

# PGW 2200 Softswitch: RAI Configuration on the HSI

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## Introduction

This document provides an example of a Resource Availability Indicator (RAI) configuration on the Cisco H.323 Signaling Interface (HSI). This configuration is designed for the gatekeeper to detect when an EISUP link has gone down between the CiscoPGW2200 and the Cisco HSI. When an EISUP link goes down, an RAI `fail` message is sent to the gatekeeper, and the gatekeeper replies with a Resource Available Confirm (RAC) message.

## Prerequisites

### Requirements

Ensure that you meet these requirements before you attempt this configuration:

- Cisco Media Gateway Controller Software Release 9 Documentation
- Cisco H.323 Signaling Interface Release 4.1 documentation
- The ITU–T H.323 standard specifications
- HSI Data Collection for Technical Support Service Requests

### Components Used

The information in this document is based on these software versions:

- Cisco PGW 2200 Software Releases 9.4(1)
- Cisco HSI Software 4.1

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

## Conventions

Refer to the Cisco Technical Tips Conventions for more information on document conventions.

## Configure

In this section, you are presented with the information to configure the features described in this document.

**Note:** Use the Command Lookup Tool (registered customers only) in order to find additional information on the commands used in this document.

In order for the gatekeeper to detect that EISUP links are down, an RAI message is required from the Cisco HSI.

**Note:** For a redundant Cisco PGW2200 configuration, the fail RAI message should only be sent if the EISUP link to the Active MGC has failed; it should not be issued if the Standby MGC link has failed.

## HSI Configuration

A configuration element called `RaiSupported` is used in order to enable or disable the RAI fail message feature. It is part of the `SYS_CONFIG_STATIC` family.

In order to switch on this feature, the element must be present and given an arbitrary (string) value, as shown here:

```
ON: prov-add/ed:name=SYS_CONFIG_STATIC, RaiSupported=enabled
```

In order to switch this feature off, the element must be given no value ( ). Alternatively, it can be deleted from the configuration. Both options are shown here:

- OFF: `prov-ed:name=SYS_CONFIG_STATIC, RaiSupported=`
- `prov-dlt:name=SYS_CONFIG_STATIC, RaiSupported`

Example:

## Configuration

In order to add the RAI message functionality on the Cisco HSI, you need to add `RaiSupported=enabled` to the `SYS_CONFIG_STATIC` family. The default status of `RaiSupported` is disabled.

This document uses this configuration:

RAI Configuration on the HSI
<pre>telnet hsil SunOS 5.8  login: mgcusr Password: *** Sun Microsystems Inc.   SunOS 5.8           Generic February 2000 mgcusr@hsil% mm1 Connecting to port 10129 on host hsil</pre>

Welcome to the GoldWing H323 Signalling Gateway.

```
gw mml> prov-sta:srcver="active",dstver="test15"  
H323 Signalling Gateway Sat Jul 24 14:21:31 2004  
M SUCC
```

Successfully started provisioning session "test15" from "active".  
Note: This provisioning session has not been verified.

```
gw mml> prov-add:name=SYS_CONFIG_STATIC, RaiSupported=enabled  
H323 Signalling Gateway Sat Jul 24 14:21:46 2004  
M SUCC
```

Successfully added provisioning element(s):  
MML Name : SYS\_CONFIG\_STATIC.  
Parameter: RaiSupported.  
Value : enabled.

```
gw mml> prov-cpy  
H323 Signalling Gateway Sat Jul 24 14:22:10 2004  
M SUCC
```

Successfully activated provisioning session test15.

```
gw mml> quit
```

Exiting GoldWing MML.  
mgcusr@hsil%

*!--- Issue this command in order to restart the application  
!--- under directory/etc/init.d:*

```
# ./CiscoGW stop  
Signalling PMmain to shut down  
Signalling GWmain[27287] to shut down  
Process 'PMmain' not found  
Process 'GWmain' not found  
...shutdown complete  
# ./CiscoGW start
```

Application started  
#

*!--- You can run on the Cisco IOS® gatekeeper  
!--- the show gatekeeper gw-type-prefix command.*

```
#show gatekeeper gw-type-prefix
```

```
GATEWAY TYPE PREFIX TABLE  
=====  
Prefix: 71*  
  
Zone cisco-1 master gateway list:  
10.48.84.180:1720 HSI01  
10.48.84.190:1720 HSI02
```

If you see :

```
#show gatekeeper gw-type-prefix  
GATEWAY TYPE PREFIX TABLE  
=====  
Prefix: 71*  
Zone cisco-1 master gateway list:  
10.48.84.180:1720 HSI01
```

10.48.84.190:1720 HSI02 (out-of-resources)

*!--- HSI, which plays the role of a H323 gateway, appears as  
!--- Out of Resources in the gatekeeper when HSI has sent  
!--- a RAI message to the Gatekeeper with a Resource Unavailable  
!--- indication. This happens any time HSI cannot handle  
!--- calls for any reason: not all processes are started,  
!--- HSI goes to 100 percent CPU, faulty IP connectivity.*

#### Capturing Cisco IOS debug Logs

*!--- When you capture the logs that includes debugs on the Cisco IOS  
!--- gateway/gatekeeper, it is important to configure the router  
!--- such that timestamps are present on the logs and debugs.  
!--- Also, it is imperative that no logs get dropped. Logging  
!--- to the console can cause logs and/or debugs to get  
!--- discarded from the output. This configuration statements turn on  
!--- log timestamps, and direct the log output to a buffer.*

#### config terminal

```
service timestamps debug datetime msec
service timestamps log datetime msec
no logging console
logging buffer <Logging buffer size>
debug
end
```

*!--- Turn on the Cisco IOS **debug** for H225 ASN  
!--- on the Cisco Gatekeeper in order to check  
!--- that the feature works correctly.*

Cisco\_Gatekeeper#**debug h225 asn1**

*!--- Run the Cisco IOS show debug command in order to check  
!--- if the debug is activated. Before you make reproduce the problem,  
!--- make sure that you clear the log buffer.clear loggingReproduce  
!--- the problem. You can do a commanding links IS/OOS  
!--- on the Cisco PGW2200 or command EISUP destinations  
!--- IS/OOS on the Cisco PGW2200 or physically remove or  
!--- re-plug IP links between Cisco HSI and the Cisco PGW2200.*

H.225 ASN1 Messages debugging is on.

You can do a commanding links IS/OOS on the Cisco PGW2200 -or-  
command EISUP destinations IS/OOS on the Cisco PGW2200 -or-  
physically remove or re-plug IP links between Cisco HSI and the Cisco PGW2200.

*!--- When the Cisco IOS **debug h225 asn1**  
!--- are activated on the Cisco Gatekeeper, you can run  
!--- the **show log | include resourcesAvailable** command to verify  
!--- if the resourceAvailable message is logged on the gatekeeper  
!--- with the Cisco IOS **logging buffered** command.*

Cisco\_Gatekeeper#**show log | include resourcesAvailable**

Output of the Cisco Gatekeeper **debug log** information:

```
value RasMessage ::= resourcesAvailableIndicate:
value RasMessage ::= resourcesAvailableConfirm:
```

*!--- If the ResourceAvailable message is available on*

```
!--- the Cisco Gatekeeper log, you can check
!--- the content of this H225 debug message.
```

```
!--- The content of this debug message is:
```

```
<snip>
value RasMessage ::= resourcesAvailableIndicate:
  {
    requestSeqNum 10103
    protocolIdentifier { 0 0 8 2250 0 4 }
    endpointIdentifier {"822C71A000000015"}
    protocols
      {
      }
    almostOutOfResources TRUE
  }

```

```
14203224: Jul 12 10:25:54.095: RAS OUTGOING PDU ::=
```

```
value RasMessage ::= resourcesAvailableConfirm:
  {
    requestSeqNum 10103
    protocolIdentifier { 0 0 8 2250 0 2 }
  }
<snip>
```

```
!--- Note: You do not see the logs since
!--- logging to the console was turned off through the previous command.
!--- But, the logs and debugs are captured in the
!--- log buffer. In order o see them, set the terminal length
!--- to 0 and show the log buffer. If you set the terminal
!--- length to 0, this causes the output to scroll continuously,
!--- for example, without the --More-- prompt.
```

```
no debug all
terminal length 0
show logging
```

**Note:** The Cisco HSI re-sends the RAI message twice, if it does not initially receive a RAC message from the gatekeeper. The interval at which the messages are sent is determined by the Cisco HSI RAS, `responseTimeout` property (defaulted to 30 seconds).

## Verify

There is currently no verification procedure available for this configuration.

## Troubleshoot

Refer to HSI Data Collection for Technical Support Service Requests for more information in the event this configuration fails.

## NetPro Discussion Forums – Featured Conversations

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## Related Information

- [Cisco PGW 2200 Softswitch Tech Notes](#)
- [Cisco Signaling Controllers Technical Documentation](#)
- [Voice Technology Support](#)
- [Voice and Unified Communications Product Support](#)
- [Recommended Reading: Troubleshooting Cisco IP Telephony](#)
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