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ADVANTECH L2TP Pseudowire Router App User Guide

L2TP Pseudowire Manual

Contents

L2TP Pseudowire Router App

Used symbols

 Danger – Information regarding user safety or potential damage to the router.

 Attention – Problems that can arise in specific situations.

 Information – Useful tips or information of special interest.

 Example – Example of function, command or script.

Changelog

1.1L2TP Pseudowire Changelog
v1.0.0 (2021-12-03)

- First release

v1.0.0 (2016-01-14)

- First release

v1.0.1 (2016-04-01)

- Added IP encapsulation

v1.0.2 (2016-04-27)

- Added l2spec_type and cookie values

v1.0.3 (2017-02-10)

- Used l2tp modules built-in kernel

v1.0.4 (2017-07-27)

- Fixed interface start and stop

v1.0.5 (2018-09-27)

- Added expected ranges of values to JavaSript error messages

v1.1.0 (2020-10-01)

- Updated CSS and HTML code to match firmware 6.2.0+

v1.1.1 (2021-08-23)

- Removed bridge settings on physical interfaces – it's handled by FW's init script

Basic Information

2.1 L2TP Pseudowire

In networking, a pseudowire (PW) refers to a mechanism that allows the encapsulation and forwarding of one type of network traffic over another type of network. L2TP pseudowire specifically refers to the use of L2TP (Layer 2 Tunneling Protocol) to establish a virtual connection between two endpoints over an IP or MPLS (Multiprotocol Label Switching) network, emulating the behavior of a point-to-point or multipoint Layer 2 circuit.

L2TP pseudowire is often used in service provider networks to provide Layer 2 connectivity between geographically dispersed customer sites. It enables the transport of Ethernet, Frame Relay, or ATM (Asynchronous Transfer Mode) frames over an IP or MPLS network. The use of L2TP pseudowires allows service providers to offer Layer 2 VPN services to their customers without the need for dedicated physical circuits between customer sites.

In summary, L2TP pseudowire is a technique that utilizes L2TP to create virtual Layer 2 connections over IP or MPLS networks, providing a flexible and cost-effective way to extend Layer 2 networks across different locations.

Router App Description

3.1 Web Interface

After Router App installation, the module's GUI can be invoked by clicking the router app name on the Router Apps page of router's web interface.

Left part of this GUI contains menu with Status menu section, Configuration menu section and Customization menu section. Customization menu section contains only the Return item, which switches back from the module's web page to the router's web configuration pages. The main menu of router app GUI is shown on Figure below.
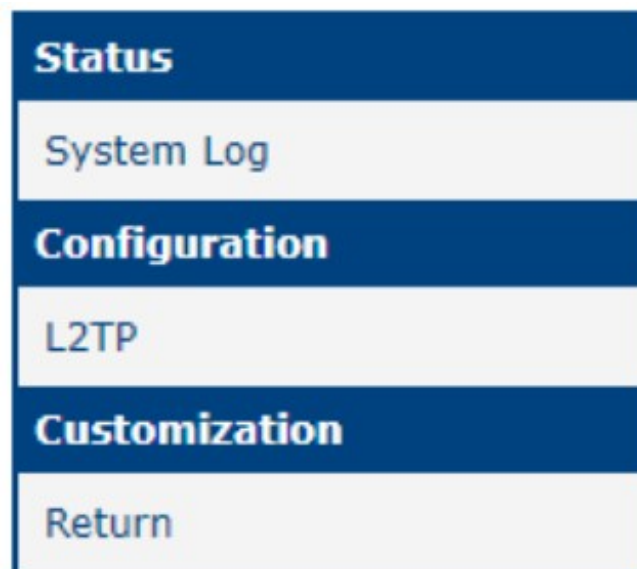

Figure 1: Menu

3.2 L2TP

Configuration menu section contains L2TP item where all the setting of this router app takes place.

L2TP Pseudowire Configuration

☑ Enable L2TP Pseudowire

Local IP Address	10.64.0.95
Remote IP Address	10.64.0.99
Encapsulation	ip ⌄
Tunnel ID	1000
Peer Tunnel ID	2000
UDP Source Port	
UDP Destination Port	
Session ID	3000
Peer Session ID	4000
Cookie *	
Peer Cookie *	
L2 Specific Header	default ⌄

Local Interface IP Address	10.64.0.95
Remote Interface IP Address	10.64.0.99

Bridged	no ⌄

* can be blank

[Apply]

Figure 2: L2TP Configuration

Item	Description
Enable L2TP Pseudowire	Enables L2TP Pseudowire functionality.
Local IP Address	IP Address of local device.
Remote IP Address	IP Address of remote device.
Encapsulation	• udp – this option enable UDP Source port and UDP Destination port • ip – this option disable UDP Source port and UDP Destination port
Tunnel ID	Numeral ID of the local tunnel
Peer Tunnel ID	Numeral ID of peer (remote) tunnel
UDP Source Port	Local UDP port
UDP Destination Port	Remote UDP port
Session ID	Local Session ID
Peer Session ID	Remote Session ID
Cookie	Local cookie value, 8 or 16 characters long, (Only characters 0-9, A-F, not case sensitive)
Peer Cookie	Remote cookie value
L2 Specific Header	• default • none
Local Interface IP Address	IP Address of local interface
Remote Interface IP Address	IP Address of remote interface
Bridged	Select if you want connection bridged or not

Table 1: L2TP Pseudowire Config Items
3.3System log
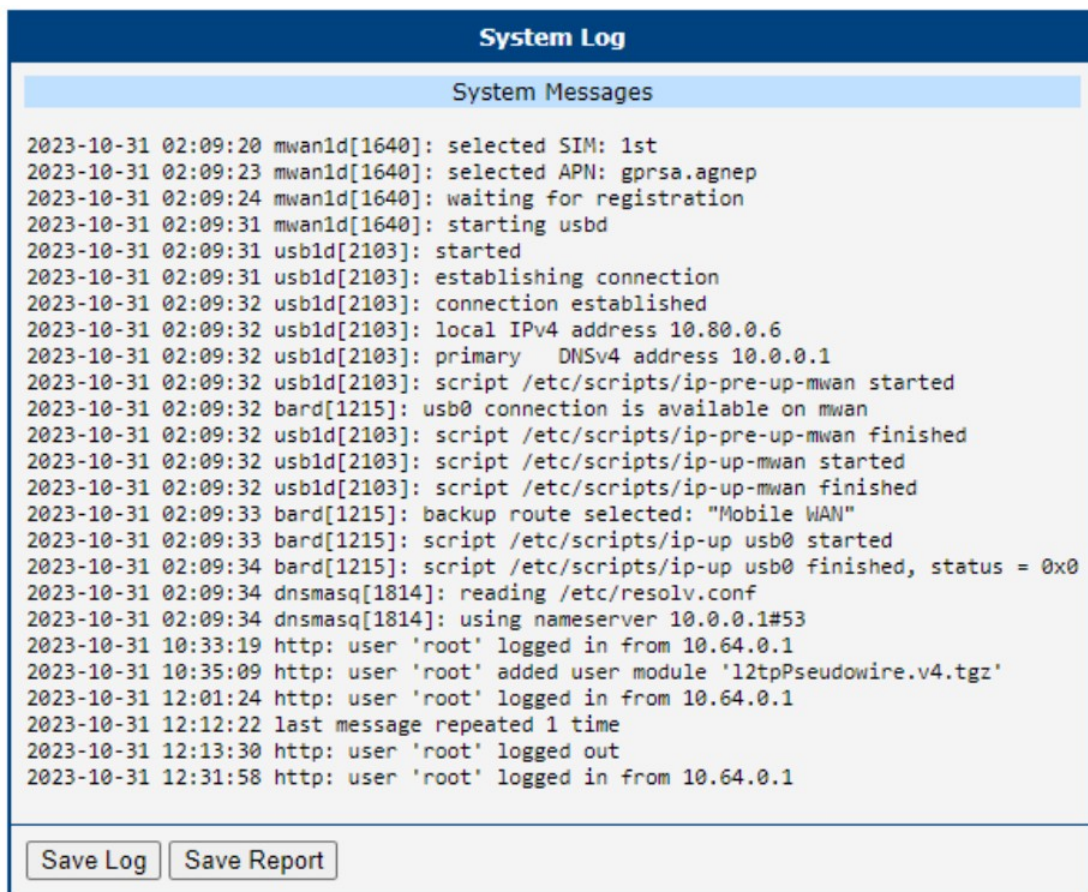System log section contains log messages.

Figure 3: System log

Example

You have 2 devices between which you want to create L2TP pseudowire. Each device have to have this router app installed and Config filled to reflect settings of other device.

Figure 4: Settings on 2 routers

After that, the L2TP tunnel is created, which can be confirmed by pinging other device

```
~ # ifconfig l2tpeth0
l2tpeth0   Link encap:Ethernet   HWaddr EA:6B:CF:92:D2:0A
           inet addr:10.0.10.1  Bcast:0.0.0.0  Mask:255.255.255.252
           inet6 addr: fe80::e86b:cfff:fe92:d20a/64 Scope:Link
           UP BROADCAST RUNNING MULTICAST  MTU:1488  Metric:1
           RX packets:18 errors:0 dropped:0 overruns:0 frame:0
           TX packets:22 errors:0 dropped:0 overruns:0 carrier:0
           collisions:0 txqueuelen:1000
           RX bytes:1684 (1.6 KB)  TX bytes:2060 (2.0 KB)

~ # ping 10.0.10.2 -c 4
PING 10.0.10.2 (10.0.10.2): 56 data bytes
64 bytes from 10.0.10.2: seq=0 ttl=64 time=0.476 ms
64 bytes from 10.0.10.2: seq=1 ttl=64 time=0.425 ms
64 bytes from 10.0.10.2: seq=2 ttl=64 time=0.435 ms
64 bytes from 10.0.10.2: seq=3 ttl=64 time=0.438 ms
```

Figure 5: Ping from local to remote device

```
~ # ifconfig l2tpeth0
l2tpeth0   Link encap:Ethernet   HWaddr 36:1C:BE:FF:F0:4B
           inet addr:10.0.10.2  Bcast:0.0.0.0  Mask:255.255.255.252
           inet6 addr: fe80::341c:beff:feff:f04b/64 Scope:Link
           UP BROADCAST RUNNING MULTICAST  MTU:1488  Metric:1
           RX packets:30 errors:0 dropped:0 overruns:0 frame:0
           TX packets:30 errors:0 dropped:0 overruns:0 carrier:0
           collisions:0 txqueuelen:1000
           RX bytes:2972 (2.9 KB)  TX bytes:2732 (2.6 KB)

~ # ping 10.0.10.1 -c 4
PING 10.0.10.1 (10.0.10.1): 56 data bytes
64 bytes from 10.0.10.1: seq=0 ttl=64 time=0.441 ms
64 bytes from 10.0.10.1: seq=1 ttl=64 time=0.420 ms
64 bytes from 10.0.10.1: seq=2 ttl=64 time=0.422 ms
64 bytes from 10.0.10.1: seq=3 ttl=64 time=0.426 ms
```

Figure 6: Ping from remote to local device

Related Documents

You can obtain product-related documents on Engineering Portal at icr.advantech.cz address.

To get your router's Quick Start Guide, User Manual, Configuration Manual, or Firmware go to the Router Models page, find the required model, and switch to the Manuals or Firmware tab, respectively.

The Router Apps installation packages and manuals are available on the Router Apps page.

For the Development Documents, go to the DevZone page.

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Documents / Resources

ADVANTECH L2TP Pseudowire Router App [pdf] User Guide
L2TP Pseudowire Router App, L2TP, Pseudowire Router App, Router App, App, App L2TP

References

- **A** **Advantech 4G, 5G Cellular Routers & Gateways for IoT applications - Engineering Portal**
- **A** **Advantech 4G, 5G Cellular Routers & Gateways for IoT applications - Engineering Portal**
- **A** **DevZone - Cellular Routers Engineering Portal**
- **A** **Router Apps - Cellular Routers Engineering Portal**
- **A** **Router Models - Cellular Routers Engineering Portal**