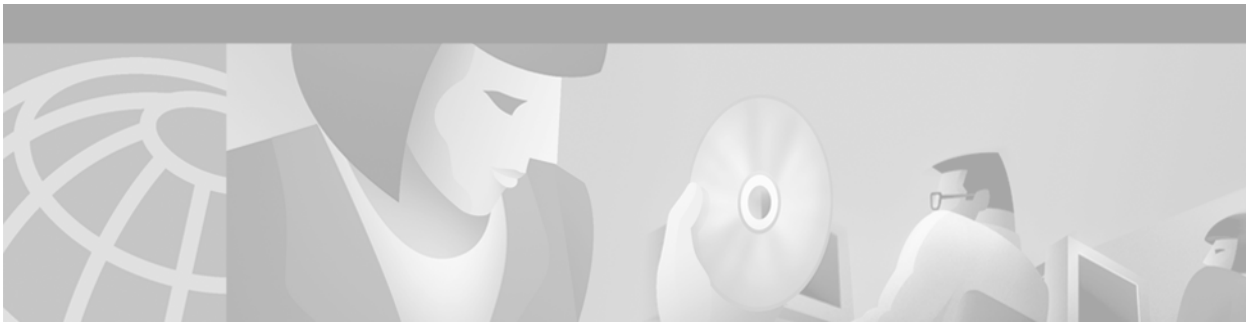

Cisco H.323 Multizone Enhancements

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 Cisco H.323 Multizone Enhancements functionality and new features. It includes information on the benefits of the new features, supported platforms, related documents, and so forth.

This document includes the following sections:

Feature Overview

This feature enables the Cisco gateway to provide information to the gatekeeper with the use of additional fields in the RAS (registration, admission, and status) messages.

Previously, the source gateway attempted to set up a call to a destination IP address as provided by the gatekeeper in an Admission Confirm (ACF) message. If the gatekeeper was unable to resolve the destination E.164 phone number to an IP address, the incoming call was terminated.

This version of the H.323 software adds support to allow a gatekeeper to provide additional destination information and modify the destinationInfo field in the ACF. The gateway will include the canMapAlias associated destination information in setting up the call to the destination gateway.

In conjunction with the canMapAlias functionality, this version includes support for the gatekeeper to indicate to the gateway that the call should be destined to a new E.164 number. The gatekeeper indicates this by sending an Admission Confirm message with an IP address of 0.0.0.0 in the destCallSignalAddress field and the new destination E.164 phone number in the destinationInfo field.

The gateway receiving such an ACF will fall back to routing the call based on this new E.164 address and performing a re-lookup of the gateway's configured dial plan. This might result in the call being routed back to the PSTN or to an H.323 endpoint.

Benefits

Enhanced Call Routing

With this version of the software, the gatekeeper no longer terminates a call if it is unable to resolve the destination E.164 phone number to an IP address. In addition, the gatekeeper indicates to the gateway that the call should be destined to a new E.164 number.

Restrictions

- Modifying the destination address to a new E.164 address to alter the call to a new destination is not supported by Cisco’s gatekeepers.

Related Documents

- *Cisco H.323 Gateway Security and Accounting Enhancements*
- *Configuring the Cisco AS5300 for Voice Service Provider Features*

Supported Platforms

These enhancements are 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 7200

Supported Standards, MIBs, and RFCs

Standards

This feature adds support for the following ITU-T standards: H.323 Annex E and H.323 Annex G.

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.

Other Prerequisites

Before you can use the H.323 version 2 features, you must do the following:

- Establish a working IP network. For more information about configuring IP, refer to the "IP Overview," "Configuring IP Addressing," and "Configuring IP Services" chapters in the Cisco IOS Release 12.0 *Network Protocols Configuration Guide, Part 1*.
- Install the appropriate voice network module and voice interface card for your Cisco router. For more information about the physical characteristics of the voice network module, or how to install it, refer to the installation documentation, *Voice Network Module and Voice Interface Card Configuration Note*, that came with your voice network module.
- Configure Voice over IP. For more information about configuring Voice over IP, refer to the documents listed in the "Related Documents" section on page 2.
- Configure H.323 gatekeepers, gateways, and proxies as needed. For more information about configuring these H.323 components, refer to the documents listed in the "Related Documents" section on page 2.

Configuration Tasks

None

Command Reference

None

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.

ACF—Admissions Confirmation RAS Message.

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

ARJ—Admissions Reject RAS Message.

ARQ—Admissions Request RAS Message.

CAS—Channel associated signaling.

CCAPI—Call control applications programming interface.

CEI—European channelized TDM with 32 channels of 64 kHz each.

CLI—Command line interface.

CO—Central office.

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

DNS—Domain name system used to address translation to convert H.323 IDs, URLs, or e-mail IDs to IP addresses. DNS is also used to assist in the location of remote gatekeepers and to reverse-map raw IP addresses to host names of administrative domains.

E.164—The international public telecommunications numbering plan. A standard set by ITU-T that addresses telephone numbers.

endpoint—A H.323 terminal or gateway. An endpoint can call and be called. It generates and/or terminates the information stream.

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 a 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.235—ITU-T specification. Security and encryption for H-series (H.323 and other H.245-based) multimedia terminals.

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.

IVR—Integrated voice response. When someone dials in, it responds with a prompt to get a personal identification number (PIN), and so on.

ICW—Internet Call Waiting Service.

LEC—Local exchange carrier.

LRQ—Location Request.

LCF—Location Confirmation.

LRJ—Location Reject.

multicast—A process of transmitting PDUs from one source to many destinations. The actual mechanism (that is, IP multicast, multi-unicast, and so forth) for this process might be different for LAN technologies.

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

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

RAI—Resource Availability Indication. RAS message.

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

RCF—Registration Confirmation message

RIP—Request In Progress message

RRQ—Registration Request message

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 forth) approach to IP voice traffic.

zone—A collection of all terminals (tx), gateways (GW), and Multipoint Control Units (MCU) managed by a single Gatekeeper (GK). A Zone includes at least one terminal, and might or might not include gateways or MCUs. A Zone has only one gatekeeper. A zone may be independent of LAN topology and may be comprised of multiple LAN segments that are connected using routers or other devices.