

Tunnel Interface Configuration Mode Commands

Command Modes

The Tunnel Interface Configuration Mode is used to create and manage the L2TP interface parameters within a specified context.

Exec > Global Configuration > Context Configuration > Ethernet Interface Configuration

configure > context *context_name* **> interface** *interface_name* **tunnel**

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-if-tunnel)#
```

Important Available commands or keywords/variables vary based on platform type, product version, and installed license(s).

- description, on page 2
- end, on page 2
- exit, on page 2
- ip address, on page 3
- ip ospf authentication-key, on page 4
- ip ospf authentication-type, on page 4
- ip ospf bfd, on page 5
- ip ospf cost, on page 6
- ip ospf dead-interval, on page 6
- ip ospf hello-interval, on page 7
- ip ospf message-digest-key, on page 8
- ip ospf network, on page 8
- ip ospf priority, on page 9
- ip ospf retransmit-interval, on page 10
- ip ospf transmit-delay, on page 11
- ip vrf, on page 11
- ipv6 address, on page 12
- tunnel-mode, on page 13

description

Sets the descriptive text for the current interface.

Product All

Privilege Security Administrator, Administrator

Syntax Description

```
description text
no description
```

no

Clears the description for the interface.

text

Specifies the descriptive text as an alphanumeric string of 0 through 79 characters.

Usage Guidelines Set the description to provide useful information on the interface's primary function, services, end users, etc. Any information useful may be provided.

Example

```
description sampleInterfaceDescriptiveText
```

end

Exits the current configuration mode and returns to the Exec mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description

```
end
```

Usage Guidelines Use this command to return to the Exec mode.

exit

Exits the current mode and returns to the parent configuration mode.

Product All

Privilege Security Administrator, Administrator

Syntax Description

```
exit
```

Usage Guidelines

Use this command to return to the parent configuration mode.

ip address

Specifies the primary and optional secondary IPv4 addresses and subnets for this interface.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

```
ip address ip_address { mask | /mask } [ secondary ip_address ] [ srp-activate
 ]
no ip address ip_address
```

no

Removes the IPv4 address from this interface.

***ip_address*{ mask | /*mask* }**

Configures the IPv4 address and mask for the interface. *ip_address* must be entered using IPv4 dotted-decimal notation. IPv4 dotted-decimal or CIDR notation is accepted for the mask.



Important For IPv4 addresses, 31-bit subnet masks are supported per RFC 3021.

secondary *ip_address*

Configures a secondary IPv4 address on the interface.



Important You must configure the primary IPv4 address before you will be allowed to configure a secondary address.

srp-activate

Activates the IP address for Interchassis Session Recovery (ICSR). Enable this IPv4 address when the Service Redundancy Protocol (SRP) determines that this chassis is ACTIVE. Requires an ICSR license on the chassis to activate.

Usage Guidelines

The following command specifies the primary IP address and subnets for this interface.

Example

The following example configures an IPv4 address for this interface:

```
ip address 192.154.3.5/24
```

ip ospf authentication-key

Configures the password for authentication with neighboring Open Shortest Path First (OSPF) routers.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf authentication-key [ encrypted ] password auth_key
no ip ospf authentication-key
```

no

Deletes the authentication key.

encrypted

Use this keyword if you are pasting a previously encrypted authentication key into the CLI command.

password *auth_key*

Specifies the password to use for authentication as an alphanumeric string of 1 through 16 characters entered in clear text format.

Usage Guidelines

Use this command to set the authentication key used when authenticating with neighboring routers.

Example

To set the authentication key to 123abc, use the following command;

```
ip ospf authentication-key password 123abc
```

Use the following command to delete the authentication key;

```
no ip ospf authentication-key
```

ip ospf authentication-type

Configures the OSPF authentication method to be used with OSPF neighbors over the logical interface.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf authentication-type { message-digest | null | text }
no ip ospf authentication-type { message-digest | null | text }
```

no

Disable this function.

message-digest

Uses the message digest (MD) authentication method.

null

Uses no authentication, thus disabling either MD or clear text methods.

text

Uses the clear text authentication method.

Usage Guidelines

Use this command to set the type of authentication to use when authenticating with neighboring routers.

Example

To set the authentication type to use clear text, enter the following command;

```
ip ospf authentication-type text
```

ip ospf bfd

Enables or disables OSPF Bidirectional Forwarding Detection (BFD) on this interface.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf bfd [ disable ]
no ip ospf cost
```

no

Disable this function.

disable

Disables OSPF BFD on this interface.

Usage Guidelines

Enable or disable OSPF Bidirectional Forwarding Detection (BFD) on this interface.

Example

Use the following command to enable OSPF BFD;

```
ip ospf bfd
```

ip ospf cost

Configures the cost associated with sending a packet over the OSPF logical interface.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf cost value
no ip ospf cost
```

no

Disable this function.

value

Specifies the cost to assign to OSPF packets as an integer from 1 through 65535. Default: 10

Usage Guidelines

Use this command to set the cost associated with routes from the interface.

Example

Use the following command to set the cost to *20*;

```
ip ospf cost 20
```

Use the following command to disable the cost setting;

```
no ip ospf cost
```

ip ospf dead-interval

Configures the interval that the router should wait, during which time no packets are received and after which the router considers a neighboring router to be off-line.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

`[ no ] ip ospf dead-interval` *`seconds`*

no

Returns the value to its default of 40 seconds.

seconds

Specifies the interval (in seconds) as an integer from 1 through 65535. This number is typical four times the hello-interval. Default: 40

Usage Guidelines

Use this command to set the dead intervals for OSPF communications.

Example

To set the dead-interval to *100*, use the following command;

```
ip ospf dead-interval 100
```

ip ospf hello-interval

Configures the interval (in seconds) between sending OSPF hello packets.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

`ip ospf hello-interval` *`seconds`*
`no ip ospf hello-interval`

no

Returns the value to its default of 10 seconds.

seconds

Specifies the number of seconds between sending hello packets as an integer from 1 through 65535. Default: 10

Usage Guidelines

Specify the interval (in seconds) between sending OSPF hello packets.

Example

To set the hello-interval to *25*, use the following command;

```
ip ospf hello-interval 25
```

ip ospf message-digest-key

Enables or disables the use of MD5-based OSPF authentication.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

ip ospf message-digest-key *key_id* **md5 [encrypted] password** *authentication_key*
no ip ospf message-digest-key *key_id*

no

Deletes the key.

message-digest-key *key_id*

Specifies the key identifier number as an integer from 1 through 255.

encrypted

Use this if you are pasting a previously encrypted authentication key into the CLI command.

password *authentication_key*

Specifies the password to use for authentication as an alphanumeric string of 1 through 16 characters entered in clear text format.

Usage Guidelines

Use this command to create an authentication key that uses MD5-based OSPF authentication.

Example

To create a key with the ID of *25* and a password of *123abc*, use the following command;

```
ip ospf message-digest-key 25 md5 password 123abc
```

To delete the same key, enter the following command;

```
no ip ospf message-digest-key 25
```

ip ospf network

Configures the Open Shortest path First (OSPF) network type.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf network { broadcast | non-broadcast | point-to-multipoint |
point-to-point }
no ip ospf network
```

no

Disable this function.

broadcast

Sets the network type to broadcast.

non-broadcast

Sets the network type to non-broadcast multi access (NBMA).

point-to-multipoint

Sets the network type to point-to-multipoint.

point-to-point

Sets the network type to point-to-point.

Usage Guidelines

Use this command to specify the OSPF network type.

Example

To set the OSPF network type to *broadcast*, enter the following command;

```
ip ospf network broadcast
```

To disable the OSPF network type, enter the following command;

```
no ip ospf network
```

ip ospf priority

Designates the OSPF router priority.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf priority value
no ip ospf priority value
```

no

Disable this function.

value

Sets the priority value as an integer from 0 through 255.

Usage Guidelines

Use this command to set the OSPF router priority.

Example

To set the priority to *25*, enter the following command:

```
ip ospf priority 25
```

To disable the priority, enter the following command:

```
no ip ospf priority
```

ip ospf retransmit-interval

Configures the interval in (seconds) between LSA (Link State Advertisement) retransmissions.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

```
ip ospf retransmit-interval seconds
no ip ospf retransmit-interval
```

no

Returns the value to its default of 5 seconds.

seconds

Specifies the number of seconds between LSA (Link State Advertisement) retransmissions as an integer from 1 through 65535. Default: 5

Usage Guidelines

Configure the interval in (seconds) between LSA (Link State Advertisement) retransmissions.

Example

To set the retransmit-interval to *10*, use the following command;

```
ip ospf retransmit-interval 10
```

ip ospf transmit-delay

Configures the interval (in seconds) that the router should wait before transmitting an OSPF packet.

Product

PDSN

HA

GGSN

Privilege

Security Administrator, Administrator

Syntax Description

ip ospf transmit-delay*seconds*
no ip ospf transmit-delay

no

Returns the value to its default of 1 second.

seconds

Specifies the number of seconds that the router should wait before transmitting a packet as an integer from 1 through 65535. Default: 1

Usage Guidelines

Configure the interval (in seconds) that the router should wait before transmitting an OSPF packet.

Example

To set the transmit-delay to 5, use the following command;

```
ip ospf transmit-delay 5
```

ip vrf

Associates this interface with a specific Virtual Routing and Forwarding (VRF) table.

Product

All

Privilege

Security Administrator, Administrator

Syntax Description

[no] ip vrf forwarding *vrf_name*

no

Removes the specified VRF table from this interface.

vrf_name

Specifies the name of an existing VRF table as an alphanumeric string of 1 through 63 characters.

Use the Context Configuration mode **ip vrf forwarding** command to preconfigure the VRF name.

Usage Guidelines The following command specifies a ranged IP address for this interface.

Example

The following example elasticities this interface with VRF named *vrf_012*:

```
ip vrf forwarding vrf_012
```

ipv6 address

Specifies an IPv6 address and subnet mask.

Product PDSN

HA

Privilege Security Administrator, Administrator

Syntax Description **[no] ipv6 address** *ipv6_address/mask*

no

Removes the IPv6 address from this interface.

ipv6_address/mask

Specifies an individual host IP address to add to this host pool in IPv6 colon-separated-hexadecimal CIDR notation.



Important On the ASR 5000, routes with IPv6 prefix lengths less than /12 and between the range of /64 and /128 are not supported.

Usage Guidelines Configures the IPv6 address and subnet mask for a specific interface.

Example

The following example configures an IPv6 address for this interface:

```
ipv6 address 2002:0:0:0:0:0:c014:101/128
```

tunnel-mode

Configures mode (transport protocol) of the tunnel.

Product

All products that support IPSec

Privilege

Security Administrator, Administrator

Syntax Description

```
tunnel-mode { gre | ipv6ip }
default tunnel-mode
```

default

Sets the default tunnel mode for this interface which is IPv6-to-IPv4 type.

gre

Sets the tunnel interface mode to Generic Routing Encapsulation (GRE) type and enters the GRE Tunnel Configuration mode, if required.



Important This keyword is only available if an optional GRE Interface Tunneling license is installed to create IP-GRE tunnels.

ipv6ip

Sets the tunnel interface mode to IPv6-to-IPv4 type and creates the IPv6-to-IPv4 Tunnel Configuration mode, if required. This is the default mode.

Usage Guidelines

Use this command to set the tunnel mode type of GRE or IPv6-to-IPv4 for the tunneling interface. For SaMOG (S2a Mobility Over GTP), use the **tunnel-mode gre** command to configure a GRE tunnel for the IP-over-GRE feature.

Example

The following example configures GRE tunnel-mode for this interface:

```
tunnel-mode gre
```