

Chapter 15

Summary of Layer 2 Tunneling Protocol Configuration Statements

The following sections explain each of the Layer 2 Tunneling Protocol (L2TP) statements. The statements are organized alphabetically.

dial-options

Syntax	dial-options { l2tp-interface-id <i>name</i> ; (shared dedicated); }
Hierarchy Level	[edit interfaces <i>sp-fpc/pic/port</i> unit <i>logical-unit-number</i>]
Description	Specify the L2TP options for configuring logical interfaces for group and user sessions.
Options	<p><i>l2tp-interface-id name</i>—Interface identifier that must be replicated at the [edit access profile <i>name</i>] hierarchy level.</p> <p>(shared dedicated)—Specifies whether a logical interface can host one (dedicated) or multiple (shared) sessions at one time.</p>
Usage Guidelines	See “Configuring the Logical Interface Identifier” on page 172.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

facility-override

Syntax	facility-override <i>facility-name</i> ;
Hierarchy Level	[edit services tunnel-group <i>group-name</i> syslog host <i>hostname</i>]
Description	Override the default facility for system log reporting.
Options	<p><i>facility-name</i>—Name of the facility that overrides the default assignment. Valid entries include:</p> <ul style="list-style-type: none"> authorization daemon ftp kernel local0 through local7 user
Usage Guidelines	See “Configuring System Log Properties” on page 170.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

hello-interval

Syntax	hello-interval <i>seconds</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the keepalive timer for L2TP tunnels.
Options	<p><i>seconds</i>—Interval, in seconds, after which the server sends a hello message if no messages are received. A value of 0 means that no hello messages are sent.</p> <p>Default: 60 seconds</p>
Usage Guidelines	See “Configuring Timers” on page 169.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

hide-avps

Syntax	hide-avps;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Hide L2TP attribute-value pairs if the secret shared between the two ends of the tunnel is known.
Default	Hidable attribute-value pairs are exposed even if the secret information is known.
Usage Guidelines	See “Hiding Attribute-Value Pairs” on page 170.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

host

Syntax	host <i>hostname</i> { services (Syslog) <i>severity-level</i> ; facility-override <i>facility-name</i> ; log-prefix <i>prefix-number</i> ; }
Hierarchy Level	[edit services tunnel-group <i>group-name</i> syslog]
Description	Specify the hostname for the system logging utility.
Options	<i>hostname</i> —Name of the system logging utility host machine. This can be the local Routing Engine or an external server address. The remaining statements are explained separately.
Usage Guidelines	See “Configuring System Log Properties” on page 170.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

l2tp-access-profile

Syntax	l2tp-access-profile <i>profile-name</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the profile used to validate all L2TP connection requests to the local gateway address.
Options	<i>profile-name</i> —Identifier for the L2TP connection profile.
Usage Guidelines	See “Configuring Access Profiles” on page 168.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

local-gateway address

Syntax	local-gateway address <i>address</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the local IP address for L2TP tunnel.
Options	<i>address</i> —Local IP address.
Usage Guidelines	See “Configuring Addressing” on page 168.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

log-prefix

Syntax	log-prefix <i>prefix-number</i> ;
Hierarchy Level	[edit services tunnel-group <i>group-name</i> syslog host <i>hostname</i>]
Description	Set the system logging prefix value.
Options	<i>prefix-number</i> —System logging prefix value.
Usage Guidelines	See “Configuring System Log Properties” on page 170.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

maximum-send-window

Syntax	maximum-send-window <i>packets</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the size of the send window for L2TP tunnels, which limits the remote end’s receive window size.
Options	<i>packets</i> —Maximum number of packets the send window can hold at one time. Default: 32
Usage Guidelines	See “Configuring Window Size” on page 169.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

ppp-access-profile

Syntax	ppp-access-profile <i>profile-name</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the profile used to validate all PPP session requests through L2TP tunnels established to the local gateway address.
Options	<i>profile-name</i> —Identifier for the PPP profile.
Usage Guidelines	See “Configuring Access Profiles” on page 168.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

receive-window

Syntax	receive-window <i>packets</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the size of the receive window for L2TP tunnels, which limits the number of packets the server processes concurrently.
Options	<i>packets</i> —Maximum number of packets the receive window can hold at one time. Default: 16
Usage Guidelines	See “Configuring Window Size” on page 169.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

retransmit-interval

Syntax	retransmit-interval <i>seconds</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the maximum retransmit interval for L2TP tunnels.
Options	<i>seconds</i> —Interval, in seconds, after which the server retransmits data if no acknowledgment is received. Default: 30 seconds
Usage Guidelines	See “Configuring Timers” on page 169.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

service-interface

Syntax	service-interface <i>sp-fpc/pic/port</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the AS PIC interface responsible for handling L2TP processing.
Options	<i>sp-fpc/pic/port</i> —AS PIC interface used for L2TP processing.
Usage Guidelines	See “Configuring Addressing” on page 168.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

services

See the following sections:

services (Hierarchy) on page 182

services (Syslog) on page 183

services (Hierarchy)

Syntax	services l2tp { ... }
Hierarchy Level	[edit]
Description	Define the service properties to be applied to traffic.
Options	l2tp—Identifies the L2TP set of services statements.
Usage Guidelines	See “Layer 2 Tunneling Protocol Services Configuration Guidelines” on page 163.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.

services (Syslog)

Syntax	<code>services severity-level;</code>
Hierarchy Level	[edit services tunnel-group <i>group-name</i> syslog host <i>hostname</i>]
Description	Specify the system logging severity level.
Options	<p><i>severity-level</i>—Assigns a severity level to the facility. Valid entries include:</p> <ul style="list-style-type: none"> alert—Conditions that should be corrected immediately. any—Matches any level. critical—Critical conditions. emergency—Panic conditions. error—Error conditions. info—Informational messages. notice—Conditions that require special handling. warning—Warning messages.
Usage Guidelines	See “Configuring System Log Properties” on page 170.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

syslog

Syntax	<pre>syslog { host <i>hostname</i> { services (Syslog) <i>severity-level</i>; facility-override <i>facility-name</i>; log-prefix <i>prefix-number</i>; } }</pre>
Hierarchy Level	[edit services l2tp tunnel-group <i>group-name</i>]
Description	Configure the generation of system log messages for L2TP services. System log information is passed to the kernel for logging in the /var/log/l2tpd directory.
Options	The remaining statements are described separately.
Usage Guidelines	See “Configuring System Log Properties” on page 170.
Required Privilege Level	<p>interface—To view this statement in the configuration.</p> <p>interface-control—To add this statement to the configuration.</p>

traceoptions

Syntax

```

traceoptions {
  debug-level level;
  filter {
    protocol name;
  }
  flag flag;
  interfaces interface-name {
    debug-level level;
    flag flag;
  }
}

```

Hierarchy Level [edit services l2tp]

Description Configure L2TP tracing operations. The messages are output to /var/log/l2tpd.

Options debug-level *level*—Trace level for PPP, L2TP, RADIUS, and UDP:

detail—Detailed debug information.

error—Errors only.

packet-dump—Packet decoding information.

filter protocol *name*—Additional filter for the specified protocol:

l2tp

ppp

radius

udp

flag *flag*—Tracing operation to perform:

all—Trace everything.

configuration—Trace configuration events.

protocol—Trace routing protocol events.

routing-socket—Trace routing socket events.

rpd—Trace routing protocol process events.

interfaces *interface-name*—Apply L2TP traceoptions to a specific Adaptive Services PIC interface.

debug-level *level*—Trace level for the interface:

detail—Detailed debug information.

error—Errors only.

extensive—All PIC debug information.

flag *flag*—Tracing operations for the interface:

all—Trace everything.

ipc—Trace L2TP Inter-Process Communication (IPC) messages between the PIC and the Routing Engine.

packet-dump—Dump each packet content based on debug level.

protocol—Trace L2TP, PPP, and multilink handling.

system—Trace packet processing on the PIC.

Usage Guidelines See “Tracing Layer 2 Tunneling Protocol Operations” on page 172.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

tunnel-group

Syntax tunnel-group *group-name* {
 hello-interval *seconds*;
 hide-avps;
 l2tp-access-profile *profile-name*;
 local-gateway address *address*;
 maximum-send-window *packets*;
 ppp-access-profile *profile-name*;
 receive-window *packets*;
 retransmit-interval *seconds*;
 service-interface *interface-name*;
 syslog {
 host *hostname* {
 services (Syslog) *severity-level*;
 facility-override *facility-name*;
 log-prefix *prefix-number*;
 }
 }
 tunnel-timeout *seconds*;
 }

Hierarchy Level [edit services l2tp]

Description Specify the L2TP tunnel properties.

Options *name*—Identifier for the tunnel group.

The remaining statements are explained separately.

Usage Guidelines See “Configuring a Tunnel Group” on page 167.

Required Privilege Level interface—To view this statement in the configuration.
interface-control—To add this statement to the configuration.

tunnel-timeout

Syntax	tunnel-timeout <i>seconds</i> ;
Hierarchy Level	[edit services l2tp tunnel-group <i>name</i>]
Description	Specify the maximum downtime for an L2TP tunnel, after which the tunnel is terminated because the connection is presumed to have been lost.
Options	<i>seconds</i> —Interval, in seconds, after which the tunnel is terminated if no data can be sent. Default: 120 seconds
Usage Guidelines	See “Configuring Timers” on page 169.
Required Privilege Level	interface—To view this statement in the configuration. interface-control—To add this statement to the configuration.