



**BLUENET**



**INTERNET**



**TRANSPORTE  
DE DATOS**



**FIBRA  
OSCURA**

**GUATEMALA • EL SALVADOR**



OFERTA EN STAND **MUM**

**INSCRIBETE HOY**  
EN NUESTROS PROXIMOS CURSOS  
Y OBTEN UN

**50%** DE DESCUENTO

[MikroTik@blue.net.gt](mailto:MikroTik@blue.net.gt)



**GUATEMALA**  
DEL 17 AL 22 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE

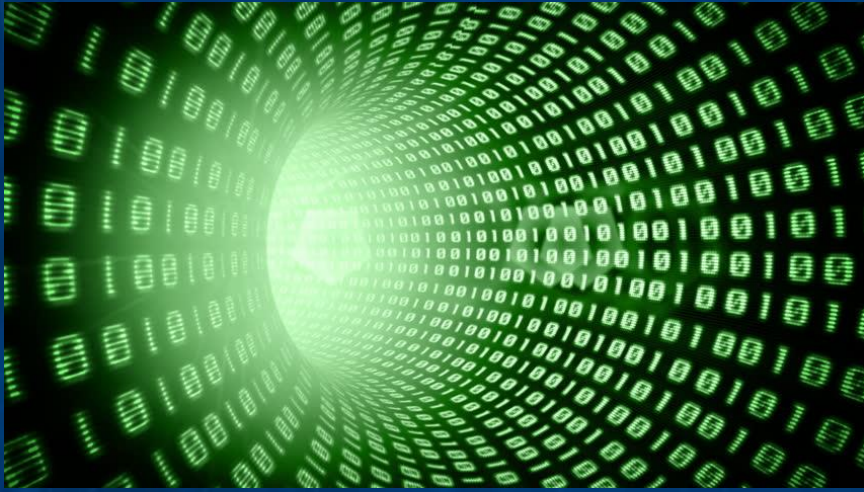
# MANUEL MUÑIZ

**MikroTik**  
CERTIFIED TRAINER

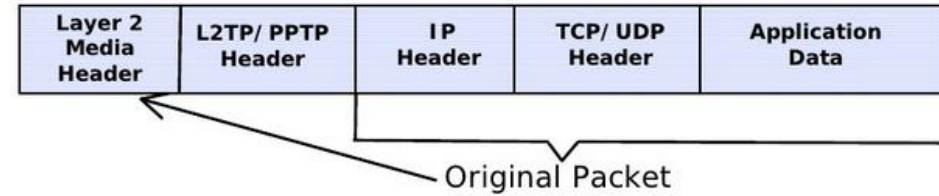




# **Túneles L2TP y EoIP Para Gestión y Conexión L2**



- Tunneling with L2TP



La encapsulación de datos es el proceso que agrega la información adicional del encabezado del protocolo a los datos antes de la transmisión. En la mayoría de las formas de comunicaciones de datos, los datos originales se encapsulan o envuelven en varios protocolos antes de transmitirse

# Túnel & Encapsulamiento

# VPN



Una red privada virtual (RPV), en inglés: Virtual Private Network (VPN), es una tecnología de red de ordenadores que permite una extensión segura de la red de área local (LAN) sobre una red pública o no controlada como Internet



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO



Session Settings Dashboard

Safe Mode Session: 172.16.99.1

Quick Set  
CAPsMAN  
Interfaces  
Wireless  
Bridge  
PPP  
Switch  
Mesh  
IP  
IPv6  
MPLS  
Routing  
System  
Queues  
Files  
Log  
Radius  
Tools  
New Terminal  
MetaROUTER  
Partition  
Make Supout.tif  
Manual  
New WinBox  
Exit

IPsec

Policies Groups Peers Remote Peers Mode Configs Proposals Installed SAs Keys

| A...      | Port | Propos... | Hash Al... | Encrypt... | Comment |
|-----------|------|-----------|------------|------------|---------|
| 0.0....   |      | obey      | sha1       | des 3d...  |         |
| X 181.... |      | obey      | sha1       | des 3d...  |         |

IPsec Peer <199.204.135.159>

General Advanced Encryption

Address: 199.205.135.156

Port: [ ]

Local Address: 190.114.89.250

Auth. Method: pre shared key

Exchange Mode: main

Passive

Secret: !goodPass@eso#creo

OK  
Cancel  
Apply  
Disable  
Comment  
Copy  
Remove

enabled responder



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE

- 255 IP
  - MPLS
  - Routing
  - System
  - Queues
  - Files
  - Log
  - Radius
  - Tools
  - New Terminal
  - MetaROUTER
  - Partition
  - Make Supout.rif
  - Manual
  - New WinBox
  - Exit
- ARP
  - Accounting
  - Addresses
  - Cloud
  - DHCP Client
  - DHCP Relay
  - DHCP Server
  - DNS
  - Firewall
  - Hotspot
  - IPsec**
  - Neighbors
  - Packing
  - Pool
  - Routes
  - SMB
  - SNMP
  - Services
  - Settings
  - Socks
  - TFTP

IPsec

Policies Groups Peers Remote Peers Mode Configs Proposals Installed SAs Keys Users

+ - ✓ ✗ 📁 🔍

| A...     | Port | Propos... | Hash Al... | Encrypt... | Comment       |
|----------|------|-----------|------------|------------|---------------|
| 0.0...   |      | obey      | sha1       | des 3d...  |               |
| X 181... |      | obey      | sha1       | des 3d...  |               |
| X 181... |      | obey      | sha1       | des 3d...  |               |
| X 199... |      | obey      | sha1       | 3des       | VPN-Fortigate |
| X 199... |      | obey      | sha1       | des 3d...  | Infranet-MK   |
| 199...   |      | obey      | sha1       | des 3d...  | Infranet-MK   |

IPsec Peer <199.204.135.159>

General Advanced Encryption

Hash Algorithm: sha1

Encryption Algorithm:
  des
  3des
  aes-128
  aes-192
  aes-256
  blowfish
  camellia-128
  camellia-192
  camellia-256

DH Group:
  modp768
  modp1024
  ec2n155
  ec2n185
  modp1536
  modp2048
  modp3072
  modp4096
  modp6144
  modp8192

OK Cancel Apply Disable Comment Copy Remove

enabled responder

IPsec Peer <199.204.135.159>

General Advanced Encryption

Policy Template Group: default

Send Initial Contact

NAT Traversal

My ID Type: auto

Mode Configuration:

Generate Policy: no

Lifetime: 00:30:00

Lifeytes:

DPD Interval: 120 s

DPD Maximum Failures: 5

Proposal Check: obey

Compatibility Options:  skip peer id validation

OK Cancel Apply Disable Comment Copy Remove

enabled responder



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

IPsec

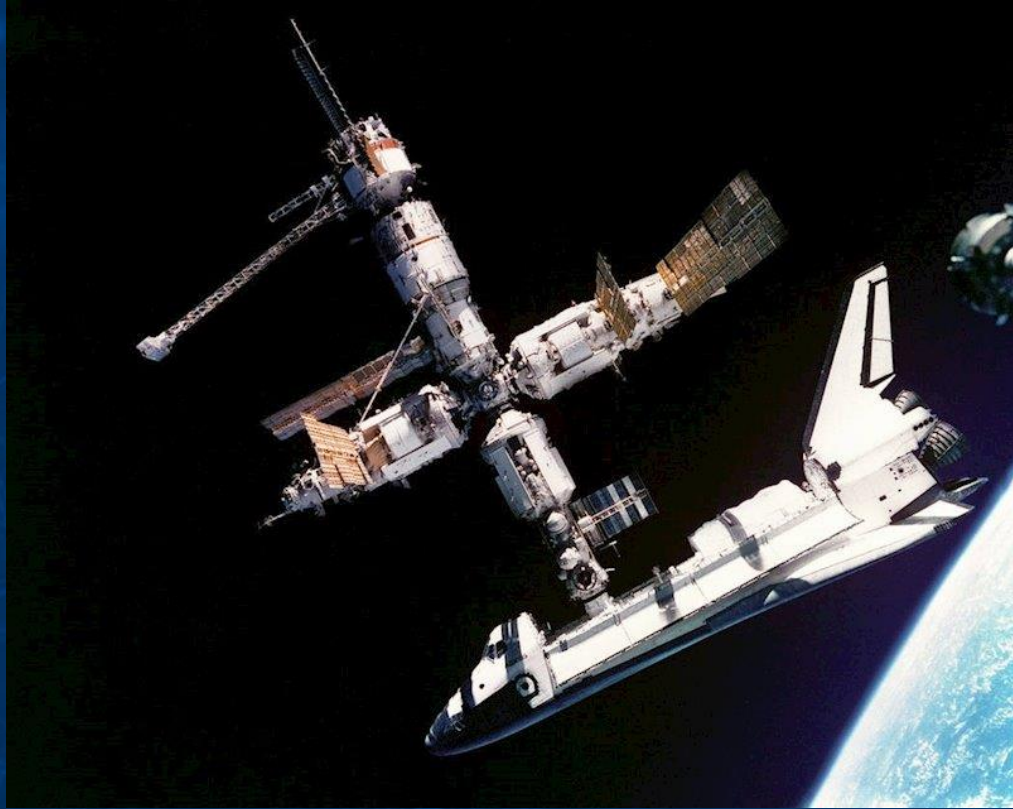
Policies Groups Peers Remote Peers Mode Configs Proposals Installed SAs Keys Users

Statistics

| #    | Src. Address      | Src. Port | Dst. Address   | Dst. Port | Protocol  | Action  | Level  | Tunnel | PH2 State   | Comment          |
|------|-------------------|-----------|----------------|-----------|-----------|---------|--------|--------|-------------|------------------|
| 38 A | 10.10.1.0/24      |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 41 A | 10.10.4.0/24      |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 42 A | 10.10.12.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 57 A | 10.10.40.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 44 A | 10.10.66.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 37 A | 10.20.30.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 36 A | 10.20.60.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 43 A | 10.20.61.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 45 A | 10.30.30.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 46 A | 40.40.40.8/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 47 A | 45.30.60.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 48 A | 50.60.70.0/28     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 49 A | 60.60.60.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 50 A | 70.70.70.8/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 51 A | 75.75.75.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 52 A | 76.76.76.0/28     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 53 A | 77.77.77.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 54 A | 89.89.89.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 33 A | 170.80.20.0/22    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 55 A | 172.16.24.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 31 A | 172.16.95.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 32 A | 172.16.98.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 28 A | 172.16.99.0/24    |           | 199.119.237... |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 30 A | 172.16.99.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 56 A | 172.24.10.0/29    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet2 |
| 34 A | 190.113.88.0/22   |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 40 A | 190.151.130.64/29 |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 39 A | 190.151.130.72/29 |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 35 A | 200.12.56.96/27   |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    | established | Phase2-InfraNet  |
| 11 X | 10.10.1.0/24      |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 12 X | 10.10.4.0/24      |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 27 X | 10.10.40.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 14 X | 10.10.66.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 10 X | 10.20.30.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 9 X  | 10.20.60.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 13 X | 10.20.61.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 15 X | 10.30.30.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 16 X | 40.40.40.8/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 17 X | 45.30.60.0/24     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 18 X | 50.60.70.0/28     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 19 X | 60.60.60.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 20 X | 70.70.70.8/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 21 X | 75.75.75.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 22 X | 76.76.76.0/28     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 23 X | 77.77.77.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 24 X | 89.89.89.0/29     |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 6 X  | 170.80.20.0/22    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 25 X | 172.16.24.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |
| 4 X  | 172.16.95.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 5 X  | 172.16.98.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 1 X  | 172.16.99.0/24    |           | 199.119.237... |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 3 X  | 172.16.99.0/24    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 2 X  | 172.16.99.0/24    |           | 199.204.135... |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 29 X | 172.16.99.0/24    |           | 199.204.135... |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet  |
| 26 X | 172.24.10.0/29    |           | 10.111.3.0/24  |           | 255 (all) | encrypt | unique | yes    |             | Phase2-InfraNet2 |

58 items

# Túnel Ruteado L3



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE

# Túnel L2

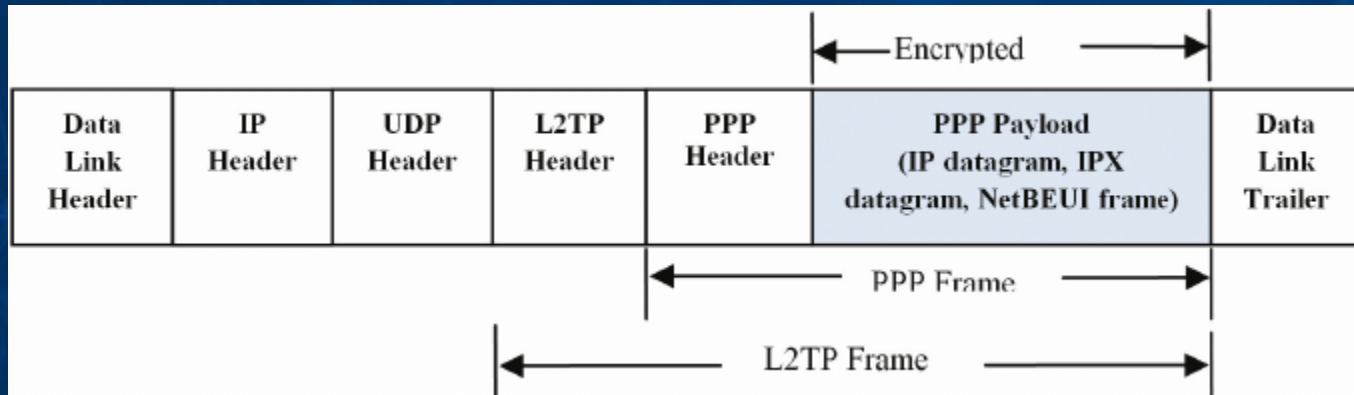


**HONDURAS**  
DEL 3 AL 8 DE FEBRERO



# L2TP

**L2TP** (*Layer 2 Tunneling Protocol*) es un protocolo utilizado por redes privadas virtuales que fue diseñado por un grupo de trabajo de [IETF](#) como el heredero aparente de los [protocolos PPTP](#) y [L2F](#), creado para corregir las deficiencias de estos protocolos y establecerse como un estándar aprobado por el IETF ([RFC 2661](#))



L2TP es en realidad una variación de un protocolo de encapsulamiento IP. Un túnel L2TP se crea encapsulando una trama L2TP en un paquete UDP, el cual es encapsulado a su vez en un paquete IP, cuyas direcciones de origen y destino definen los extremos del túnel. Siendo el protocolo de encapsulamiento más externo IP, los protocolos IPsec pueden ser utilizados sobre este paquete protegiendo así la información que se transporta por el túnel.

## L2TP Message Header

Townsley, et al.

Standards Track

[Page 9]

RFC 2661

L2TP

August 1999

This header is formatted:

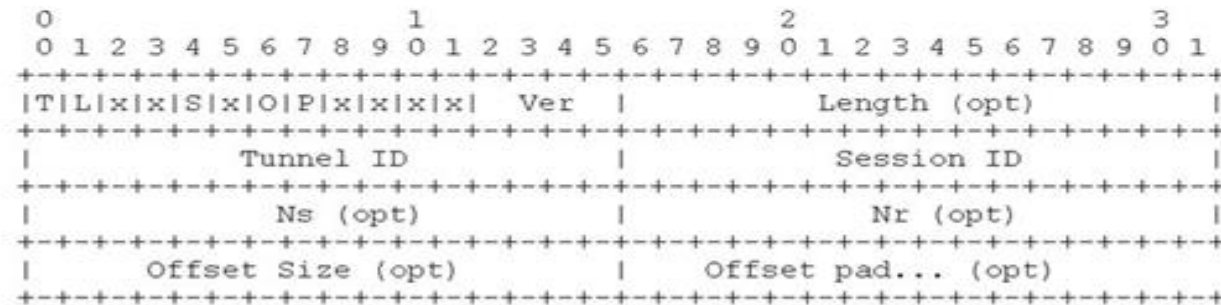
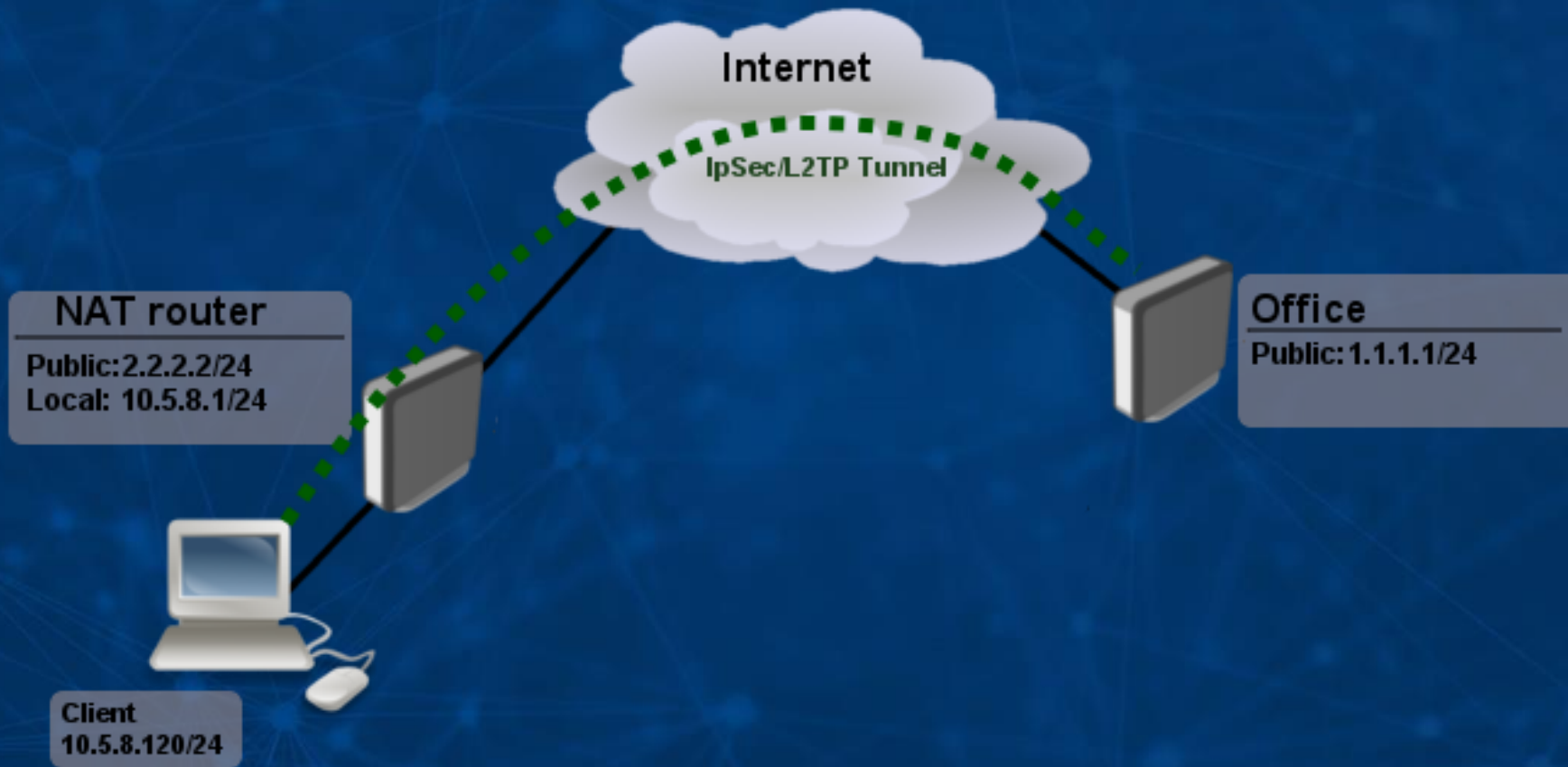


Figure 3.1 L2TP Message Header

The Type (T) bit indicates the type of message. It is set to 0 for a data message and 1 for a control message.



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP**
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

PPP

Interface: PPPoE Servers Secrets Profiles Active Connections **L2TP Secrets**

PPP Scanner PPTP Server SSTP Server **L2TP Server** OVPN Server PPPoE Scan

Name: contains mmz

| Name             | Type                | Actual MTU | L2 MTU | Tx       | Rx       | Tx Packet (p/s) | Rx Packet (p/s) | FP Tx | FP Rx | FP Tx Packet (p/s) |
|------------------|---------------------|------------|--------|----------|----------|-----------------|-----------------|-------|-------|--------------------|
| DR << <l2tp-mmz> | L2TP Server Binding | 1450       |        | 1088 bps | 3.5 kbps | 2               | 5               | 0 bps | 0 bps | 0                  |

1 item out of 29 (1 selected)

L2TP Server

Enabled

Max MTU: 1450

Max MRU: 1450

MRRU: [dropdown]

Keepalive Timeout: 30

Default Profile: default-encryption

Max Sessions: [dropdown]

Authentication:  mschap2  mschap1  
 chap  pap

Use IPsec: no

IPsec Secret: [password field]

Caller ID Type: ip address

One Session Per Host

Allow Fast Path

OK Cancel Apply



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

PPP

Interface PPPoE Servers Secrets Profiles Active Connections L2TP Secrets

PPP Authentication & Accounting

Name contains mmz

| Name | Password | Service | Caller ID | Profile | Local Address | Remote Address | Last Logged Out      | Comment |
|------|----------|---------|-----------|---------|---------------|----------------|----------------------|---------|
| mmz  | *****    | l2tp    |           | MMZ     |               |                | Jan/11/2020 16:30:40 |         |
| mmz2 | *****    | sstp    |           | MMZ2    |               |                |                      |         |

PPP Secret <mmz>

Name: mmz

Password: \*\*\*\*\*

Service: l2tp

Caller ID:

Profile: MMZ

Local Address:

Remote Address:

Remote IPv6 Prefix:

Routes:

Limit Bytes In:

Limit Bytes Out:

Last Logged Out: Jan/11/2020 16:30:40

enabled

PPP Profile <MMZ>

General Protocols Limits Queue Scripts

Name: MMZ

Local Address: 172.16.95.10

Remote Address: 172.16.95.100

Remote IPv6 Prefix Pool:

DHCPv6 PD Pool:

Bridge: Bridge-Blue-LAN

Bridge Port Priority:

Bridge Path Cost:

Bridge Horizon:

Incoming Filter:

Outgoing Filter:

Address List:

Interface List:

DNS Server: 8.8.8.8

190.151.130.75

WINS Server:

- Change TCP MSS

no  yes  default

- Use UPnP

no  yes  default



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

PPP

Interface PPPoE Servers Secrets Profiles Active Connections L2TP Secrets

Find

Name contains MMZ Filter

| Name | Local Address | Remote Address | Bridge       | Rate Limit | Only One | Comment |
|------|---------------|----------------|--------------|------------|----------|---------|
| MMZ  | 172.16.95.10  | 172.16.95.100  | Bridge-Bl... |            | default  |         |
| MMZ2 | 172.16.95.10  | 172.16.95.108  | Bridge-Bl... |            | default  |         |

2 items out of 21 (1 selected)

Interface <<2p-mmz>>

General Status Traffic

Tx/Rx Rate: 1080 bps / 3.5 kbps

Tx/Rx Packet Rate: 2 p/s / 5 p/s

FP Tx/Rx Rate: 0 bps / 0 bps

FP Tx/Rx Packet Rate: 0 p/s / 0 p/s

Tx/Rx Bytes: 106.9 MiB / 252.5 MiB

Tx/Rx Packets: 1 133 425 / 1 503 415

Tx/Rx Drops: 0 / 0

Tx/Rx Errors: 0 / 0

dynamic enabled running slave Status: connected

PPP Profile <MMZ>

General Protocols Limits Queue Scripts

Session Timeout: [dropdown]

Idle Timeout: [dropdown]

Rate Limit (p/tx): 3M/3M

Only One  
 no  yes  default

OK Cancel Apply Comment Copy Remove

PPP Profile <MMZ>

General Protocols Limits Queue Scripts

Insert Queue Before: [dropdown]

Parent Queue: [dropdown]

Queue Type: [dropdown]

OK Cancel Apply Comment Copy Remove

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

PPP

Interface | PPPoE Servers | Secrets | Profiles | Active Connections | L2TP Secrets

PPP Scanner | PPTP Server | SSTP Server | L2TP Server | OVPN Server | PPPoE Scan

Name: <input type="text" value="<2tp-mmz>" /> contains: <input type="text" value="mmz" /> Filter

| Name         | Type                | Actual MTU | L2 MTU | Tx       | Rx       | Tx Packet (p/s) | Rx Packet (p/s) | FP Tx | FP Rx | FP Tx Packet (p/s) |
|--------------|---------------------|------------|--------|----------|----------|-----------------|-----------------|-------|-------|--------------------|
| DR <2tp-mmz> | L2TP Server Binding | 1450       |        | 1088 bps | 3.5 kbps | 2               | 5               | 0 bps | 0 bps | 0                  |

1 item out of 28 (1 selected)

PPP Active User <mmz>

General

Name: mmz

Service: l2tp

Caller ID: 186.151.92.55

Encoding: MPPE128 stateless

Address: 172.16.95.100

Uptime: 3d 03:50:27

Session ID: 81100309 hex

Limit Bytes In: <input type="text" value="" />

Limit Bytes Out: <input type="text" value="" />

local

OK Remove Ping

Interface <<2tp-mmz>>

General | Status | Traffic

Last Link Down Time: <input type="text" value="" />

Last Link Up Time: Jan/11/2020 16:31:21

Link Downs: 0

Uptime: 3d 03:50:28

User: mmz

Caller ID: 186.151.92.55

Encoding: MPPE128 stateless

MTU: 1450

MRU: 1450

Local Address: 172.16.95.10

Remote Address: 172.16.95.100

dynamic enabled running slave Status: connected

OK Copy Remove Torch

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

PPP

Interface PPPoE Servers Secrets Profiles Active Connections L2TP Secrets

PPP Scanner PPTP Server SSTP Server L2TP Server OVPN Server PPPoE Scan Find

| Interface            | Actual MTU | L2 MTU | Tx | Rx       | Tx Packet (p/s) | Rx Packet (p/s) | FP Tx | FP Rx | FP Tx Packet (p/s) | FP Rx Packet (p/s) | Comment |
|----------------------|------------|--------|----|----------|-----------------|-----------------|-------|-------|--------------------|--------------------|---------|
| PPP Server           |            |        |    |          |                 |                 |       |       |                    |                    |         |
| PPP Client           | 1450       |        |    | 1088 bps | 1024 bps        | 2               | 2     | 0 bps | 0 bps              | 0                  | 0       |
| PPTP Server Binding  |            |        |    | 0 bps    | 0 bps           | 0               | 0     | 0 bps | 0 bps              | 0                  | 0       |
| PPTP Client          |            |        |    | 0 bps    | 0 bps           | 0               | 0     | 0 bps | 0 bps              | 0                  | 0       |
| SSTP Server Binding  | 1450       |        |    | 1632 bps | 0 bps           | 3               | 0     | 0 bps | 0 bps              | 0                  | 0       |
| SSTP Client          | 1450       |        |    | 1088 bps | 0 bps           | 2               | 0     | 0 bps | 0 bps              | 0                  | 0       |
| L2TP Server Binding  |            |        |    | 0 bps    | 0 bps           | 0               | 0     | 0 bps | 0 bps              | 0                  | 0       |
| L2TP Client          |            |        |    |          |                 |                 |       |       |                    |                    |         |
| OVPN Server Binding  |            |        |    |          |                 |                 |       |       |                    |                    |         |
| OVPN Client          |            |        |    |          |                 |                 |       |       |                    |                    |         |
| PPPoE Server Binding |            |        |    |          |                 |                 |       |       |                    |                    |         |
| PPPoE Client         |            |        |    |          |                 |                 |       |       |                    |                    |         |

- PPP Server
- PPP Client
- PPTP Server Binding
- PPTP Client
- SSTP Server Binding
- SSTP Client
- L2TP Server Binding
- L2TP Client**
- OVPN Server Binding
- OVPN Client
- PPPoE Server Binding
- PPPoE Client

New Interface

General Dial Out Status Traffic

Connect To: 0.0.0.0

User:

Password:

Profile: default-encryption

Keepalive Timeout: 60

Use IPsec

IPsec Secret:

Allow Fast Path

Dial On Demand

Add Default Route

Default Route Distance: 1

Allow:  mschap2  mschap1  chap  pap

enabled running slave Status:

Interface <2p-out6>

General Dial Out Status Traffic

Connect To: 201.216.128.116

User: MMz

Password:

Profile: default-encryption

Keepalive Timeout: 60

Use IPsec

IPsec Secret:

Allow Fast Path

Dial On Demand

Add Default Route

Default Route Distance: 0

Allow:  mschap2  mschap1  chap  pap

enabled running slave Status: connected

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

PPP

Interface PPPoE Servers Secrets Profiles Active Connections L2TP Secrets

PPP Scanner PPTP Server SSTP Server L2TP Server OVPN Server PPPoE Scan

|   | Name               | Type        | Actual MTU | L2 MTU | Tx        | Rx         | Tx Packet (p/s) | Rx Packet (p/s) | FP Tx | FP Rx | FP Tx Pack |
|---|--------------------|-------------|------------|--------|-----------|------------|-----------------|-----------------|-------|-------|------------|
| R | <->l2tp-out1       | L2TP Client | 1450       |        | 16.9 kbps | 301.5 kbps | 26              | 32              | 0 bps | 0 bps | 0 bps      |
| X | <->l2tp-out2       | L2TP Client |            |        | 0 bps     | 0 bps      | 0               | 0               | 0 bps | 0 bps | 0 bps      |
| X | <->l2tp-out3       | L2TP Client |            |        | 0 bps     | 0 bps      | 0               | 0               | 0 bps | 0 bps | 0 bps      |
| X | <->l2tp-out4       | L2TP Client |            |        | 0 bps     | 0 bps      | 0               | 0               | 0 bps | 0 bps | 0 bps      |
| R | <->l2tp-out5       | L2TP Client | 1450       |        | 1632 bps  | 0 bps      | 3               | 0               | 0 bps | 0 bps | 0 bps      |
| R | <->l2tp-out6       | L2TP Client | 1450       |        | 24.6 kbps | 24.5 kbps  | 3               | 3               | 0 bps | 0 bps | 0 bps      |
| X | <->l2tp-out7-Intel | L2TP Client |            |        | 0 bps     | 0 bps      | 0               | 0               | 0 bps | 0 bps | 0 bps      |

7 items out of 21 (1 selected)

Interface <l2tp-out6>

General Dial Out Status Traffic

Tx/Rx Rate: 24.6 kbps / 24.5 kbps

Tx/Rx Packet Rate: 3 p/s / 3 p/s

FP Tx/Rx Rate: 0 bps / 0 bps

FP Tx/Rx Packet Rate: 0 p/s / 0 p/s

Tx/Rx Bytes: 85.7 MiB / 284.9 MiB

Tx/Rx Packets: 1 268 394 / 279 488

Tx/Rx Drops: 8 / 0

Tx/Rx Errors: 0 / 0

enabled running slave Status: connected

Interface <l2tp-out5>

General Dial Out Status Traffic

Last Link Down Time: Jan/08/2020 13:44:50

Last Link Up Time: Jan/08/2020 13:45:23

Link Downs: 1

Uptime: 7d 10:31:36

Encoding: MPPE128 stateless

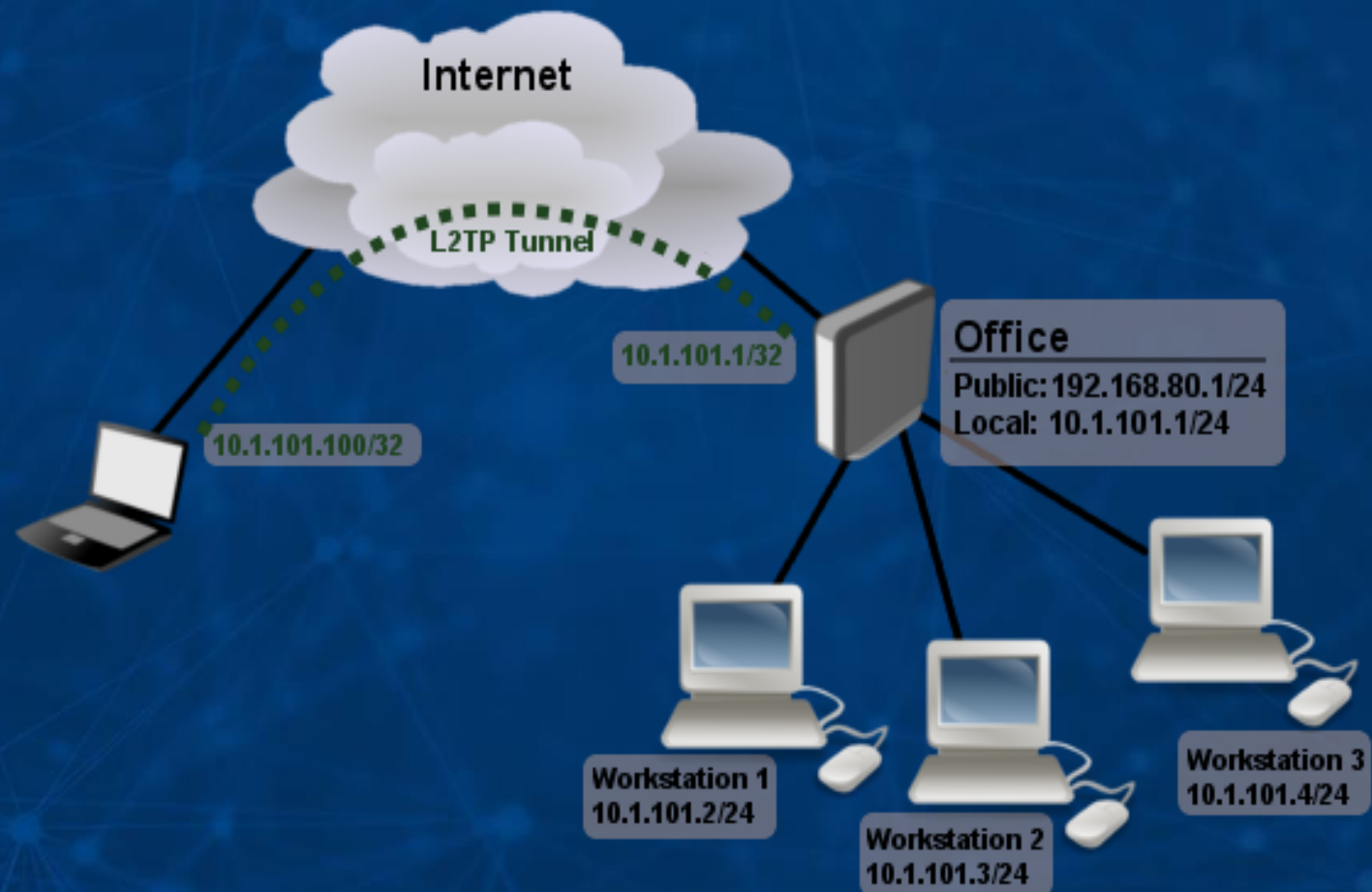
MTU: 1450

MRU: 1450

Local Address: 172.16.97.100



Remote Address: 172.16.97.10

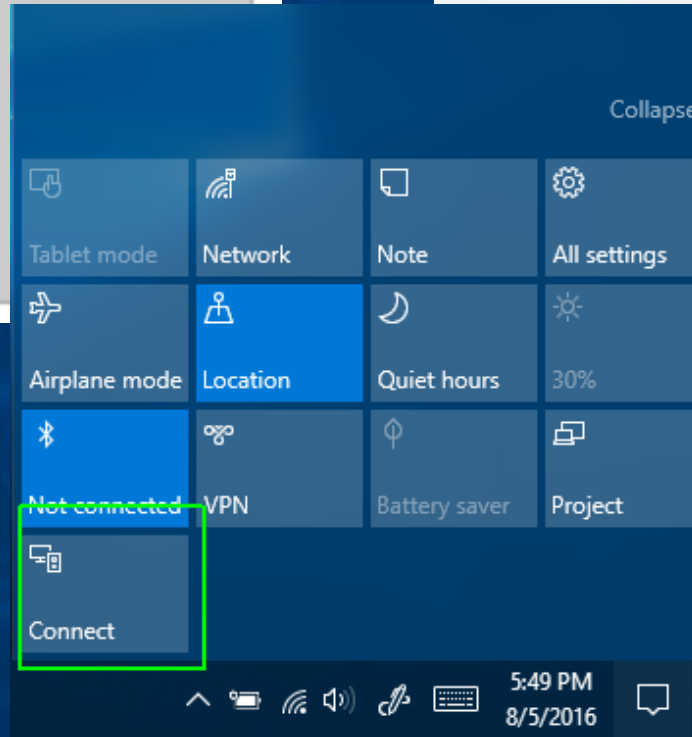
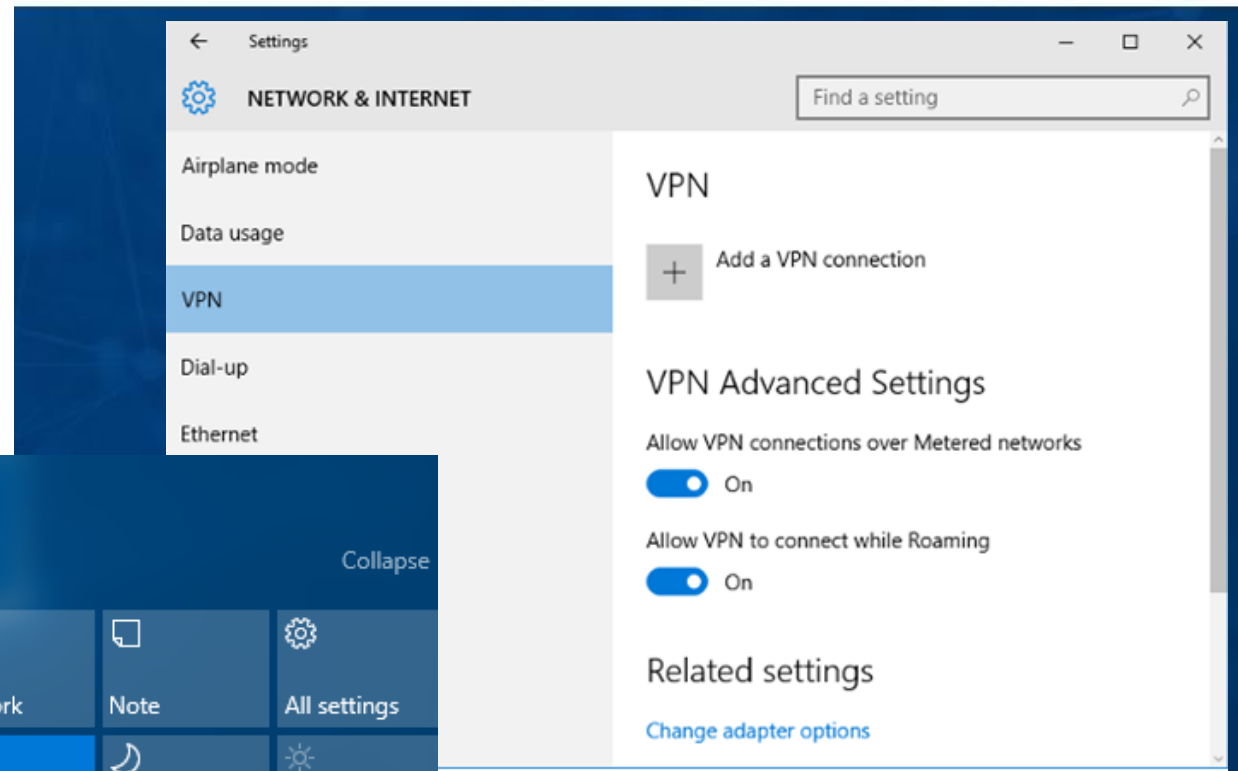
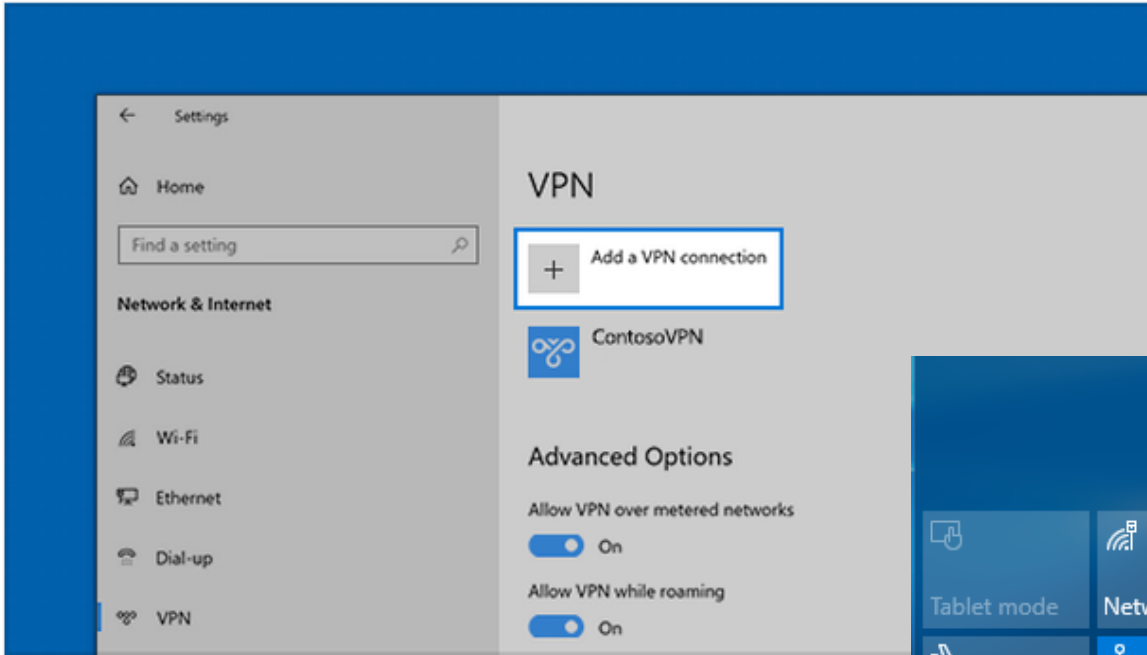
enabled running slave Status: connected



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO



Create a new connection to join your VPN. To get started, select the **Start**  button, and then select **Settings**  > **Network & Internet** > **VPN**, and then select **Add a VPN connection**.



## Add a VPN connection

VPN provider

Windows (built-in)

Connection name

L2TP-client

Server name or address

201.48.75.20

VPN type

Automatic

Point to Point Tunneling Protocol (PPTP)

L2TP/IPsec with certificate

L2TP/IPsec with pre-shared key

Secure Socket Tunneling Protocol (SSTP)

IKEv2

Password (optional)

Remember my sign-in info

Save

Cancel

## Add a VPN connection

VPN provider

Windows (built-in)

Connection name

L2TP-client

Server name or address

201.48.75.20

VPN type

Automatic

Type of sign-in info

User name and password

User name (optional)

MMz

Password (optional)

••••••••

Remember my sign-in info

Save

Cancel

blue - Network Connections

Control Panel > Network and Internet > Network Connections

Organize Start this connection Rename this connection Delete this connection Change settings of this connection

Blue  
Disconnected  
WAN Miniport (N)

**Connect / Disconnect**

- Status
- Set as Default Connection
- Create Copy
- Create Shortcut
- Delete
- Rename

1 item 1 item selected

Blue Properties

General Options Security Networking Sharing

Type of VPN:  
Layer 2 Tunneling Protocol with IPsec (L2TP/IPsec) [v]  
Advanced settings

Data encryption:  
Optional encryption (connect even if no encryption) [v]

Authentication

Use Extensible Authentication Protocol (EAP)  
[v]  
Properties

Allow these protocols

- Unencrypted password (PAP)
- Challenge Handshake Authentication Protocol (CHAP)
- Microsoft CHAP Version 2 (MS-CHAP v2)
  - Automatically use my Windows logon name and password (and domain, if any)

OK Cancel

Blue Properties

General Options Security Networking Sharing

Host name or IP address of destination (such as microsoft.com or 157.54.0.1 or 3ffe:1234::1111):  
198.120.55.12

First connect

Windows can first connect to a public network, such as the Internet, before trying to establish this virtual connection.

Dial another connection first:  
[v]

[Privacy statement](#)

OK Cancel

Advanced Properties

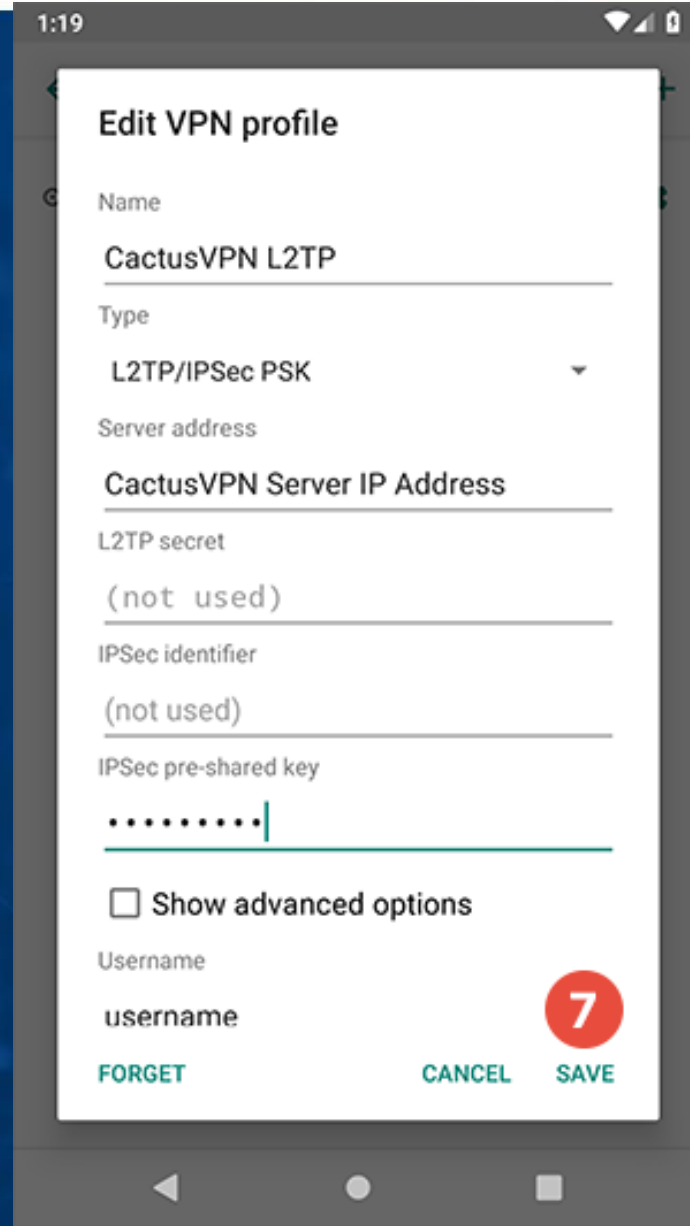
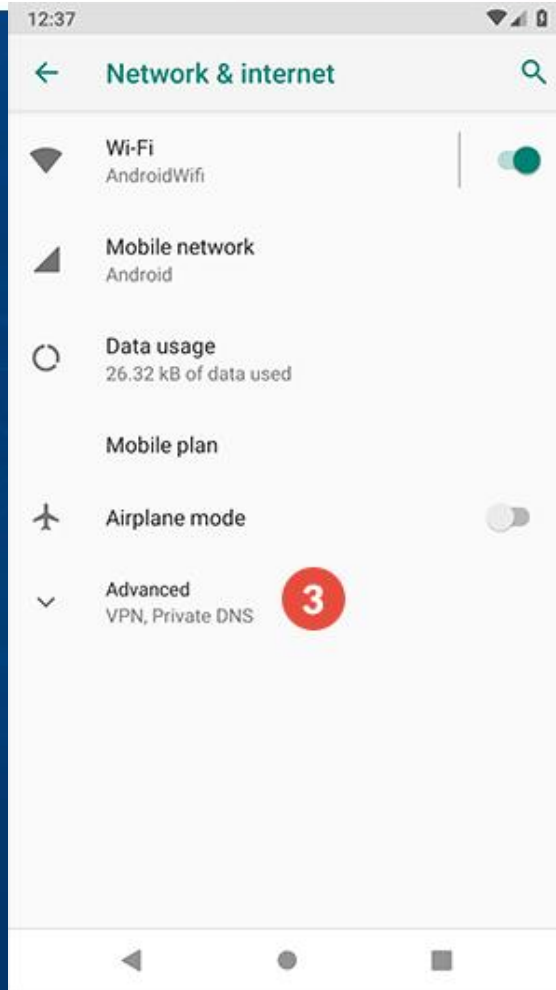
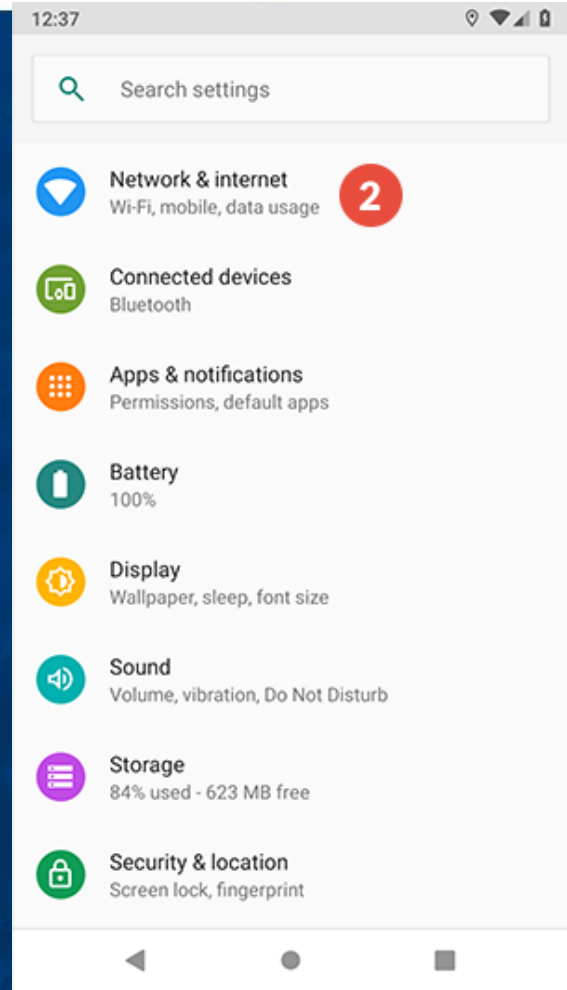
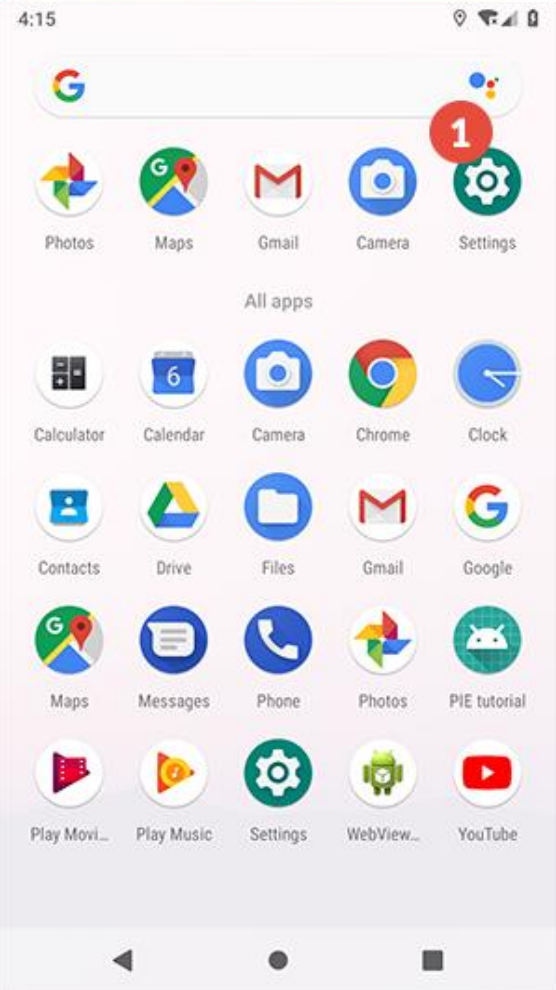
L2TP

Use preshared key for authentication  
Key: [\*\*\*\*\*]

Use certificate for authentication  
 Verify the Name and Usage attributes of the server's certificate

OK Cancel





**HONDURAS**  
DEL 3 AL 8 DE FEBRERO



PPP Profile <default-encryption>

General Protocols Limits Queue Scripts

Name: default-encryption

Local Address: 172.16.95.10

Remote Address: VPN-Pool2

Remote IPv6 Prefix Pool:

DHCPv6 PD Pool:

Bridge: Bridge-Blue-LAN

Bridge Port Priority:

Bridge Path Cost:

Bridge Horizon:

Incoming Filter:

Outgoing Filter:

Address List: VPN-Route

Interface List:

DNS Server: 8.8.8.8  
190.151.130.75

WINS Server:

- Change TCP MSS -  
 no  yes  default

- Use UPnP -  
 no  yes  default

OK Cancel Apply Comment Copy Remove

default

PPP Profile <default-encryption>

General Protocols Limits Queue Scripts

Session Timeout:

Idle Timeout:

Rate Limit (rx/tx):

- Only One -  
 no  yes  default

OK Cancel Apply Comment Copy Remove

default

L2TP Server

Enabled

Max MTU: 1450

Max MRU: 1450

MRRU:

Keepalive Timeout: 30

Default Profile: default-encryption

Max Sessions:

Authentication:  mschap2  mschap1  
 chap  pap

Use IPsec: no

IPsec Secret: \*\*\*\*\*

Caller ID Type: ip address

One Session Per Host  
 Allow Fast Path

OK Cancel Apply

# EoIP

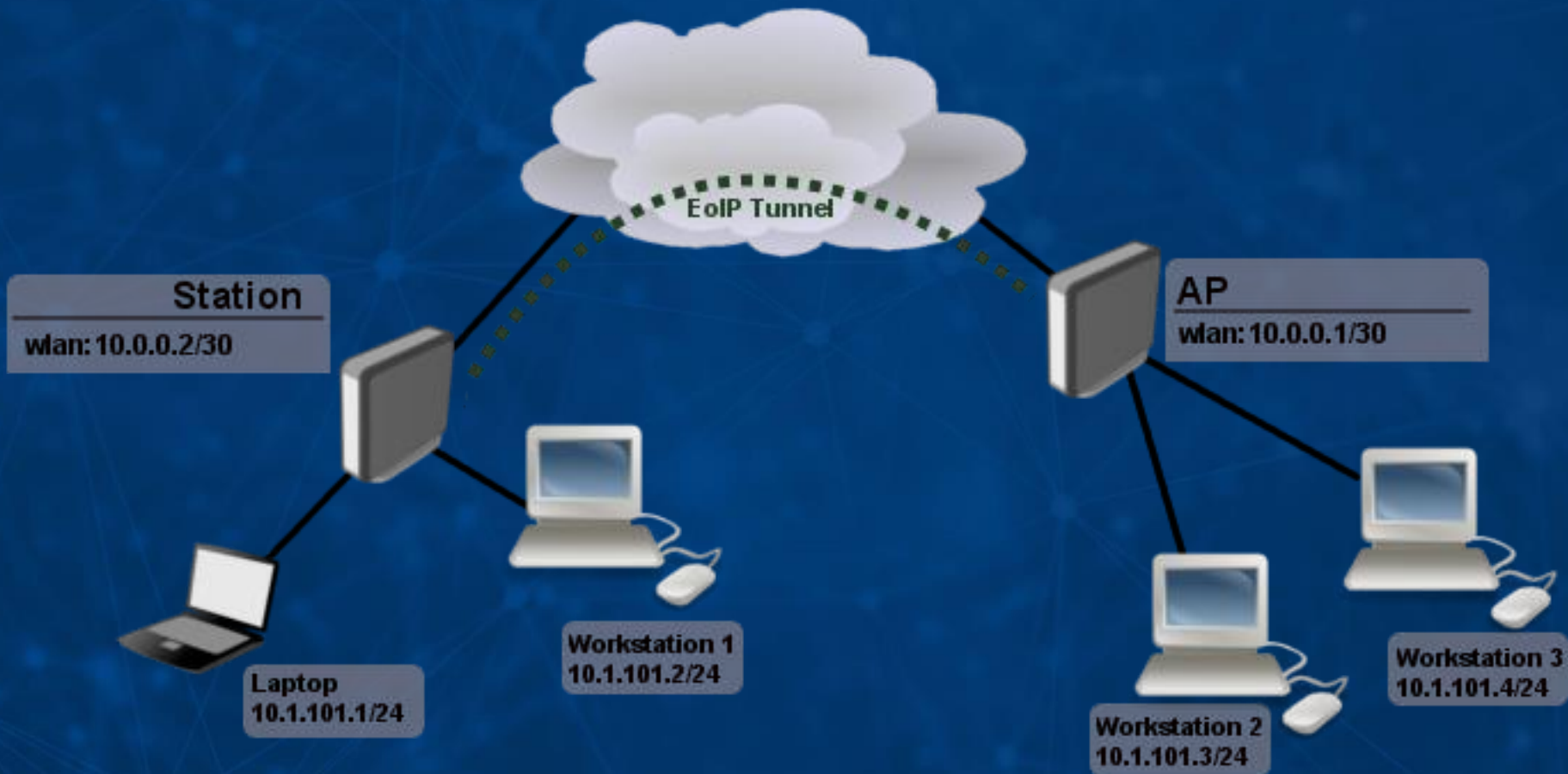
El túnel Ethernet sobre IP (EoIP) es un protocolo MikroTik RouterOS que crea un túnel Ethernet entre dos enrutadores en la parte superior de una conexión IP.

El túnel EoIP puede ejecutarse sobre el túnel L2TP, el túnel PPTP o cualquier otra conexión capaz de transportar IP.

Cuando la función de puente del enrutador está habilitada, todo el tráfico de Ethernet (todos los protocolos de Ethernet) se puenteará **como si hubiera una interfaz Ethernet física** y un cable entre los dos enrutadores. Este protocolo hace posible múltiples esquemas de red.

El protocolo EoIP encapsula las tramas de Ethernet en paquetes GRE (número de protocolo IP 47) (al igual que PPTP) y las envía al lado remoto del túnel EoIP.





- Quick Set
- CAPsMAN
- Interfaces**
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

Interface List

Interface Interface List Ethernet **EoIP Tunnel** IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE

| Name | Type | Actual ... | L2 MTU | Tx | Rx | Tx Packet (p/s) | Rx Packet (p/s) | FP Tx | FP Rx |
|------|------|------------|--------|----|----|-----------------|-----------------|-------|-------|
|      |      |            |        |    |    |                 |                 |       |       |

**New Interface**

General Loop Protect Status Traffic

Name: eoip-tunnel1

Type: EoIP Tunnel

MTU: [ ]

Actual MTU: [ ]

L2 MTU: [ ]

MAC Address: 02:E5:2E:89:5E:1D

ARP: enabled

ARP Timeout: [ ]

Local Address: 172.16.95.10

Remote Address: 172.16.95.100

Tunnel ID: 100

IPsec Secret: [ ]

Keepalive: [ ]

DSCP: inherit

Dont Fragment: no

Clamp TCP MSS

Allow Fast Path

enabled running slave

Interface <<2p-nmz>>

General Status Traffic

Last Link Down Time: [ ]

Last Link Up Time: Mar/30/2020 03:31:23

Link Downs: 0

Uptime: 3d 08:02:14

User: mmz

Caller ID: 186.151.92.55

Encoding: MPPE128 stateless

MTU: 1450

MRU: 1450

Local Address: 172.16.95.10

Remote Address: 172.16.95.100

dynamic enabled running slave Status: connected

- Quick Set
- CAPsMAN
- Interfaces**
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

Interface List

| Interface | Interface List | Ethernet | EoIP Tunnel | IP Tunnel | GRE Tunnel | VLAN | VRRP | Bonding | LTE |
|-----------|----------------|----------|-------------|-----------|------------|------|------|---------|-----|
|           |                |          |             |           |            |      |      |         |     |

Interface <2p-out 1>

General Dial Out Status Traffic

Last Link Down Time: Jan/11/2020 16:30:54

Last Link Up Time: Jan/11/2020 16:31:29

Link Downs: 6

Uptime: 3d 08:09:26

Encoding: MPPE128 stateless

MTU: 1450

MRU: 1450

Local Address: 172.16.95.100

Remote Address: 172.16.95.10

enabled running slave Status: connected

New Interface

General Loop Protect Status Traffic

Name: eoip-tunnel1-Remoto

Type: EoIP Tunnel

MTU:

Actual MTU:

L2 MTU:

MAC Address: 02:6A:DB:45:7F:D8

ARP: enabled

ARP Timeout:

Local Address: 172.16.95.100

Remote Address: 172.16.95.10

Tunnel ID: 100

IPsec Secret:

Keepalive:

DSCP: inherit

Dont Fragment: no

Clamp TCP MSS

Allow Fast Path

enabled running slave

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge**
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rtf
- Manual
- New WinBox
- Exit

Interface List

| Interface | Interface List      | Ethernet | EoIP Tunnel | IP Tunnel | GRE Tunnel | VLAN | VRRP | Bonding | LTE |
|-----------|---------------------|----------|-------------|-----------|------------|------|------|---------|-----|
| RS        | eoip-tunnel1-Remoto |          |             |           |            |      |      |         |     |

1 item out of 21 (1 selected)

Bridge

| # | Interface           | Bridge   | Horizon | Priority (h...) | Path Cost | Role          | Root Pat... | Comm |
|---|---------------------|----------|---------|-----------------|-----------|---------------|-------------|------|
| 5 | eoip-tunnel1-Remoto | Pruebas1 |         | 80              | 10        | root port     | 10          |      |
| 3 | ether5              | Pruebas1 |         | 80              | 10        | disabled port |             |      |

2 items out of 6

Interface <eoip-tunnel1-Remoto>

General Loop Protect Status Traffic

Tx/Rx Rate: 6.8 kbps / 424 bps

Tx/Rx Packet Rate: 2 p/s / 1 p/s

FP Tx/Rx Rate: 0 bps / 0 bps

FP Tx/Rx Packet Rate: 0 p/s / 0 p/s

Tx/Rx Bytes: 295.6 KiB / 16.7 KiB

Tx/Rx Packets: 729 / 231

Tx/Rx Drops: 0 / 0

Tx/Rx Errors: 0 / 0

Tx: 6.8 kbps Rx: 424 bps

Tx Packet: 2 p/s Rx Packet: 1 p/s

enabled running slave

Interface List

| Interface | Interface List | Ethernet | EoIP Tunnel | IP Tunnel | GRE Tunnel | VLAN | VRRP | Bonding | LTE |
|-----------|----------------|----------|-------------|-----------|------------|------|------|---------|-----|
| RS        | eoip-tunnel1   |          |             |           |            |      |      |         |     |

1 item out of 29 (1 selected)

Bridge

| Interface        | Bridge      | Priority (h...) | Path Cost | Horizon | Role            | Root Pat... | Cc |
|------------------|-------------|-----------------|-----------|---------|-----------------|-------------|----|
| eoip-tunnel1     | bridge-temp | 80              | 10        |         | designated port |             |    |
| ether1-UTP-20-71 | bridge-temp | 80              | 10        |         | designated port |             |    |

Interface <eoip-tunnel1>

General Loop Protect Status Traffic

Tx/Rx Rate: 0 bps / 5.4 kbps

Tx/Rx Packet Rate: 0 p/s / 2 p/s

FP Tx/Rx Rate: 0 bps / 0 bps

FP Tx/Rx Packet Rate: 0 p/s / 0 p/s

Tx/Rx Bytes: 74.9 KiB / 491.6 KiB

Tx/Rx Packets: 465 / 1505

Tx/Rx Drops: 0 / 0

Tx/Rx Errors: 0 / 0

Tx: 0 bps Rx: 5.4 kbps

Tx Packet: 0 p/s Rx Packet: 2 p/s

enabled running slave

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

Interface List

| Interface | Interface List      | Ethernet | EoIP Tunnel | IP Tunnel | GRE Tunnel | VLAN | VRPP | Bonding | LTE |
|-----------|---------------------|----------|-------------|-----------|------------|------|------|---------|-----|
| RS        | eoip-tunnel1-Remoto |          |             |           |            |      |      |         |     |

1 item out of 21 (1 selected)

Address <10.88.10.1/24>

Address: 10.88.10.1/24

Network: 10.88.10.0

Interface: Pruebas1

enabled

DHCP Server

| Name  | Interface | Relay | Lease Time | Address Pool | Add AR... |
|-------|-----------|-------|------------|--------------|-----------|
| dhcp1 | Pruebas1  |       | 00:10:00   | dhcp_pool3   | no        |

DHCP Server <dhcp1>

Name: dhcp1

Interface: Pruebas1

Relay:

Lease Time: 00:10:00

Bootp Lease Time: forever

Address Pool: dhcp\_pool3

DHCP Option Set:

Src. Address:

Delay Threshold:

Authoritative: yes

Bootp Support: static

Lease Script:

Add ARP For Leases

Always Broadcast

Use RADIUS: no

enabled

DHCP Network <10.88.10.0/24>

Address: 10.88.10.0/24

Gateway: 10.88.10.1

Netmask:

DNS Servers: 8.8.8.8

208.67.222.222

Domain:

WINS Servers:

NTP Servers:

CAPS Managers:

Next Server:

Boot File Name:

DHCP Options:

DHCP Option Set:

DHCP Lease <10.88.10.2,10.88.10.2>

General Active

Active Address: 10.88.10.2

Active MAC Address: 02:E5:2E:89:5E:1D

Active Client ID: 1:2:e5:2e:89:5e:1d

Active Host Name: Office-Blue1

Active Server: dhcp1

Expires After: 00:06:54

Last Seen: 00:03:05

Agent Circuit Id:

Agent Remote Id:

dynamic enabled radius blocked bound



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rf
- Manual
- New WinBox
- Exit

Interface List

Interface Interface List Ethernet EoIP Tunnel IP Tunnel GRE Tunnel VLAN VRRP Bonding LTE

Find

| Name            | Type        | Actual ... | L2 MTU | Tx    | Rx       |
|-----------------|-------------|------------|--------|-------|----------|
| RS eoip-tunnel1 | EoIP Tunnel | 1408       | 65535  | 0 bps | 8.2 kbps |

1 item out of 29 (1 selected)

DHCP Client

DHCP Client DHCP Client Options

Find

Interface contains temp

| Interface   | Use P... | Add D... | IP Address    | Expires After | Status | Comment |
|-------------|----------|----------|---------------|---------------|--------|---------|
| bridge-temp | yes      | no       | 10.88.10.2/24 | 00:07:26      | bound  |         |

1 item out of 3 (1 selected)

Bridge

Bridge Ports Filters NAT Hosts

Find

Bridge contains temp

| Interface        | Bridge      | Priority (h... | Path Cost | Horizon | Role            | Root Pat... | Cc |
|------------------|-------------|----------------|-----------|---------|-----------------|-------------|----|
| eoip-tunnel1     | bridge-temp | 80             | 10        |         | designated port |             |    |
| ether1-UTP-20-71 | bridge-temp | 80             | 10        |         | designated port |             |    |

2 items out of 7

DHCP Client <bridge-temp>

DHCP Advanced Status

IP Address: 10.88.10.2/24

Gateway: 10.88.10.1

DHCP Server: 10.88.10.1

Expires After: 00:07:26

Primary DNS: 8.8.8.8

Secondary DNS: 208.67.222.222

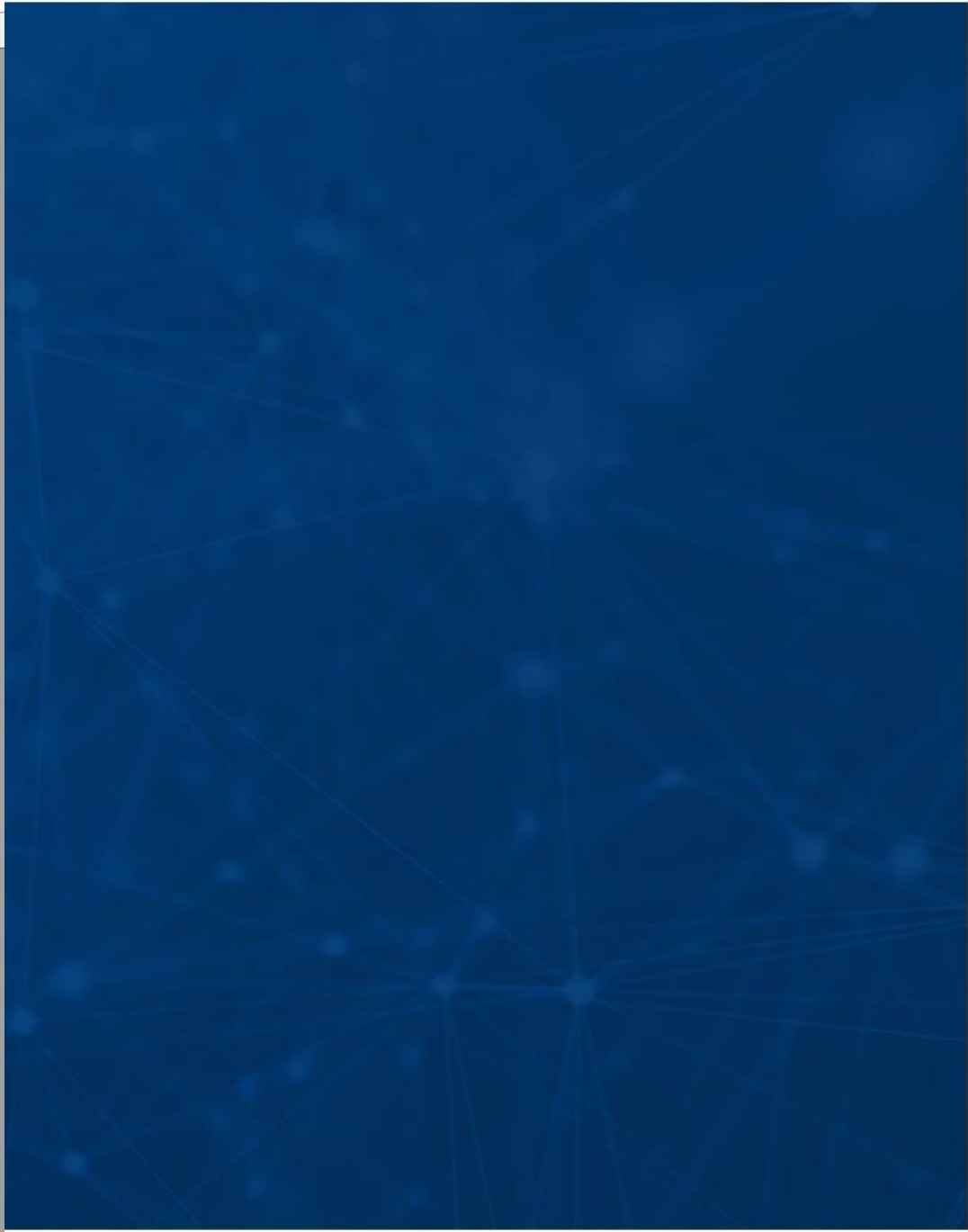
Primary NTP:

Secondary NTP:

CAPS Managers:

enabled Status: bound

OK Cancel Apply Disable Comment Copy Remove Release Renew



- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP
- IPv6
- MPLS
- Routing
- System**
  - Auto Upgrade
  - Certificates
  - Clock
  - Console
  - Disks
  - Drivers
  - History
  - Identity
  - LEDs
  - License
  - Logging**
  - Packages
  - Password
  - Ports
  - Reboot
  - Reset Configuration
  - Resources
  - Routerboard
  - SNTP Client
  - Scheduler
  - Scripts
  - Shutdown
  - Special Login
  - Users
  - Watchdog
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.rtf
- Manual
- New WinBox
- Exit

| Rules                         | Actions                    |               |
|-------------------------------|----------------------------|---------------|
| <input type="checkbox"/> +    | <input type="checkbox"/> - |               |
| <input type="checkbox"/> ✓    | <input type="checkbox"/> ✗ |               |
| <input type="checkbox"/> ⚙    | <input type="checkbox"/> 🔍 |               |
| <input type="checkbox"/> Find |                            |               |
| Topics                        | Prefix                     | Action        |
| critical                      |                            | echo          |
| critical                      |                            | remote        |
| error                         |                            | memory        |
| error                         |                            | remote        |
| info                          |                            | memory        |
| info                          |                            | remote        |
| <b>l2tp</b>                   |                            | <b>memory</b> |
| warning                       |                            | memory        |
| warning                       |                            | remote        |

9 items (1 selected)

Log Rule <l2tp>

Topics:  l2tp

Prefix:

Action:

OK Cancel Apply Disable Copy Remove

enabled

| Log                  |        |                          |   |  |
|----------------------|--------|--------------------------|---|--|
| Freeze               |        |                          |   |  |
| all                  |        |                          |   |  |
| Jan/16/2020 14:46:55 | memory | l2tp, debug, packet      | tunnel-id=1226, session-id=0, ns=144, nr=143                              |  |
| Jan/16/2020 14:46:55 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:46:55 | memory | l2tp, debug, packet      | rcvd control message (ack) from 190.113.90.250:1701 to 192.168.0.23:1701  |  |
| Jan/16/2020 14:46:55 | memory | l2tp, debug, packet      | tunnel-id=94, session-id=0, ns=143, nr=145                                |  |
| Jan/16/2020 14:47:08 | memory | l2tp, ppp, debug, pac... | l2tp-out5: sent LCP EchoReq id=0x4e                                       |  |
| Jan/16/2020 14:47:08 | memory | l2tp, ppp, debug, pac... | <magic 0x6e921deb>  |  |
| Jan/16/2020 14:47:08 | memory | l2tp, ppp, debug, pac... | l2tp-out5: rcvd LCP EchoRep id=0x4e                                       |  |
| Jan/16/2020 14:47:08 | memory | l2tp, ppp, debug, pac... | <magic 0xdc78ca37>  |  |
| Jan/16/2020 14:47:10 | memory | l2tp, debug, packet      | rcvd control message from 201.216.128.116:1701 to 192.168.0.23:1701       |  |
| Jan/16/2020 14:47:10 | memory | l2tp, debug, packet      | tunnel-id=93, session-id=0, ns=528, nr=530                                |  |
| Jan/16/2020 14:47:10 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:10 | memory | l2tp, debug, packet      | sent control message (ack) to 201.216.128.116:1701 from 192.168.0.23:1701 |  |
| Jan/16/2020 14:47:10 | memory | l2tp, debug, packet      | tunnel-id=61, session-id=0, ns=530, nr=529                                |  |
| Jan/16/2020 14:47:11 | memory | l2tp, debug, packet      | sent control message to 201.216.128.116:1701 from 192.168.0.23:1701       |  |
| Jan/16/2020 14:47:11 | memory | l2tp, debug, packet      | tunnel-id=61, session-id=0, ns=530, nr=529                                |  |
| Jan/16/2020 14:47:11 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:11 | memory | l2tp, debug, packet      | rcvd control message (ack) from 201.216.128.116:1701 to 192.168.0.23:1701 |  |
| Jan/16/2020 14:47:11 | memory | l2tp, debug, packet      | tunnel-id=93, session-id=0, ns=529, nr=531                                |  |
| Jan/16/2020 14:46:08 | memory | l2tp, ppp, debug, pac... | <magic 0xdc78ca37>  |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | sent control message to 181.189.148.78:1701 from 192.168.0.23:1701        |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | tunnel-id=2399, session-id=0, ns=11585, nr=11583                          |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | rcvd control message from 181.189.148.78:1701 to 192.168.0.23:1701        |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | tunnel-id=18, session-id=0, ns=11583, nr=11585                            |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | sent control message (ack) to 181.189.148.78:1701 from 192.168.0.23:1701  |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | tunnel-id=2399, session-id=0, ns=11586, nr=11584                          |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | rcvd control message (ack) from 181.189.148.78:1701 to 192.168.0.23:1701  |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | tunnel-id=18, session-id=0, ns=11584, nr=11586                            |  |
| Jan/16/2020 14:47:33 | memory | l2tp, debug, packet      | rcvd control message from 190.113.90.250:1701 to 192.168.0.23:1701        |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | tunnel-id=94, session-id=0, ns=143, nr=145                                |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | sent control message (ack) to 190.113.90.250:1701 from 192.168.0.23:1701  |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | tunnel-id=1226, session-id=0, ns=145, nr=144                              |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | sent control message to 190.113.90.250:1701 from 192.168.0.23:1701        |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | tunnel-id=1226, session-id=0, ns=145, nr=144                              |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | (M) Message-Type=HELLO  |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | rcvd control message (ack) from 190.113.90.250:1701 to 192.168.0.23:1701  |  |
| Jan/16/2020 14:47:55 | memory | l2tp, debug, packet      | tunnel-id=94, session-id=0, ns=144, nr=146                                |  |

- Quick Set
- CAPsMAN
- Interfaces
- Wireless
- Bridge
- PPP
- Switch
- Mesh
- IP**
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- Radius
- Tools
- New Terminal
- MetaROUTER
- Partition
- Make Supout.tif
- Manual
- New WinBox
- Exit

### Firewall

Filter Rules NAT Mangle Raw Service Ports Connections Address Lists Layer7 Protocols

**+**  all

| # | Action    |
|---|-----------|
| 0 | accept    |
| 1 | accept    |
| 2 | drop      |
| 3 | fasttrack |
| 4 | accept    |
| 5 | drop      |

### Firewall Rule <>

General Advanced Extra Action Statistics

Chain: input

Src. Address:

Dst. Address:

**Protocol:  47 (gre)**

Src. Port:

Dst. Port:

Any. Port:

In. Interface:

Out. Interface:

In. Interface List:

Out. Interface List:

Packet Mark:

Connection Mark:

Routing Mark:

Routing Table:

Connection Type:

Connection State:

Connection NAT State:

OK Cancel Apply Disable Comment Copy Remove Reset Counters Reset All Counters

### Log

Freeze  all

| Time                 | Memory | System         | Log Group | Log Message  |
|----------------------|--------|----------------|-----------|--|
| Jan/16/2020 15:14:44 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:46 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:48 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:50 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:52 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:52 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 88  |
| Jan/16/2020 15:14:54 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:55 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 207 |
| Jan/16/2020 15:14:55 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 227 |
| Jan/16/2020 15:14:55 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 141 |
| Jan/16/2020 15:14:55 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 178 |
| Jan/16/2020 15:14:56 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:14:58 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:00 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:02 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:04 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:06 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:08 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:10 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:12 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:14 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:16 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:18 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:20 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:22 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:22 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 489 |
| Jan/16/2020 15:15:22 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 417 |
| Jan/16/2020 15:15:22 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 88  |
| Jan/16/2020 15:15:24 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:26 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:28 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:30 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:32 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:34 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:36 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:38 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:40 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:42 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |
| Jan/16/2020 15:15:44 | memory | firewall, info | GRE       | GRE input: in:12p-out1 out:(unknown 0), proto 47, 172.16.95.10->172.16.95.100, len 81  |



OFERTA EN STAND **MUM**

**INSCRIBETE HOY**  
EN NUESTROS PROXIMOS CURSOS  
Y OBTEN UN

**50%** DE DESCUENTO

[MikroTik@blue.net.gt](mailto:MikroTik@blue.net.gt)



**GUATEMALA**  
DEL 17 AL 22 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO

INTRODUCCIÓN  
Y TCP/IP

MikroTik  
MTCNA

MikroTik  
MTCSE

# GRACIAS



**HONDURAS**  
DEL 3 AL 8 DE FEBRERO



# Configuración

Establecer el Server de L2TP

The L2TP Server configuration window is shown with the following settings:

- Enabled
- Max MTU: 1450
- Max MRU: 1450
- MRRU: [empty]
- Keepalive Timeout: 30
- Default Profile: default-encryption
- Max Sessions: [empty]
- Authentication:  mschap2,  mschap1,  chap,  pap
- Use IPsec: no
- IPsec Secret: [empty]
- Caller ID Type: ip address
- One Session Per Host
- Allow Fast Path

The New PPP Secret configuration window is shown with the following settings:

- Name: bn-1
- Password: p@ssW0r\$\$
- Service: l2tp
- Caller ID: [empty]
- Profile: default
- Local Address: [empty]
- Remote Address: [empty]
- Remote IPv6 Prefix: [empty]
- Routes: [empty]
- Limit Bytes In: [empty]
- Limit Bytes Out: [empty]
- Last Logged Out: [empty]

enabled

The New PPP Profile configuration window is shown with the following settings:

- Name: profile1
- Local Address: 10.50.25.1
- Remote Address: 10.50.25.100
- Remote IPv6 Prefix Pool: [empty]
- DHCPv6 PD Pool: [empty]
- Bridge: [empty]
- Bridge Port Priority: [empty]
- Bridge Path Cost: [empty]
- Bridge Horizon: [empty]
- Incoming Filter: [empty]
- Outgoing Filter: [empty]
- Address List: [empty]
- Interface List: [empty]
- DNS Server: [empty]
- WINS Server: [empty]
- Change TCP MSS -
  - no
  - yes
  - default
- Use UPnP -
  - no
  - yes
  - default