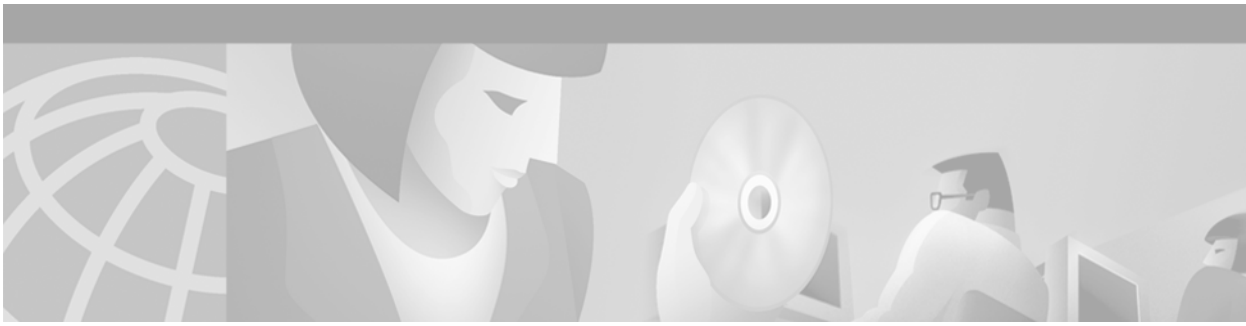

Gateway Support for Alternate Gatekeeper

Feature History

Release	Modification
12.0(7)T	This feature was introduced.
12.1(5)XM2	Support was added for the Cisco AS5350 and Cisco AS5400 universal gateways.

This feature module describes the Gateway Support for Alternate Gatekeeper feature. It includes information on the benefits of the new feature, supported platforms, related documents, and so forth.

Feature Overview

The Alternate Gatekeeper feature provides redundancy for a gatekeeper in a system where gatekeepers are used. This enhancement allows a gateway to use up to two alternate gatekeepers as a backup in the case of a primary gatekeeper failure.

A gatekeeper manages H.323 endpoints in a consistent manner, allowing them to register with the gateway and to locate another gatekeeper. The gatekeeper provides logic variables for proxies or gateways in a call path, to provide connectivity with the public switched telephone network (PSTN), to improve Quality of Service (QoS), and to enforce security policies. Multiple gatekeepers may be configured to communicate with one another, either by integrating their addressing into Domain Naming System (DNS) or using Cisco IOS configuration options.

Benefits

Redundancy

This feature allows for up to two alternate gatekeepers to be used in the case that the primary gatekeeper becomes unresponsive.

Restrictions

- This feature can be used only with a gatekeeper that supports the alternate gatekeeper functionality.
- The timer/retry number of RAS messages remains internal to the gateway as currently implemented. This feature does not include CLI commands to allow tuning of these parameters.
- The alternate gatekeeper list is volatile. This means that when the router loses power or is reset or reloaded, the alternate gatekeeper list that the router acquires from the gatekeeper is lost.

Related Documents

Configuring H.323 VoIP Gatekeeper for Cisco Access Platforms

Supported Platforms

The Alternate Gatekeeper feature is available on Cisco platforms that support H.323 gateway functionality. This includes:

- Cisco 2600
- Cisco 3600
- Cisco MC3810
- Cisco AS5300
- Cisco AS5350
- Cisco AS5400
- Cisco AS5800
- Cisco 7200

Supported Standards, MIBs, and RFCs

Standards

No new or modified standards are supported by this feature.

MIBs

No new or modified MIBs are supported by this feature.

To obtain lists of MIBs supported by platform and Cisco IOS release and to download MIB modules, go to the Cisco MIB web site on Cisco Connection Online (CCO) at http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml.

RFCs

No new or modified RFCs are supported by this feature.

Prerequisites

The Cisco AS5350 and Cisco AS5400 do not support the Mica Modem Card, Microcom Modem Card, or VoIP Feature Card. Voice and modem functions are provided by the Universal Port Dial Feature card running SPE firmware. See the *Cisco AS5350 Universal Gateway Card Installation Guide* and the *Cisco AS5400 Universal Gateway Card Installation Guide* for more information. All references to the Cisco AS5300 in this document apply to the Cisco AS5350 and Cisco AS5400 platforms with the following exceptions:

- Use the Universal Port Dial Feature Card instead of the Mica or Microcom modem cards.
- Use SPE firmware instead of portware version 6.7.7.
- Run Cisco IOS Release 12.1(5)XM2 software for VoIP functionality.

Configuration Tasks

See the following sections for configuration tasks for the Gateway Support for Alternate Gatekeeper feature. Each task in the list indicates if the task is optional or required.

- Configuring the Alternate Gatekeeper (required)
- Verifying Configuration of the Alternate Gatekeeper (optional_

Configuring the Alternate Gatekeeper

Step	Command	Purpose
Step 1	`Router(config)# configure interface`	Enters interface configuration mode.
Step 2	`Router(config-if)# interface Ethernet 0/1`	Configures this Ethernet interface.
Step 3	`Router(config-if)# ip address 172.18.193.59 255.255.255.0`	Identifies the IP address of the Ethernet interface.
Step 4	`Router(config-if)# h323-gateway voip interface`	Enters the VoIP interface command to configure the alternate gatekeeper.
Step 5	`Router(config-if)# h323-gateway voip id GK1ID ipaddr 172.18.193.65 1719 priority 120`	Identifies the gatekeeper and set the attributes. See the “Command Reference” section on page 4 for more information.
Step 6	`Router(config-if)# h323-gateway voip id GK2ID ipaddr 172.18.193.66 1719`	Identifies the alternate gatekeeper.

Step	Command	Purpose
Step 7	`Router(config-if)# h323-gateway voip h323-id cisco2`	Identifies the H.323 ID of a particular H.323 end-point, which is the gateway in this case.
Step 8	`Router(config-if)# end`	Exits interface configuration mode.

Verifying Configuration of the Alternate Gatekeeper

Step 1 Enter the **show gate** command to see that there is an alternate gatekeeper configured.

```
Alternate Gatekeeper List
 priority 126 id GK1 ipaddr 172.18.193.61 1719
 priority 127 id GK2 ipaddr 172.18.193.63 1719
```

Configuration Examples

In the following example, the primary and secondary gatekeepers are configured with the priority option. The priority range is 1 through 127. The first gatekeeper has been configured as priority 120; the second gatekeeper has not been configured, so it remains at the default setting of 127.

```
interface Ethernet 0/1
 ip address 172.18.193.59 255.255.255.0
 h323-gateway voip interface
 h323-gateway voip id GK1 ipaddr 172.18.193.65 1719 priority 120
 h323-gateway voip id GK1 ipaddr 172.18.193.65 1719
 h323-gateway voip h323-id cisco2
```

Command Reference

This section documents new or modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.1 command reference publications.

h323-gateway voip

h323-gateway voip

To configure an additional gatekeeper to be used when the primary gatekeeper becomes unresponsive, use the **h323-gateway voip** interface command. To disable, use the **no** form of this command.

h323-gateway voip *gatekeeper-ID ip-address* **priority** *number*

no h323-gateway voip *gatekeeper-ID ip-address* **priority** *number*

Syntax Description

gatekeeper-ID	The name of the gatekeeper.
ip-address	The IP address of the gatekeeper.
priority *number*	The priority of this gatekeeper. Range is 1 through 127, and the default value is 127.

Defaults

The default value for priority is 127.

Command Modes

Interface configuration mode.

Command History

Release	Modification
12.0(7)T	This command was introduced.
12.1(5)XM2	The command was introduced for the Cisco AS5350 and CiscoAS5400.

Usage Guidelines

You can configure up to two alternate gatekeepers.

The IP address of the gatekeeper does not have to be explicit; you can also use the multicast option. Multicasting saves bandwidth by forcing the network to replicate packets only when necessary. The multicast option, shown below, notifies every gatekeeper in the local area network (LAN) using a universal address, 224.0.1.41.

```
h323-gateway voip id GK1 multicast
h323-gateway voip id GK2 ipaddr 172.18.193.65 1719
```

Examples

The following example shows two gatekeepers configured with the same priority value, but the first gatekeeper configured will be the first one used. 1719 is the UDP port number that is universally defined by H.323 standards for communicating to the gatekeeper from an endpoint.

```
priority 127 id GK1 ipaddr 172.18.193.61 1719
priority 127 id GK2 ipaddr 172.18.193.63 1719
```

Glossary

AAA—Authentication, Authorization, and Accounting. AAA is a suite of network security services that provide the primary framework through which access control can be set up on your Cisco router or access server.

ANI—Answer number indication. The calling number (number of calling party).

ARQ—Admission request.

CAS—Channel associated signaling.

dial peer---An addressable call endpoint. In Voice over IP (VoIP), there are two types of dial peers: POTS and VoIP.

endpoint---An H.323 terminal or gateway. An endpoint can call and be called. It generates or terminates the information stream, or both.

gatekeeper—A gatekeeper maintains a registry of devices in the multimedia network. The devices register with the gatekeeper at startup, and request admission to a call from the gatekeeper.

The gatekeeper is an H.323 entity on the LAN that provides address translation and control access to the LAN for H.323 terminals and gateways. The gatekeeper may provide other services to the H.323 terminals and gateways, such as bandwidth management and locating gateways.

gateway—A gateway allows H.323 terminals to communicate with non-H.323 terminals by converting protocols. A gateway is the point at which a circuit-switched call is encoded and repackaged into IP packets.

A H.323 gateway is an endpoint on the LAN that provides real-time, two-way communications between H.323 terminals on the LAN and other ITU-T terminals in the WAN, or to another H.323 gateway.

H.323—An International Telecommunication Union (ITU-T) standard that describes packet-based video, audio, and data conferencing. H.323 is an umbrella standard that describes the architecture of the conferencing system, and refers to a set of other standards (H.245, H.225.0, and Q.931) to describe its actual protocol.

H.323 RAS—Registration, admission, and status. The RAS signaling function performs registration, admissions, bandwidth changes, status, and disengage procedures between the VoIP gateway and the gatekeeper.

LRQ—Location request.

node—An H.323 entity that uses RAS to communicate with the gatekeeper. For example, an endpoint such as a terminal, proxy, or gateway.

POTS—Plain old telephone service. Basic telephone service supplying standard single-line telephones, telephone lines, and access to the PSTN.

PSTN—Public switched telephone network. PSTN refers to the local telephone company.

QoS—Quality of service, which refers to the measure of service quality provided to the user.

RAS—Registration, admission, and status protocol. This is the protocol that is used between endpoints and the gatekeeper to perform management functions.

RBS—Robbed bit signaling

RRQ—Registration request.

VoIP—Voice over IP. The ability to carry normal telephone-style voice over an IP-based internet with POTS-like functionality, reliability, and voice quality. VoIP is a blanket term that generally refers to Cisco's standards-based (H.323, and so on.) approach to IP voice traffic.

Note For a list of other internetworking terms, see *Internetworking Terms and Acronyms*, available on the Documentation CD-ROM and Cisco Connection Online (CCO) at the following URL: http://www.cisco.com/univercd/cc/td/doc/cisintwk/ita/index.htm.