airlive XPON ONU Wifi6 MESH Router User Manual

Contents

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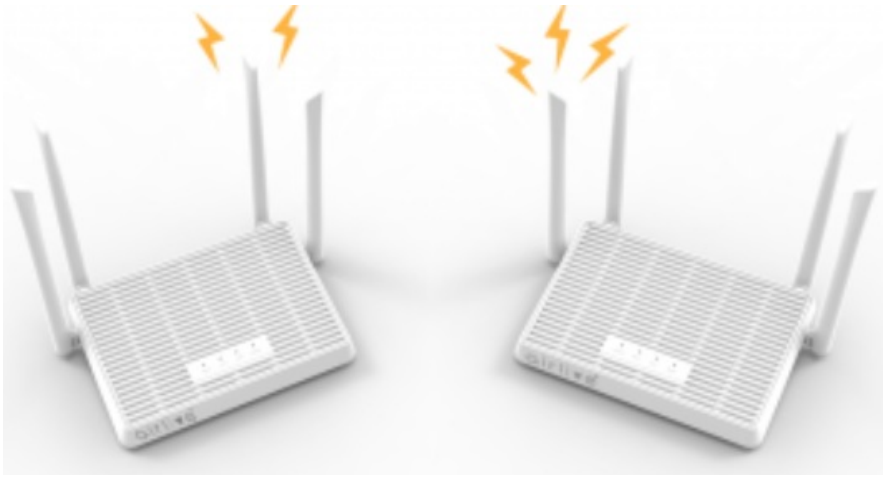


AirLive 2.5GE XPON ONU & AirLive XPON ONU-1GE
USER MANUAL

Chapter 1 Product Introduction

1. **Product Description**

   The AirLive 2.5GE XPON ONU (1*2.5GE+1GE) is specially designed to meet the needs of telecom operators for FTTO (office), FTTD (desktop), FTTH (home), SOHO broadband access, video surveillance, etc. It is based on mature XPON technology, high reliability, easy maintenance, and can provide QoS guarantee for different services. The ONU's 2.5GE network port can fully meet the high access bandwidth requirements of WIFI 6 technology, AR/VR technology, 8K video and other technologies, and can bring fast Internet access experience and lower Internet latency for home users and enterprise users. The AirLive XPON ONU-1GE has the function only without the additional 2.5GE port. The XPON ONU-1GE comes with a single Gigabit RJ-45 port.

Figure 1-1: AirLive 2.5GE XPON ONU (left) & XPON ONU-1GE (right)

2. **Special features**
   - Integrated auto detecting, auto configuration, and auto firmware upgrade technology.
   - Support OAM/OMCI remote configuration and maintenance.
   - Support rich VLAN, DHCP Server and IGMP snooping multicast feature.
   - Fully compatibility with OLT based on Broadcom/PMC/Cortina chipset.
   - Support NAT, Firewall function.
   - Support bridge and router mode.
3. **Technical Parameter**

Technical items	Descriptions
PON interface	• 1 G/EPON port (EPON PX20+ and GPON Class B+) • **Receiving sensitivity:** ≤-28dBm • **Transmitting optical power:** 0~+4dBm • **Transmission distance:** 20KM
Wavelength	Tx1310nm, Rx 1490nm
Optical interface	SC/PC connector
Interface (2.5GE XPON ONU)	1* 10/100/1000Mbps and 1* 10/100/1000/2500Mbps auto adaptive Ethernet interfaces. Full /Half Duplex, RJ45 connectors.
Indicator (2.5GE XPON ONU)	5 indicators, SYS, PON, LOS, LAN1~2
Interface (XPON ONU-1GE)	1* 10/100/1000Mbps auto adaptive Ethernet interfaces. Full /Half Duplex, RJ45 connectors.
Indicator (XPON ONU-1GE)	3 indicators, SYS, LINK/ACT, REG.
Operating condition	-5℃ 55℃, 10% 90% non-condensing
Storing condition	-30℃ 60℃, 10% 90% non-condensing
Power supply	DC 12V, 0.5A
Power consumption	≤4W
Dimension (2.5GE XPON ONU)	100mm*92mm*29.5mm(L*W*H)
Net weight (2.5GE XPON ONU)	0.11Kg
Dimension (XPON ONU-1GE)	82mm×82mm×25mm L×W×H
Net weight (XPON ONU-1GE)	0.08Kg

Application chart

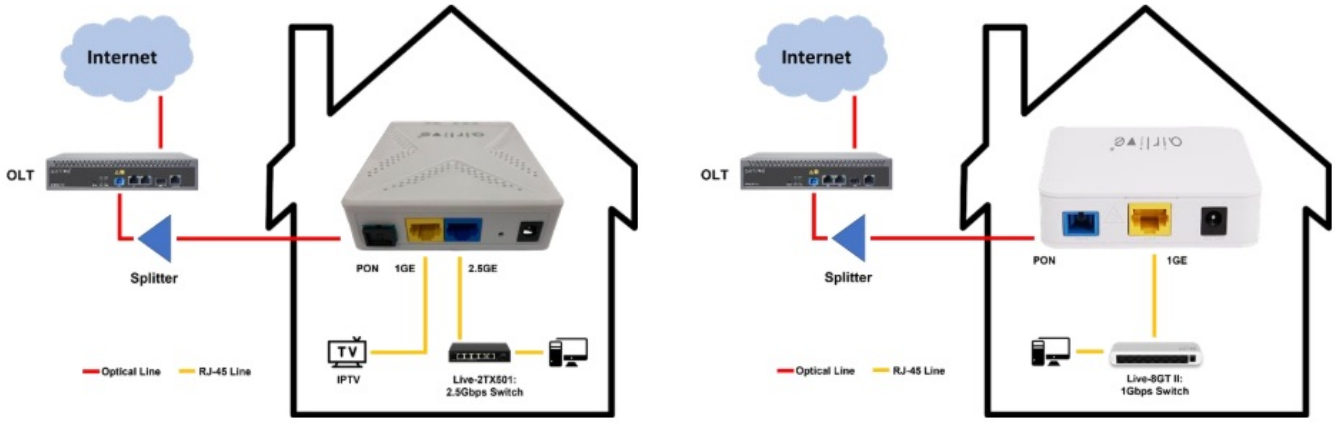


Figure 1-2: Application chart (left 2.5GE model, right 1GE model)

Panel description

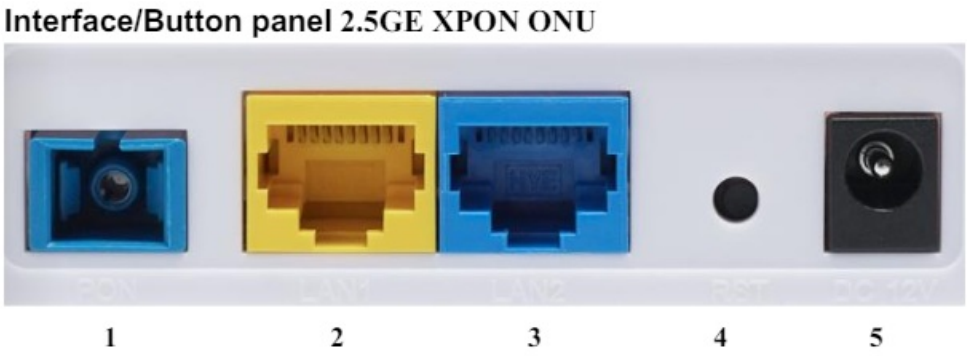


Figure 1-3: Interface/Button panel

Name	Function
1: PON	Connect to OLT by SC type fiber connector, single mode optical fiber cable.
2/3: LAN1/2	• The blue LAN2 is a 2.5GbE port and the yellow LAN1 is a 1GE port. Connect to PC or other devices with Ethernet port by Cat5/Cat5E cable, RJ-45 conne ctor.
4: RST	Press RST button over 10 seconds, ONU restores factory default and reboots.
5: DC 12V	Connect with power adapter. DC 12V, 0.5A.

Indication Panel 2.5GE XPON ONU

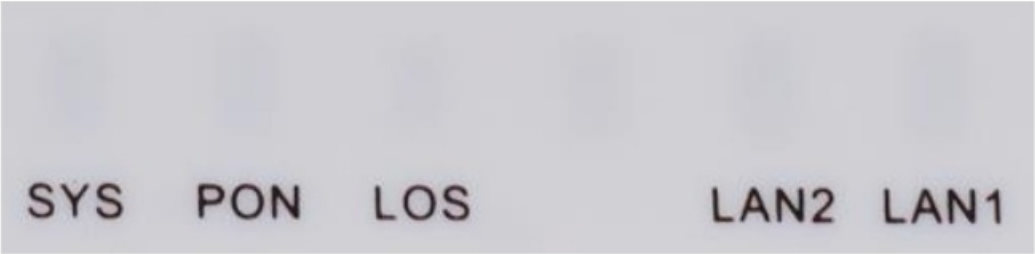


Figure 1-4: Indication panel

LED	Mark	Status	Description
System	SYS	On / Off	System is not running or fatal error.
		Blink	Normal running.
Registration	PON	On	The device is registered to the PON system.
		Off	The device is not registered to the PON system.
		Blink	The device is registering.
Optical signal los s	LOS	Blink	Device does not receive optical signal.
		Off	Device receives optical signal.
LAN	LAN1 LAN2	On	Port is connected properly.
		Off	Port connection exception or not connected.
		Blink	Port is sending or/and receiving data.

Interface/Button panel XPON ONU-1GE

Figure 1-3: Interface/Button panel

Name	Function
1: PON	Connect to OLT by SC type fiber connector, single mode optical fiber cable.
2: LAN	Connect PC or other devices with Ethernet port by Cat5 cable, RJ-45 connector.
3: DC 12V	Connect with power adapter. DC 12V, 0.5A.
4: RST	Press RST button over 10 seconds, ONU restores factory default and reboot.

Indication Panel XPON ONU-1GE

Figure 1-4: Indication panel

LED	Mark	Status	Description
Interface	LINK/ACT	ON	Port is connected properly (LINK).
		Off	Port connection exception or not connected.
		Blink	Port is sending or/and receiving data (ACT).
Registration	REG	ON	**Green:** The device is registered to PON system.
		OFF	Device has received optical signal and not registered to the PON system.
		Blink	**Red:** The Device does not receive optical signals.
System	SYS	On / Off	System is not running or fatal error
		Blink	Normal running

Chapter 2 Quick Installation

1. **Standard Packing Contents**

   When you receive your product, please check carefully to make sure that the product does not have any defects. If something is wrong with shipping, please contact carrier; other damage or lack of some parts, please contact with dealer.

Contents	Quantity
Dual Mode ONU	1 pcs
Power Adapter	1 pcs
Installation Guide	1 pcs

Quick Installation

1. 1. Connecting the optical fiber cable to the unit.
   - Remove the protective cap of the optical fiber.
   - Clean the end of the optical fiber with an optical fiber end cleaner.
   - Remove the protective cap of the ONU optical interface (PON interface). Connect the fiber to the PON port on the unit.

     Note: When measuring the optical power before connecting to the ONU, it is recommended to use a PON Inline Power Meter.

     While connecting, please note:

- Keep the optical connector and the optical fiber clean.
- Make sure there are no tight bends in the fiber and that the bending diameter is greater than 6cm. Otherwise, the optical signal loss may be increased, to the extent that signal may be unavailable.
- Cover all optic ports and connectors with a protective cap to guard against dust and moisture when the fiber is not used.

2. Apply power to the unit. Push the power button.
3. After the ONU is power ON, Indicators should light up as for normal operation. Check whether the PON interface status LED (PON) is on continuously. If it is, the connection is normal; otherwise, there is either a problem of the physical connection or the optical level at either end. This may be caused by either too much or too little attenuation over the optical fiber. Please refer to the Layout Description section of this installation manual for normal LED activity.
4. Check all signal levels and services on all the ONU communication ports.

Unit Installation Adjustment

Installing the ONU on a horizontal surface (Bench top) Put the ONU on a clean, flat, sturdy bench top. You must keep the clearance for all sides of the unit to more than 10cm for heat dissipation. Installing the ONU on a vertical surface (Hanging on a wall) You can install the ONU on a vertical surface by using the mounting holes on the bottom of the ONU chassis and two flat-head wood screws.

- Insert the screws into the wall. The screw positions must be in the same horizontal line and the distance between them must be 145mm. Reserved at least 6mm between the screw caps and the wall.
- Hang the ONU on the screws through the mounting holes.

Chapter 3 Configuration

Note For this guide images of the 2.5GE XPON ONU WEBui were used.

- After finishing the basic connection configuration, you can use its basic function. In order to satisfy individuation service requirements, this charter provides the user parameter modification and individuation configuration description.
- This model of ONU is designed as SFU (single family unit, bridge mode). When it works on bridge mode, VLAN of LAN port can be configured by OLT. You can also use this model as HGU, you can configure router mode or bridge mode through its web management.

Login
The device is configured by the web interface. The following steps will enable you to login:

1. Conform “Quick Installation” to install.
2. The device default IP is 192.168.1.1.
3. Open your web browser, type the device IP in the address bar.
4. Entry of the username and password will be prompted. Enter the default login username and password.
   By default, Administration level username is “admin”, password is “stdONUi0i”.
   By default, User level username is “user”, password is “user”.

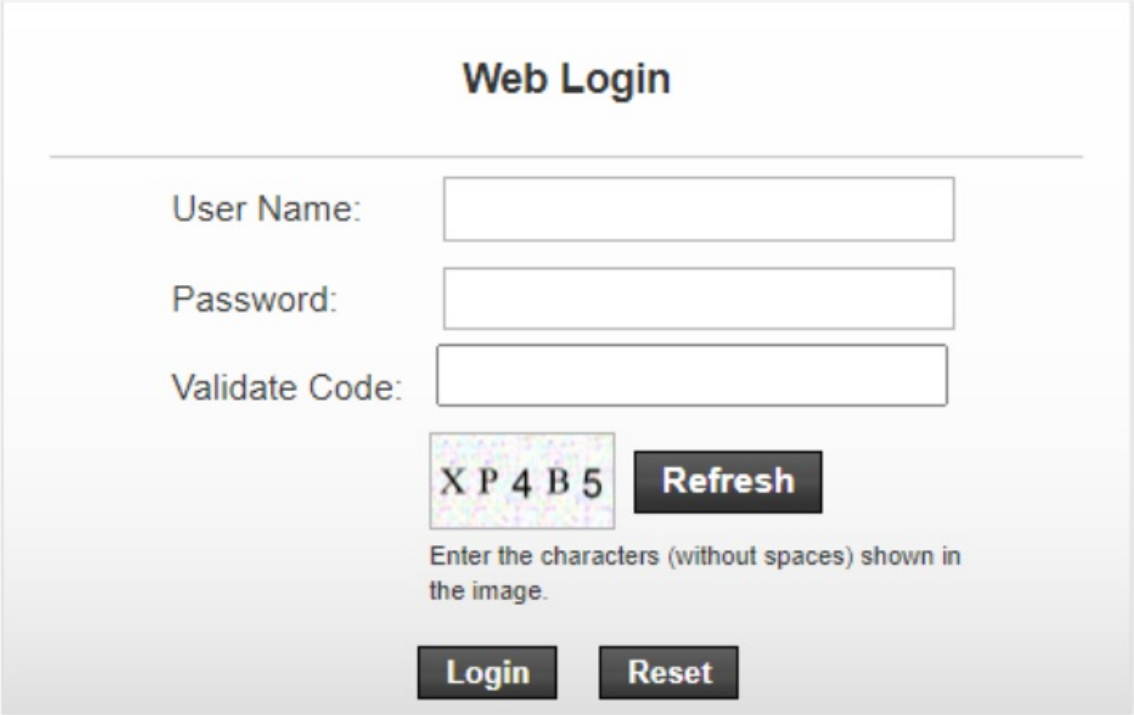


Figure 3-1: Login

For security, you will be asked to modify password after you logged in by default password. The new password must meet the requirements that are displayed on the web page. After submitting, it requires you to login by new password.

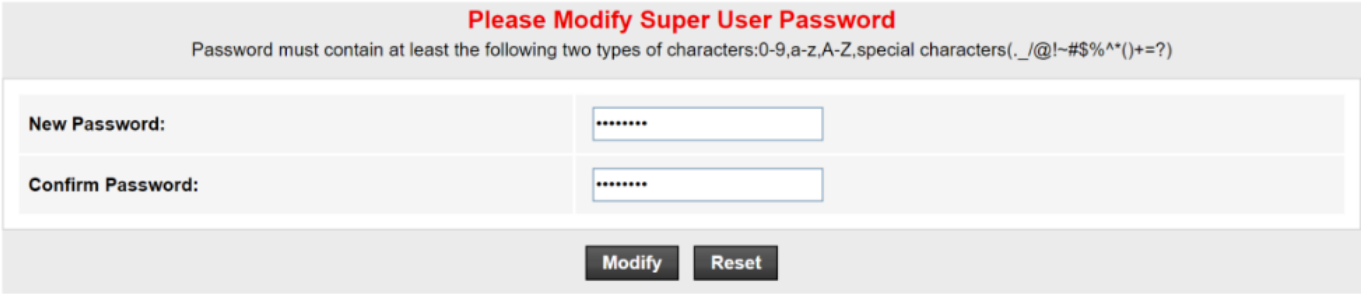


Figure 3-2: Change Password

Status

This part shows the main information of the product.

Device Information

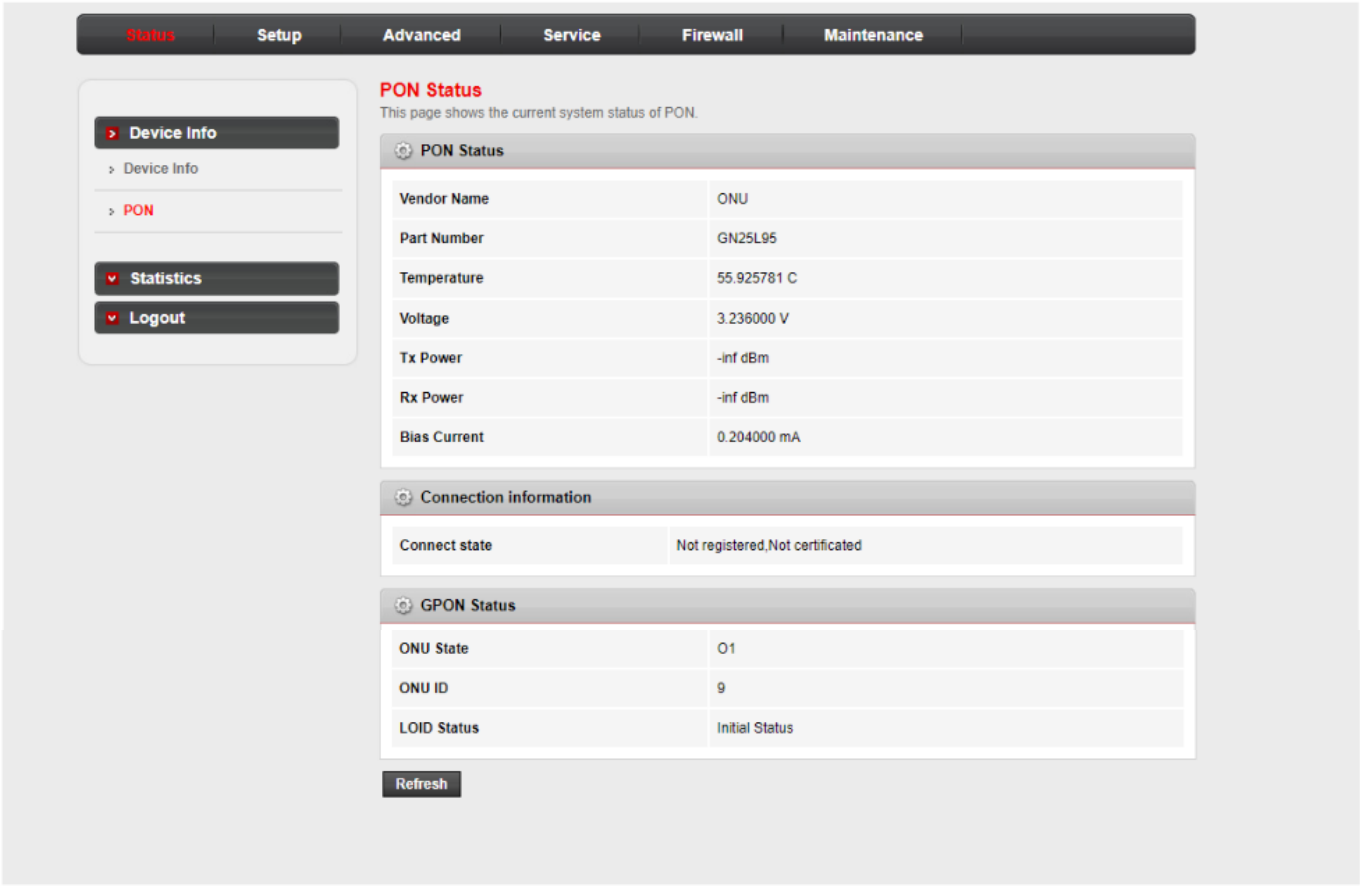
Device Info

This page shows the device basic information, such as Software Version, PON SN, LAN info, WAN info and so on.

Figure 3-3: Device Information

PON Status

This page shows the current system status of PON.



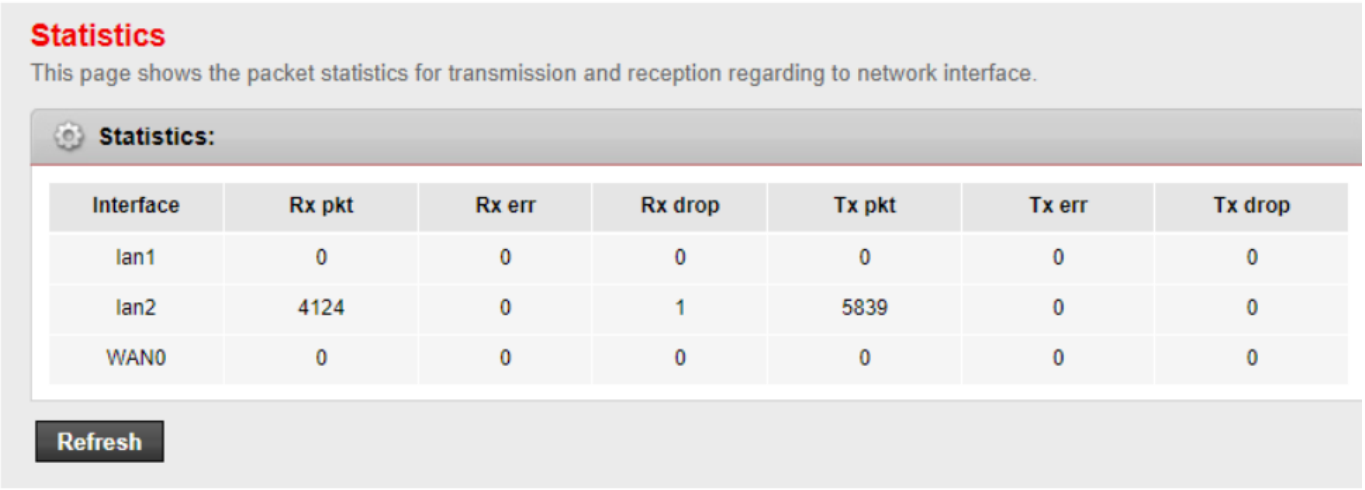


Figure 3-4: WAN Connection

Statistics
This page shows the packet statistics for transmission and reception regarding the network interface.

Logout
This page is used to logout from the Device.

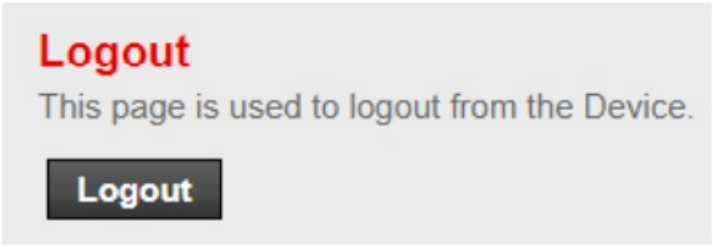


Figure 3-6: Logout

Setup
WAN
WAN Configuration

This page is used to configure the parameters for the WAN interface of the ONU.
Note: When connect type of PPPoE only is “Manual”, the “Connect” and “Disconnect” button will be enabled.

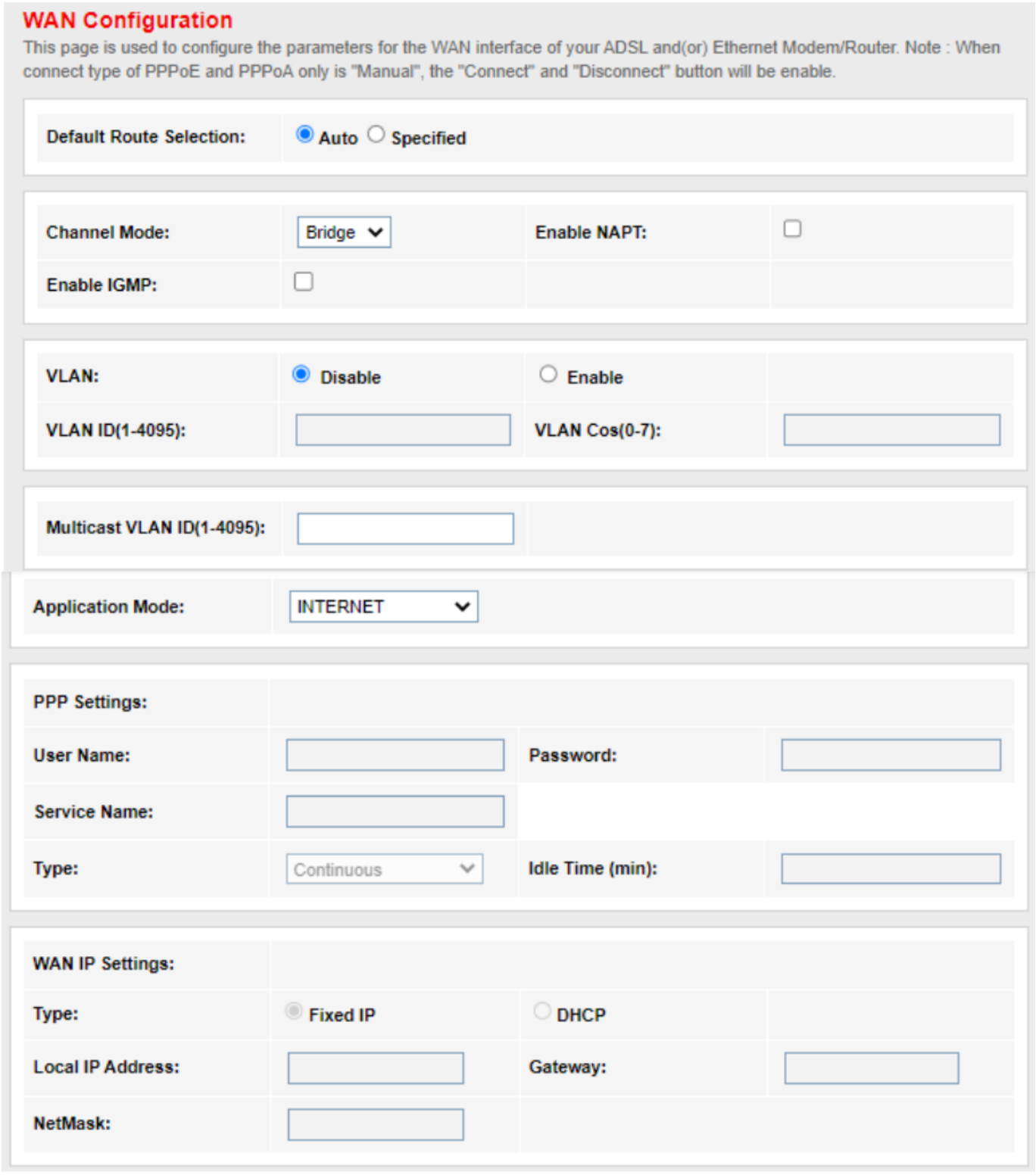


Figure 3-7: WAN Connection

PON Settings

This page is used to configure the parameters for your EPON network access.

Figure 3-8: PON Settings

LAN

LAN Interface Setup

This page is used to configure the LAN interface of your Router. Here you may change the setting for IP address, subnet mask, etc…

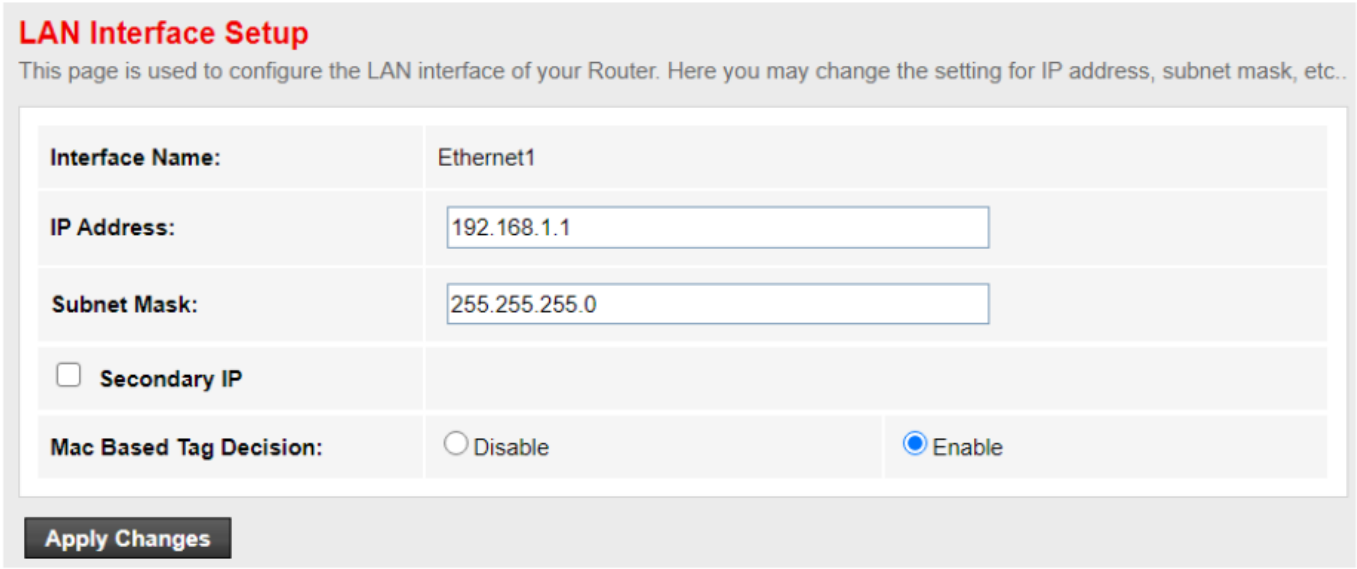


Figure 3-9: LAN Interface Setup

DHCP Mode

This page can be used to config the DHCP mode: None, DHCP Relay or DHCP Server.

1. Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to host on your LAN. The device distributes numbers in the pool to host on your network as they request Internet access.
2. Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your host on the LAN. You can set the DHCP server IP address.
3. If you choose “None”, then the modem will do nothing when the host requests an IP address.

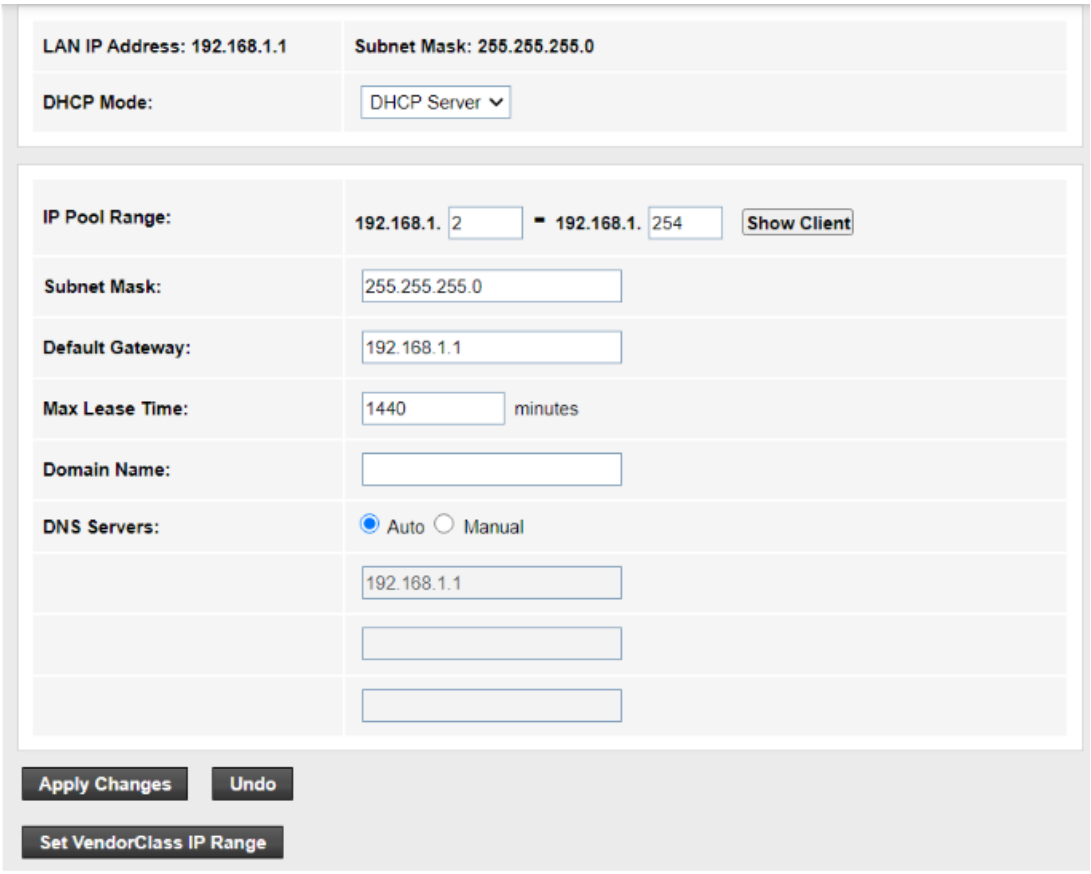


Figure 3-10: DHCP Mode

DHCP Static

This page lists the fixed IP/MAC address on your LAN. The device distributes the number configured to hosts on your network as they request Internet access.

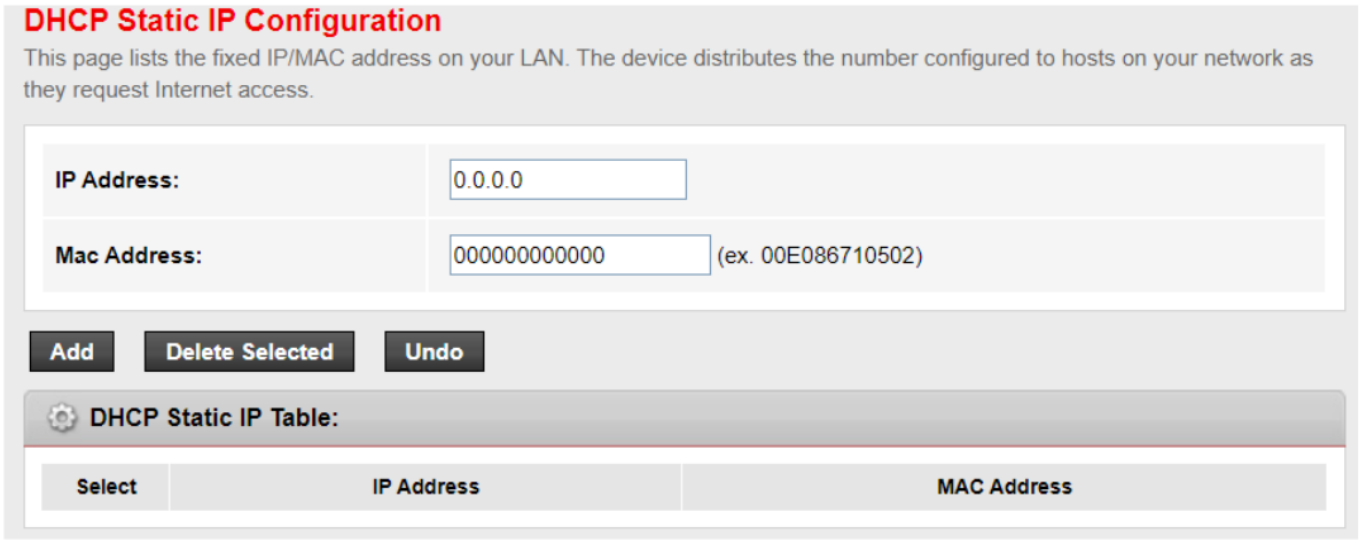


Figure 3-11: DHCP Static IP Configuration

LAN IPv6 Setting

This page is used to configurate ipv6 Lan setting. User can set Lan RA server work mode and Lan DHCPv6 server work mode.

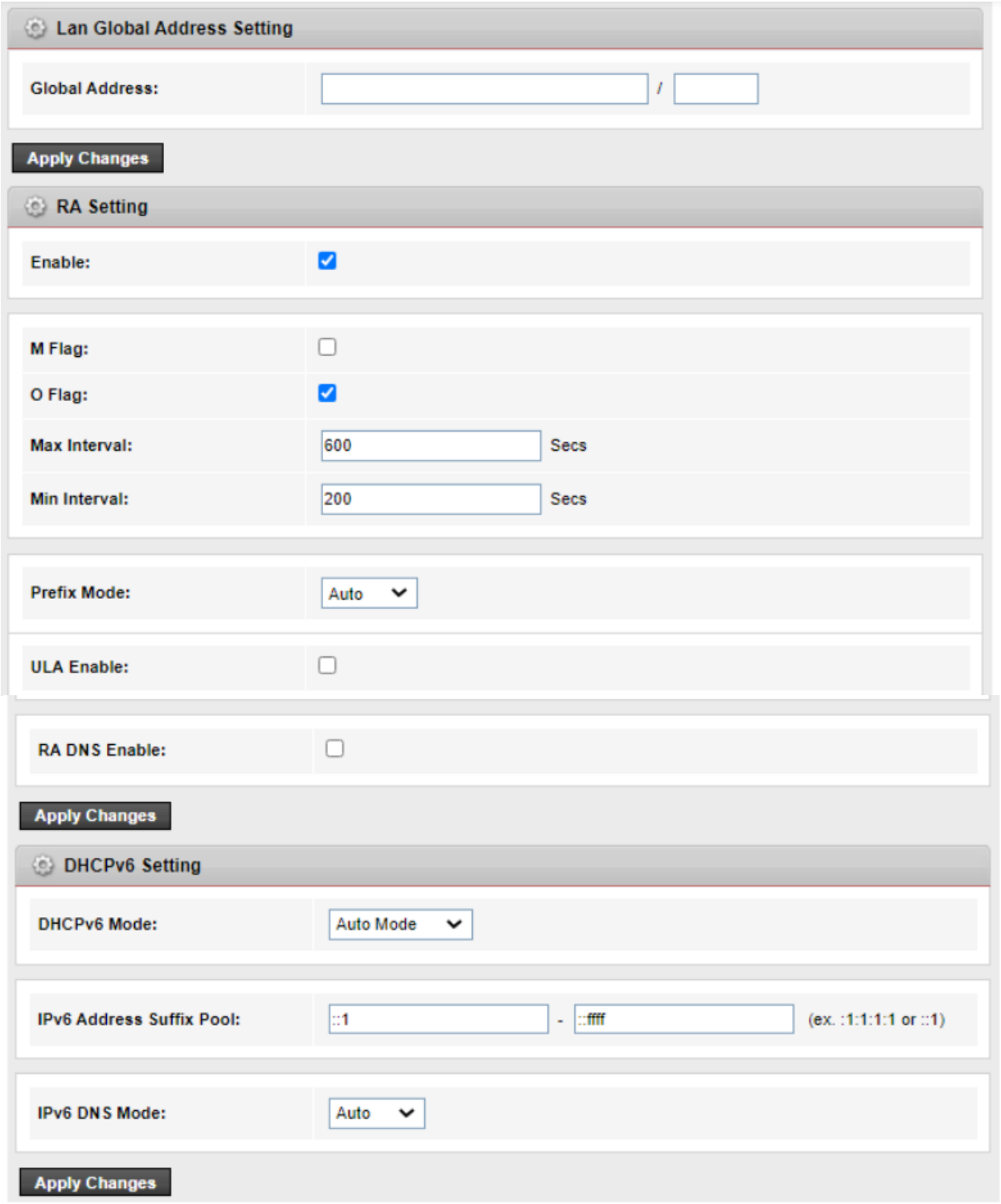


Figure 3-12: DHCP IPv6 Setting

Advanced

Route
Static Route
This page is used to configure the routing information. Here you can add/delete IP routes.

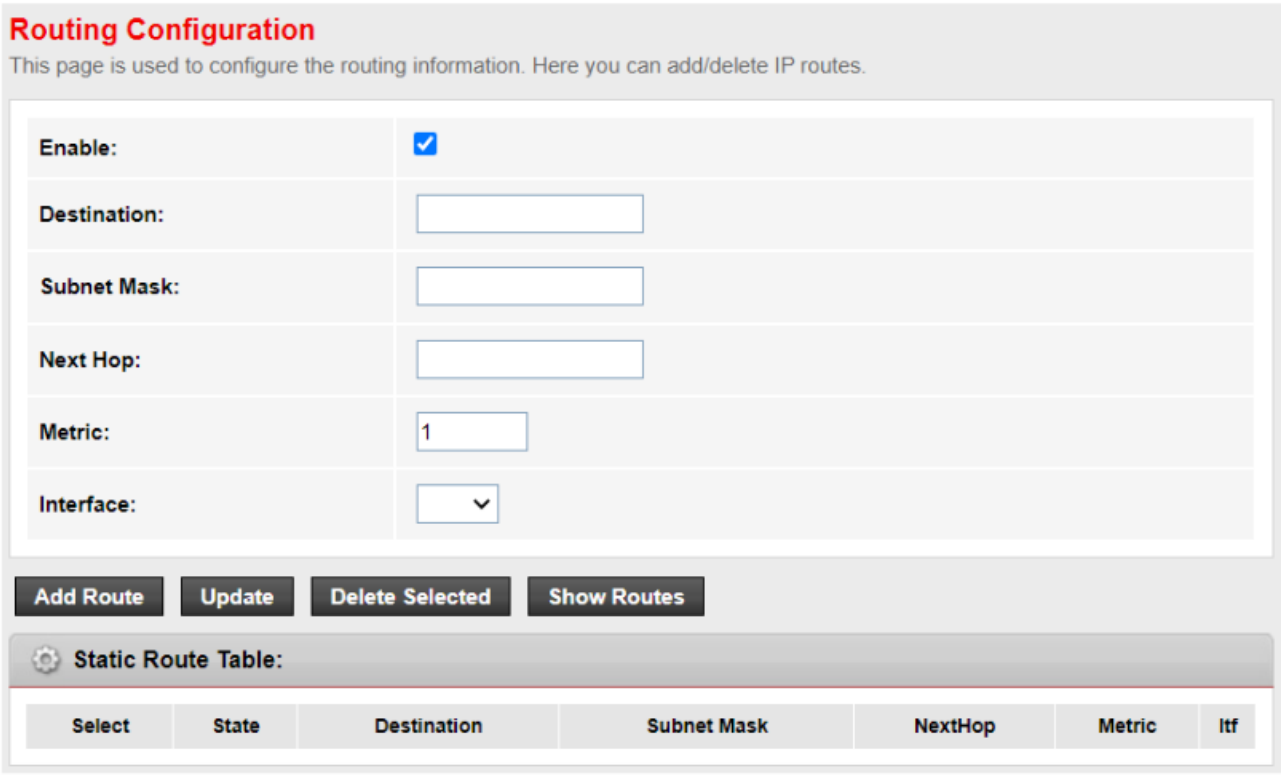


Figure 3-13: Routing Configuration

IPv6 Static Route

This page is used to configure the ipv6 routing information. Here you can add/delete IPv6 routes.

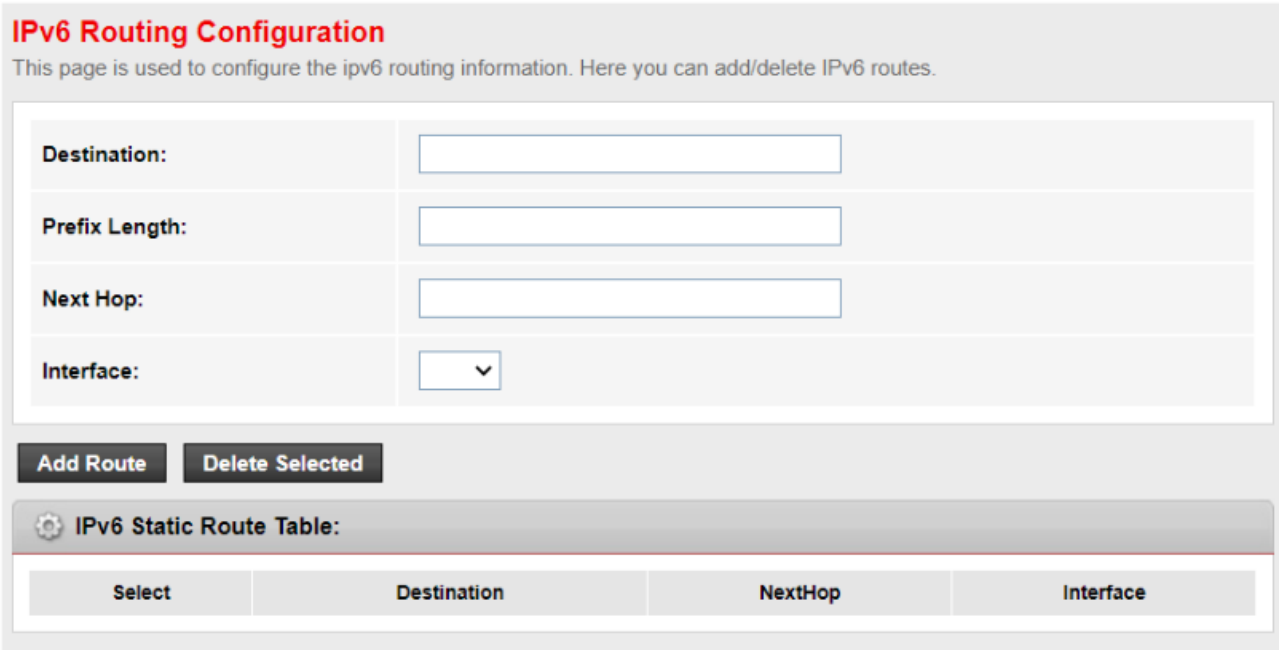


Figure 3-14: IPv6 Routing Configuration

NAT

DMZ

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

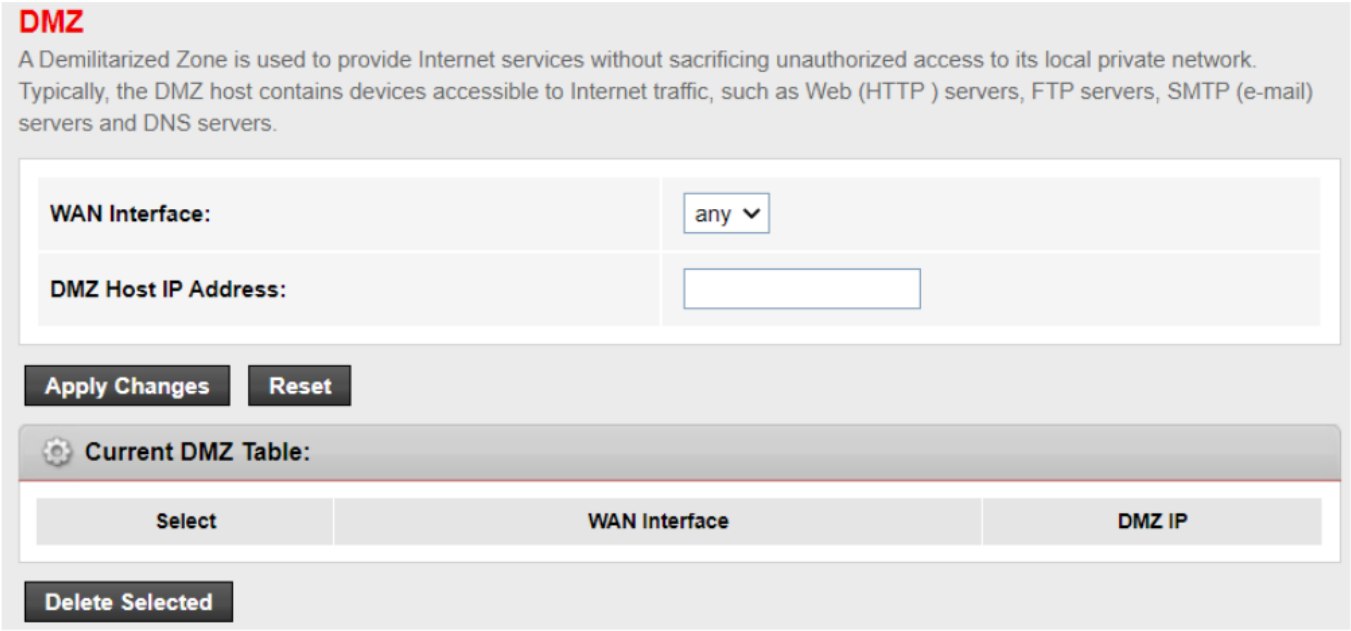


Figure 3-15: DMZ

Virtual Server

This page allows you to config a virtual server, so others can access the server through the Gateway.

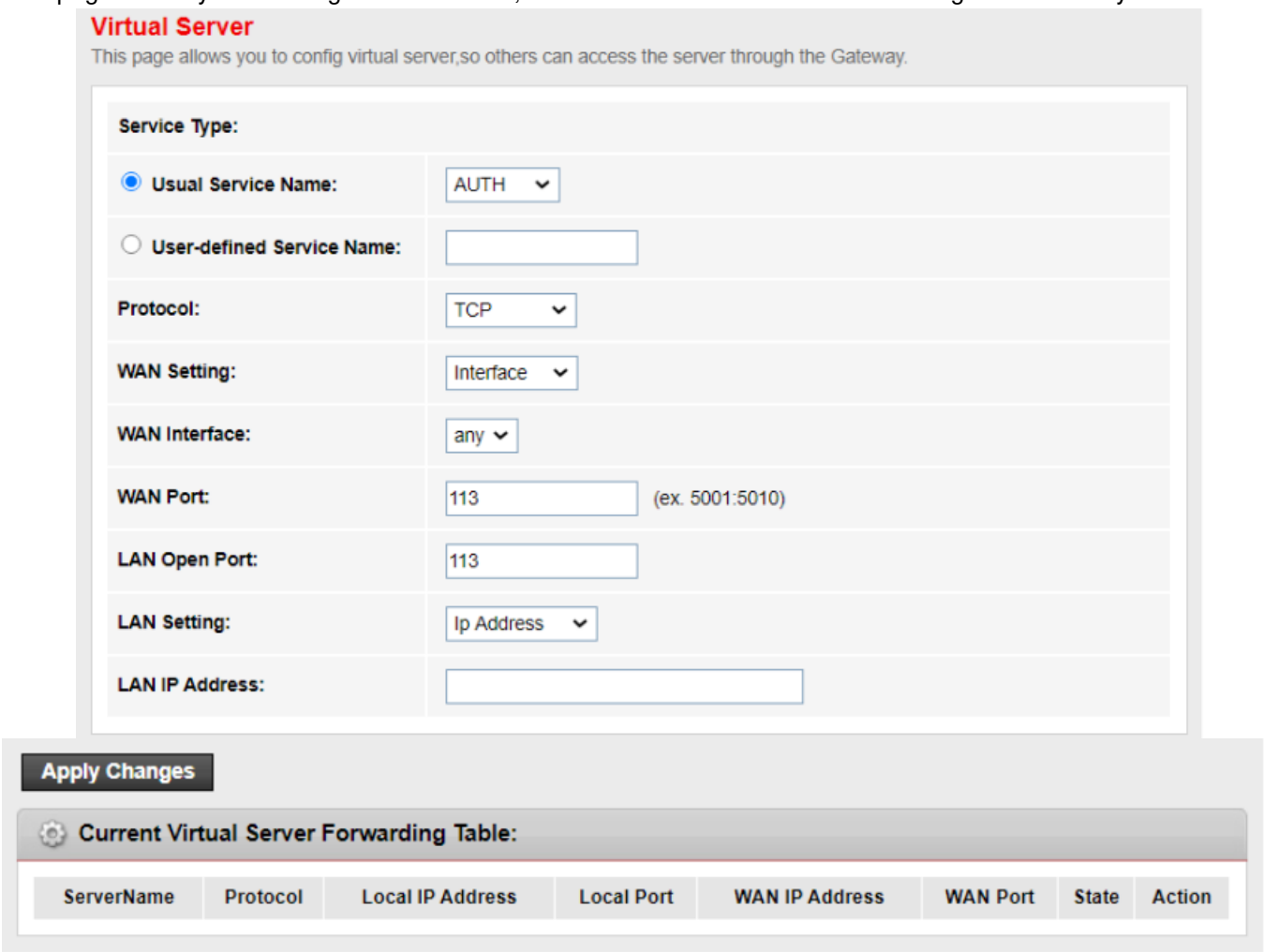


Figure 3-16: Virtual Server

ALG

Setup NAT ALG and Pass-Through configuration

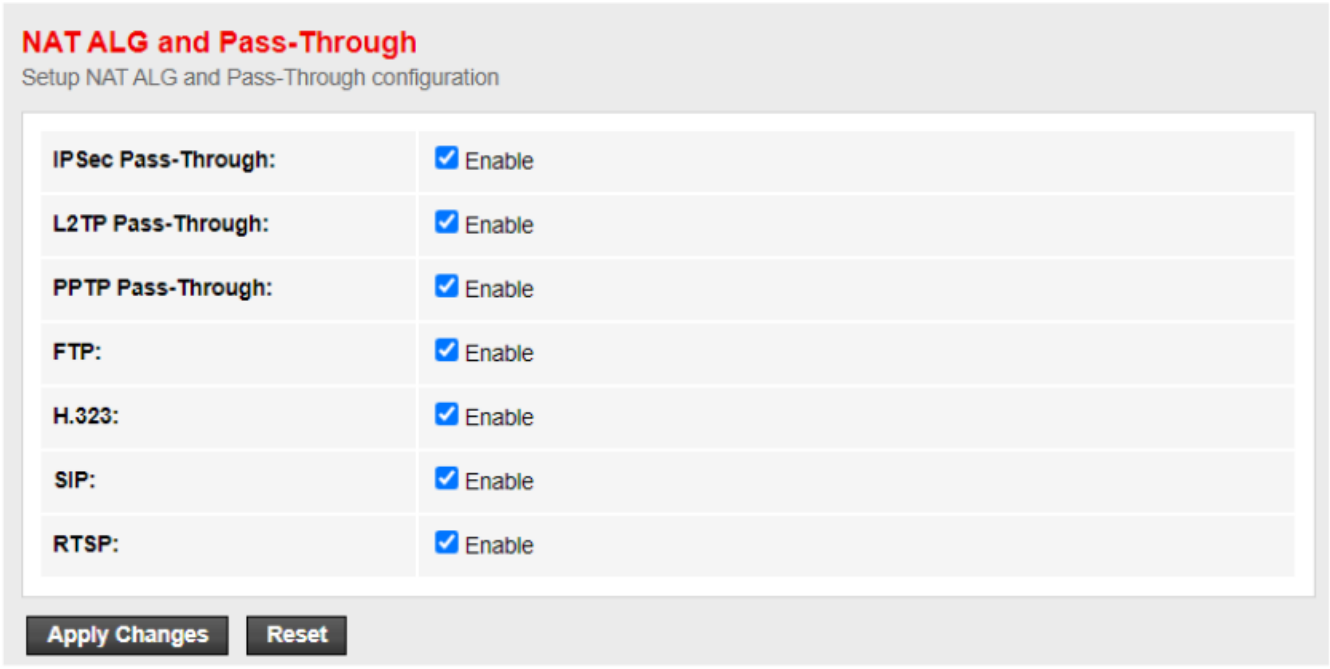


Figure 3-17: ALG

QoS

This page allows user to set QoS rules.

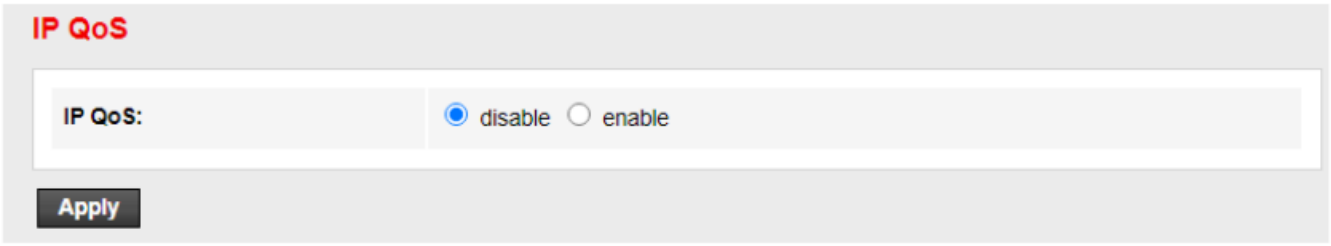


Figure 3-18: QoS Configuration

Traffic Shaping

Entries in this table are used for traffic control.

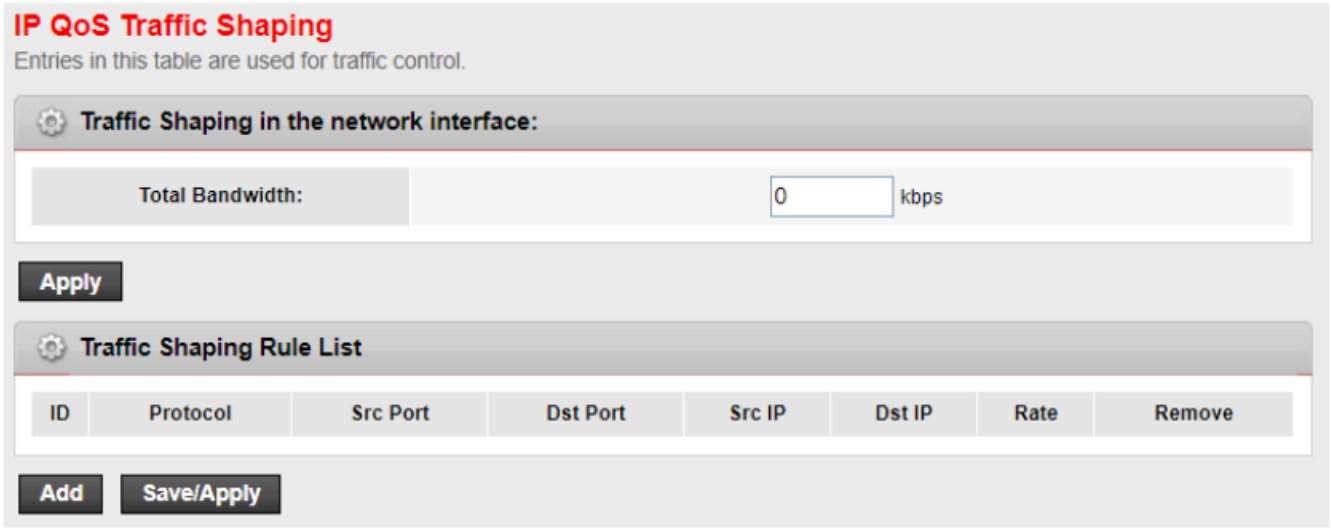


Figure 3-19: IP QoS Traffic Shaping

CWMP

This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters.

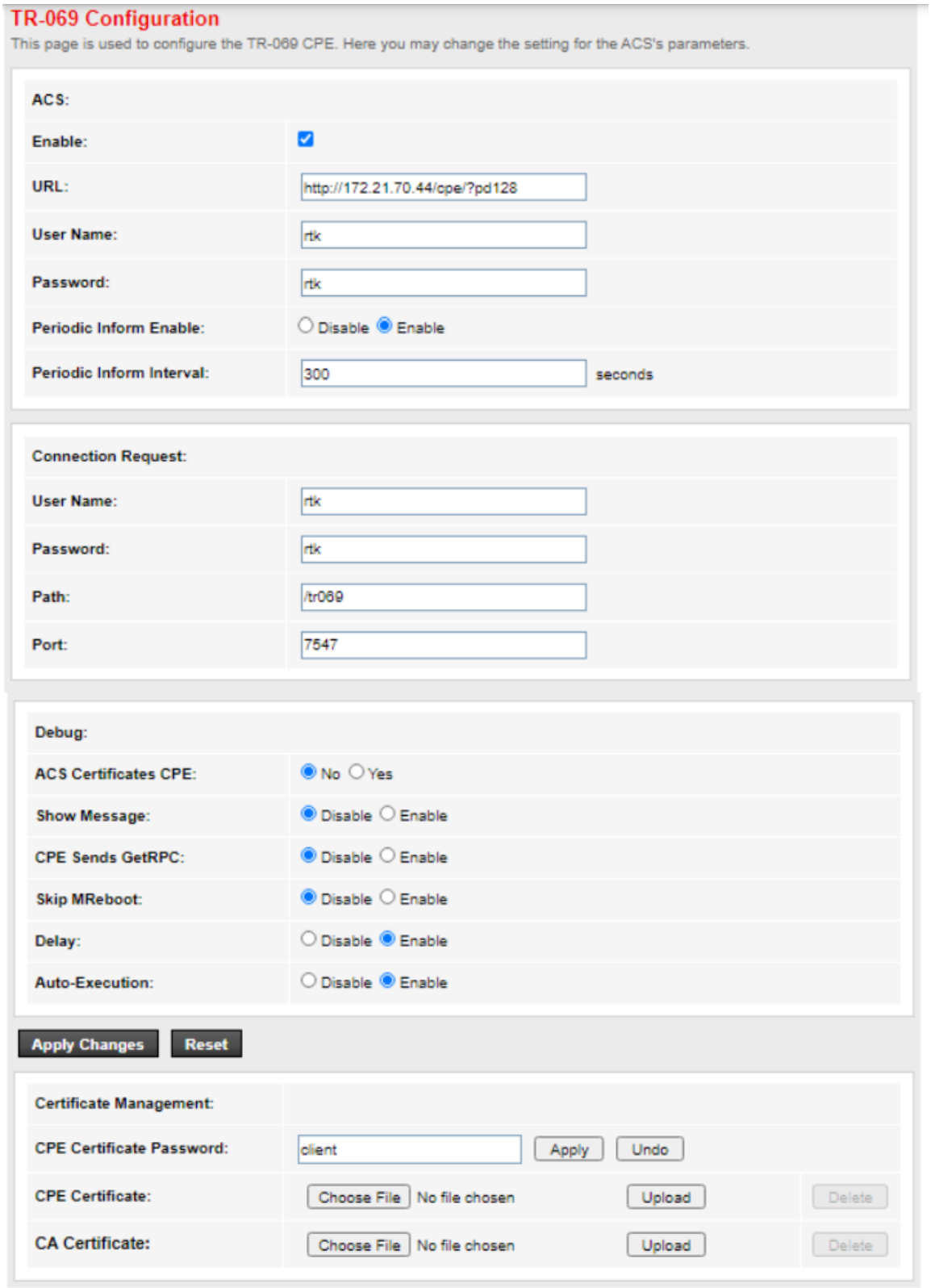


Figure 3-20: TR-069 Configuration MAC Filter

VLAN Mapping

This page is used to configure VLAN binding for Lan ports.

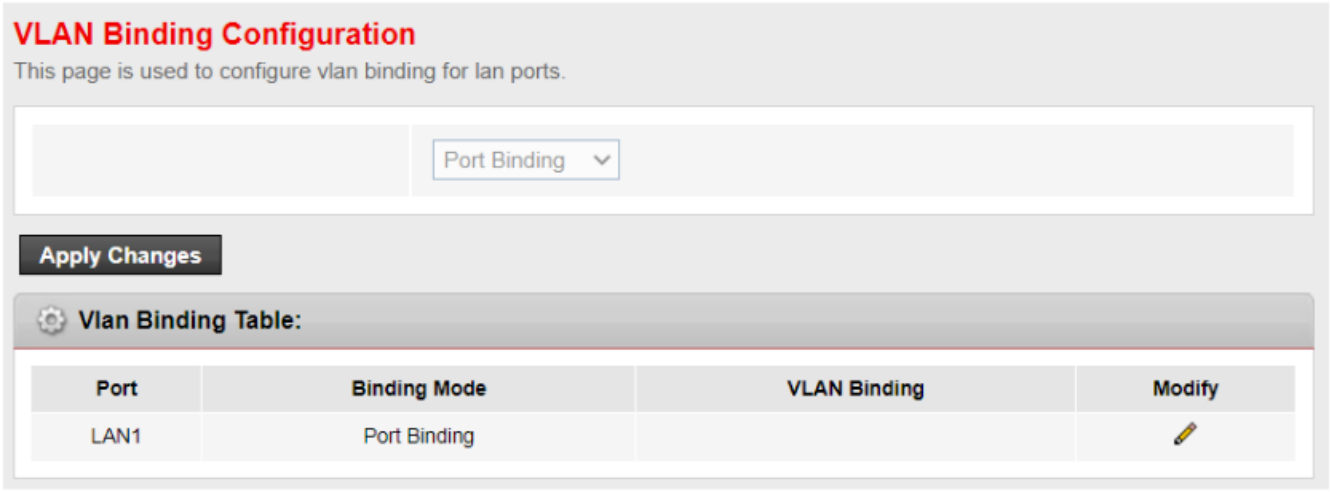


Figure 3-21: VLAN Binding Configuration

Others

This page is used to configure v6inv4 tunnel or v4inv6 tunnel.

Figure 3-22: Tunnel Configuration

Service

IGMP

1. **IGMP Proxy**
   - IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts when you enable it by doing the follows:
   - Enable IGMP proxy on WAN interface (upstream), which connects to a router running IGMP.
   - Enable IGMP on LAN interface (downstream), which connects to its hosts.

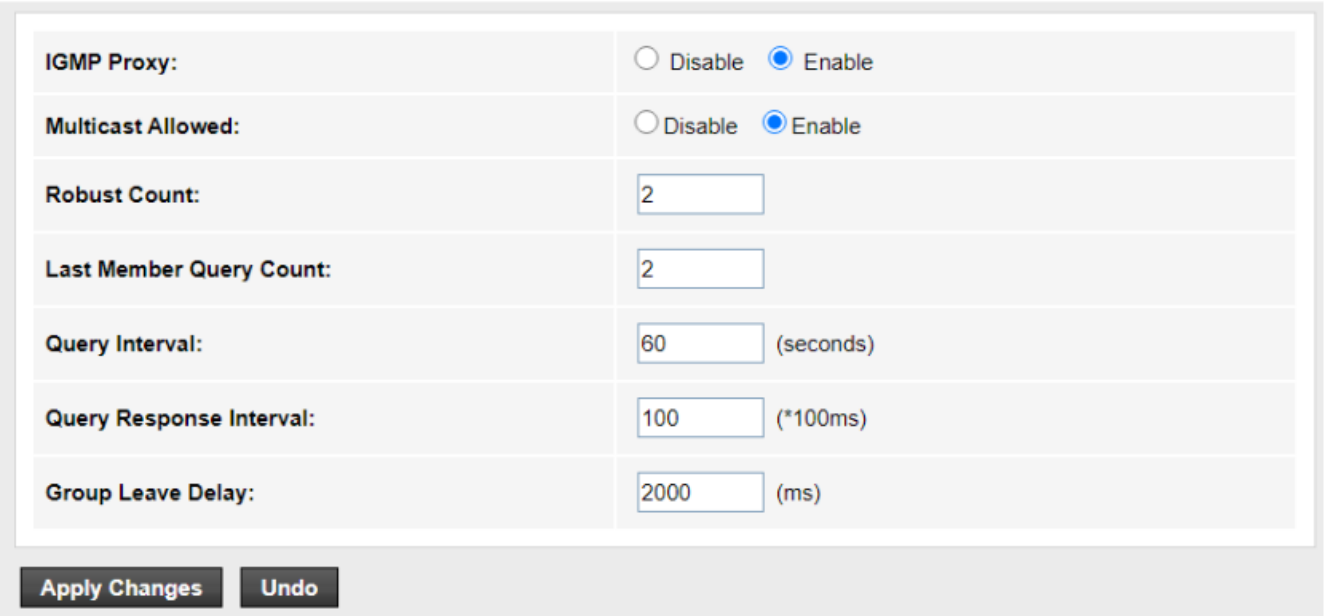


Figure 3-23: IGMP Proxy

MLD

MLD Proxy and Snooping can be configured here.

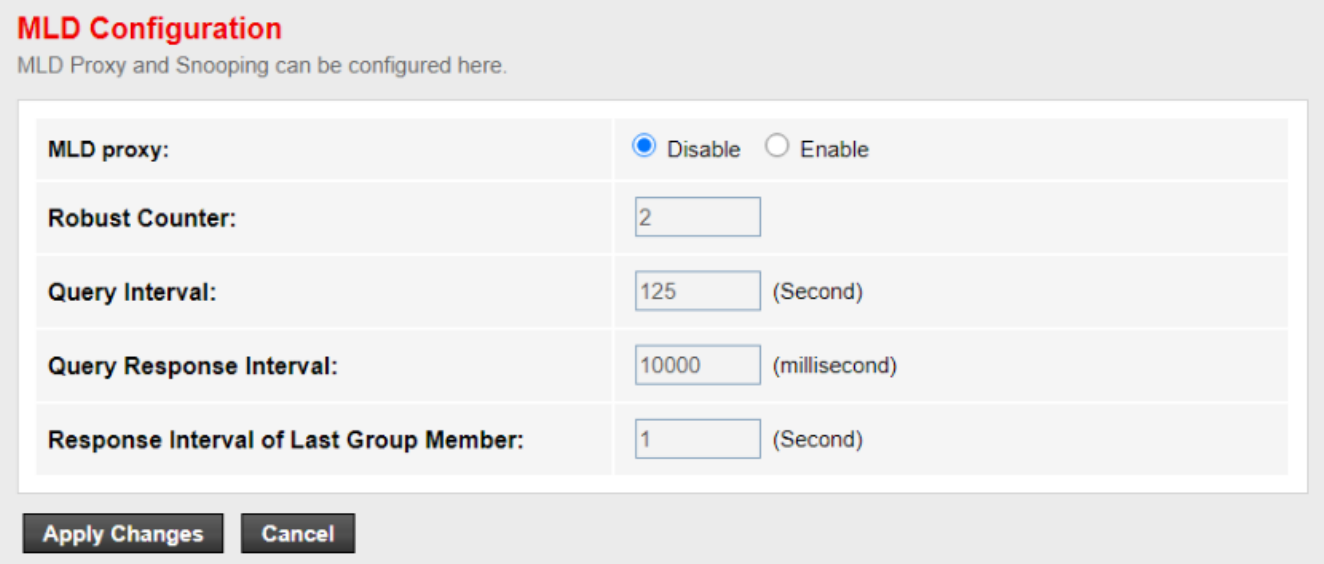


Figure 3-24: MLD Configuration

UPnP

This page is used to configure UPnP. The system acts as a daemon when you enable UPnP.

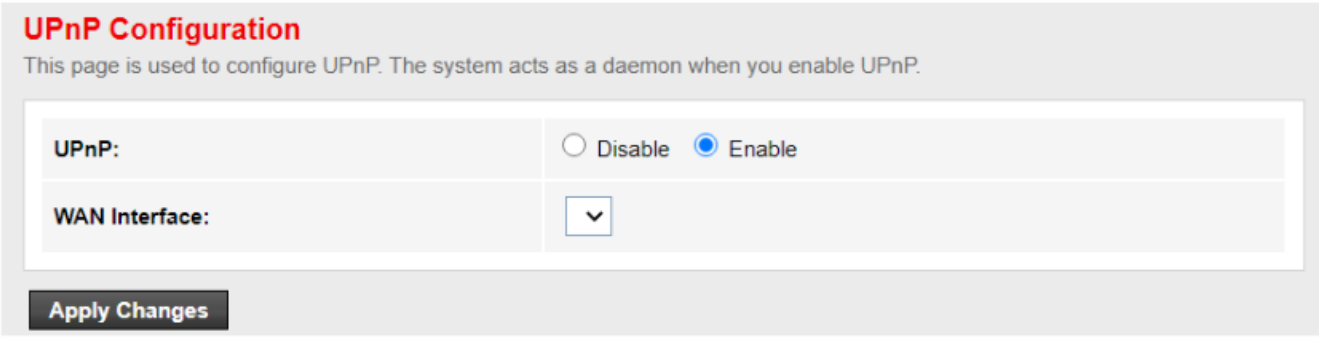


Figure 3-25: UPnP Configuration

Firewall

MAC Filtering

Entries in this table are used to restrict certain types of data packets from your local network to the Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

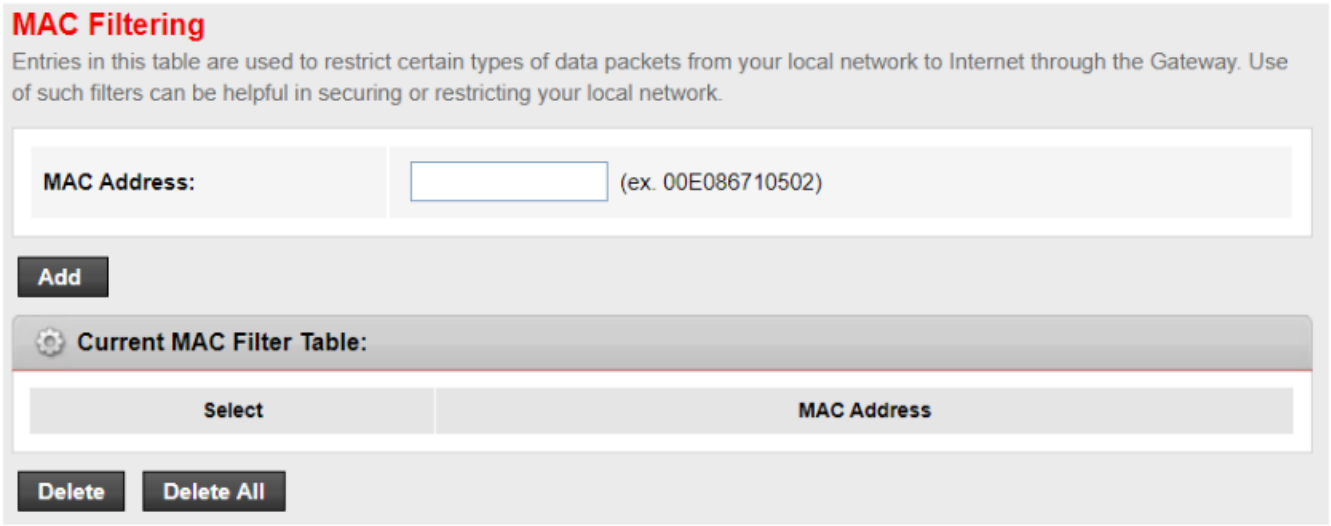


Figure 3-26: MAC Filtering

IP/Port Filtering

Entries in this table are used to restrict certain types of data packets from your local network to the Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network. This page allows user to set web page login timeout. If don't operate the web page for the time out, the account will logout automatically.

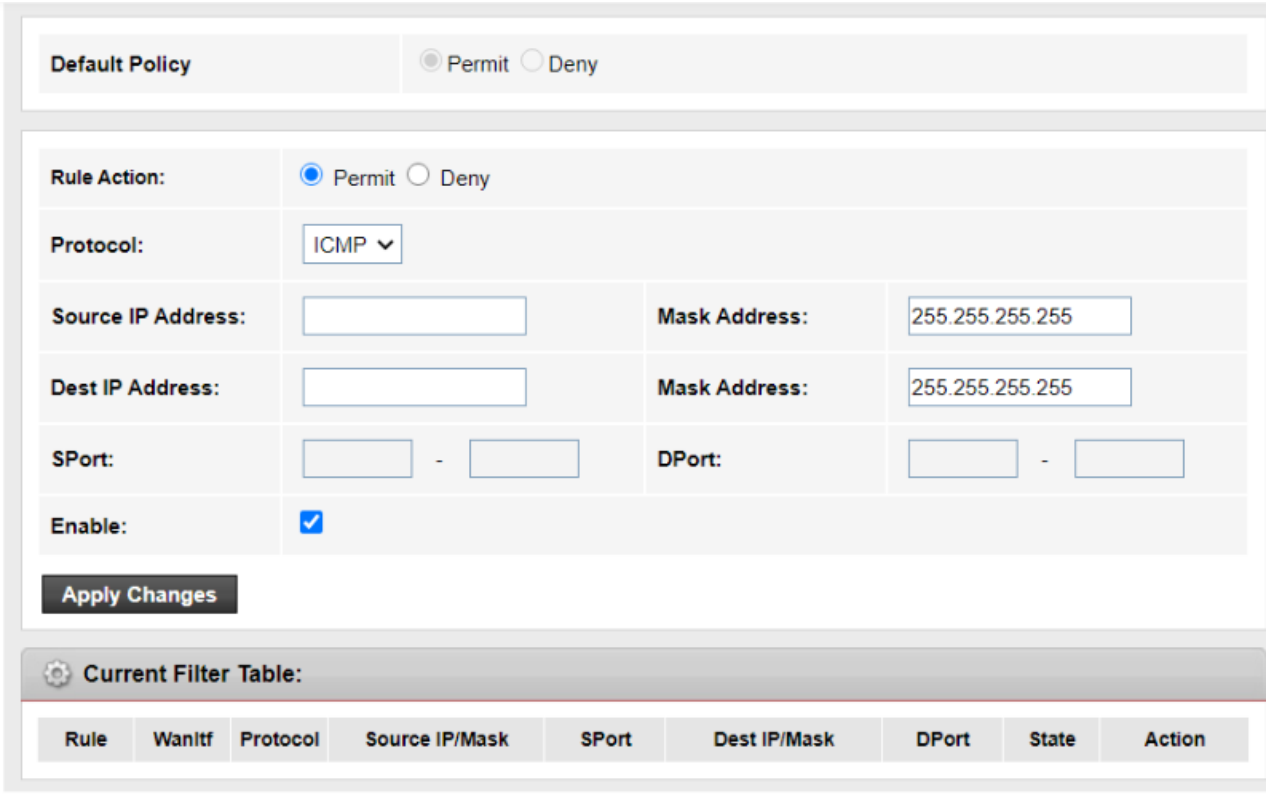


Figure 3-27: IP/Port Filtering

IPv6/Port Filtering

Entries in this table are used to restrict certain types of ipv6 data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

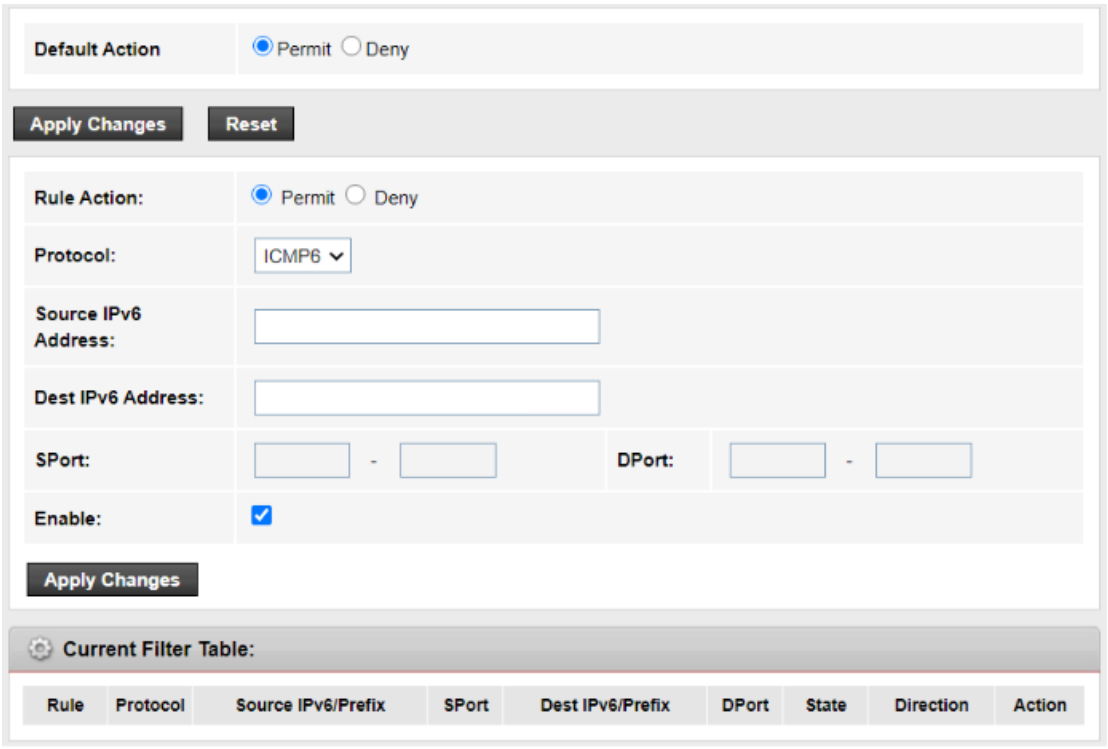


Figure 3-28: IPv6/Port Filtering

URL Filter

This page is used to configure the filtered keyword. Here you can add/delete filtered keyword.

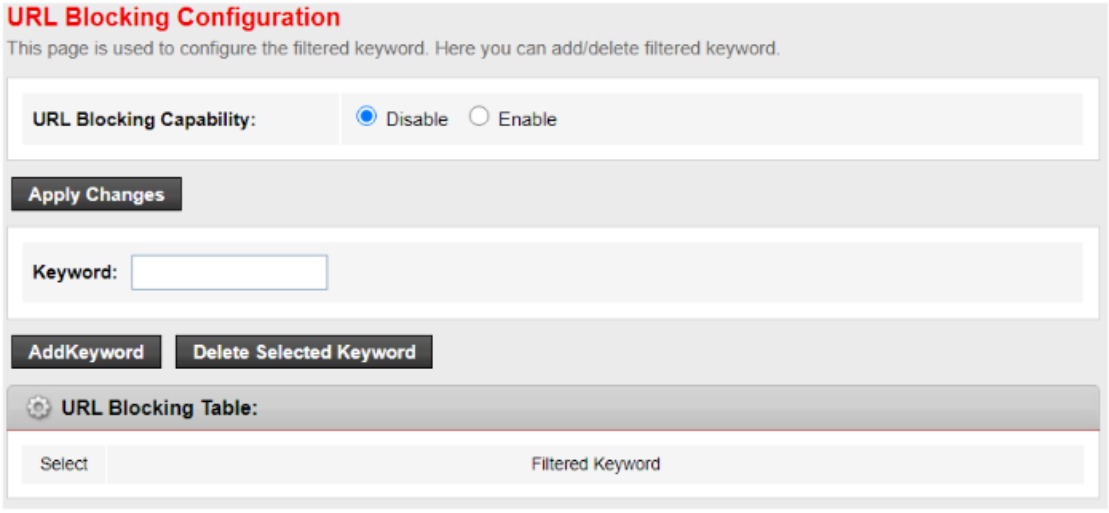


Figure 3-29: URL Blocking Configuration

ACL

- You can specify which services are accessible from LAN or WAN side.
- Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway.
- Use of such access control can be helpful in securing or restricting the Gateway management.

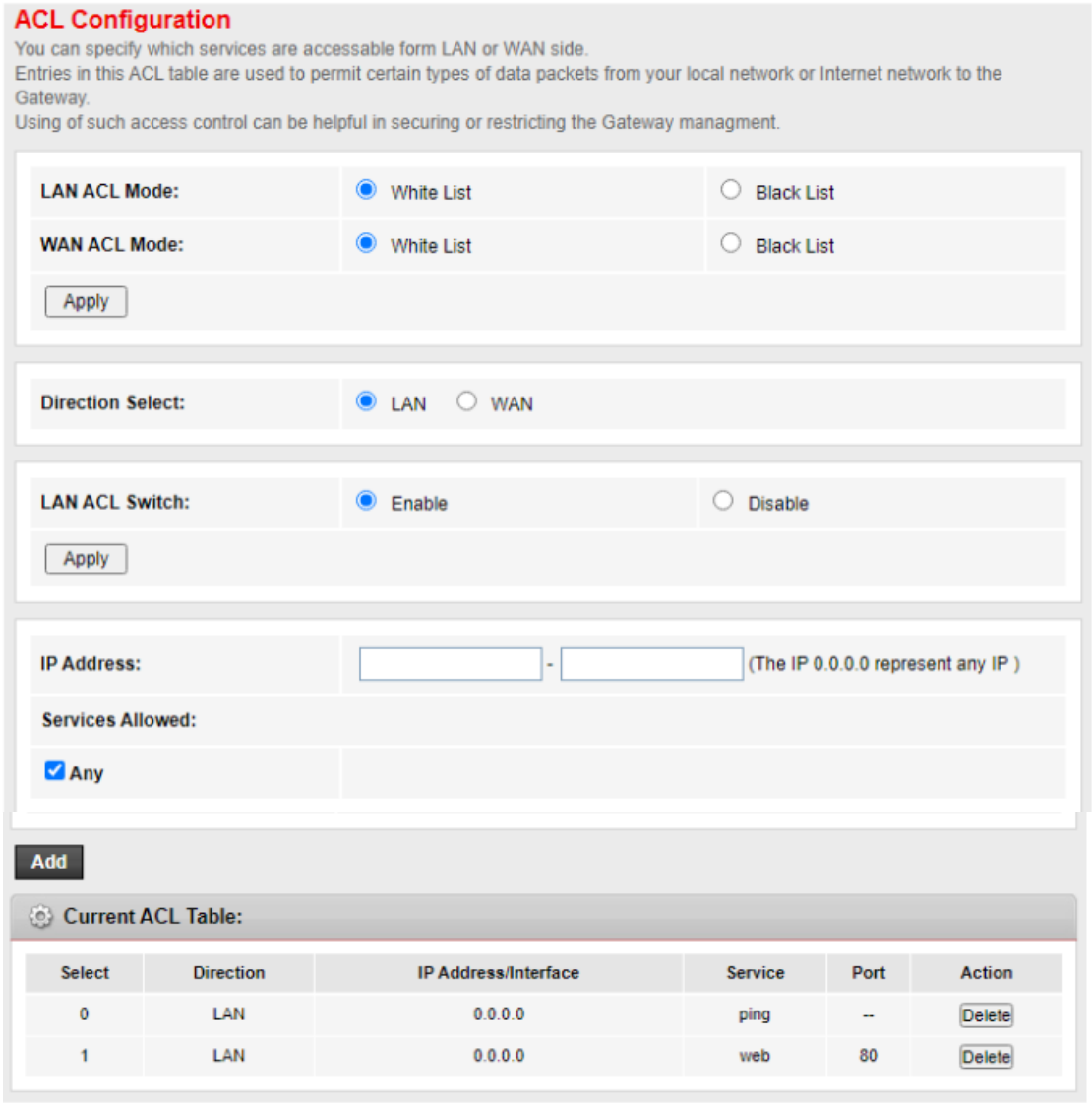


Figure 3-30: ACL

IPv6 ACL

- You can specify which services are accessible from LAN or WAN side.
- Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway.
- Use of such access control can be helpful in securing or restricting the Gateway management. This page allows the user to set port mirror for troubleshooting. After configuring port mirror, the traffic of the WAN connection will be copied and sent to the LAN port.

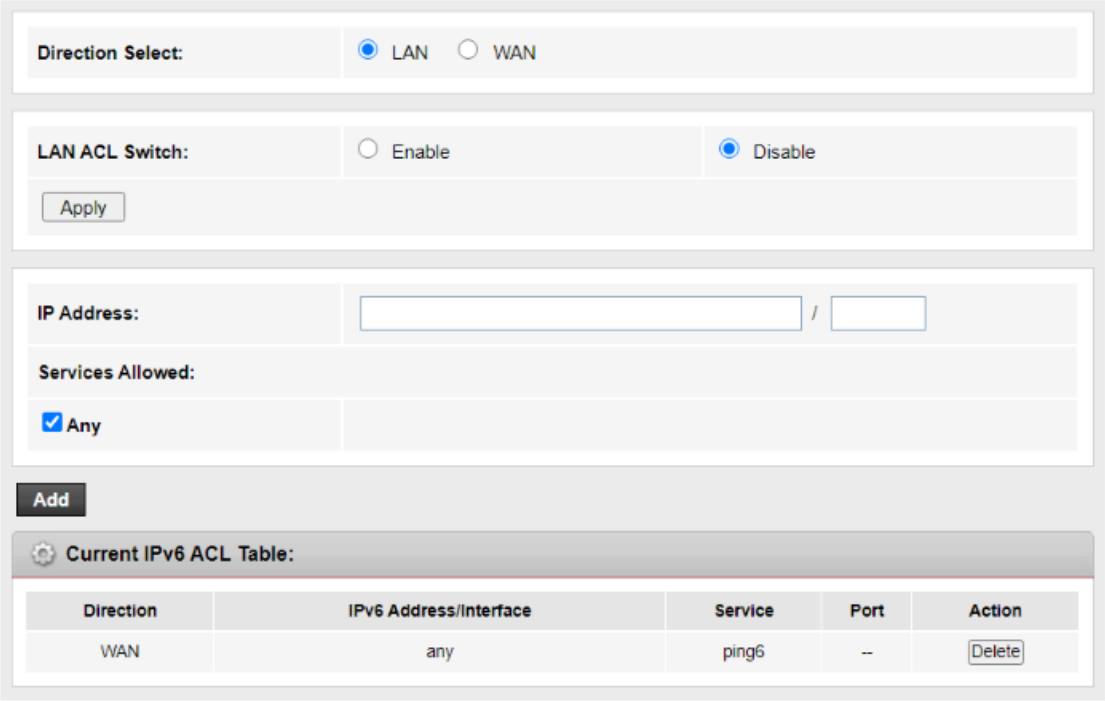


Figure 3-31: IPv6 ACL

DOS Setting

A “denial-of-service” (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service.

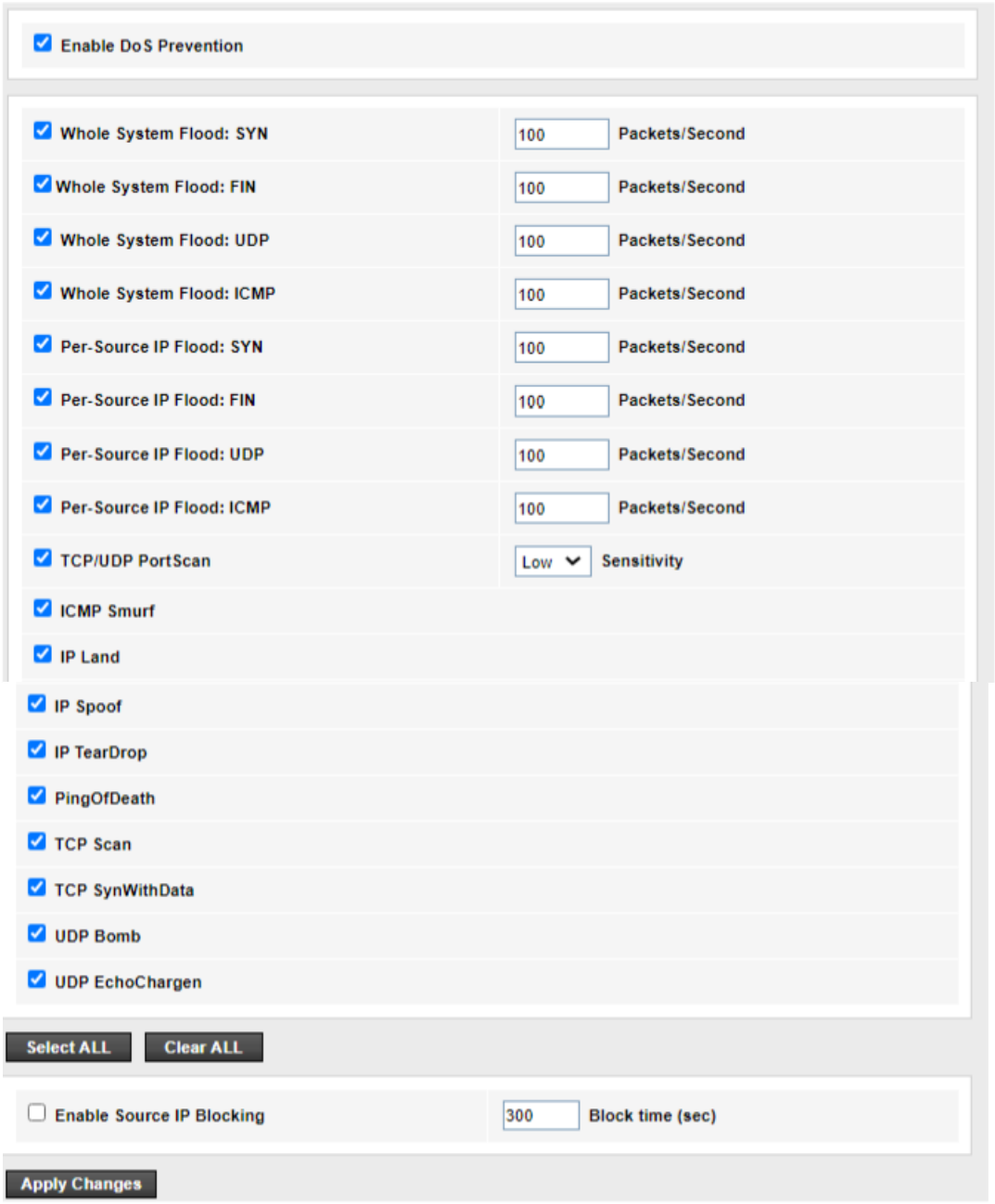


Figure 3-32: DOS Setting

Maintenance

Update
Upgrade Firmware

- This page allows you to upgrade the Router firmware to a new version. Please note, do not power off the device during the upload because it may crash the system.
- **Note:** System will reboot after file is uploaded.

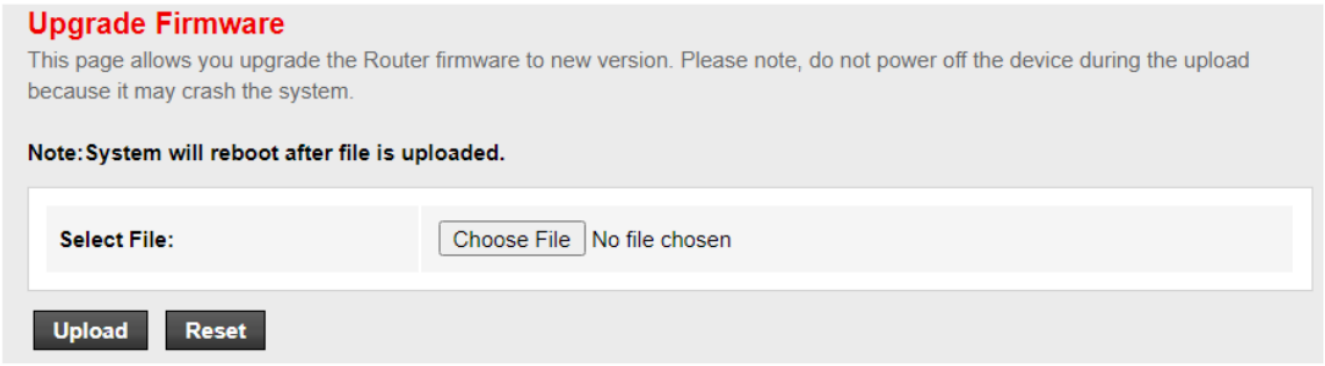


Figure 3-33: Upgrade Firmware

Backup/Upload Settings

Once the router is configured you can save the configuration settings to a configuration file on your hard drive. You also have the option to load configuration settings.

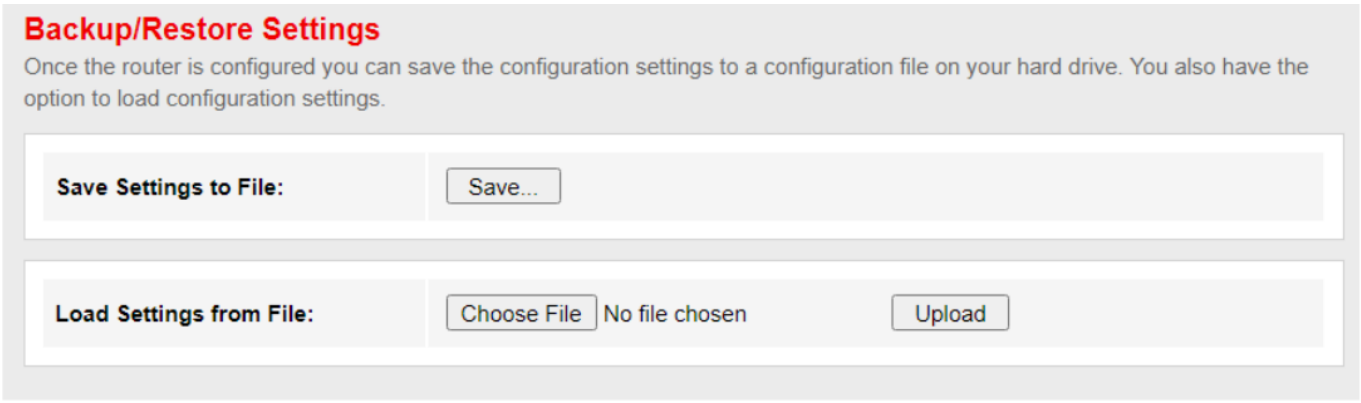


Figure 3-34: Backup/Upload Settings

Upload Logo

This page allows you to upgrade the logo. Please note, do not power off the device during the upload because it may crash the system.

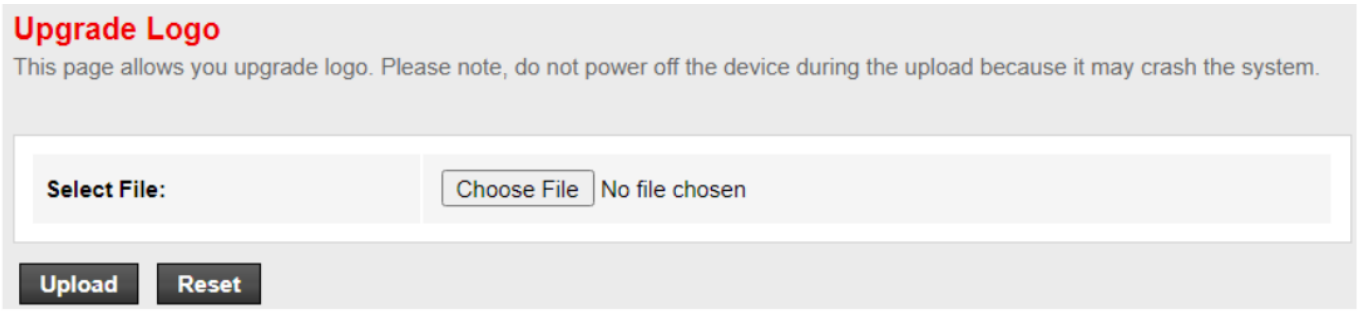


Figure 3-35: Upgrade Logo

Password

This page is used to add user account to access the web server of ADSL Router. Empty username or password is not allowed.

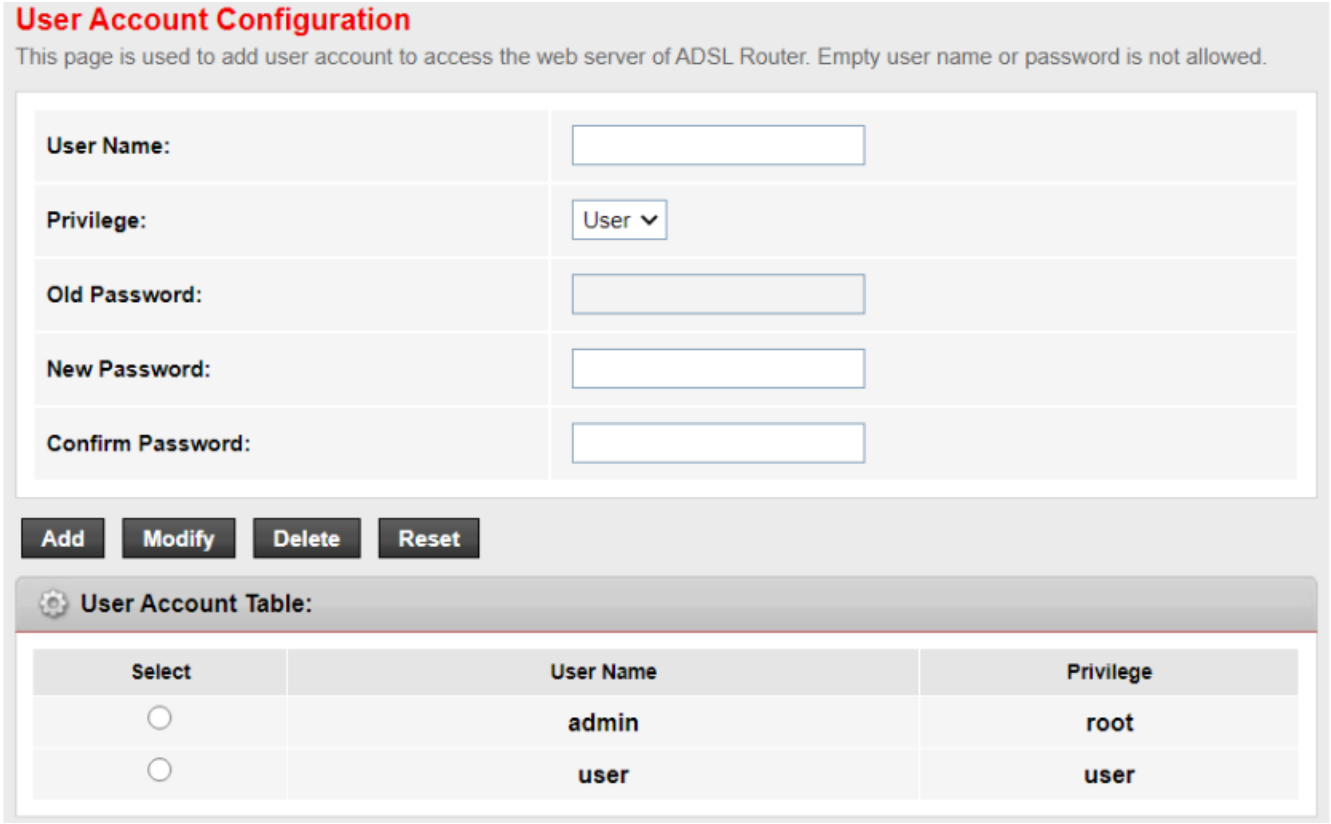


Figure 3-36: User Account Configuration

Reboot/Restore

This page is used to reboot your system or restore it to default setting.

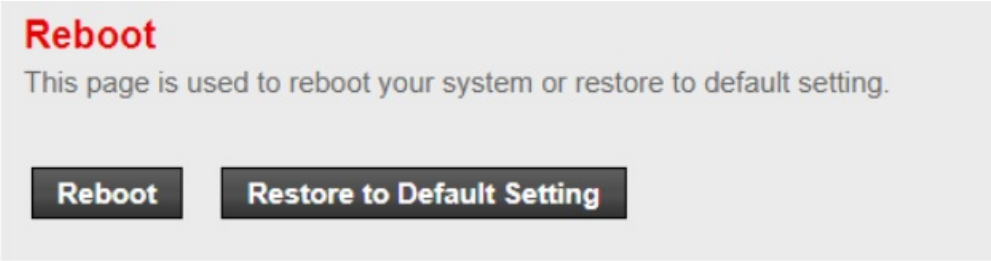


Figure 3-37: Reboot

Reset Button Configuration

This page is used to configure the reset button state.

Figure 3-38: Reset Button Configuration

Time

This page is used to configure the system time and Network Time Protocol (NTP) server. Here you can change the settings or view some information on the system time and NTP parameters.

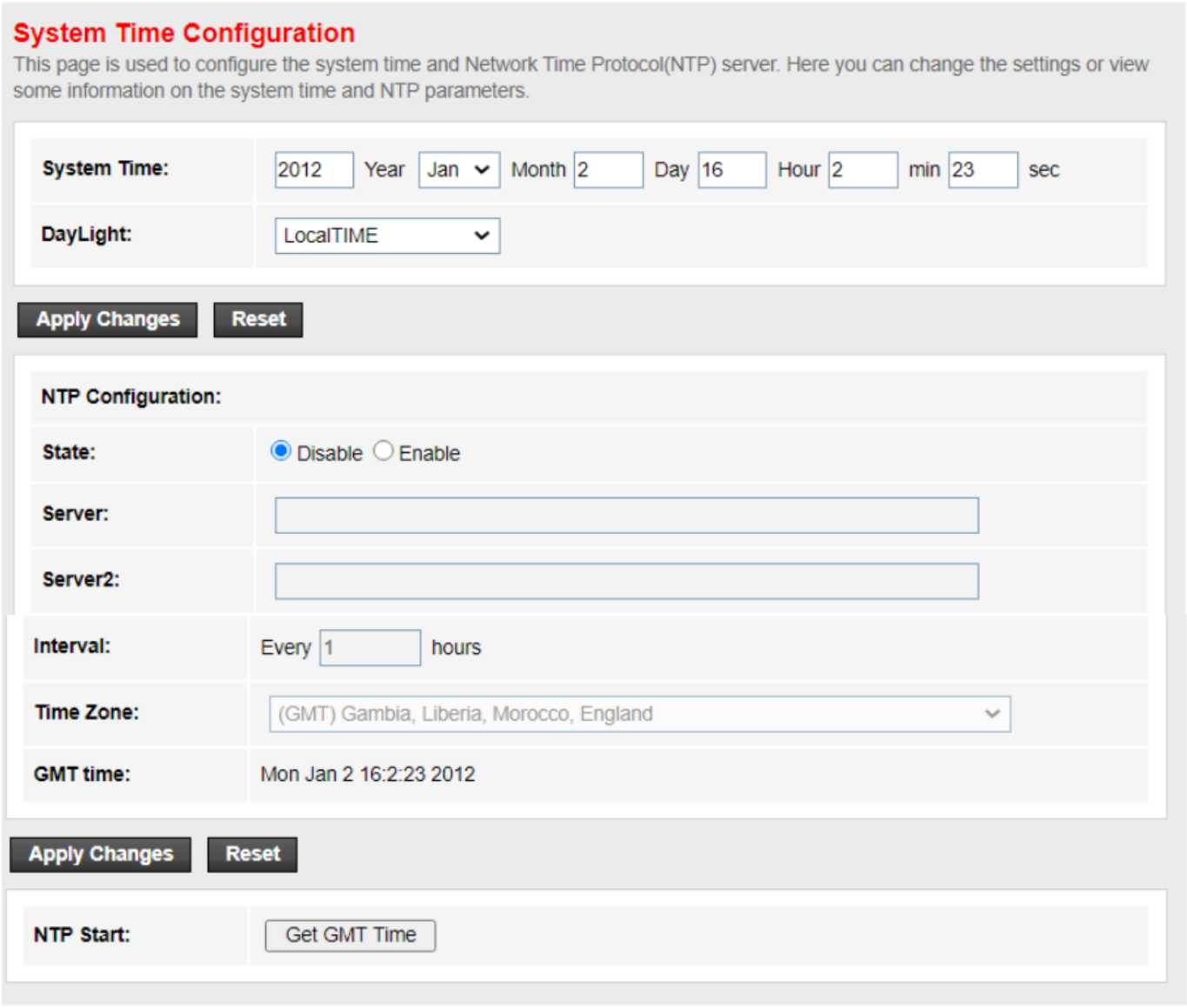


Figure 3-39: System Time Configuration

Log

This page is used to display the system event log table. By checking Error or Notice (or both) will set the log flag. By clicking the ">>|", it will display the newest log information below.

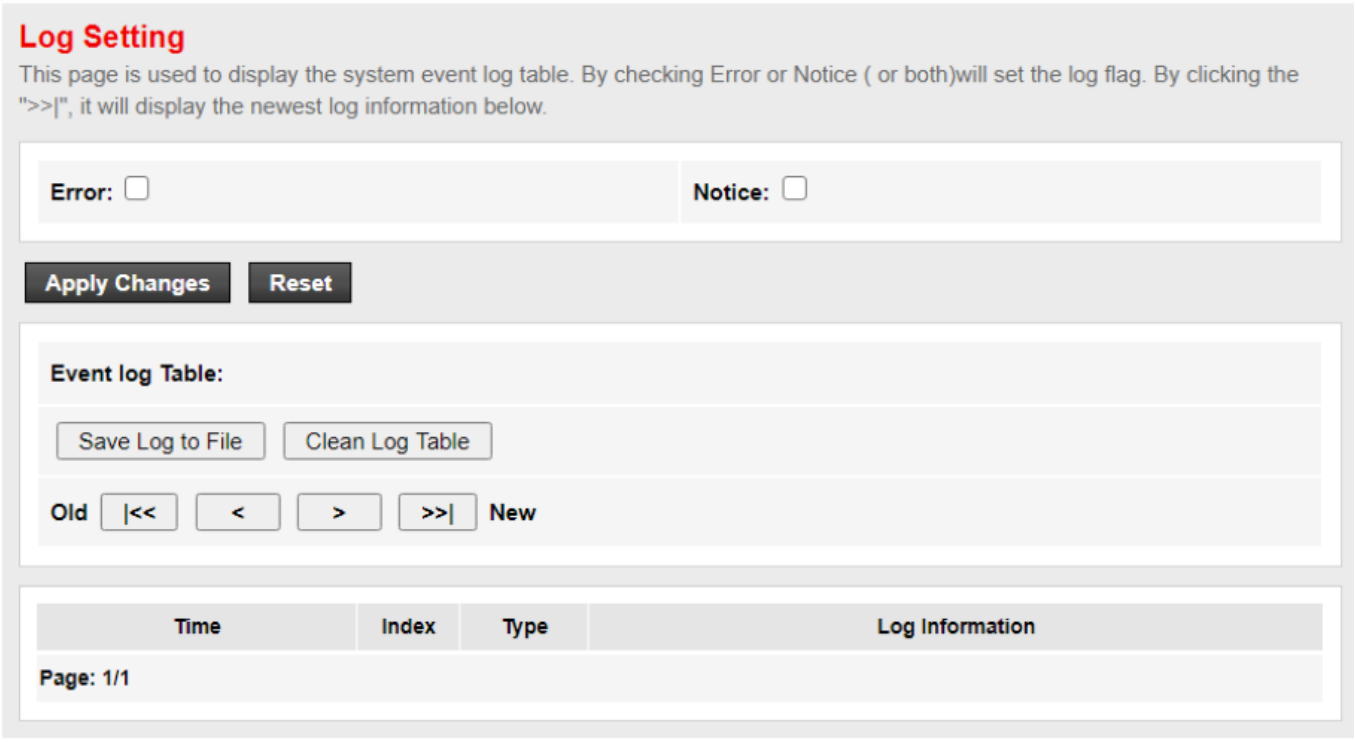


Figure 3-40: Log Configuration

Diagnostics

Ping Diagnostic

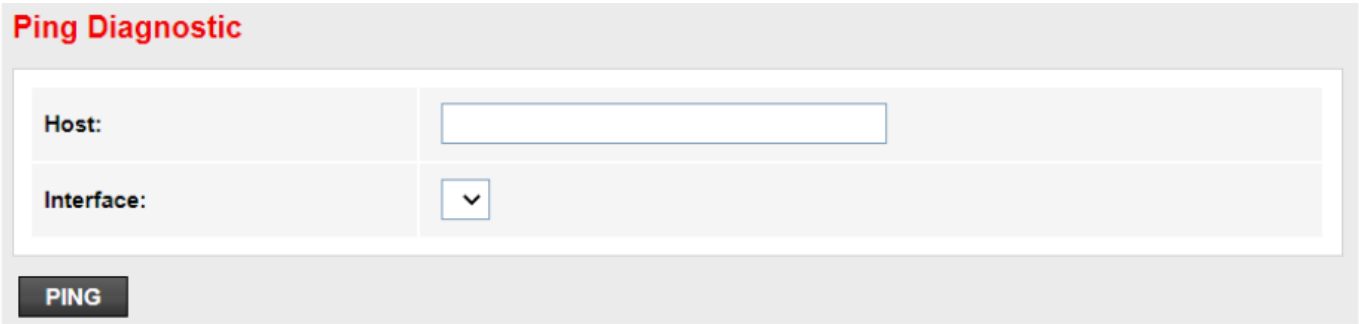


Figure 3-41: Ping Diagnostic

IPv6 Ping Diagnostic

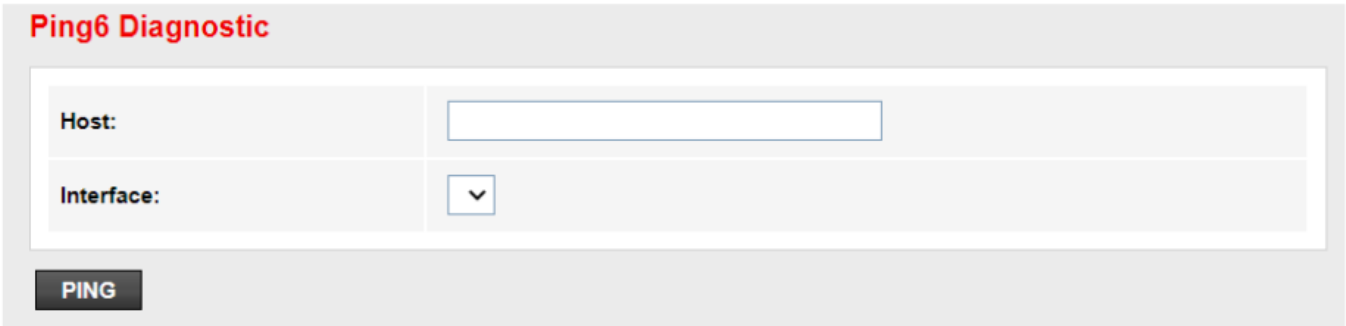


Figure 3-42: IPv6 Ping Diagnostic

Trace Route Diagnostic

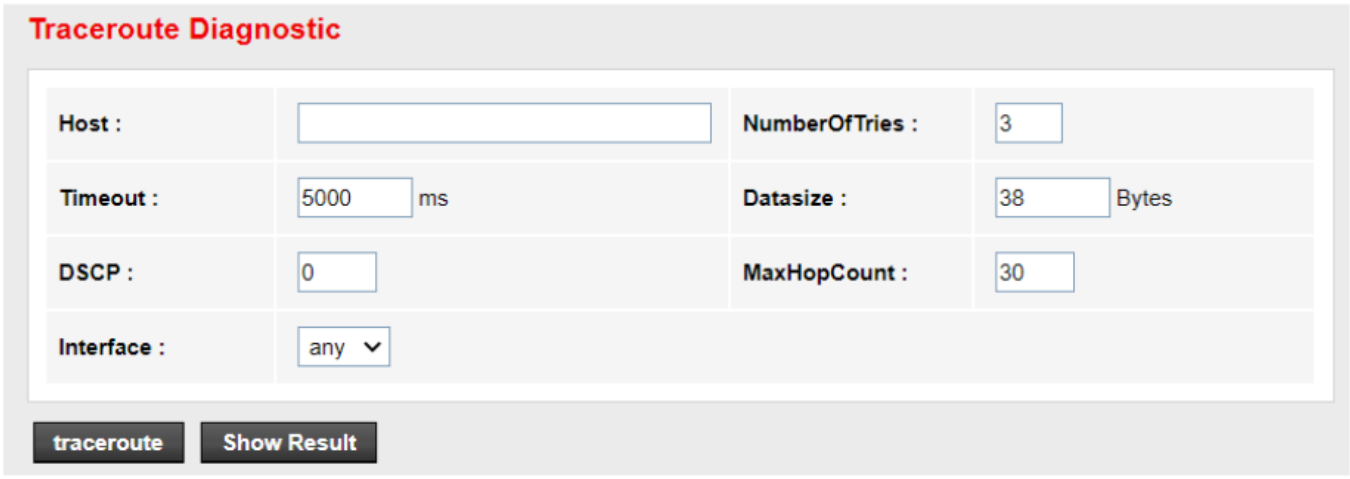


Figure 3-43: TraceRoute Diagnostic

IPv6 Trace Route Diagnostic

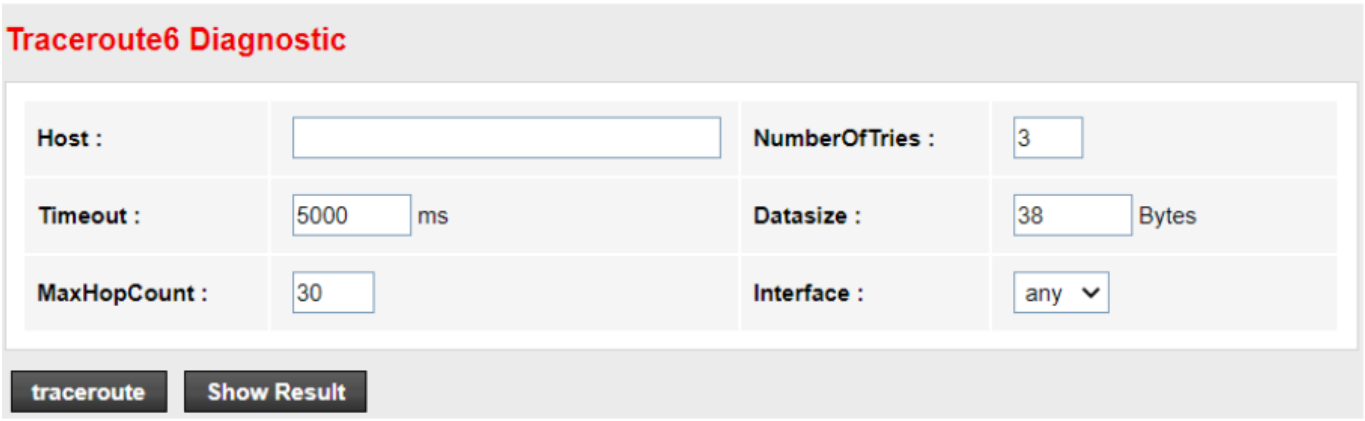
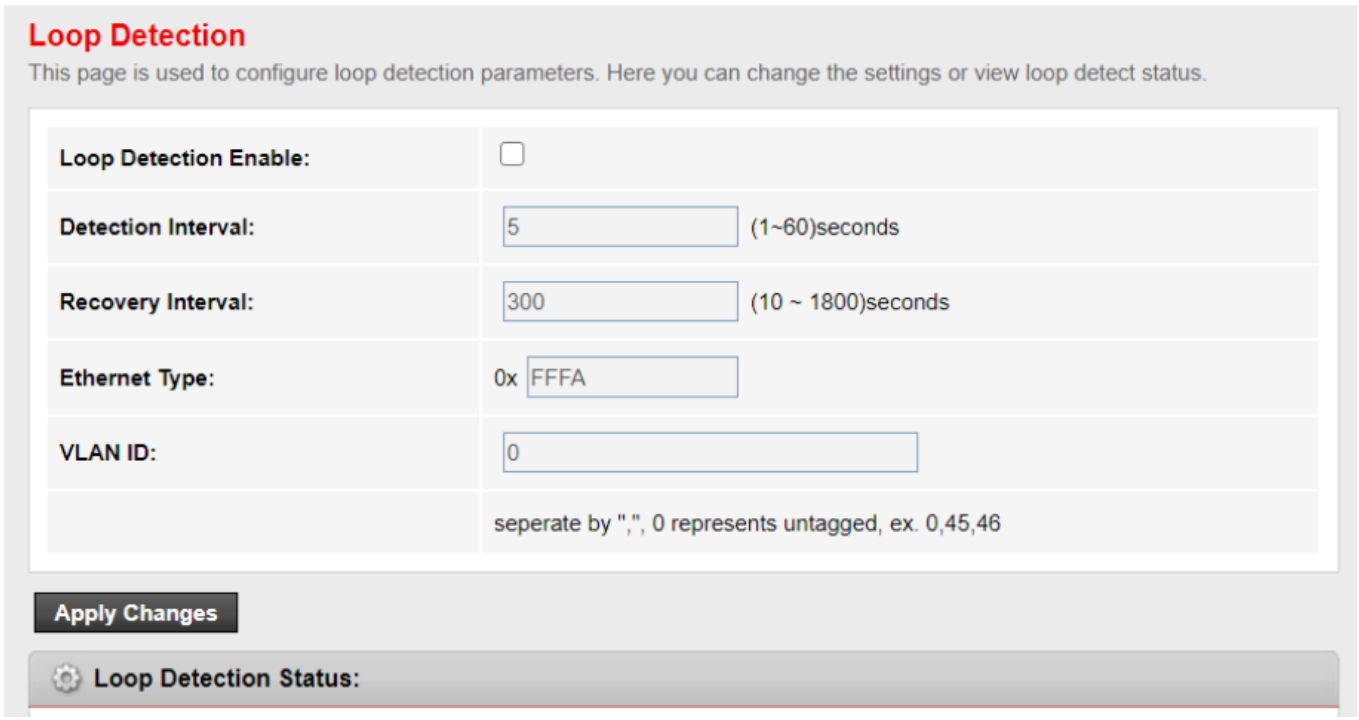


Figure 3-44: IPv6 TraceRoute Diagnostic

Loop Detection

This page is used to configure loop detection parameters. Here you can change the settings or view loop detect status.



Port	Status
LAN1	No Loop

Figure 3-45: Loop Detection

Documents / Resources

	airlive XPON ONU Wifi6 MESH Router [pdf] User Manual XPON ONU Wifi6 MESH Router, XPON ONU, Wifi6 MESH Router, MESH Router, Router

References

- User Manual