High Availability Local Networks

HALNy NETWORKS

ONT HALNy HGU
WEB Configuration

Wersja: 1.6

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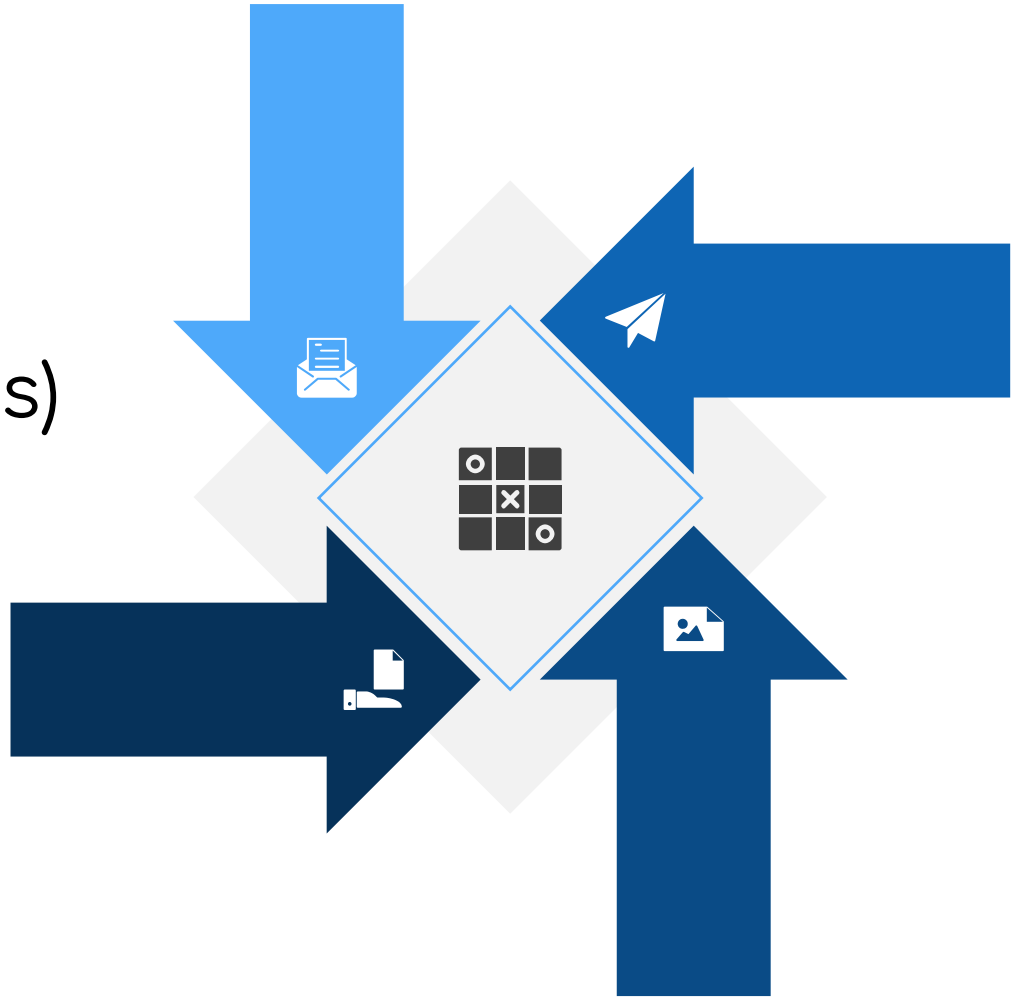
I. Interoperability (IOP)

IOP with different OLT vendors:

- HUAWEI
- DASAN
- ZTE
- CISCO (ALTICE Labs)
- ZHONE
- ALU / NOKIA
- RAISECOM
- ZYXEL



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II. WAN Concept

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ONT should support minimum up to 6 WAN interfaces:

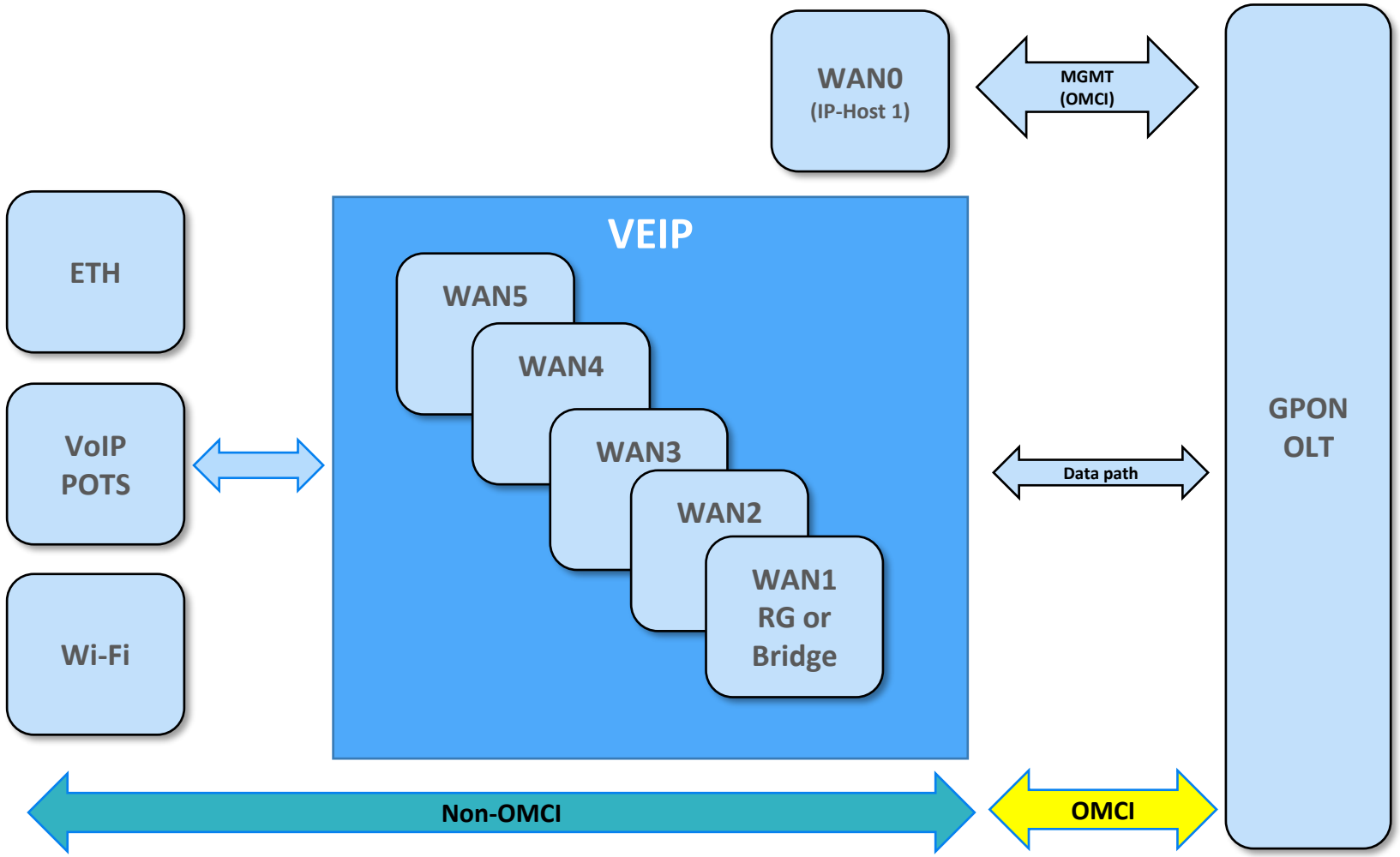
WAN 0

- Used for remote management/monitoring (WEB, SSH, SNMP) and provisioning (DHCP, TR-069),
- DHCP Client or Static IP,
- Always available – no matter of ONT VEIP configuration.

WAN 1 – WAN 5

- Part of VEIP interface (Virtual Ethernet Interface Point),
- Used for services (Internet, IPTV, VOIP),
- Controlled by WEB, provisioning or backup file,
- All UNI and SSID interfaces are belonged to one VEIP and it cannot be controlled by OMCI,
- Each WAN can be set as bridge or router.

II. WAN Concept



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III. SUPPORTED SERVICE SCENARIO

ONT Web Access

1. ONT Configuration (Bridge Mode – only INTERNET: 1-4/WIFI)
2. ONT Configuration (Bridge Mode - INTERNET: 1-4/WIFI, VOIP interface)
3. ONT Configuration (Bridge Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface)
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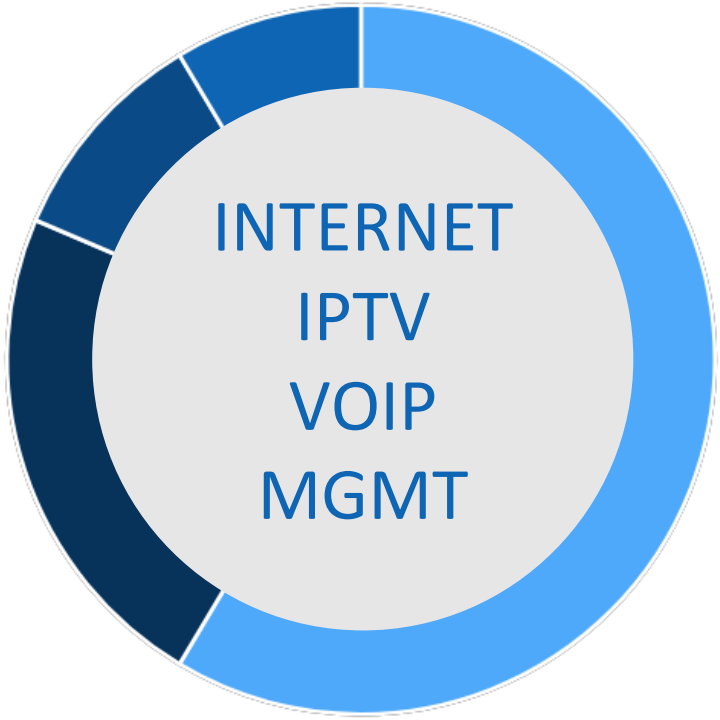
6. ONT Configuration (Router Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface)
7. ONT Configuration (Router Mode – Rate-Limit)
8. ONT Configuration (Remote management)



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ONT Web Access

Web Access via Network Connection

You can access the device's Web GUI interface remotely in the same network. You should know the device's IP address for web access.

You can check IP address from OLT side - configured on ONT IP-HOST-1

SWITCH(config-gpon-olt[1])# show onu ip-host 1

```
-----------------------------------------
 OLT : 1, ONU : 1, Host : 1(0x0000)
-----------------------------------------
 IP Option                    : DHCP
 MAC Address        : e0:5a:9f:6x:xx:xx
 Current IP         : 10.10.10.2
 Current Mask       : 255.255.255.0
 Current Gateway    : 10.10.10.254
 Current Primary DNS   :
 Current Secondary DNS :
 Domain name        :
 Host name                    :
```

1. Connect your PC to the network accessible to the device.
2. Open a web browser, and enter http://IP_ADDRESS in a URL field, and then press Enter.
3. Type LOGIN/PASSWORD in each field, and log into the system by clicking OK.

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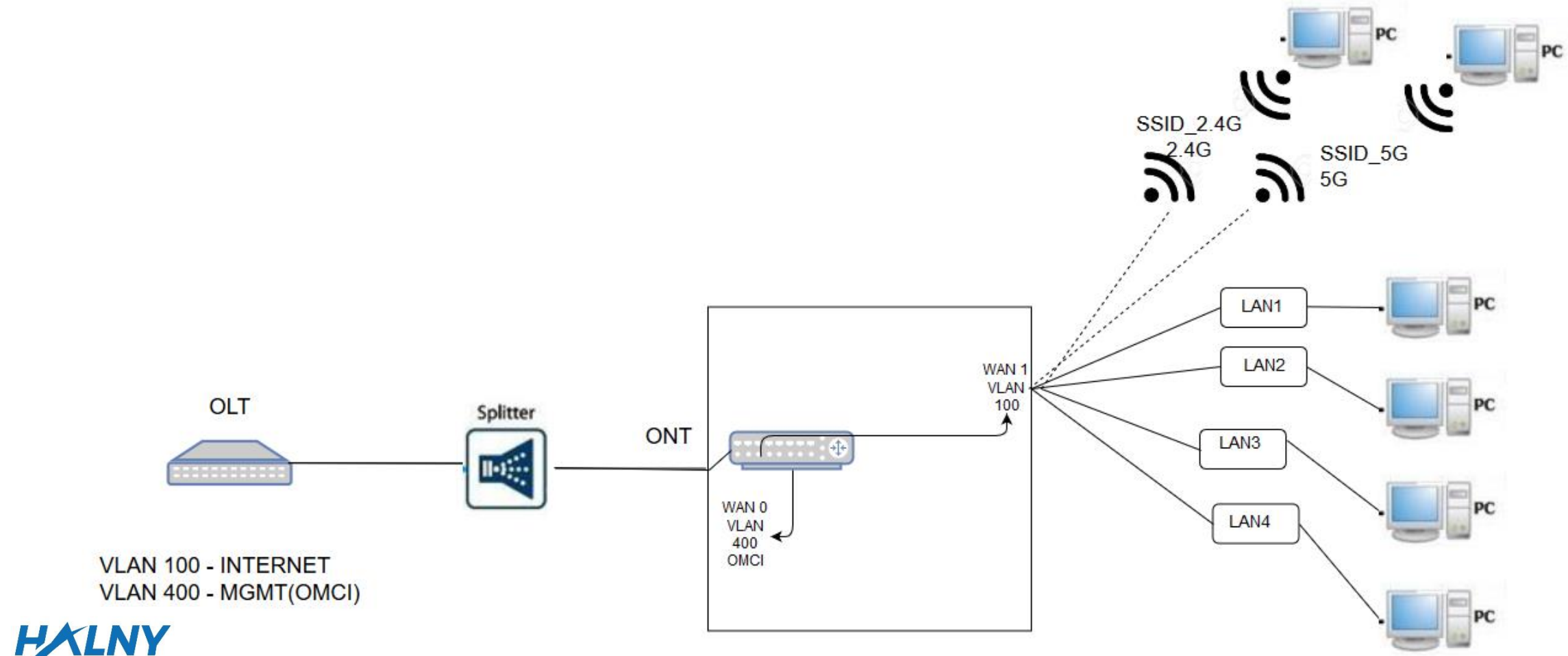
1. Bridge Mode – only INTERNET: 1-4/WIFI

- WAN1 – Bridge mode
- VLAN configuration on WAN0
- LAN1-LAN4, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)



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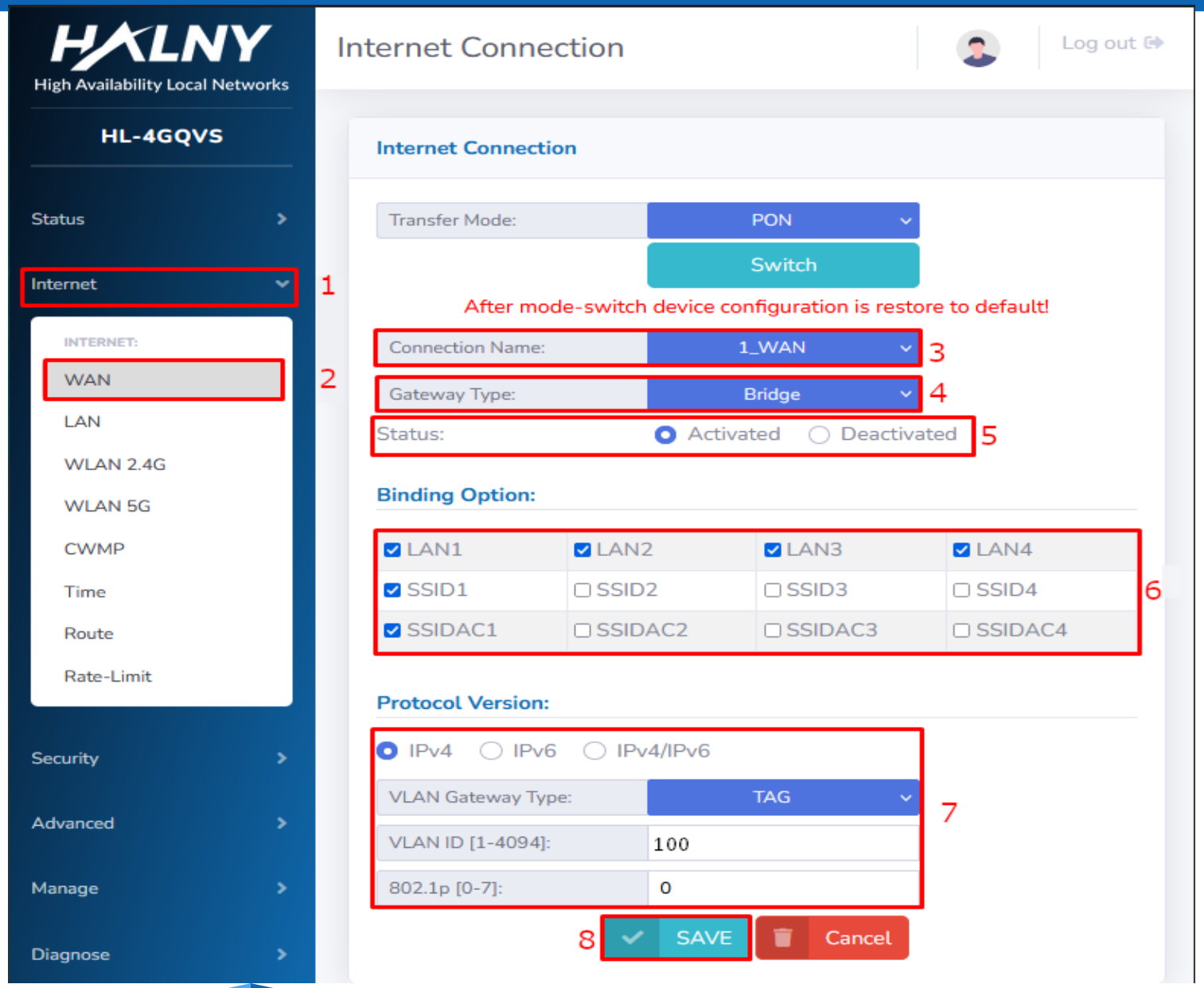
1. Bridge Mode – only INTERNET: 1-4/WIFI

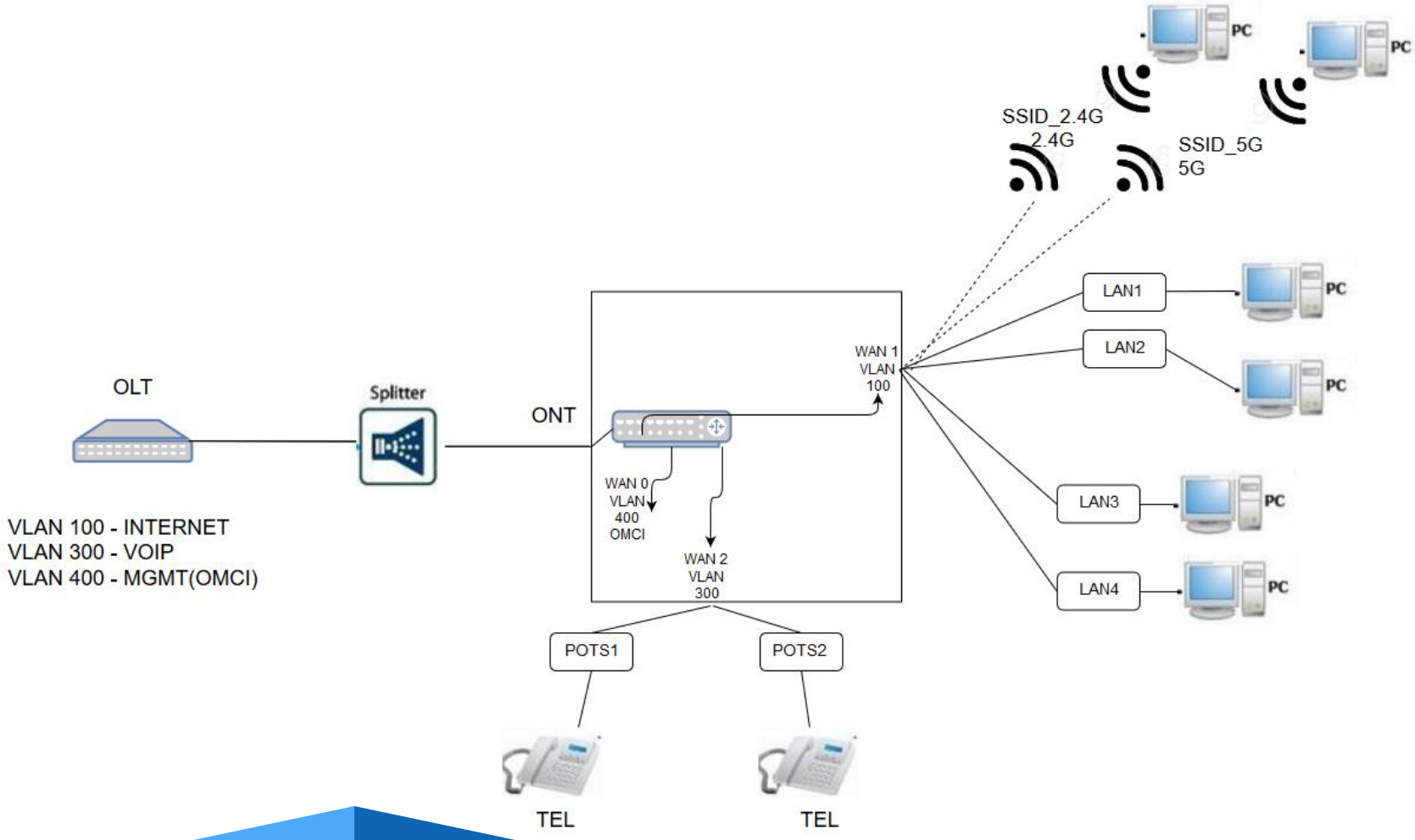
1. Create WAN Interface for INTERNET:

    1. Go to Internet Tab
    2. Go to the WAN
    3. Choose Wan
    4. Set Gateway Type: Bridge
    5. Set Status: Activated
    6. Set mapping for Internet interface
    7. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
    8. Save settings



2. Bridge Mode – INTERNET: 1-4/WIFI, VOIP interface

- **WAN1 – VLAN 100 – INTERNET Bridge mode**
  - **LAN1 - LAN4, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)**
- **WAN2 – VLAN 300 – IP Interface (Static IP / DHCP Client)**
  - **POTS1, POTS2 assigned to WAN2**



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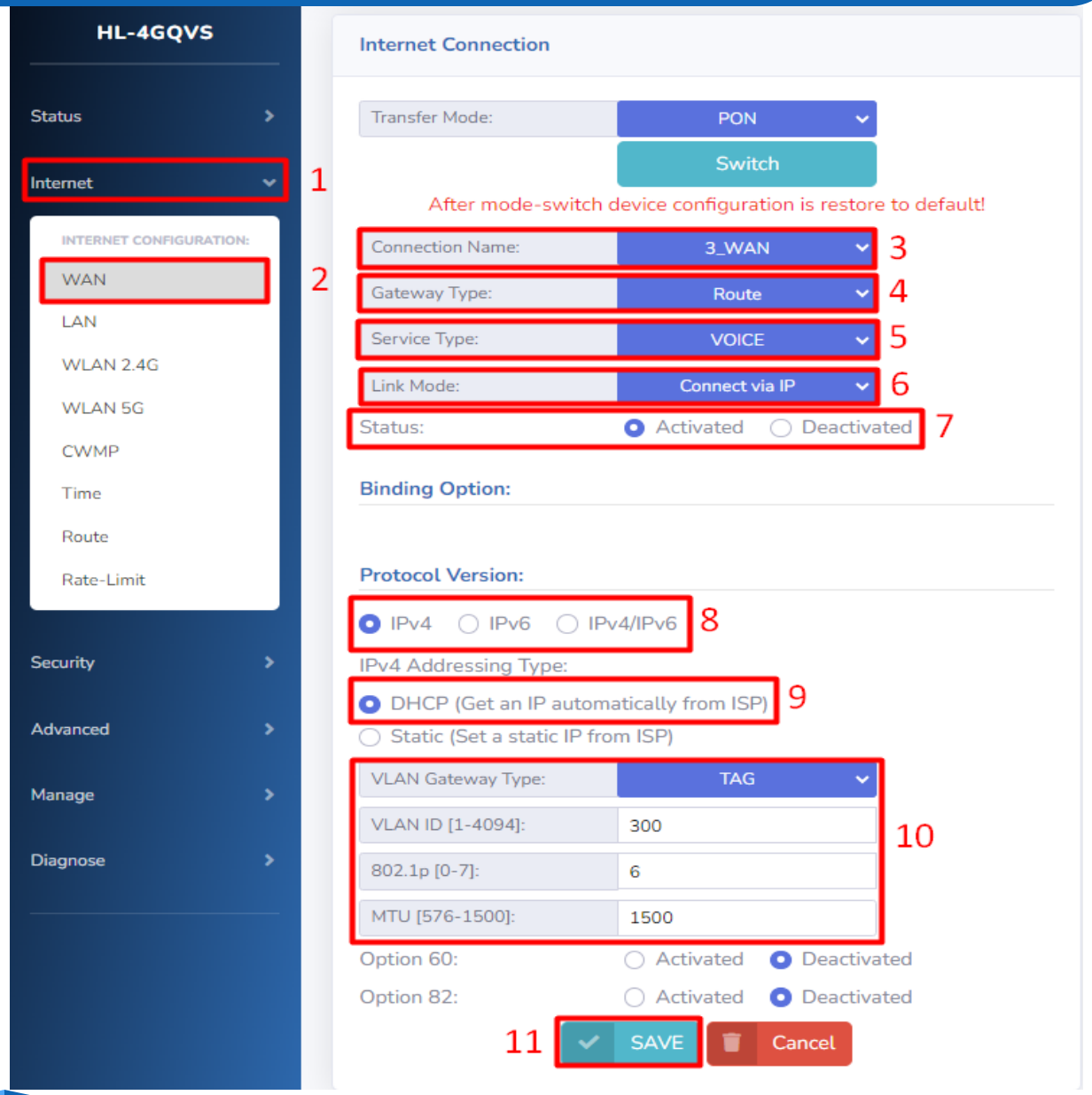
2. Bridge Mode – INTERNET: 1-4/WIFI, VOIP interface

1. Create WAN Interface for INTERNET – the same as in topic:
   Bridge Mode – only INTERNET: 1-4/WIFI

2. Create second WAN interface for VOIP:

   1. Go to Internet Tab
   2. Go to the WAN
   3. Choose Wan
   4. Set Gateway Type: Route
   5. Set Type: VOICE
   6. Set Link Mode: Connect via IP
   7. Set Status: Activated
   8. Set Protocol Version: IPv4
   9. Set IPv4 Addressing Type: DHCP
   10. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
   11. Save settings



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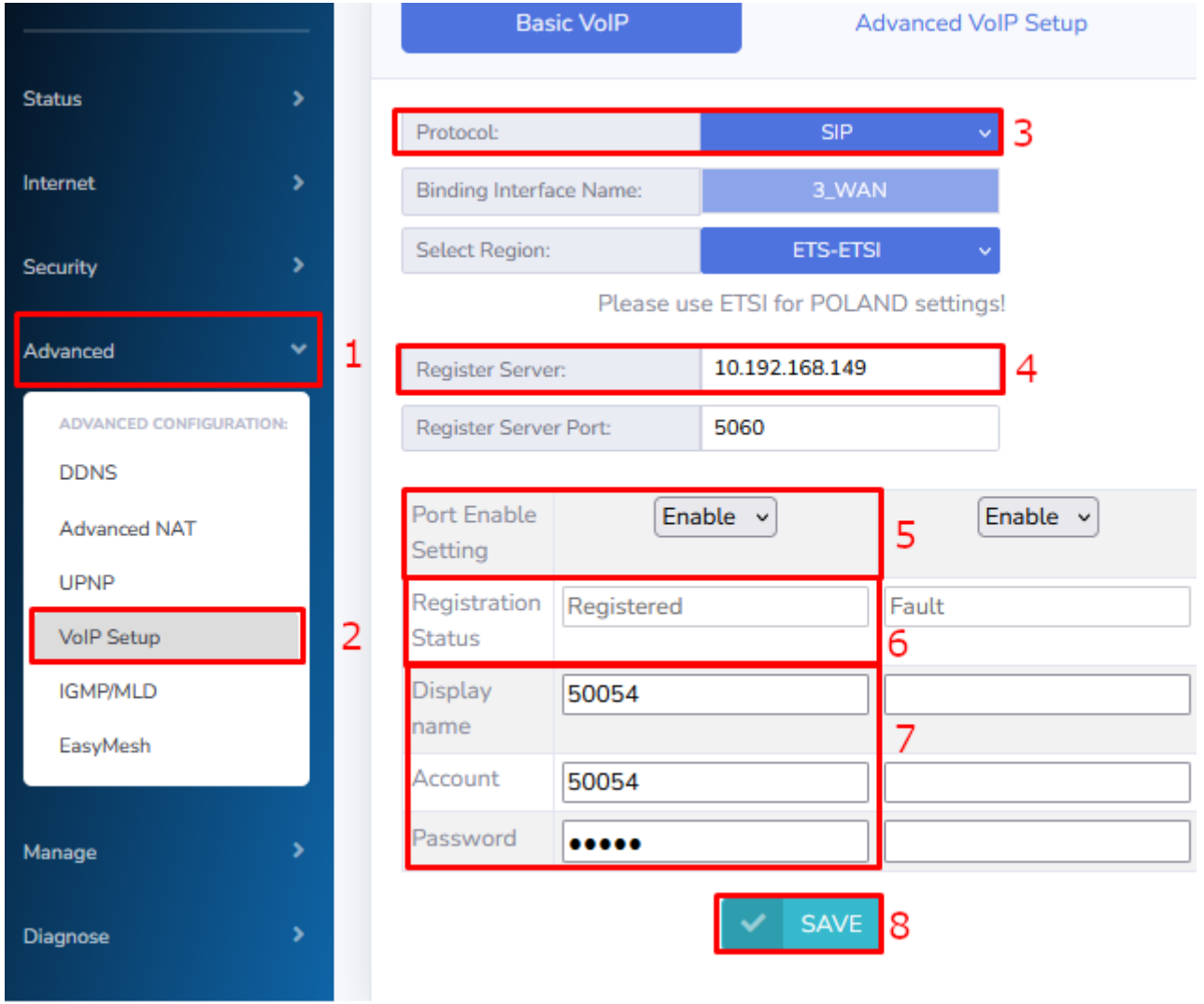
2. Bridge Mode – INTERNET: 1-4/WIFI, VOIP interface

3. Basic VOIP configuration:

1. Go Advanced tab
2. Go VoIP Setup
3. Choose Protocol: SIP
4. Set SIP register Server address
5. Enable POTS port
6. Refresh page to check Register Status
7. Set authentication name, password for VoIP account
8. Save settings



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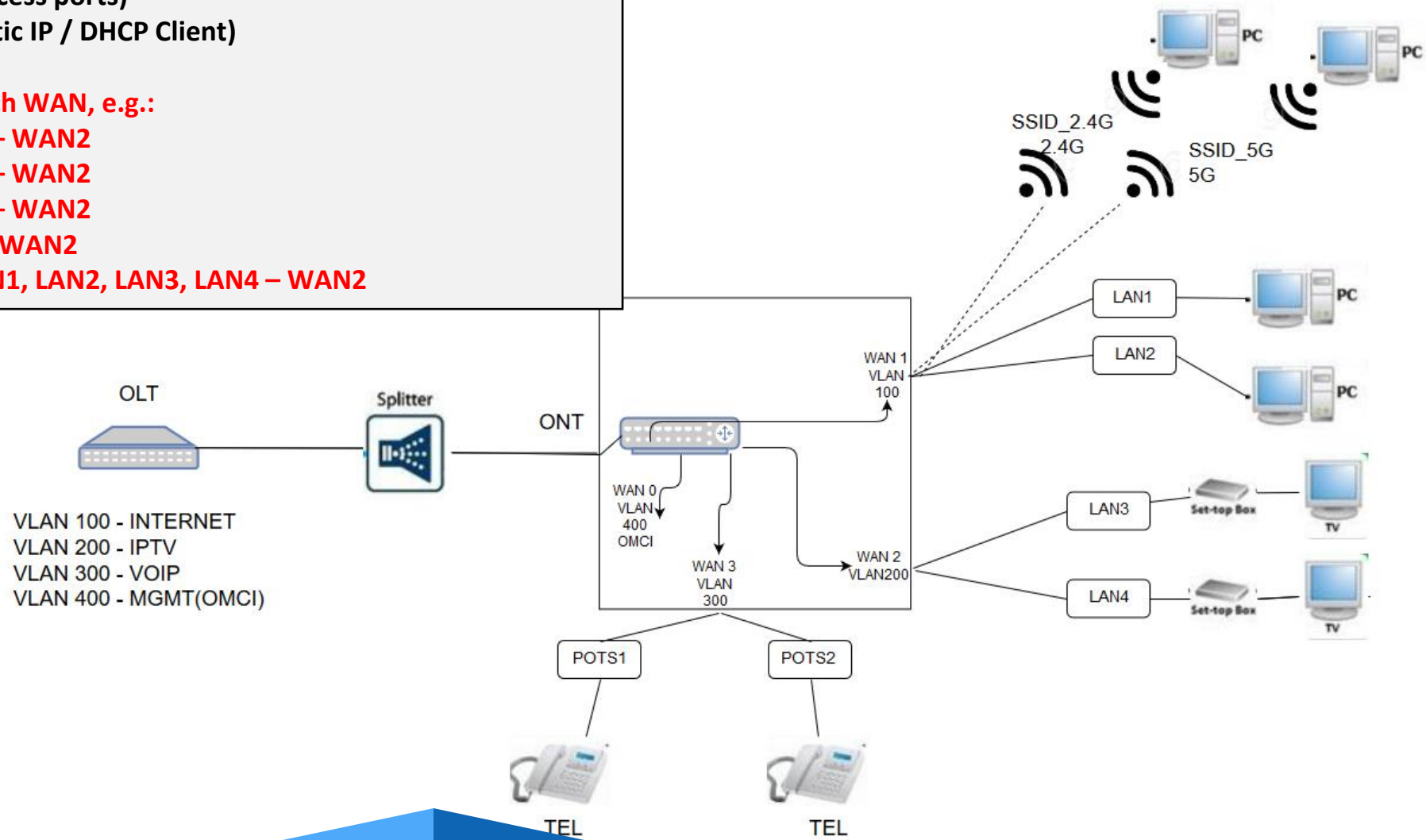
3. Bridge Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface

- WAN1 – VLAN 100 – INTERNET Bridge mode
  - LAN1, LAN2, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)*
- WAN2 – VLAN 200 – IPTV Bridge mode (IGMP snooping enabled)
  - LAN3, LAN4 assigned to WAN2 (access ports) *
- WAN3 – VLAN 300 – IP Interface (Static IP / DHCP Client)
  - POTS1, POTS2 assigned to WAN3

*** Different LAN ports number assigned to each WAN, e.g.:**

- LAN1 – WAN1 | LAN2, LAN3, LAN4 – WAN2
- LAN1, LAN2 – WAN1 | LAN3, LAN4 – WAN2
- LAN1, LAN2, LAN3 – WAN1 | LAN4 – WAN2
- LAN1 – WAN1 | LAN2, LAN3, LAN4 – WAN2
- SSID1_2.4G, SSID1_5G – WAN1 | LAN1, LAN2, LAN3, LAN4 – WAN2



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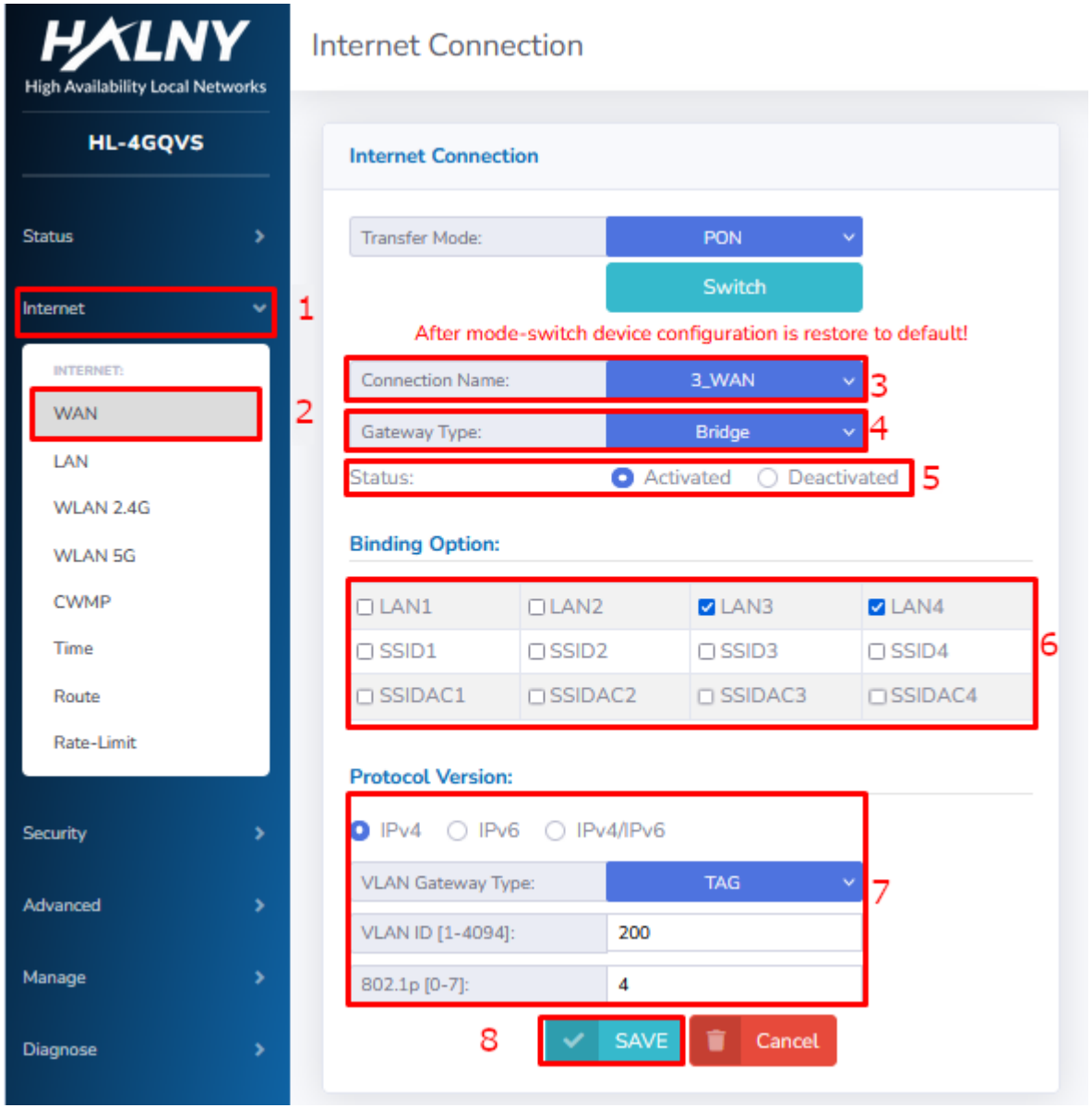
3. Bridge Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface

1. Create WAN Interface for INTERNET – the same as in topic:
   Bridge Mode – only INTERNET: 1-4/WIFI

2. Create WAN Interface for VoIP – the same as in topic:
   Bridge Mode - INTERNET: 1-4/WIFI, VOIP interface

3. Create WAN Interface for IPTV:

   1. Go to Internet Tab
   2. Go to the WAN
   3. Choose Wan
   4. Set Gateway Type: Bridge
   5. Set Status: Activated
   6. Set mapping for Internet interface
   7. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
   8. Save settings



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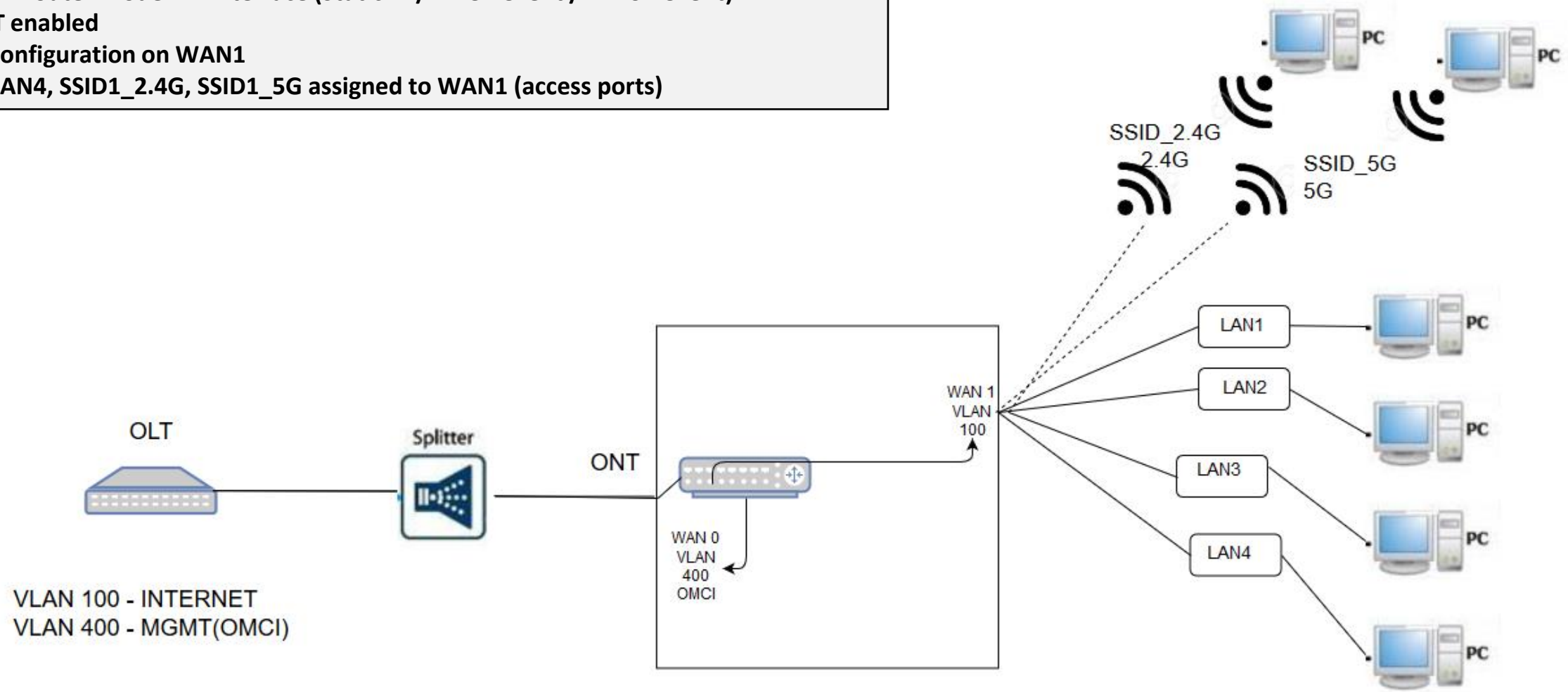
4. Router Mode – only INTERNET: 1-4/WIFI

- **WAN1 – Router Mode - IP Interface (Static IP / DHCP Client / PPPoE Client)**
  - **NAT enabled**
- **VLAN configuration on WAN1**
- **LAN1-LAN4, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)**



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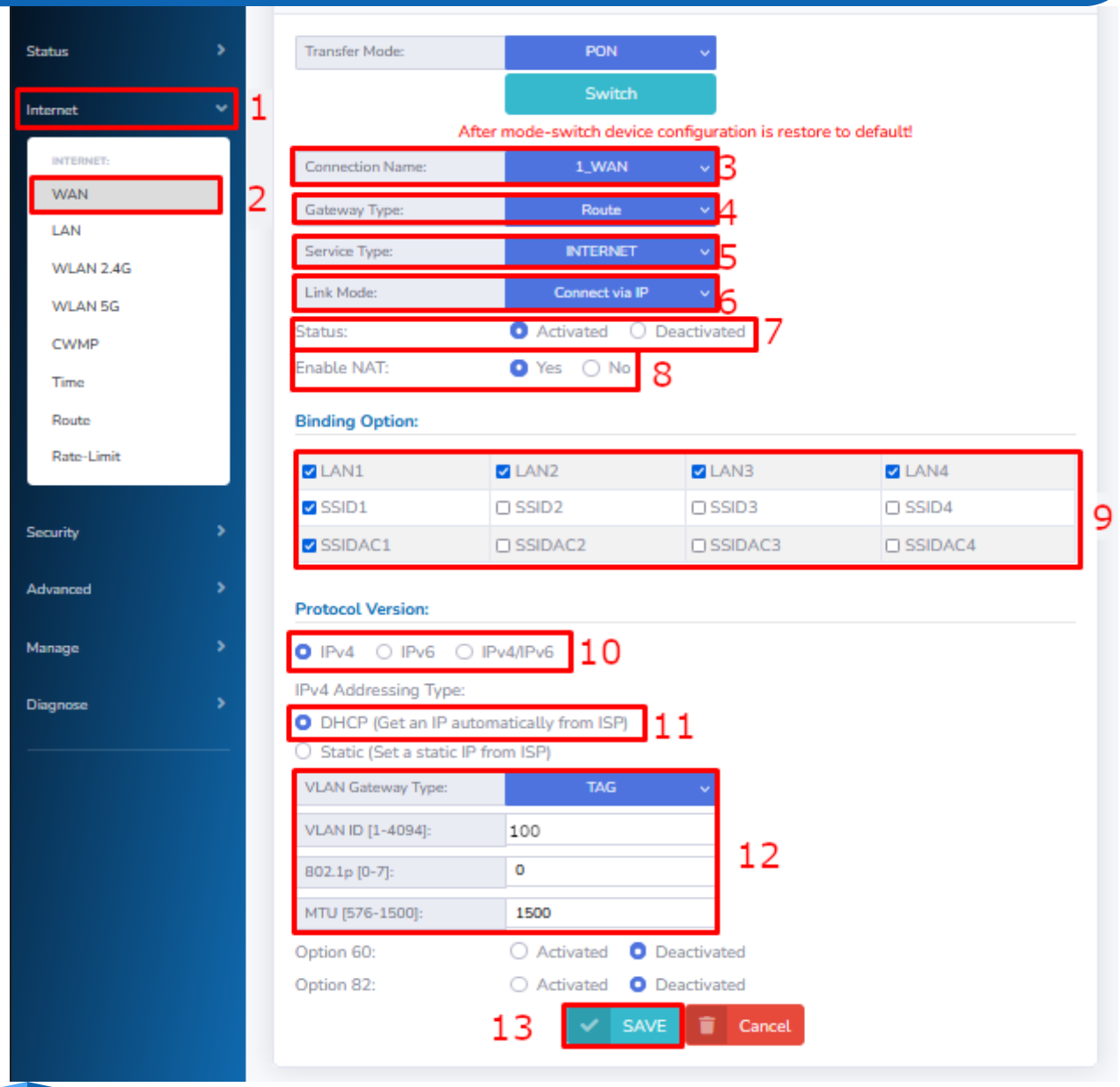
4. Router Mode – only INTERNET: 1-4/WIFI

1. Create WAN Interface for INTERNET:

    1. Go to Internet Tab
    2. Go to the WAN
    3. Choose Wan
    4. Set Gateway Type: Route
    5. Set Type: INTERNET
    6. Set Link Mode: Connect via IP
    7. Set Status: Activated
    8. Enable NAT
    9. Set mapping for Internet interface
    10. Set Protocol Version: IPv4
    11. Set IPv4 Addressing Type: DHCP
    12. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
    13. Save settings



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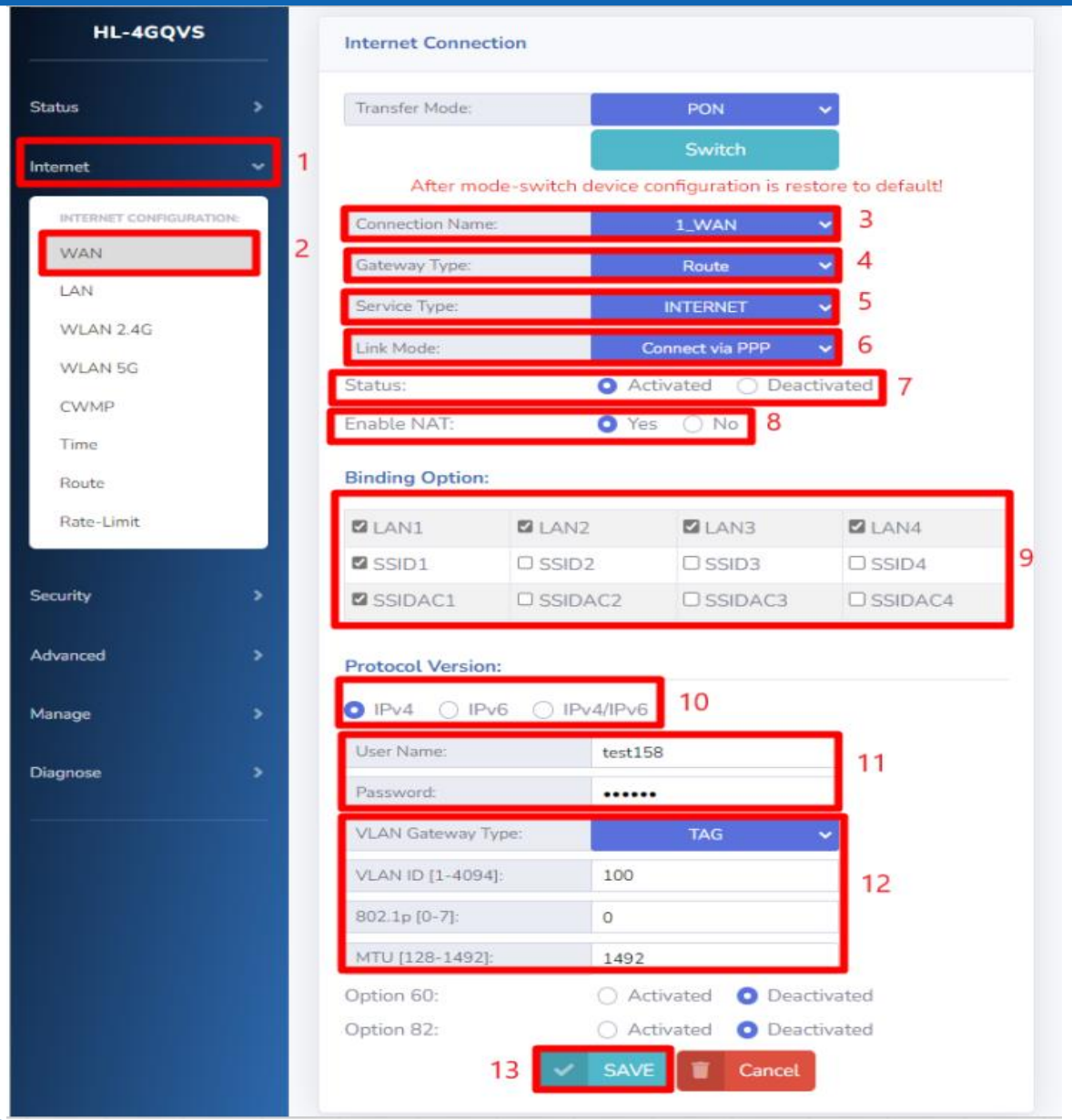
4. Router Mode – only INTERNET: 1-4/WIFI

1. Create WAN Interface for INTERNET - ***PPPoE***:

    1. Go to Internet Tab
    2. Go to the WAN
    3. Choose Wan
    4. Set Gateway Type: Route
    5. Set Type: INTERNET
    6. Set Link Mode: Connect via PPP
    7. Set Status: Activated
    8. Enable NAT
    9. Set mapping for Internet interface
    10. Set Protocol Version: IPv4
    11. Enter PPP user name and passowrd
    12. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
    13. Save settings



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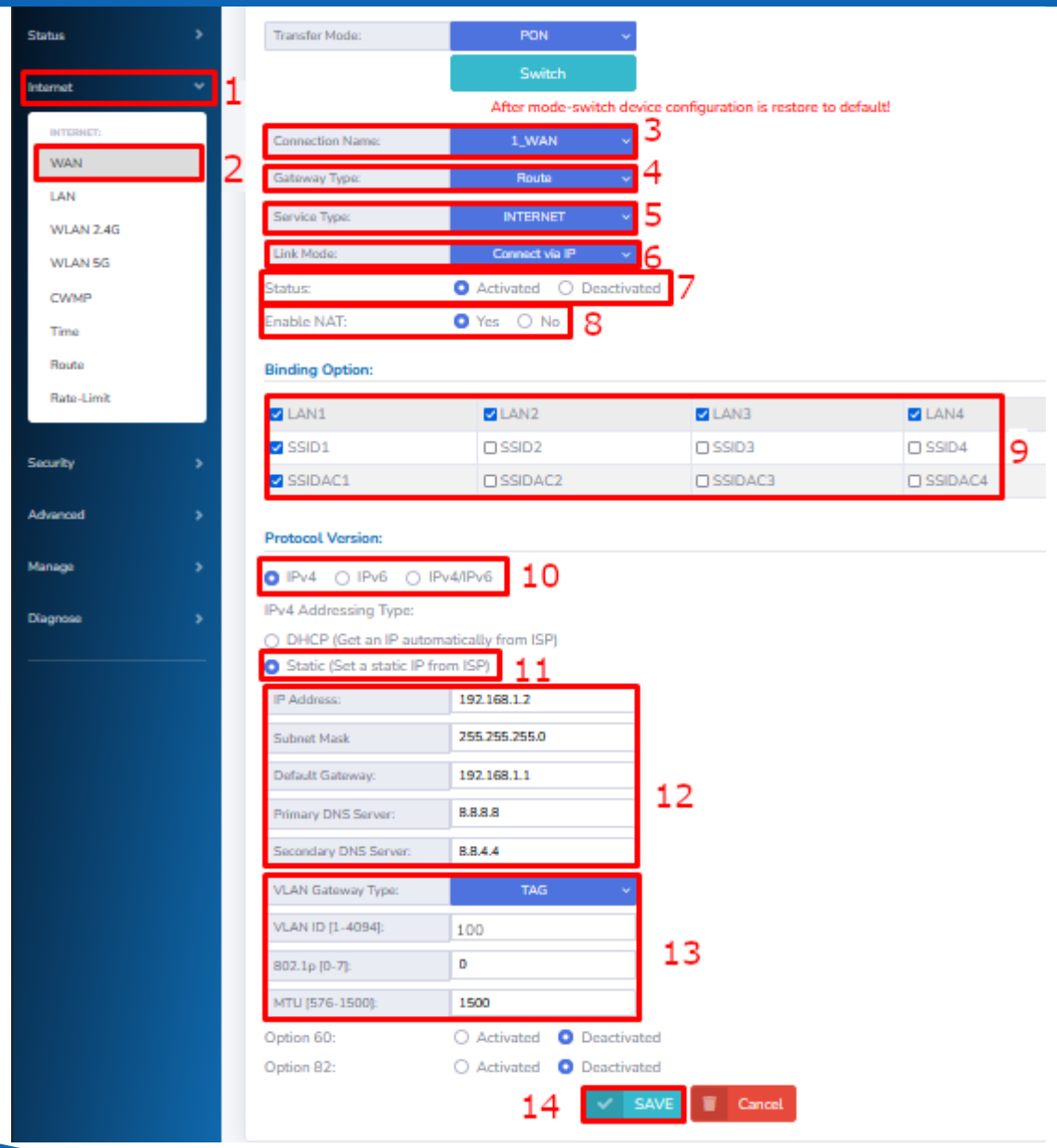
4. Router Mode – only INTERNET: 1-4/WIFI

1. Create WAN Interface for INTERNET - *Static IP*:

    1. Go to Internet Tab
    2. Go to the WAN
    3. Choose Wan
    4. Set Gateway Type: Route
    5. Set Type: INTERNET
    6. Set Link Mode: Connect via IP
    7. Set Status: Activated
    8. Enable NAT
    9. Set mapping for Internet interface
    10. Set Protocol Version: IPv4
    11. Set IPv4 Addressing Type: Static
    12. Set IP address, mask, Gateway, DNS
    13. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
    14. Save settings



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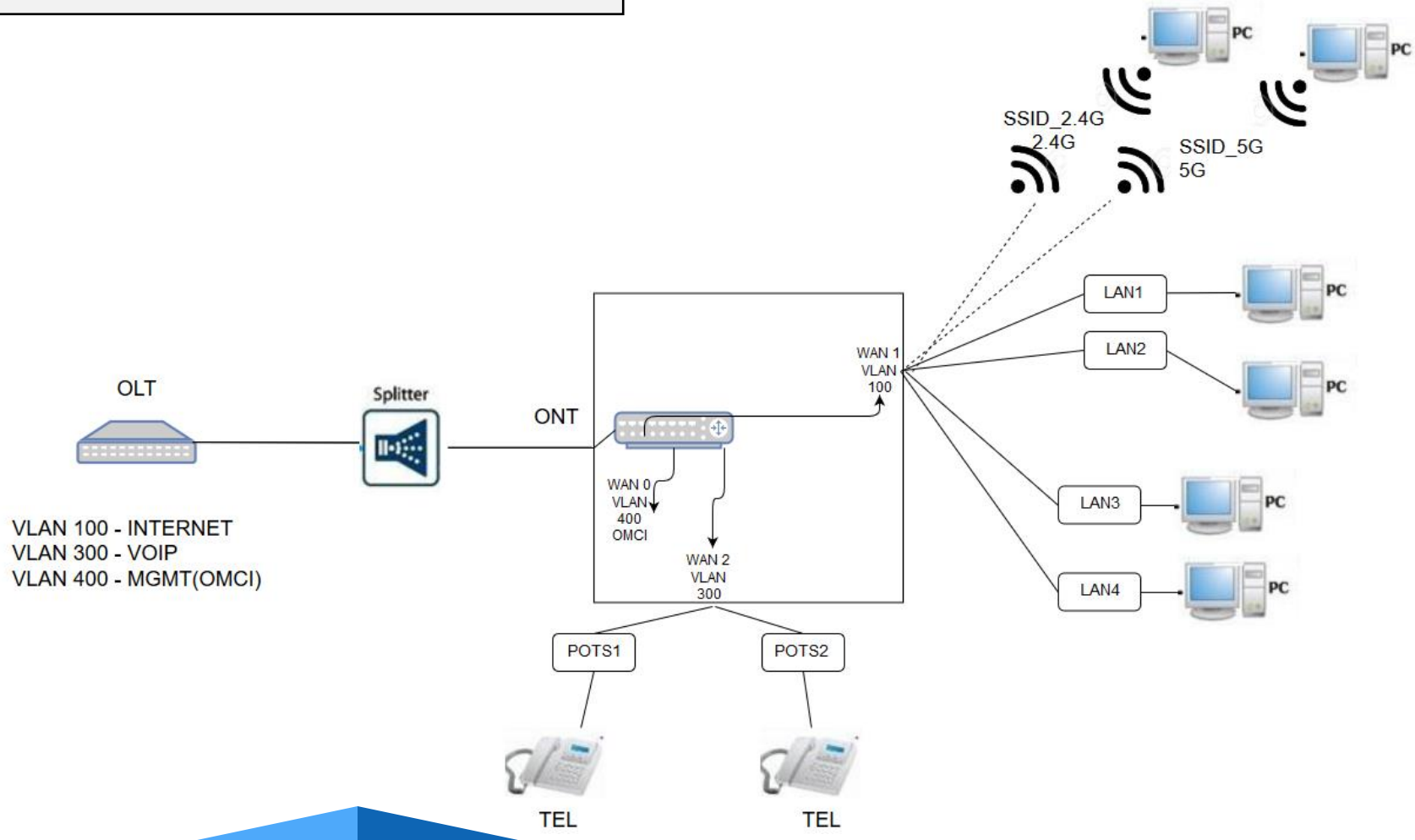
5. Router Mode – INTERNET: 1-4/WIFI, VOIP interface

- **WAN1 – VLAN 100 – Router Mode - IP Interface (Static IP / DHCP Client / PPPoE Client)**
  - **LAN1, LAN2, LAN3, LAN4, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)**
  - **NAT enabled**
- **WAN2 – VLAN 300 – IP Interface (Static IP / DHCP Client)**
  - **POTS1, POTS2 assigned to WAN2**



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5. Router Mode – INTERNET: 1-4/WIFI, VOIP interface

1. Create WAN Interface for INTERNET – the same as in topic:
   Router Mode – only INTERNET: 1-4/WIFI

2. Create second WAN interface for VOIP:

   1. Go to Internet Tab
   2. Go to the WAN
   3. Choose Wan
   4. Set Gateway Type: Route
   5. Set Type: VOICE
   6. Set Link Mode: Connect via IP
   7. Set Status: Activated
   8. Set Protocol Version: IPv4
   9. Set IPv4 Addressing Type: DHCP
   10. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
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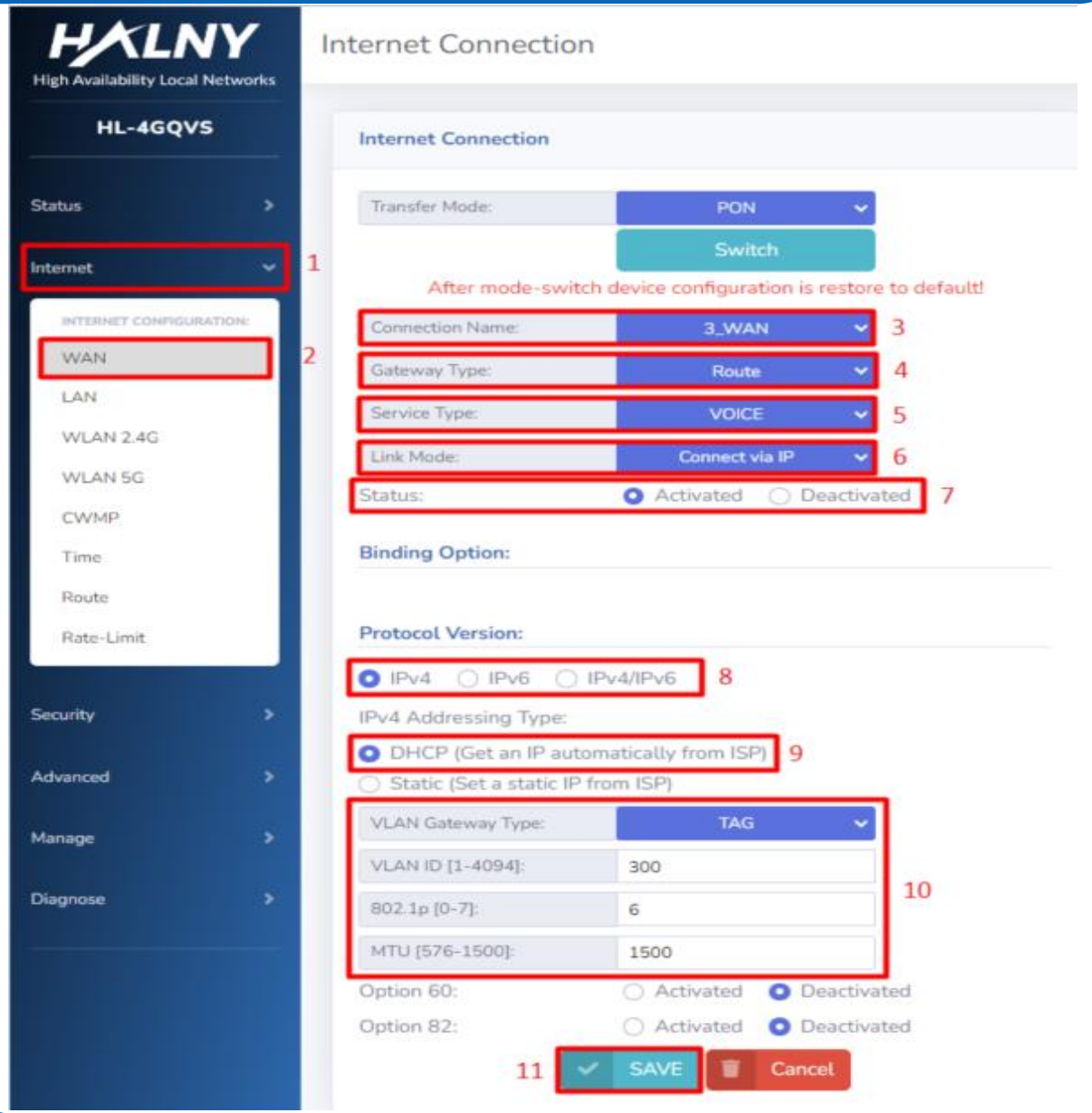

2. Bridge Mode – INTERNET: 1-4/WIFI, VOIP interface

3. Basic VOIP configuration:

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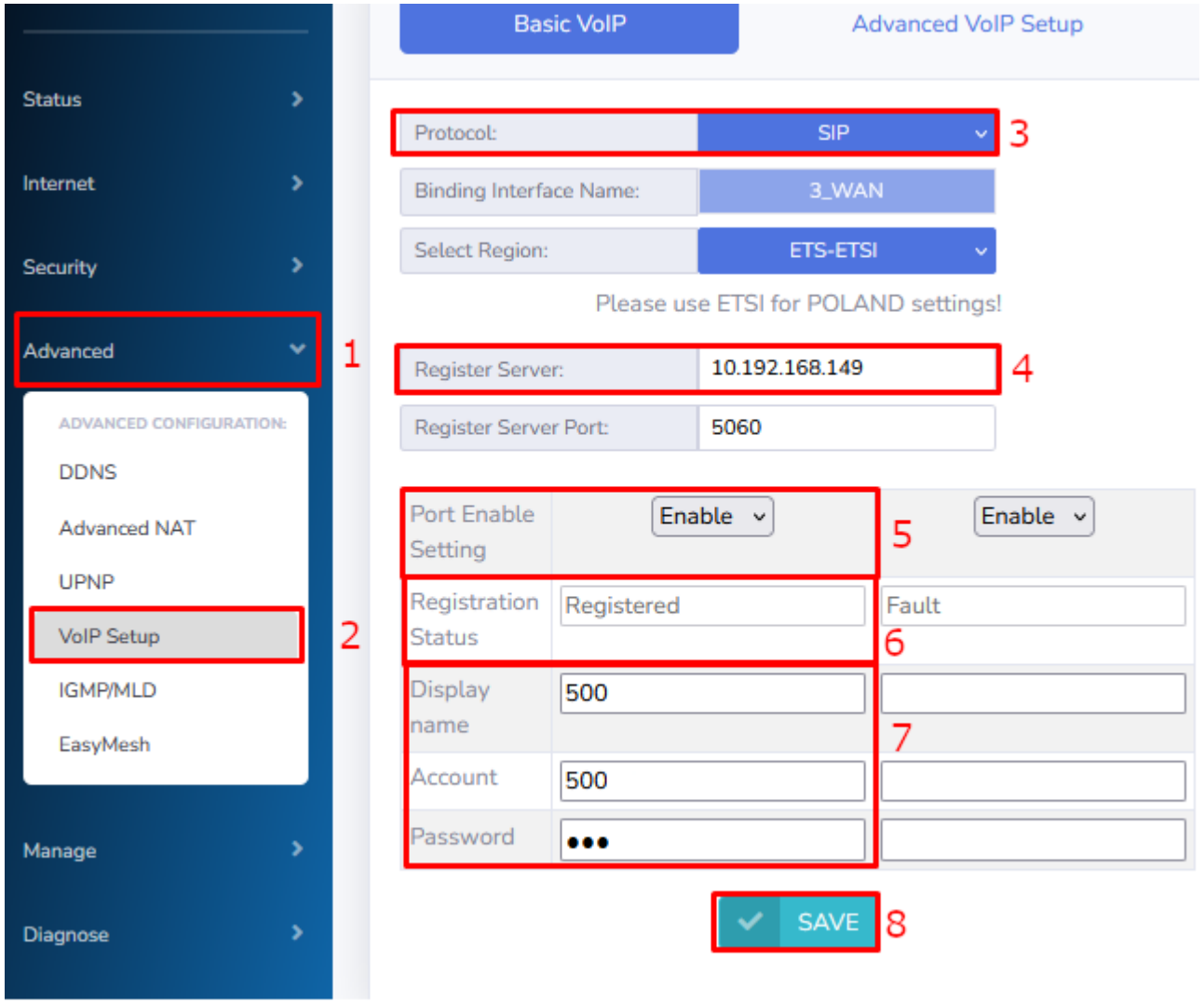

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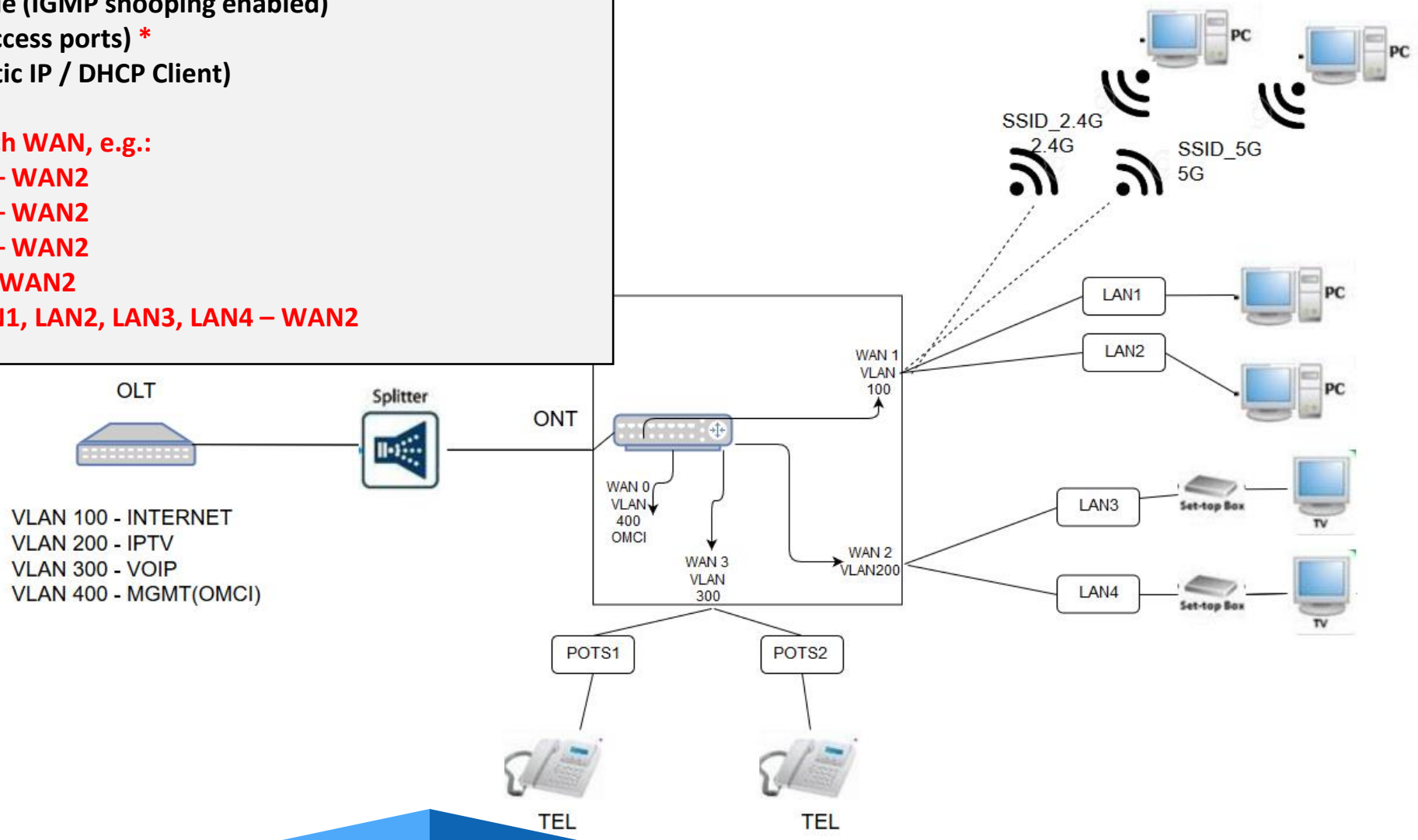
6. Router Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface

- WAN1 – VLAN 100 – Router Mode - IP Interface (Static IP / DHCP Client / PPPoE Client)
  - LAN1, LAN2, SSID1_2.4G, SSID1_5G assigned to WAN1 (access ports)*
  - NAT enabled
- WAN2 – VLAN 200 – IPTV Bridge mode (IGMP snooping enabled)
  - LAN3, LAN4 assigned to WAN2 (access ports) *
- WAN3 – VLAN 300 – IP Interface (Static IP / DHCP Client)
  - POTS1, POTS2 assigned to WAN3

*** Different LAN ports number assigned to each WAN, e.g.:**

- **LAN1 – WAN1 | LAN2, LAN3, LAN4 – WAN2**
- **LAN1, LAN2 – WAN1 | LAN3, LAN4 – WAN2**
- **LAN1, LAN2, LAN3 – WAN1 | LAN4 – WAN2**
- **LAN1 – WAN1 | LAN2, LAN3, LAN4 – WAN2**
- **SSID1_2.4G, SSID1_5G – WAN1 | LAN1, LAN2, LAN3, LAN4 – WAN2**



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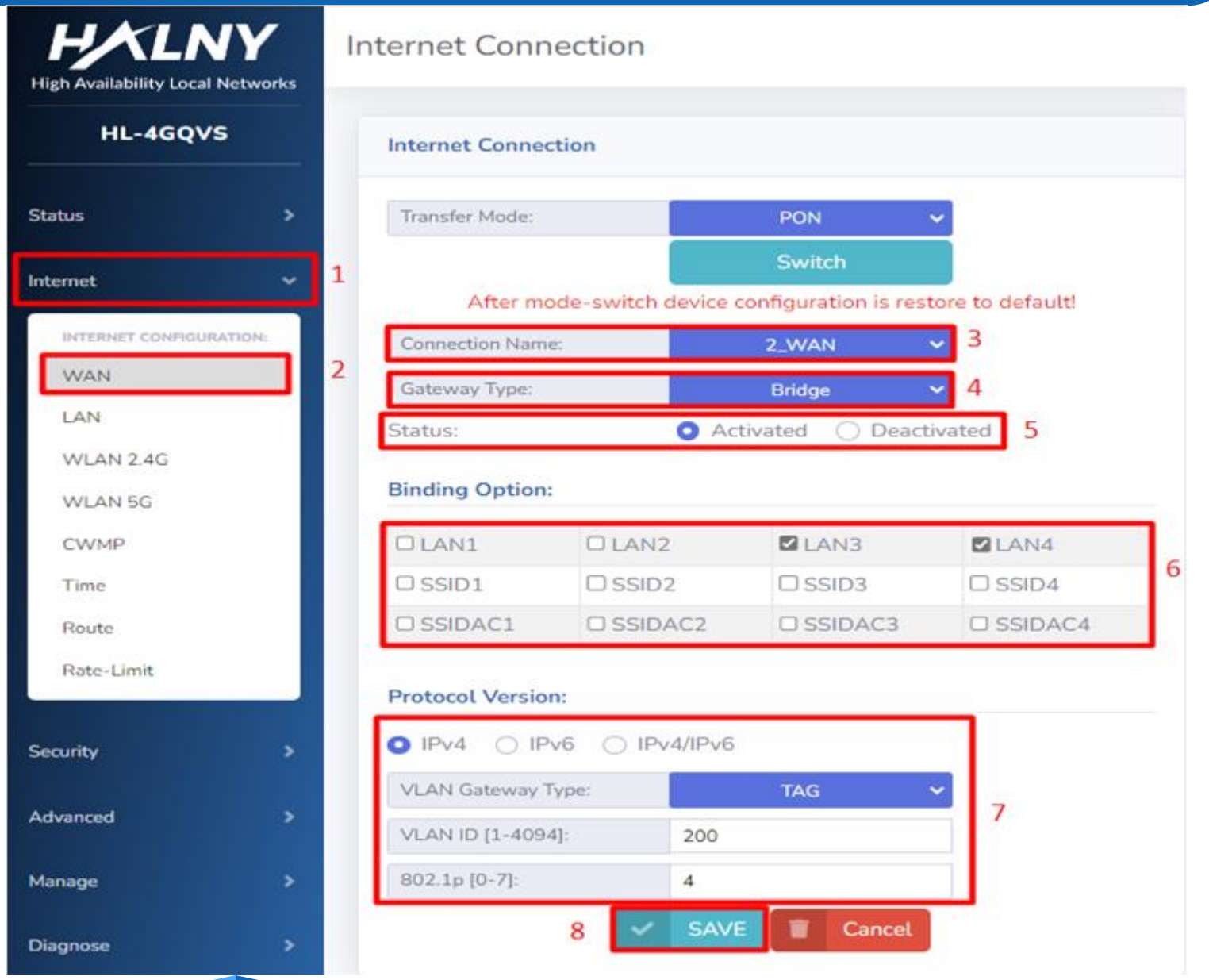
6. Router Mode – INTERNET: 1-2/WIFI, IPTV: 3-4, VOIP interface

1. Create WAN Interface for INTERNET – the same as in topic:
   Router Mode – only INTERNET: 1-4/WIFI

2. Create WAN Interface for VoIP – the same as in topic:
   Router Mode - INTERNET: 1-4/WIFI, VOIP interface

3. Create WAN Interface for IPTV:

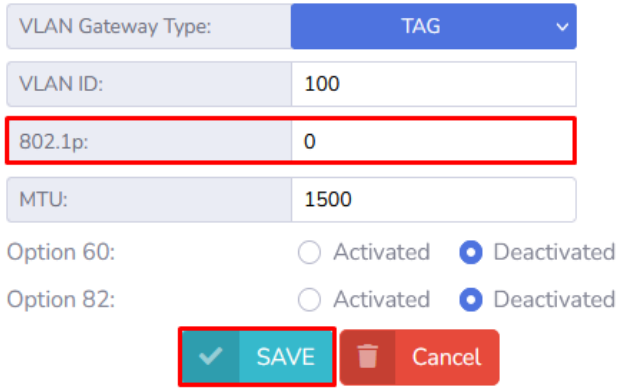
   1. Go to Internet Tab
   2. Go to the WAN
   3. Choose Wan
   4. Set Gateway Type: Bridge
   5. Set Status: Activated
   6. Set mapping for Internet interface
   7. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
   8. Save settings

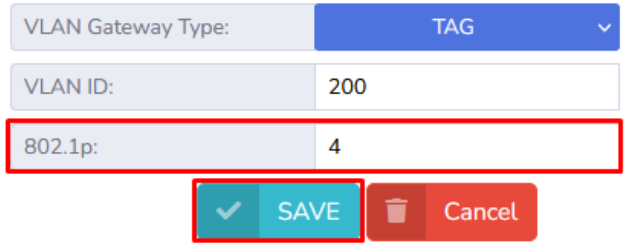


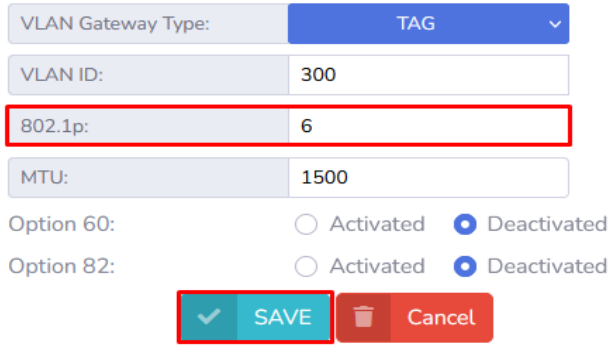
7. Rate-limit configuration

Rate-limit is set per CoS value. Before setting rate-limit value, 802.1p bit has to be set correctly, from range 0-7. For example:
WAN1 – **Internet CoS ->0**
WAN2 – **IPTV CoS ->4**
WAN3 – **VoIP CoS ->6**

1. Go to Internet Tab
2. Go to the WAN
3. Choose Wan
4. Choose VLAN Gateway Type: Tag, Set VLAN-ID and 802.1p value
5. Save settings







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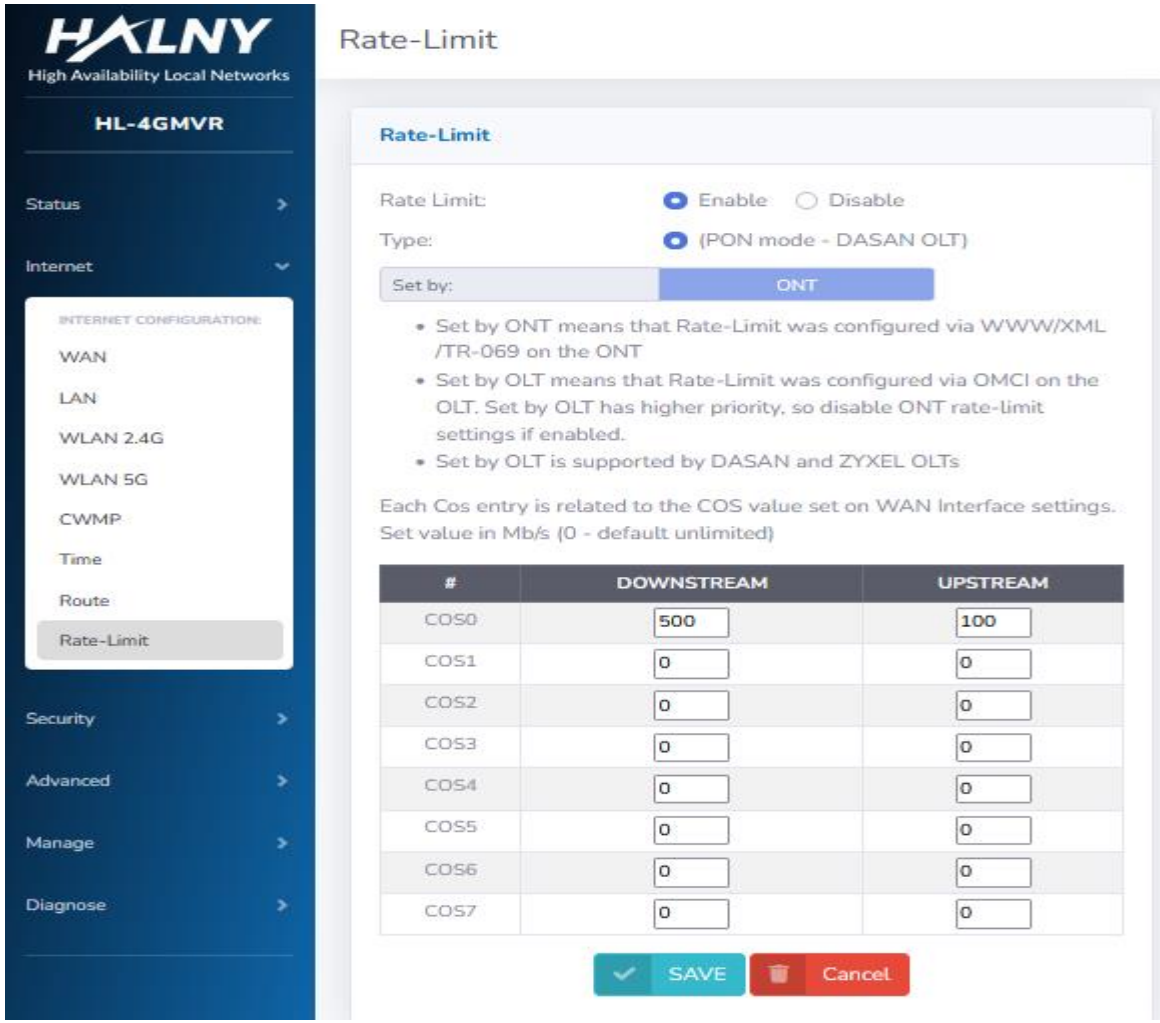
7. Rate-limit configuration

Rate-limit 500/100 Mbit/s settings for Internet WAN0 with CoS=0
corresponding configuration from previous slide

```
traffic-profile HL-4GMV_RL create
 tcont 1
  gemport 1/1 -1/8
  dba-profile DBA
 tcont 2
  gemport 2/1
  dba-profile DBA
 mapper 1
  gemport count 8
 mapper 2
  gemport count 1
 bridge 1
  ani mapper 1
  uni virtual-eth 1
   multicast-profile HL-4GMV-200
 bridge 2
  ani mapper 2
  link ip-host-config 1
ip-host-config 1
  ip address dhcp
  extended-vlan-tagging-operation MGMT
apply
```



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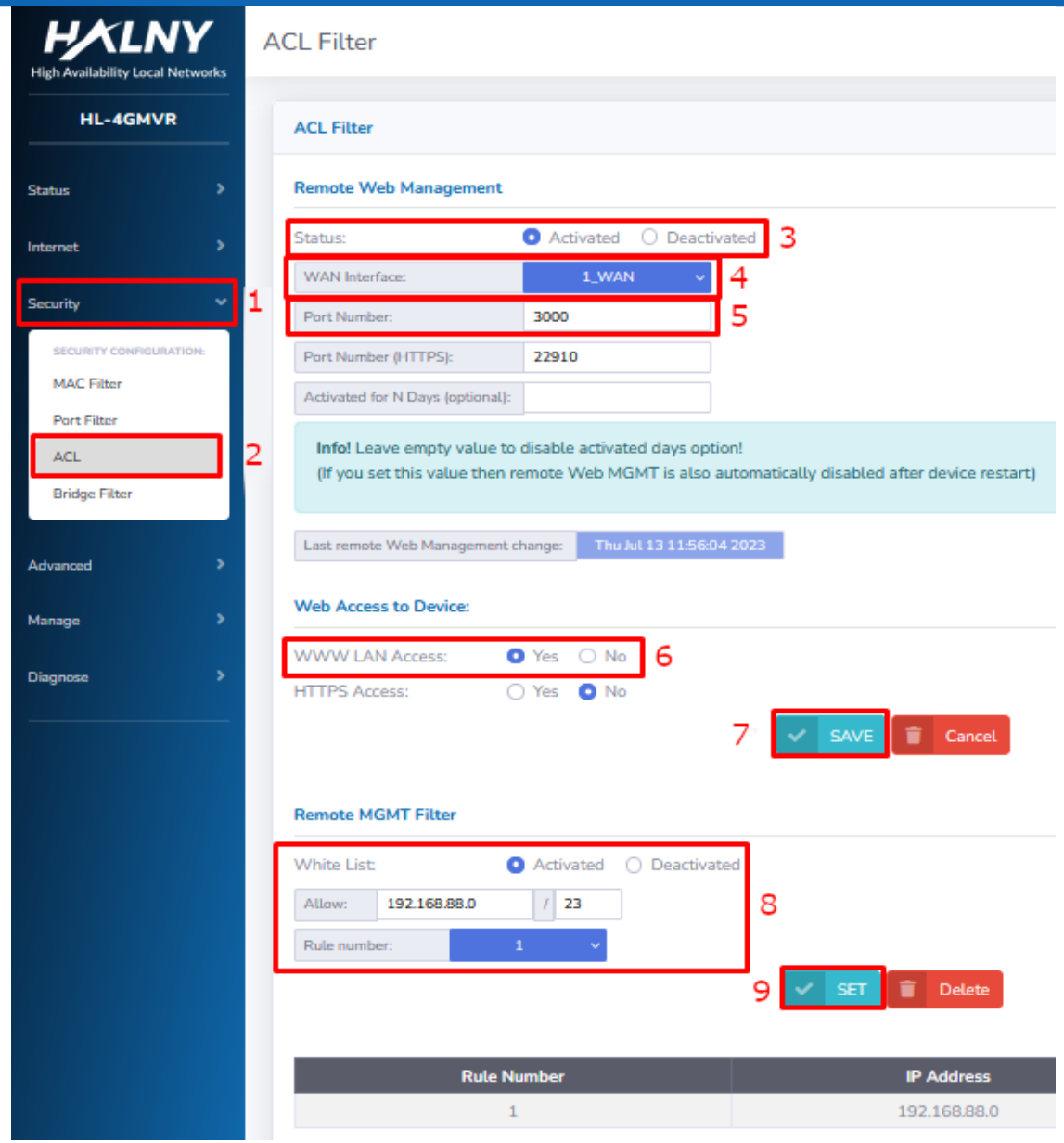
8. Remote management – access to the ONT via WAN IP

Configuration of remote management via WAN ip address

Create WAN Interface for INTERNET:

1. Go Security Tab
2. Go ACL Tab
3. Enable remote web management
4. Choose WAN Interface
5. Set port
6. Also you may disable/enable LAN access to the ONT
7. Press SAVE to apply changes
8. Activate White list and insert network allowed to
9. Press SET to apply




THANK YOU
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