

# ¿Puede un Mikrotik jubilar el router de tu operadora?

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# Agenda

**1.**

## **INTRODUCCIÓN**

¿Qué tenemos en casa?

**3.**

## **MIKROTIK**

Configuraciones

**2.**

## **OPCIONES**

¿Qué tenemos en el mercado?

**4.**

## **CONCLUSIONES**

¿Con qué me quedo?

1.

# INTRODUCCIÓN

¿Qué tenemos en casa?

## ¿Qué servicio nos pueden instalar?

- Fibra directa del operador
- Fibra indirecta del operador: NEBA
- Fibra 10G

## ¿Qué equipo/s nos pueden montar?

- Router de Fibra todo en uno
- Router ethernet + ONT

## ¿Qué necesitamos saber de antemano?

- Interfaz PPPoE (+Credenciales) o Interfaz DHCP
- VLAN (+Pbit)
- PLOAM/IDONT/Password ONT (**No siempre**)



# ¿Qué necesitamos de cada operadora?



<https://youtu.be/8CSwizDrrwl>



# ¿Cómo consigo esos datos?

- Preguntar al técnico cuando venga a casa
- Llamar a mi compañía
- Enviar escrito oficial a mi compañía
- Si todo lo anterior falla...

<https://youtu.be/wVcbq9UO8D4>



<https://youtu.be/V58wELdeIPM>



<https://youtu.be/W8IKRlilc3s>



# ¿A qué puedo aspirar?

- Si tengo un Router de fibra TODO EN UNO
  - Cambiarlo por OTRO router de fibra TODO EN UNO
  - Cambiarlo por una ONT + Router Ethernet
- Si tengo un Router Ethernet + ONT
  - Cambiarlo todo a un router de fibra TODO EN UNO
  - Cambiar la ONT + router Ethernet

## Necesito PLOAM/IDONT/Password ONT

- Si tengo un Router Ethernet + ONT
  - Cambiar SOLO el router Ethernet

## NO Necesito PLOAM/IDONT/Password ONT



2.

# OPCIONES

¿Qué tenemos en el mercado?

# Soluciones a nivel de hardware

- Routers de fibra TODO en UNO hasta 1G
  - Fritz!Box + módulo extraíble GPON Propietario
  - Fritz!Box con ONT integrada
  - **Mikrotik + módulo GPON**
- Routers de fibra TODO en UNO hasta 10G
  - Fritz!Box + módulo extraíble XGS-PON Propietario
  - TPLINK/Mikrotik + módulo XGS-PON
- Routers Ethernet
  - Cisco/Juniper/Fortinet
  - **Mikrotik**
  - VyOS
  - Asus, TPLINK, Xiaomi, etc.
- ONTs
  - Nokia g-010g-p
  - Huawei hg8240
  - Ubiquiti Fiber nano G
  - ZTE F601



# Módulos SFP 1G

- Deben ser configurables
  - Password/PLOAM/IDONT
  - Número de serie
  - Movistar/O2/NEBA: +10 caracteres



P: Hello, I need to change the ploam password on this device. If I use "fw\_setenv nPassword" command and then "uci commit" + "reboot" I see that after reconnecting there is no password stored by doing "fw\_printenv nPassword". So I need to change it using "sfp\_i2c -i11 -s "1234567890"" command instead. Problem is that... I see that when I introduce my ploam password and then "uci commit" + "reboot" even I see the password is stored in hexadecimal, it seems that my ploam password is too long and it is not stored completely, so the PPPoE behind GPON does not became UP. Do you know if there is any limitation on the lenght of the PLOAM PASSWORD can be configured on this SFP?

Por A\*\*\*a en 19 de mzo. de 2025

R: The GPON-ONU-34-20BI supports a maximum of 10 characters for the PLOAM password.

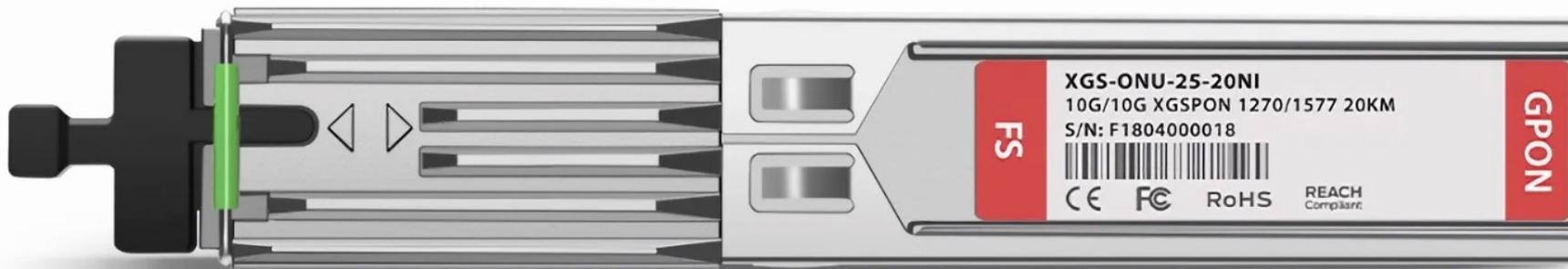
Por FS.com en 24 de mzo. de 2025



# Módulos SFP 10G

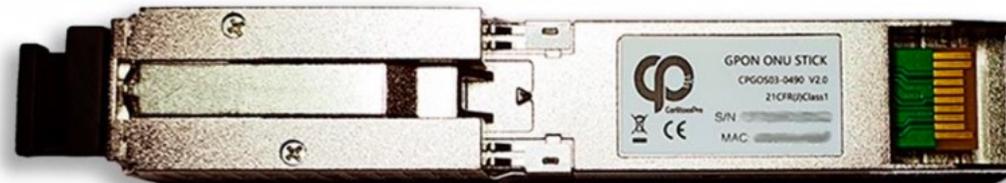
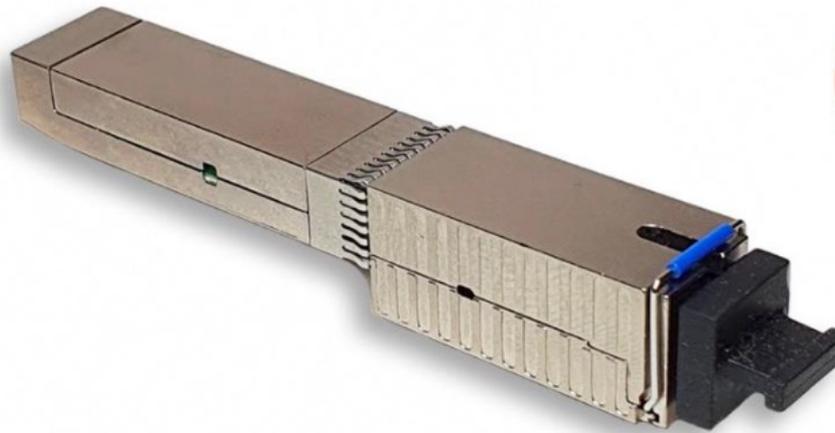
- Deben ser configurables
  - Password/PLOAM/IDONT
  - Número de serie
  - Movistar/O2/NEBA: +10 caracteres

TPLINK ER8411



# Módulos SFP

- Deben ser configurables
  - Password/PLOAM/IDONT
  - Número de serie
  - Movistar/O2/NEBA: +10 caracteres



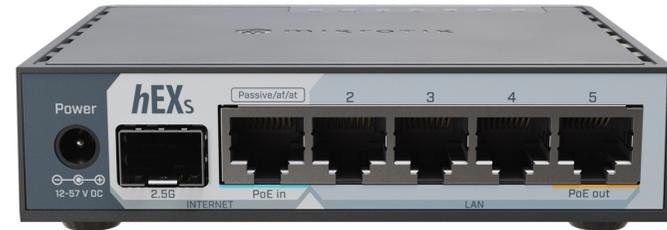
# Mikrotik

- Mikrotik + Puerto SFP
  - Modelos interesantes

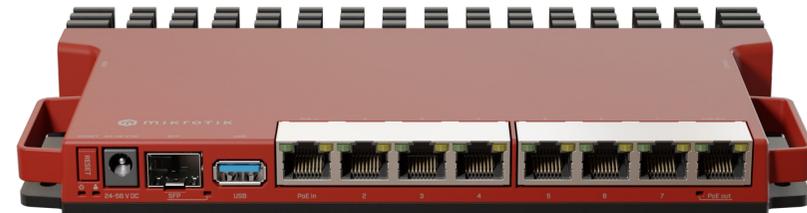
RB5009UG+S+IN- SFP+ 10G



hEX S (2025) - SFP 2,5G



L009UiGS-RM - SFP 2,5G



RB4011iGS+RM - SFP+ 10G



# Mikrotik

- Mikrotik Ethernet
  - Modelos interesantes



hAP ax lite



hAP ax<sup>2</sup>



# Mikrotik

- Mikrotik + Puerto SFP + WiFi
  - Modelos interesantes



RB4011iGS+5HacQ2HnD-IN  
Puerto SFP+ 10G



L009UiGS-2HaxD-IN  
Puerto SFP 2,5G



**3.**

**MIKROTIK**

**Configuraciones**

# Mikrotik + SFP

- Conexiones



# Mikrotik + SFP

- Configuración del router I (VLAN):

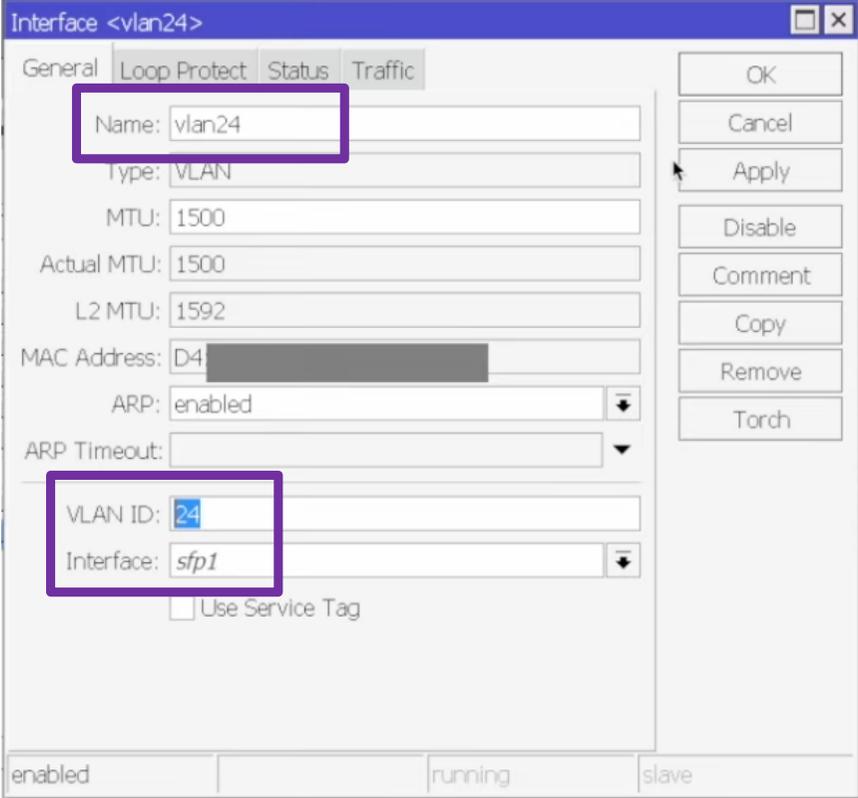
The screenshot displays the Mikrotik WinBox interface. On the left sidebar, the 'Interfaces' menu item is highlighted with a purple box. The main window shows the 'Interface List' configuration page, with the 'VLAN' tab selected and highlighted by a purple box. The interface 'sfp1' is highlighted in the table below.

Name	Type	MTU	Actual MTU	L2 MTU	Tx	Rx
;;; defconf						
R	bridge		1500	1596		97.2 kbps
	ether1		1500	1596		0 bps
S	ether2		1500	1596		0 bps
S	ether3		1500	1596		0 bps
S	ether4		1500	1596		0 bps
RS	ether5		1500	1596		98.0 kbps
	pppoe-out1					0 bps
S	sfp1		1500	1596		0 bps



# Mikrotik + SFP

- Configuración del router I (VLAN):



The screenshot displays the Mikrotik WinBox configuration window for an interface named 'vlan24'. The window has a blue title bar and several tabs: 'General', 'Loop Protect', 'Status', and 'Traffic'. The 'General' tab is active. The configuration fields are as follows:

- Name: vlan24
- Type: VLAN
- MTU: 1500
- Actual MTU: 1500
- L2 MTU: 1592
- MAC Address: D4 [redacted]
- ARP: enabled
- ARP Timeout: [empty]
- VLAN ID: 24
- Interface: sfp1
- Use Service Tag

On the right side of the window, there are several buttons: OK, Cancel, Apply, Disable, Comment, Copy, Remove, and Torch. At the bottom of the window, there are three status indicators: 'enabled', 'running', and 'slave'.



# Mikrotik + SFP

- Configuración del router II (PPPoE):

The screenshot displays the Mikrotik WinBox interface for configuring a PPPoE client. The left sidebar shows the 'PPP' menu selected. The main window is titled 'Interface <pppoe-out1>' and has tabs for 'General', 'Dial Out', 'Status', and 'Traffic'. The 'General' tab is active, showing the following configuration:

- Name: pppoe-out1
- Type: PPPoE Client
- Actual MTU: [empty]
- Max MTU: [empty]
- Max MRU: [empty]
- MRRU: [empty]
- Interfaces: vlan24

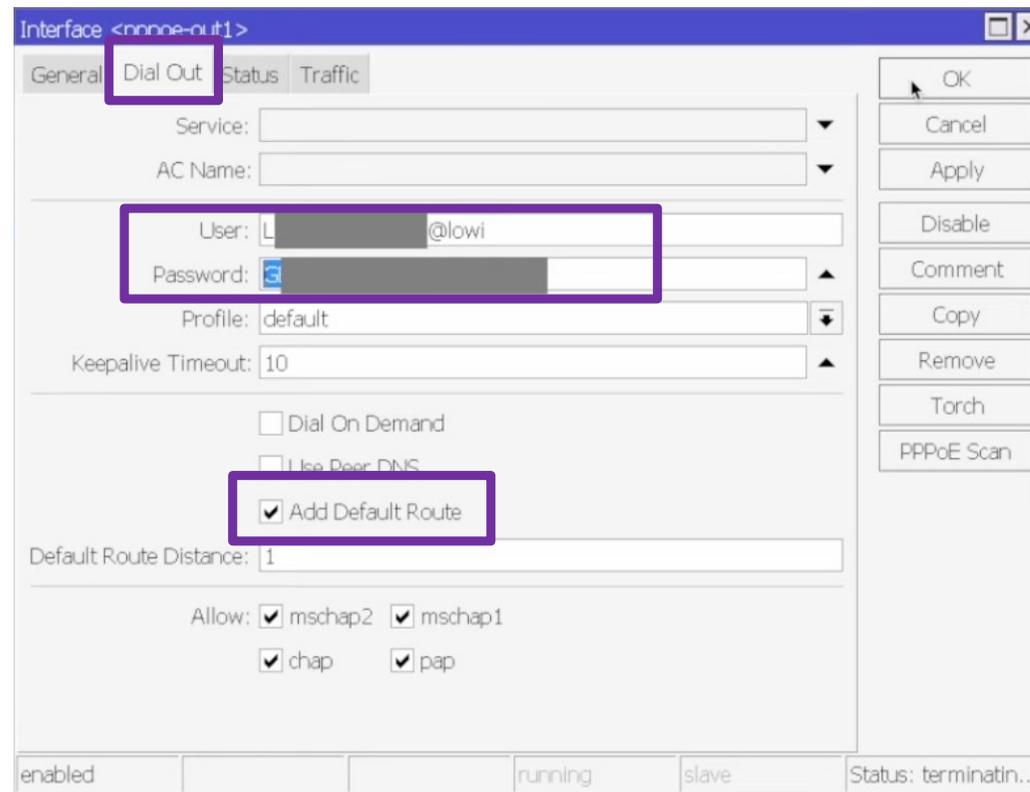
At the bottom of the window, a table shows the status of the interface:

Name	Type	Actual MTU	Max MTU	Max MRU	MRRU	Interfaces	Enabled	Running	Slave	Status
pppoe-out1	PPPoE Client					vlan24	enabled	running	slave	Status: terminatin...



# Mikrotik + SFP

- Configuración del router II (PPPoE):



The image shows a screenshot of the Mikrotik WinBox interface for configuring a PPPoE interface. The window title is "Interface <pppoe-out1>". The "Dial Out" tab is selected and highlighted with a purple box. The "User" field contains "L [redacted]@lowi" and the "Password" field contains "3 [redacted]", both highlighted with purple boxes. The "Add Default Route" checkbox is checked and highlighted with a purple box. The "Default Route Distance" is set to 1. The "Allow" section has checkboxes for mschap2, mschap1, chap, and pap, all of which are checked. The status bar at the bottom shows "enabled", "running", "slave", and "Status: terminatin...".

Service:	AC Name:	User:	Password:	Profile:	Keepalive Timeout:	Dial On Demand:	Use Peer DNS:	Add Default Route:	Default Route Distance:	Allow:
		L [redacted]@lowi	3 [redacted]	default	10	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/> mschap2 <input checked="" type="checkbox"/> mschap1 <input checked="" type="checkbox"/> chap <input checked="" type="checkbox"/> pap



# Mikrotik + SFP

- Configuración del router III (Caso DHCP):

The image shows two parts of the Mikrotik WinBox interface. On the left is the main menu tree, and on the right is the 'New DHCP Client' configuration window.

**Main Menu Tree:**

- PPP
- Switch
- Mesh
- IP (highlighted with a purple box)
- IPv6
- MPLS
- Routing
- System
- Queues
- Files
- Log
- RADIUS
- Tools

**Sub-menu for IP:**

- Interface List
- ARP
- Addresses
- Cloud
- DHCP Client (highlighted with a purple box)
- DHCP Relay
- DHCP Server
- DNS
- Firewall
- Hotspot
- IPsec
- Kid Control
- Neighbors

**New DHCP Client Configuration Window:**

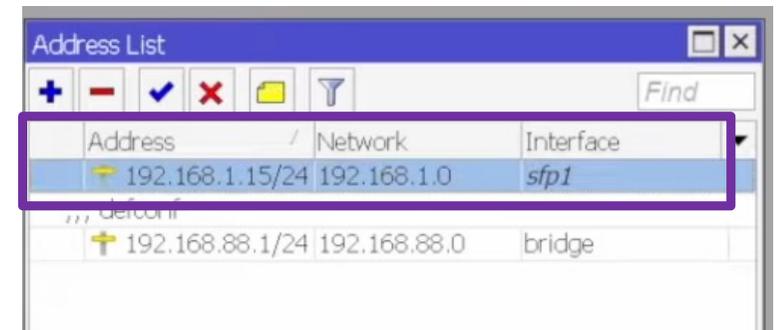
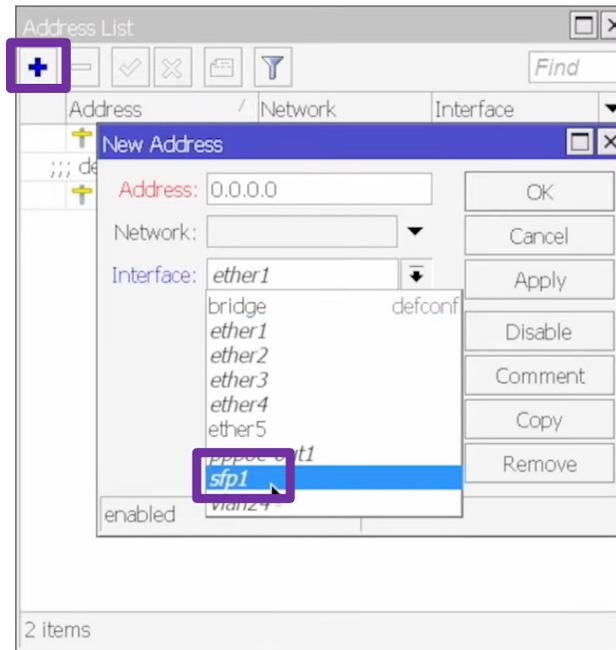
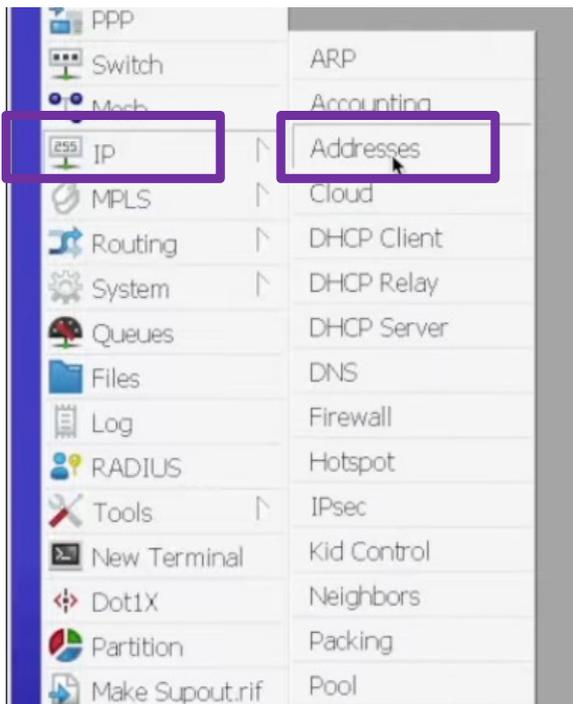
- Interface: *vlan24* (highlighted with a purple box)
- Use Peer DNS
- Use Peer NTP
- Add Default Route: *yes*
- Status: *stopped*

Buttons on the right: OK, Cancel, Apply, Disable, Comment, Copy, Remove, Release, Renew.



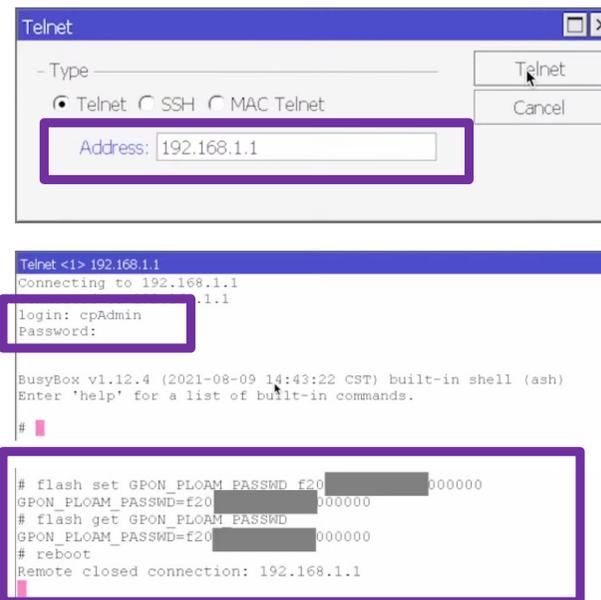
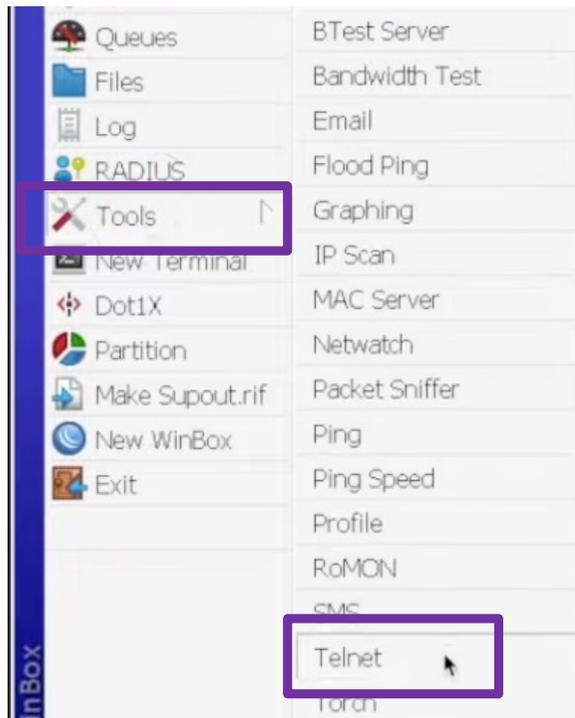
# Módulo GPON

- Configuración del módulo GPON



# Módulo GPON

- Configuración del módulo GPON



Después del reboot



# Módulo GPON

- Comprobaciones I

The screenshot displays a network configuration tool with several key elements:

- Left Panel:** A sidebar menu with 'Interfaces' highlighted in a purple box. Other options include Wireless, Bridge, PPP, Switch, Mesh, IP, MPLS, Routing, System, Queues, Files, Log, RADIUS, Tools, New Terminal, Dot1X, and Partition.
- Interface List Table:** A table showing the configuration of various interfaces. The 'pppoe-out1' interface is highlighted in a purple box. The table includes columns for Name, Type, and Actual MTU.
- Configuration Window:** A window titled 'Interface <pppoe-out1>' with tabs for General, Dial Out, Status, and Traffic. The 'Status' tab is active, showing fields for Local Address (148.3.13.140) and Remote Address (87.235.0.10), both highlighted in purple boxes. The status is shown as 'running' and 'slave', with a 'Status: connected' indicator also highlighted in purple.

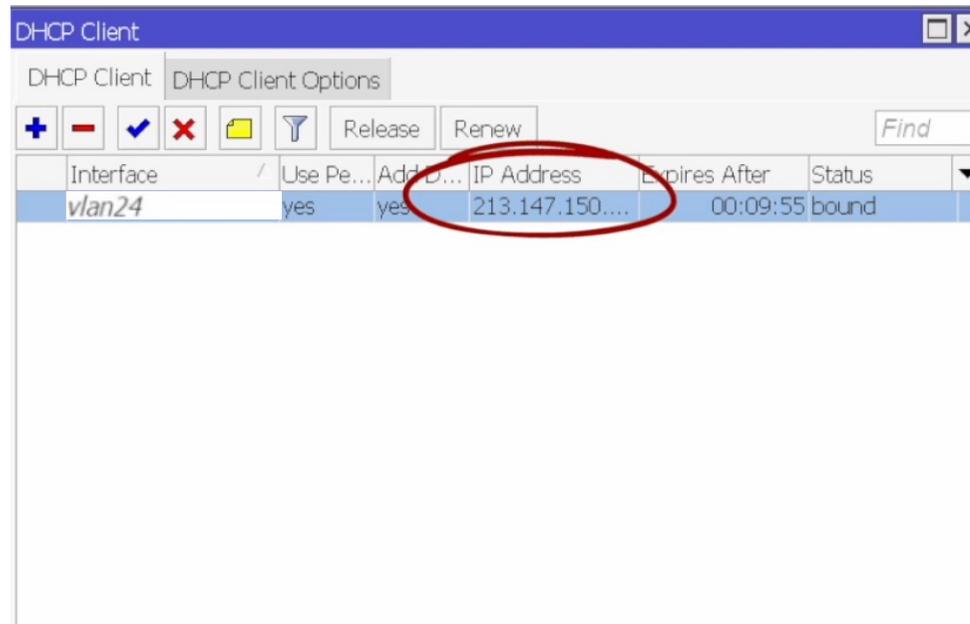
Interface	Type	Actual MTU
;;; defconf		
R	bridge	Bridge
S	ether1	Ethernet
S	ether2	Ethernet
S	ether3	Ethernet
S	ether4	Ethernet
RS	ether5	Ethernet
R	pppoe-out1	PPPoE Client
RS	sfp1	Ethernet
R	vlan24	VLAN

Interface	Type	Actual MTU	Speed	Link Speed	Link Mode	Status
;;; defconf						
R	bridge	Bridge				enabled
S	ether1	Ethernet	1500	1596	0 bps	0 bps
S	ether2	Ethernet	1500	1596	0 bps	0 bps
S	ether3	Ethernet	1500	1596	0 bps	0 bps
S	ether4	Ethernet	1500	1596	0 bps	0 bps
RS	ether5	Ethernet	1500	1596	2.0 Mbps	5.8 kbps
R	pppoe-out1	PPPoE Client	1480	1544 bps	1544 bps	0 bps
RS	sfp1	Ethernet	1500	1596	5.9 kbps	1963.7 kbps
R	vlan24	VLAN	1500	1592	2.3 kbps	448 bps



# Módulo GPON

- Comprobaciones I (Caso DHCP)



The screenshot shows the DHCP Client configuration window. The table below displays the configuration for the 'vlan24' interface. The IP address '213.147.150...' is circled in red.

Interface	Use Pe...	Add D...	IP Address	Expires After	Status
vlan24	yes	yes	213.147.150...	00:09:55	bound



# Módulo GPON

- Comprobaciones II

The screenshot shows a speedtest.net interface with the following data:

- Provider: Vodafone (148.3.13.140)
- Download Speed: 310.8 Mbps
- Upload Speed: 873.2 Mbps
- Ping: 15 ms
- Fluctuación: 1 ms
- Local Address: 148.3.13.140
- Remote Address: 148.235.0.10

The interface also features a speedometer showing 873.2 Mbps, a configuration panel with MTU and MRU set to 1480, and a list of buttons (Apply, Disable, Comment, Copy, Remove).

```
Terminal <1>
MikroTik RouterOS 6.49.13 (c) 1999-2024 http://www.mikrotik.com/
[?] Gives the list of available commands
command [?] Gives help on the command and list of arguments
[Tab] Completes the command/word. If the input is ambiguous,
a second [Tab] gives possible options
/ Move up to base level
.. Move up one level
.. Command at the Base level
[admin@MikroTik] > ping 8.8.8.8
SEQ HOST SIZE TTL TIME STATUS
0 8.8.8.8 56 118 11ms
1 8.8.8.8 56 118 11ms
2 8.8.8.8 56 118 11ms
3 8.8.8.8 56 118 11ms
4 8.8.8.8 56 118 11ms
5 8.8.8.8 56 118 11ms
sent=6 received=6 packet-loss=0% min-rtt=11ms avg-rtt=11ms max-rtt=11ms
[admin@MikroTik] >
```



# Mikrotik Ethernet

- Única diferencia: Puerto de salida WAN para la VLAN

New Interface

General | Loop Protect | Status | Traffic

Name:

Type:

MTU:

Actual MTU:

L2 MTU:

MAC Address:

ARP:

ARP Timeout:

VLAN ID:

Interface:

Use Service Tag

OK  
Cancel  
Apply  
Disable  
Comment  
Copy  
Remove  
Torch  
Reset Traffic Co



4.

# CONCLUSIONES

¿Con qué me quedo?

# Opciones finales

- Mikrotik + Puerto SFP
  - Unificación equipos (menos aparatos y alimentación)
  - Sobrecalentamiento
  - Limitarnos a modelos específicos con Puerto SFP
  - Limitación puertos SFP (10 caracteres)
  
- Mikrotik + ONT
  - Disipación del calor
  - Total variedad de equipos (Con o sin puerto SFP + Wifi)
  - Capacidad de escoger variedad de ONT externa (+10 caracteres)



**¡Gracias!**

