CHAPTER 32

telnet through tunnel-limit Commands

telnet

To add Telnet access to the console and set the idle timeout, use the **telnet** command in global configuration mode. To remove Telnet access from a previously set IP address, use the **no** form of this command.

telnet {{*hostname* | *IP_address mask interface_name*} | {*IPv6_address interface_name*} | {**timeout** *number*}}

no telnet {{*hostname* | *IP_address mask interface_name*} | {*IPv6_address interface_name*} | {**timeout** *number*}}

Syntax Description

hostname	Specifies the name of a host that can access the Telnet console of the FWSM.
interface_name	Specifies the name of the network interface to Telnet to.
IP_address	Specifies the IP address of a host or network authorized to log in to the FWSM.
IPv6_address	Specifies the IPv6 address/prefix authorized to log in to the FWSM.
mask	Specifies the netmask associated with the IP address.
timeout *number*	Number of minutes that a Telnet session can be idle before being closed by the FWSM; valid values are from 1 to 1440 minutes.

Defaults

By default, Telnet sessions left idle for five minutes are closed by the FWSM.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	The variable *IPv6_address* was added. The **no telnet timeout** command was added.

Usage Guidelines

The **telnet** command lets you specify which hosts can access the FWSM console with Telnet. You can enable Telnet on all interfaces except the lowest security interface, which is considered to be the outside interface. If there is only one interface and the security level is set to below the maximum of 100, then Telnet will not be allowed. To allow Telnet in this case, you must increase the security level of the interface to 100, or add another interface with a lower security level then the current one.

Use the **no telnet** command to remove Telnet access from a previously set IP address. Use the **telnet timeout** command to set the maximum time that a console Telnet session can be idle before being logged off by the FWSM. You cannot use the **no telnet** command with the **telnet timeout** command.

If you enter an IP address, you must also enter a netmask. There is no default netmask. Do not use the subnetwork mask of the internal network. The *netmask* is only a bit mask for the IP address. To limit access to a single IP address, use 255 in each octet; for example, 255.255.255.255.

If IPSec is operating, you can specify an unsecure interface name, which is typically, the outside interface. At a minimum, you might configure the **crypto map** command to specify an interface name with the **telnet** command.

Use the **passwd** command to set a password for Telnet access to the console. The default is **cisco**. Use the **who** command to view which IP addresses are currently accessing the FWSM console. Use the **kill** command to terminate an active Telnet console session.

If you use the **aaa** command with the **console** keyword, Telnet console access must be authenticated with an authentication server.

Note If you have configured the **aaa** command to require authentication for FWSM Telnet console access and the console login request times out, you can gain access to the FWSM from the serial console by entering the FWSM username and the password that was set with the **enable password** command.

Examples

This example shows how to permit hosts 192.168.1.3 and 192.168.1.4 to access the FWSM console through Telnet. In addition, all the hosts on the 192.168.2.0 network are given access.

```
hostname(config)# telnet 192.168.1.3 255.255.255.255 inside
hostname(config)# telnet 192.168.1.4 255.255.255.255 inside
hostname(config)# telnet 192.168.2.0 255.255.255.0 inside
hostname(config)# show running-config telnet
192.168.1.3 255.255.255.255 inside
192.168.1.4 255.255.255.255 inside
192.168.2.0 255.255.255.0 inside
```

This example shows how to change the maximum session idle duration:

```
hostname(config)# telnet timeout 10
hostname(config)# show running-config telnet timeout
telnet timeout 10 minutes
```

This example shows a Telnet console login session (the password does not display when entered):

```
hostname# passwd: cisco

Welcome to the XXX
…
Type help or '?' for a list of available commands.
hostname>
```

You can remove individual entries with the **no telnet** command or all telnet command statements with the **clear configure telnet** command:

```
hostname(config)# no telnet 192.168.1.3 255.255.255.255 inside
hostname(config)# show running-config telnet
192.168.1.4 255.255.255.255 inside
192.168.2.0 255.255.255.0 inside

hostname(config)# clear configure telnet
```

Related Commands

`show telnet`

Command	Description
clear configure telnet	Removes a Telnet connection from the configuration.
kill	Terminates a Telnet session.
show running-config telnet	Displays the current list of IP addresses that are authorized to use Telnet connections to the FWSM.
who	Displays active Telnet administration sessions on the FWSM.

terminal

To allow system log messages to show in the current Telnet session, use the **terminal monitor** command in privileged EXEC mode. To disable system log messages, use the **terminal no monitor** command.

terminal {**monitor** | **no monitor**}

Syntax Description

monitor	Enables the display of system log messages on the current Telnet session.
no monitor	Disables the display of system log messages on the current Telnet session.

Defaults

System log messages are disabled by default.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	**Routed**	**Transparent**	**Single**	**Context**	**System**
Privileged EXEC	•	•	•	•	•

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to enable logging and then disable logging only in the current session:

```
hostname# terminal monitor
hostname# terminal no monitor
```

Related Commands

Command	Description
clear configure terminal	Clears the terminal display width setting.
pager	Sets the number of lines to display in a Telnet session before the "`---more---`" prompt. This command is saved to the configuration.
show running-config terminal	Displays the current terminal settings.
terminal pager	Sets the number of lines to display in a Telnet session before the "`---more---`" prompt. This command is not saved to the configuration.
terminal width	Sets the terminal display width in global configuration mode.

terminal pager

To set the number of lines on a page before the "---more---" prompt appears for Telnet sessions, use the **terminal pager** command in privileged EXEC mode.

terminal pager [lines] *lines*

Syntax Description

[**lines**] *lines*	Sets the number of lines on a page before the "---more---" prompt appears. The default is 24 lines; 0 means no page limit. The range is 0 through 2147483647 lines. The **lines** keyword is optional and the command is the same with or without it.

Defaults

The default is 24 lines.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Privileged EXEC	•	•	•	•	•

Command History

Release	Modification
3.1(1)	This command was changed from the **pager** command; the **pager** command is now a global configuration mode command.

Usage Guidelines

This command changes the pager line setting only for the current Telnet session. To save a new default pager setting to the configuration, use the **pager** command.

If you Telnet to the admin context or session to the system execution space, then the pager line setting follows your session when you change to other contexts, even if the **pager** command in a given context has a different setting. To change the current pager setting, enter the **terminal pager** command with a new setting, or you can enter the **pager** command in the current context. In addition to saving a new pager setting to the context configuration, the **pager** command applies the new setting to the current Telnet session.

Examples

The following example changes the number of lines displayed to 20:

```
hostname# terminal pager 20
```

Related Commands

Command	Description
clear configure terminal	Clears the terminal display width setting.
pager	Sets the number of lines to display in a Telnet session before the "`---more---`" prompt. This command is saved to the configuration.
show running-config terminal	Displays the current terminal settings.
terminal	Allows system log messsages to display on the Telnet session.
terminal width	Sets the terminal display width in global configuration mode.

terminal width

To set the width for displaying information during console sessions, use the **terminal width** command in global configuration mode. To disable, use the **no** form of this command.

terminal width *columns*

no terminal width *columns*

Syntax Description

columns	Specifies the terminal width in columns. The default is 80. The range is 40 to 511.

Defaults

The default display width is 80 columns.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	•

Command History

Release	Modification
1.1(1)	This command was introduced.

Examples

This example shows how to terminal display width to 100 columns:

```
hostname# terminal width 100
```

Related Commands

Command	Description
clear configure terminal	Clears the terminal display width setting.
show running-config terminal	Displays the current terminal settings.
terminal	Sets the terminal line parameters in privileged EXEC mode.

test aaa-server

To check whether the FWSM can authenticate or authorize users with a particular AAA server, use the **test aaa-server** command in privileged EXEC mode. Failure to reach the AAA server may be due to incorrect configuration on the FWSM, or the AAA server may be unreachable for other reasons, such as restrictive network configurations or server downtime.

test aaa-server {**authentication** *server_tag* [**host** *ip_address*] [**username** *username*] [**password** *password*] | **authorization** *server_tag* [**host** *ip_address*] [**username** *username*]}

Syntax Description

authentication	Tests a AAA server for authentication capability.
authorization	Tests a AAA server for legacy VPN authorization capability.
host *ip_address*	Specifies the server IP address. If you do not specify the IP address in the command, you are prompted for it.
password *password*	Specifies the user password. If you do not specify the password in the command, you are prompted for it.
server_tag	Specifies the AAA server tag as set by the **aaa-server** command.
username *username*	Specifies the username of the account used to test the AAA server settings. Make sure the username exists on the AAA server; otherwise, the test will fail. If you do not specify the username in the command, you are prompted for it.

Defaults

No default behaviors or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Privileged EXEC	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The **test aaa-server** command lets you verify that the FWSM can authenticate users with a particular AAA server, and for legacy VPN authorization, if you can authorize a user. This command lets you test the AAA server without having an actual user who attempts to authenticate or authorize. It also helps you isolate whether AAA failures are due to misconfiguration of AAA server parameters, a connection problem to the AAA server, or other configuration errors on the FWSM.

Examples

The following example configures a RADIUS AAA server named srvgrp1 on host 192.168.3.4, sets a timeout of 9 seconds, sets a retry-interval of 7 seconds, and configures authentication port 1650. The **test aaa-server** command following the setup of the AAA server parameters indicates that the authentication test failed to reach the server.

```
hostname(config)# aaa-server svrgrp1 protocol radius
hostname(config-aaa-server-group)# aaa-server svrgrp1 host 192.168.3.4
hostname(config-aaa-server-host)# timeout 9
hostname(config-aaa-server-host)# retry-interval 7
hostname(config-aaa-server-host)# authentication-port 1650
hostname(config-aaa-server-host)# exit
hostname(config)# test aaa-server authentication svrgrp1
Server IP Address or name: 192.168.3.4
Username: bogus
Password: mypassword
INFO: Attempting Authentication test to IP address <192.168.3.4> (timeout: 10 seconds)
ERROR: Authentication Rejected: Unspecified
```

The following is sample output from the **test aaa-server** command with a successful outcome:

```
hostname# test aaa-server authentication svrgrp1 host 192.168.3.4 username bogus password
mypassword
INFO: Attempting Authentication test to IP address <10.77.152.85> (timeout: 12 seconds)
INFO: Authentication Successful
```

Related Commands

Command	Description
aaa authentication console	Configures authentication for management traffic.
aaa authentication match	Configures authentication for through traffic.
aaa-server	Creates a AAA server group.
aaa-server host	Adds a AAA server to a server group.

test regex

To test a regular expression, use the **test regex** command in privileged EXEC mode.

test regex *input_text regular_expression*

Syntax Description

input_text	Specifies the text that you want to match with the regular expression.
regular_expression	Specifies the regular expression up to 100 characters in length. See the **regex** command for a list of metacharacters you can use in the regular expression.

Defaults

No default behaviors or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Privileged EXEC	•	•	•	•	—

Command History

Release	Modification
4.0(1)	This command was introduced.

Usage Guidelines

The **test regex** command tests a regular expression to make sure it matches what you think it will match.

If the regular expression matches the input text, you see the following message:

```
INFO: Regular expression match succeeded.
```

If the regular expression does not match the input text, you see the following message:

```
INFO: Regular expression match failed.
```

Examples

The following example tests input text against a regular expression:

```
hostname# test regex farscape scape
INFO: Regular expression match succeeded.

hostname# test regex farscape scaper

INFO: Regular expression match failed.
```

Related Commands

Command	Description
class-map type inspect	Creates an inspection class map to match traffic specific to an application.
policy-map	Creates a policy map by associating the traffic class with one or more actions.
policy-map type inspect	Defines special actions for application inspection.
class-map type regex	Creates a regular expression class map.
regex	Creates a regular expression.

tftp-server

To specify the default TFTP server and path and filename for use with **configure net** or **write net** commands, use the **tftp-server** command in global configuration mode. To remove the server configuration, use the **no** form of this command. This command supports IPv4 and IPv6 addresses.

tftp-server *interface_name server filename*

no tftp-server [*interface_name server filename*]

Syntax Description

interface_name	Specifies the gateway interface name. If you specify an interface other than the highest security interface, a warning message informs you that the interface is unsecure.
server	Sets the TFTP server IP address or name. You can enter an IPv4 or IPv6 address.
filename	Specifies the path and filename.

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	•

Command History

Release	Modification
3.1(1)	The gateway interface is now required.

Usage Guidelines

The **tftp-server** command simplifies entering the **configure net** and **write net** commands. When you enter the **configure net** or **write net** commands, you can either inherit the TFTP server specified by the **tftp-server** command, or provide your own value. You can also inherit the path in the **tftp-server** command as is, add a path and filename to the end of the **tftp-server** command value, or override the **tftp-server** command value.

The FWSM supports only one **tftp-server** command.

Note With the **tftp-server** command configured to define an interface, the **copy** command will attempt to copy files from the interface specified. You can override that interface in the **copy** command using the **int** keyword.

Examples

This example shows how to specify a TFTP server and then read the configuration from the /temp/config/test_config directory:

```
hostname(config)# tftp-server inside 10.1.1.42 /temp/config/test_config
hostname(config)# configure net
```

Related Commands

Command	Description
configure net	Loads the configuration from the TFTP server and path you specify.
show running-config tftp-server	Displays the default TFTP server address and the directory of the configuration file.

timeout

To set the maximum idle time duration, use the **timeout** command in global configuration mode.

timeout {**xlate** | **conn** | **half-closed** | **udp** | **icmp** | **h225** | **h323** | **mgcp** | **mgcp-pat** | **sip** | **sip-disconnect** | **sip-invite** | **sip_media** | **sunrpc** | **uauth**} *hh*:*mm*:*ss*

Syntax Description

conn	Specifies the idle time after which a connection closes; the minimum duration is five minutes.
hh:*mm*:*ss*	Specifies the timeout.
h225	Specifies the idle time after which an H.225 signaling connection closes.
h323	Specifies the idle time after which H.245 (TCP) and H.323 (UDP) media connections close. The default is five minutes. **Note** Because the same connection flag is set on both H.245 and H.323 media connections, the H.245 (TCP) connection shares the idle timeout with the H.323 (RTP and RTCP) media connection.
half-closed	Specifies the idle time after which a TCP half-closed connection will be freed.
icmp	Specifies the idle time for ICMP.
mgcp	Sets the idle time after which an MGCP media connection is removed.
mgcp-pat	Sets the absolute interval after which an MGCP PAT translation is removed.
sip	Modifies the SIP timer.
sip-disconnect	Sets the idle time after which media is deleted and media xlates are closed. Range is from 1 to 10 minutes. Default is 2 minutes.
sip-invite	Sets the idle time after which pinholes for provisional responses and media xlates are closed. Range is from 1 to 30 minutes. Default is 3 minutes.
sip_media	Modifies the SIP media timer, which is used for SIP RTP/RTCP with SIP UDP media packets, instead of the UDP inactivity timeout.
sunrpc	Specifies the idle time after which a SUNRPC slot will be closed.
uauth	Sets the duration before the authentication and authorization cache times out and the user has to reauthenticate the next connection.
udp	Specifies the idle time until a UDP slot is freed; the minimum duration is one minute.
xlate	Specifies the idle time until a translation slot is freed; the minimum value is one minute.

Defaults

The defaults are as follows:

- **conn** *hh*:*mm*:*ss* is 1 hour (**01:00:00**).
- **h225** *hh*:*mm*:*ss* is 1 hour (**01:00:00**).
- **h323** *hh*:*mm*:*ss* is 1 hour (**01:00:00**).
- **half-closed** *hh*:*mm*:*ss* is 10 minutes (**00:10:00**).
- **icmp** *hh:mm:ss* is 2 minutes (**00:00:02**).

- **mgcp** *hh:mm:ss* is 5 minutes (**00:05:00**).
- **mgcp-pat** *hh:mm:ss* is 5 minutes (**00:05:00**).
- **sip** *hh:mm:ss* is 30 minutes (**00:30:00**).
- **sip-disconnect** *hh:mm:ss* is 2 minutes (**00:02:00**).
- **sip-invite** *hh:mm:ss* is 3 minutes (**00:03:00**).
- **sip_media** *hh:mm:ss* is 2 minutes (**00:02:00**).
- **sunrpc** *hh:mm:ss* is 10 minutes (**00:10:00**).
- **uauth** timer is **absolute**.
- **udp** *hh*:*mm*:*ss* is 2 minutes (**00:02:00**).
- **xlate** *hh*:*mm*:*ss* is 3 hours (**03:00:00**).

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	—

Command History

Release	Modification
1.1(1)	This command was introduced.
3.1(1)	The keyword **mgcp-pat** was added. The **rpc** keyword was changed to **sunrpc**.
3.2(1)	The keywords **sip-disconnect** and **sip-invite** were added.

Usage Guidelines

The **timeout** command lets you set the idle time for many processes. If the slot has not been used for the idle time specified, the resource is returned to the free pool. TCP connection slots are freed approximately 60 seconds after a normal connection close sequence.

Note Do not use the **timeout uauth 0:0:0** command if passive FTP is used for the connection or if the **virtual** command is used for web authentication.

The connection timer takes precedence over the translation timer; the translation timer works only after all connections have timed out.

When setting the **conn** *hh*:*mm*:*ss*, use **0:0:0** to never time out a connection.

When setting the **half-closed** *hh*:*mm*:*ss*, use **0:0:0** to never time out a half-closed connection.

When setting the **h255** *hh*:*mm*:*ss*, **h225 00:00:00** means to never tear down an H.225 signaling connection. A timeout value of **h225 00:00:01** disables the timer and closes the TCP connection immediately after all calls are cleared.

The **uauth** *hh*:*mm*:*ss* duration must be shorter than the **xlate** keyword. Set to **0** to disable caching. Do not set to zero if passive FTP is used on the connections.

To disable the **absolute** keyword, set the uauth timer to **0** (zero).

Examples

The following example shows how to configure the maximum idle time durations:

```
hostname(config)# timeout uauth 0:5:00 absolute uauth 0:4:00 inactivity
hostname(config)# show running-config timeout
timeout xlate 3:00:00
timeout conn 1:00:00 half-closed 0:10:00 udp 0:02:00 rpc 0:10:00 h323 0:05:00
sip 0:30:00 sip_media 0:02:00
timeout uauth 0:05:00 absolute uauth 0:04:00 inactivity
```

Related Commands

Command	Description
show running-config timeout	Displays the timeout value of the designated protocol.

timeout (aaa-server host)

To configure the host-specific maximum response time, in seconds, allowed before giving up on establishing a connection with the AAA server, use the **timeout** command in aaa-server host mode. To remove the timeout value and reset the timeout to the default value of 10 seconds, use the **no** form of this command.

timeout *seconds*

no timeout

Syntax Description

seconds	Specifies the timeout interval (1-60 seconds) for the request. This is the time after which the FWSM gives up on the request to the primary AAA server. If there is a standby AAA server, the FWSM sends the request to the backup server.

Defaults

The default timeout value is 10 seconds.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Aaa-server host configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

This command is valid for all AAA server protocol types.

Use the **timeout** command to specify the length of time during which the FWSM attempts to make a connection to a AAA server. Use the **retry-interval** command to specify the amount of time the FWSM waits between connection attempts.

The timeout is the total amount of time that the FWSM spends trying to complete a transaction with a server. The retry interval determines how often the communication is retried during the timeout period. Thus, if the retry interval is greater than or equal to the timeout value, you will see no retries. If you want to see retries, the retry interval musts be less than thte timeout value.

Examples

The following example configures a RADIUS AAA server named “svrgrp1” on host 1.2.3.4 to use a timeout value of 30 seconds, with a retry interval of 10 seconds. Thus, the FWSM tries the communication attempt three times before giving up after 30 seconds.

```
hostname(config)# aaa-server svrgrp1 protocol radius
```

```
hostname(config-aaa-server-group)# aaa-server svrgrp1 host 1.2.3.4
hostname(config-aaa-server-host)# timeout 30
hostname(config-aaa-server-host)# retry-interval 10
hostname(config-aaa-server-host)# exit
hostname(config)#
```

Related Commands

Command	Description
aaa-server host	Enters aaa server host configuration mode so that you can configure AAA server parameters that are host-specific.
clear configure aaa-server	Removes all AAA command statements from the configuration.
show running-config aaa	Displays the current AAA configuration values.

timeout (gtp-map)

To change the inactivity timers for a GTP session, use the **timeout** command in GTP map configuration mode, which is accessed by using the **gtp-map** command. Use the **no** form of this command to set these intervals to their default values.

timeout {**gsn** | **pdp-context** | **request** | **signaling** | **tunnel** } *hh:mm:ss*

no timeout {**gsn** | **pdp-context** | **request** | **signaling** | **tunnel** } *hh:mm:ss*

Syntax Description

hh:mm:ss	This is the timeout where *hh* specifies the hour, *mm* specifies the minutes, and *ss* specifies the seconds. The value 0 means never tear down immediately.
gsn	Specifies the period of inactivity after which a GSN will be removed.
pdp-context	Specifies the maximum period of time allowed before beginning to receive the PDP context.
request	Specifies the the maximum period of time allowed before beginning to receive the GTP message.
signaling	Specifies the period of inactivity after which the GTP signaling will be removed.
tunnel	Specifies the the period of inactivity after which the GTP tunnel will be torn down.

Defaults

The default is 30 minutes for **gsn**, **pdp-context**, and **signaling**.

The default for **request** is 1 minute.

The default for **tunnel** is 1 minute (in the case where a Delete PDP Context Request is not received).

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
GTP map configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The PDP context is identified by the TID, which is a combination of IMSI and NSAPI. Each MS can have up to 15 NSAPIs, allowing it to create multiple PDP contexts each with a different NSAPI, based on application requirements for varied QoS levels.

A GTP tunnel is defined by two associated PDP Contexts in different GSN nodes and is identified with a Tunnel ID. A GTP tunnel is necessary to forward packets between an external packet data network and a mobile station user.

Examples

The following example sets a timeout value for the request queue of 2 minutes:

```
hostname(config)# gtp-map gtp-policy
hostname(config-gtpmap)# timeout request 00:02:00
```

Related Commands

Commands	Description
clear service-policy inspect gtp	Clears global GTP statistics.
debug gtp	Displays detailed information about GTP inspection.
gtp-map	Defines a GTP map and enables GTP map configuration mode.
inspect gtp	Applies a specific GTP map to use for application inspection.
show service-policy inspect gtp	Displays the GTP configuration.

timeout pinhole

To configure the timeout for DCERPC pinholes and override the global system pinhole timeout of two minutes, use the **timeout pinhole** command in policy-map configuration mode. To disable this feature, use the **no** form of this command.

timeout pinhole *hh:mm:ss*

no timeout pinhole

Syntax Description

hh:mm:ss	The timeout for pinhole connections. Value is between 0:0:1 and 1193:0:0.

Defaults

This command is disabled by default.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Policy-map configuration	•	•	•	•	—

Command History

Release	Modification
3.2(1)	This command was introduced.

Examples

The following example shows how to configure the pinhole timeout for pin hole connections in a DCERPC inspection map:

```
hostname(config)# policy-map type inspect dcerpc dcerpc_map
hostname(config-pmap)# timeout pinhole 0:10:00
```

Related Commands

Command	Description
clear configure dcerpc-map	Clears DCERPC map configuration.
endpoint-mapper	Configures options for the endpoint mapper traffic.
show running-config dcerpc-map	Display all current DCERPC map configurations.

time-range

To enter time-range configuration mode and define a time range that you can attach to traffic rules, or an action, use the **time-range** command in global configuration mode. To disable, use the **no** form of this command.

time-range *name*

no time-range *name*

Syntax Description

name	Name of the time range. The name must be 64 characters or less.

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

Creating a time range does not restrict access to the device. The **time-range** command defines the time range only. After a time range is defined, you can attach it to traffic rules or an action.

To implement a time-based ACL, use the **time-range** command to define specific times of the day and week. Then use the with the **access-list extended time-range** command to bind the time range to an ACL.

The time range relies on the system clock of the FWSM; however, the feature works best with NTP synchronization.

Examples

The following example creates a time range named “New_York_Minute” and enters time range configuration mode:

```
hostname(config)# time-range New_York_Minute
hostname(config-time-range)#
```

After you have created a time range and entered time-range configuration mode, you can define time range parameters with the **absolute** and **periodic** commands. To restore default settings for the **time-range** command **absolute** and **periodic** keywords, use the **default** command in time-range configuration mode.

To implement a time-based ACL, use the **time-range** command to define specific times of the day and week. Then use the with the **access-list extended** command to bind the time range to an ACL. The following example binds an ACL named "Sales" to a time range named "New_York_Minute":

```
hostname(config)# access-list Sales line 1 extended deny tcp host 209.165.200.225 host
209.165.201.1 time-range New_York_Minute
hostname(config)#
```

See the **access-list extended** command for more information about ACLs.

Related Commands

Command	Description
absolute	Defines an absolute time when a time range is in effect.
access-list extended	Configures a policy for permitting or denying IP traffic through the FWSM.
default	Restores default settings for the **time-range** command **absolute** and **periodic** keywords.
periodic	Specifies a recurring (weekly) time range for functions that support the time-range feature.

timers lsa-group-pacing

To specify the interval at which OSPF link-state advertisements (LSAs) are collected into a group and refreshed, checksummed, or aged, use the **timers lsa-group-pacing** command in router configuration mode. To restore the default value, use the **no** form of this command.

timers lsa-group-pacing *seconds*

no timers lsa-group-pacing [*seconds*]

Syntax Description

seconds	The interval at which OSPF link-state advertisements (LSAs) are collected into a group and refreshed, checksummed, or aged. Valid values are from 10 to 1800 seconds.

Defaults

The default interval is 240 seconds.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Router configuration	•	—	•	—	—

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

To change the interval at which the OSPF link-state advertisements (LSAs) are collected into a group and refreshed, checksummed, or aged, use the **timers lsa-group-pacing** *seconds* command. To return to the default timer values, use the **no timers lsa-group-pacing** command.

Examples

The following example sets the group processing interval of LSAs to 500 seconds:

```
hostname(config-router)# timers lsa-group-pacing 500
hostname(config-router)#
```

Related Commands

Command	Description
router ospf	Enters router configuration mode.
show ospf	Displays general information about the OSPF routing processes.
timers spf	Specifies the shortest path first (SPF) calculation delay and hold time

timers spf

To specify the shortest path first (SPF) calculation delay and hold time, use the **timers spf** command in router configuration mode. To restore the default values, use the **no** form of this command.

timers spf *delay holdtime*

no timers spf [*delay holdtime*]

Syntax Description

delay	Specifies the delay time between when OSPF receives a topology change and when it starts a shortest path first (SPF) calculation in seconds, from 1 to 65535.
holdtime	The hold time between two consecutive SPF calculations in seconds; valid values are from 1 to 65535.

Defaults

The defaults are as follows:

- *delay* is 5 seconds.
- *holdtime* is 10 seconds.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Router configuration	•	—	•	—	—

Command History

Release	Modification
1.1(1)	This command was introduced.

Usage Guidelines

To configure the delay time between when the OSPF protocol receives a topology change and when it starts a calculation, and the hold time between two consecutive SPF calculations, use the **timers spf** command. To return to the default timer values, use the **no timers spf** command.

Examples

The following example sets the SPF calculation delay to 10 seconds and the SPF calculation hold time to 20 seconds:

```
hostname(config-router)# timers spf 10 20
hostname(config-router)#
```

Related Commands

Command	Description
router ospf	Enters router configuration mode.
show ospf	Displays general information about the OSPF routing processes.
timers lsa-group-pacing	Specifies the interval at which OSPF link-state advertisements (LSAs) are collected and refreshed, checksummed, or aged.

traffic-non-sip

To allow non-SIP traffic using the well-known SIP signaling port, use the **traffic-non-sip** command in parameters configuration mode. Parameters configuration mode is accessible from policy map configuration mode. To disable this feature, use the **no** form of this command.

traffic-non-sip

no traffic-non-sip

Syntax Description

This command has no arguments or keywords.

Defaults

This command is disabled by default.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Parameters configuration	•	•	•	•	—

Command History

Release	Modification
4.0(1)	This command was introduced.

Examples

The following example shows how to allow non-SIP traffic using the well-known SIP signaling port in a SIP inspection policy map:

```
hostname(config)# policy-map type inspect sip sip_map
hostname(config-pmap)# parameters
hostname(config-pmap-p)# traffic-non-sip
```

Related Commands

Command	Description
class	Identifies a class map name in the policy map.
class-map type inspect	Creates an inspection class map to match traffic specific to an application.
policy-map	Creates a Layer 3/4 policy map.
show running-config policy-map	Display all current policy map configurations.

transfer-encoding

To restrict HTTP traffic by specifying a transfer encoding type, use the **transfer-encoding** command in HTTP map configuration mode, which is accessible using the **http-map** command. To disable this feature, use the **no** form of this command.

transfer-encoding type {**chunked** | **compress** | **deflate** | **gzip** | **identity** | **default**} **action** {**allow** | **reset** | **drop**} [**log**]

no transfer-encoding type {**chunked** | **compress** | **deflate** | **gzip** | **identity** | **default**} **action** {**allow** | **reset** | **drop**} [**log**]

Syntax Description

action	Specifies the action taken when a connection using the specified transfer encoding type is detected.
allow	Allows the message.
chunked	Identifies the transfer encoding type in which the message body is transferred as a series of chunks.
compress	Identifies the transfer encoding type in which the message body is transferred using UNIX file compression.
default	Specifies the default action taken by the FWSM when the traffic contains a supported request method that is not on a configured list.
deflate	Identifies the transfer encoding type in which the message body is transferred using zlib format (RFC 1950) and deflate compression (RFC 1951).
drop	Closes the connection.
gzip	Identifies the transfer encoding type in which the message body is transferred using GNU zip (RFC 1952).
identity	Identifies connections in which the message body is no transfer encoding is performed.
log	(Optional) Generates a syslog.
reset	Sends a TCP reset message to client and server.
type	Specifies the type of transfer encoding to be controlled through HTTP application inspection.

Defaults

This command is disabled by default. When the command is enabled and a supported transfer encoding type is not specified, the default action is to allow the connection without logging. To change the default action, use the **default** keyword and specify a different default action.

Command Modes

The following table shows the modes in which you can enter the command:

Command Mode	Firewall Mode		Security Context		
				Multiple	
	Routed	Transparent	Single	Context	System
HTTP map configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

When you enable the **transfer-encoding** command, the FWSM applies the specified action to HTTP connections for each supported and configured transfer encoding type.

The FWSM applies the **default** action to all traffic that does *not* match the transfer encoding types on the configured list. The preconfigured **default** action is to **allow** connections without logging.

For example, given the preconfigured default action, if you specify one or more encoding types with the action of **drop** and **log**, the FWSM drops connections containing the configured encoding types, logs each connection, and allows all connections for the other supported encoding types.

If you want to configure a more restrictive policy, change the default action to **drop** (or **reset**) and **log** (if you want to log the event). Then configure each permitted encoding type with the **allow** action.

Enter the **transfer-encoding** command once for each setting you wish to apply. You use one instance of the **transfer-encoding** command to change the default action and one instance to add each encoding type to the list of configured transfer encoding types.

When you use the **no** form of this command to remove an application category from the list of configured application types, any characters in the command line after the application category keyword are ignored.

Examples

The following example provides a permissive policy, using the preconfigured default, which allows all supported application types that are not specifically prohibited.

```
hostname(config)# http-map inbound_http
hostname(config-http-map)# transfer-encoding gzip drop log
```

In this case, only connections using GNU zip are dropped and the event is logged.

The following example provides a restrictive policy, with the default action changed to reset the connection and to log the event for any encoding type that is not specifically allowed.

```
hostname(config)# http-map inbound_http
hostname(config-http-map)# port-misuse default action reset log
hostname(config-http-map)# port-misuse identity allow
```

In this case, only connections using no transfer encoding are allowed. When HTTP traffic for the other supported encoding types is received, the FWSM resets the connection and creates a syslog entry.

Related Commands

Commands	Description
class-map	Defines the traffic class to which to apply security actions.
debug appfw	Displays detailed information about traffic associated with enhanced HTTP inspection.
http-map	Defines an HTTP map for configuring enhanced HTTP inspection.
inspect http	Applies a specific HTTP map to use for application inspection.
policy-map	Associates a class map with specific security actions.

trust-point

To specify the name of a trustpoint that identifies the certificate to be sent to the IKE peer, use the **trust-point** command in tunnel-group ipsec-attributes mode. To eliminate a trustpoint specification, use the **no** form of this command.

trust-point *trust-point-name*

no trust-point *trust-point-name*

Syntax Description

trust-point-name	Specifies the name of the trustpoint to use.

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Tunnel-group ipsec-attributes configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

You can apply this attribute to all tunnel-group types.

Examples

The following example entered in config-ipsec configuration mode, configures a trustpoint for identifying the certificate to be sent to the IKE peer for the IPSec LAN-to-LAN tunnel group named 209.165.200.225:

```
hostname(config)# tunnel-group 209.165.200.225 type IPSec_L2L
hostname(config)# tunnel-group 209.165.200.225 ipsec-attributes
hostname(config-ipsec)# trust-point mytrustpoint
hostname(config-ipsec)#
```

Related Commands

Command	Description
clear configure tunnel-group	Clears all configured tunnel groups.
crypto ca trustpoint	Enters the trustpoint mode for the specified trustpoint.

Command	Description
show running-config tunnel-group	Shows the configuration for the indicated tunnel group or for all tunnel groups.
tunnel-group-map default-group	Associates the certificate map entries created using the **crypto ca certificate map** command with tunnel groups.

tunnel-group

To create and manage the database of connection-specific records for IPSec, use the **tunnel-group** command in global configuration mode. To remove a tunnel group, use the **no** form of this command.

tunnel-group *name* **type** *type*

no tunnel-group *name*

Syntax Description

name	Specifies the name of the tunnel group. This can be any string you choose. If the name is an IP address, it is usually the IP address of the peer.
type	Specifies the type of tunnel group: L2TP/IPSec— L2TP over IPSec ipsec-ra—IPSec remote access ipsec-l2l—IPsec LAN-to-LAN

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	—

Note The tunnel-group command is available in transparent firewall mode to allow configuration of a LAN-to-LAN tunnel group, but nat a remote-access gorup. All the tunnel-group commands that are available for LAN-to-LAN are also available in transparent firewall mode.

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The FWSM has two default tunnel groups: DefaultRAGroup, which is the default IPSec remote-access tunnel group, and DefaultL2Lgroup, which is the default IPSec LAN-to-LAN tunnel group. You can change them but not delete them. The FWSM uses these groups to configure default tunnel parameters for remote access and LAN-to-LAN tunnel groups when there is no specific tunnel group identified during tunnel negotiation.

The **tunnel-group** command has the following commands. Each of these commands puts you in a configuration mode for configuring the attributes at the level of the configuration mode.

- **tunnel-group general-attributes**

- tunnel-group ipsec-attributes
- tunnel-group ppp-attributes

Examples

The following example entered in global configuration mode, configures an IPSec LAN-to-LAN tunnel group. The name is the IP address of the LAN-to-LAN peer:

```
hostname(config)# tunnel-group 209.165.200.225 type ipsec-l2l
hostname(config)#
```

Related Commands

Command	Description
clear configure tunnel-group	Clears all configured tunnel groups.
show running-config tunnel-group	Shows the tunnel group configuration for all tunnel groups or for a particular tunnel group.
tunnel-group map	Associates the certificate map entries created using the **crypto ca certificate map** command with tunnel groups.

tunnel-group general-attributes

To enter the general-attribute configuration mode, use the **tunnel-group general-attributes** command in global configuration mode. This mode is used to configure settings that are common to all supported tunneling protocols.

To remove all general attributes, use the **no** form of this command.

tunnel-group *name* **general-attributes**

no tunnel-group *name* **general-attributes**

Syntax Description

general-attributes	Specifies attributes for this tunnel-group.
name	Specifies the name of the tunnel-group.

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	**Routed**	**Transparent**	**Single**	**Context**	**System**
Global configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The following table lists the commands belonging in this group and the tunnel-group type where you can configure them:

General Attribute	Availability by Tunnel-Group Type
accounting-server-group	IPSec RA, IPSec L2L, L2TP/IPSec
address-pool	IPSec RA, L2TP/IPSec
authentication-server-group	IPSec RA, L2TP/IPSec
authorization-server-group	IPSec RA, L2TP/IPSec
default-group-policy	IPSec RA, IPSec L2L, L2TP/IPSec
dhcp-server	IPSec RA, L2TP/IPSec
strip-group	IPSec RA, L2TP/IPSec
strip-realm	IPSec RA, L2TP/IPSec

Examples

The following example entered in global configuration mode, creates a tunnel group for an IPSec LAN-to-LAN connection using the IP address of the LAN-to-LAN peer, then enters general configuration mode for configuring general attributes. The name of the tunnel group is 209.165.200.225.

```
hostname(config)# tunnel-group 209.165.200.225 type IPSec_L2L
hostname(config)# tunnel-group 209.165.200.225 general
hostname(config-general)#
```

The following example entered in global configuration mode, creates a tunnel group named" remotegrp" for an IPSec remote access connection, and then enters general configuration mode for configuring general attributes for the tunnel group named "remotegrp":

```
hostname(config)# tunnel-group remotegrp type ipsec_ra
hostname(config)# tunnel-group remotegrp general
hostname(config-general)
```

Related Commands

Command	Description
clear configure tunnel-group	Clears all configured tunnel groups.
show running-config tunnel-group	Shows the configuration for the indicated tunnel group or for all tunnel groups.
tunnel-group-map default-group	Associates the certificate map entries created using the **crypto ca certificate map** command with tunnel groups.

tunnel-group ipsec-attributes

To enter the ipsec-attribute configuration mode, use the **tunnel-group ipsec-attributes** command in global configuration mode. This mode is used to configure settings that are specific to the IPSec tunneling protocol.

To remove all IPSec attributes, use the **no** form of this command.

tunnel-group *name* **ipsec-attributes**

no tunnel-group *name* **ipsec-attributes**

Syntax Description

ipsec-attributes	Specifies attributes for this tunnel-group.
name	Specifies the name of the tunnel-group.

Defaults

No default behavior or values.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	**Routed**	**Transparent**	**Single**	**Context**	**System**
Global configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The following commands belong in this group:

IPSec Attribute	Availability by Tunnel-Group Type
authorization-dn-attributes	IPSec RA
authorization-required	IPSec RA
chain	IPSec RA, IPSec L2L, L2TP/IPSec
client-update	IPSec RA
isakmp keepalive	IPSec RA
peer-id-validate	IPSec RA, IPSec L2L, L2TP/IPSec
pre-shared-key	IPSec RA, IPSec L2L, L2TP/IPSec
radius-with-expiry	IPSec RA
trust-point	IPSec RA, IPSec L2L, L2TP/IPSec

Examples

The following example entered in global configuration, creates a tunnel group for the IPSec remote-access tunnel group named remotegrp, and then specifies IPSec group attributes:

```
hostname(config)# tunnel-group remotegrp type ipsec_ra
hostname(config)# tunnel-group remotegrp ipsec-attributes
hostname(config-ipsec)
```

Related Commands

Command	Description
crypto ca certificate map	Enters CA certificate map mode.
subject-name (crypto ca certificate map)	Identifies the DN from the CA certificate that is to be compared to the rule entry string.
tunnel-group-map default-group	Designates an existing tunnel-group name as the default tunnel group.

tunnel-group-map default-group

The tunnel-group-map commands configure the policy and rules by which certificate-based IKE sessions are mapped to tunnel groups. To associate the certificate map entries, created using the **crypto ca certificate map** command, with tunnel groups, use the **tunnel-group-map** command in global configuration mode. You can invoke this command multiple times as long as each invocation is unique and you do not reference a map index more than once.

Use the **no** form of this command to eliminate a tunnel-group-map.

tunnel-group-map [*rule-index*] **default-group** *tunnel-group-name*

no tunnel-group-map [*rule-index*] **default-group** *tunnel-group-name*

Syntax Description

default-group *tunnel-group-name*	Specifies a default tunnel group to use when the name cannot be derived by other configured methods. The *tunnel-group name* must already exist.
rule index	(Optional) Refers to parameters specified by the **crypto ca certificate map** command. The values are 1 to 65535.

Defaults

The default value for the **tunnel-group-map default-group** is DefaultRAGroup.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	**Routed**	**Transparent**	**Single**	**Context**	**System**
Global configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The **crypto ca certificate map** command maintains a prioritized list of certificate mapping rules. There can be only one map. But this map can have up to 65535 rules. Refer to the documentation on the **crypto ca certificate map** command for more information.

The processing that derives the tunnel-group name from the certificate ignores entries in the certificate map that are not associated with a tunnel group (any map rule not identified by this command).

Examples

The following example entered in global configuration mode, specifies a default tunnel group to use when the name cannot be derived by other configured methods. The name of the tunnel group to use is group1.

```
hostname(config)# tunnel-group-map default-group group1
```

```
hostname(config)#
```

Related Commands

Command	Description
crypto ca certificate map	Enters CA certificate map mode.
subject-name (crypto ca certificate map)	Identifies the DN from the CA certificate that is to be compared to the rule entry string.

tunnel-group-map enable

The **tunnel-group-map enable** command in global configuration mode configures the policy and rules by which certificate-based IKE sessions are mapped to tunnel groups. Use the **no** form of this command to restore the default values.

tunnel-group-map [*rule-index*] **enable** *policy*

no tunnel-group-map [*rule-index*] **enable** *policy*

Syntax Description

policy	Specifies the policy for deriving the tunnel group name from the certificate. *Policy* can be one of the following: **ike-id**—Indicates that if a tunnel-group is not determined based on a rule lookup or taken from the organizational unit (OU), then the certificate-based IKE sessions are mapped to a tunnel group based on the content of the phase1 IKE ID. **ou**—Indicates that if a tunnel-group is not determined based on a rule lookup, then use the value of the organizational unit (OU) in the subject distinguished name (DN). **peer-ip**—Indicates that if a tunnel-group is not determined based on a rule lookup or taken from the OU or ike-id methods, then use the established peer IP address. **rules**—Indicates that the certificate-based IKE sessions are mapped to a tunnel group based on the certificate map associations configured by this command.
rule index	(Optional) Refers to parameters specified by the **crypto ca certificate map** command. The values are 1 to 65535.

Defaults

The default values for the **tunnel-group-map** command are **enable ou** and **default-group** set to DefaultRAGroup.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
Global configuration	•	•	•	•	

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

The **crypto ca certificate map** command maintains a prioritized list of certificate mapping rules. There can be only one map. But this map can have up to 65535 rules. Refer to the documentation on the **crypto ca certificate map** command for more information.

Examples

The following example enables mapping of certificate-based IKE sessions to a tunnel group based on the content of the phase1 IKE ID:

```
hostname(config)# tunnel-group-map enable ike-id
hostname(config)#
```

The following example enables mapping of certificate-based IKE sessions to a tunnel group based on the established IP address of the peer:

```
hostname(config)# tunnel-group-map enable peer-ip
hostname(config)#
```

The following example enables mapping of certificate-based IKE sessions based on the organizational unit (OU) in the subject distinguished name (DN):

```
hostname(config)# tunnel-group-map enable ou
hostname(config)#
```

The following example enables mapping of certificate-based IKE sessions based on established rules:

```
hostname(config)# tunnel-group-map enable rules
hostname(config)#
```

Related Commands

Command	Description
crypto ca certificate map	Enters CA certificate map mode.
subject-name (crypto ca certificate map)	Identifies the DN from the CA certificate that is to be compared to the rule entry string.

tunnel-limit

To specify the maximum number of GTP tunnels allowed to be active on the FWSM, use the **tunnel limit** command in GTP map configuration mode, which is accessed by using the **gtp-map** command. Use the **no** to set the tunnel limit back to its default.

tunnel-limit *max_tunnels*

no tunnel-limit *max_tunnels*

Syntax Description

max_tunnels	This is the maximum number of tunnels allowed. The ranges is from 1 to 4294967295 for the global overall tunnel limit.

Defaults

The default for the tunnel limit is 500.

Command Modes

The following table shows the modes in which you can enter the command:

	Firewall Mode		Security Context		
				Multiple	
Command Mode	Routed	Transparent	Single	Context	System
GTP map configuration	•	•	•	•	—

Command History

Release	Modification
3.1(1)	This command was introduced.

Usage Guidelines

New requests will be dropped once the number of tunnels specified by this command is reached.

Examples

The following example specifies a maximum of 10,000 tunnels for GTP traffic:

```
hostname(config)# gtp-map qtp-policy
hostname(config-gtpmap)# tunnel-limit 10000
```

Related Commands

Commands	Description
clear service-policy inspect gtp	Clears global GTP statistics.
debug gtp	Displays detailed information about GTP inspection.
gtp-map	Defines a GTP map and enables GTP map configuration mode.

Commands	Description
inspect gtp	Applies a specific GTP map to use for application inspection.
show service-policy inspect gtp	Displays the GTP configuration.