

# L2TPv3 Ethernet Pseudowire

## Feature Overview and Configuration Guide

### Introduction

This guide describes AlliedWare Plus™ L2TPv3 Ethernet pseudowire and its configuration.

L2TPv3 Ethernet pseudowires can be used to transport Ethernet frames across an IP backbone network, which connects Ethernet LANs together. A pseudowire is an emulation of a point-to-point connection over a Packet Switched Network (PSN).

### Products and software version that apply to this guide

This guide applies to AlliedWare Plus L2TPv3 Ethernet pseudowire, running version **5.4.5** or later.

To see whether a product supports L2TPv3 Ethernet pseudowire, see the following documents:

- The [product's Datasheet](#)
- The [AlliedWare Plus Datasheet](#)
- The product's [Command Reference](#)

These documents are available from the above links on our website at [alliedtelesis.com](http://alliedtelesis.com).

Feature support may change in later software versions. For the latest information, see the above documents.



AlliedWare Plus L2TPv3 Ethernet pseudowire supports the following features:

- Unmanaged L2TPv3 over UDP as specified in RFC3931
- Virtual Tunnel Interfaces (VTI) for L2TPv3 pseudowires
- Configurable delivery protocol (IPv4 default, IPv6 optional)
- Transports L2TP over UDP (source and destination ports of 1701)
- Ethernet as the payload as specified in RFC471
- Transports 802.1Q tagged Ethernet frames
- Supports 256 L2TPv3 tunnels
- Configurable tunnel source using IPv4 or IPv6 address
- Configurable tunnel source using interface
- Configurable tunnel destination using IPv4 or IPv6 address
- Configurable tunnel destination using host name
- Configurable local tunnel ID
- Configurable remote tunnel ID
- Local session ID defaults to tunnel ID
- Remote session ID defaults to tunnel ID
- Display of tunnel parameters in show interface output
- L2TPv3 VTIs support configurable MTU (defaults to 1488 bytes)
- A reachable IPv4 and IPv6 address can be configured on the L2TPv3 VTI
- L2TPv3 VTIs support dot1q sub interfaces
- L2TPv3 VTIs can be attached to bridges
- Sets the TTL field in the outer IP header to the default system TTL (64)
- Protection of L2TPv3-based VTI traffic using IPSec in transport mode

## Example: Configure L2TPv3 Ethernet pseudowire

This example shows how to configure L2TPv3 Ethernet pseudowire.

The following table lists the parameter values in the example. Note public IP addresses are used in this example.

Table 1: IP address allocation

	DEVICE A	DEVICE B
IP address of Ethernet interface eth1	1.1.1.1/30	2.2.2.2/30
tunnel source IP address	1.1.1.1	2.2.2.2
tunnel destination IP address	2.2.2.2	1.1.1.1
IP address of tunnel interface	172.168.1.1/24	172.168.1.2/24
tunnel local ID	77	88
tunnel remote ID	88	77

### Configure Device A

#### Step 1: Assign an IP address to eth1.

```
awplus# configure terminal
```

Enter the Global Configuration mode.

```
awplus(config)# interface eth1
```

Enter the Interface Configuration mode.

```
awplus(config-if)#ip address 1.1.1.1/30
```

Assign an IP address for interface eth1.

#### Step 2: Configure tunnel1.

```
awplus(config-if)#interface tunnel1
```

Create tunnel interface tunnel1.

```
awplus(config-if)#tunnel source 1.1.1.1
```

Create the tunnel source IP address.

```
awplus(config-if)#tunnel destination 2.2.2.2
```

Configure the tunnel destination IP address.

```
awplus(config-if)#tunnel local id 77
```

Configure the tunnel local ID.

```
awplus(config-if)#tunnel remote id 88
```

Configure the tunnel remote ID.

#### Step 3: Configure L2TPv3 as the encapsulation mode for the tunnel.

```
awplus(config-if)#tunnel mode l2tp v3
```

#### Step 4: Assign an IP address to the tunnel interface.

```
awplus(config-if)#ip address 172.168.1.1/24
```

## Configure Device B

### Step 1: Assign an IP address to eth1.

```
awplus#configure terminal
```

Enter Global Configuration mode.

```
awplus(config)#interface eth1
```

Enter the Interface Configuration mode.

```
awplus(config-if)#ip address 2.2.2.2/30
```

To assign an IP address for interface eth1.

### Step 2: Configure tunnel1.

```
awplus(config-if)#interface tunnel1
```

Create tunnel interface tunnel1.

```
awplus(config-if)#tunnel source 2.2.2.2
```

Create the tunnel source IP address.

```
awplus(config-if)#tunnel destination 1.1.1.1
```

Configure the tunnel destination IP address.

```
awplus(config-if)#tunnel local id 88
```

Configure the tunnel local ID.

```
awplus(config-if)#tunnel remote id 77
```

Configure the tunnel remote ID.

### Step 3: Configure L2TPv3 as the encapsulation mode for the tunnel.

```
awplus(config-if)#tunnel mode l2tp v3
```

### Step 4: Assign an IP address to the tunnel interface.

```
awplus(config-if)#ip address 172.168.1.2/24
```