259
```

rtrv-ctr

The **rtrv-ctr** command displays the measurements for a counter group.

rtrv-ctr*:counter group*

Syntax Description	<i>counter group</i>	The name of an MML counter group (RAS, Q931, or H245).
---------------------------	----------------------	--

Examples

In the following example, the command displays the measurements for the **RAS** counter group.

```
gw mml> rtrv-ctr:RAS
GW Signaling Interface 2000-12-05 14:19:22
M RTRV
"H323-GW1:GROUP=\"RAS\",NAME=\"GK DISC ATT TOT\",VAL=10"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK REG ATT TOT\",VAL=0"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK REG SUCC TOT\",VAL=12"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK RCV UNR ATT TOT\",VAL=100"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK XMIT UNR SUCC TOT \",VAL=2000"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK XMIT UNR ATT TOT\",VAL=20"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK RCV UNR SUCC TOT\",VAL=10"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK RLS ATT TOT\",VAL=20"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK RLS SUCC TOT\",VAL=30"
"H323-GW1:GROUP=\"RAS\",NAME=\"GK INFO REPORT TOT\",VAL=40"
```

Related Commands

Command	Description
clr-meas	Resets a measurement counter.

rtrv-dest

The **rtrv-dest** command retrieves status information about the IP links and E-ISUP signaling path to the PGW 2200.

rtrv-dest:*point code*

rtrv-dest:*sig path*

rtrv-dest:**all**

Syntax Description		
	<i>point code</i>	The MML component name of a point code component.
	<i>sig path</i>	The MML name of the logical signaling channel for which you want to display information. This path should be made up of sig path DSS IP or sig path NAS entities. Use the help:prov-add command to obtain a description of sig path components.
	all	Displays information about all external point codes and signal paths.

Examples

The MML command in the following example retrieves the destination of point code dpcl:

```
gw mml> rtrv-dest:dpcl
MGC-01 Media Gateway Controller 2000-01-12 15:19:51
M RTRV
^dpcl:PKG=SS7-ANSI,ASSOC=UNK,PST=IS
```

Related Commands

Command	Description
set-dest-state	Changes the service state of an IP link or E-ISUP signaling path to in service (IS) or out of service (OOS).

rtrv-gapping

The **rtrv-gapping** command retrieves information about overload-triggered call gapping.

In both cases, the following information displays:

- The active/inactive status of call gapping
- The percentage of calls that are gapped
- The type of calls to which gapping is applied

rtrv-gapping

Syntax Description

This command has no arguments or keywords

Examples

The following MML command retrieves the current levels of call gapping for all gapping clients:


```

gw mml> rtrv-gapping

Client Name      Direction      Level          Call Type      Active
-----
Overload         Outgoing       10             Normal         No
Overload         Incoming       10             Normal         No
MML              Outgoing       20             All            Yes
MML              Incoming       30             All            Yes

```

Related Commands

Command	Description
set-gapping	Sets the type of calls to be gapped.

rtrv-log

The **rtrv-log** command displays the logging level of a package or all packages.

rtrv-log:package=x

rtrv-log:all

Syntax Description

package=x	Displays the logging level for the various packages that make up the Cisco HSI. For package names, see the “Log Message Packages” section on page 4-9 .
all	Displays the logging levels of all packages.

Examples

In the following example, the command displays the logging levels of all packages.

```

gw mml> rtrv-log:all
H323 Signaling Interface Thu Dec 14 16:28:44 2000
M RTRV

Logging levels:
Application.....0x0000
CallControl.....0xFFFF
Connection.....0x0000
DataManager.....0x0000
Eisup.....0xFFFF
FaultManager.....0x0000
Gapping.....0x0000
H323.....0xFFFF
Infrastructure....0x0000
OverLoad.....0x0000
ProcessManager....0x0000
Provisioning.....0x0000
Signal.....0x0000
Snmp.....0x0000
SnmpSubagent.....0x0000
Statistics.....0x0000
Trace.....0x0000
UserInterface.....0x0000

```

Related Commands	Command	Description
	diaglog	Starts and stops event logging into a diagnostics log.
	radlog	Starts and stops RADVision logging into a specified log file.
	set-log	Sets the logging level of a package or all packages.

rtrv-mml

The **rtrv-mml** command displays the following information:

- All active MML sessions
- Session numbers of all active MML sessions
- User IDs of the session originators

rtrv-mml

Syntax Description	Description
	This command has no arguments or keywords.

Examples In the following example, the command displays all active MML sessions and their sessions numbers and the user IDs of the session originators.

```
gw mml> rtrv-mml

VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
mml1:matthewl
mml2:davek
```

rtrv-ne

The **rtrv-ne** command displays the type, hardware platform, vendor, location, version, and status of the Cisco HSI.

rtrv-ne

Syntax Description	Description
	This command has no arguments or keywords.

Examples In the following example, the command displays the type, hardware platform, vendor, location, version, and status of the Cisco HSI.

```
gw mml> rtrv-ne

H323 Signaling Interface Thu Dec 14 16:29:19 2000
M RTRV

Type: H323 Signaling Interface
```

```
Hardware platform: Sun netra t1
Vendor: Cisco Systems, Inc.
Location: H323 - GW1
Version: R1_1_0
Platform Status:
Signaling interface: Active
Call processing: Running
```

rtrv-ne-health

The **rtrv-ne-health** command displays the following information about the Cisco HSI status:

- CPU load
- Disk space
- Number of currently connected calls
- Number of calls in setup

rtrv-ne-health

Syntax Description

This command has no arguments or keywords.

Examples

In the following example, the command displays information about the Cisco HSI status:

```
gw mml> rtrv-ne-health
```

```
VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
```

```
CPU Load:                23%
Disk space:              123456
Number of connected calls: 23
Number of calls in setup: 12
```

rtrv-overload

The **rtrv-overload** command displays overload status information and value settings for the three provisionable levels of overload.

rtrv-overload

Syntax Description

This command has no arguments or keywords.

Examples

In the following example, the command displays overload status information.

```
gw mml> rtrv-overload
H323 Signaling Interface Tue Jan 30 11:21:45 2001
```

```

M SUCC
Overload/Gapping Information
NumCalls : 0 | CPU : 7% | DiskUsage : 27%
Status : Not in Ovld
Overload Configuration
DiskUsageLimit : 29%
OvldSampleRate : 3000ms
OvldLevel1Percent : 65%
OvldLevel1Filter : NORMAL
OvldLevel1ThreshLowerCpu : 30%
OvldLevel1ThreshUpperCpu : 35%
OvldLevel1ThreshLowerCalls : 800
OvldLevel1ThreshUpperCalls : 1000
OvldLevel2Percent : 75%
OvldLevel2Filter : ALL
OvldLevel2ThreshLowerCpu : 45%
OvldLevel2ThreshUpperCpu : 50%
OvldLevel2ThreshLowerCalls : 1100
OvldLevel2ThreshUpperCalls : 1400
OvldLevel3Percent : 90%
OvldLevel3Filter : NORMAL
OvldLevel3ThreshLowerCpu : 55%
OvldLevel3ThreshUpperCpu : 65%
OvldLevel3ThreshLowerCalls : 1400
OvldLevel3ThreshUpperCalls : 1600

```

Related Commands

Command	Description
set-overload	Defines the overload handling criteria and behavior.

rtrv-softw

The **rtrv-softw** command displays the status of the Cisco HSI and call processing activity. The following software states can be displayed for the Cisco HSI:

- Not Running
- Starting
- Active
- Restart Pending
- Halt Pending
- Reboot Pending

The following software states can be displayed for call processing:

- Running
- Idle Pending
- Idle

rtrv-softw



Note

When the Cisco HSI is in the restart pending, halt pending, or reboot pending software state, the **sta-callproc** command cancels the pending state.

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Examples

In the following example, the command displays the status of the Cisco HSI and call processing activity.

```
gw mml> rtrv-softw
VSC H-323 Signaling Interface - H323-GW1 2000-06-20 10:04:28
M RTRV
Platform Status:
Signaling interface: Active
Call processing:      Running
```

set-dest-state

The **set-dest-state** command changes the service state of an IP link or E-ISUP signaling path to IS (in service) or OOS (out of service).

set-dest-state:ipLink1toVscA:IS|OOS

set-dest-state:ipLink2toVscA:IS|OOS

set-dest-state:ipLink1toVscB:IS|OOS

set-dest-state:ipLink2toVscB:IS|OOS

set-dest-state:EisupPath:IS|OOS

set-dest-state:ipLinkNms:IS|OOS

Syntax Description

IS	In service.
OOS	Out of service.

Examples

In the following example, the command changes the service state of an IP link signaling path to IS.

```
gw mml> set-dest-state:ipLink1toVscA:state=IS
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC

Initiating state change of ipLink1toVscA to IS
gw mml> set-dest-state:ipLink1toVscA:state=OOS
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC

Initiating state change of ipLink1toVscA to OOS
```

Related Commands

Command	Description
rtrv-dest	Retrieves status information about the IP links and E-ISUP signaling path to the PGW 2200.

set-gapping

The **set-gapping** command sets the type of calls to be gapped.

set-gapping: inc | otg | both : calltype=normal | all, percent=number

Syntax Description	inc	Description
	inc	Gaps calls from the H.323 network.
	otg	Gaps calls from the PSTN over E-ISUP.
	both	Gaps calls originating from either side.
	normal	Gaps all calls except priority and emergency calls.
	all	Gaps calls of all types.
	number	Specifies the percentage of calls rejected due to call gapping.

Usage Guidelines

If call gapping is set to 100 percent, all calls are gapped irrespective of the normal or all parameter setting.

If the overload condition is active and call gapping is active, the higher of the two percentage values determines whether new call attempts are accepted or rejected.

Examples

In the following example, the command sets all calls to be gapped and specifies that 50 percent of the calls be rejected due to call gapping.

```
gw mml> set-gapping:both:calltype=all,percent=50
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
Successfully set gapping for target 'both', calltype 'all', and percentage 50
```

Related Commands

Command	Description
rtrv-gapping	Retrieves information about overload-triggered call gapping.

set-log

The **set-log** command sets the logging level of a package or all packages.

set-log:package:level=level, [confirm]

set-log:all:level=level, [confirm]

Syntax Description	package	Description
	package	One of the packages in the Cisco HSI. For a list of package names, see the “Log Message Packages” section on page 4-9.

level	Logging levels are set through the use of hexadecimal numbers between 0x0000 and 0xFFFF. The higher the number, the higher the level of debug.
confirm	If any client level parsing fails on the data session, a confirm is needed for the data to be activated.

Usage Guidelines

Logging at any level implies that upper levels are included. When you are setting logging with the level DEBUG, a confirmation is required because the amount of data logged would affect service. For a list of the packages that can log messages, see the “[Log Message Packages](#)” section on page 4-9.

Examples

In the following example, the command sets the logging level of the package gapping to 0xFFE0:

```
gw mml> set-log:gapping:0xFFE0
M SUCC
logging level for package gapping set to 0xFFE0
```

Related Commands

Command	Description
diaglog	Starts and stops event logging into a diagnostics log.
radlog	Starts and stops RADVision logging into a specified log file.
rtrv-log	Displays the logging level of a package or all packages.

set-overload

The **set-overload** command defines the overload handling criteria and behavior.

set-overload: level1|level2|level3:cpu,lower=number, upper=number

set-overload: level1|level2|level3:calls,lower=number, upper=number

set-overload: level1|level2|level3:gap,normalall : number

Syntax Description

level 1 level 2 level 3	Overload behavior can be provisioned at three separate levels: 1, 2, and 3 (rising in severity).
lower=number	The lower threshold for overload detection and restoration of normal call handling service.
upper=number	The upper threshold for overload detection and restoration of normal call handling service.

Usage Guidelines

The **set-overload** command defines the upper and lower thresholds for overload detection and restoration of normal call handling service. The percentage of calls to be gapped and the type of calls to be gapped can also be configured. Any changes made become active immediately.

The lower value must always be less than the upper value. If the call gap percentage is set to 0, the system takes no recovery action when overload is encountered, but the appropriate alarm is raised.

Inconsistent threshold settings for different levels can destabilize call processing. For successful execution of this command, ensure that threshold settings are consistent, as follows:

- The number of calls gapped at level 2 must be greater than or equal to the number of calls gapped at level 1.
- The number of calls gapped at level 3 must be greater than or equal to the number of calls gapped at levels 1 and 2.
- The lower level value of CPU occupancy must always be less than the upper level value.
- The lower level value of CPU occupancy and the number of calls for level 2 must be greater than or equal to the corresponding values for level 1.
- The lower level value of CPU occupancy and the number of calls for level 3 must be greater than or equal to the corresponding values for levels 1 and 2.

Examples

In the following example, the command defines the overload handling criteria and behavior at level 1, and the cpu to the lower threshold of 10, upper threshold of 14.

```
gw mml> set-overload:level1:cpu, lower =10, upper = 14
H323 Signaling Interface Day Mon 1 11:21:28 2001
M SUCC
Successfully added that configuration item.
```

Related Commands

Command	Retrieve
rtrv-overload	Displays the overload status and the data values for the three provisionable levels of overload

sta-callproc

The **sta-callproc** command starts call processing.

sta-callproc

Syntax Description

This command has no arguments or keywords.

Examples

In the following example, the command starts call processing.

```
gw mml> sta-softw
gw mml> sta-callproc

H323 Signaling Interface Thu Dec 14 16:31:09 2000
M SUCC

Starting call processing.
```

Related Commands

Command	Description
sta-softw	Starts the call processing application.

sta-softw

The **sta-softw** command starts the call processing application.

```
sta-softw
```

Syntax Description

This command has no arguments or keywords.

Examples

In the following example, the command starts the call processing application.

```
gw mml> sta-softw
```

```
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
```

```
The Call Processing Application is starting.
```

Related Commands

Command	Description
sta-callproc	Starts call processing

sta-trc

The **sta-trc** command starts the call processing tracing function.

```
sta-trc:Calltype=calltype,TraceLevel=trace level[,CdAddress=address]
[,CgAddress=address],log=filename[,prd=n]
```

Syntax Description

Calltype = <i>calltype</i>	This parameter defines the type of call to be traced. The possible values are: <ul style="list-style-type: none"> inc—For H.323-originated calls otg—For E-ISUP-originated calls both—For calls originating from either side
TraceLevel = <i>trace level</i>	This parameter defines the level of detail that is recorded in the call trace. The possible values are: <ul style="list-style-type: none"> terse—Only incoming/outgoing message names and RADvision API calls are traced. brief—In addition to terse, internal interfaces, and call state changes are traced. verbose—All messages and their contents, RADvision API calls and their contents, internal interfaces and call state changes are displayed.

CdAddress=address	A filter used to trace calls only with the specified leading digits with called address. A match is performed on these digits and the initial called address digits contained within the E-ISUP IAM message or the H225 SETUP message.
CgAddress=address	A filter used to trace calls only with the specified leading digits with calling address. A match is performed on these digits and the initial calling address digits contained within the E-ISUP IAM message or the H.225 SETUP message.
log=filename	The filename for the trace output.
prd=n	The trace period (in seconds). At expiration of this period, the trace log is closed. If no value is specified, the period defaults to 1800 seconds (30 minutes).

Defaults

The default trace for all calls is 30 minutes.

Usage Guidelines

Only one trace command at a time can be active. If an additional request is issued, the command should be rejected with a call trace already active indication.

Examples

In the following example, the command starts the call processing tracing function:

```
gw mml> sta-trc:Calltype=both, TraceLevel=terse, dAddress=012,CgAddress=013, log=tlog.txt,
prd=10
```

```
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
```

Related Commands

Command	Description
stp-trc	Halts the tracing currently active and closes the trace file.

stp-call

The **stp-call** command terminates a currently active call by forcing a release of the call. Disconnect/release messages are sent in both directions.

stp-call:callref=x

stp-call:all

Syntax Description

callref	Refers to a positive integer.
all	Stops all calls.

Examples

In the following example, the command terminates a currently active call by forcing a release of the call with a callref of 33..

```
gw mml> stp-call:callref=33

H323 Signaling Interface Thu Dec 14 16:43:54 2000
M SUCC

Stopped call 33
```

Related Commands

Command	Description
rtrv-calls	Displays all actively connected calls.

stp-callproc

The **stp-callproc** command stops further call processing by immediately terminating the handling of new call requests.

stp-callproc[:timeout=T]

Syntax Description

<i>timeout</i>	If no timeout period is provided, existing calls are released immediately. If a timeout period is provided, existing calls are released after the specified amount of time has elapsed. When all calls have been released, a notification message is sent to the craft terminal.
T	T is in seconds.

Examples

In the following example, the command stops further call processing by immediately terminating the handling of new call requests.

```
gw mml> stp-callproc

H323 Signaling Interface Thu Dec 14 16:27:07 2000
M SUCC

Stopped accepting new calls. Existing calls will be released in 5 seconds.

Stopping Call Processing.
```

stp-softw

The **stp-softw** command stops the call processing application. This command causes the Cisco HSI to terminate.

stp-softw[:confirm]

Syntax Description	confirm	If there are active calls, a notification is sent to the craft. In order for the command to take effect, it must be reentered with the confirm parameter.
---------------------------	----------------	---

Examples

In the following example, the command stops the call processing application.

```
gw mml> stp-softw
```

```
H323 Signaling Interface Thu Dec 14 16:27:36 2000
M SUCC
```

```
There are no active calls.
Application is now stopping
```

stp-trc

The **stp-trc** command halts the currently active tracing and closes the trace file.

stp-trc**Syntax Description**

This command has no arguments or keywords

Examples

In the following example, the command halts the currently active tracing and closes the trace file.

```
gw mml> stp-trc
H323 Signaling Interface Day Mon 1 hh:mm:ss YYYY
M SUCC
Tracing deactivated.
```

Related Commands

Command	Description
sta-trc	Starts the call processing tracing function.



Skeleton Configuration File

Provisionable and configurable data elements within the Cisco H.323 Signaling Interface (HSI) are grouped as dynamic, static, or constant data. You can modify dynamic and static data through the provisioning MML commands.

At startup, the Cisco HSI reads a skeleton file, which contains information for every configurable item within the system. It determines which group the item is in and what its possible ranges are. The format for each item is:

PackageName	ItemName	GroupValueRange
-------------	----------	-----------------

The package name is an MML name for dynamic and static data, and service package names (determined within the detailed design) for constant data.

The item name is as specified in the detailed design (that is, all constant data).

The group is one of the following:

- S = Static data
- D = Dynamic data
- C = Constant data

The ValueRange is one of the following:

- [] = Number: No range
- [x-y] = Number: Acceptable range *x* to *y*
- STRING = String value
- NULL = No associated value

An example of this command is as follows:

```
RASmaxFailD[1-200]
```

In the above example, the PackageName is RAS, the ItemName is maxFail, it is a dynamic configuration item, and it is a numerical data type with an acceptable range of 1 to 200.

The skeleton file allows the system technician to set whether data is provisionable and whether provisionable data is static or dynamic.



Note

The skeleton configuration file should be modified only by authorized personnel.

The following is an example of a skeleton file:

```

***** sys_config_static *****
#Static
SYS_CONFIG_STATICNodeidsSTRING
SYS_CONFIG_STATICHOST_PORT_NUMBER1S[0-65535]
SYS_CONFIG_STATICHOST_PORT_NUMBER2S[0-65535]
SYS_CONFIG_STATICVSC1_NAMESSTRING
SYS_CONFIG_STATICVSC2_NAMESSTRING
SYS_CONFIG_STATICVSC1_PORT_NUMBER          S          [0-65535]
SYS_CONFIG_STATICVSC2_PORT_NUMBERS[0-65535]

SYS_CONFIG_STATIC          CC_EC_DEFAULT          S          STRING
SYS_CONFIG_STATIC          CC_HC_DEFAULT          S          STRING

SYS_CONFIG_STATIC          CC_EC_AccessBarred          S          STRING
SYS_CONFIG_STATIC          CC_EC_Acknowledgement          S          STRING
SYS_CONFIG_STATIC          CC_EC_AddressIncomplete          S          STRING
SYS_CONFIG_STATIC          CC_EC_AnonymousCallRejection          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistBNumberMatched          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistCliLengthInvalid          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistCliMatched          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistCpcRestricted          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistNoCli          S          STRING
SYS_CONFIG_STATIC          CC_EC_BlacklistNoaRestricted          S          STRING
SYS_CONFIG_STATIC          CC_EC_Busy          S          STRING
SYS_CONFIG_STATIC          CC_EC_CallRejectCallGapping          S          STRING
SYS_CONFIG_STATIC          CC_EC_CallTerminated          S          STRING
SYS_CONFIG_STATIC          CC_EC_CallTypeIncompatible          S          STRING
SYS_CONFIG_STATIC          CC_EC_CallingDroppedWhileOnHold          S          STRING
SYS_CONFIG_STATIC          CC_EC_CallingPartyOffHold          S          STRING
SYS_CONFIG_STATIC          CC_EC_ChannelOutOfService          S          STRING
SYS_CONFIG_STATIC          CC_EC_Congestion          S          STRING
SYS_CONFIG_STATIC          CC_EC_CotFailure          S          STRING
SYS_CONFIG_STATIC          CC_EC_CugAccessBarred          S          STRING
SYS_CONFIG_STATIC          CC_EC_DteControlledNotReady          S          STRING
SYS_CONFIG_STATIC          CC_EC_DteUncontrolledNotReady          S          STRING
SYS_CONFIG_STATIC          CC_EC_ExcessiveDigCallProceeding          S          STRING
SYS_CONFIG_STATIC          CC_EC_FacilityNotRegistered          S          STRING
SYS_CONFIG_STATIC          CC_EC_FlowControlledCongestion          S          STRING
SYS_CONFIG_STATIC          CC_EC_GroupRestrictions          S          STRING
SYS_CONFIG_STATIC          CC_EC_IncomingCallsBarred          S          STRING
SYS_CONFIG_STATIC          CC_EC_InterceptedSubscriber          S          STRING
SYS_CONFIG_STATIC          CC_EC_InterworkUnspec          S          STRING
SYS_CONFIG_STATIC          CC_EC_InvalidCallRef          S          STRING
SYS_CONFIG_STATIC          CC_EC_MesgWithUnrecElemDiscarded          S          STRING
SYS_CONFIG_STATIC          CC_EC_MessageNotUnderstood          S          STRING
SYS_CONFIG_STATIC          CC_EC_MisroutedCallPortedNumber          S          STRING
SYS_CONFIG_STATIC          CC_EC_NetworkAddressExtensionError          S          STRING
SYS_CONFIG_STATIC          CC_EC_NetworkTermination          S          STRING
SYS_CONFIG_STATIC          CC_EC_NewDestination          S          STRING
SYS_CONFIG_STATIC          CC_EC_NumberUnobtainable          S          STRING
SYS_CONFIG_STATIC          CC_EC_OperatorPriorityAccess          S          STRING
SYS_CONFIG_STATIC          CC_EC_OutOfCatchmentArea          S          STRING
SYS_CONFIG_STATIC          CC_EC_OutgoingCallsBarred          S          STRING
SYS_CONFIG_STATIC          CC_EC_PermanentIcb          S          STRING
SYS_CONFIG_STATIC          CC_EC_PortedNumber          S          STRING
SYS_CONFIG_STATIC          CC_EC_PreemptionCctUnavailable          S          STRING
SYS_CONFIG_STATIC          CC_EC_Prefix0DialledInError          S          STRING
SYS_CONFIG_STATIC          CC_EC_Prefix1DialledInError          S          STRING
SYS_CONFIG_STATIC          CC_EC_Prefix1NotDialled          S          STRING
SYS_CONFIG_STATIC          CC_EC_PriorityForcedRelease          S          STRING
SYS_CONFIG_STATIC          CC_EC_Proprietary          S          STRING
SYS_CONFIG_STATIC          CC_EC_ProtErrThresholdExceeded          S          STRING

```

SYS_CONFIG_STATIC	CC_EC_ProtocolErrorUnspec	S	STRING
SYS_CONFIG_STATIC	CC_EC_Reject	S	STRING
SYS_CONFIG_STATIC	CC_EC_RejectedDivertedCall	S	STRING
SYS_CONFIG_STATIC	CC_EC_RemoteProcError	S	STRING
SYS_CONFIG_STATIC	CC_EC_RepeatAttempt	S	STRING
SYS_CONFIG_STATIC	CC_EC_RouteOutOfService	S	STRING
SYS_CONFIG_STATIC	CC_EC_SelectiveCallBarring	S	STRING
SYS_CONFIG_STATIC	CC_EC_ServiceIncompatible	S	STRING
SYS_CONFIG_STATIC	CC_EC_ServiceTemporarilyUnavailable	S	STRING
SYS_CONFIG_STATIC	CC_EC_ServiceUnavailable	S	STRING
SYS_CONFIG_STATIC	CC_EC_SignalNotUnderstood	S	STRING
SYS_CONFIG_STATIC	CC_EC_SignalNotValid	S	STRING
SYS_CONFIG_STATIC	CC_EC_SignallingSystemIncompatible	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubControlledIcb	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubNotFoundDle	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubscriberCallTerminate	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubscriberIncompatible	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubscriberMoved	S	STRING
SYS_CONFIG_STATIC	CC_EC_SubscriberOutOfService	S	STRING
SYS_CONFIG_STATIC	CC_EC_TemporaryOos	S	STRING
SYS_CONFIG_STATIC	CC_EC_TerminalCongestion	S	STRING
SYS_CONFIG_STATIC	CC_EC_Transferred	S	STRING
SYS_CONFIG_STATIC	CC_EC_TranslationOos	S	STRING
SYS_CONFIG_STATIC	CC_EC_UnallocatedDestNumber	S	STRING
SYS_CONFIG_STATIC	CC_EC_UndefinedBg	S	STRING
SYS_CONFIG_STATIC	CC_EC_Unknown	S	STRING
SYS_CONFIG_STATIC	CC_EC_UnrecElemPassedOn	S	STRING
SYS_CONFIG_STATIC	CC_EC_VacentCode	S	STRING
SYS_CONFIG_STATIC	CC_EC_WhitelistCliNotMatched	S	STRING

```
##### system #####
```

```
#Static
```

```
H323_SYScidAssociateSNULL
H323_SYSVtNodeCountS[0-65535]
H323_SYSchannelsS[0-65535]
H323_SYSmessagesS[0-65535]
H323_SYStpktChansS[0-65535]
H323_SYSProtocolsS[0-65535]
H323_SYSmaxProcsS[0-65535]
H323_SYSmaxBuffSizeS[0-65535]
H323_SYSmaxCallsS[0-65535]
H323_SYSmaxChannelsS[0-65535]
```

```
##### sys_config_dynamic#####
```

```
#Dynamic
```

```
SYS_CONFIG_DYNAMICLogdirectoryDSTRING
SYS_CONFIG_DYNAMICLogFilenamePrefixDSTRING
SYS_CONFIG_DYNAMICLogPriODSTRING
SYS_CONFIG_DYNAMICLogFileRotateSizeD[1000-65535]
SYS_CONFIG_DYNAMICLogFileRotateIntervalD[0-65535]
SYS_CONFIG_DYNAMICIPAddrRNMSDSTRING
SYS_CONFIG_DYNAMICDiskUsageLimitD[20-100]
SYS_CONFIG_DYNAMICOvldSampleRateD[500-10000]
SYS_CONFIG_DYNAMICOvldLevel1PercentD[0-100]
SYS_CONFIG_DYNAMICOvldLevel1FilterDSTRING
SYS_CONFIG_DYNAMICOvldLevel1ThreshLowerCallsD[1-5000]
SYS_CONFIG_DYNAMICOvldLevel1ThreshUpperCallsD[1-5000]
SYS_CONFIG_DYNAMICOvldLevel1ThreshLowerCPUD[0-100]
SYS_CONFIG_DYNAMICOvldLevel1ThreshUpperCPUD[0-100]
SYS_CONFIG_DYNAMICOvldLevel2PercentD[0-100]
SYS_CONFIG_DYNAMICOvldLevel2FilterDSTRING
SYS_CONFIG_DYNAMICOvldLevel2ThreshLowerCallsD[1-5000]
```

```

SYS_CONFIG_DYNAMICovldLevel2ThreshUpperCallsD [1-5000]
SYS_CONFIG_DYNAMICovldLevel2ThreshLowerCPUD [0-100]
SYS_CONFIG_DYNAMICovldLevel2ThreshUpperCPUD [0-100]
SYS_CONFIG_DYNAMICovldLevel3PercentD [0-100]
SYS_CONFIG_DYNAMICovldLevel3FilterDSTRING
SYS_CONFIG_DYNAMICovldLevel3ThreshLowerCallsD [1-5000]
SYS_CONFIG_DYNAMICovldLevel3ThreshUpperCallsD [1-5000]
SYS_CONFIG_DYNAMICovldLevel3ThreshLowerCPUD [0-100]
SYS_CONFIG_DYNAMICovldLevel3ThreshUpperCPUD [0-100]
SYS_CONFIG_DYNAMICCiAgentScanPeriodD []
SYS_CONFIG_DYNAMICAlarmDebounceTimeD [0-60000]

```

```

***** ras *****
#Static
RASmanualRASSNULL

```

```

***** ras *****
#Dynamic
RASresponseTimeOutD [1-200]
RASmaxFailD [1-200]
RASallowCallsWhenNonRegDNULL
RASmanualRegistrationDNULL
RAStimeToLiveD [1-65535]
RASrasPortD [0-65535]
RAScompare15bitRasCrvDNULL
RASmaxRetriesD [1-200]
RASmaxMulticastTTL [0-200]
RASpreGrantedArgUseDSTRING
RASmanualDiscovery.ipAddressDSTRING
RASmanualDiscovery.portD [0-65535]
RASgateway.prefix[i]DSTRING
RASgatekeeperIdDSTRING
RASterminalAlias[i].e164DSTRING
RASterminalAlias[i].h323IDDSTRING
RASendpointVendor.t35CountryCodeD [0-255]
RASendpointVendor.t35ExtensionD [0-255]
RASendpointVendor.manufacturerCodeD [0-65535]
RASendpointVendor.productIdDSTRING
RASendpointVendor.versionIdDSTRING

```

```

***** q931 *****
#Dynamic
Q931responseTimeOutD [1-200]
Q931connectTimeOutD [1-20000]
Q931callSignalingPortD [0-65535]
Q931maxCallsD [0-65535]
Q931notEstablishControlDNULL
Q931overlappedSendingCNULL
Q931earlyH245          CNULL
Q931h245tunneling      CNULL

```

```

***** h245 *****
#Dynamic
H245masterSlave.terminalTypeD [0-255]
H245masterSlave.manualResponseDNULL
H245masterSlave.timeoutD [0-65535]
H245masterSlave.manualOperationDNULL
H245channelsTimeoutD [0-65535]
H245roundTripTimeoutD [0-65535]
H245requestCloseTimeoutD [0-65535]
H245requestModeTimeoutD [0-65535]
H245mediaLoopTimeoutD [0-65535]
H245caps.manualOperationDNULL
H245caps.timeoutD [0-65535]

```



```

H245caps.maxAudioDelayD[0-1023]
H245caps.table[i].entryNoD[1-65535]

H245caps.table[i].audio.g711Alaw64kD[1-256]
H245caps.table[i].audio.g711Alaw56kD[1-256]
H245caps.table[i].audio.g711Ulaw64kD[1-256]
H245caps.table[i].audio.g711Ulaw56kD[1-256]
H245caps.table[i].audio.g722at64kD[1-256]
H245caps.table[i].audio.g722at56kD[1-256]
H245caps.table[i].audio.g722at48kD[1-256]
H245caps.table[i].audio.g728D[1-256]
H245caps.table[i].audio.g729D[1-256]
H245caps.table[i].audio.g729.echo[i]22kD[1-256]

H245chan[i].nameDSTRING
H245chan[i].audio.g711Alaw64kD[1-256]
H245chan[i].audio.g711Alaw56kD[1-256]
H245chan[i].audio.g711Ulaw64kD[1-256]
H245chan[i].audio.g711Ulaw56kD[1-256]
H245chan[i].audio.g722at64kD[1-256]
H245chan[i].audio.g722at56kD[1-256]
H245chan[i].audio.g722at48kD[1-256]
H245chan[i].audio.g728D[1-256]
H245chan[i].audio.g729D[1-256]

H245modes[i].nameDSTRING
H245modes[i].audio.g711Alaw64kDNULL
H245modes[i].audio.g711Alaw56kDNULL
H245modes[i].audio.g711Ulaw64kDNULL
H245modes[i].audio.g711Ulaw56kDNULL
H245modes[i].audio.g722at64kDNULL
H245modes[i].audio.g722at56kDNULL
H245modes[i].audio.g722at48kDNULL
H245modes[i].audio.g728DNULL
H245modes[i].audio.g729DNULL

#***** From GWmain.static.conf *****
#Logging
#Const

LoggingApplicationC[0-65535]
LoggingCallControlC[0-65535]
LoggingCCC[0-65535]
LoggingConnectionC[0-65535]
LoggingDataManagerC[0-65535]
LoggingEisupC[0-65535]
LoggingFaultManagerC[0-65535]
LoggingGappingC[0-65535]
LoggingH323C[0-65535]
LoggingInfrastructureC[0-65535]
LoggingOverloadC[0-65535]
LoggingProcessManagerC[0-65535]
LoggingProvisioningC[0-65535]
LoggingSignalC[0-65535]
LoggingSnmpC[0-65535]
LoggingSnmpSubagentC[0-65535]
LoggingStatisticsC[0-65535]
LoggingTraceC[0-65535]
LoggingUserInterfaceC[0-65535]
LoggingConfigurationC[0-65535]
LoggingTimerC[0-65535]
LoggingEISUPC[0-65535]

```

```
LoggingOTLoggingCSTRING
```

```
##
#### Call Control Package
##
CCPackageHash CSTRING
CCPackagePound CSTRING
CCPackageStar CSTRING
CCPackageStopDigit CSTRING

CCPackageA_CC_ChargeInd C[]
CCPackageA_CC_tEndToEndMethod C[]
CCPackageA_CC_tLineUser C[]
CCPackageA_CC_tLineStatus C[]
CCPackageA_CC_MLC_Action C[]
CCPackageA_CC_tSCCPMethod C[]
CCPackageA_CC_Interworking C[]
CCPackageA_CC_tEndToEndInfAvail C[]
CCPackageA_CC_tIsdnAllTheWay C[]
CCPackageA_CC_tEchoCancIr C[]
CCPackageA_CC_tLineAccess C[]
CCPackageA_CC_BNumDataNOA C[]
CCPackageA_CC_BNumDataNPI C[]
CCPackageA_CC_BNumDataINN C[]
CCPackageA_CC_ANumDataNOA C[]
CCPackageA_CC_Cli C []
CCPackageA_CC_ANumDataSI C[]
CCPackageA_CC_ANumDataNPI C[]
CCPackageA_CC_A_Cli C[]
CCPackageA_CC_oLinecall C[]
CCPackageA_CC_Location C[]
CCPackageA_CC_CodeStandard C[]
CCPackageA_CC_ProgressRestrict C[]
CCPackageA_CC_oIsdnPref C[]
CCPackageA_CC_oIsdnAllTheWay C[]
CCPackageA_CC_oEndToEndInfAvail C[]
CCPackageA_CC_oNatInd C[]
CCPackageA_CC_oLSPP C[]
CCPackageA_CC_oNBit C[]
CCPackageA_CC_oPORC C[]
CCPackageA_CC_oPBit C[]
CCPackageA_CC_oEndToEndMethod C[]
CCPackageA_CC_CollectCallInd C[]
CCPackageA_CC_oSCCPMethod C[]
CCPackageA_CC_GDES C[]
CCPackageA_CC_GDTD C[]
CCPackageA_CC_NOCI_VC C[]
CCPackageA_CC_NOCI_EC DI C[]
CCPackageA_CC_NOCI_CCI C[]
CCPackageA_CC_NOCI_SI C[]
CCPackageA_CC_TMR C[]
CCPackageA_CC_INFO_CFN C[]
CCPackageA_CC_GAPPEDCALLCAUSE C[]
CCPackageA_CC_WAIT_CONFIRM C[]
CCPackageA_CC_WAIT_ANSWER C[]

# Cause code map

CCPackage      CC_EC_UnallocatedNumber      C      STRING
CCPackage      CC_EC_NoRouteToTns              C      STRING
CCPackage      CC_EC_NoRouteToDest            C      STRING
CCPackage      CC_EC_SpecialInformationTone    C      STRING
```

CCPackage	CC_EC_MisdialledTkPrefix	C	STRING
CCPackage	CC_EC_ChUnacceptable	C	STRING
CCPackage	CC_EC_CallAwardedDeliveredEstCh	C	STRING
CCPackage	CC_EC_Preemption	C	STRING
CCPackage	CC_EC_PreemptionCctRes	C	STRING
CCPackage	CC_EC_NormalClearing	C	STRING
CCPackage	CC_EC_UserBusy	C	STRING
CCPackage	CC_EC_NoUserResponding	C	STRING
CCPackage	CC_EC_NoAnswerAlertedUser	C	STRING
CCPackage	CC_EC_SubAbsent	C	STRING
CCPackage	CC_EC_CallRejected	C	STRING
CCPackage	CC_EC_NumberChanged	C	STRING
CCPackage	CC_EC_RedirectionToNewDest	C	STRING
CCPackage	CC_EC_RoutingError	C	STRING
CCPackage	CC_EC_NonSelectedUserClearing	C	STRING
CCPackage	CC_EC_DestOutOfOrder	C	STRING
CCPackage	CC_EC_InvalidNumberFormat	C	STRING
CCPackage	CC_EC_FacilityRejected	C	STRING
CCPackage	CC_EC_ResponseToStatusEnquiry	C	STRING
CCPackage	CC_EC_NormalUnspecified	C	STRING
CCPackage	CC_EC_NoCircuitAvailable	C	STRING
CCPackage	CC_EC_NetworkOutOfOrder	C	STRING
CCPackage	CC_EC_PermanentFrameModeOos	C	STRING
CCPackage	CC_EC_PermanentFrameModeOperational	C	STRING
CCPackage	CC_EC_TemporaryFailure	C	STRING
CCPackage	CC_EC_SwitchingEquipCongestion	C	STRING
CCPackage	CC_EC_AccessInfoDiscarded	C	STRING
CCPackage	CC_EC_ReqCircuitUnavail	C	STRING
CCPackage	CC_EC_PrecedenceBlocked	C	STRING
CCPackage	CC_EC_ResourcesUnavailUnspec	C	STRING
CCPackage	CC_EC_QualityUnavail	C	STRING
CCPackage	CC_EC_ReqFacilityNotSubscr	C	STRING
CCPackage	CC_EC_OutgoingCallsBarredInCug	C	STRING
CCPackage	CC_EC_IncomingCallsBarredInCug	C	STRING
CCPackage	CC_EC_BearcapNotAuthorized	C	STRING
CCPackage	CC_EC_BearcapNotAvail	C	STRING
CCPackage	CC_EC_InconOutgoingAccAndSubClass	C	STRING
CCPackage	CC_EC_ServiceOrOptionNotAvail	C	STRING
CCPackage	CC_EC_BearcapNotImp	C	STRING
CCPackage	CC_EC_ChTypeNotImp	C	STRING
CCPackage	CC_EC_ReqFacilityNotImp	C	STRING
CCPackage	CC_EC_OnlyRestrictDigInfoBearer	C	STRING
CCPackage	CC_EC_ServiceOrOptionNotImpUnspec	C	STRING
CCPackage	CC_EC_InvalidCallReferenceValue	C	STRING
CCPackage	CC_EC_ChIdNotExist	C	STRING
CCPackage	CC_EC_SuspendExistButNotThisId	C	STRING
CCPackage	CC_EC_CallIdInUse	C	STRING
CCPackage	CC_EC_NoCallSuspended	C	STRING
CCPackage	CC_EC_CallIdHasBeenCleared	C	STRING
CCPackage	CC_EC_UserNotMemberOfCug	C	STRING
CCPackage	CC_EC_IncompatibleDest	C	STRING
CCPackage	CC_EC_NonExistentCug	C	STRING
CCPackage	CC_EC_InvalidTns	C	STRING
CCPackage	CC_EC_InvalidMsgUnspec	C	STRING
CCPackage	CC_EC_MandatoryElementMissing	C	STRING
CCPackage	CC_EC_MsgTypeNotImp	C	STRING
CCPackage	CC_EC_MsgTypeNotImpOrWrongState	C	STRING
CCPackage	CC_EC_ElemTypeNotImp	C	STRING
CCPackage	CC_EC_InvalidElemContents	C	STRING
CCPackage	CC_EC_MsgInWrongState	C	STRING
CCPackage	CC_EC_RecoveryOnTimerExpiry	C	STRING
CCPackage	CC_EC_ParamUnrecPassed	C	STRING
CCPackage	CC_HC_UnallocatedNumber	C	STRING

CCPackage	CC_HC_NoRouteToSpecifiedTransitNetwork	C	STRING
CCPackage	CC_HC_NoRouteToDestination	C	STRING
CCPackage	CC_HC_SendSpecialInformationTone	C	STRING
CCPackage	CC_HC_MisdialedTrunkPrefix	C	STRING
CCPackage	CC_HC_ChannelUnacceptable	C	STRING
CCPackage	CC_HC_CallAwardedEstablishedChannel	C	STRING
CCPackage	CC_HC_Preemption	C	STRING
CCPackage	CC_HC_PreemptionCircuitReservedForReuse	C	STRING
CCPackage	CC_HC_NormalCallClearing	C	STRING
CCPackage	CC_HC_UserBusy	C	STRING
CCPackage	CC_HC_NoUserresponding	C	STRING
CCPackage	CC_HC_NoAnswerFromAlertedUser	C	STRING
CCPackage	CC_HC_SubscriberAbsent	C	STRING
CCPackage	CC_HC_CallRejected	C	STRING
CCPackage	CC_HC_NumberChanged	C	STRING
CCPackage	CC_HC_RedirectionToNewDestination	C	STRING
CCPackage	CC_HC_ExchangeRouteError	C	STRING
CCPackage	CC_HC_NonSelectedUserClearing	C	STRING
CCPackage	CC_HC_DestinationOutOfOrder	C	STRING
CCPackage	CC_HC_InvalidNumberFormat	C	STRING
CCPackage	CC_HC_FacilityRejected	C	STRING
CCPackage	CC_HC_ResponseToStatusEnquiry	C	STRING
CCPackage	CC_HC_NormalUnspecified	C	STRING
CCPackage	CC_HC_NoCircuitChannelAvailable	C	STRING
CCPackage	CC_HC_NetworkOutOfOrder	C	STRING
CCPackage	CC_HC_PermanentFrameModeConnectionOutOfService	C	STRING
CCPackage	CC_HC_PermanentFrameModeConnectionOperational	C	STRING
CCPackage	CC_HC_TemporaryFailure	C	STRING
CCPackage	CC_HC_SwitchingEquipmentCongestion	C	STRING
CCPackage	CC_HC_AccessInformationDiscarded	C	STRING
CCPackage	CC_HC_RequestedCircuitChannelNotAvailable	C	STRING
CCPackage	CC_HC_PrecedenceCallBlocked	C	STRING
CCPackage	CC_HC_ResourceUnavailable	C	STRING
CCPackage	CC_HC_QualityOfServiceNotAvailable	C	STRING
CCPackage	CC_HC_RequestedFacilityNotSubscribed	C	STRING
CCPackage	CC_HC_OutgoingCallsBaredWithinCUG	C	STRING
CCPackage	CC_HC_IncomingCallsBaredWithinCUG	C	STRING
CCPackage	CC_HC_BearerCapabilityNotAuthorized	C	STRING
CCPackage	CC_HC_BearerCapabilityNotPresentlyAvailable	C	STRING
CCPackage	CC_HC_InconsistencyAccessInfoSubscriberClass	C	STRING
CCPackage	CC_HC_ServiceOrOptionUnavailable	C	STRING
CCPackage	CC_HC_BearerCapabilityNotImplemented	C	STRING
CCPackage	CC_HC_ChannelTypeNotImplemented	C	STRING
CCPackage	CC_HC_RequestedFacilityNotImplemented	C	STRING
CCPackage	CC_HC_OnlyRestrictedDigitalBearerInfoCapability	C	STRING
CCPackage	CC_HC_ServiceOrOptionNotImplemented	C	STRING
CCPackage	CC_HC_InvalidCallreferenceValue	C	STRING
CCPackage	CC_HC_IdentifiedChannelDoesNotExist	C	STRING
CCPackage	CC_HC_ASuspendedCallExistsThisCallIdDoesNot	C	STRING
CCPackage	CC_HC_CallIdentityInUse	C	STRING
CCPackage	CC_HC_NoCallSuspended	C	STRING
CCPackage	CC_HC_CallHavingTheRequestedCallIdHasBeenCleared	C	STRING
CCPackage	CC_HC_UserNotMemberOfCUG	C	STRING
CCPackage	CC_HC_IncompatibleDestination	C	STRING
CCPackage	CC_HC_NonExistantCUG	C	STRING
CCPackage	CC_HC_InvalidTransitNetworkSelection	C	STRING
CCPackage	CC_HC_InvalidMessage	C	STRING
CCPackage	CC_HC_MandatoryInformationElementIsMissing	C	STRING
CCPackage	CC_HC_MessageTypeNonExistantOrNotImplemented	C	STRING
CCPackage	CC_HC_MessageTypeNotCompatibleWithStateOrNonExistantOrNotImplemented	C	STRING
CCPackage	CC_HC_InformationElementParameterNonExistantOrNotImplemented	C	STRING
CCPackage	CC_HC_InvalidInformationElementContents	C	STRING
CCPackage	CC_HC_MessageNotCompatibleWithCallState	C	STRING
CCPackage	CC_HC_RecoveryOnTimerExpiry	C	STRING

```

CCPackage          CC_HC_ParameterNonExistantOrNotImplementedPassedOn          C          STRING

#
# Package Gapping
# Set the gapping percentage level for each side. A level of 0
# indicates no gapping
# A level of 100 indicates gap all calls (except priority calls -
# see treatment below)
#
GappingH323level C[]
GappingEISUPlevel C[]

#
# Priority treatment determines the treatment of priority calls
# during gapping.
# GapAlways indicates priority calls are treated as normal calls
# GapNever indicate priority calls are never to be gapped
# GapOn100PercentGapping indicates priority calls are only gapped
# when 100 percent gapping is applied.
#
GappingPriorityCallTreatmentCSTRING

#
# Configuration for trace package
# There are five trace trigger locations. Each location can hold one type of
# six trigger types as follows:
#
# EISUP CallingPartyNumber (E.164 address)
# EISUP CalledPartyNumber (E.164 address)
# H323 CallingPartyNumber (E.164 address)
# H323 CalledPartyNumber (E.164 address)
# H323 OriginatingIPAddress and H323 OriginatingIPMask (dotted notation)
# H323 TerminatingIPAddress and TerminatingIPMask (dotted notation)
#
TraceTraceOutputFilename CSTRING
TraceTrigger1.eisup.CallingPartyNumberC[]
TraceTrigger1.eisup.CalledPartyNumberC[]
TraceTrigger1.h323.CallingPartyNumberC[]
TraceTrigger1.h323.CalledPartyNumberC[]
TraceTrigger1.h323.OriginatingIPAddressC[]
TraceTrigger1.h323.OriginatingIPMaskC[]
TraceTrigger1.h323.TerminatingIPAddressC[]
TraceTrigger1.h323.TerminatingIPMaskC[]

TraceTrigger2.eisup.CallingPartyNumberC[]
TraceTrigger2.eisup.CalledPartyNumberC[]
TraceTrigger2.h323.CallingPartyNumberC[]
TraceTrigger2.h323.CalledPartyNumberCSTRING
TraceTrigger2.h323.OriginatingIPAddressCSTRING
TraceTrigger2.h323.OriginatingIPMaskCSTRING
TraceTrigger2.h323.TerminatingIPAddressCSTRING
TraceTrigger2.h323.TerminatingIPMaskCSTRING

TraceTrigger3.eisup.CallingPartyNumberC[]
TraceTrigger3.eisup.CalledPartyNumberC[]
TraceTrigger3.h323.CallingPartyNumberC[]
TraceTrigger3.h323.CalledPartyNumberC[]
TraceTrigger3.h323.OriginatingIPAddressC[]
TraceTrigger3.h323.OriginatingIPMaskC[]

```

```

TraceTrigger3.h323.TerminatingIPAddressC []
TraceTrigger3.h323.TerminatingIPMaskC []

TraceTrigger4.eisup.CallingPartyNumberC []
TraceTrigger4.eisup.CalledPartyNumberC []
TraceTrigger4.h323.CallingPartyNumberC []
TraceTrigger4.h323.CalledPartyNumberC []
TraceTrigger4.h323.OriginatingIPAddressC []
TraceTrigger4.h323.OriginatingIPMaskC []
TraceTrigger4.h323.TerminatingIPAddressC []
TraceTrigger4.h323.TerminatingIPMaskC []

TraceTrigger5.eisup.CallingPartyNumberC []
TraceTrigger5.eisup.CalledPartyNumberC []
TraceTrigger5.h323.CallingPartyNumberC []
TraceTrigger5.h323.CalledPartyNumberC []
TraceTrigger5.h323.OriginatingIPAddressCSTRING
TraceTrigger5.h323.OriginatingIPMaskCSTRING
TraceTrigger5.h323.TerminatingIPAddressCSTRING
TraceTrigger5.h323.TerminatingIPMaskCSTRING

#
# TraceTriggerSwitch(for CLI/SNMP application)
# This gates the output of the trigger data for each location
#
TraceTriggerGate1CSTRING
TraceTriggerGate2CSTRING
TraceTriggerGate3CSTRING
TraceTriggerGate4CSTRING
TraceTriggerGate5CSTRING

##
## Package EISUP
##
EISUPHOST_PORT_NUMBERC []
EISUPVSC1_NAMECSTRING
EISUPVSC1_PORT_NUMBERC []

#
#The period for CISCO's RUDP timer manager in milli seconds
#
EISUPRUDP_TIMER_CHECK_PERIOD_MSECC []

##
## Package Application
##

ApplicationDefaultCallProcessingStatus C STRING
ApplicationWaitBeforeCallReleaseTimer C []
ApplicationRestartPendingTimer C []
ApplicationHaltPendingTimer C []
ApplicationRebootPendingTimer C []

#
#Information required by the rtrv-ne-health MML command
#

ApplicationHardware C STRING
ApplicationLocation C STRING

##

```

```
## Package H323
##
H323          maxTimersC[]
H323tickPeriodC[]
H323defaultSDPtCSTRING
H323overrideConfig S[0-1]

#
# Test entries for provisioning tests.
#

RASNumberNoRangeConstC[]
RASNumberRangeDynamic2_4D[2-4]

H245NumberNoRangeConstC[]
H245NumberRangeStatic1_4 S[1-4]

Q931QuotedDynamicD STRING
Q931NonQuotedConstCSTRING
Q931ConnectTimeoutConstC STRING
```




E-ISUP Name-to-Cause Value Lookup

This appendix lists the Cisco E-ISUP protocol names and their associated cause values.

Name	Value
-----	-----
CC_EC_AccessBarred	54
CC_EC_AccessInfoDiscarded	1
CC_EC_Acknowledgement	55
CC_EC_AddressIncomplete	56
CC_EC_AnonymousCallRejection	116
CC_EC_BaercapNotAvail	3
CC_EC_BearcapNotAuthorized	2
CC_EC_BearcapNotImp	4
CC_EC_BlacklistBNumberMatched	137
CC_EC_BlacklistCliLengthInvalid	133
CC_EC_BlacklistCliMatched	134
CC_EC_BlacklistCpcRestricted	135
CC_EC_BlacklistNoCli	132
CC_EC_BlacklistNoaRestricted	136
CC_EC_Busy	57
CC_EC_CallAwardedDeliveredEstCh	5
CC_EC_CallIdHasBeenCleared	6
CC_EC_CallIdInUse	7
CC_EC_CallRejectCallGapping	102
CC_EC_CallRejected	8
CC_EC_CallTerminated	61
CC_EC_CallTypeIncompatible	95
CC_EC_CallingDroppedWhileOnHold	98
CC_EC_CallingPartyOffHold	97
CC_EC_ChIdNotExist	9
CC_EC_ChTypeNotImp	10
CC_EC_ChUnacceptable	11
CC_EC_ChannelOutOfService	58
CC_EC_Congestion	60
CC_EC_CotFailure	141
CC_EC_CugAccessBarred	108
CC_EC_DEFAULT	32
CC_EC_DestOutOfOrder	12
CC_EC_DteControlledNotReady	59
CC_EC_DteUncontrolledNotReady	79
CC_EC_ElemTypeNotImp	13
CC_EC_ExcessiveDigCallProceeding	123
CC_EC_FacilityNotRegistered	62
CC_EC_FacilityRejected	14
CC_EC_FlowControlledCongestion	110
CC_EC_GroupRestrictions	96

CC_EC_IncomingCallsBarred	63
CC_EC_IncomingCallsBarredInCug	81
CC_EC_IncompatibleDest	15
CC_EC_InconOutgoingAccAndSubClass	126
CC_EC_InterceptedSubscriber	53
CC_EC_InterworkUnspec	16
CC_EC_InvalidCallRef	143
CC_EC_InvalidCallReferenceValue	17
CC_EC_InvalidElemContents	18
CC_EC_InvalidMsgUnspec	19
CC_EC_InvalidNumberFormat	20
CC_EC_InvalidTns	21
CC_EC_MandatoryElementMissing	22
CC_EC_MesgWithUnrecElemDiscarded	128
CC_EC_MessageNotUnderstood	65
CC_EC_MisdialledTkPrefix	84
CC_EC_MisroutedCallPortedNumber	142
CC_EC_MsgInWrongState	23
CC_EC_MsgTypeNotImp	24
CC_EC_MsgTypeNotImpOrWrongState	25
CC_EC_NetworkAddressExtensionError	66
CC_EC_NetworkOutOfOrder	26
CC_EC_NetworkTermination	67
CC_EC_NewDestination	99
CC_EC_NoAnswerAlertedUser	28
CC_EC_NoCallSuspended	27
CC_EC_NoCircuitAvailable	29
CC_EC_NoRouteToDest	33
CC_EC_NoRouteToTns	34
CC_EC_NoUserResponding	35
CC_EC_NonExistentCug	127
CC_EC_NonSelectedUserClearing	30
CC_EC_NormalClearing	31
CC_EC_NormalUnspecified	32
CC_EC_NumberChanged	36
CC_EC_NumberUnobtainable	68
CC_EC_OnlyRestrictDigInfoBearer	37
CC_EC_OperatorPriorityAccess	107
CC_EC_OutOfCatchmentArea	111
CC_EC_OutgoingCallsBarred	100
CC_EC_OutgoingCallsBarredInCug	125
CC_EC_ParamUnrecPassed	85
CC_EC_PermanentFrameModeOos	130
CC_EC_PermanentFrameModeOperational	131
CC_EC_PermanentIcb	113
CC_EC_PortedNumber	139
CC_EC_PrecedenceBlocked	94
CC_EC_Preemption	87
CC_EC_PreemptionCctRes	129
CC_EC_PreemptionCctUnavailable	88
CC_EC_Prefix0DialledInError	120
CC_EC_Prefix1DialledInError	121
CC_EC_Prefix1NotDialled	122
CC_EC_PriorityForcedRelease	69
CC_EC_Proprietary	86
CC_EC_ProtErrThresholdExceeded	124
CC_EC_ProtocolErrorUnspec	38
CC_EC_QualityUnavail	39
CC_EC_RecoveryOnTimerExpiry	40
CC_EC_RedirectionToNewDest	140
CC_EC_Reject	70
CC_EC_RejectedDivertedCall	103
CC_EC_RemoteProcError	105
CC_EC_RepeatAttempt	118

CC_EC_ReqCircuitUnavail	41
CC_EC_ReqFacilityNotImp	42
CC_EC_ReqFacilityNotSubscr	43
CC_EC_ResourcesUnavailUnspec	44
CC_EC_ResponseToStatusEnquiry	45
CC_EC_RouteOutOfService	71
CC_EC_RoutingError	93
CC_EC_SelectiveCallBarring	104
CC_EC_ServiceIncompatible	64
CC_EC_ServiceOrOptionNotAvail	47
CC_EC_ServiceOrOptionNotImpUnspec	46
CC_EC_ServiceTemporarilyUnavailable	77
CC_EC_ServiceUnavailable	78
CC_EC_SignalNotUnderstood	73
CC_EC_SignalNotValid	74
CC_EC_SignallingSystemIncompatible	76
CC_EC_SpecialInformationTone	82
CC_EC_SubAbsent	91
CC_EC_SubControlledIcb	101
CC_EC_SubNotFoundDle	115
CC_EC_SubscriberCallTerminate	109
CC_EC_SubscriberIncompatible	72
CC_EC_SubscriberMoved	114
CC_EC_SubscriberOutOfService	75
CC_EC_SuspendExistButNotThisId	48
CC_EC_SwitchingEquipCongestion	49
CC_EC_TemporaryFailure	50
CC_EC_TemporaryOos	106
CC_EC_TerminalCongestion	117
CC_EC_Transferred	80
CC_EC_TranslationOos	112
CC_EC_UnallocatedDestNumber	89
CC_EC_UnallocatedNumber	51
CC_EC_UndefinedBg	92
CC_EC_Unknown	144
CC_EC_UnrecElemPassedOn	90
CC_EC_UserBusy	52
CC_EC_UserNotMemberOfCug	83
CC_EC_VacantCode	119
CC_EC_WhitelistCliNotMatched	138





E-ISUP Cause Value-to-Name Lookup

This appendix lists the Cisco E-ISUP cause values and their associated names.

Value	Name
-----	-----
1	CC_EC_AccessInfoDiscarded
2	CC_EC_BearcapNotAuthorized
3	CC_EC_BaercapNotAvail
4	CC_EC_BearcapNotImp
5	CC_EC_CallAwardedDeliveredEstCh
6	CC_EC_CallIdHasBeenCleared
7	CC_EC_CallIdInUse
8	CC_EC_CallRejected
9	CC_EC_ChIdNotExist
10	CC_EC_ChTypeNotImp
11	CC_EC_ChUnacceptable
12	CC_EC_DestOutOfOrder
13	CC_EC_ElemTypeNotImp
14	CC_EC_FacilityRejected
15	CC_EC_IncompatibleDest
16	CC_EC_InterworkUnspec
17	CC_EC_InvalidCallReferenceValue
18	CC_EC_InvalidElemContents
19	CC_EC_InvalidMsgUnspec
20	CC_EC_InvalidNumberFormat
21	CC_EC_InvalidTns
22	CC_EC_MandatoryElementMissing
23	CC_EC_MsgInWrongState
24	CC_EC_MsgTypeNotImp
25	CC_EC_MsgTypeNotImpOrWrongState
26	CC_EC_NetworkOutOfOrder
27	CC_EC_NoCallSuspended
28	CC_EC_NoAnswerAlertedUser
29	CC_EC_NoCircuitAvailable
30	CC_EC_NonSelectedUserClearing
31	CC_EC_NormalClearing
32	CC_EC_DEFAULT
32	CC_EC_NormalUnspecified
33	CC_EC_NoRouteToDest
34	CC_EC_NoRouteToTns
35	CC_EC_NoUserResponding
36	CC_EC_NumberChanged
37	CC_EC_OnlyRestrictDigInfoBearer
38	CC_EC_ProtocolErrorUnspec
39	CC_EC_QualityUnavail
40	CC_EC_RecoveryOnTimerExpiry
41	CC_EC_ReqCircuitUnavail

42	CC_EC_ReqFacilityNotImp
43	CC_EC_ReqFacilityNotSubscr
44	CC_EC_ResourcesUnavailUnspec
45	CC_EC_ResponseToStatusEnquiry
46	CC_EC_ServiceOrOptionNotImpUnspec
47	CC_EC_ServiceOrOptionNotAvail
48	CC_EC_SuspendExistButNotThisId
49	CC_EC_SwitchingEquipCongestion
50	CC_EC_TemporaryFailure
51	CC_EC_UnallocatedNumber
52	CC_EC_UserBusy
53	CC_EC_InterceptedSubscriber
54	CC_EC_AccessBarred
55	CC_EC_Acknowledgement
56	CC_EC_AddressIncomplete
57	CC_EC_Busy
58	CC_EC_ChannelOutOfService
59	CC_EC_DteControlledNotReady
60	CC_EC_Congestion
61	CC_EC_CallTerminated
62	CC_EC_FacilityNotRegistered
63	CC_EC_IncomingCallsBarred
64	CC_EC_ServiceIncompatible
65	CC_EC_MessageNotUnderstood
66	CC_EC_NetworkAddressExtensionError
67	CC_EC_NetworkTermination
68	CC_EC_NumberUnobtainable
69	CC_EC_PriorityForcedRelease
70	CC_EC_Reject
71	CC_EC_RouteOutOfService
72	CC_EC_SubscriberIncompatible
73	CC_EC_SignalNotUnderstood
74	CC_EC_SignalNotValid
75	CC_EC_SubscriberOutOfService
76	CC_EC_SignallingSystemIncompatible
77	CC_EC_ServiceTemporarilyUnavailable
78	CC_EC_ServiceUnavailable
79	CC_EC_DteUncontrolledNotReady
80	CC_EC_Transferred
81	CC_EC_IncomingCallsBarredInCug
82	CC_EC_SpecialInformationTone
83	CC_EC_UserNotMemberOfCug
84	CC_EC_MisdialledTkPrefix
85	CC_EC_ParamUnrecPassed
86	CC_EC_Proprietary
87	CC_EC_Preemption
88	CC_EC_PreemptionCctUnavailable
89	CC_EC_UnallocatedDestNumber
90	CC_EC_UnrecElemPassedOn
91	CC_EC_SubAbsent
92	CC_EC_UndefinedBg
93	CC_EC_RoutingError
94	CC_EC_PrecedenceBlocked
95	CC_EC_CallTypeIncompatible
96	CC_EC_GroupRestrictions
97	CC_EC_CallingPartyOffHold
98	CC_EC_CallingDroppedWhileOnHold
99	CC_EC_NewDestination
100	CC_EC_OutgoingCallsBarred
101	CC_EC_SubControlledIch
102	CC_EC_CallRejectCallGapping
103	CC_EC_RejectedDivertedCall
104	CC_EC_SelectiveCallBarring
105	CC_EC_RemoteProcError

106	CC_EC_TemporaryOos
107	CC_EC_OperatorPriorityAccess
108	CC_EC_CugAccessBarred
109	CC_EC_SubscriberCallTerminate
110	CC_EC_FlowControlledCongestion
111	CC_EC_OutOfCatchmentArea
112	CC_EC_TranslationOos
113	CC_EC_PermanentIcb
114	CC_EC_SubscriberMoved
115	CC_EC_SubNotFoundDle
116	CC_EC_AnonymousCallRejection
117	CC_EC_TerminalCongestion
118	CC_EC_RepeatAttempt
119	CC_EC_VacentCode
120	CC_EC_Prefix0DialledInError
121	CC_EC_Prefix1DialledInError
122	CC_EC_Prefix1NotDialled
123	CC_EC_ExcessiveDigCallProceeding
124	CC_EC_ProtErrThresholdExceeded
125	CC_EC_OutgoingCallsBarredInCug
126	CC_EC_InconOutgoingAccAndSubClass
127	CC_EC_NonExistentCug
128	CC_EC_MesgWithUnrecElemDiscarded
129	CC_EC_PreemptionCctRes
130	CC_EC_PermanentFrameModeOos
131	CC_EC_PermanentFrameModeOperational
132	CC_EC_BlacklistNoCli
133	CC_EC_BlacklistCliLengthInvalid
134	CC_EC_BlacklistCliMatched
135	CC_EC_BlacklistCpcRestricted
136	CC_EC_BlacklistNoaRestricted
137	CC_EC_BlacklistBNumberMatched
138	CC_EC_WhitelistCliNotMatched
139	CC_EC_PortedNumber
140	CC_EC_RedirectionToNewDest
141	CC_EC_CotFailure
142	CC_EC_MisroutedCallPortedNumber
143	CC_EC_InvalidCallRef
144	CC_EC_Unknown



H.323 Name-to-Cause Value Lookup

This appendix lists the H.323 names and their associated cause values.

Name	Value
----	----
CC_HC_ASuspendedCallExistsThisCallIdDoesNot	83
CC_HC_AccessInformationDiscarded	43
CC_HC_BearerCapabilityNotAuthorized	57
CC_HC_BearerCapabilityNotImplemented	65
CC_HC_BearerCapabilityNotPresentlyAvailable	58
CC_HC_CallAwardedEstablishedChannel	7
CC_HC_CallHavingTheRequestedCallIdHasBeenCleared	86
CC_HC_CallIdentityInUse	84
CC_HC_CallRejected	21
CC_HC_ChannelTypeNotImplemented	66
CC_HC_ChannelUnacceptable	6
CC_HC_DEFAULT	31
CC_HC_DestinationOutOfOrder	27
CC_HC_ExchangeRouteError	25
CC_HC_FacilityRejected	29
CC_HC_IdentifierChannelDoesNotExist	82
CC_HC_IncomingCallsBaredWithinCUG	55
CC_HC_IncompatibleDestination	88
CC_HC_InconsistencyAccessInfoSubscriberClass	62
CC_HC_InformationElementParameterNonExistantOrNotImplemented	99
CC_HC_InvalidCallreferenceValue	81
CC_HC_InvalidInformationElementContents	100
CC_HC_InvalidMessage	95
CC_HC_InvalidNumberFormat	28
CC_HC_InvalidTransitNetworkSelection	91
CC_HC_MandatoryInformationElementIsMissing	96
CC_HC_MessageNotCompatibleWithCallState	101
CC_HC_MessageTypeNonExistantOrNotImplemented	97
CC_HC_MessageTypeNotCompatibleWithStateOrNonExistantOrNotImplemented	98
CC_HC_MisdialedTrunkPrefix	5
CC_HC_NetworkOutOfOrder	38
CC_HC_NoAnswerFromAlertedUser	19
CC_HC_NoCallSuspended	85
CC_HC_NoCircuitChannelAvailable	34
CC_HC_NoRouteToDestination	3
CC_HC_NoRouteToSpecifiedTransitNetwork	2
CC_HC_NoUserresponding	18
CC_HC_NonExistantCUG	90
CC_HC_NonSelectedUserClearing	26
CC_HC_NormalCallClearing	16
CC_HC_NormalUnspecified	31

CC_HC_NumberChanged	22
CC_HC_OnlyRestrictedDigitalBearerInfoCapability	70
CC_HC_OutgoingCallsBaredWithinCUG	53
CC_HC_ParameterNonExistantOrNotImplementedPassedOn	103
CC_HC_PermanentFrameModeConnectionOperational	40
CC_HC_PermanentFrameModeConnectionOutOfService	39
CC_HC_PrecedenceCallBlocked	46
CC_HC_Preemption	8
CC_HC_PreemptionCircuitReservedForReuse	9
CC_HC_QualityOfServiceNotAvailable	49
CC_HC_RecoveryOnTimerExpiry	102
CC_HC_RedirectionToNewDestination	23
CC_HC_RequestedCircuitChannelNotAvailable	44
CC_HC_RequestedFacilityNotImplemented	69
CC_HC_RequestedFacilityNotSubscribed	50
CC_HC_ResourceUnavailable	47
CC_HC_ResponceToStatusEnquiry	30
CC_HC_SendSpecialInformationTone	4
CC_HC_ServiceOrOptionNotImplemented	79
CC_HC_ServiceOrOptionUnavailable	63
CC_HC_SubscriberAbsent	20
CC_HC_SwitchingEquipmentCongestion	42
CC_HC_TemporaryFailure	41
CC_HC_UnallocatedNumber	1
CC_HC_UserBusy	17
CC_HC_UserNotMemberOfCUG	87



H.323 Cause Value-to-Name Lookup

This appendix lists the H.323 cause values and their associated names.

Value	Name
1	CC_HC_UnallocatedNumber
2	CC_HC_NoRouteToSpecifiedTransitNetwork
3	CC_HC_NoRouteToDestination
4	CC_HC_SendSpecialInformationTone
5	CC_HC_MisdialedTrunkPrefix
6	CC_HC_ChannelUnacceptable
7	CC_HC_CallAwardedEstablishedChannel
8	CC_HC_Preemption
9	CC_HC_PreemptionCircuitReservedForReuse
16	CC_HC_NormalCallClearing
17	CC_HC_UserBusy
18	CC_HC_NoUserresponding
19	CC_HC_NoAnswerFromAlertedUser
20	CC_HC_SubscriberAbsent
21	CC_HC_CallRejected
22	CC_HC_NumberChanged
23	CC_HC_RedirectionToNewDestination
25	CC_HC_ExchangeRouteError
26	CC_HC_NonSelectedUserClearing
27	CC_HC_DestinationOutOfOrder
28	CC_HC_InvalidNumberFormat
29	CC_HC_FacilityRejected
30	CC_HC_ResponseToStatusEnquiry
31	CC_HC_DEFAULT
31	CC_HC_NormalUnspecified
34	CC_HC_NoCircuitChannelAvailable
38	CC_HC_NetworkOutOfOrder
39	CC_HC_PermanentFrameModeConnectionOutOfService
40	CC_HC_PermanentFrameModeConnectionOperational
41	CC_HC_TemporaryFailure
42	CC_HC_SwitchingEquipmentCongestion
43	CC_HC_AccessInformationDiscarded
44	CC_HC_RequestedCircuitChannelNotAvailable
46	CC_HC_PrecedenceCallBlocked
47	CC_HC_ResourceUnavailable
49	CC_HC_QualityOfServiceNotAvailable
50	CC_HC_RequestedFacilityNotSubscribed
53	CC_HC_OutgoingCallsBaredWithinCUG
55	CC_HC_IncomingCallsBaredWithinCUG
57	CC_HC_BearerCapabilityNotAuthorized
58	CC_HC_BearerCapabilityNotPresentlyAvailable
62	CC_HC_InconsistencyAccessInfoSubscriberClass

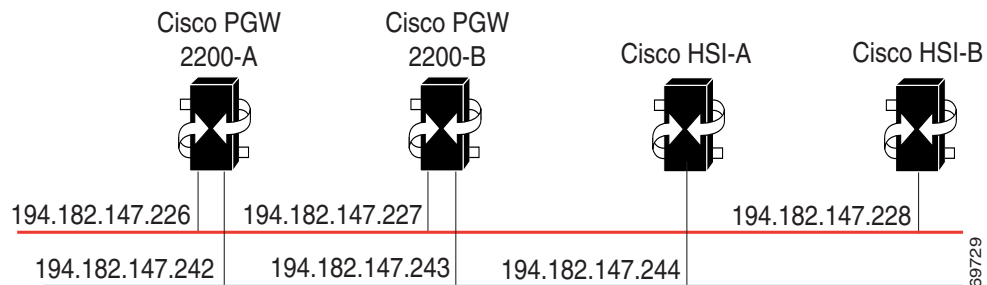
63 CC_HC_ServiceOrOptionUnavailable
65 CC_HC_BearerCapabilityNotImplemented
66 CC_HC_ChannelTypeNotImplemented
69 CC_HC_RequestedFacilityNotImplemented
70 CC_HC_OnlyRestrictedDigitalBearerInfoCapability
79 CC_HC_ServiceOrOptionNotImplemented
81 CC_HC_InvalidCallreferenceValue
82 CC_HC_IdentifiedChannelDoesNotExist
83 CC_HC_ASuspendedCallExistsThisCallIdDoesNot
84 CC_HC_CallIdentityInUse
85 CC_HC_NoCallSuspended
86 CC_HC_CallHavingTheRequestedCallIdHasBeenCleared
87 CC_HC_UserNotMemberOfCUG
88 CC_HC_IncompatibleDestination
90 CC_HC_NonExistantCUG
91 CC_HC_InvalidTransitNetworkSelection
95 CC_HC_InvalidMessage
96 CC_HC_MandatoryInformationElementIsMissing
97 CC_HC_MessageTypeNonExistantOrNotImplemented
98 CC_HC_MessageTypeNotCompatibleWithStateOrNonExistantOrNotImplemented
99 CC_HC_InformationElementParameterNonExistantOrNotImplemented
100 CC_HC_InvalidInformationElementContents
101 CC_HC_MessageNotCompatibleWithCallState
102 CC_HC_RecoveryOnTimerExpiry
103 CC_HC_ParameterNonExistantOrNotImplementedPassedOn



Dual Cisco HSI with a Redundant PGW 2200 Configuration

A dual Cisco H.323 Signaling Interface (HSI) can be installed and configured for use with a redundant Cisco Public Switched Telephone Network (PSTN) Gateway (PGW 22200) configuration. (For installation procedures, see the [“Installing a Dual Cisco HSI for a Redundant PGW 2200 Configuration”](#) section on page 2-10.) [Figure G-1](#) shows a dual Cisco HSI with a redundant PGW 2200 configuration.

Figure G-1 Dual Cisco HSI with a Redundant PGW 2200 Configuration



The following sample installation script provides information about a dual Cisco HSI system with a redundant PGW 2200 configuration:

```
prov-sta::srcver="new",dstver="gwing1"
prov-add:name="CCPackage",A_CC_Interworking=""
prov-add:name="CCPackage",A_CC_oLinecall=""
prov-add:name="H245",caps.manualOperation=""
prov-add:name="H245",caps.maxAudioDelay="60"
prov-add:name="H245",caps.table[1].audio.g711Ulaw64k="20"
prov-add:name="H245",caps.table[1].entryNo="7111"
prov-add:name="H245",caps.table[2].audio.g711Alaw64k="20"
prov-add:name="H245",caps.table[2].entryNo="7110"
prov-add:name="H245",caps.table[3].audio.g728="20"
prov-add:name="H245",caps.table[3].entryNo="728"
prov-add:name="H245",caps.timeout="30"
prov-add:name="H245",chan[1].audio.g711Alaw64k="20"
prov-add:name="H245",chan[1].name="g711Alaw64k"
prov-add:name="H245",chan[2].audio.g711Ulaw64k="20"
prov-add:name="H245",chan[2].name="g711Ulaw64k"
prov-add:name="H245",chan[3].audio.g728="20"
prov-add:name="H245",chan[3].name="g728"
prov-add:name="H245",channelsTimeout="30"
prov-add:name="H245",masterSlave.manualOperation=""
```

```

prov-add:name="H245",masterSlave.manualResponse=""
prov-add:name="H245",masterSlave.terminalType="60"
prov-add:name="H245",masterSlave.timeout="30"
prov-add:name="H245",modes[1].audio.g711Alaw64k=""
prov-add:name="H245",modes[1].name="g711Alaw64k"
prov-add:name="H245",modes[2].audio.g711Ulaw64k=""
prov-add:name="H245",modes[2].name="g711Ulaw64k"
prov-add:name="H323",defaultRadLog="0"
prov-add:name="H323",overrideConfig="0"
prov-add:name="H323_SYS",maxCalls="2500"
prov-add:name="H323_SYS",maxChannels="2"
prov-add:name="Logging",Application="0xFF00"
prov-add:name="Logging",CallControl="0xFFFF"
prov-add:name="Logging",Connection="0xFF00"
prov-add:name="Logging",DataManager="0xFF00"
prov-add:name="Logging",Eisup="0xFFFF"
prov-add:name="Logging",FaultManager="0xFF00"
prov-add:name="Logging",Gapping="0xFF00"
prov-add:name="Logging",H323="0xFFFF"
prov-add:name="Logging",Infrastructure="0xFF00"
prov-add:name="Logging",OTLogging="ON"
prov-add:name="Logging",Overload="0xFF00"
prov-add:name="Logging",ProcessManager="0xFF00"
prov-add:name="Logging",Provisioning="0xFE00"
prov-add:name="Logging",Signal="0xFE00"
prov-add:name="Logging",Snmp="0xFE00"
prov-add:name="Logging",SnmpSubagent="0xFE00"
prov-add:name="Logging",Statistics="0xFE00"
prov-add:name="Logging",Trace="0xFE00"
prov-add:name="Logging",UserInterface="0xFF00"
prov-add:name="Q931",callSignalingPort="1720"
prov-add:name="Q931",connectTimeOut="180"
prov-add:name="Q931",maxCalls="2500"
prov-add:name="Q931",responseTimeOut="60"
prov-add:name="RAS",endpointVendor.manufacturerCode="9"
prov-add:name="RAS",endpointVendor.productID="GoldWing"
prov-add:name="RAS",endpointVendor.t35CountryCode="11"
prov-add:name="RAS",endpointVendor.t35Extension="11"
prov-add:name="RAS",gatekeeperId="IGK1"
prov-add:name="RAS",gateway.prefix[1]="1"
prov-add:name="RAS",manualDiscovery.ipAddress="194.182.147.248"
prov-add:name="RAS",manualDiscovery.port="1719"
prov-add:name="RAS",maxFail="3"
prov-add:name="RAS",maxMulticastTTL="3"
prov-add:name="RAS",maxRetries="3"
prov-add:name="RAS",preGrantedArqUse="direct"
prov-add:name="RAS",rasPort="0"
prov-add:name="RAS",responseTimeOut="30"
prov-add:name="RAS",terminalAlias[1].h323ID="gwing1"
prov-add:name="RAS",timeToLive="600"
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERID="OuterLondonAlt"
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERIP=""
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERPORT="1719"
prov-add:name="SYS_CONFIG_DYNAMIC",DISKUSAGELIMIT="98"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGDIRECTORY="var/log/"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILENAMEPREFIX="platform"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILEROTATEINTERVAL="1440"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILEROTATESIZE="10240"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGPRIO="TRACE"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1PERCENT="20"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHLOWERCALLS="1800"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHLOWERCPU="60"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHUPPERCALLS="1900"

```

```

prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHUPPERCPU="65"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2PERCENT="75"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHLOWERCALLS="2000"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHLOWERCPU="70"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHUPPERCALLS="2200"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHUPPERCPU="80"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3PERCENT="90"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHLOWERCALLS="2300"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHLOWERCPU="85"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHUPPERCALLS="2400"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHUPPERCPU="95"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDSAMPLERATE="3000"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AccessBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Acknowledgement="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AddressIncomplete="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AnonymousCallRejection="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistBNumberMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCliLengthInvalid="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCliMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCpcRestricted="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistNoaRestricted="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistNoCli="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Busy="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallingDroppedWhileOnHold="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallingPartyOffHold="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallRejectCallGapping="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallTerminated="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallTypeIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ChannelOutOfService="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Congestion="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CotFailure="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CugAccessBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DEFAULT="CC_EC_NormalUnspecified"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DteControlledNotReady="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DteUncontrolledNotReady="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ExcessiveDigCallProceeding="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_FacilityNotRegistered="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_FlowControlledCongestion="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_GroupRestrictions="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_IncomingCallsBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InterruptedSubscriber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InterworkUnspec="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InvalidCallRef="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MesgWithUnrecElemDiscarded="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MessageNotUnderstood="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MisroutedCallPortedNumber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NetworkAddressExtensionError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NetworkTermination="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NewDestination="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NumberUnobtainable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_OperatorPriorityAccess="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_OutgoingCallsBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_OutOfCatchmentArea="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_PermanentIcb="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_PortedNumber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_PreemptionCctUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix0DialledInError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix1DialledInError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix1NotDialled="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_PriorityForcedRelease="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Proprietary="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ProtErrThresholdExceeded="CC_HC_DEFAULT"

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```

prov-add:name="SYS_CONFIG_STATIC",CC_EC_ProtocolErrorUnspec="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Reject="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RejectedDivertedCall="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RemoteProcError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RepeatAttempt="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RouteOutOfService="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SelectiveCallBarring="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceTemporarilyUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SignallingSystemIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SignalNotUnderstood="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SignalNotValid="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubControlledIcb="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubNotFoundDle="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberCallTerminate="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberMoved="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberOutOfService="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_TemporaryOos="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_TerminalCongestion="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Transferred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_TranslationOos="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_UnallocatedDestNumber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_UndefinedBg="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Unknown="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_UnrecElemPassedOn="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_VacantCode="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_WhitelistCliNotMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_HC_DEFAULT="CC_HC_NormalUnspecified"
prov-add:name="SYS_CONFIG_STATIC",HOST_PORT_NUMBER1="9001"
prov-add:name="SYS_CONFIG_STATIC",HOST_PORT_NUMBER2="0"
prov-add:name="SYS_CONFIG_STATIC",NodeId="H323-GW1"
prov-add:name="SYS_CONFIG_STATIC",VSCA_IPADDR1="194.182.147.242"
prov-add:name="SYS_CONFIG_STATIC",VSCA_IPADDR2="194.182.147.242"
prov-add:name="SYS_CONFIG_STATIC",VSCA_PORT_NUMBER1="8003"
prov-add:name="SYS_CONFIG_STATIC",VSCA_PORT_NUMBER2="8003"
prov-add:name="SYS_CONFIG_STATIC",VSCB_IPADDR1="194.182.147.243"
prov-add:name="SYS_CONFIG_STATIC",VSCB_IPADDR2="194.182.147.243"
prov-add:name="SYS_CONFIG_STATIC",VSCB_PORT_NUMBER1="8003"
prov-add:name="SYS_CONFIG_STATIC",VSCB_PORT_NUMBER2="8003"
prov-cpy

```

```

prov-sta::srcver="new",dstver="gwing2"
prov-add:name="CCPackage",A_CC_Interworking=""
prov-add:name="CCPackage",A_CC_oLinecall=""
prov-add:name="H245",caps.manualOperation=""
prov-add:name="H245",caps.maxAudioDelay="60"
prov-add:name="H245",caps.table[1].audio.g711Ulaw64k="20"
prov-add:name="H245",caps.table[1].entryNo="7111"
prov-add:name="H245",caps.table[2].audio.g711Alaw64k="20"
prov-add:name="H245",caps.table[2].entryNo="7110"
prov-add:name="H245",caps.table[3].audio.g728="20"
prov-add:name="H245",caps.table[3].entryNo="728"
prov-add:name="H245",caps.timeout="30"
prov-add:name="H245",chan[1].audio.g711Alaw64k="20"
prov-add:name="H245",chan[1].name="g711Alaw64k"
prov-add:name="H245",chan[2].audio.g711Ulaw64k="20"
prov-add:name="H245",chan[2].name="g711Ulaw64k"
prov-add:name="H245",chan[3].audio.g728="20"
prov-add:name="H245",chan[3].name="g728"
prov-add:name="H245",channelsTimeout="30"
prov-add:name="H245",masterSlave.manualOperation=""

```



```

prov-add:name="H245",masterSlave.manualResponse=" "
prov-add:name="H245",masterSlave.terminalType="60"
prov-add:name="H245",masterSlave.timeout="30"
prov-add:name="H245",modes[1].audio.g711Alaw64k=" "
prov-add:name="H245",modes[1].name="g711Alaw64k"
prov-add:name="H245",modes[2].audio.g711Ulaw64k=" "
prov-add:name="H245",modes[2].name="g711Ulaw64k"
prov-add:name="H323",defaultRadLog="0"
prov-add:name="H323",overrideConfig="0"
prov-add:name="H323_SYS",maxCalls="2500"
prov-add:name="H323_SYS",maxChannels="2"
prov-add:name="Logging",Application="0xFF00"
prov-add:name="Logging",CallControl="0xFFFF"
prov-add:name="Logging",Connection="0xFF00"
prov-add:name="Logging",DataManager="0xFF00"
prov-add:name="Logging",Eisup="0xFFFF"
prov-add:name="Logging",FaultManager="0xFF00"
prov-add:name="Logging",Gapping="0xFF00"
prov-add:name="Logging",H323="0xFFFF"
prov-add:name="Logging",Infrastructure="0xFF00"
prov-add:name="Logging",OTLogging="ON"
prov-add:name="Logging",Overload="0xFF00"
prov-add:name="Logging",ProcessManager="0xFF00"
prov-add:name="Logging",Provisioning="0xFE00"
prov-add:name="Logging",Signal="0xFE00"
prov-add:name="Logging",Snmp="0xFE00"
prov-add:name="Logging",SnmpSubagent="0xFE00"
prov-add:name="Logging",Statistics="0xFE00"
prov-add:name="Logging",Trace="0xFE00"
prov-add:name="Logging",UserInterface="0xFF00"
prov-add:name="Q931",callSignalingPort="1720"
prov-add:name="Q931",connectTimeOut="180"
prov-add:name="Q931",maxCalls="2500"
prov-add:name="Q931",responseTimeOut="60"
prov-add:name="RAS",endpointVendor.manufacturerCode="9"
prov-add:name="RAS",endpointVendor.productID="GoldWing"
prov-add:name="RAS",endpointVendor.t35CountryCode="11"
prov-add:name="RAS",endpointVendor.t35Extension="11"
prov-add:name="RAS",gatekeeperId="IGK1"
prov-add:name="RAS",gateway.prefix[1]="1"
prov-add:name="RAS",manualDiscovery.ipAddress="194.182.147.248"
prov-add:name="RAS",manualDiscovery.port="1719"
prov-add:name="RAS",maxFail="3"
prov-add:name="RAS",maxMulticastTTL="3"
prov-add:name="RAS",maxRetries="3"
prov-add:name="RAS",preGrantedArqUse="direct"
prov-add:name="RAS",rasPort="0"
prov-add:name="RAS",responseTimeOut="30"
prov-add:name="RAS",terminalAlias[1].h323ID="gwing2"
prov-add:name="RAS",timeToLive="600"
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERID="OuterLondonAlt"
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERIP=" "
prov-add:name="SYS_CONFIG_DYNAMIC",ALTERNATEGATEKEEPERPORT="1719"
prov-add:name="SYS_CONFIG_DYNAMIC",DISKUSAGELIMIT="98"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGDIRECTORY="var/log/"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILENAMEPREFIX="platform"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILEROTATEINTERVAL="1440"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGFILEROTATESIZE="10240"
prov-add:name="SYS_CONFIG_DYNAMIC",LOGPRIO="TRACE"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1PERCENT="20"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHLOWERCALLS="1800"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHLOWERCPU="60"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHUPPERCALLS="1900"

```

```

prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL1THRESHUPPERCPU="65"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2PERCENT="75"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHLOWERCALLS="2000"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHLOWERCPU="70"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHUPPERCALLS="2200"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL2THRESHUPPERCPU="80"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3FILTER="NORMAL"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3PERCENT="90"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHLOWERCALLS="2300"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHLOWERCPU="85"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHUPPERCALLS="2400"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDDLEVEL3THRESHUPPERCPU="95"
prov-add:name="SYS_CONFIG_DYNAMIC",OVLDSAMPLERATE="3000"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AccessBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Acknowledgement="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AddressIncomplete="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_AnonymousCallRejection="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistBNumberMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCliLengthInvalid="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCliMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistCpcRestricted="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistNoaRestricted="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_BlacklistNoCli="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Busy="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallingDroppedWhileOnHold="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallingPartyOffHold="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallRejectCallGapping="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallTerminated="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CallTypeIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ChannelOutOfService="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Congestion="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CotFailure="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_CugAccessBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DEFAULT="CC_EC_NormalUnspecified"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DteControlledNotReady="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_DteUncontrolledNotReady="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ExcessiveDigCallProceeding="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_FacilityNotRegistered="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_FlowControlledCongestion="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_GroupRestrictions="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_IncomingCallsBarred="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InterceptedSubscriber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InterworkUnspec="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_InvalidCallRef="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MesgWithUnrecElemDiscarded="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MessageNotUnderstood="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_MisroutedCallPortedNumber="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NetworkAddressExtensionError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NetworkTermination="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NewDestination="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_NumberUnobtainable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_OperatorPriorityAccess="CC_HC_DEFAULT"
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prov-add:name="SYS_CONFIG_STATIC",CC_EC_PreemptionCctUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix0DialedInError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix1DialedInError="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Prefix1NotDialed="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_PriorityForcedRelease="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Proprietary="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ProtErrThresholdExceeded="CC_HC_DEFAULT"

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prov-add:name="SYS_CONFIG_STATIC",CC_EC_ProtocolErrorUnspec="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_Reject="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RejectedDivertedCall="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_RemoteProcError="CC_HC_DEFAULT"
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prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceIncompatible="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceTemporarilyUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_ServiceUnavailable="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SignallingSystemIncompatible="CC_HC_DEFAULT"
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prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberCallTerminate="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_EC_SubscriberIncompatible="CC_HC_DEFAULT"
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prov-add:name="SYS_CONFIG_STATIC",CC_EC_WhitelistCliNotMatched="CC_HC_DEFAULT"
prov-add:name="SYS_CONFIG_STATIC",CC_HC_DEFAULT="CC_HC_NormalUnspecified"
prov-add:name="SYS_CONFIG_STATIC",HOST_PORT_NUMBER1="9002"
prov-add:name="SYS_CONFIG_STATIC",HOST_PORT_NUMBER2="0"
prov-add:name="SYS_CONFIG_STATIC",NodeId="H323-GW1"
prov-add:name="SYS_CONFIG_STATIC",VSCA_IPADDR1="194.182.147.226"
prov-add:name="SYS_CONFIG_STATIC",VSCA_IPADDR2="194.182.147.226"
prov-add:name="SYS_CONFIG_STATIC",VSCA_PORT_NUMBER1="8004"
prov-add:name="SYS_CONFIG_STATIC",VSCA_PORT_NUMBER2="8004"
prov-add:name="SYS_CONFIG_STATIC",VSCB_IPADDR1="194.182.147.227"
prov-add:name="SYS_CONFIG_STATIC",VSCB_IPADDR2="194.182.147.227"
prov-add:name="SYS_CONFIG_STATIC",VSCB_PORT_NUMBER1="8004"
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