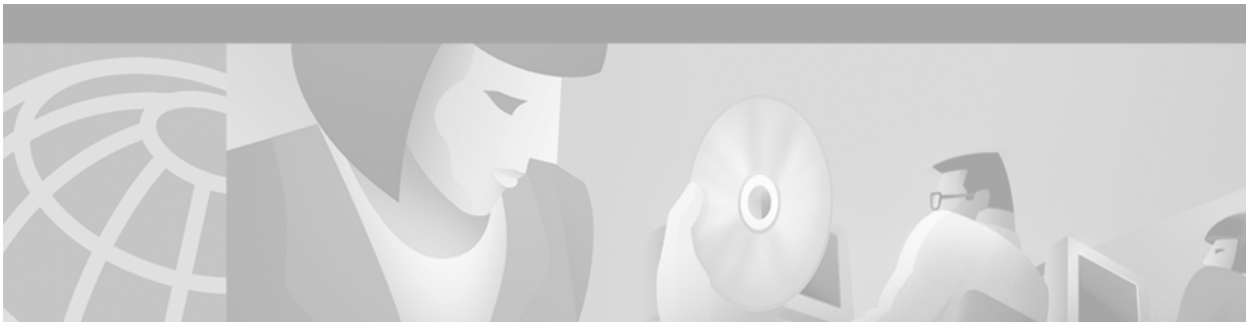


MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles

Feature History

Release	Modification
12.2(2)XA	Support for MGCP 1.0, NCS 1.0, and TGCP 1.0 was introduced for the Cisco CVA122, Cisco uBR924, and Cisco AS5300.

The MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature module describes the features of the Media Gateway Control Protocol (MGCP) 1.0, the PacketCable™ Network-based Call Signaling (NCS) 1.0, and the PacketCable™ Trunking Gateway Control Protocol (TGCP) 1.0 on Cisco IOS media gateways, and contains these sections:

Feature Overview

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

- MGCP 1.0 (RFC2705)
- Network-based Call Signaling (NCS) 1.0, the PacketCable profile of MGCP 1.0 for residential gateways (RGWs)
- Trunking Gateway Control Protocol (TGCP) 1.0, the PacketCable profile of MGCP 1.0 for trunking gateways (TGWs)

Table 1 shows the platform-to-feature support in this release of Cisco IOS software.

Table 1 Feature Support by Platform

	MGCP 1.0	TGCP 1.0	NCS 1.0
Cisco CVA122	Basic/Extended RGW		Basic/Extended RGW
Cisco uBR924	Basic/Extended RGW		Basic/Extended RGW
Cisco AS5300	ISUP, FGD-OS	ISUP, FGD-OS	

Feature Definition

Media Gateway Control Protocol (MGCP)1.0 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 RFC2705, published by the Internet Society.

PacketCable is an industry-wide initiative to develop 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.

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 they also receive event reports from the gateways. MGCP messages between call agents and media gateways are sent over IP/UDP.

The MGCP 1.0 Including NCS 1.0 and TGCP 1.0 Profiles feature provides protocols for residential gateways (RGWs) and trunking gateways (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 or 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/PSTN connection expects them. For example, when someone

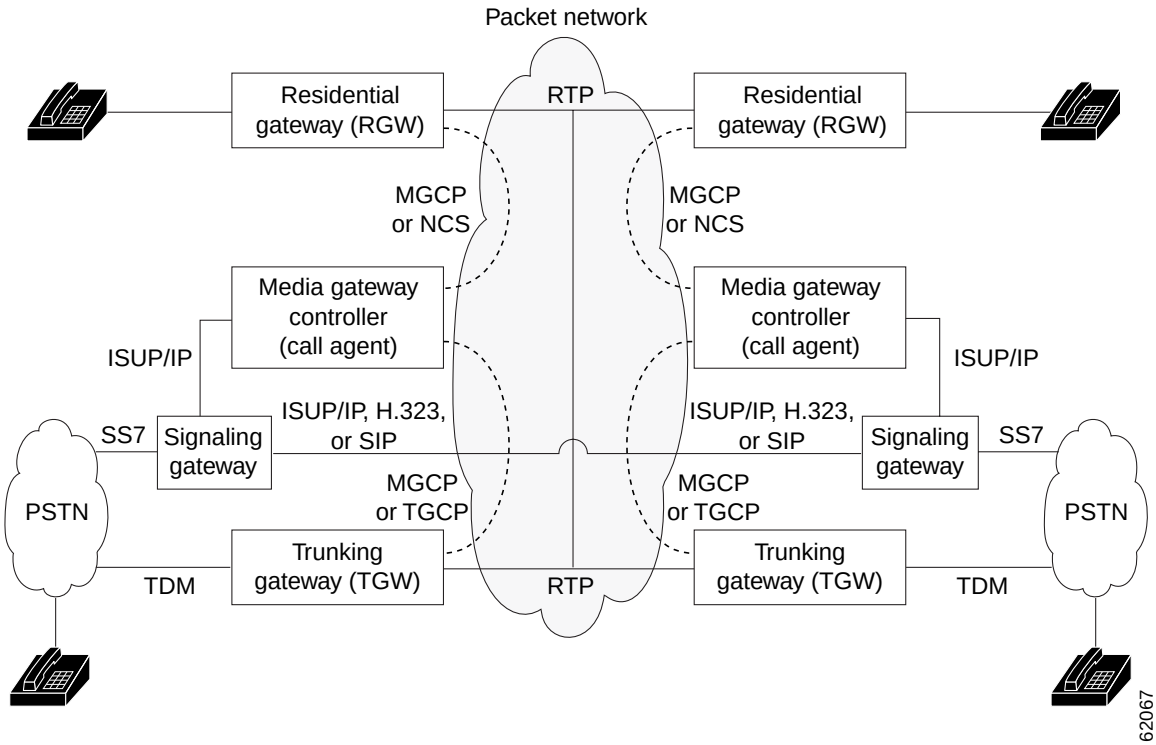
picks up a telephone handset, an off-hook event is detected on an endpoint on the residential gateway to which the telephone is connected. The gateway reports the event to a call agent, which orders the gateway to apply the dial-tone signal to the endpoint reporting the off-hook event. The person picking 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 5.

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 Transmission 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 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 features are not supported on the Cisco AS5300.

Related Features and Technologies

Voice over IP (VoIP)

Related Documents

- *Cisco IOS Voice, Video, and Fax Configuration Guide*, Release 12.2
- *Cisco IOS Voice, Video, and Fax Command Reference*, Release 12.2
- *MGCP CAS PBX and AAL2 PVC*, Cisco IOS Release 12.1(5)XM
- *MGCP Basic CLASS and Operator Services*, Cisco IOS Release 12.1(5)XM
- *Media Gateway Control Protocol Residential Gateway Support*, Cisco IOS Release 12.1(3)T
- Cisco CVA120 Series Product Documentation
- Cisco uBR924 Product Documentation
- Cisco AS5300 Product Documentation

Supported Platforms

This feature is supported on the following platforms:

- Cisco CVA122 cable modem
- Cisco uBR924 cable access router
- Cisco AS5300 universal access server

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

For descriptions of supported MIBs and how to use MIBs, see the Cisco MIB web site on CCO at http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml.

RFCs

- RFC2327: *SDP: Session Description Protocol*, April 1998
- Informational RFC2705: *Media Gateway Control Protocol (MGCP) version 1.0*, October, 1999
- Informational RFC3064: *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(2)XA or greater.
  - For the Cisco AS5300: VCware Version 9.10 or greater.
- Configure IP routing.

  For more information on IP routing, refer to the *Cisco IOS IP Configuration Guide,* Release 12.2.
- Configure voice ports.

  For more information on configuring voice ports, refer to the *Cisco IOS Voice, Video, and Fax Configuration Guide*, Release 12.2.
- Configure Voice over IP.

  For more information on configuring Voice over IP, refer to the *Cisco IOS Voice, Video, and Fax Configuration Guide*, Release 12.2.
- Set up the call agent or agents.

  For more information on setting up call agents, refer to the documentation that accompanies the call agents used in your network configuration.
- Set up the cable modems, if any.

  For more information, see the documentation for the cable product as listed in the "Related Documents" section on page 4.

Configuration Tasks

The set of tasks in the list below configures 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 them with an MGCP service type or application. The second task starts the MGCP daemon.

The last two tasks allow you to configure MGCP parameters to meet your requirements. MGCP parameters fall into one of two categories: global or profile-related. 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 *default* MGCP profile by which you can configure profile-related parameters when endpoints do not belong to user-defined MGCP profiles. The different commands that configure global and profile-related MGCP parameters are listed in Table 2.

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 indicates if the task is optional or required.

- Identifying MGCP Endpoints (required)
- Starting the MGCP Daemon (required)
- Configuring Global MGCP Parameters (optional)
- Configuring an MGCP Profile and Profile-Related MGCP Parameters (optional)

Table 2 Global and Profile-Related MGCP Commands

Global MGCP Commands	Profile-Related MGCP Commands
mgcp call-agent	call-agent
mgcp endpoint offset	default (MGCP profile)
mgcp persistent	description (MGCP profile)
mgcp piggyback message	max1 lookup
mgcp profile	max1 retries
mgcp quarantine mode	max2 lookup
mgcp quarantine persistent-event disable	max2 retries
mgcp request timeout	package persistent
mgcp sdp	timeout tcrit
	timeout tdinit
	timeout tdmax
	timeout tdmin
	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 tsmax
	voice-port (MGCP profile)

Identifying MGCP Endpoints

This task is required. Voice ports or DS0 groups that are acting as MGCP endpoints must be identified as MGCP endpoints on the gateway. The commands to identify MGCP endpoints depend on the type of endpoint that you are configuring. Use the commands in Table 3 for ISUP signaling trunks, Table 4 for FGD-OS signaling trunks, Table 5 for digital CAS signaling trunks, and Table 6 for analog CAS and POTS lines.

To identify an MGCP endpoint, complete the steps in the appropriate table, beginning in global configuration mode:

Table 3 Identifying MGCP Endpoints for ISUP Signaling

	Command	Purpose
Step 1	`Router(config)# controller {t1 | e1} cntlr-number`	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 service mgcp`	Specifies the DS0 timeslots 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 **service mgcp** option to identify this voice port as an MGCP endpoint.
Step 3	`Router(config-controller)# exit`	Exits controller configuration mode.

Table 4 Identifying MGCP Endpoints for Cisco AS5300 FGD-OS Signaling

	Command	Purpose
Step 1	`Router(config)# controller {t1 | e1} cntlr-number`	Configures a T1 or E1 controller and enters controller configuration mode for the FGD-OS trunk port.
Step 2	`Router(config-controller)# ds0-group channel-number timeslots range type fgd-os service mgcp`	Specifies the DS0 timeslots 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 Feature Group D Operator Services (FGD-OS), and the **service mgcp** option to identify this voice port as an MGCP endpoint.
Step 3	`Router(config-controller)# exit`	Exits controller configuration mode.

Table 5 Identifying MGCP Endpoints for Digital CAS Signaling

	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`	Configures the T1 or E1 controller to support CAS mode.

Step 3	**T1 lines**
	`Router(config-controller)# framing {sf | esf}`
	E1 lines
	`Router(config-controller)# framing {crc4 | no-crc4} [australia]`
		Selects frame type for T1 or E1 line.
		The keywords and arguments are as follows:
		T1 lines
		• **sf**—Super Frame
		• **esf** —Extended Super Frame
		E1 lines
		• **crc4**—Provides four bits of error protection.
		• **no-crc4**—Disables **crc4**.
		• **australia**—(optional) Specifies the E1 frame type used in Australia.
		The default for T1 is **sf**.
		The default for E1 is **crc4**.

Step 4	**T1 lines**
	`Router(config-controller)# linecode {ami | b8zs}`
	E1 lines
	`Router(config-controller)# linecode {ami | hdb3}`
		Specifies the line encoding to use.
		The keywords and arguments are as follows:
		• **ami**—Specifies the alternate mark inversion (AMI) line code type. (T1 and E1)
		• **b8zs**—Specifies the binary eight zero substitution (B8ZS) line code type. (T1 only)
		• **hdb3**—Specifies the high-density bipolar 3 (HDB3) line code type. (E1 only)
		The default for T1 is **ami**.
		The default for E1 is **hdb3**.

Step 5	`Router(config-controller)# ds0-group channel-number timeslots range type type`	Specifies the DS0 timeslots 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. See the *Cisco IOS Voice, Video, and Fax Configuration Guide* for valid signaling types.
Step 6	`Router(config-controller)# exit`	Exits controller configuration mode.

Table 6 Identifying MGCP Endpoints for Analog CAS and POTS Lines

	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 number`	Associates a dial peer with a specific voice port.
Step 4	`Router(config-dial-peer)# exit`	Exits dial-peer configuration mode.

Starting the MGCP Daemon

This task is required. To start the MGCP daemon, complete this step, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# mgcp [port-number]`	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.

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 affect all the MGCP endpoints that you have identified on this gateway.

In addition to global MGCP parameters, there are also other MGCP parameters that apply to MGCP profiles on the gateway. Table 2 on page 7 lists the different commands that configure global and profile-related MGCP parameters. For configuration of profile-related parameters, see the "Configuring an MGCP Profile and Profile-Related MGCP Parameters" section on page 13.

Note The only parameter that is common to both profile and global configurations is call agent, 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; if one of these commands is configured for an endpoint, you are blocked from configuring the other. For example, if the MGCP profile **call-agent** command is configured on an endpoint, then you will not be allowed to configure the global **mgcp call-agent** command. This applies the other way round as well.

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

	Command	Purpose
Step 1	`Router(config)# mgcp call-agent {dns-name | ip-address} [port] [service-type type] [version protocol-version]`	Configures the call agent (media gateway controller) DNS host name or IP address, UDP port number, service type, and protocol version. **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.
Step 2	`Router(config)# mgcp sdp simple`	Specifies that a subset of the SDP fields should be used.
Step 3	`Router(config)# mgcp sdp xpc-codec`	Enables codec negotiation in the SDP.
Step 4	`Router(config)# mgcp codec type [packetization-period value]`	Selects the default codec type and its optional packetization period value.
Step 5	`Router(config)# no mgcp timer receive-rtcp`	Turns off the RTP RTCP transmission interval at the gateway.
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 {offhook | onhook | hookflash}`	Enables call-agent notification of the specified type of event.
Step 9	`Router(config)# mgcp request timeout {timeout-value | max maxtimeout-value}`	Specifies how long the gateway waits for a call-agent response to a request before retransmitting the request.
Step 10	`Router(config)# mgcp dtmf-relay voip codec {all | low-bit-rate} mode {cisco | nse | out-of-band}`	Ensures accurate forwarding of digits with a compressed codec.
Step 11	`Router(config)# mgcp max-waiting-delay value`	Specifies the number of milliseconds to wait after a restart (default of 3000) before connecting with the call agent. 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.
Step 12	`Router(config)# mgcp restart-delay value`	Sets the delay value sent in the RSIP (RestartInProgress) graceful teardown.
Step 13	`Router(config)# mgcp vad`	Enables voice activity detection (VAD) as a default for MGCP calls.

	Command	Purpose
Step 14	`Router(config)# mgcp ip-tos {high-reliability | high-throughput | low-cost | low-delay | rtp precedence value | signaling precedence value}`	Enables IP Type of Services (TOS) for MGCP-controlled connections and specifies values for the IP precedence bit for RTP packets and for signaling packets. The default for RTP precedence is 5, and the default for signaling precedence is 3.
Step 15	`Router(config)# mgcp quality-threshold {hwm-jitter-buffer value | hwm-latency value | hwm-packet-loss value | lwm-jitter-buffer value | lwm-latency value | lwm-packet-loss value}`	Sets the jitter buffer size threshold, latency threshold, and packet-loss threshold parameters.
Step 16	`Router(config)# mgcp playout {adaptive init-value min-value max-value | fixed init-value}`	Configures the jitter buffer packet size in milliseconds for MGCP calls, using either an adaptive range or a fixed value. Each value ranges from 4 to 250 milliseconds. The default is **adaptive** 60 4 200.
Step 17	`Router(config)# mgcp package-capability [package-type]`	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. For residential gateways, the choices are **dtmf-package**, **gm-package**, **line-package**, and **rtp-package**. The default is **line-package**. 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**.
Step 18	`Router(config)# mgcp default package [package-type]`	Defines the package to be used as the default when no package is named with an event. For residential gateways, the choices are **dtmf-package**, **gm-package**, **line-package**, and **rtp-package**. The default is **line-package**. 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**.

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. Table 2 on page 7 lists commands that configure global and profile-related MGCP parameters. Global MGCP parameters are discussed in the "Configuring Global MGCP Parameters" section on page 10.

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; if one of these commands is configured, you are blocked from configuring the other. For example, if the MGCP profile **call-agent** command is configured for an MGCP profile, then you are not allowed to configure the global **mgcp call-agent** command. This applies the other way round as well.

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 *default profile*. 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 example below, 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, follow these steps as appropriate, beginning in global configuration mode:

	Command	Purpose
Step 1	`Router(config)# mgcp profile` {*profile-name* | **default**}	Initiates MGCP profile mode to create and configure a named MGCP profile associated with one or more endpoints, or to configure the default profile.
Step 2	`Router(config-mgcp-profile)# description` {*text*}	Provides a description to be associated with the profile.
Step 3	`Router(config-mgcp-profile)# call-agent` {*dns-name* | *ip-address*} [*port*] [**service-type** *type*] [**version** *protocol-version*]	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.) **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.
Step 4	`Router(config-mgcp-profile)# voice-port` *port-number*	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` {*command*}	Restores the *command* parameter to its default value.

	Command	Purpose
Step 6	`Router(config-mgcp-profile)# package persistent package-name`	Configures the package type used when reporting persistent events for an MF CAS endpoint type.
Step 7	`Router(config-mgcp-profile)# timeout tsmax tsmax-value`	Configures the maximum timeout value after which MGCP messages are removed from the retransmission queue.
Step 8	`Router(config-mgcp-profile)# timeout tdinit tdinit-value`	Configures the initial waiting delay value (Tdinit) used as the timer for the disconnect procedure.
Step 9	`Router(config-mgcp-profile)# timeout tcrit tcrit-value`	Configures the critical timeout value (Tcritical) for the interdigit timer used in digit map matching.
Step 10	`Router(config-mgcp-profile)# timeout tpar tpar-value`	Configures the partial timeout value (Tpartial) for the interdigit timer used in digit map matching.
Step 11	`Router(config-mgcp-profile)# timeout thist thist-value`	Configures the packet storage timeout value.
Step 12	`Router(config-mgcp-profile)# timeout tone mwi mwitone-value`	Configures the message waiting indicator timeout value.
Step 13	`Router(config-mgcp-profile)# timeout tone ringback ringbacktone-value`	Configures the ringback tone timeout value.
Step 14	`Router(config-mgcp-profile)# timeout tone ringback connection connectiontone-value`	Configures the timeout value for ringback tone on connection.
Step 15	`Router(config-mgcp-profile)# timeout tone network congestion congestiontone-value`	Configures the network congestion tone timeout value.
Step 16	`Router(config-mgcp-profile)# timeout tone busy busytone-value`	Configures the busy tone timeout value.
Step 17	`Router(config-mgcp-profile)# timeout tone dial dialtone-value`	Configures the dial tone timeout value.
Step 18	`Router(config-mgcp-profile)# timeout tone dial stutter stuttertone-value`	Configures the stutter dial tone timeout value.
Step 19	`Router(config-mgcp-profile)# timeout tone ringing ringingtone-value`	Configures the ringing tone timeout value.
Step 20	`Router(config-mgcp-profile)# timeout tone ringing distinctive distinctivetone-value`	Configures the distinctive ringing tone timeout value.
Step 21	`Router(config-mgcp-profile)# timeout tone reorder reordertone-value`	Configures the reorder tone timeout value.
Step 22	`Router(config-mgcp-profile)# timeout tone cot1 continuity1tone-value`	Configures the continuity1 tone timeout value.
Step 23	`Router(config-mgcp-profile)# timeout tone cot2 continuity2tone-value`	Configures the continuity2 tone timeout value.
Step 24	`Router(config-mgcp-profile)# max1 lookup`	Enables the DNS lookup procedure after the suspicion threshold is reached.
Step 25	`Router(config-mgcp-profile)# max1 retries value`	Sets the suspicion threshold value.
Step 26	`Router(config-mgcp-profile)# max2 lookup`	Enables the DNS lookup procedure after the disconnect threshold is reached.
Step 27	`Router(config-mgcp-profile)# max2 retries value`	Sets the disconnect threshold value.
Step 28	`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 run`	Displays the current configuration settings.
Step 2	`Router# show mgcp [connection | endpoint | profile [profile-name] | statistics]`	Displays the current MGCP settings.

Troubleshooting Tips

The following suggestions will help with troubleshooting:

- Reset the MGCP statistical counters with the **clear mgcp statistics** command.
- If RTP traffic is not getting through, make sure 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 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 [all | errors | events | packets [input-hex]| parser]

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:

- Configuring the Cisco uBR924 Using the RF Interface
- Configuring the Cisco uBR924 Using the Ethernet0 Interface
- Configuring the Cisco CVA122 Using the RF Interface
- Configuring the Cisco AS5300

Note IP addresses and hostnames in these examples are fictitious.

Configuring the Cisco uBR924 Using the RF Interface

This example sets up a Cisco uBR924 as an MGCP residential gateway. The call agent is specified to the cable router (uBR924 or CVA122) by a DHCP offer on a cable R/F 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
```

Configuring the Cisco uBR924 Using the Ethernet0 Interface

This example sets up a Cisco uBR924 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 cablem-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
```

Configuring the Cisco CVA122 Using the RF Interface

The call agent is specified to the cable router (uBR924 or CVA122) by a DHCP offer on a cable R/F 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
```

Configuring the Cisco AS5300

This example sets up a Cisco AS5300 as an MGCP trunking gateway.

```
version 12.2
no service single-slot-reload-enable
no service pad
service timestamps debug datetime msec localtime
service timestamps log datetime localtime
no service password-encryption
!
hostname nyc-5300
!
no logging buffered
no logging buffered
logging rate-limit console 10 except errors
no logging console
!
!
!
resource-pool disable
!
clock timezone PST -8
clock summer-time PDT recurring
ip subnet-zero
no ip finger
ip name-server 192.168.0.1
ip dhcp smart-relay
!
isdn voice-call-failure 0
call rsvp-sync
!
!
!
fax interface-type vfc
mta receive maximum-recipients 0
!
!
!
controller T1 0
 framing esf
 linecode b8zs
 ds0-group 1 timeslots 1-24 type none service mgcp
!
controller T1 1
 framing esf
 linecode b8zs
 ds0-group 2 timeslots 1-24 type none service mgcp
!
controller T1 2
 shutdown
!
controller T1 3
 shutdown
!
!
!
interface Ethernet0
 ip address 192.168.0.106 255.255.255.0
 no ip route-cache
 no ip mroute-cache
 no cdp enable
!
```

```
interface FastEthernet0
 ip address 10.0.14.5 255.255.0.0
 no ip route-cache
 no ip mroute-cache
 duplex full
 speed auto
 no cdp enable
!
interface Dialer0
 no ip address
 no cdp enable
!
ip default-gateway 10.14.0.1
ip kerberos source-interface any
ip classless
ip route 192.168.10.200 255.255.255.255 192.168.1.55
ip route 192.168.12.222 255.255.255.255 192.168.1.55
ip route 192.168.10.10 255.255.255.0 192.168.10.55
ip route 192.168.254.254 255.255.255.255 10.14.0.1
no ip http server
!
no cdp run
!
!
!
voice-port 1:2
!
voice-port 0:1
!
mgcp
mgcp call-agent 192.168.12.200 50001 service-type mgcp version 0.1
mgcp modem passthrough voaal2 mode
mgcp package-capability dtmf-package
mgcp package-capability rtp-package
mgcp default-package ms-package
no mgcp timer receive-rtcp
!
mgcp profile default
!
mgcp profile max1
 call-agent nyc-ca.flowtech.org service-type mgcp version 1.0
 max1 retries 3
 max2 retries 5
!
mgcp profile max2
!
mgcp profile max12
!
dial-peer voice 20 pots
 application mgcpapp
 forward-digits all
!

dial-peer voice 10 pots
 application mgcpapp
 destination-pattern 10
 forward-digits all
!
dial-peer voice 1 pots
 application mgcpapp
!
dial-peer voice 2 pots
 application mgcpapp
!
```

```
dial-peer voice 3 pots
 application mgcpapp
!
dial-peer voice 4 pots
 application mgcpapp
!
dial-peer voice 1009 voip
 destination-pattern 100
!
!
line con 0
 exec-timeout 0 0
 transport input none
line aux 0
line vty 0 4
 password lab
 login
!
ntp clock-period 17179340
ntp update-calendar
ntp server 10.14.0.1
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 4.

Following the alphabetical list of new and modified commands is a list of the same commands grouped by configuration mode.

Alphabetical List of Commands

- **call-agent** (new)
- **debug mgcp**
- **default (MGCP profile)** (new)
- **description (MGCP profile)** (new)
- **max1 lookup** (new)
- **max1 retries** (new)
- **max2 lookup** (new)
- **max2 retries** (new)
- **mgcp call-agent**
- **mgcp endpoint offset** (new)
- **mgcp persistent** (new)
- **mgcp piggyback message** (new)
- **mgcp profile** (new)
- **mgcp quarantine mode**
- **mgcp quarantine persistent-event disable**
- **mgcp request retries** (no longer supported)
- **mgcp request timeout**
- **mgcp sdp** (new)
- **package persistent** (new)
- **show mgcp**
- **timeout tcrit** (new)
- **timeout tdinit** (new)
- **timeout tdmax** (new)
- **timeout tdmin** (new)
- **timeout thist** (new)
- **timeout tone busy** (new)
- **timeout tone cot1** (new)
- **timeout tone cot2** (new)
- **timeout tone dial** (new)

- **timeout tone dial stutter** (new)
- **timeout tone mwi** (new)
- **timeout tone network congestion** (new)
- **timeout tone reorder** (new)
- **timeout tone ringback** (new)
- **timeout tone ringback connection** (new)
- **timeout tone ringing** (new)
- **timeout tone ringing distinctive** (new)
- **timeout tpar** (new)
- **timeout tsmax** (new)
- **voice-port (MGCP profile)** (new)

Commands by Configuration Mode

Privileged Exec Mode Commands

- **debug mgcp**
- **show mgcp**

Global Configuration Mode Commands

- **mgcp call-agent**
- **mgcp endpoint offset** (new)
- **mgcp persistent** (new)
- **mgcp piggyback message** (new)
- **mgcp profile** (new)
- **mgcp quarantine mode**
- **mgcp quarantine persistent-event disable**
- **mgcp request retries** (no longer supported)
- **mgcp request timeout**
- **mgcp sdp** (new)

MGCP Profile Configuration Mode Commands

- **call-agent** (new)
- **default (MGCP profile)** (new)
- **description (MGCP profile)** (new)
- **max1 lookup** (new)
- **max1 retries** (new)
- **max2 lookup** (new)
- **max2 retries** (new)
- **package persistent** (new)

- **timeout tcrit** (new)
- **timeout tdinit** (new)
- **timeout tdmax** (new)
- **timeout tdmin** (new)
- **timeout thist** (new)
- **timeout tone busy** (new)
- **timeout tone cot1** (new)
- **timeout tone cot2** (new)
- **timeout tone dial** (new)
- **timeout tone dial stutter** (new)
- **timeout tone mwi** (new)
- **timeout tone network congestion** (new)
- **timeout tone reorder** (new)
- **timeout tone ringback** (new)
- **timeout tone ringback connection** (new)
- **timeout tone ringing** (new)
- **timeout tone ringing distinctive** (new)
- **timeout tpar** (new)
- **timeout tsmax** (new)
- **voice-port (MGCP profile)** (new)

call-agent

To define the call agent for an MGCP profile, use the **call-agent** MGCP profile command. 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

dns-name	Fully qualified domain name (including host portion) for the call agent. For example, *ca123.example.net.*
ip-address	IP address of the call agent.
port	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.
type	Protocol service type. Valid values are **mgcp**, **ncs**, **sgcp**, and **tgcp**.
version	Keyword indicating that the next word is the version number.
protocol-version	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, NCS 1.0, and TGCP 1.0.

The default call-agent UDP port is 2427 for MGCP 0.1 and 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.

Usage Guidelines

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 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 *endpoint-name*	Debugs MGCP errors, events, or packets per endpoint.
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

Debugging for DRiP packets is not enabled.

Command Modes

EXEC

Command History

Release	Modification
12.1(1)T	This command was introduced.
12.1(3)T	Additional information is displayed 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)XA	The keyword **media** was added. The keyword and argument **endpoint** *endpoint-name* was added to the **mgcp packets**, **mgcp errors**, and **mgcp events** options. The keyword **input-hex** was added to the **mgcp packets** option.

Usage Guidelines

There is always a performance penalty when using debug commands.

Examples

Following are sample outputs for the **debug mgcp packets**, **debug mgcp events**, and **debug mgcp parser** commands. The **debug mgcp all** command would show a compilation of all this output.

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
```

default (MGCP profile)

To configure an MGCP profile parameter to its default value, use the **default** MGCP profile command 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 tdmax** • **timeout tdmin** • **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 tsmax** • **voice-port (MGCP profile)**

Command Modes

MGCP profile

Defaults

There are no defaults for this command.

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 an MGCP profile that uses the default values for three 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** MGCP profile command.

description *text*

Syntax Description

text	Description of the MGCP profile being defined.

Command Modes

MGCP profile

Defaults

This command has no default value.

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 DNS lookup for a new call-agent address when the suspicion threshold value is reached, use the **max1 lookup** MGCP profile command. 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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 MGCP suspicion threshold value, use the **max1 retries** MGCP profile command. 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).
number	The number of times to attempt to resend messages; ranges from 3 to 10.

Defaults

5

Command Modes

MGCP profile

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.

Usage Guidelines

Call-agent redundancy can be provided when call agents are identified by 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 DNS lookup for a new call-agent address after the disconnect threshold timeout value is reached, use the **max2 lookup** MGCP profile command. To disable DNS lookup, use the **no** form of the command.

max2 lookup

no max2 lookup

Syntax Description

There are no keywords or arguments for this command.

Defaults

Lookup is enabled.

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 MGCP disconnect threshold value, use the **max2 retries** MGCP profile command. 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).
number	The number of times to attempt to resend messages; ranges from 3 to 10.

Defaults

7

Command Modes

MGCP profile

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.

Usage Guidelines

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 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 (media gateway controller) for 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

dns-name	Fully qualified domain name (including host portion) for the call agent. For example, *ca123.example.net.*
ip-address	IP address for the call agent.
port	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.
type	Select a protocol service type. Valid values are **mgcp**, **ncs**, **sgcp**, and **tgcp**.
version	Keyword indicating that the next word is the version number.
protocol-version	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, NCS 1.0, and TGCP 1.0.

The default call-agent UDP port is 2427 for MGCP 0.1 and 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)XA	New service types (**ncs** and **tgcp**) and appropriate versions were added. Version 1.0 was added for the **mgcp** service type.

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 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 NCS 1.0 profile of 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 keywords or arguments.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.

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 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 offhook events to the call agent.
onhook	Sends persistent onhook events to the call agent.

Command Modes

Global configuration

Defaults

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

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

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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

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 onhook 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 keywords or arguments.

Defaults

Piggyback messages are enabled.

Command Modes

Global configuration

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

Use this command to disable piggyback messages for MGCP 1.0, NCS, and TGCP when a network gateway cannot handle piggyback messages. Piggyback messaging is not available to 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 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 an 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

profile-name	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.

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 tdmax**
- **timeout tdmin**
- **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 tsmax**
- **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 tsmax 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
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 event quarantine buffer handling mode, use the **mgcp quarantine mode** global configuration command. 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

discard and **step**

Command Modes

Global configuration

Command History

Release	Modification
12.1(5)XM	This command was introduced.
12.2(2)XA	Support for MGCP was added.

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 turns on processing of quarantined events and sends observed events 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 quarantine buffer, use the **mgcp quarantine persistent-events disable** global configuration command. 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 keywords or arguments 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)XA	Support was added for MGCP.

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 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 turns off quarantine buffer handling of persistent events:

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

Related Commands

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, 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** global configuration command. 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

timeout-value	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.
maxtimeout-value	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 3660, Cisco uBR924, and Cisco 2600 series.
12.1(5)XM	Support for this command was extended to the Cisco MC3810.
12.2(2)XA	The **max** keyword was added to this command.

Usage Guidelines

The request timeout value is the value used for the initial time period that the 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 MGCP, use the **mgcp sdp** global configuration command. 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 NCS and 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.

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 an MF CAS endpoint type using a specific MGCP profile, use the **package persistent** MGCP profile configuration command. 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.

Usage Guidelines

This command is used only with MF trunks (gateway voice ports configured with the voice-port configuration command **dial-type mf**). 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 PBX DID/DOD trunks with wink-start or ground-start protocol, as indicated in RFC3064 (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 MGCP configuration information, use the **show mgcp** EXEC command.

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.
profile-name	Name of profile for which information should be displayed; limited to 32 characters.
statistics	Displays MGCP statistics regarding received and transmitted network messages.

Defaults

None

Command Modes

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)XA	The keyword **profile** was added.

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: 172.29.248.51  Initial protocol service is SGCP, v. 1.5
MGCP block-newcalls DISABLED
MGCP send RSIP for SGCP is DISABLED
MGCP quarantine mode discard/step
MGCP quarantine of persistent events is ENABLED
MGCP dtmf-relay voip codec all mode cisco
MGCP dtmf-relay for VoAAL2 disabled for all codec types
MGCP voip modem passthrough mode: CISCO, codec: g711ulaw, redundancy: DISABLED,
MGCP voaal2 modem passthrough mode: NSE, codec: g711ulaw
MGCP TSE payload: 0
MGCP Network (IP/AAL2) Continuity Test timer: 200
MGCP 'RTP stream loss' timer disabled
MGCP request timeout 500, MGCP request retries 3
MGCP gateway port: 2427, MGCP maximum waiting delay 3000
MGCP restart delay 0, MGCP vad DISABLED
MGCP simple-sdp DISABLED
MGCP codec type g711ulaw, MGCP packetization period 20
MGCP JB threshold lwm 30, MGCP JB threshold hwm 150
MGCP LAT threshold lmw 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 rtp-package atm-package ms-package dt-package
MGCP VoAAL2 ignore-lco-codec DISABLED
```

Table 7 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 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.

Table 7 show mgcp Field Descriptions (continued)

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**.
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 request retries	The setting for the **mgcp request retries** command.
MGCP gateway port	The UDP port specification.
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 sdp simple	Indicates whether simple SDP has been set in the **mgcp sdp** command.
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.
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.

Table 7 show mgcp Field Descriptions (continued)

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 supported 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 8 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.

Table 8 show mgcp connection (VoIP) Field Descriptions (continued)

(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 9 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.

Table 9 show mgcp connection (VoAAL2) Field Descriptions

Vcci/cid	The VCCI and 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 10 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 (AUEP) 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.
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
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 11 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 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.

Table 11 show mgcp profile Field Descriptions (continued)

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.
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 DNS lookup for the call agent 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 after the disconnected threshold is reached, as configured by the **max2 lookup** command.
Max2 retries	Maximum umber 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** MGCP profile command. 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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 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.

Command	Description
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** MGCP profile command. 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

tdinit-value	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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 tdmin**.

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 tdmax**.

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 tdmax	Configures maximum timeout for the MGCP disconnected procedure.
timeout tdmin	Configures minimum timeout for the MGCP disconnected procedure.

timeout tdmax

To configure the maximum timeout value for the disconnected procedure (Tdmax), use the **timeout tdmax** MGCP profile command. To set the value to the default, use the **no** form of this command.

timeout tdmax *tdmax-value*

no timeout tdmax *tdmax-value*

Syntax Description

tdmax-value	Specifies the maximum timeout value for the disconnected procedure (Tdmax), in seconds. Range is 300 to 600.

Defaults

600 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 (Tdmax), which is configured with the **timeout tdmax** command.

Examples

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

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tdmax 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 tdmin	Configures minimum timeout for the MGCP disconnected procedure.

timeout tdmin

To configure the minimum timeout value for the disconnected procedure (Tdmin), use the **timeout tdmin** MGCP profile command. To set the value to the default, use the **no** form of this command.

timeout tdmin *tdmin-value*

no timeout tdmin *tdmin-value*

Syntax Description

tdmin-value	Specifies the minimum timeout value for the disconnected procedure (Tdmin), in seconds. Range is 1 to 30.

Defaults

15 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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; 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 (Tdmin) to 20 seconds:

```
Router(config)# mgcp profile nyc-ca
Router(config-mgcp-profile)# timeout tdmin 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 tdmax	Configures maximum timeout for the MGCP disconnected procedure.

timeout thist

To configure the packet storage timeout value (Thist), use the **timeout thist** MGCP profile command. 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

thist-value	Specifies the package storage timeout value (Thist), in seconds. Range is 1 to 60.

Defaults

30 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

MGCP messages are carried over 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** MGCP profile command. 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

busytone-value	Specifies the busy tone timeout value, in seconds. Range is from 1 to 600.

Defaults

30 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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	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

To configure the continuity1 (cot1) tone timeout value, use the **timeout tone cot1** MGCP profile command. 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

cot1tone-value	Specifies the continuity1 tone (cot1) tone timeout value, in seconds. Range is from 1 to 600.

Defaults

3 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 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** MGCP profile command. 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

cot2tone-value	Specifies the continuity2 (cot2) tone timeout value, in seconds. Range is from 1 to 600.

Defaults

3 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 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** MGCP profile command. 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

dialtone-value	Specifies the dial tone timeout value, in seconds. Range is from 1 to 600.

Defaults

16 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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.

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** MGCP profile command. 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

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

Defaults

16 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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** MGCP profile command. 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

mwitone-value	Specifies the message waiting indicator (mwi) tone timeout value, in seconds. Range is from 1 to 600.

Defaults

16 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

The gateway uses the *mwitone-value* 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** MGCP profile command. 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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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** MGCP profile command. 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

reordertone-value	Specifies the reorder tone timeout value, in seconds. Range is from 1 to 600.

Defaults

30 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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.

Examples

The following example shows the reorder tone timeout value being set to 60 seconds:

```
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** MGCP profile command. 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

ringbacktone-value	Specifies the ringback tone timeout value, in seconds. Range is from 1 to 600.

Defaults

180 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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.

Examples

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

```
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** MGCP profile command. 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

connecttone-value	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

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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** MGCP profile command. 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

ringingtone-value	Specifies the ringing tone timeout value, in seconds. Range is 1 to 600.

Defaults

180 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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** MGCP profile command. 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

distincttone-value	Specifies the distinctive ringing tone timeout value, in seconds. Range is 1 to 600.

Defaults

180 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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:

```
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** MGCP profile command. To set the value to the default, use the **no** form of this command.

timeout tpar *tpar-value*

no timeout tpar

Syntax Description

tpar-value	Specifies the partial timeout value, in seconds. Range is 1 to 60.

Defaults

16 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 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** MGCP profile command. To set the value to the default, use the **no** form of this command.

timeout tsmax *tsmax-value*

no timeout tsmax

Syntax Description

tsmax-value	Specifies timeout value for MGCP messages to be removed from the retransmission queue, in seconds. Range is 1 to 100.

Defaults

20 seconds

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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** MGCP profile command. 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

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

Defaults

This command does not have a default value.

Command Modes

MGCP profile

Command History

Release	Modification
12.2(2)XA	This command was introduced.

Usage Guidelines

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 uBR924 platform:

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

The following example shows digital voice port being associated with an MGCP profile on a Cisco AS5300 platform:

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

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

call agent (CA)—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.

COT—Continuity test as defined by SS7.

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 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—64 kbps channel in a T1/E1 line.

DSP—Digital Signal Processor.

DTMF—Dual Tone Multi-Frequency.

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—Bellcore Feature Group D.

FGD-OS—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. Protocol used in SS7 signaling.

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—Multi-Frequency. Type of tone signaling used on PSTN trunks.

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 UDP packet but processed in the order they were sent, as separate, simultaneous messages.

POTS—Plain Old Telephone Service.

PRI—ISDN primary rate interface.

PSTN—Public Switched Telephone Network.

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

residential gateway (RGW)—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.

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 RFC2327.

SGCP—Simple Gateway Control Protocol.

SS7—Signaling System 7.

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 Internet Protocol.

XGCP—SGCP or MGCP Protocol.