



GKTMP Command Reference

This chapter describes commands that support the new Cisco IOS Gatekeeper functions and includes the following commands:

- [server trigger](#)
- [timer server timeout](#)
- [server registration-port](#)
- [server flow-control](#)
- [show gatekeeper servers](#)
- [show gatekeeper status](#)
- [debug gatekeeper servers](#)



Note

As with all Cisco IOS commands, you can abbreviate the Cisco IOS Gatekeeper trigger registration commands. To abbreviate a command, simply enter the first few characters of the command and press tab. To obtain online help for a command, enter the first few characters of the command followed by a question mark.

For additional Cisco IOS commands, see the following documents:

Cisco High Performance Gatekeeper

Cisco IOS Voice, Video, and Fax Configuration Guide, Release 12.2

Cisco IOS Voice, Video, and Fax Command Reference, Release 12.2

server trigger

To configure a static server trigger for external applications, enter the **server trigger** command from Gatekeeper mode. Enter the **no** form of this command to remove a single statically configured trigger entry. Enter the “all” form of the command to remove every static trigger you configured if you want to delete them all.

```
server trigger { arq | lcf | lrj | lrq | rrq | urq | drq | rai | brq } gkid priority server-id
server-ip_address server-port
```

```
no server trigger { arq | lcf | lrj | lrq | rrq | urq | drq | rai | brq } gkid priority
```

```
no server trigger all
```

Syntax Description

arq lcf lrj lrq rrq urq drq rai brq	The RAS messages for which you can create triggers on the Cisco IOS Gatekeeper. You can specify only one message type per server trigger command. There is a different trigger submode for each message type. Each trigger submode has its own set of applicable commands.
<i>gkid</i>	The identifier of the Cisco IOS Gatekeeper.
<i>priority</i>	The priority for this particular trigger. Possible values are 1 through 20. 1 is the highest.
<i>server-id</i>	The identifier of the external application.
<i>server-ip_address</i>	The IP address of the server on which the external application is running.
<i>server-port</i>	The port on which the server listens for messages from the Cisco IOS Gatekeeper.

Command Modes

Gatekeeper configuration

Related Commands

The following subcommands can be used in specific trigger submodes to configure certain types of trigger conditions:

- [shutdown](#)
- [version](#)
- [destination-info](#)
- [redirect-reason](#)
- [remote-ext-address](#)
- [endpoint-type](#)
- [supported-prefix](#)

info-only

To indicate to the Cisco IOS Gatekeeper that messages that meet the specified trigger parameters should be sent as notifications only and that the Cisco IOS Gatekeeper should not wait for a response from the external application, use the **info-only** subcommand.

info-only

Syntax Description	info-only	Informational only. No need to wait for acknowledgment.
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Command Modes	Any of the Cisco IOS Gatekeeper trigger submodes
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shutdown

To temporarily disable a trigger, use the **shutdown** subcommand. Cisco IOS Gatekeepers do not consult triggers in shutdown state when determining whether a message should be forwarded to an external application.

shutdown

Syntax Description	shutdown	Changes the administrative state of a trigger to shutdown.
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Command Modes	Any of the Cisco IOS Gatekeeper trigger submodes
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destination-info

To configure a trigger that is based on a particular destination, use the **destination-info** subcommand.

destination-info { **e164** | **email-id** | **h323-id** } *value*

Syntax Description	e164	Indicates that the destination address is an E.164 address.
	email-id	Indicates that the destination address is an e-mail ID.
	h323-id	Indicates that the destination address is an H.323 ID.
	<i>value</i>	Specifies the value against which to compare the destination address in the RAS messages. For E.164 addresses, the following wildcards can be used: <ul style="list-style-type: none"> • A trailing series of periods, each of which represents a single character. • A trailing asterisk, which represents one or more characters.

Command Modes	Cisco IOS Gatekeeper ARQ, LRQ, LCF, LRJ, and DRQ trigger submodes
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redirect-reason

To configure a trigger that is based on a specific redirect reason, use the **redirect-reason** subcommand.

redirect-reason *value*

Syntax Description	value	Specifies the value against which to compare the redirect reason in the RAS messages. Possible values are 0-65535. Currently-used redirect reasons are: <ul style="list-style-type: none"> • 0—Unknown reason • 1—Call forwarding busy or called DTE busy • 2—Call forwarded no reply • 4—Call deflection • 9—Called DTE out of order • 10—Call forwarding by the call DTE • 15—Call forwarding unconditionally
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Command Modes Cisco IOS Gatekeeper ARQ, LRQ, DRQ, and BRQ trigger submodes

remote-ext-address

To configure a trigger that is based on a specific remote extension address, use the **remote-ext-address** subcommand.

remote-ext-address *e164 value*

Syntax Description	<i>e164</i>	Indicates that the remote extension address is an E.164 address.
	<i>value</i>	Specifies the value against which to compare the destination address in the RAS messages. The following wildcards can be used: <ul style="list-style-type: none"> • A trailing series of periods, each of which represents a single character. • A trailing asterisk, which represents one or more characters.

Command Modes Cisco IOS Gatekeeper LCF trigger submode

endpoint-type

To configure a trigger that is based on a specific endpoint, use the **endpoint-type** subcommand.

endpoint-type *value*

Syntax Description	<i>value</i>	<p>Specifies the value against which to compare the endpoint-type in the RAS messages. The possible values are:</p> <ul style="list-style-type: none"> • gatekeeper—The endpoint is an H.323 gatekeeper. • h320-gateway—The endpoint is an H.320 gateway. • mcu—The endpoint is an MCU. • other-gateway—The endpoint is a type of gateway not specified on this list. • proxy—The endpoint is an H.323 proxy. • terminal—The endpoint is an H.323 terminal. • voice-gateway—The endpoint is a voice type gateway.
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Command Modes Cisco IOS Gatekeeper RRQ, URQ, and RAI trigger submodes

supported-prefix

To configure a trigger that is based on a specific supported prefix, use the **supported-prefix** subcommand.

supported-prefix *value*

Syntax Description	<i>value</i>	<p>Specifies the value against which to compare the supported prefix in the RAS messages. The possible values are any E.164 pattern used as a gateway technology prefix. The value string can contain any of the following: 0123456789#*,</p>
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Command Modes Cisco IOS Gatekeeper RRQ, URQ, and RAI trigger submodes

version

To configure the GKTMP version on the Cisco IOS gatekeeper.

version *number.number*

Syntax Description	<i>number.number</i>	Specifies the GKTMP version number.
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Command Modes ARQ, DRQ, LRQ, and LCF gatekeeper trigger submodes.

Usage Guidelines Enter the exact GKTMP server version number in the dotted-decimal format such as 4.0, 2.3.

Examples

Configuration of GKTMP version 4 on the Cisco IOS gatekeeper under the arq trigger mode:

```
router(config-gk_arqtrigger)#ver
router(config-gk_arqtrigger)#version ?
  <1-99>  GKTMP Server's version in the format <number>.<number>
router(config-gk_arqtrigger)#version 4.0
router(config-gk_arqtrigger)#
```

timer server timeout

To define the server timeout for GKTMP messages, use the **timer server timeout** command.

timer server timeout *value*

Syntax Description

<i>value</i>	The timeout in seconds. Possible values are 1 through 5. The default value is 3.
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Command Modes

Gatekeeper configuration

server registration-port

To define a listener port to be used by the external applications to establish connections to the gatekeeper on this router, use the **server registration-port** gatekeeper configuration command.

server registration-port *port_number*

no server registration-port

The **no** form of this command forces the gatekeeper on this router to close the listener port so that it cannot receive any additional registrations. However, existing connections between the gatekeeper and external application are left open.

Syntax Description

<i>port_number</i>	The port on which the Cisco IOS Gatekeeper should listen for registration messages from external applications.
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Command Modes

Gatekeeper configuration

server flow-control

To enable flow control on the Cisco IOS Gatekeeper (GK) and reset all thresholds to default, use the **server flow-control** command in gatekeeper configuration mode. To disable GK flow control, use the **no** form of this command.

```
server flow-control [onset value] [abatement value] [qcount value]
```

```
no server flow-control
```

Syntax Description

onset <i>value</i>	<p>A percentage of the server timeout value that is used to mark the server as usable or unusable. The range of valid values is 1 through 100; the default value is 80.</p> <p>For example, if the server time out value is 3 seconds, the onset value is 50, and the abatement value is 40, when the average response time from the server to the GKTMP reaches 1.5 seconds (the onset percentage of the server timeout value), the server is marked as unusable. During the period that the server is marked as unusable, REQUEST ALV messages are still sent to the unusable server. When the response time is lowered to 1.2 seconds (the abatement percentage of the timeout value), the server is marked usable again and the GKTMP resumes sending messages to the server.</p>
abatement <i>value</i>	<p>A percentage of the server timeout value that is used to mark the server as unusable or usable. The range of valid values is 1 through 100; the default value is 50.</p> <p>For example, if the server time out value is 3 seconds, the onset value is 50, and the abatement value is 40, when the average response time from the server to the GKTMP reaches 1.5 seconds (the onset percentage of the server timeout value), the server is marked as unusable. During the period that the server is marked as unusable, REQUEST ALV messages are still sent to the unusable server. When the response time is lowered to 1.2 seconds (the abatement percentage of the timeout value), the server is marked usable again and the GKTMP resumes sending messages to the server.</p> <p>Note The abatement value cannot be greater than or equal to the onset value.</p>
qcount <i>value</i>	<p>Identifies the threshold for the length of the outbound queue on the GK. The queue contains messages waiting to be transmitted to the server. The TCP socket between the GK and GKTMP server queues messages if it has too many to transmit. If the count of outbound queue length on the server reaches the qcount value, the server is marked unusable. Range is from 1 to 1000. The default is 400.</p>

Command Modes

Gatekeeper configuration

Examples

The following example shows using the command with the default values:

```
Router# server flow-control
```

In the following example, the GKTMP Interface Resiliency Enhancement feature is enabled with an onset level of 50:

```
Router# server flow-control onset 50
*Mar  8 20:05:34.081: gk_srv_handle_flowcontrol: Flow control enabled
Router# show running configuration

Building configuration...

Current configuration : 1065 bytes
!
version 12.2
no service single-slot-reload-enable
service timestamps debug datetime msec
service timestamps log uptime
no service password-encryption
!
hostname snet-3660-3
!
.
.
.
gatekeeper
 zone local snet-3660-3 cisco.com
 zone remote snet-3660-2 cisco.com 209.165.200.225 1719
 zone prefix snet-3660-2 408*
 lrq forward-queries
no use-proxy snet-3660-3 default inbound-to terminal
no use-proxy snet-3660-3 default outbound-from terminal
no shutdown
server registration-port 8000
server flow-control onset 50
!
!
.
.
.
end
```

show gatekeeper servers

To display a list of the triggers (whether dynamically registered from the external applications or statically configured from the command-line interface), use the **show gatekeeper servers EXEC** command.

```
show gatekeeper servers [gkid]
```

Syntax Description

<i>gkid</i>	Specifies the ID of the gatekeeper. If you specify a gatekeeper ID, only the information about the external applications that are registered with the specified gatekeeper is displayed. If you do not specify a gatekeeper ID, information about all the external applications that are registered with any of the Cisco IOS Gatekeepers on this router is displayed.
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Command Modes

EXEC mode

Examples

The following example shows the **show gatekeeper servers** command output:

Example 6-1 show gatekeeper servers Output (version 2.0)

```
router# show gatekeeper servers gk102

GATEKEEPER SERVERS STATUS
=====

Gatekeeper Server listening port: 20000
Gatekeeper GKTMP version:2.0

Gatekeeper-ID: gk102
-----
RRQ Priority: 1
  Server-ID: sj-server
  Server IP address: 1.14.93.28:42387
  Server type: dynamically registered
  Connection Status: active
  Server GKAPI version:2.0
  Trigger Information:
    Supported Prefix: 10#
    Supported Prefix: 3#
RRQ Priority: 2
  Server-ID: sf-server
  Server IP address: 1.14.93.43:3820
  Server type: CLI-configured
  Connection Status: inactive
  Server GKAPI version:2.0
  Trigger Information:
    Endpoint-type: MCU
    Endpoint-type: VOIP-GW
    Supported Prefix: 99#
ARQ Priority: 1
  Server-ID: sj-server
  Server IP address: 1.14.93.28:42387
  Server type: dynamically registered
  Connection Status: active
  Server GKAPI version:2.0
  Trigger Information:
    Destination Info: M:nilkant@zone14.com
    Destination Info: E:1800.....
    Redirect Reason: Call forwarded no reply
    Redirect Reason: Call deflection
```

Example 6-2 show gatekeeper servers Output (version 3.1)

```
Router# show gatekeeper server

GATEKEEPER SERVERS STATUS
=====

Gatekeeper Server listening port: 8250
Gatekeeper Server timeout value: 30 (100ms)
GateKeeper GKTMP version: 3.1

Gatekeeper-ID: Gatekeeper1
-----
RRQ Priority: 5
  Server-ID: Server43
  Server IP address: 209.165.200.254:40118
  Server type: dynamically registered
```

show gatekeeper status

```

Connection Status: active
Trigger Information:
  Trigger unconditionally

Server Statistics:
REQUEST RRQ Sent=0
RESPONSE RRQ Received = 0
RESPONSE RCF Received = 0
RESPONSE RRJ Received = 0
Timeout encountered=0
Average response time(ms)=0
Server Usable=TRUE

```

show gatekeeper status

To display statistics about the gatekeeper, including authorization and authentication status and if load balancing and flow control are enabled, use the `show gatekeeper status` command in EXEC mode.

show gatekeeper status

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC mode

Examples

The following example shows output from the `show gatekeeper status` command:

```

Router# show gatekeeper status

Gatekeeper State: UP
  Load Balancing:  DISABLED
  Flow Control:   ENABLED
  Zone Name:      snet-3660-3
  Accounting:     DISABLED
  Endpoint Throttling:  DISABLED
  Security:       DISABLED
  Maximum Remote Bandwidth:          unlimited
  Current Remote Bandwidth:          0 kbps
  Current Remote Bandwidth (w/ Alt GKs): 0 kbps

```

Table 6-1 describes the significant fields shown in the display.

Table 6-1 *show gatekeeper status Field Descriptions*

Field	Description
Gatekeeper State	Gatekeeper state has the following values: <ul style="list-style-type: none"> • UP is operational. • DOWN is administratively shut down. • INACTIVE is administratively enabled, that is, the no shutdown command has been issued, but no local zones have been configured. • HSRP STANDBY indicates that the gatekeeper is on hot standby and will take over when the currently active gatekeeper fails.
Load Balancing	Shows if load balancing is enabled.
Flow Control	Shows if server flow control is enabled.
Zone Name	Displays the zone name to which the gatekeeper belongs.
Accounting	Shows if authorization and accounting features are enabled.
Endpoint Throttling	Shows if endpoint throttling is enabled.
Security	Shows if security features are enabled.
Bandwidth	Shows the maximum remote bandwidth, current remote bandwidth, and current remote bandwidth with alternate gatekeepers.

debug gatekeeper servers

To turn debugging on, use the **debug gatekeeper servers** EXEC command. This command traces all the message exchanges between the Cisco IOS Gatekeeper and the external application. This command also displays any errors that occur when sending messages to the external application or when parsing messages from the external application. The **no** form of this command turns debugging off.

debug gatekeeper servers

no debug gatekeeper servers

Syntax Description

This command has no keywords or arguments.

Command Modes

EXEC mode

Examples

The following example shows the debug gatekeeper servers output:

Example 6-3 *debug gatekeeper servers* Output

```
router#debug gatekeeper servers
##### begin screen trace
00:08:47:GK:processing server msg:
```

```

REGISTER RRQ
From:server1
To:gk617
Priority:1

00:08:47:GK TMSG encoded to write buffer:
"REGISTER RRQ
From:gk617
To:server1
Priority:1
Status:success

"

00:11:16:GK TMSG encoded to write buffer:
"REQUEST RRQ
From:gk617
To:server1
Transaction-Id:6121529400000001
Content-Length:62

c=I:1.14.93.92:1720
r=I:1.14.93.92:24999
t=proxy
a=H:px14
"

00:11:16:GK:processing server msg:
RESPONSE RRQ
From:server1
To:gk617
Transaction-Id:6121529400000001
Content-Length:35

a=M:jsmith
p=1# 2 # 3# 1800...

00:11:45:GK TMSG encoded to write buffer:
"REQUEST RRQ
From:gk617
To:server1
Transaction-Id:6121529400000002
Content-Length:72

c=I:1.14.93.130:1720
r=I:1.14.93.130:4307
t=voice-gateway
a=H:gw130
"

00:11:45:GK:processing server msg:
RESPONSE RRJ
From:server1
To:gk617
Transaction-Id:6121529400000002
Content-Length:18

R=securityDenial
##### end screen trace

```