




MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles

Feature History

Release	Modification
12.2(2)XA1	MGCP 1.0, NCS 1.0, and TGCP 1.0 is supported on these platforms in 12.2(2)XA: <ul style="list-style-type: none">• Cisco CVA122• Cisco uBR925• Cisco AS5300
12.2(4)T	MGCP 1.0, NCS 1.0, and TGCP 1.0 is supported on these platforms in 12.2(4)T: <ul style="list-style-type: none">• Cisco CVA122 and Cisco CVA122E• Cisco uBR925• Cisco 2600 series and Cisco 2650• Cisco 3660• Cisco MC3810  Note The Cisco AS5300 is not supported in 12.2(4)T. AAL2 PVC support was introduced for MGCP 1.0 on the Cisco MC3810. Certain gateway features were integrated into MGCP 1.0.

Release	Modification
12.2(11)T	<p>This feature was integrated into Cisco IOS Release 12.2(11)T and support was added for the Cisco AS5300 and Cisco AS5850 platform. In addition, the following values were modified:</p> <ul style="list-style-type: none"> • In the max1 retries and max2 retries commands, the maximum number of retries has changed from 10 to 30. • In the timeout thist command, the maximum value for the Thist timer has changed from 60 seconds to 1100 seconds. • In the timeout tsmax command, the maximum value for the Tsmax timer has changed from 100 seconds to 1000 seconds.
12.2(13)T	<p>This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.</p>

This document describes the MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature in Cisco IOS Releases 12.2(11)T and 12.2(13)T. It explains the configuration of Media Gateway Control Protocol (MGCP) 1.0, PacketCable™ Network-based Call Signaling (NCS) 1.0, and PacketCable™ Trunking Gateway Control Protocol (TGCP) 1.0 on Cisco IOS media gateways, and contains these sections:

- [Feature Overview, page 2](#)
- [Supported Platforms, page 6](#)
- [Supported Standards, MIBs, and RFCs, page 7](#)
- [Prerequisites, page 8](#)
- [Configuration Tasks, page 8](#)
- [Configuration Examples, page 26](#)
- [Command Reference, page 39](#)
- [Glossary, page 118](#)

Feature Overview

This feature implements the following MGCP protocols on the supported Cisco media gateways:

- MGCP 1.0 (RFC 2705)
- Network-based Call Signaling (NCS) 1.0, the MGCP 1.0 profile for residential gateways (RGWs)
- Trunking Gateway Control Protocol (TGCP) 1.0, the MGCP 1.0 profile for trunking gateways (TGWs)

Specific feature support within these protocols is summarized in [Table 1](#). Terms in the table are defined as follows:

- VoIP—Includes signaling methods under Voice over IP.
- AAL2 PVC—Includes signaling methods under ATM adaptation layer 2 (AAL2) permanent virtual circuit (PVC).
- Basic/Extended RGW—Includes a collection of residential gateway features supporting channel-associated signaling (CAS). Digital CAS (recEive and transMit, or E&M) interfaces and analog (Foreign Exchange Office [FXO], Foreign Exchange Station [FXS], and E&M) interfaces are supported on platforms with the appropriate voice hardware.

- ISUP—Supports ISDN user part signaling for SS7 trunks.
- FGD-OS—Supports Feature Group D Operator Services signaling over T1 or E1 trunks.
- Incoming CAS—Supports digital CAS interfaces for digital incoming multifrequency tones (MF) CAS wink-start trunks in which an operator at an Operator Services Console can initiate the Operator Interrupt and Busy Line Verify (OI and BLV) functions.
- CAS PBX—Includes CAS private branch exchange (PBX) trunks, digit maps, CAS events, and quarantine buffer software. These features are supported on digital CAS interfaces.

Table 1 Feature Support by Platform

	VoIP			AAL2 PVC
	MGCP 1.0	TGCP1.0	NCS1.0	MGCP 1.0
Cisco CVA122 and Cisco CVA122E	Basic/Extended RGW	--	Basic/Extended RGW	--
Cisco uBR925	Basic/Extended RGW	--	Basic/Extended RGW	--
Cisco 2600 series and Cisco 2650	Basic/Extended RGW	--	--	--
Cisco 3660	ISUP, FGD-OS, Incoming CAS	ISUP, FGD-OS, Incoming CAS	--	--
Cisco MC3810	Basic/Extended RGW, CAS-PBX	--	--	Basic/Extended RGW, CAS-PBX

Feature Definition

MGCP1.0 is a protocol for the control of Voice over IP (VoIP) calls by external call-control elements known as media gateway controllers (MGCs) or call agents (CAs). It is described in the informational RFC 2705, published by the Internet Society.

PacketCable is an industry-wide initiative for developing interoperability standards for multimedia services over cable facilities using packet technology. PacketCable developed the NCS and TGCP protocols, which contain extensions and modifications to MGCP while preserving basic MGCP architecture and constructs. NCS is designed for use with analog, single-line user equipment on residential gateways, while TGCP is intended for use in VoIP-to-PSTN trunking gateways in a cable environment. To meet European cable requirements and equipment characteristics, the EuroPacketCable working group has adapted PacketCable standards under the name *IP Cablecom*.

MGCP Model

MGCP bases its call control and intelligence in centralized *call agents*, also called media gateway controllers. The call agents issue commands to simple, low-cost endpoints, which are housed in media gateways (MGs), and the call agents also receive event reports from the gateways. MGCP messages between call agents and media gateways are sent with Internet Protocol over User Datagram Protocol (IP/UDP).

The MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature provides protocols for RGWs and TGWs, which sit at the border of the packet network to provide an interface between traditional, circuit-based voice services and the packet network. Residential gateways offer a small number of analog line interfaces, while trunking gateways generally manage a large number of digital trunk circuits.

Two basic MGCP constructs are *endpoints* and *connections*. An endpoint is a source or sink for call data (RTP/IP) that is flowing through the gateway. A common type of endpoint is found at the physical interface between the POTS (plain old telephone service) or Public Switched Telephone Network (PSTN) service and the gateway; this type of endpoint might be an analog voice port or a digital DS0 group. There are other types of endpoints as well, and some are logical rather than physical. An endpoint is identified by a two-part endpoint name that contains the name of the entity on which it exists (for example, an access server or router) and the local name by which it is known (for example, a port identifier).

A connection is a temporary allocation of resources that enables a call to be completed. One or more connections is necessary to complete a call. Connections have names that identify them with the call to which they belong. Connections can be one-to-one or multipoint. Calls and connections are initiated, modified, and deleted on instructions from call agents.

Call agents manage call flow through standard MGCP *commands* that are sent to the endpoints under their control. The commands are delivered in standard ASCII text, and may contain session descriptions transmitted in Session Description Protocol (SDP), a text-based protocol. These messages are sent over IP/UDP.

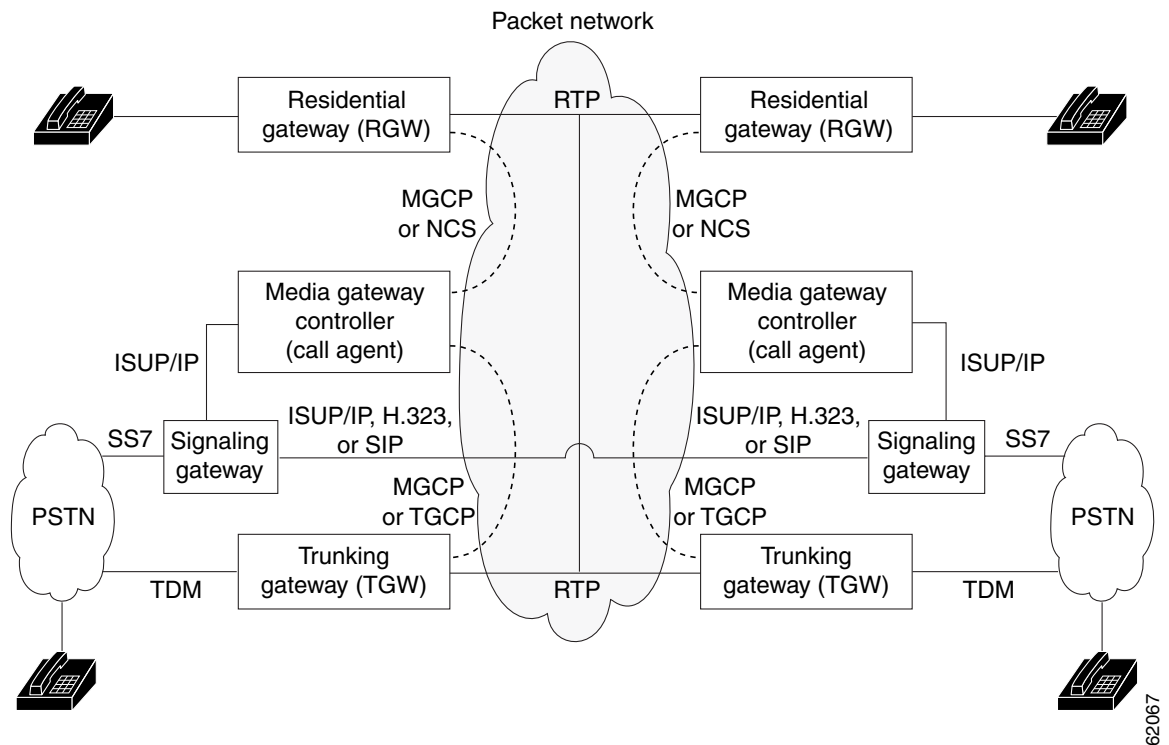
Call agents keep track of endpoint and connection status through the gateway's reporting of standard *events* that are detected from endpoints and connections. Call agents also direct gateways to apply certain standard *signals* when a POTS or PSTN connection expects them. For example, when someone picks up a telephone handset, an off-hook event is detected on an endpoint on the residential gateway to which the telephone is connected. The gateway reports the event to a call agent, which orders the gateway to apply the dial-tone signal to the endpoint reporting the off-hook event. The person picking up the handset hears dial tone.

Related events and signals are grouped into standard *packages* that apply to particular types of endpoints. For instance, the off-hook event is found in the line package, which is associated with analog-line endpoints, which in turn are associated with residential gateways. Standard events, signals, and packages are defined in the NCS, TGCP, and MGCP standards and RFCs listed in the [“Supported Standards, MIBs, and RFCs” section on page 7](#).

[Figure 1](#) shows a hypothetical MGCP network with both residential and trunking gateways. The residential gateway has telephone sets connected to the gateway's FXS voice ports. MGCP or NCS over IP/UDP is used for call control and reporting to the call agent, while Real-Time Transport Protocol (RTP) is used to transmit the actual voice data.

[Figure 1](#) also shows two trunking gateways with T1 (or E1) connections to the PSTN. Incoming time-division multiplexing (TDM) data is sent through the gateway into the packet network using RTP. MGCP or TGCP over IP/UDP is used for call control and reporting to the call agent. Signaling System 7 (SS7) data travels a different route, however, bypassing the trunking gateway entirely in favor of a specialized signaling gateway, where the signaling data is transformed to ISUP/IP format and relayed to the call agent. Communication between two signaling gateways in the same packet network can be done with Integrated Services Digital Networks User Part over Internet Protocol (ISUP/IP), H.323, or Session Initiation Protocol (SIP).

Figure 1 MGCP Network Model



Benefits

- MGCP 1.0 provides flexible interoperability with a wide variety of call agents, thus enabling a wide range of solutions.
- MGCP 1.0 contains many improvements over its previous release (MGCP 0.1).
- NCS 1.0 and TGCP 1.0 allow participation in packet cable solutions.
- The ability to interoperate with H.323 and SIP control agents allows leverage of the feature sets available in the different protocols and provides the ability to migrate smoothly from one protocol to another.

Restrictions

NCS 1.0 is not supported on the Cisco 2600 series and the Cisco 2650.

Related Features and Technologies

- Voice over IP (VoIP) (all platforms)
- VoAAL2-PVC (Cisco MC3810 only)

Related Documents

- [Cisco IOS Voice, Video, and Fax Configuration Guide](#), Release 12.2
- [Cisco IOS Voice, Video, and Fax Command Reference](#), Release 12.2
- [Cisco IOS Wide-Area Networking Configuration Guide](#), Release 12.2
- [MGCP CAS PBX and AAL2 PVC](#), Cisco IOS Release 12.2(2)T
- [MGCP Basic CLASS and Operator Services](#), Cisco IOS Release 12.2(2)T
- [Media Gateway Control Protocol Residential Gateway Support](#), Cisco IOS Release 12.1(3)T
- [Cisco CVA120 series product documentation](#)
- [Cisco uBR925 product documentation](#)
- [Cisco 2600 series product documentation](#)
- [Cisco 3600 series product documentation](#)
- [Cisco MC3810 product documentation](#)

Supported Platforms

- Cisco 2600 series and Cisco 2650
- Cisco 3660
- Cisco CVA122 and Cisco CVA122E
- Cisco MC3810
- Cisco AS5300
- Cisco AS5850
- Cisco uBR925

Table 2 Cisco IOS Release and Platform Support for this Feature

Platform	12.2(2)XA1	12.2(4)T	12.2(11)T
Cisco 2600 series and Cisco 2650	Not supported	X	X
Cisco 3660	Not supported	X	X
Cisco CVA122	X	X	X
Cisco CVA122E	Not supported	X	X
Cisco MC3810	Not supported	X	X
Cisco AS5300	X	Not supported	X
Cisco AS5850	Not supported	Not supported	X
Cisco uBR925	X	X	X

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that support specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Cisco Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at <http://www.cisco.com/register>.

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL:

<http://www.cisco.com/go/fn>

Availability of Cisco IOS Software Images

Platform support for particular Cisco IOS software releases is dependent on the availability of the software images for those platforms. Software images for some platforms may be deferred, delayed, or changed without prior notice. For updated information about platform support and availability of software images for each Cisco IOS software release, refer to the online release notes or, if supported, Cisco Feature Navigator.

Supported Standards, MIBs, and RFCs

Standards

- PacketCable. *Network-Based Call Signaling (NCS) Protocol Specification* PKT-SP-EC-MGCP-I02-991201, December 1, 1999
- PacketCable. *PSTN Gateway Call Signaling Protocol Specification (TGCP)* PKT-SP-TGCP-D02-991028, December 1, 1999

MIBs

- XGCP MIB
- RTP MIB
- Dial Control MIB

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

RFCs

- RFC 2327: *SDP: Session Description Protocol*, April 1998
- Informational RFC 2705: *Media Gateway Control Protocol (MGCP) version 1.0*, October, 1999
- Informational RFC 3064: *MGCP CAS Packages*, February 2001

Prerequisites

Complete the following tasks before configuring this feature:

- Ensure that the minimum software requirements are met. For all platforms: Cisco IOS Release 12.2(11)T, or a later release.
- Configure IP routing. Refer to the [Cisco IOS IP Configuration Guide](#), Release 12.2.
- Configure voice ports. Refer to the [Cisco IOS Voice, Video, and Fax Configuration Guide](#), Release 12.2.
- Configure Voice over IP. Refer to the [Cisco IOS Voice, Video, and Fax Configuration Guide](#), Release 12.2.
- Configure Voice over ATM AAL2 PVC (optional step that applies to Cisco MC3810 only). Refer to “Configuring ATM” in the [Cisco IOS Wide-Area Networking Configuration Guide](#), Release 12.2. The router that is intending to use the VoAAL2 features must have hardware support for VoAAL2.
- Set up the call agent or agents. Refer to the documentation that accompanies the call agents used in your network configuration.
- Set up the cable modems, if any. Refer to the documentation for the cable product as listed in the “Related Documents” section on page 6.

Configuration Tasks

The three tasks listed below configure the MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature on a media gateway. The first task names the voice ports or DS1 groups that are serving as MGCP endpoints. This task also associates the ports with an MGCP service type or application and starts the MGCP daemon.

The last two tasks allow you to configure MGCP parameters to meet your requirements. Each MGCP parameter is either a global parameter or a profile-related parameter. When you configure a global MGCP parameter value, it applies to all the MGCP endpoints on the gateway. When you configure a profile-related MGCP parameter value, it applies only to the endpoints associated with the MGCP profile that you are configuring at that moment (an MGCP profile is a user-defined subset of all the MGCP endpoints on the gateway). There is also a predefined MGCP profile named *default* that you can use to configure profile-related parameters for endpoints that do not belong to a user-defined MGCP profile.

See the following sections for configuration tasks for the MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature. Each task in the list is identified as either required or optional:

- [Identifying Endpoints and Configuring the MGCP Application](#) (required)
- [Configuring Global MGCP Parameters](#) (optional)
- [Configuring an MGCP Profile and Profile-Related MGCP Parameters](#) (optional)

Identifying Endpoints and Configuring the MGCP Application

This task is required. Voice ports or DS0 groups that are acting as MGCP endpoints must be identified and associated with the MGCP application. The commands to identify MGCP endpoints depend on the type of endpoint that you are configuring.

To identify endpoints and configure the MGCP application, use the commands in the appropriate table, beginning in global configuration mode:

- [Analog CAS and POTS lines](#)
- [Digital CAS Trunks](#)
- [ISUP Signaling Trunks](#)
- [FGD-OS Trunks](#)
- [Digital VoATM with AAL2 PVC](#)

Analog CAS and POTS lines

To identify endpoints and configure the MGCP application for use with analog CAS and POTS lines, use these commands, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# dial-peer voice tag pots	Enters dial-peer configuration mode and specifies the method of voice encapsulation.
Step 2	Router(config-dial-peer)# application mgcpapp	Enables the MGCP application on this dial peer.
Step 3	Router(config-dial-peer)# port port-number	Associates a dial peer with a specific voice port.
Step 4	Router(config-dial-peer)# exit	Exits dial-peer configuration mode.
Step 5	Router(config)# mgcp [gw-port]	Initiates the MGCP daemon. The optional port number argument allows you to specify the UDP port over which the gateway receives messages from the call agent (the gateway MGCP port number). The default UDP port number for gateways is 2427.

Digital CAS Trunks

To identify endpoints and configure the MGCP application for use with digital CAS trunks, use these commands, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# controller {t1 e1} cntlr-number	Configures a T1 or E1 controller and enters controller configuration mode for the digital CAS port.
Step 2	Router(config-controller)# mode cas	(Required for Cisco MC3810 only) Configures the T1 or E1 controller to support CAS mode.

	Command	Purpose
Step 3	<p>T1 lines</p> <pre>Router(config-controller)# framing {sf esf}</pre> <p>E1 lines</p> <pre>Router(config-controller)# framing {crc4 no-crc4} [australia]</pre>	<p>Selects frame type for T1 or E1 line.</p> <p>The keywords and arguments are as follows:</p> <p>T1 lines</p> <ul style="list-style-type: none"> • sf—Super Frame • esf—Extended Super Frame <p>E1 lines</p> <ul style="list-style-type: none"> • crc4—Provides four bits of error protection. • no-crc4—Disables crc4. • australia—(Optional) Specifies the E1 frame type used in Australia. <p>The default for T1 is sf.</p> <p>The default for E1 is crc4.</p>
Step 4	<p>T1 lines</p> <pre>Router(config-controller)# linecode {ami b8zs}</pre> <p>E1 lines</p> <pre>Router(config-controller)# linecode {ami hdb3}</pre>	<p>Specifies the line encoding to use.</p> <p>The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • ami—Specifies the alternate mark inversion (AMI) line code type. (T1 and E1) • b8zs—Specifies the binary 8-zero substitution (B8ZS) line code type. (T1 only) • hdb3—Specifies the high-density bipolar 3 (HDB3) line code type. (E1 only) <p>The default for T1 is ami.</p> <p>The default for E1 is hdb3.</p>
Step 5	<pre>Router(config-controller)# ds0-group channel-number timeslots range type type</pre>	<p>Specifies the DS0 time slots that make up a logical voice port on a T1 or E1 controller and specifies the signaling type by which the router connects to the PBX or PSTN. Use command-line interface (CLI) help (enter ? after type) or see the Cisco IOS Voice, Video, and Fax Configuration Guide, Release 12.2, for valid signaling types.</p>
Step 6	<pre>Router(config-controller)# exit</pre>	<p>Exits controller configuration mode.</p>
Step 7	<p>Cisco 2600 and 3600 Series</p> <pre>Router(config)# voice-port slot/port:ds0-group-no</pre> <p>Cisco MC3810</p> <pre>Router(config)# voice-port slot:ds0-group-no</pre>	<p>Enters voice-port configuration mode. The arguments are defined as follows:</p> <ul style="list-style-type: none"> • slot—Specifies the router location where the network module is installed. This is the same number as the controller for the T1/E1 voice port. • port—Indicates the voice interface card location. • ds0-group-no—Specifies the logical voice port that was created with the ds0-group controller command.

	Command	Purpose
Step 8	Router(config-voiceport)# dial-type { dtmf mf pulse }	(Required for MF trunks) Specifies the type of out-dialing for voice port interfaces. The keywords are as follows: <ul style="list-style-type: none"> • dtmf—Dual tone multifrequency (DTMF) touch-tone dialing. This is the default. • mf—Multifrequency tone dialing. • pulse—Pulse (rotary) dialing. The default is dtmf .
Step 9	Router(config-voiceport)# exit	Exits voice-port configuration mode.
Step 10	Router(config)# dial-peer voice tag pots	Enters dial-peer configuration mode and specifies the method of voice encapsulation.
Step 11	Router(config-dial-peer)# application mgcpapp	Enables the MGCP application on this dial peer.
Step 12	Router(config-dial-peer)# port port-number	Associates a dial peer with a specific voice port.
Step 13	Router(config-dial-peer)# exit	Exits dial-peer configuration mode.
Step 14	Router(config)# mgcp [<i>gw-port</i>]	Initiates the MGCP daemon. The optional port number argument allows you to specify the UDP port over which the gateway receives messages from the call agent (the gateway MGCP port number). The default UDP port number for gateways is 2427.

ISUP Signaling Trunks

To identify endpoints and configure the MGCP application for use with ISUP signaling trunks, use these commands, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# controller { t1 e1 } <i>cntlr-number</i>	Configures a T1 or E1 controller and enters controller configuration mode for the ISUP trunk port.
Step 2	Router(config-controller)# ds0-group channel-number timeslots range type none service mgcp	Specifies the DS0 time slots that make up a logical voice port on a T1 or E1 controller and specifies the signaling type by which the router connects to the PBX or PSTN. Specify the type none and service mgcp options to identify this voice port as an MGCP endpoint.
Step 3	Router(config-controller)# exit	Exits controller configuration mode.
Step 4	Router(config)# mgcp [<i>gw-port</i>]	Initiates the MGCP daemon. The optional port number argument allows you to specify the UDP port over which the gateway receives messages from the call agent (the gateway MGCP port number). The default UDP port number for gateways is 2427.

FGD-OS Trunks

To identify endpoints and configure the MGCP application for use with Feature Group D Operator Services (FGD-OS) signaling over T1 or E1 trunks, use these commands, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# controller {t1 e1} <i>cntlr-number</i>	Configures a T1 or E1 controller and enters controller configuration mode for the FGD-OS trunk port.
Step 2	Router(config-controller)# ds0-group <i>channel-number</i> timeslots <i>range</i> type fgd-os service mgcp	Specifies the DS0 time slots that make up a logical voice port on a T1 or E1 controller and specifies the signaling type by which the router connects to the PBX or PSTN. Specify the type fgd-os option for FGD-OS signaling, and the service mgcp option to identify this voice port as an MGCP endpoint.
Step 3	Router(config-controller)# exit	Exits controller configuration mode.
Step 4	Router(config)# mgcp [<i>gw-port</i>]	Initiates the MGCP daemon. The optional port number argument allows you to specify the UDP port over which the gateway receives messages from the call agent (the gateway MGCP port number). The default UDP port number for gateways is 2427.

Digital VoATM with AAL2 PVC

To identify endpoints and configure the MGCP application for use with digital VoATM with AAL2 PVC, use these commands, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# controller {t1 e1} <i>cntlr-number</i>	Enters dial-peer configuration mode and specifies the method of voice encapsulation.
Step 2	Router(config-controller)# mode atm	Specifies that the controller will support ATM encapsulation and create ATM interface 0. When the controller is set to ATM mode, the following takes place: <ul style="list-style-type: none"> • Controller framing is automatically set to Extended Superframe (ESF). • The line code is automatically set to B8ZS.

	Command	Purpose
Step 3	<p>T1 lines</p> <pre>Router(config-controller)# framing {sf esf}</pre> <p>E1 lines</p> <pre>Router(config-controller)# framing {crc4 no-crc4} [australia]</pre>	<p>Selects frame type for T1 or E1 line.</p> <p>The keywords and arguments are as follows:</p> <p>T1 lines</p> <ul style="list-style-type: none"> • sf—Super Frame • esf—Extended Super Frame <p>E1 lines</p> <ul style="list-style-type: none"> • crc4—Provides 4 bits of error protection. • no-crc4—Disables crc4. • australia—(Optional) Specifies the E1 frame type used in Australia. <p>The default for T1 is sf.</p> <p>The default for E1 is crc4.</p>
Step 4	<p>T1 lines</p> <pre>Router(config-controller)# linecode {ami b8zs}</pre> <p>E1 lines</p> <pre>Router(config-controller)# linecode {ami hdb3}</pre>	<p>Specifies the line encoding to use.</p> <p>The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • ami—Specifies the alternate mark inversion (AMI) line code type. (T1 and E1) • b8zs—Specifies the binary 8-zero substitution (B8ZS) line code type. (T1 only) • hdb3—Specifies the high-density bipolar 3 (HDB3) line code type. (E1 only) <p>The default for T1 is ami.</p> <p>The default for E1 is hdb3.</p>
Step 5	<pre>Router(config-controller)# exit</pre>	Exits controller configuration mode.
Step 6	<pre>Router(config)# dial-peer voice tag pots</pre>	Enters dial-peer configuration mode and specifies the method of voice encapsulation.
Step 7	<pre>Router(config-dial-peer)# application mgcpapp</pre>	Enables the MGCP application on this dial peer.
Step 8	<pre>Router(config-dial-peer)# port port-number</pre>	Associates a dial peer with a specific voice port.
Step 9	<pre>Router(config-dial-peer)# exit</pre>	Exits dial-peer configuration mode.
Step 10	<pre>Router(config)# mgcp [gw-port]</pre>	<p>Initiates the MGCP daemon. The optional port number argument allows you to specify the UDP port over which the gateway receives messages from the call agent (the gateway MGCP port number).</p> <p>The default UDP port number for gateways is 2427.</p>

Configuring Global MGCP Parameters


This optional task configures global MGCP parameters on the gateway so that you can set these values to conform to the requirements of the call agent, trunks, or lines that are being used with this gateway. The global parameter values that you configure are associated with every MGCP endpoint that you have identified on this gateway.

In addition to the global MGCP parameters, there are other MGCP parameters that apply only to MGCP profiles on the gateway. For configuration of profile-related parameters, see the [“Configuring an MGCP Profile and Profile-Related MGCP Parameters”](#) section on page 20.

**Note**

The only parameter that is common to both profile and global configurations is the call agent parameter, which is configured with the **call-agent** command for MGCP profile configuration and with the **mgcp call-agent** command for the global configuration. These commands are mutually exclusive; whichever command you configure first blocks configuration of the other. For example, if the MGCP profile **call-agent** command is configured on an endpoint, then you are not allowed to configure the global **mgcp call-agent** command.

To configure global MGCP parameters, complete these steps as needed, beginning in global configuration mode:

	Command	Purpose
Step 1	<pre>Router(config)# mgcp call-agent {dns-name ip-address} [port] [service-type type] [version protocol-version]</pre>	<p>Configures parameters for communicating with the call agent (media gateway controller). The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • <i>dns-name</i>—Fully qualified domain name (including host portion) for the call agent. • <i>ip-address</i>—IP address of the call agent. • <i>port</i>—UDP port number over which the gateway sends messages to the call agent. Range is from 1025 to 65,535. The default is 2727 for MGCP 1.0, NCS 1.0, and TGCP 1.0. The default is 2427 for MGCP 0.1 and SGCP. • service-type <i>type</i>—Protocol service type. Valid values are mgcp, ncs, sgcp, and tgcp. • version <i>version</i>—Protocol version. Valid values are: <ul style="list-style-type: none"> – For service-type mgcp: 0.1, 1.0 – For service-type ncs: 1.0 – For service-type sgcp: 1.1, 1.5 – For service-type tgcp: 1.0 <p> Note You can define a call agent globally with the mgcp call-agent command, or locally for each MGCP profile with the call-agent command, but not both. Whichever command you configure first blocks configuration of the other.</p>
Step 2	<pre>Router(config)# mgcp sdp simple</pre>	<p>Specifies that a subset of the SDP fields should be used.</p>
Step 3	<pre>Router(config)# mgcp sdp xpc-codec</pre>	<p>Enables codec negotiation in the SDP.</p>

	Command	Purpose
Step 4	Router(config)# mgcp codec type [packetization-period value]	<p>Selects the default codec type and its optional packetization period value. The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • <i>type</i>—Specifies the types of codec supported. Valid codecs are G711alaw, G711ulaw, G723ar53, G723ar63, G723r53, G723r63, G729ar8, G729br8, and G729r8. • packetization-period value—This parameter is useful when the preferred compression algorithm and packetization period parameter is not provided by the Media Gateway Controller. The value range depends on the type of codec selected. For example, the range for G729r8 is 10 to 220 in increments of 10. For G711ulaw, the range is 10 to 20 in increments of 10. For G723r53, the range is 30 to 330 in increments of 10.
Step 5	Router(config)# no mgcp timer receive-rtcp	Disables the timer used by a gateway to disconnect a VoIP call when the IP connectivity is lost with the remote gateway. The timer is known as the RTP Control Protocol (RTCP) transmission interval timer.
Step 6	Router(config)# no mgcp piggyback message	Disables piggyback messages.
Step 7	Router(config)# mgcp endpoint offset	Increments the voice-port or DS0-group portion of the endpoint name for NCS 1.0.
Step 8	Router(config)# mgcp persistent { hookflash offhook onhook }	<p>Enables call-agent notification of the specified type of event. The keywords are as follows:</p> <ul style="list-style-type: none"> • hookflash—Sends persistent hookflash events to the call agent. • offhook—Sends persistent off-hook events to the call agent. • onhook—Sends persistent on-hook events to the call agent.

	Command	Purpose
Step 9	Router(config)# mgcp request timeout { <i>timeout-value</i> max <i>maxtimeout-value</i> }	<p>Specifies how long the gateway waits for a call-agent response to a request before retransmitting the request. The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • <i>timeout-value</i>—Specifies the number of milliseconds to wait for a response to the initial request. Valid range is 1 to 10,000 (10 seconds). The default is 500 (.5 seconds). • max <i>maxtimeout-value</i>—Specifies the maximum number of milliseconds to wait for a response in subsequent requests. Valid range is 1,000 to 20,000 (20 seconds). The default is 4,000 (4 seconds).
Step 10	Router(config)# mgcp dtmf-relay voip codec { all low-bit-rate } mode { cisco nse out-of-band }	<p>Ensures accurate forwarding of digits with a compressed codec. The keywords are as follows:</p> <ul style="list-style-type: none"> • all—Any codec. • low-bit-rate—Any version of the G.729 low-bit-rate codecs. • cisco—Removes the DTMF tone from the voice stream and sends FRF.11 with a special payload 121 for the DTMF digits. • nse—Uses the NSE-based forwarding method. • out-of-band—Removes the DTMF tone from the voice stream and does not send FRF.11.
Step 11	Router(config)# mgcp max-waiting-delay <i>value</i>	<p>Specifies the number of milliseconds to wait after a restart before connecting with the call agent. The range is 0 to 600,000 milliseconds (600 seconds). The default is 3,000.</p> <p>If used, these values should be staggered among gateways to avoid having large numbers of gateways connecting with the call agent at the same time after a mass restart.</p>
Step 12	Router(config)# mgcp restart-delay <i>value</i>	<p>Sets the delay value sent in the RestartInProgress (RSIP) graceful teardown. The valid range is from 0 to 600 seconds. The default is 0 seconds.</p>
Step 13	Router(config)# mgcp vad	<p>Enables voice activity detection (VAD) as a default for MGCP calls. The default is that VAD is disabled.</p>

Command	Purpose
<p>Step 14 Router(config)# mgcp ip-tos {high-reliability high-throughput low-cost low-delay rtp precedence <i>value</i> signaling precedence <i>value</i>}</p>	<p>Enables the IP type of service (ToS) for MGCP-controlled connections. The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • high-reliability, high-throughput, low-cost, low-delay—Indicates type of TOS to enable. • rtp precedence—Specifies the IP precedence value for MGCP-controlled RTP packets. Valid values are from 0 to 7. The default RTP precedence value is 5. • signaling precedence—Specifies the IP precedence value for MGCP UDP and RTCP signaling packets. Valid values are from 0 to 7. The default signaling precedence value is 3.
<p>Step 15 Router(config)# mgcp quality-threshold {hwm-cell-loss <i>value</i> hwm-jitter-buffer <i>value</i> hwm-latency <i>value</i> hwm-packet-loss <i>value</i> lwm-cell-loss <i>value</i> lwm-jitter-buffer <i>value</i> lwm-latency <i>value</i> lwm-packet-loss <i>value</i>}</p>	<p>Sets the jitter buffer size threshold, latency threshold, and packet-loss threshold parameters. The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • hwm-cell-loss <i>value</i>—Available when the ATM package is enabled. Specifies the high-water-mark cell loss count. Valid range is 5,000 to 25,000 milliseconds. The default is 10,000. • hwm-jitter-buffer <i>value</i>—High-water-mark jitter buffer size. Valid range is from 100 to 200 milliseconds. The default is 150. • hwm-latency <i>value</i>—High-water-mark latency value. Valid range is from 250 to 400 milliseconds. The default is 300. • hwm-packet-loss <i>value</i>—High-water-mark packet-loss value. Valid range is from 5,000 to 25,000 milliseconds. The default is 10,000. • lwm-cell-loss <i>value</i>—Available when the ATM package is enabled. Specifies the low-water-mark cell loss count. Valid range is from 1 to 3,000 milliseconds. The default is 1,000. • lwm-jitter-buffer <i>value</i>—Low-water-mark jitter buffer size. Valid range is from 4 to 60 milliseconds. The default is 30. • lwm-latency <i>value</i>—Low-water-mark latency value. Valid range is from 125 to 200 milliseconds. The default is 150. • lwm-packet-loss <i>value</i>—Low-water-mark packet-loss value. Valid range is from 1 to 3000 milliseconds. The default is 1000.

Command	Purpose
Step 16 Router(config)# mgcp playout { adaptive <i>init-value</i> <i>min-value max-value</i> fixed <i>init-value</i> }	<p>Configures the jitter buffer packet size in milliseconds for MGCP calls, using either an adaptive range or a fixed value. The default is adaptive 60 4 200. The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • adaptive <i>init-value min-value max-value</i>— Specifies a user-defined variable range (in milliseconds) for the jitter buffer packet size. The range for each value is 4 to 250. The default values are: <i>init-value</i> 60, <i>min-value</i> 4, and <i>max-value</i> 200. Note that <i>init-value</i> must fall between <i>min-value</i> and <i>max-value</i>. • fixed <i>init-value</i>— Specifies a fixed size (in milliseconds) for the jitter buffer packet size. Valid values are from 4 to 250.
Step 17 Router(config)# mgcp package-capability [<i>package-type</i>]	<p>Specifies an MGCP package to be supported on this gateway. Configure one package at a time and repeat this command to configure support for more than one package.</p> <p>For residential gateways, the choices are dtmf-package, gm-package, line-package, and rtp-package. The default is line-package.</p> <p>For trunking gateways, the choices are as-package, dtmf-package, gm-package, mf-package, nas-package, rtp-package, script-package, and trunk-package. The default is trunk-package.</p>
Step 18 Router(config)# mgcp default package [<i>package-type</i>]	<p>Defines the package to be used as the default when no package is named with an event.</p> <p>For residential gateways, the choices are dtmf-package, gm-package, line-package, and rtp-package. The default is line-package.</p> <p>For trunking gateways, the choices are as-package, dt-package, dtmf-package, gm-package, mf-package, mo-package, ms-package, nas-package, rtp-package, script-package, and trunk-package. The default is trunk-package.</p>

Configuring an MGCP Profile and Profile-Related MGCP Parameters

This optional task creates a named, user-defined MGCP *profile* that consists of a subset of all the MGCP endpoints on this gateway. More than one MGCP profile can be configured on a gateway. Each MGCP profile is associated with a call agent and one or more endpoints. When multiple MGCP profiles are configured, endpoints on a single media gateway can be controlled by different call agents. When each endpoint comes on line, an RSIP (RestartInProgress) message notifies the appropriate call agent of the endpoint's presence.



Note

When partitioning a gateway for multiple call-agent control, the call agents must be coordinated so that there are no overlapping transaction identification numbers.

In addition, this task allows you to configure profile-related MGCP parameters to conform to the requirements of the call agent, trunks, or lines that are being used with the profile's endpoints. These parameters are called *profile-related* MGCP parameters because they are associated with a particular MGCP profile, or subset of endpoints, and they are configured in MGCP profile configuration mode. Other parameters are considered *global* MGCP parameters; when they are configured, they apply to all the endpoints on a gateway. Global MGCP parameters are discussed in the [“Configuring Global MGCP Parameters” section on page 14](#).

The parameters for an MGCP profile are configured in a special MGCP profile configuration mode that you enter with the **mgcp profile** command. One or more endpoints are associated with the profile by using the **voice-port** command in MGCP profile configuration mode.



Note

The only parameter that can be configured in both profile configuration mode and in global configuration mode is call agent, which is configured with the **call-agent** command for MGCP profiles, and with the **mgcp call-agent** command for global configurations. These commands are mutually exclusive; whichever command you configure first blocks configuration of the other. For example, if the MGCP profile **call-agent** command is configured on an endpoint, then you are not allowed to configure the global **mgcp call-agent** command.

You do not have to define MGCP profiles to configure profile-related parameters. For endpoints that are not associated with a user-defined MGCP profile, the values for profile-related parameters are provided by a predefined profile with the name *default*. The default profile is configured in the same way that a user-defined MGCP profile is configured, except that the keyword **default** is used in place of a profile name in the **mgcp profile** command. The default profile has no association with voice ports or a call agent (the call agent for these endpoints is defined by the global **mgcp call-agent** command).

In the excerpt below from a **show running-config** command output, two MGCP profiles are defined: MAX1 and MAX2. Each profile is associated with a different call agent and a different voice port. The MAX1 profile is configured with a value of 3 for the max1 retries parameter and 5 for max2 retries. The MAX2 profile uses the values in the default profile for those parameters. In the MAX2 profile, the MT package is configured as a persistent package. The max1 retries parameter for the default profile is configured with a value of 2. The max2 retries parameter is not configured, so the value used is the default value, which is 7. The MAX2 profile has a value of 2 for the max1 retries parameter and 7 for max2 retries.


```

.
.
.
!
mgcp profile MAX1
  call agent ca1.example.com 4022 service-type mgcp version 1.0
  max1 retries 3
  max2 retries 5
  voice-port 2/1:1
!
mgcp profile MAX2
  call-agent ca2.example.com 50031 service-type mgcp version 0.1
  package persistent mt-package
  voice-port 2/0:1
!
mgcp profile default
  max1 retries 2
.
.
.

```

To configure parameters for a user-defined MGCP profile or for the default profile, use the following commands as appropriate, beginning in global configuration mode:

	Command	Purpose
Step 1	Router(config)# mgcp profile { <i>profile-name</i> default }	Initiates MGCP profile mode, in which you create and configure a named MGCP profile associated with one or more endpoints, or configure the default profile. The keyword and argument are as follows: <ul style="list-style-type: none"> • <i>profile-name</i>—Provides an identifying name for the user-defined profile to be configured. The name can be a maximum of 32 characters. • default—Specifies the default profile is to be configured.
Step 2	Router(config-mgcp-profile)# description { <i>text</i> }	Provides a description for the profile.

	Command	Purpose
Step 3	Router(config-mgcp-profile)# call-agent { <i>dns-name</i> <i>ip-address</i> } [<i>port</i>] [service-type <i>type</i>] [version <i>protocol-version</i>]	<p>Defines the call agent's DNS name or IP address, UDP port number, service type, and protocol version. (Not used when configuring the default profile.) The keywords and arguments are as follows:</p> <ul style="list-style-type: none"> • <i>dns-name</i>—Fully qualified domain name (including host portion) for the call agent. • <i>ip-address</i>—IP address of the call agent. • <i>port</i>—UDP port number over which the gateway sends messages to the call agent. Range is from 1025 to 65535. The default is 2727 for MGCP 1.0, NCS 1.0, and TGCP 1.0, and 2427 for MGCP 0.1 and SGCP. • service-type <i>type</i>—Protocol service type. Valid values are mgcp, ncs, sgcp, and tgcp. • version <i>version</i>—Protocol version. Valid values are: <ul style="list-style-type: none"> – For service-type mgcp: 0.1, 1.0 – For service-type ncs: 1.0 – For service-type sgcp: 1.1, 1.5 – For service-type tgcp: 1.0 <p> Note You can define a call agent globally with the mgcp call-agent command, or locally for each MGCP profile with the call-agent command, but not both. Whichever command you configure first blocks configuration of the other.</p>
Step 4	Router(config-mgcp-profile)# voice-port <i>port-number</i>	Provides the voice port number or DS0 group number for the endpoint to be associated with this MGCP profile. Repeat this command to add more than one endpoint to the profile. (Not used when configuring the default profile.)
Step 5	Router(config-mgcp-profile)# default { <i>command</i> }	Restores the parameter represented by <i>command</i> to its default value.
Step 6	Router(config-mgcp-profile)# package persistent <i>package-name</i>	Configures the package type used when reporting persistent events for an MF CAS endpoint type. Valid package names are ms-package and mt-package . The default is ms-package .
Step 7	Router(config-mgcp-profile)# timeout tsmax <i>tsmax-value</i>	Configures the maximum timeout value after which MGCP messages are removed from the retransmission queue. The range is 1 to 1000 seconds. The default is 20 seconds.

	Command	Purpose
Step 8	Router(config-mgcp-profile)# timeout tdmx <i>tdmx-value</i>	Configures the maximum timeout value for the disconnected procedure (Tdmx). The range is 300 to 600 seconds. The default is 600 seconds.
Step 9	Router(config-mgcp-profile)# timeout tdinit <i>tdinit-value</i>	Configures the initial waiting delay value (Tdinit) used as the timer for the disconnect procedure. Range is from 1 to 30 seconds. The default is 15 seconds.
Step 10	Router(config-mgcp-profile)# timeout tcrit <i>tcrit-value</i>	Configures the critical timeout value (Tcritical) for the interdigit timer used in digit map matching. The range is from 1 to 600 seconds. The default is 4 seconds.
Step 11	Router(config-mgcp-profile)# timeout tpar <i>tpar-value</i>	Configures the partial timeout value (Tpartial) for the interdigit timer used in digit map matching. The range is from 1 to 60 seconds. The default is 16 seconds.
Step 12	Router(config-mgcp-profile)# timeout thist <i>thist-value</i>	Configures the packet storage timeout value. The range is from 1 to 1100 seconds. The default is 30 seconds.
Step 13	Router(config-mgcp-profile)# timeout tone mwi <i>mwitone-value</i>	Configures the message waiting indicator timeout value. The range is from 1 to 600 seconds. The default is 16 seconds.
Step 14	Router(config-mgcp-profile)# timeout tone ringback <i>ringbacktone-value</i>	Configures the ringback tone timeout value. The range is from 1 to 600 seconds. The default is 180 seconds.
Step 15	Router(config-mgcp-profile)# timeout tone ringback connection <i>connectiontone-value</i>	Configures the timeout value for ringback tone on connection. The range is from 1 to 600 seconds. The default is 180 seconds.
Step 16	Router(config-mgcp-profile)# timeout tone network congestion <i>congestiontone-value</i>	Configures the network congestion tone timeout value. The range is from 1 to 600 seconds. The default is 180 seconds.
Step 17	Router(config-mgcp-profile)# timeout tone busy <i>busytone-value</i>	Configures the busy tone timeout value. The range is from 1 to 600 seconds. The default is 30 seconds.
Step 18	Router(config-mgcp-profile)# timeout tone dial <i>dialtone-value</i>	Configures the dial tone timeout value. The range is from 1 to 600 seconds. The default is 16 seconds.
Step 19	Router(config-mgcp-profile)# timeout tone dial stutter <i>stuttertone-value</i>	Configures the stutter dial tone timeout value. The range is from 1 to 600 seconds. The default is 16 seconds.
Step 20	Router(config-mgcp-profile)# timeout tone ringing <i>ringingtone-value</i>	Configures the ringing tone timeout value. The range is from 1 to 600 seconds. The default is 180 seconds.
Step 21	Router(config-mgcp-profile)# timeout tone ringing distinctive <i>distinctivetone-value</i>	Configures the distinctive ringing tone timeout value. The range is from 1 to 600 seconds. The default is 180 seconds.
Step 22	Router(config-mgcp-profile)# timeout tone reorder <i>reordertone-value</i>	Configures the reorder tone timeout value. The range is from 1 to 600 seconds. The default is 30 seconds.

	Command	Purpose
Step 23	Router(config-mgcp-profile)# timeout tone cot1 <i>continuity1tone-value</i>	Configures the continuity1 tone timeout value. The range is from 1 to 600 seconds. The default is 3 seconds.
Step 24	Router(config-mgcp-profile)# timeout tone cot2 <i>continuity2tone-value</i>	Configures the continuity2 tone timeout value. The range is from 1 to 600 seconds. The default is 3 seconds.
Step 25	Router(config-mgcp-profile)# max1 lookup	Enables the DNS lookup procedure after the suspicion threshold is reached. The default is that lookup is enabled.
Step 26	Router(config-mgcp-profile)# max1 retries <i>value</i>	Sets the suspicion threshold value. The range is from 3 to 30 retries. The default is 5 retries.
Step 27	Router(config-mgcp-profile)# max2 lookup	Enables the DNS lookup procedure after the disconnect threshold is reached. The default is that lookup is enabled.
Step 28	Router(config-mgcp-profile)# max2 retries <i>value</i>	Sets the disconnect threshold value. The range is from 3 to 30 retries. The default is 7 retries.
Step 29	Router(config-mgcp-profile)# exit	Exits MGCP profile configuration mode.

Verifying the Configuration

Use these commands to verify configuration settings for all platforms and protocols:

	Command	Purpose
Step 1	Router# show running-config	Displays the current configuration settings.
Step 2	Router# show mgcp [connection endpoint profile <i>[profile-name]</i> statistics]	Displays the current MGCP settings.

Troubleshooting Tips

The following suggestions will help with troubleshooting:

- Use the **show running-config** command to verify that the following are properly configured:
 - For CAS and POTS endpoints, POTS dial peers are configured with the **mgcpapp** application.
 - The correct packages are enabled in the **mgcp package-capability** command.
 - The **mgcp call-agent** or **call-agent** command defines the call agent and service type correctly.
- Reset the MGCP statistical counters with the **clear mgcp statistics** command.
- If RTP traffic is not getting through, make sure that IP routing is enabled. Use the **show rtp statistics** command, then turn on the **debug ip udp** command and track down the MGCP RTP packets.

```
Router# show rtp statistics
```

```
RTP Statistics info:
```

No.	CallId	Xmit-pkts	Xmit-bytes	Rcvd-pkts	Rcvd-bytes	Lost pkts	Jitter	Latenc
1	17492	0x8A	0x5640	0x8A	0x5640	0x0	0x0	0x0

```
Router# show rtp statistics
```

```
RTP Statistics info:
```

No.	CallId	Xmit-pkts	Xmit-bytes	Rcvd-pkts	Rcvd-bytes	Lost pkts	Jitter	Latenc
1	17492	0xDA	0x8840	0xDB	0x88E0	0x0	0x160	0x0

- If an RSIP message is not received by the call agent, make sure that the **mgcp call-agent** command or the MGCP profile **call-agent** command is configured with the correct call agent name or IP address and UDP port. Use the **show mgcp** command or the **show mgcp profile** command to display this information:

```
Router# show mgcp
```

```
MGCP Admin State ACTIVE, Oper State ACTIVE - Cause Code NONE
MGCP call-agent: 172.29.248.51 Initial protocol service is MGCP, v. 1.0
...
MGCP gateway port: 2727, MGCP maximum waiting delay 3000
...
```

```
Router# show mgcp profile
```

```
MGCP Profile nycprofile
Description: NY branch office configuration
Call-agent: 10.14.2.200 Initial protocol service is MGCP, v. 1.0
...
```

- To verify connections and endpoints, use the **show mgcp** command:

```
Router# show mgcp connection
```

Endpoint	Call_ID(C)	Conn_ID(I)	(P)ort	(M)ode	(S)tate	(C)odec	(E)vent[SIFL]	(R)esult[EA]
1.	S0/DS1-1/5	C=F123AB,5,6	I=0x3	P=16506,16602	M=3	S=4	C=1 E=2,0,0,2	R=0,0
2.	S0/DS1-1/6	C=F123AB,7,8	I=0x4	P=16602,16506	M=3	S=4	C=1 E=0,0,0,0	R=0,0

```
Router# show mgcp endpoint
```

```
T1/0 ds0-group 0 timeslots 1-24
T1/1 ds0-group 0 timeslots 1-24
T1/2 ds0-group 0 timeslots 1-24
T1/3 ds0-group 0 timeslots 1-24
```

- If an MGCP message is rejected, it may be because the remote media gateway does not support SDP mandatory parameters (the *o=*, *s=*, and *t=* lines). If this is the case, configure the **mgcp sdp simple** command to send SDP messages without those parameters.
- If you notice problems with voice quality, make sure that the **cptone** (voice-port configuration) command is set for the correct country code. Capturing RTP packets from the sniffer may help to debug the problem, such as whether the payload type or timestamps are set correctly, and so forth.
- To check operation of interfaces, use the **show interface** command.
- To view information about activity on the T1 or E1 line, use the **show controllers** command. Alarms, line conditions, and other errors are displayed. The data is updated every 10 seconds; and every 15 minutes, the cumulative data is stored and retained for 24 hours.
- When necessary, you can enable debug traces for errors, events, media, packets, and parser. The command **debug mgcp packets** can be used to verify that your packets are arriving at the gateway and to monitor message flow in general. Note that there is always a performance penalty when using debug commands. The sample output below shows the use of the optional **input-hex** keyword to enable display of hexadecimal values.

```
Router# debug mgcp packets input-hex

Media Gateway Control Protocol input packets in hex value debugging is on

MGCP Packet received -
DLCX 49993 * MGCP 0.1

MGCP Packet received in hex -
44 4C 43 58 20 34 39 39 39 33 20 2A 20 4D 47 43 50 20 30 2E 31 A

send_mgcp_msg, MGCP Packet sent --->
250 49993
```

Configuration Examples

This section provides the following configuration examples:

- [Cisco uBR925 Using RF Interface Example](#)
- [Cisco uBR925 Using Ethernet0 Interface Example](#)
- [Cisco CVA122 Using RF Interface Example](#)
- [Cisco 2600 as a Residential Gateway Example](#)
- [Cisco 3660 Platform as a Trunking Gateway Example](#)
- [Cisco MC3810 as a Residential Gateway Example](#)
- [Cisco MC3810 as a VoAAL2 Gateway using AAL2 PVCs Example](#)



Note

IP addresses and hostnames in these examples are fictitious.

Cisco uBR925 Using RF Interface Example

This example shows how to set up a Cisco uBR925 as an MGCP residential gateway. The call agent is specified to the cable router (Cisco uBR925, Cisco CVA122, or Cisco CVA122E) by a Dynamic Host Configuration Protocol (DHCP) offer on a cable radio frequency (RF) network. On completion of the DHCP offer, the call agent is set in the MGCP profile on the cable modem. This setting is displayed with the **show mgcp profile** command. The router does not show the call agent in the CLI.

```
version 12.2
no service single-slot-reload-enable
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname hydepark
!
logging rate-limit console 10 except errors
!
!
!
clock timezone - 0 6
ip subnet-zero
no ip routing
ip domain-name example.com
ip name-server 10.0.0.229
!
ip ssh time-out 120
ip ssh authentication-retries 3
no ip dhcp-client network-discovery
!
!
!
!
!
!
interface Ethernet0
 ip address 192.168.0.11 255.255.0.0
 no ip route-cache
 no ip mroute-cache
 bridge-group 59
 bridge-group 59 spanning-disabled
!
interface cable-modem0
 no ip route-cache
 no ip mroute-cache
 cable-modem boot admin 2
 cable-modem boot oper 5
 bridge-group 59
 bridge-group 59 spanning-disabled
!
ip classless
no ip http server
no ip http cable-monitor
!
snmp-server manager
!
voice-port 0
 input gain -2
 output attenuation 0
```

```

!
voice-port 1
  input gain -2
  output attenuation 0
!
mgcp
! Use this CLI with NCS 1.0
mgcp endpoint offset
!
mgcp profile default
!
dial-peer voice 100 pots
  application MGCPAPP
  port 0
!
dial-peer voice 101 pots
  application MGCPAPP
  port 1
!
!
line con 0
line vty 0 4
  login
!
end

```

Cisco uBR925 Using Ethernet0 Interface Example

This example shows how to set up a Cisco uBR925 as a residential gateway:

```

version 12.2
no service single-slot-reload-enable
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname monticello
!
logging rate-limit console 10 except errors
!
!
!
clock timezone - 0 6
ip subnet-zero
ip domain-name example.com
ip name-server 10.0.0.229
!
ip ssh time-out 120
ip ssh authentication-retries 3
no ip dhcp-client network-discovery
!
!
!
!
interface Ethernet0
  ip address 192.168.0.11 255.255.0.0
  no ip route-cache
  no ip mroute-cache
  bridge-group 59

```

```
bridge-group 59 spanning-disabled
!
interface cable-modem0
no ip route-cache
no ip mroute-cache
shutdown
cable-modem boot admin 2
cable-modem boot oper 5
no cable-modem compliant bridge
cable-modem voip clock-internal
bridge-group 59
bridge-group 59 spanning-disabled
!
!
ip classless
no ip http server
no ip http cable-monitor
!
ip default-gateway 172.16.1.1
!
! We are using the cable modem without its RF interface. So
! route IP traffic out the Ethernet0 interface.
!
ip route 0.0.0.0 0.0.0.0 Ethernet0
!
snmp-server manager
!
voice-port 0
input gain -2
output attenuation 0
!
voice-port 1
input gain -2
output attenuation 0
!
mgcp
!
! The ip address of call agent below can be a FQDN as well.
mgcp call-agent 10.0.0.224 service-type ncs version 1.0
! Use this CLI with NCS 1.0
mgcp endpoint offset
!
mgcp profile default
!
dial-peer voice 100 pots
application MGCPAPP
port 0
!
dial-peer voice 101 pots
application MGCPAPP
port 1
!
!
line con 0
line vty 0 4
login
!
end
```

Cisco CVA122 Using RF Interface Example

The call agent is specified to the cable router (Cisco uBR925, Cisco CVA122, or Cisco CVA122E) by a DHCP offer on a cable RF network. On completion of the DHCP offer, the call agent is set in the MGCP profile on the cable modem. This setting is displayed with the **show mgcp profile** command. The router does not show the call agent in the CLI.

```

version 12.2
no service single-slot-reload-enable
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
service internal
!
hostname mtvernon
!
no logging buffered
logging rate-limit console 10 except errors
!
!
!
clock timezone - -5
ip subnet-zero
no ip routing
ip domain-name example.com
ip name-server 10.0.0.229
!
no ip dhcp-client network-discovery
!
!
!
!
!
!
interface Ethernet0
 ip address 10.20.0.59 255.255.0.0
 no ip route-cache
 no ip mroute-cache
 shutdown
 bridge-group 59
 bridge-group 59 spanning-disabled
!
interface cable-modem0
 no ip route-cache
 no ip mroute-cache
 cable-modem boot admin 2
 cable-modem boot oper 5
 bridge-group 59
 bridge-group 59 spanning-disabled
!
interface usb0
 ip address 10.20.0.59 255.255.0.0
 no ip route-cache
 no ip mroute-cache
 arp timeout 0
 bridge-group 59
 bridge-group 59 spanning-disabled
!

```

```
ip classless
no ip http server
no ip http cable-monitor
!
access-list 1 deny 10.0.0.254
access-list 1 permit any
snmp-server packetsize 4096
snmp-server manager
call rsvp-sync
!
voice-port 0
input gain -2
output attenuation 0
timeouts interdigit 2
!
voice-port 1
input gain -2
output attenuation 0
timeouts interdigit 2
!
mgcp
!
mgcp profile default
!
mgcp profile test
call-agent test service-type ncs version 1.0
!
dial-peer voice 100 pots
application MGCPAPP
port 0
!
dial-peer voice 101 pots
application MGCPAPP
port 1
!
!
line con 0
exec-timeout 0 0
line vty 0 4
exec-timeout 0 0
login
!
end
```

Cisco 2600 as a Residential Gateway Example

This example shows a Cisco 2620 series router being configured as an analog residential gateway:

```

!
!
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname betty-2620
!
!
!
voice-port 1/0/0
!
voice-port 1/0/1
!
!
dial-peer voice 1 pots
application mgcpapp
destination-pattern 100
port 1/0/0
!
dial-peer voice 2 pots
application mgcpapp
destination-pattern 101
port 1/0/1
!
!
process-max-time 200
!
mgcp 4000
mgcp call-agent 10.14.2.200 4000 service-type mgcp version 1.0
mgcp sdp simple
no mgcp timer receive-rtcp
mgcp sdp xpc-codec
no mgcp piggyback message
mgcp endpoint offset
no mgcp persistent hook on
no mgcp persistent hook flash
mgcp request timeout 1000
mgcp dtmf-relay codec all mode cisco
mgcp max-waiting-delay 600000
mgcp restart-delay 500
mgcp codec g711ulaw packetization-period 10
mgcp ip-tos rtp precedence 7
mgcp quality-threshold lwm-jitter-buffer 59
mgcp quality-threshold lwm-latency 199
mgcp quality-threshold lwm-packet-loss 2
mgcp playout adaptive 100 50 150
mgcp package-capability dtmf-package
mgcp package-capability mf-package
mgcp package-capability rtp-package
mgcp package-capability as-package
isdn voice-call-failure 0
srcp 2428
cns event-service server
!
!
!

```

```
mgcp profile cisco
  call-agent 10.14.2.200 4000 service-type mgcp version 1.0
  voice-port 0:1
  package persistent mt-package
  timeout tsmax 100
  timeout tdinit 30
  timeout tcrit 600
  timeout tpar 600
  timeout thist 60
  timeout tone mwi 600
  timeout tone ringback 600
  timeout tone ringback connection 600
  timeout tone network congestion 600
  timeout tone busy 600
  timeout tone dial 600
  timeout tone dial stutter 600
  timeout tone ringing 600
  timeout tone ringing distinctive 600
  timeout tone reorder 600
  timeout tone cot1 600
  timeout tone cot2 600
  max1 retries 10
  no max2 lookup
  max2 retries 10
  !
  !
interface Ethernet0/0
  ip address 10.14.12.9 255.0.0.0
  !
interface Ethernet0/1
  no ip address
  shutdown
  !
ip classless
ip route 0.0.0.0 0.0.0.0 10.14.0.1
no cdp run
  !
line con 0
exec-timeout 0 0
line aux 0
line vty 0 4
exec-timeout 0 0
  password test
  login
  !
end
```

Cisco 3660 Platform as a Trunking Gateway Example

This example shows a Cisco 3660 that is being configured for CAS trunks. The association of endpoints with the MGCP application is made in the dial-peer configuration.

```

version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname charley-3660
!
!
controller t1 1/0
linecode b8zs
clock source line secondary 1
ds0-group 0 timeslots 1-24 type e&m-winkstart
!
controller t1 1/1
linecode b8zs
clock source line secondary 1
ds0-group 0 timeslots 1-24 type e&m-winkstart
!
ip subnet-zero
!
voice-port 1/0:0
dial-type mf
!
voice-port 1/1:0
dial-type mf
!
dial-peer voice 1 pots
application mgcpapp
destination-pattern 100
port 1/0:0
!
dial-peer voice 2 pots
application mgcpapp
destination-pattern 101
port 1/1:0
!
mgcp 4000
mgcp call-agent 10.14.2.200 4000 service-type mgcp version 1.0
mgcp sdp simple
no mgcp timer receive-rtcp
mgcp sdp xpc-codec
no mgcp piggyback message
mgcp endpoint offset
mgcp persistent hook on
mgcp persistent hook flash
mgcp request timeout 1000
mgcp dtmf-relay codec all mode cisco
mgcp max-waiting-delay 600000
mgcp restart-delay 500
mgcp codec g711ulaw packetization-period 10
mgcp ip-tos rtp precedence 7
mgcp quality-threshold lwm-jitter-buffer 59
mgcp quality-threshold lwm-latency 199
mgcp quality-threshold lwm-packet-loss 2
mgcp playout adaptive 100 50 150
mgcp package-capability dtmf-package

```

```
mgcp package-capability mf-package
mgcp package-capability rtp-package
mgcp package-capability as-package
isdn voice-call-failure 0
srcp 2428
cns event-service server
!
mgcp profile cisco
  call-agent 10.14.2.200 4000 service-type mgcp version 1.0
  voice-port 1/0:0
  package persistent mt-package
  timeout tsmax 100
  timeout tdinit 30
  timeout tcrit 600
  timeout tpar 600
  timeout thist 60
  timeout tone mwi 600
  timeout tone ringback 600
  timeout tone ringback connection 600
  timeout tone network congestion 600
  timeout tone busy 600
  timeout tone dial 600
  timeout tone dial stutter 600
  timeout tone ringing 600
  timeout tone ringing distinctive 600
  timeout tone reorder 600
  timeout tone cot1 600
  timeout tone cot2 600
  max1 retries 10
  no max2 lookup
  max2 retries 10
!
!
interface FastEthernet0/0
  ip address 10.14.12.12 255.0.0.0
  speed auto
  duplex auto
!
interface FastEthernet0/1
  no ip address
  shutdown
  duplex auto
  speed auto
!
ip classless
ip route 0.0.0.0 0.0.0.0 10.14.0.1
no ip http server
!
!
line con 0
  exec-timeout 0 0
  transport input none
line aux 0
line vty 0 4
  exec-timeout 0 0
  password trial
  login
!
end
```

Cisco MC3810 as a Residential Gateway Example

The following example shows a Cisco MC3810 being configured as a residential gateway:

```

!
version 12.2
no service pad
service timestamps debug datetime msec
service timestamps log uptime
!
hostname harry
!
logging buffered
!
ip subnet-zero
ip host buffalo 192.168.254.254
!
mgcp
mgcp call-agent 10.14.90.1
!
voice-card 0
  codec complexity high
!
controller T1 0
  framing esf
  linecode b8zs
!
interface Ethernet0
  ip address 10.14.92.3 255.255.0.0
!
interface Serial0
  shutdown
!
interface Serial1
  no ip address
  no ip route-cache
  no ip mroute-cache
  shutdown
!
interface FR-ATM20
  no ip address
  shutdown
!
ip default-gateway 10.14.0.1
ip route 192.168.254.0 255.255.255.0 10.14.0.1
!
!
voice-port 1/1
!
dial-peer voice 1 pots
  application mgcpapp
  port 1/1
!
!
line con 0
  exec-timeout 0 0
  transport input none
line aux 0
line 2 3
line vty 0 4
login
!
end

```

Cisco MC3810 as a VoAAL2 Gateway using AAL2 PVCs Example

This example shows a Cisco MC3810 being configured as a VoAAL2 gateway using AAL2 PVCs:

```
!
version 12.2
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname stella-mc3810
!
network-clock base-rate 56k
ip subnet-zero
no ip domain-lookup
ip host camel 192.168.254.254
ip host buffalo 192.168.254.253
!
mgcp
mgcp call-agent 10.14.117.4 service-type mgcp version 0.1
mgcp dtmf-relay voip codec all mode nse
mgcp dtmf-relay voaal2 codec all
mgcp modem passthrough nse
mgcp package-capability rtp-package
mgcp tse payload 100
mgcp timer receive-rtcp 100
mgcp timer net-cont-test 3000
isdn voice-call-failure 0
!
!
voice-card 0
!
controller T1 0
    mode atm
    framing esf
    linecode b8zs
!
interface Ethernet0
    ip address 10.14.121.1 255.255.0.0
!
interface Serial0
    no ip address
    no ip mroute-cache
    shutdown
    no fair-queue
!
interface Serial1
    no ip address
    shutdown
!
interface ATM0
    no ip address
    ip mroute-cache
    no atm ilmi-keepalive
!
interface ATM0.2 point-to-point
    pvc 2/200
        vbr-rt 760 760 100
        encapsulation aal2
        vcci 2
!
interface FR-ATM20
    no ip address
```

```
        shutdown
    !
router igrp 1
    redistribute connected
    network 1.0.0.0
    !
ip default-gateway 10.14.0.1
no ip http server
ip classless
ip route 192.168.254.0 255.255.255.0 10.14.0.1
    !
dialer-list 1 protocol ip permit
dialer-list 1 protocol ipx permit
voice-port 1/1
    !
voice-port 1/2
    shutdown
    !
voice-port 1/6
    shutdown
    !
dial-peer voice 1 pots
    application mgcpapp
    port 1/1
    !
    !
line con 0
    transport input none
line aux 0
    line 2 3
line vty 0 4
    password lab
    login
    !
end
```

Command Reference

This section documents new and modified commands. All other commands used with this feature are documented in the Cisco IOS Release 12.2 command reference publications or in the MGCP documentation listed in the [“Related Documents”](#) section on page 6.

New Commands

- [call-agent](#)
- [default \(MGCP profile\)](#)
- [description \(MGCP profile\)](#)
- [max1 lookup](#)
- [max1 retries](#)
- [max2 lookup](#)
- [max2 retries](#)
- [mgcp endpoint offset](#)
- [mgcp persistent](#)
- [mgcp piggyback message](#)
- [mgcp profile](#)
- [mgcp sdp](#)
- [package persistent](#)
- [timeout tcrit](#)
- [timeout tdinit](#)
- [timeout tdmx](#)
- [timeout tadmin](#)
- [timeout thist](#)
- [timeout tone busy](#)
- [timeout tone cot1](#)
- [timeout tone cot2](#)
- [timeout tone dial](#)
- [timeout tone dial stutter](#)
- [timeout tone mwi](#)
- [timeout tone network congestion](#)
- [timeout tone reorder](#)
- [timeout tone ringback](#)
- [timeout tone ringback connection](#)
- [timeout tone ringing](#)
- [timeout tone ringing distinctive](#)
- [timeout tpar](#)
- [timeout tsmx](#)
- [voice-port \(MGCP profile\)](#)

Modified Commands

- **debug mgcp**
- **mgcp call-agent**
- **mgcp quarantine mode**
- **mgcp quarantine persistent-event disable**
- **mgcp request retries** (no longer supported)
- **mgcp request timeout**
- **show mgcp**

call-agent

To define the call agent for a Media Gateway Controller Protocol (MGCP) profile, use the **call-agent** command in MGCP profile configuration mode. To return to the default values, use the **no** form of this command.

```
call-agent {dns-name | ip-address} [port] [service-type type] [version protocol-version]
```

```
no call-agent
```

Syntax Description

<i>dns-name</i>	Fully qualified domain name (including host portion) for the call agent. For example, ca123.example.net.
<i>ip-address</i>	IP address of the call agent.
<i>port</i>	User Datagram Protocol (UDP) port number over which the gateway sends messages to the call agent. Range is from 1025 to 65535.
service-type	Keyword indicating that the next word is the protocol service type.
<i>type</i>	Protocol service type. Valid values are mgcp , ncs , sgcp , and tgcp .
version	Keyword indicating that the next value is the version number.
<i>protocol-version</i>	Protocol version. Valid values are: For service-type mgcp : 0.1, 1.0 For service-type ncs : 1.0 For service-type sgcp : 1.1, 1.5 For service-type tgcp : 1.0

Defaults

The default call-agent UDP port is 2727 for MGCP 1.0, Network-based Call Signaling (NCS) 1.0, and Trunking Gateway Control Protocol (TGCP) 1.0.

The default call-agent UDP port is 2427 for MGCP 0.1 and Simple Gateway Control Protocol (SGCP).

The default service type and version is **mgcp** 0.1.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

Call-agent configuration for an MGCP profile (with this command) and global call-agent configuration (with the **mgcp call-agent** command) are mutually exclusive; the first to be configured on an endpoint blocks configuration of the other on the same endpoint.

Identifying call agents by domain name system (DNS) name rather than IP address in the **call-agent** command provides call-agent redundancy, because a DNS name can have more than one IP address associated with it. If a call agent is identified by DNS name and a message from the gateway fails to reach the call agent, the **max1 lookup** and **max2 lookup** commands enable a search from the DNS lookup table for a backup call agent at a different IP address.

The *port* argument configures the call agent port number (the UDP port over which the gateway sends messages to the call agent). The reverse, or the gateway port number (the UDP port over which the gateway receives messages from the call agent) is configured by specifying a port number in the **mgcp** command.

The service type **mgcp** supports the RestartInProgress (RSIP) error messages sent by the gateway if **mgcp sgcp restart notify** is enabled. The service type **sgcp** ignores the RSIP messages.

Examples

The following example defines a call agent for the MGCP profile named *tgcp_trunk*:

```
Router(config)# mgcp profile tgcp_trunk
Router(config-mgcp-profile)# call-agent 10.13.93.3 2500 service-type tgcp version 1.0
```

Related Commands

Command	Description
max1 lookup	Enables DNS lookup of the MGCP call agent address when the suspicion threshold value is reached.
max2 lookup	Enables DNS lookup of the MGCP call agent address when the disconnect threshold value is reached.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp call-agent	Configures the address of the call agent (media gateway controller).
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

debug mgcp

To enable debug traces for MGCP errors, events, media, packets, and parser, use the **debug mgcp** privileged EXEC command. To disable debugging output, use the **no** form of this command.

```
debug mgcp [all | errors [endpoint endpoint-name] | events [endpoint endpoint-name] |
media [endpoint endpoint-name] | packets [endpoint endpoint-name | input-hex] | parser]
```

```
no debug mgcp [all | errors | events | media | packets | parser]
```

Syntax Description

all	Debugs MGCP errors, events, packets, media, parser, and builder.
errors	Debugs MGCP errors.
endpoint <i>endpoint-name</i>	Debugs MGCP errors, events, media, or packets per endpoint. You can specify up to five endpoints with each command. Use the show mgcp endpoint command to identify valid endpoint names on your router.
events	Debugs MGCP events.
media	Debugs MGCP tone and signal events.
packets	Debugs MGCP packets.
input-hex	Debugs MGCP input packets in hexadecimal values.
parser	Debugs MGCP parser and builder.

Defaults

Debug is not enabled.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(1)T	This command was introduced.
12.1(3)T	Additional information was added to the displays for the gateways.
12.1(5)XM	The output was modified to display parameters for the MGCP CAS PBX and AAL2 PVC features.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	The keyword media was added. The keyword and argument endpoint endpoint-name was added to the mgcp errors , mgcp media , mgcp events , and mgcp packets options. The keyword input-hex was added to the mgcp packets option.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

There is always a performance penalty when using debug commands.

The **endpoint** keyword modifies the **debug mgcp** command to log only the events identified with the specified endpoints, for up to five endpoints. If you turn on debug without the **endpoint** option, all MGCP message traffic is displayed in the log, which can make the log very unreadable. Note that per-endpoint parser debug is not supported.

Examples

Following are sample outputs from the **debug mgcp events**, **debug mgcp packets**, and **debug mgcp parser** commands. The **debug mgcp all** command would show a compilation of the output from all these commands. The final example shows the output of the **debug mgcp packet endpoint** command.

The following example illustrates the output for the **debug mgcp events** command:

```
Router# debug mgcp events

Media Gateway Control Protocol events debugging is on
Router#
1w1d: MGC stat - 172.19.184.65, total=44, succ=7, failed=21
1w1d: MGCP msg 1
1w1d: remove_old_under_specified_ack:
1w1d: MGC stat - 172.19.184.65, total=44, succ=8, failed=21
1w1d: updating lport with 2427setup_ipsocket: laddr=172.29.248.193, lport=2427,
faddr=172.19.184.65, fport=2427
1w1d: enqueue_ack: ackqhead=0, ackqtail=0, ackp=1DC1D38, msg=21A037C
Router#
```

The following example illustrates the output for the **debug mgcp packets** command:

```
Router# debug mgcp packets

Media Gateway Control Protocol packets debugging is on
Router# Media Gateway Control Protocol packets debugging is on
Router#
1w1d: MGCP Packet received -
DLCX 408631346 * MGCP 0.1
1w1d: send_mgcp_msg, MGCP Packet sent --->
1w1d: 250 408631346
<---
```

The following example illustrates the output for the **debug mgcp parser** command:

```
Router# debug mgcp parser

Media Gateway Control Protocol parser debugging is on
Router#
1w1d: -- mgcp_parse_packet() - call mgcp_parse_header
- mgcp_parse_header()- Request Verb FOUND DLCX
- mgcp_parse_packet() - out mgcp_parse_header
- SUCCESS: mgcp_parse_packet()- MGCP Header parsing was OK
- mgcp_val_mandatory_parms()
- SUCCESS: mgcp_parse_packet()- END of Parsing
1w1d: -- mgcp_build_packet()-
1w1d: - mgcp_estimate_msg_buf_length() - 87 bytes needed for header
- mgcp_estimate_msg_buf_length() - 87 bytes needed after checking parameter lines
- mgcp_estimate_msg_buf_length() - 87 bytes needed after checking SDP lines
- SUCCESS: MGCP message building OK
- SUCCESS: END of building
```

The following example shows the debug output for MGCP packets on a single endpoint:

```
Router# debug mgcp packet endpoint aaln/s4/su0/1

End point name for packet debug:aaaln/s4/su0/1 (1)
Router#
*Mar 7 02:32:30.931:Slot = 4, Subunit = 0, Port = 1
*Mar 7 02:32:30.931:Call record found
*Mar 7 02:32:30.931:Enable packet end point debug for (aaaln/s4/su0/1)

Router# show debug

MGCP:
  Media Gateway Control Protocol packets per end point debugging is on
  MGCP packet end point debug:[aaaln/s4/su0/1]

Router#
*Mar 7 02:34:40.835:MGCP Packet received -
DLCX 43364 aaln/s4/su0/1 MGCP 1.0

*Mar 7 02:34:40.835:send_mgcp_msg, MGCP Packet sent --->

*Mar 7 02:34:40.835:RSIP 856 aaln/s4/su0/1@3660-2 MGCP 1.0
RM:disconnected
.
250 43364 already deleted connection
<---
*Mar 7 02:34:41.835:send_mgcp_msg, MGCP Packet sent --->

*Mar 7 02:34:41.835:RSIP 856 aaln/s4/su0/1@3660-2 MGCP 1.0
RM:disconnected
```

default (MGCP profile)

To configure an MGCP profile parameter to its default value, use the **default** command in MGCP profile configuration mode, or use the **no** form of the command for that profile parameter.

default *command*

Syntax Description

command

One of the MGCP profile commands. Valid choices are:

- **call-agent**
 - **description (MGCP profile)**
 - **max1 lookup**
 - **max1 retries**
 - **max2 lookup**
 - **max2 retries**
 - **package persistent**
 - **timeout tcrit**
 - **timeout tdinit**
 - **timeout tdmx**
 - **timeout tadmin**
 - **timeout thist**
 - **timeout tone busy**
 - **timeout tone cot1**
 - **timeout tone cot2**
 - **timeout tone dial**
 - **timeout tone dial stutter**
 - **timeout tone mwi**
 - **timeout tone network congestion**
 - **timeout tone reorder**
 - **timeout tone ringback**
 - **timeout tone ringback connection**
 - **timeout tone ringing**
 - **timeout tone ringing distinctive**
 - **timeout tpar**
 - **timeout tsmx**
 - **voice-port (MGCP profile)**
-

Defaults

This command has no default value.

Command Modes MGCP profile configuration

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The **default (MGCP profile)** command instructs the MGCP profile to use the default value of the specified command whenever the profile is called. This has the same effect as using the **no** form of the specified command, but the **default** command clearly specifies which commands are using their default values.

To use the default values for more than one command, enter each command on a separate line.

Examples The following example shows how to configure the default values for three MGCP profile commands:

```
Router(config)# mgcp profile newyork
Router(config-mgcp-profile)# default max1 retries
Router(config-mgcp-profile)# default timeout tdinit
Router(config-mgcp-profile)# default timeout tone mwi
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints or to configure the default profile.

description (MGCP profile)

To provide a description of the MGCP profile that is being defined, use the **description** command in MGCP profile configuration mode.

description *text*

Syntax Description	<i>text</i>	Description of the MGCP profile being defined.
---------------------------	-------------	--

Defaults This command has no default value.

Command Modes MGCP profile configuration

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The description is printed in the output for the **show mgcp profile** command and others.

Examples The following example shows a description for an MGCP profile:

```
Router(config)# mgcp profile newyork
Router(config-mgcp-profile)# description This is the head sales office in New York.
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

max1 lookup

To enable domain name system (DNS) lookup for a new call-agent address when the suspicion threshold value is reached, use the **max1 lookup** command in MGCP profile configuration mode. To disable lookup, use the **no** form of the command.

max1 lookup

no max1 lookup

Syntax Description

There are no keywords or arguments for this command.

Defaults

Lookup is enabled.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

Call-agent redundancy can be provided when call agents are identified by DNS name rather than IP address in the **call-agent** command, because each DNS name can have more than one IP address associated with it.

When the active call agent does not respond to a message from the media gateway, the gateway becomes suspicious that the call agent is out of service. The gateway retransmits the message to the call agent for the number of times specified in the **max1 retries** command; this is known as the *suspicion threshold*. If there is no response and the **max1 lookup** command is enabled, the gateway examines the DNS lookup table to find the IP address of another call agent. If a second call agent is listed, the gateway retries the message to the second call agent until a response is received or the number of retries specified in the **max1 retries** command is reached. This process is repeated for each IP address in the DNS table until the final address is reached. For the final address, the number of retries is specified by the **max2 retries** command; this is known as the *disconnect threshold*. If the number of retries specified in the **max2 retries** command is reached and there is still no response and the **max2 lookup** command is enabled, the gateway performs one final DNS lookup. If any new IP addresses have been added, the gateway starts the retransmission process again. Otherwise, the gateway places the endpoint in a disconnected state.

Examples

The following example shows how to enable the DNS lookup procedure and set the suspicion retransmission counter value to 7:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# call-agent igloo.northpole.net
Router(config-mgcp-profile)# max1 lookup
Router(config-mgcp-profile)# max1 retries 7
```

Related Commands

Command	Description
call-agent	Specifies a call-agent address and protocol for an MGCP profile.
max1 retries	Sets the MGCP suspicion threshold value.
max2 lookup	Enables DNS lookup for an MGCP call agent when the disconnect threshold is reached.
max2 retries	Sets the MGCP disconnect threshold value.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

max1 retries

To set the Media Gateway Control Protocol (MGCP) suspicion threshold value, use the **max1 retries** command in MGCP profile configuration mode. To return the number of retries to the default, use the **no** form of the command.

max1 retries *number*

no max1 retries

Syntax Description

retries	Sets the MGCP suspicion threshold value (the number of attempts to retransmit messages to a call agent address before performing a new lookup for further retransmission).
<i>number</i>	The number of times to attempt to resend messages; ranges from 3 to 30.

Defaults

The default number of attempts to resend messages is 5.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced. With the max2 retries command, it replaces the mgcp request retries command, which is no longer supported.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform. The maximum number of retries was increased to 30.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for an MGCP profile.

Call-agent redundancy can be provided when call agents are identified by domain name system (DNS) name rather than by IP address in the **call-agent** command, because each DNS name can have more than one IP address associated with it.

When the active call agent does not respond to a message from the media gateway, the gateway becomes suspicious that the call agent is out of service. The gateway retransmits the message to the call agent for the number of times specified in the **max1 retries** command; this is known as the *suspicion threshold*. If there is no response and the **max1 lookup** command is enabled, the gateway examines the DNS lookup table to find the IP address of another call agent. If a second call agent is listed, the gateway retries the message to the second call agent until a response is received or the number of retries specified in the **max1 retries** command is reached. This process is repeated for each IP address in the DNS table until the final address is reached. For the final address, the number of retries is specified by the **max2 retries** command; this is known as the *disconnect threshold*. If the number of retries specified in the **max2**

retries command is reached and there is still no response and the **max2 lookup** command is enabled, the gateway performs one final DNS lookup. If any new IP addresses have been added, the gateway starts the retransmission process again. Otherwise, the gateway places the endpoint in a disconnected state.

Examples

The following example shows how to enable the DNS lookup procedure and set the suspicion retransmission counter value to 7:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# call-agent igloo.northpole.net
Router(config-mgcp-profile)# max1 lookup
Router(config-mgcp-profile)# max1 retries 7
```

Related Commands

Command	Description
call-agent	Specifies a call-agent address and protocol for an MGCP profile.
max1 lookup	Enables DNS lookup for an MGCP call agent when the suspicion threshold is reached.
max2 lookup	Enables DNS lookup for an MGCP call agent when the disconnect threshold is reached.
max2 retries	Sets the MGCP disconnect threshold value.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

max2 lookup

To enable domain name system (DNS) lookup for a new call-agent address after the disconnect threshold timeout value is reached, use the **max2 lookup** command in MGCP profile configuration mode. To disable DNS lookup, use the **no** form of the command.

max2 lookup

no max2 lookup

Syntax Description

There are no arguments or keywords for this command.

Defaults

Lookup is enabled.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

Call-agent redundancy can be provided when call agents are identified by DNS name rather than IP address in the **call-agent** command, because each DNS name can have more than one IP address associated with it.

When the active call agent does not respond to a message from the media gateway, the gateway becomes suspicious that the call agent is out of service. The gateway retransmits the message to the call agent for the number of times specified in the **max1 retries** command; this is known as the *suspicion threshold*. If there is no response and the **max1 lookup** command is enabled, the gateway examines the DNS lookup table to find the IP address of another call agent. If a second call agent is listed, the gateway retries the message to the second call agent until a response is received or the number of retries specified in the **max1 retries** command is reached. This process is repeated for each IP address in the DNS table until the final address is reached. For the final address, the number of retries is specified by the **max2 retries** command; this is known as the *disconnect threshold*. If the number of retries specified in the **max2 retries** command is reached and there is still no response and the **max2 lookup** command is enabled, the gateway performs one final DNS lookup. If any new IP addresses have been added, the gateway starts the retransmission process again. Otherwise, the gateway places the endpoint in a disconnected state.

Examples

The following example shows how to enable the DNS lookup procedure and set the disconnect retransmission counter value to 9:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# call-agent ca1@exp.example.com
Router(config-mgcp-profile)# max2 lookup
Router(config-mgcp-profile)# max2 retries 9
```

Related Commands

Command	Description
call-agent	Specifies a call-agent address and protocol for an MGCP profile.
max1 lookup	Enables DNS lookup for an MGCP call agent when the suspicion threshold is reached.
max1 retries	Sets the MGCP suspicion threshold value.
max2 retries	Sets the MGCP disconnect threshold value.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

max2 retries

To set the Media Gateway Control Protocol (MGCP) disconnect threshold value, use the **max2 retries** command in MGCP profile configuration mode. To disable lookup or return the number of retries to the default, use the **no** form of the command.

max2 retries *number*

no max2 retries

Syntax Description

retries	Sets the disconnect threshold value (the number of attempts to retransmit messages to a call agent address before performing a new lookup for further retransmission).
<i>number</i>	The number of times to attempt to resend messages; ranges from 3 to 30.

Defaults

The default number of attempts to resend messages is 7.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced. With the max1 retries command, it replaces the mgcp request retries command, which is no longer supported.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform. The maximum number of retries was increased to 30.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for an MGCP profile.

Call-agent redundancy can be provided when call agents are identified by domain name system (DNS) name rather than IP address in the **call-agent** command, because each DNS name can have more than one IP address associated with it.

When the active call agent does not respond to a message from the media gateway, the gateway becomes suspicious that the call agent is out of service. The gateway retransmits the message to the call agent for the number of times specified in the **max1 retries** command; this is known as the *suspicion threshold*. If there is no response and the **max1 lookup** command is enabled, the gateway examines the DNS lookup table to find the IP address of another call agent. If a second call agent is listed, the gateway retries the message to the second call agent until a response is received or the number of retries specified in the **max1 retries** command is reached. This process is repeated for each IP address in the DNS table until the final address is reached. For the final address, the number of retries is specified by the **max2 retries** command; this is known as the *disconnect threshold*. If the number of retries specified in the **max2**

retries command is reached and there is still no response and the **max2 lookup** command is enabled, the gateway performs one final DNS lookup. If any new IP addresses have been added, the gateway starts the retransmission process again. Otherwise, the gateway places the endpoint in a disconnected state.

Examples

The following example shows how to set the disconnect retransmission counter value to 9:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# call-agent igloo.northpole.net
Router(config-mgcp-profile)# max2 retries 9
```

Related Commands

Command	Description
call-agent	Specifies a call-agent address and protocol for an MGCP profile.
max1 lookup	Enables DNS lookup for an MGCP call agent after the suspicion threshold value is reached.
max1 retries	Sets the MGCP suspicion threshold value.
max2 lookup	Enables DNS lookup for an MGCP call agent after the disconnect threshold value is reached.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

mgcp call-agent

To configure the address and protocol of the call agent for Media Gateway Control Protocol (MGCP) endpoints on a media gateway, use the **mgcp call-agent** global configuration command. To return to default values, use the **no** form of this command.

```
mgcp call-agent { dns-name | ip-address } [port] [service-type type] [version protocol-version]
```

```
no mgcp call-agent
```

Syntax Description

<i>dns-name</i>	Fully qualified domain name (including host portion) for the call agent. For example, <i>ca123.example.net</i> .
<i>ip-address</i>	IP address for the call agent.
<i>port</i>	User Datagram Protocol (UDP) port number over which the gateway sends messages to the call agent. Range is from 1025 to 65535.
service-type	Keyword indicating that the next word is the protocol service type.
<i>type</i>	Select a protocol service type. Valid values are mgcp , ncs , sgcp , and tgcp .
version	Keyword indicating that the next value is the version number.
<i>protocol-version</i>	Select a protocol version from the valid values listed below. For service-type mgcp : 0.1, 1.0 For service-type ncs : 1.0 For service-type sgcp : 1.1, 1.5 For service-type tgcp : 1.0

Defaults

The default call-agent UDP port is 2727 for MGCP 1.0, Network-based Call Signaling (NCS) 1.0, and Trunking Gateway Control Protocol (TGCP) 1.0.

The default call-agent UDP port is 2427 for MGCP 0.1 and Simple Gateway Control Protocol (SGCP).

The default service type and version is **mgcp** 0.1.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)T	This command was introduced.
12.1(3)T	The service-type option was added.
12.1(5)XM	The version option was added.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	New service types (ncs and tgcp) and appropriate versions were added. Version 1.0 was added for the mgcp service type.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.

Release	Modification
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

Global call-agent configuration (with this command) and call-agent configuration for an MGCP profile (with the MGCP profile **call-agent** command) are mutually exclusive; the first to be configured on an endpoint blocks configuration of the other on the same endpoint.

Identifying call agents by domain name system (DNS) name rather than IP address in the **call-agent** command provides call-agent redundancy, because a DNS name can have more than one IP address associated with it. If a call agent is identified by DNS name and a message from the gateway fails to reach the call agent, the **max1 lookup** and **max2 lookup** commands enable a search from the DNS lookup table for a backup call agent at a different IP address.

The *port* argument configures the call-agent port number (the UDP port over which the gateway sends messages to the call agent). The reverse (the gateway port number, or the UDP port over which the gateway receives messages from the call agent) is configured by specifying a port number in the **mgcp** command. The default gateway port number is always 2427.

The service type **mgcp** supports the RestartInProgress (RSIP) error messages sent by the gateway if **mgcp sgcp restart notify** is enabled. The service type **sgcp** ignores the RSIP messages.

Examples

The following examples demonstrate various forms of the command:

```
Router(config)# mgcp call-agent 209.165.200.225 service-type mgcp version 1.0
```

```
Router(config)# mgcp call-agent 209.165.200.225 5530 service-type tgcp
```

```
Router(config)# mgcp call-agent igloo.northpole.net service-type ncs
```

```
Router(config)# mgcp call-agent igloo.northpole.net 2009 service-type sgcp version 1.5
```

Related Commands

Command	Description
call-agent	Specifies a call-agent address and protocol for an MGCP profile.
max1 lookup	Enables DNS lookup of the MGCP call agent address when the suspicion threshold is reached.
max2 lookup	Enables DNS lookup of the MGCP call agent address when the disconnect threshold is reached.
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp sgcp restart notify	Starts RSIP message processing in the MGCP application.

mgcp endpoint offset

When using the Network-based Call Signaling (NCS) 1.0 profile of Media Gateway Control Protocol (MGCP), enable incrementing of the POTS or DS0 portion of an endpoint name with the **mgcp endpoint offset** global configuration command. To return the endpoint name to the default, use the **no** form of this command.

mgcp endpoint offset

no mgcp endpoint offset

Syntax Description This command has no arguments or keywords.

Defaults Disabled

Command Modes Global configuration

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines This command is used with NCS 1.0 to increment the POTS or DS0 portion of an endpoint name by 1, to minimize potential interoperability problems with call agents (media gateway controllers).

NCS 1.0 mandates that the port number of an endpoint be based on 1, and port numbering on some gateway platforms is based on 0.

When this command is configured, it offsets all endpoint names on the gateway. For example, an endpoint with a port number of aaln/0 is offset to aaln/1, and a DS0 group number of 0/0:0 is offset to 0/0:1.

Examples The following example shows the port number portion of an endpoint name being incremented:

```
Router(config)# mgcp endpoint offset
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.

mgcp persistent

To configure the sending of persistent events from the Media Gateway Control Protocol (MGCP) gateway to the call agent, use the **mgcp persistent** global configuration command. To return to the default values, use the **no** form of this command.

```
mgcp persistent {hookflash | offhook | onhook}
```

```
no mgcp persistent {hookflash | offhook | onhook}
```

Syntax Description

hookflash	Sends persistent hookflash events to the call agent.
offhook	Sends persistent off-hook events to the call agent.
onhook	Sends persistent on-hook events to the call agent.

Command Modes

Global configuration

Defaults

The **hookflash** detection option is disabled for persistence.

The **offhook** option is enabled for persistence.

The **onhook** option is disabled for persistence.

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

Persistent events are those events that, once they are detected, are defined as reportable to the call agent whether or not the call agent has explicitly requested to be notified of their occurrence; that is, even if they are not included in the list of RequestedEvents that the gateway is asked to detect and report. Such events include, for example, fax tones, continuity tones, or on-hook transition; each event has an associated action for the gateway to take.

Use the **mgcp persistent** command for each type of persistent event that should override the default behavior.

Examples

The following example shows how to configure the gateway to send persistent on-hook events to the call agent:

```
Router(config)# mgcp persistent onhook
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.

mgcp piggyback message

To enable piggyback messages, use the **mgcp piggyback message** global configuration command. To disable piggyback messages, use the **no** form of this command.

mgcp piggyback message

no mgcp piggyback message

Syntax Description This command has no arguments or keywords.

Defaults Piggyback messages are enabled.

Command Modes Global configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

Use this command to disable piggyback messages for Media Gateway Control Protocol (MGCP) 1.0, Network-based Call Signaling (NCS), and Trunking Gateway Control Protocol (TGCP) when a network gateway cannot handle piggyback messages. Piggyback messaging is not available to Simple Gateway Control Protocol (SGCP) and MGCP 0.1.

The term *piggyback message* refers to a situation in which a gateway or a call agent sends more than one MGCP message in the same User Datagram Protocol (UDP) packets. The recipient processes the messages individually, in the order received. However, if a message must be retransmitted, the entire datagram is resent. The recipient must be capable of sorting out the messages and keeping track of which messages have been handled or acknowledged.

Piggybacking is used during retransmission of a message to send previously unacknowledged messages to the call agent. This maintains the order of events the call agent receives, and makes sure that RSIP (RestartInProgress) messages are always received first by a call agent.

Examples

The following example illustrates how to disable piggyback messages:

```
Router(config)# no mgcp piggyback message
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.

mgcp profile

To create and configure a Media Gateway Control Protocol (MGCP) profile to be associated with one or more MGCP endpoints or to configure the default MGCP profile, use the **mgcp profile** command in global configuration mode. To delete the profile, use the **no** form of this command.

mgcp profile {*profile-name* | **default**}

no mgcp profile {*profile-name* | **default**}

Syntax Description

<i>profile-name</i>	Provides an identifying name for the user-defined profile to be configured. The name can be a maximum of 32 characters.
default	Specifies that the default profile is to be configured.

Defaults

This command does not have a default value.

Command Modes

Global configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

An MGCP profile is a subset of endpoints on a media gateway. More than one MGCP profile can be configured on a gateway at the same time. The **voice-port** command in MGCP profile configuration mode associates endpoints with the profile.

There are two types of MGCP parameters, global and profile-related. The parameters that are configured in MGCP profile configuration mode are the profile-related parameters. However, endpoints do not need to belong to an MGCP profile. When endpoints are not associated with any MGCP profile, values for the profile-related MGCP parameters are provided by a *default profile*. Although all of the parameters for the default profile have default values, they also can be configured in the same way that an MGCP profile is configured, by simply using the keyword **default** instead of a profile name. The main difference between a default profile and a user-defined profile is that there is no voice-port or call-agent association in the default profile, but they are required in user-defined profiles. When configuring the default profile, do not configure the **call-agent** command or the **voice-port** command.

The **mgcp profile** command initiates MGCP profile configuration mode, in which you create an MGCP profile for an endpoint or a set of endpoints on a media gateway, and you set parameters for that profile or for the default profile. The following commands are available to configure MGCP profile-related parameters:

- **call-agent**
- **default (MGCP profile)**
- **description (MGCP profile)**
- **max1 lookup**
- **max1 retries**
- **max2 lookup**
- **max2 retries**
- **package persistent**
- **timeout tcrit**
- **timeout tdinit**
- **timeout tdmx**
- **timeout tdmn**
- **timeout thist**
- **timeout tone busy**
- **timeout tone cot1**
- **timeout tone cot2**
- **timeout tone dial**
- **timeout tone dial stutter**
- **timeout tone mwi**
- **timeout tone network congestion**
- **timeout tone reorder**
- **timeout tone ringback**
- **timeout tone ringback connection**
- **timeout tone ringing**
- **timeout tone ringing distinctive**
- **timeout tpar**
- **timeout tsmx**
- **voice-port (MGCP profile)**

Examples

The following example illustrates an MGCP profile definition:

```
Router(config)# mgcp profile newyork
Router(config-mgcp-profile)# call-agent 10.14.2.200 4000 service-type mgcp version 1.0
Router(config-mgcp-profile)# voice-port 0:1
Router(config-mgcp-profile)# package persistent mt-package
Router(config-mgcp-profile)# timeout tsmx 100
Router(config-mgcp-profile)# timeout tdinit 30
Router(config-mgcp-profile)# timeout tcrit 600
Router(config-mgcp-profile)# timeout tpar 600
Router(config-mgcp-profile)# timeout thist 60
Router(config-mgcp-profile)# timeout tone mwi 600
Router(config-mgcp-profile)# timeout tone ringback 600
Router(config-mgcp-profile)# timeout tone ringback connection 600
```

mgcp profile

```

Router(config-mgcp-profile)# timeout tone network congestion 600
Router(config-mgcp-profile)# timeout tone busy 600
Router(config-mgcp-profile)# timeout tone dial 600
Router(config-mgcp-profile)# timeout tone dial stutter 600
Router(config-mgcp-profile)# timeout tone ringing 600
Router(config-mgcp-profile)# timeout tone ringing distinctive 600
Router(config-mgcp-profile)# timeout tone reorder 600
Router(config-mgcp-profile)# timeout tone cot1 600
Router(config-mgcp-profile)# timeout tone cot2 600
Router(config-mgcp-profile)# max1 retries 10
Router(config-mgcp-profile)# no max2 lookup
Router(config-mgcp-profile)# max2 retries 10
Router(config-mgcp-profile)# exit

```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.

mgcp quarantine mode

To configure Media Gateway Control Protocol (MGCP) event quarantine buffer handling mode, use the **mgcp quarantine mode** command in global configuration mode. To restore the default value, use the **no** form of the command.

```
mgcp quarantine mode { discard [loop | step] | process [loop | step] | loop | step }
```

```
no mgcp quarantine mode { discard [loop | step] | process [loop | step] | loop | step }
```

Syntax Description

discard	Enables discarding of quarantined events instead of processing. Observed events are not reported to the call agent, even if the call agent is ready to receive them.
loop	Enables loop mode for quarantined events instead of stepping. After receiving a request from the call agent, the gateway reports the observed events to the call agent in multiples without waiting for subsequent requests.
process	Enables processing of quarantined events instead of discarding. Observed events are reported to the call agent when the call agent is ready to receive them.
step	Enables step mode for quarantined events instead of looping. After receiving a request from the call agent, the gateway reports observed events individually to the call agent, one for each request.

Defaults

The default is **discard** and **step**.

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)XM	This command was introduced.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	Support for MGCP was added.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

Quarantine events are defined as events that have been detected by the gateway before the arrival of the MGCP NotificationRequest command, but that have not yet been notified to the call agent. They are held in the quarantine buffer until receipt of the MGCP NotificationRequest command, when the gateway is expected to generate either one notification (step by step), or multiple notifications (loop), in response to this request (the default is exactly one), based on the configuration of **mgcp quarantine mode**.

This command supports backward compatibility with SGCP implementations running under the MGCP application. SGCP does not have a way to allow the call agent to control the quarantine mode. MGCP has this functionality.

When the gateway is in the notification state, the interdigit timer (Tcrit) is not started.

When the gateway receives an unsuccessful NotificationRequest, the current RequestEventList and SignalEventList are emptied. The ObservedEventList and quarantine buffer are also emptied.

Examples

The following example shows the processing of quarantined events being turned on and observed events being sent to the call agent:

```
Router(config)# mgcp quarantine mode process
```

The following example turns off processing of quarantined events:

```
Router(config)# no mgcp quarantine mode process
```

The following example sends observed events to the call agent in loop mode:

```
Router(config)# mgcp quarantine mode process loop
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp quarantine persistent-event disable	Disables handling of persistent call events in the quarantine buffer.

mgcp quarantine persistent-event disable

To disable handling of persistent call events in the Media Gateway Control Protocol (MGCP) quarantine buffer, use the **mgcp quarantine persistent-events disable** command in global configuration mode. To restore the default value, use the **no** form of the command.

mgcp quarantine persistent-event disable

no mgcp quarantine persistent-event disable

Syntax Description

There are no arguments or keywords for this command.

Defaults

Persistent events are held in the events buffer.

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)XM	This command was introduced.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	Support was added for MGCP.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command enables the reporting of persistent events immediately to the call agent rather than holding the events in quarantine. Persistent events are events defined as reportable whether or not the call agent explicitly has requested to be notified of their occurrence. Quarantining means that the gateway observes events but does not report them to the call agent until the call agent indicates readiness to receive notifications. By default, all events, including persistent events, are quarantined when they are detected, even when the gateway is in a notification state. When the **mgcp quarantine persistent-event disable** command is configured, however, persistent events are reported to the call agent immediately by an MGCP Notify command.

Examples

The following example shows quarantine buffer handling of persistent events being turned off:

```
Router(config)# mgcp quarantine persistent-event disable
```

Related Commands

■ mgcp quarantine persistent-event disable

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp quarantine mode	Configures MGCP event quarantine buffer handling mode.

mgcp request retries

This command was added in Cisco IOS Release 12.1(1)T. Beginning in Cisco IOS Release 12.2(2)XA and Cisco IOS Release 12.2(4)T, this command no longer is supported. It has been replaced by the MGCP profile commands **max1 retries** and **max2 retries**.

mgcp request timeout

To specify how long the gateway waits for a call-agent response to a request before retransmitting the request, use the **mgcp request timeout** command in global configuration mode. To restore the default value, use the **no** form of this command.

```
mgcp request timeout { timeout-value | max maxtimeout-value }
```

```
no mgcp request timeout [max]
```

Syntax Description

<i>timeout-value</i>	Specifies the number of milliseconds to wait for a response to the initial request. Valid range is 1 to 10,000 (10 seconds).
max	Keyword indicating that the following value is the maximum timeout value.
<i>maxtimeout-value</i>	Specifies the maximum number of milliseconds to wait for a response in subsequent requests. Valid range is 1,000 to 20,000 (20 seconds).

Defaults

Default for *timeout-value* is 500 ms.

Default for *maxtimeout-value* is 4,000 ms.

Command Modes

Global configuration

Command History

Release	Modification
12.1(1)T	This command was introduced for the Cisco AS5300.
12.1(3)T	Support was extended to Cisco 2600 series, Cisco 3660, and Cisco uBR924.
12.1(5)XM	Support for this command was extended to the Cisco MC3810.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	The max keyword was added to this command.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T and supported on the Cisco uBR925.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

The request timeout value is the value used for the initial time period that a Media Gateway Control Protocol (MGCP) gateway waits for a response from the call agent before retransmitting the message. The interval doubles with each retransmission. The request timeout max value sets an upper limit on the timeout interval.

Examples

The following example shows a system being set to wait 40 milliseconds for a reply to the first request before retransmitting, and limits subsequent interval maximums to 10,000 milliseconds (10 seconds):

```
Router(config)# mgcp request timeout 40
Router(config)# mgcp request timeout max 10000
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.

mgcp sdp

To specify parameters for Session Description Protocol (SDP) operation in Media Gateway Control Protocol (MGCP), use the **mgcp sdp** command in global configuration mode. To return to the default value, use the **no** form of this command.

mgcp sdp { **notation undotted** | **simple** | **xpc-codec** }

no mgcp sdp { **notation undotted** | **simple** | **xpc-codec** }

Syntax Description

notation undotted	Enables undotted SDP notation for the codec string in SDP.
simple	Enables the simple mode of SDP operation for MGCP.
xpc-codec	Enables the initial generation of the X-pc-codec field, which is used during codec negotiation in SDP for Network-based Call Signaling (NCS) and Trunking Gateway Control Protocol (TGCP).

Defaults

The **notation undotted** option is disabled by default.

The **simple** option is disabled by default.

The **xpc-codec** option is disabled by default.

Command Modes

Global configuration

Command History

Release	Modification
12.1(3)T	This command was introduced.
12.2(2)XA	The keywords notation undotted and xpc-codec were added.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command allows you to configure SDP fields to meet the requirements of your call agent.

notation undotted—The codec strings G.726-16 and G.729 are dotted notation, while G726-16 and G729 are undotted. The codec notation format is selected dynamically in the following order of preference:

1. The notation used in SDP for MGCP packets from the call agent.
2. The notation used in the a: parameter of the Local connection option for MGCP packets from the call agent.
3. The notation set by the **mgcp sdp notation undotted** command.

simple—When **simple** is enabled, the gateway does not generate the following SDP fields: o (origin and session identifier), s (session name), and t (session start time and stop time). Certain call agents require this modified SDP to send data through the network.

xpc-codec—In TGCP and NCS, a new field (X-pc-codec) has been defined in the SDP for codec negotiation. To be backward compatible with non-packet-cable SDPs, the initial generation of the X-pc-codec field is suppressed by default. However, if a received SDP contains this field, the X-pc-codec is read and generated in response, to continue with the codec negotiation.

Examples

The following example shows the simple mode being configured for SDP:

```
Router(config)# mgcp sdp simple
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.

package persistent

To configure the package type used when reporting persistent events for a multifrequency tone (MF) channel-associated signaling (CAS) endpoint type using a specific Media Gateway Control Protocol (MGCP) profile, use the **package persistent** command in MGCP profile configuration mode. To disable the persistent status, use the **no** form of the command.

package persistent *package-name*

no package persistent *package-name*

Syntax Description

package-name Valid package names are **ms-package** and **mt-package**.

Defaults

ms-package

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

This command is used only with MF trunks (gateway voice ports configured with the **dial-type mf** command in voice-port configuration mode). Because the same persistent event can be defined in different MGCP packages, you may need to configure the **package persistent** command to tell the gateway which package to use when reporting persistent events to the call agent for the endpoints in this MGCP profile. For example, a T1 may be configured as an MF trunk, but there is more than one MGCP package that applies to an MF trunk. An *ans* (call answer) event must be mapped to the appropriate package for call-agent notification. This command allows different T1s to be configured for different CAS protocols.

The MS package is used with certain private branch exchange (PBX) direct inward dial/direct outward dial (DID/DOD) trunks with wink-start or ground-start protocol, as indicated in RFC 3064 (MGCP CAS Packages).

The MT package is a subset of the MS package, and it is used with certain operator services on terminating MF trunks on trunking gateway endpoints, as described in PacketCable PSTN Gateway Call Signaling Protocol Specification (TGCP) PKT-SP-TGCP-D02-991028, December 1, 1999.

Examples

The following example shows event persistence being enabled for the MT package:

```
Router(config)# mgcp profile nyc-ca  
Router(config-mgcp-profile)# package persistent mt-package
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure an MGCP profile associated with one or more endpoints, or to configure the default profile.

show mgcp

To display Media Gateway Control Protocol (MGCP) configuration information, use the **show mgcp** command in privileged EXEC mode.

show mgcp [**connection** | **endpoint** | **profile** [*profile-name*] | **statistics**]

Syntax Description

connection	Displays information for active MGCP-controlled connections.
endpoint	Displays information for MGCP-controlled endpoints.
profile	Displays information for MGCP profiles.
<i>profile-name</i>	Name of profile for which information should be displayed; limited to 32 characters.
statistics	Displays MGCP statistics regarding received and transmitted network messages.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.1(1)T	This command was introduced for the Cisco AS5300.
12.1(3)T	Output was updated to show additional gateway and platform information.
12.1(5)XM	Output was updated to show additional gateway and platform information.
12.2(2)T	This command was integrated into Cisco IOS Release 12.2(2)T.
12.2(2)XA	The keyword profile was added.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Examples

Following are examples of the command formats and outputs for **show mgcp**, **show mgcp connection**, **show mgcp statistics**, **show mgcp endpoint**, and **show mgcp profile**.

```
Router# show mgcp
```

```
MGCP Admin State ACTIVE, Oper State ACTIVE - Cause Code NONE
MGCP call-agent: 172.18.195.147 2300 Initial protocol service is SGCP 1.5
MGCP block-newcalls DISABLED
MGCP send RSIP for SGCP is ENABLED
MGCP quarantine mode discard/step
MGCP quarantine of persistent events is ENABLED
MGCP dtmf-relay for VoIP disabled for all codec types
MGCP dtmf-relay voaal2 codec all
MGCP voip modem passthrough mode: NSE, codec: g711ulaw, redundancy: DISABLED,
```

```

MGCP voaal2 modem passthrough mode: NSE, codec: g711ulaw
MGCP TSE payload: 100
MGCP T.38 Named Signalling Event (NSE) response timer: 200
MGCP Network (IP/AAL2) Continuity Test timer: 3000
MGCP 'RTP stream loss' timer: 2
MGCP request timeout 500
MGCP maximum exponential request timeout 4000
MGCP gateway port: 2427, MGCP maximum waiting delay 3000
MGCP restart delay 0, MGCP vad DISABLED
MGCP xpc-codec: DISABLED, MGCP persistent hookflash: DISABLED
MGCP persistent offhook: ENABLED, MGCP persistent onhook: DISABLED
MGCP piggyback msg DISABLED, MGCP endpoint offset DISABLED
MGCP simple-sdp DISABLED
MGCP undotted-notation DISABLED
MGCP codec type g711ulaw, MGCP packetization period 20
MGCP JB threshold lwm 30, MGCP JB threshold hwm 150
MGCP LAT threshold lwm 150, MGCP LAT threshold hwm 300
MGCP PL threshold lwm 1000, MGCP PL threshold hwm 10000
MGCP CL threshold lwm 1000, MGCP CL threshold hwm 10000
MGCP playout mode is adaptive 60, 4, 200 in msec
MGCP IP ToS low delay disabled, MGCP IP ToS high throughput disabled
MGCP IP ToS high reliability disabled, MGCP IP ToS low cost disabled
MGCP IP RTP precedence 5, MGCP signaling precedence: 3
MGCP default package: line-package
MGCP supported packages: gm-package dtmf-package trunk-package line-package
                        hs-package atm-package ms-package dt-package res-packa
                        mt-package

```

Table 3 *show mgcp Field Descriptions*

Field Name	Description
MGCP Admin State...Oper State	The administrative and operational state of the MGCP daemon. The administrative state controls starting and stopping the application using the mgcp and mgcp block-newcalls commands. The operational state controls normal MGCP operations.
MGCP call-agent	The address of the call agent specified in the mgcp call-agent or call-agent command.
Initial protocol service is...	Indicates the protocol initiated for this session.
MGCP block-newcalls	The state of the mgcp block-newcalls command.
MGCP send RSIP for SGCP	The setting for the mgcp sgcp restart notify command.
MGCP quarantine mode	Indicates how the quarantine buffer is to handle Simple Gateway Control Protocol (SGCP) events.
MGCP quarantine of persistent events	Indicates if SGCP persistent events will be handled by the quarantine buffer.
MGCP dtmf-relay	The setting for the mgcp dtmf-relay command.
MGCP voip modem passthrough	Indicates the settings for mode, codec, and redundancy from the commands mgcp modem passthrough mode , mgcp modem passthrough codec , and mgcp modem passthrough voip redundancy .
MGCP voaal2 modem passthrough	Indicates the settings for mode, codec, and redundancy from the commands mgcp modem passthrough mode and mgcp modem passthrough codec .

Table 3 *show mgcp Field Descriptions (continued)*

Field Name	Description
MGCP TSE payload	The setting for the mgcp tse payload command.
MGCP Network (IP/AAL2) Continuity Test timer	The setting for the net-cont-test option in the mgcp timer command.
MGCP 'RTP stream loss' timer	The setting for the receive-rtcp option in the mgcp timer command.
MGCP request timeout	The setting for the mgcp request timeout command.
MGCP maximum exponential request timeout	The setting for the mgcp request timeout max command.
MGCP request retries	The setting for the mgcp request retries command.
MGCP gateway port	The User Datagram Protocol (UDP) port specification for the gateway.
MGCP maximum waiting delay	The setting for the mgcp max-waiting-delay command.
MGCP restart delay	The setting for the mgcp restart-delay command.
MGCP vad	The setting for the mgcp vad command.
MGCP xpc-codec	Indicates whether mgcp sdp xpc-codec has been configured to generate the X-pc codec field for SDP codec negotiation in NCS and TGCP.
MGCP persistent hookflash	Indicates whether mgcp persistent hookflash has been configured to send persistent hookflash events to the call agent.
MGCP persistent offhook	Indicates whether mgcp persistent offhook has been configured to send persistent off-hook events to the call agent.
MGCP persistent onhook	Indicates whether mgcp persistent hookflash has been configured to send persistent on-hook events to the call agent.
MGCP piggyback msg	Indicates whether mgcp piggyback message has been configured to enable piggyback messaging.
MGCP endpoint offset	Indicates whether mgcp endpoint offset has been configured to enable incrementing of the POTS or DS0 portion of an endpoint name for NCS.
MGCP simple-sdp	Indicates whether simple SDP has been set in the mgcp sdp command.
MGCP undotted notation	Indicates whether mgcp sdp notation undotted has been configured to enable undotted SDP notation for the codec string.
MGCP codec type	The setting for the mgcp codec command.
MGCP packetization period	The packetization period parameter setting for the mgcp codec command.
MGCP JB threshold lwm	The jitter buffer minimum threshold parameter setting for the mgcp quality-threshold command.
MGCP JB threshold hwm	The jitter buffer maximum threshold parameter setting for the mgcp quality-threshold command.
MGCP LAT threshold lwm	The latency minimum threshold parameter setting for the mgcp quality-threshold command.

Table 3 show mgcp Field Descriptions (continued)

Field Name	Description
MGCP LAT threshold hwm	The latency maximum threshold parameter setting for the mgcp quality-threshold command.
MGCP PL threshold lwm	The packet loss minimum threshold parameter setting for the mgcp quality-threshold command.
MGCP PL threshold hwm	The packet loss maximum threshold parameter setting for the mgcp quality-threshold command.
MGCP CL threshold lwm	The cell loss minimum threshold parameter setting for the mgcp quality-threshold command.
MGCP CL threshold hwm	The cell loss maximum threshold parameter setting for the mgcp quality-threshold command.
MGCP playout mode	The jitter buffer packet size type and size.
MGCP IP ToS low delay	The low-delay parameter setting for the mgcp ip-tos command.
MGCP IP ToS high throughput	The high-throughput parameter setting for the mgcp ip-tos command.
MGCP IP ToS high reliability	The high-reliability parameter setting for the mgcp ip-tos command.
MGCP IP ToS low cost	The low-cost parameter setting for the mgcp ip-tos command.
MGCP IP RTP precedence	The rtp precedence parameter setting for the mgcp ip-tos command.
MGCP signaling precedence	The signaling precedence parameter setting for the mgcp ip-tos command.
MGCP default package	The default-package parameter setting for the mgcp default-package command.
MGCP supported packages	The packages configured with mgcp package-capability to be supported on this gateway in this session.

The following example shows the output for VoIP connections:

```
Router# show mgcp connection
```

```
Endpoint  Call_ID(C) Conn_ID(I) (P)ort (M)ode (S)tate (C)odec (E)vent[SIFL] (R)esult[EA]
1. S0/DS1-0/1 C=103,23,24 I=0x8 P=16586,16634 M=3 S=4,4 C=5 E=2,0,0,2 R=0,0
2. S0/DS1-0/2 C=103,25,26 I=0x9 P=16634,16586 M=3 S=4,4 C=5 E=0,0,0,0 R=0,0
3. S0/DS1-0/3 C=101,15,16 I=0x4 P=16506,16544 M=3 S=4,4 C=5 E=2,0,0,2 R=0,0
4. S0/DS1-0/4 C=101,17,18 I=0x5 P=16544,16506 M=3 S=4,4 C=5 E=0,0,0,0 R=0,0
5. S0/DS1-0/5 C=102,19,20 I=0,6 P=16572,16600 M=3 S=4,4 C=5 E=2,0,0,2 R=0,0
6. S0/DS1-0/6 C=102,21,22 I=0x7 P=16600,16572 M=3 S=4,4 C=5 E=0,0,0,0 R=0,0
```

```
Total number of active calls 6
```

Table 4 *show mgcp connection (VoIP) Field Descriptions*

Field Name	Description
Endpoint	The endpoint for each call, shown in the digital endpoint naming convention of slot number (S0) and digital line (DS1-0) number (1).
Call_ID(C)	The MGCP call ID sent by the call agent, the internal Call Control Application Programming Interface (CCAPI) call ID for this endpoint, and the peer call legs CCAPI call ID. (CCAPI is an API that provides call control facilities to applications.)
Conn_ID(I)	The connection ID generated by the gateway and sent in the ACK message.
(P)ort	The ports used for this connection. The first port is the local UDP port. The second port is the remote UDP port.
(M)ode	The call mode, where: 0—Indicates an invalid value for mode. 1—Indicates that the gateway should only send packets. 2—Indicates that the gateway should only receive packets. 3—Indicates that the gateway can send and receive packets. 4—Indicates that the gateway should neither send nor receive packets. 5—Indicates that the gateway should place the circuit in loopback mode. 6—Indicates that the gateway should place the circuit in test mode. 7—Indicates that the gateway should use the circuit for network access for data. 8—Indicates that the gateway should place the connection in network loopback mode. 9—Indicates that the gateway should place the connection in network continuity test mode. 10—Indicates that the gateway should place the connection in conference mode. All other values are used for internal debugging.
(S)tate	The call state. The values are used for internal debugging purposes.
(C)odec	The codec identifier. The values are used for internal debugging purposes.
(E)vent [SIFL]	Used for internal debugging.
(R)esult [EA]	Used for internal debugging.

The following example shows output for VoAAL2 connections:

```
Router# show mgcp connection
```

```
Endpoint Call_ID(C) Conn_ID(I) (V)cci/cid (M)ode (S)tate (C)odec (E)vent[SIFL] (R)esult[EA]
```

```
1.aaln/S1/1 C=1,11,12 I=0x2 V=2/10 M=3 S=4,4 C=1 E=3,0,0,3 R=0,0
```

Total number of active calls 1

Table 5 *show mgcp connection (VoAAL2) Field Descriptions*

Field Name	Description
Endpoint	The endpoint for each call shown in the digital endpoint naming convention of slot number (S0) and digital line (DS1-0) number (1).
Call_ID(C)	The MGCP call ID sent by the call agent, the internal Call Control Application Programming Interface (CCAPI) call ID for this endpoint, and the peer call legs CCAPI call ID. (CCAPI is an API that provides call control facilities to applications.)
Conn_ID(I)	The connection ID generated by the gateway and sent in the ACK message.
Vcci/cid	The virtual channel connection identifier (VCCI) and channel identifier (CID) used for the VoAAL2 call.
(M)ode	The call mode, where: 0—Indicates an invalid value for mode. 1—Indicates that the gateway should only send packets. 2—Indicates that the gateway should only receive packets. 3—Indicates that the gateway can send and receive packets. 4—Indicates that the gateway should neither send nor receive packets. 5—Indicates that the gateway should place the circuit in loopback mode. 6—Indicates that the gateway should place the circuit in test mode. 7—Indicates that the gateway should use the circuit for network access for data. 8—Indicates that the gateway should place the connection in network loopback mode. 9—Indicates that the gateway should place the connection in network continuity test mode. 10— Indicates that the gateway should place the connection in conference mode. All other values are used for internal debugging.
(S)tate	The call state. The values are used for internal debugging purposes.
(C)odec	The codec identifier. The values are used for internal debugging purposes.
(E)vent [SIFL]	Used for internal debugging.
(R)esult [EA]	Used for internal debugging.

The following example shows output for VoIP and VoAAL2 statistics:

```
Router# show mgcp statistics
```

```
UDP pkts rx 8, tx 9
Unrecognized rx pkts 0, MGCP message parsing errors 0
Duplicate MGCP ack tx 0, Invalid versions count 0
CreateConn rx 4, successful 0, failed 0
DeleteConn rx 2, successful 2, failed 0
ModifyConn rx 4, successful 4, failed 0
DeleteConn tx 0, successful 0, failed 0
NotifyRequest rx 0, successful 4, failed 0
AuditConnection rx 0, successful 0, failed 0
AuditEndpoint rx 0, successful 0, failed 0
RestartInProgress tx 1, successful 1, failed 0
Notify tx 0, successful 0, failed 0
ACK tx 8, NACK tx 0
ACK rx 0, NACK rx 0
IP address based Call Agents statistics:
IP address 10.24.167.3, Total msg rx 8, successful 8, failed 0
```

Table 6 *show mgcp statistics Field Descriptions*

Field Name	Description
UDP pkts rx, tx	The number of UDP packets transmitted and received by the gateway's MGCP application from the call agent.
Unrecognized rx pkts	The number of unrecognized UDP packets received by the MGCP application.
MGCP message parsing errors	The number of MGCP messages received with parsing errors.
Duplicate MGCP ack tx messages	The number of duplicate MGCP acknowledgment messages transmitted to the call agents.
Invalid versions count	The number of MGCP messages received with invalid MGCP protocols version.
CreateConn rx	The number of Create Connection (CRCX) messages received by the gateway, the number that were successful, and the number that failed.
DeleteConn rx	The number of Delete Connection (DLCX) messages received by the gateway, the number that were successful, and the number that failed.
NotifyRequest rx	The number of Notify Request (RQNT) messages received by the gateway, the number that were successful, and the number that failed.
AuditConnection rx	The number of Audit Connection (AUCX) message received by the gateway, the number that were successful, and the number that failed.
AuditEndpoint rx	The number of Audit Endpoint (AUPE) messages received by the gateway, the number that were successful, and the number that failed.
RestartInProgress tx	The number of Restart in Progress (RSIP) messages transmitted by the gateway, the number that were successful, and the number that failed.
Notify tx	The number of Notify (NTFY) messages transmitted by the gateway, the number that were successful, and the number that failed.
ACK tx, NACK tx	The number of Acknowledgment and Negative Acknowledgment messages transmitted by the gateway.

Table 6 *show mgcp statistics Field Descriptions (continued)*

Field Name	Description
ACK rx, NACK rx	The number of Acknowledgment and Negative Acknowledgment messages received by the gateway.
IP address based Call Agents statistics: IP address, Total msg rx	IP address of the call agent, the total number of MGCP messages received from that call agent, the number of messages that were successful, and the number of messages that failed.

The following example shows how endpoints are configured:

```
Router# show mgcp endpoint
      ENDPOINT-NAME      V-PORT SIG-TYPE ADMIN
ds1-0/1@nytnk116      0:1    fxs-gs   up
ds1-0/2@nytnk116      0:1    fxs-gs   up
ds1-0/3@nytnk116      0:1    fxs-gs   up
ds1-0/4@nytnk116      0:1    fxs-gs   up
ds1-0/5@nytnk116      0:1    fxs-gs   up
ds1-0/6@nytnk116      0:1    fxs-gs   up
ds1-0/7@nytnk116      0:1    fxs-gs   up
ds1-0/8@nytnk116      0:1    fxs-gs   up
ds1-0/9@nytnk116      0:1    fxs-gs   up
ds1-0/10@nytnk116     0:1    fxs-gs   up
ds1-0/11@nytnk116     0:1    fxs-gs   up
ds1-0/12@nytnk116     0:1    fxs-gs   up
ds1-0/13@nytnk116     0:1    fxs-gs   up
ds1-0/14@nytnk116     0:1    fxs-gs   up
ds1-0/15@nytnk116     0:1    fxs-gs   up
ds1-0/16@nytnk116     0:1    fxs-gs   up
ds1-0/17@nytnk116     0:1    fxs-gs   up
ds1-0/18@nytnk116     0:1    fxs-gs   up
ds1-0/19@nytnk116     0:1    fxs-gs   up
ds1-0/20@nytnk116     0:1    fxs-gs   up
ds1-0/21@nytnk116     0:1    fxs-gs   up
ds1-0/22@nytnk116     0:1    fxs-gs   up
ds1-0/23@nytnk116     0:1    fxs-gs   up
ds1-0/24@nytnk116     0:1    fxs-gs   up
```

Interface T1 1

```
      ENDPOINT-NAME      V-PORT SIG-TYPE ADMIN
ds1-1/1@nytnk116      1:1    e&m-imd  up
ds1-1/2@nytnk116      1:1    e&m-imd  up
```

The following example displays **show mgcp profile** output for the default profile:

```
Router# show mgcp profile

MGCP Profile default
Description:None
Call-agent:none Initial protocol service is unknown
Tsmax timeout is 20, Tdinit timeout is 15
Tdmin timeout is 15, Tdmax timeout is 600
Tcrit timeout is 4, Tpar timeout is 16
Thist timeout is 30, MWI timeout is 16
Ringback tone timeout is 180, Ringback tone on connection timeout is 180
Network congestion tone timeout is 180, Busy tone timeout is 30
Dial tone timeout is 16, Stutter dial tone timeout is 16
Ringing tone timeout is 180, Distinctive ringing tone timeout is 180
Continuity1 tone timeout is 3, Continuity2 tone timeout is 3
Reorder tone timeout is 30, Persistent package is ms-package
```

```
show mgcp
```

```
Max1 DNS lookup:ENABLED, Max1 retries is 4
Max2 DNS lookup:ENABLED, Max2 retries is 4

MGCP Profile houston
Description:None
Call-agent:10.9.57.6 5003 Initial protocol service is MGCP 1.0
Tsmax timeout is 20, Tdinit timeout is 15
Tdmin timeout is 15, Tdmax timeout is 600
Tcrit timeout is 4, Tpar timeout is 16
Thist timeout is 30, MWI timeout is 16
Ringback tone timeout is 180, Ringback tone on connection timeout is 180
Network congestion tone timeout is 180, Busy tone timeout is 30
Dial tone timeout is 16, Stutter dial tone timeout is 16
Ringing tone timeout is 180, Distinctive ringing tone timeout is 180
Continuity1 tone timeout is 3, Continuity2 tone timeout is 3
Reorder tone timeout is 30, Persistent package is ms-package
Max1 DNS lookup:ENABLED, Max1 retries is 4
Max2 DNS lookup:ENABLED, Max2 retries is 6
Voice port:1
```

Table 7 *show mgcp profile Field Descriptions*

Field Name	Description
MGCP Profile	The name configured for this profile with the mgcp profile command.
Description	The description configured for this profile with the description (MGCP profile) command.
Call-agent	The domain name system (DNS) or IP address of the call agent, as configured for this profile with the call-agent command.
Initial protocol service	The protocol service to be used, as configured for this profile with the call-agent command.
Tsmax timeout	Maximum timeout value for removing messages from the retransmission queue, as configured for this profile by the timeout tsmax command.
Tdinit timeout	Initial waiting delay, as configured for this profile by the timeout tdinit command.
Tdmin timeout	Minimum timeout value for the disconnected procedure, as configured for this by the timeout tdmin command.
Tdmax timeout	Maximum timeout value for the disconnected procedure, as configured for this timeout tdmax command.
Tcrit timeout	Critical timeout value for the interdigit timer used in digit matching, as configured for this profile by the timeout tcrit command.
Tpar timeout	Partial timeout value for the interdigit timer used in digit matching, as configured for this profile by the timeout tpar command.
Thist timeout	Packet storage timeout value, as configured for this profile by the timeout thist command.
MWI timeout	Timeout value for message-waiting-indicator tone, as configured for this profile by the timeout tone mwi command.
Ringback tone timeout	Timeout value for ringback tone, as configured for this profile by the timeout tone ringback command.
Ringback tone on connection timeout	Timeout value for ringback-tone-on-connection, as configured for this profile by the timeout tone ringback connection command.

Table 7 *show mgcp profile Field Descriptions (continued)*

Field Name	Description
Network congestion tone timeout	Timeout value for the network congestion tone, as configured for this profile by the timeout tone network congestion command.
Busy tone timeout	Timeout value for the busy tone, as configured for this profile by the timeout tone busy command.
Dial tone timeout	Timeout value for the dial tone, as configured for this profile by the timeout tone dial command.
Stutter dial tone timeout	Timeout value for the stutter dial tone, as configured for this profile by the timeout tone dial stutter command.
Ringing tone timeout	Timeout value for the ringing tone, as configured for this profile by the timeout tone ringing command.
Distinctive ringing tone timeout	Timeout value for the distinctive ringing tone, as configured for this profile by the timeout tone ringing distinctive command.
Continuity1 tone timeout	Timeout value for the continuity1 tone, as configured for this profile by the timeout tone cot1 command.
Continuity2 tone timeout	Timeout value for the continuity2 tone, as configured for this profile by the timeout tone cot2 command.
Reorder tone timeout	Timeout value for the reorder tone, as configured for this profile by the timeout tone reorder command.
Persistent package	Name of package configured as persistent for this profile by the package persistent command.
Max1 lookup	Enables domain name system (DNS) lookup for the call agent address after the suspicion threshold is reached, as configured for this profile by the max1 lookup command.
Max1 retries	Number of retries to reach the call agent before performing a new DNS lookup, as configured for this profile by the max1 retries command.
Max2 lookup	Enables DNS lookup for the call agent address after the disconnected threshold is reached, as configured by the max2 lookup command.
Max2 retries	Maximum number of retries to reach the call agent before performing a new DNS lookup, as configured by the max2 retries command.

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.

timeout tcrit

To configure the critical timeout value, T(critical), for the interdigit timer used in digit map matching, use the **timeout tcrit** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tcrit *tcrit-value*

no timeout tcrit *tcrit-value*

Syntax Description

tcrit-value Specifies the critical timeout value, in seconds. Range is from 1 to 600.

Defaults

4 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The interdigit timer is used when matching a digit map, which is a representation of the number and type of digits that a gateway can expect to collect in a buffer, based on the network dial plan. The interdigit timer is started when the first digit is entered, and is restarted after each new digit is entered, until a digit map match or mismatch occurs.

The interdigit timer takes on one of two values, T(partial) or T(critical). When at least one more digit is required to make a match to any of the patterns in the digit map, the value of T(partial) is used for the timer. If a timer is all that is required to produce a match according to the digit map, T(critical) is used for the timer.

When the interdigit timer is used without a digit map, it takes on the value T(critical). It is started immediately and is simply cancelled (but not restarted) as soon as a digit is entered.

Examples

The following example shows how to set the T(critical) value to 15 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tcrit 15
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
	timeout tpar	Configures the MGCP partial timeout value, T(partial), for the interdigit timer used in digit map matching.

timeout tdinit

To configure the initial waiting delay value (Tdinit) for the disconnected procedure, use the **timeout tdinit** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tdinit *tdinit-value*

no timeout tdinit *tdinit-value*

Syntax Description

<i>tdinit-value</i>	Specifies the initial waiting delay value (Tdinit) for the disconnected procedure, in seconds. The disconnected timer is initialized to a randomly selected value between 0 and Tdinit. Range is from 1 to 30.
---------------------	--

Defaults

15 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

When a gateway recognizes that an endpoint has lost its communication with the call agent (has become *disconnected*), a timer known as the disconnected timer is initialized to a random value between 0 and the disconnected initial waiting delay (Tdinit), which is configured with **timeout tdinit**. The gateway then waits for one of three things: the end of this timer, the reception of a command from the call agent, or the detection of local user activity for the endpoint, such as an off-hook transition. When one of the first two cases occurs, the gateway initiates the *disconnected procedure* for that endpoint. In the third case, the detection of local user activity, a minimum waiting delay (Tdmin) also must have elapsed. This value is configured with **timeout tadmin**.

The disconnected procedure consists of the endpoint sending an RestartInProgress (RSIP) message to the call agent, stating that it was disconnected and is now trying to reestablish connectivity.

If the disconnected procedure is unsuccessful and the endpoint is still disconnected, the disconnected timer is doubled; this is repeated until the timer value reaches the maximum waiting delay (Tdmax), which is configured with **timeout tdmx**.

Examples

The following example shows how to set the initial waiting delay value to 25 seconds:

```
Router(config)# mgcp profile nyc-ca  
Router(config-mgcp-profile)# timeout tdinit 25
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
timeout tdmx	Configures maximum timeout for the MGCP disconnected procedure.
timeout tdmn	Configures minimum timeout for the MGCP disconnected procedure.

timeout tdmx

To configure the maximum timeout value for the disconnected procedure (Tdmx), use the **timeout tdmx** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tdmx *tdmx-value*

no timeout tdmx *tdmx-value*

Syntax Description

<i>tdmx-value</i>	Specifies the maximum timeout value for the disconnected procedure (Tdmx), in seconds. Range is 300 to 600.
-------------------	---

Defaults

600 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

When a gateway recognizes that an endpoint has lost its communication with the call agent (has become *disconnected*), a timer known as the disconnected timer is initialized to a random value between 0 and the disconnected initial waiting delay (Tdinit), which is configured with the **timeout tdinit** command. The gateway then waits for one of three things: the end of this timer, the reception of a command from the call agent, or the detection of local user activity for the endpoint, such as an off-hook transition. When one of the first two cases occurs, the gateway initiates the *disconnected procedure* for that endpoint. In the third case, the detection of local user activity, a minimum waiting delay (Tdmin) also must have elapsed. This value is configured with the **timeout tdmin** command.

The disconnected procedure consists of the endpoint sending an RSIP message to the call agent, stating that it was disconnected and is now trying to reestablish connectivity.

If the disconnected procedure is unsuccessful and the endpoint is still disconnected, the disconnected timer is doubled; this is repeated until the timer value reaches the maximum waiting delay (Tdmx), which is configured with the **timeout tdmx** command.

Examples

The following example shows the maximum timeout value (Tdmx) being set to 450 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tdmx 450
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
	timeout tdinit	Configures initial timeout for the MGCP disconnected procedure.
	timeout tdmx	Configures minimum timeout for the MGCP disconnected procedure.

timeout tadmin

To configure the minimum timeout value for the disconnected procedure (Tadmin), use the **timeout tadmin** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tadmin *tadmin-value*

no timeout tadmin *tadmin-value*

Syntax Description	<i>tadmin-value</i>	Specifies the minimum timeout value for the disconnected procedure (Tadmin), in seconds. Range is 1 to 30.
---------------------------	---------------------	--

Defaults	15 seconds
-----------------	------------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. When a gateway recognizes that an endpoint has lost its communication with the call agent (has become *disconnected*), a timer known as the disconnected timer is initialized to a random value between 0 and the disconnected initial waiting delay (Tdinit), which is configured with the **timeout tdinit** command. The gateway then waits for one of three things: the end of this timer, the reception of a command from the call agent, or the detection of local user activity for the endpoint, such as an off-hook transition. When one of the first two cases occurs, the gateway initiates the *disconnected procedure* for that endpoint. In the third case, the detection of local user activity, a minimum waiting delay (Tadmin) also must have elapsed. This value is configured with the **timeout tadmin** command.

The disconnected procedure consists of the endpoint sending an RSIP message to the call agent, stating that it was disconnected and is now trying to reestablish connectivity.

If the disconnected procedure is unsuccessful and the endpoint is still disconnected, the disconnected timer is doubled; the process is repeated until the timer value reaches the maximum waiting delay (Tdmax), which is configured with the **timeout tdmax** command.

Examples

The following example shows how to set the minimum timeout value (Tadmin) to 20 seconds:

```
Router(config)# mgcp profile nyc-ca  
Router(config-mgcp-profile)# timeout tadmin 20
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
timeout tdinit	Configures initial timeout for the MGCP disconnected procedure.
timeout tdmx	Configures maximum timeout for the MGCP disconnected procedure.

timeout thist

To configure the packet storage timeout value (Thist), use the **timeout thist** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout thist *thist-value*

no timeout thist *thist-value*

Syntax Description	<i>thist-value</i>	Specifies the package storage timeout value (Thist), in seconds. Range is 1 to 1100.
---------------------------	--------------------	--

Defaults	30 seconds
-----------------	------------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform. The maximum value for the Thist timer was changed to 1100.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. MGCP messages are carried over User Datagram Protocol (UDP), and are therefore subject to packet loss. When a response to a message is not received promptly, the sender retransmits the message. The gateway keeps in memory a list of the responses it has sent for the number of seconds in the Thist timeout value. The gateway also keeps a list of the messages currently being processed, with their transaction identifiers, to prevent processing or acknowledging the same message more than once.
-------------------------	--

Examples	The following example shows how to set the packet storage timeout value (Thist) to 15 seconds:
-----------------	--

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout thist 15
```

Related Commands	
-------------------------	--

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone busy

To configure the busy tone timeout value, use the **timeout tone busy** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone busy *busytone-value*

no timeout tone busy *busytone-value*

Syntax Description	<i>busytone-value</i>	Specifies the busy tone timeout value, in seconds. Range is from 1 to 600.
---------------------------	-----------------------	--

Defaults	30 seconds
-----------------	------------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.	
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.	
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.	

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the busy tone timeout value when the call agent does not provide a timeout value associated with the request to generate a busy tone signal.
-------------------------	---

Examples	The following example shows how to set the busy tone timeout value to 45 seconds:
-----------------	---

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone busy 45
```

Related Commands	Command	Description
		mgcp
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone cot1

To configure the continuity1 (cot1) tone timeout value, use the **timeout tone cot1** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone cot1 *cot1tone-value*

no timeout tone cot1 *cot1tone-value*

Syntax Description	<i>cot1tone-value</i>	Specifies the continuity1 tone (cot1) tone timeout value, in seconds. Range is from 1 to 600.
---------------------------	-----------------------	---

Defaults	3 seconds
-----------------	-----------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the continuity1 (cot1) tone timeout value when the call agent does not provide a timeout value associated with the request to generate a cot1 tone signal.

Continuity1 and continuity2 tone signals are used in Integrated Services Digital Networks User Part (ISUP) calls to determine that a call path has been established before connecting a call. The call agent is provisioned to know which test to apply to a given endpoint.

Examples The following example shows how to set the continuity1 tone timeout value to 25 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone cot1 25
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
timeout tone cot2	Sets continuity2 tone timeout value for MGCP.

timeout tone cot2

To configure the continuity 2 (cot2) tone timeout value, use the **timeout tone cot2** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone cot2 *cot2tone-value*

no timeout tone cot2 *cot2tone-value*

Syntax Description	<i>cot2tone-value</i>	Specifies the continuity2 (cot2) tone timeout value, in seconds. Range is from 1 to 600.
---------------------------	-----------------------	--

Defaults	3 seconds
-----------------	-----------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the continuity2 (cot2) tone timeout value when the call agent does not provide a timeout value associated with the request to generate a cot2 tone signal.

Continuity1 and continuity2 tone signals are used in Integrated Services Digital Networks User Part (ISUP) calls to determine that a call path has been established before connecting a call. The call agent is provisioned to know which test to apply to a given endpoint.

Examples The following example shows the continuity2 tone timeout value being set to 50 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone cot2 50
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
timeout tone cot1	Sets continuity1 tone timeout value for MGCP.

timeout tone dial

To configure the dial tone timeout value, use the **timeout tone dial** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone dial *dialtone-value*

no timeout tone dial *dialtone-value*

Syntax Description	<i>dialtone-value</i>	Specifies the dial tone timeout value, in seconds. Range is from 1 to 600.
---------------------------	-----------------------	--

Defaults	16 seconds
-----------------	------------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	<p>This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the dial tone timeout value when the call agent does not provide timeout values associated with the request to generate a dial tone signal.</p>
-------------------------	---

Examples	The following example shows the dial tone timeout value being set to 25 seconds:
-----------------	--

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone dial 25
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone dial stutter

To configure the stutter dial tone timeout value, use the **timeout tone dial stutter** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone dial stutter *stutter-value*

no timeout tone dial stutter *stutter-value*

Syntax Description

<i>stutter-value</i>	Specifies the timeout value for the stutter dial tone, in seconds. Range is from 1 to 600.
----------------------	--

Defaults

16 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the stutter dial tone timeout value when the call agent does not provide a timeout value associated with the request to generate a stutter dial tone signal.

Examples

The following example shows the stutter dial tone timeout value being set to 25 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone dial stutter 25
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone mwi

To configure the timeout value for the message waiting indicator tone, use the **timeout tone mwi** command in MGCP profile configuration mode. To return to the default value, use the **no** form of this command.

timeout tone mwi *mwitone-value*

no timeout tone mwi *mwitone-value*

Syntax Description	<i>mwitone-value</i>	Specifies the message waiting indicator (mwi) tone timeout value, in seconds. Range is from 1 to 600.
---------------------------	----------------------	---

Defaults	16 seconds
-----------------	------------

Command Modes	MGCP profile configuration
----------------------	----------------------------

Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the <i>mwitone-value</i> when the call agent does not provide a timeout value for a request to generate the message waiting indicator tone signal.
-------------------------	---

Examples	The following example shows how to set the message waiting indicator tone timeout value to 100 seconds:
-----------------	---

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone mwi 100
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone network congestion

To configure the network congestion tone timeout value, use the **timeout tone network congestion** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone network congestion *congestiontone-value*

no timeout tone network congestion *congestiontone-value*

Syntax Description

congestiontone-value Specifies the network congestion tone timeout value, in seconds. Range is from 1 to 600.

Defaults

180 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the congestion tone timeout value when the call agent does not provide a timeout value associated with the request to generate a network congestion tone signal.

Examples

The following example shows the network congestion tone timeout value being set to 240 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone network congestion 240
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone reorder

To configure the reorder tone timeout value, use the **timeout tone reorder** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone reorder *reordertone-value*

no timeout tone reorder *reordertone-value*

Syntax Description	<i>reordertone-value</i>	Specifies the reorder tone timeout value, in seconds. Range is from 1 to 600.
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Defaults	30 seconds
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Command Modes	MGCP profile configuration
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Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	<p>This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the reorder tone timeout value when the call agent does not provide a timeout value associated with the request to generate a reorder tone signal.</p>
-------------------------	--

Examples	The following example shows the reorder tone timeout value being set to 60 seconds:
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```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone reorder 60
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone ringback

To configure the ringback tone timeout value, use the **timeout tone ringback** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone ringback *ringbacktone-value*

no timeout tone ringback *ringbacktone-value*

Syntax Description	<i>ringbacktone-value</i>	Specifies the ringback tone timeout value, in seconds. Range is from 1 to 600.
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Defaults	180 seconds
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Command Modes	MGCP profile configuration
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Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the ringback tone timeout value when the call agent does not provide a timeout value associated with the request to generate a ringback tone signal.
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Examples	The following example shows the ringback tone timeout value being set to 120 seconds:
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```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone ringback 120
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone ringback connection

To configure the timeout value for the ringback tone on connection, use the **timeout tone ringback connection** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone ringback connection *connecttone-value*

no timeout tone ringback connection *connecttone-value*

Syntax Description

<i>connecttone-value</i>	Specifies the timeout value for the ringback tone on connection, in seconds. Range is from 1 to 600.
--------------------------	--

Defaults

180 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses this value when the call agent does not provide a timeout value associated with the request to generate the ringback tone signal on connection.

Examples

The following example shows the ringback tone on connection timeout value being set to 120 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone ringback connection 120
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tone ringing

To configure the ringing tone timeout value, use the **timeout tone ringing** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone ringing *ringingtone-value*

no timeout tone ringing *ringingtone-value*

Syntax Description	<i>ringingtone-value</i>	Specifies the ringing tone timeout value, in seconds. Range is 1 to 600.
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Defaults	180 seconds
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Command Modes	MGCP profile configuration
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Command History	Release	Modification
	12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.	
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.	
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.	

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the ringing tone timeout value when the call agent does not provide a timeout value associated with the request to generate a ringing tone signal.
-------------------------	---

Examples	The following example shows the ringing tone timeout value being set to 240 seconds:
-----------------	--

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone ringing 240
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.	

timeout tone ringing distinctive

To configure the distinctive ringing tone timeout value, use the **timeout tone ringing** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tone ringing distinctive *distincttone-value*

no timeout tone ringing distinctive *distincttone-value*

Syntax Description	<i>distincttone-value</i>	Specifies the distinctive ringing tone timeout value, in seconds. Range is 1 to 600.
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Defaults	180 seconds
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Command Modes	MGCP profile configuration
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Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines	This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the distinctive ringing tone timeout value when the call agent does not provide a timeout value associated with the request to generate a signal for distinctive ringing.
-------------------------	--

Examples	The following example shows the distinctive ringing tone timeout value being set to 240 seconds:
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```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tone ringing distinctive 240
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

timeout tpar

To configure the partial timeout value, T(partial), for the interdigit timer used in digit map matching, use the **timeout tpar** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tpar *tpar-value*

no timeout tpar

Syntax Description	<i>tpar-value</i>	Specifies the partial timeout value, in seconds. Range is 1 to 60.
Defaults	16 seconds	
Command Modes	MGCP profile configuration	
Command History	Release	Modification
	12.2(2)XA	This command was introduced.
	12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
	12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The interdigit timer is used when matching digit maps. It is started when the first digit is entered, and is restarted after each new digit is entered, until a digit map match or mismatch occurs.

The interdigit timer takes on one of two values, T(partial) or T(critical). When at least one more digit is required to make a match to any of the patterns in the digit map, the value of T(partial) is used for the timer. If a timer is all that is required to produce a match according to the digit map, T(critical) is used for the timer.

When the interdigit timer is used without a digit map, it takes on the value T(critical). It is started immediately and is simply cancelled (but not restarted) as soon as a digit is entered.

Examples

The following example shows the partial timeout value being set to 15 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tpar 15
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
	timeout tcrit	Configures the critical interdigit timeout value, T(critical), for digit map matching in MGCP.

timeout tsmax

To configure the maximum timeout value after which MGCP messages are removed from the retransmission queue, use the **timeout tsmax** command in MGCP profile configuration mode. To set the value to the default, use the **no** form of this command.

timeout tsmax *tsmax-value*

no timeout tsmax

Syntax Description

<i>tsmax-value</i>	Specifies timeout value for MGCP messages to be removed from the retransmission queue, in seconds. Range is 1 to 1000.
--------------------	--

Defaults

20 seconds

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform. The maximum value for the Tsmax timer was changed to 1000.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile. The gateway uses the *tsmax-value* argument to determine how long to store MGCP messages before they are removed from the retransmission queue.

Examples

The following example shows the timeout value for the maximum retransmission of MGCP messages being set to 45 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tsmax 45
```

Related Commands

Command	Description
mgcp	Starts and allocates resources for the MGCP daemon.
mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

voice-port (MGCP profile)

To associate a voice port with the MGCP profile that is being configured, use the **voice-port** command in MGCP profile configuration mode. To disassociate the voice port from the profile, use the **no** form of this command.

voice-port *port-number*

no voice-port *port-number*

Syntax Description

<i>port-number</i>	Specifies an analog voice port or a DS0-group number as an MGCP endpoint to be associated with an MGCP profile.
--------------------	---

Defaults

No default behavior or values.

Command Modes

MGCP profile configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.
12.2(4)T	This command was integrated into Cisco IOS Release 12.2(4)T.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T and implemented on the Cisco AS5300 and Cisco AS5850 platform.
12.2(13)T	This feature was integrated into Cisco IOS Release 12.2(13)T and support was added for the Cisco 7200 platform.

Usage Guidelines

This command is used when configuring values for a Media Gateway Control Protocol (MGCP) profile.

The **voice-port** (MGCP profile) command associates a voice port with the MGCP profile that is being defined. To associate multiple voice ports with a profile, repeat this command with different voice ports.

The **voice-port** command is not used when configuring the default MGCP profile because the values in the default profile configuration apply to all parameters that have not been otherwise configured for a user-defined MGCP profile.

Examples

The following example shows an analog voice port being associated with an MGCP profile on a Cisco uBR925 platform:

```
Router(config)# mgcp profile ny110ca
Router(config-mgcp-profile)# voice-port 0
```

Related Commands	Command	Description
	mgcp	Starts and allocates resources for the MGCP daemon.
	mgcp profile	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.

Glossary

CA—call agent. An intelligent entity in an IP telephony network that handles call control in an MGCP voice over IP network. A call agent is also known as a media gateway controller (MGC).

CAS—channel associated signaling. The transmission of signaling information within the voice channel. CAS signaling often is referred to as robbed-bit signaling because user bandwidth is being robbed by the network for other purposes.

COT—continuity test. Requirement of the SS7 protocol specifications. It tests the bearer channels' status using either loopback or tone detection and generation. Used to test individual DS0 channels via either loopback or tone detection and generation.

digit map—A representation of the number and type of digits that a gateway can expect to collect in a buffer, based on the network dial plan. The purpose is to tell the gateway how many digits to expect so that the digits can be sent in a single transaction rather than one at a time. The call agent provides digit maps to the gateway whenever the gateway is instructed to listen for digits.

disconnect threshold—The number of times a gateway retries sending a call agent message to the final IP address in the call-agent domain name system (DNS) lookup table. If this value is exceeded without response from a call agent, the gateway performs one last DNS lookup if lookup is enabled. If a new IP address has been added to the DNS table, the gateway starts the retransmission process again. Otherwise, the gateway places the endpoint in a disconnected state.

DS0—digital service zero (0). Single time slot on a DS1 (also known as T1) digital interface—that is, a 64-kbps, synchronous, full-duplex data channel, typically used for a single voice connection on a PBX. See also DS1 and PBX.

DSP—digital signal processor. A DSP segments the voice signal into frames and stores them in voice packets.

DTMF—dual tone multifrequency. Tones generated when a button is pressed on a telephone, primarily used in the U.S. and Canada.

endpoint—A source or sink of voice data, which may be physical (such as a trunk interface or a line interface in a media gateway) or logical (such as an announcement stored on a server). Endpoint identifiers have two components: the domain name of the entity on which the endpoint exists (such as an access server or router) and the local name that specifies the individual endpoint (such as a port number for a physical endpoint).

FGD—Feature Group-D (FGD). Identifies a standardized service available to carriers delivered on a channelized T1 line.

FGD-OS—Telcordia Technologies (formerly Bellcore) FGD Operator Services signaling.

FQDN—fully qualified domain name. Complete domain name including the host portion; for example, *serverA.companyA.com*.

ISUP—ISDN User Part. SS7 protocol layer that defines the protocol used to prepare, manage, and release trunks that carry voice and data between calling and called parties.

media gateway—Equipment that provides call handling between the PSTN or a PBX and a VoIP network or an NAS. The media gateway is controlled by a call agent via MGCP.

media gateway controller—Another term for call agent.

MF—multifrequency tones. Made of 6 frequencies that provide 15 two-frequency combinations for indication digits 0 through 9 and KP/ST signals.

MGCP—Media Gateway Control Protocol.

MGC—media gateway controller. Another term for call agent.

NAS—network access server. An MGCP media gateway that provides a modem interface for accessing an IP network.

NCS—Network-based Call Signaling. PacketCable protocol that is a profile of MGCP 1.0 for residential gateways.

package—A collection of MGCP events and signals that pertains to a particular type of endpoint.

persistent events—Events that are defined as reportable whether or not the call agent has explicitly requested to be notified of their occurrence.

piggybacked messages—Messages from the call agent to the gateway that are sent in the same User Datagram Protocol (UDP) packet but processed in the order they were sent, as separate, simultaneous messages.

POTS—plain old telephone service. See PSTN.

PRI—Primary Rate Interface. ISDN interface to primary rate access. Primary rate access consists of a single 64-kbps D channel plus 23 (T1) or 30 (E1) B channels for voice or data.

PSTN—public switched telephone network. General term referring to the variety of telephone networks and services in place worldwide. Sometimes called POTS.

quarantine—A buffer in which notification events are queued until the call agent indicates readiness to receive notifications.

RGW—residential gateway. A gateway to the packet telephony network that provides residential line-side interfaces for user telephony equipment.

RSIP—RestartInProgress. RSIP is a startup message sent by the gateway to appropriate call agents and endpoints when MGCP is activated in the gateway and when endpoints are taken out of service or brought back into service.

RTP—Real-Time Transport Protocol. Commonly used with IP networks. RTP is designed to provide end-to-end network transport functions for applications transmitting real-time data, such as audio, video, or simulation data, over multicast or unicast network services. RTP provides such services as payload type identification, sequence numbering, time-stamping, and delivery monitoring to real-time applications.

SDP—Session Description Protocol. SDP is used to describe multimedia sessions for the purposes of session announcement, session invitation, and other forms of multimedia session initiation. The session descriptions include connection parameters such as IP addresses, UDP port, and RTP profiles. SDP is a product of the Multiparty Multimedia Session Control (MMUSIC) working group of the Internet Engineering Task Force, and is defined in RFC 2327.

SGCP—Simple Gateway Control Protocol.

SS7—Signaling System 7. Standard CCS system used with BISDN and ISDN. Developed by Bellcore.

suspicion threshold—The number of times a gateway tries to resend a message to a nonresponsive call agent before attempting to locate another call agent or disconnecting the endpoint.

TGCP—Trunking Gateway Control Protocol. PacketCable protocol that is a profile of MGCP 1.0 for trunking gateways.

trunking gateway (TGW)—A gateway to the packet telephony network that provides PSTN trunking interfaces. A trunking gateway provides only trunking interfaces, and not line-side interfaces.

VoIP—Voice over IP. The capability to carry normal telephony-style voice over an IP-based internet with POTS-like functionality, reliability, and voice quality. VoIP enables a router to carry voice traffic (for example, telephone calls and faxes) over an IP network. In VoIP, the DSP segments the voice signal into frames, which then are coupled in groups of two and stored in voice packets.

XGCP—SGCP or MGCP Protocol.

