

V51 R2

Configuration Guide



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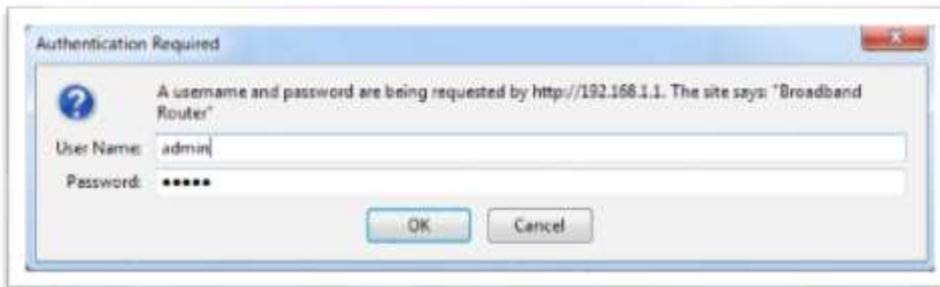
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Web Login

Open up your internet browser (Google Chrome, Mozilla Firefox, Internet Explorer, or Safari) and type in the following address into your website address bar 192.168.1.1

The following pop up screen will appear, type in the following username and password for the security level you require.

Security Level	Username:	Password:
Low level User (view status, modify some parameters)	user	user
Power User (add modify Layer 2, VoIP, and some admin parameters)	poweruser	poweruser
Administrator User - (full user admin rights)	admin	2Qk5pTPeWdbm9Mq



Layer 2 Interface Setup for ADSL2+, VDSL2, UFB

1. On the left hand menu, select '**Advance Setup**' button
2. Then the following '**Layer2 Interfaces**' button in the sub menu.
 - 1.1. **ATM Interface** = L2 Interfaces for ADSL2+ (**VPI 0 - VCI 100**) and EUBA (**VPI 0 - VCI 110**)
 - 1.2. **PTM Interface** = Proprietary VDSL2 Interface
 - 1.3. **ETH Interface** = Ethernet Interface for UFB/FTTH
3. To Setup ADSL2+ or EUBA L2 Interface click on "**ATM Interface**" and click "**Add**".
 - 1.1. **ADSL2+ =VPI = 0, VCI = 100**
 - 1.2. **EUBA =VPI= 0 , VCI=110**
 - 1.3. **Select DSL Latency = Path 0**
 - 1.4. **Select DSL Line Type = PPPoA for ADSL2+**
 - 1.5. **Select DSL Line Type = EoA for EUBA**
 - 1.6. And click "**Apply Save**".

Completed L2 Interfaces

DSL ATM Interface Configuration

Choose Add, or Remove to configure DSL ATM interfaces

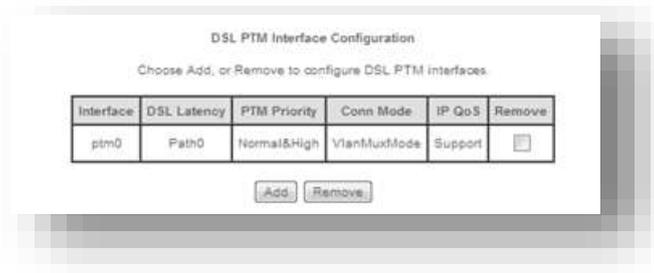
Interface	Vpi	Vci	DSL Latency	Category	Peak Cell Rate(cells/s)	Sustainable Cell Rate(cells/s)	Max Burst Size(bytes)	Link Type	Conn Mode	IP.QoS	Remove
atm0	0	110	Path0	UBR				EoA	VlanMuxMode	Support	
atm1	0	100	Path0	UBR				PPPoA	DefaultMode	Support	

4. To Setup **VDSL2** L2 Interface click on "**PTM Interface**" and click "**Add**".
 - 1.1. Select DSL Latency = **Path 0**

1.2. And Click **“Apply Save”**.



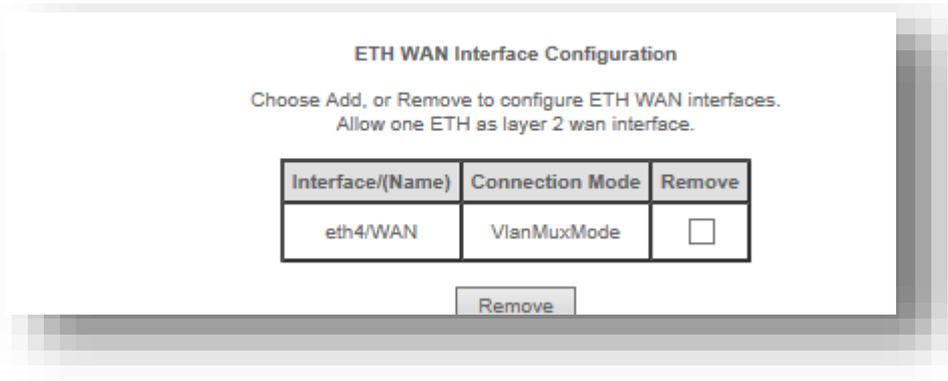
Completed L2 PTM Interface



- 5. To Setup **UFB L2 Interface** click on **“ETH Interface”** and click **“Add”**
 - 1.1. Select **“Eth4/WAN”** from the Drop down Menu and click **“Apply Save”**.



Completed L2 ETH Interface



ADSL2+ Setup

1. On the left hand menu, select '**Advance Setup**' button
2. Then the following '**Wan Service**' button in the sub menu.
3. Click Add to start the ADSL2+ setup.



4. From the main display screen click on add and select "**ATM1 (0_0_100)**" from the drop down menu. Click '**Next**' to continue to the next screen.



- The following screen will open up, you may name this connection as you like, (such as ADSL2+ internet connection), or use the default name "pppoe_0_0_100". click the 'Next' button to continue.



- The following screen will open, and you are required to type in your username and password provided by your Internet Provider. If you don't know your internet Credentials then you will need to contact your Internet Provider. Scroll down and Check the "Enable IGMP Multicast Proxy" and if IPv6 is enabled, also check "Enable MLD Multicast Proxy" under Multicast Proxy settings.



PPP Username and Password

PPP usually requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.

PPP Username:

PPP Password:

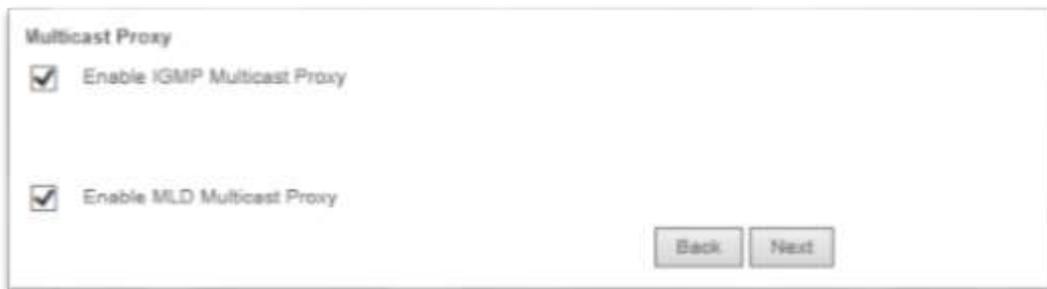
Authentication Method:

Enable Fullcone NAT

Dial on demand (with idle timeout time)

Use Static IPv4 Address

NOTE: If IPV6 is not Enabled “Enable MLD Multicast Proxy” won’t be an option.



Multicast Proxy

Enable IGMP Multicast Proxy

Enable MLD Multicast Proxy

7. Once complete click on the ‘**next**’ button at the bottom of the screen to continue.
8. Now you are presented with the following screen, make sure the ADSL2+ interface we setup is in the left column before clicking on the ‘**next**’ button.



Without gateway interface (or can have multiple WAN interfaces) used as system default gateways but only one will be used according to the priority with the first being the highest and the last one the lowest if the WAN interface is connected. Priority order can be changed by removing all and adding them back in again.

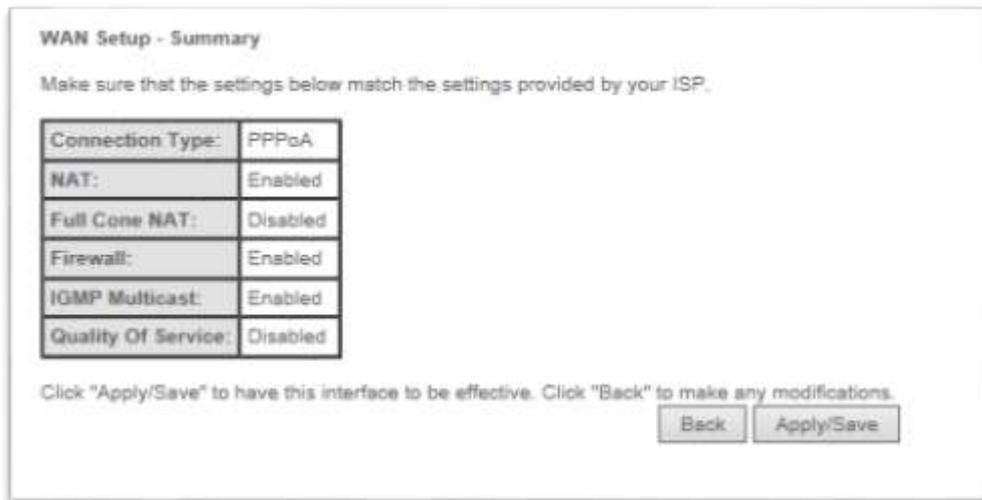
Selected Default Gateway Interfaces:

Available Routed WAN Interfaces:

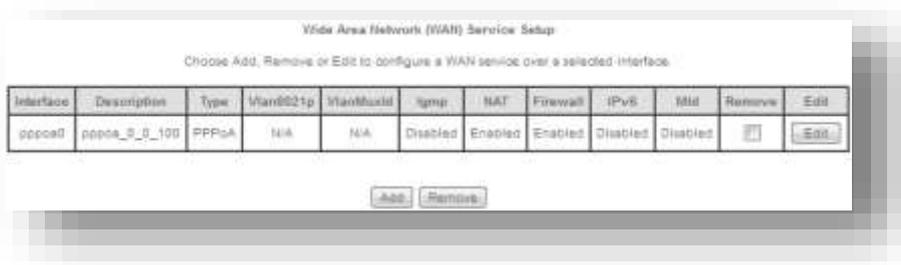
9. Again make sure the ADSL2+ interface we created is in the left column before clicking the ‘**next**’ button at the bottom of the page.



10. Please review configuration and select **Apply/Save** to complete the ADSL2+ setup.



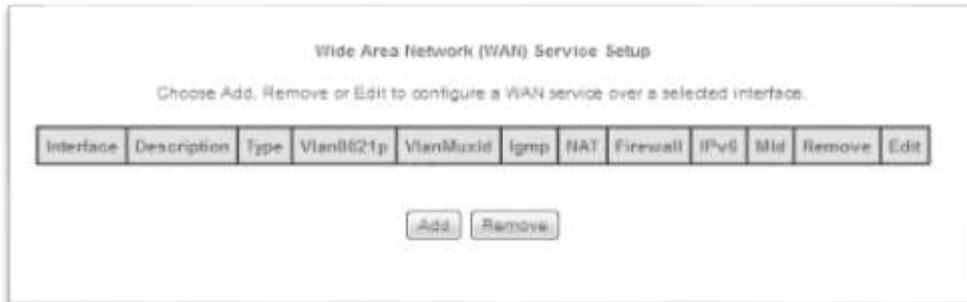
Once complete you will return to the main 'Wan Service' webpage were you can confirm service setup.



Your ASDL2+ service is now configured; wait a few seconds and try opening a new webpage in your browser to confirm your connection is active. The LED on the front of the device labelled Internet, will light up green to indicate you have a connection to the internet.

VDSL2+ Setup

1. In the left side menu, click on the **'Advance Setup'** tab and then click on the submenu **'Wan Service'** to open up the configuration window. Then click the **'Add'** button on the opened window to start activation of the VDSL interface.



2. From the main display screen click on add and select **"ptm (0_1_1)"** from the drop down menu. Click **'Next'** to continue to the next screen.



3. Select the PPP over Ethernet (PPPOE) option.

(Optional) If you want you can customise your VDSL interface Name in the next field called **'Enter service description'**

For Chorus VDSL2 Service enter

Priority: 802.11P = 0

VLAN: 802.1Q = 10

Click **'Next'** to continue to the next screen.

WAN Service Configuration

Select WAN service type:

- PPP over Ethernet (PPPoE)
- IP over Ethernet
- Bridging

Enter Service Description:

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID:

Enter 802.1P Priority (0-7):

Enter 802.1Q VLAN ID (0-4094):

Network Protocol Selection:

- In the following section you will need to type in your Internet Service Provider credentials to activate you Internet connection.
(The username and password provided to you when you signed up to the service). Scroll down and Check the “Enable IGMP Multicast Proxy” and if IPv6 is enabled, also check “Enable MLD Multicast Proxy” under Multicast Proxy settings.

PPP Username and Password

PPP service requires that you have a user name and password to establish your connection. In the boxes below, enter the user name and password that your ISP has provided to you.

PPP Username:

PPP Password:

PPPoE Service Name:

Authentication Method:

Enable Fulltime NAT

Dial on demand (with idle timeout (min))

PPP IP address:

Use Static IPv4 Address:

NOTE: If IPv6 is not Enabled “Enable MLD Multicast Proxy” won’t be an option.

Multicast Proxy

Enable IGMP Multicast Proxy

Enable MLD Multicast Proxy

- On this next section make sure your newly configured VDSL2 interface is in the left column before clicking next



- Again make sure the VDSL2 interface we created is in the left column before clicking the 'next' button at the bottom of the page.



- Please review configuration and select **Apply/Save** to complete the VDSL2 setup.

WAN Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type:	PPPoE
NAT:	Enabled
Full Cone NAT:	Disabled
Firewall:	Enabled
IGMP Multicast:	Enabled
Quality Of Service:	Disabled

Click "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

Once complete you will return to the main **‘Wan Service’** webpage where you can confirm service setup.

Wide Area Network (WAN) Service Setup

Choose Add, Remove or Edit to configure a WAN service over a selected interface.

Interface	Description	Type	Vlan8021p	VlanMuxId	Igmp	NAT	Firewall	IPv6	MId	Remove	Edit
ppp0.1	pppoe_0_1_1.10	PPPoE	0	10	Disabled	Enabled	Enabled	Disabled	Disabled	<input type="checkbox"/>	<input type="button" value="Edit"/>

Your VDSL2+ service is now configured; try opening a new webpage in your browser to confirm your connection is active. The LED on the front of the device labelled Internet, will light up green to indicate you have a connection to the internet

VDSL2/UFB Full Bridge Setup

1. From the VDSL2+ Setup instruction repeat steps 1 to 2.
2. Select the Bridging option.

(Optional) If you want, you can customise your VDSL interface Name in the next field called **‘Enter service description’**

For Chorus VDSL2 Service enter

Priority: 802.11P = 0

VLAN: 802.1Q = 10

Click **'Next'** to continue to the next screen.



VDSL Service Configuration

Select VDSL service type:

PPP over Ethernet (PPPoE)
 IP over Ethernet
 Bridging

Enter Service Description:

For tagged service, enter valid 802.1P Priority and 802.1Q VLAN ID.
 For untagged service, set -1 to both 802.1P Priority and 802.1Q VLAN ID.

Enter 802.1P Priority (0-7):

Enter 802.1Q VLAN ID (0-4094):

3. Review your setup and Click **Apply Save**.



VDSL Setup - Summary

Make sure that the settings below match the settings provided by your ISP.

Connection Type	Bridge
NAT	Disabled
Full Cone NAT	Disabled
Firewall	Disabled
IGMP Multicast	Not Applicable
Quality of Service	Disabled

Tip: "Apply/Save" to have this interface to be effective. Click "Back" to make any modifications.

VDSL2/UFBB Half Bridge

1. From the VDSL2+ Setup instruction repeat steps 1 to 3.
2. In the following section you will need to type in your Internet Service Provider credentials to activate you Internet connection.
(The username and password provided to you when you signed up to the service)
3. Check the **"PPP IP Extension"** check box and scroll down and Click Next.



PPP Username:

PPP Password:

PPPoE Service Name:

Authentication Method:

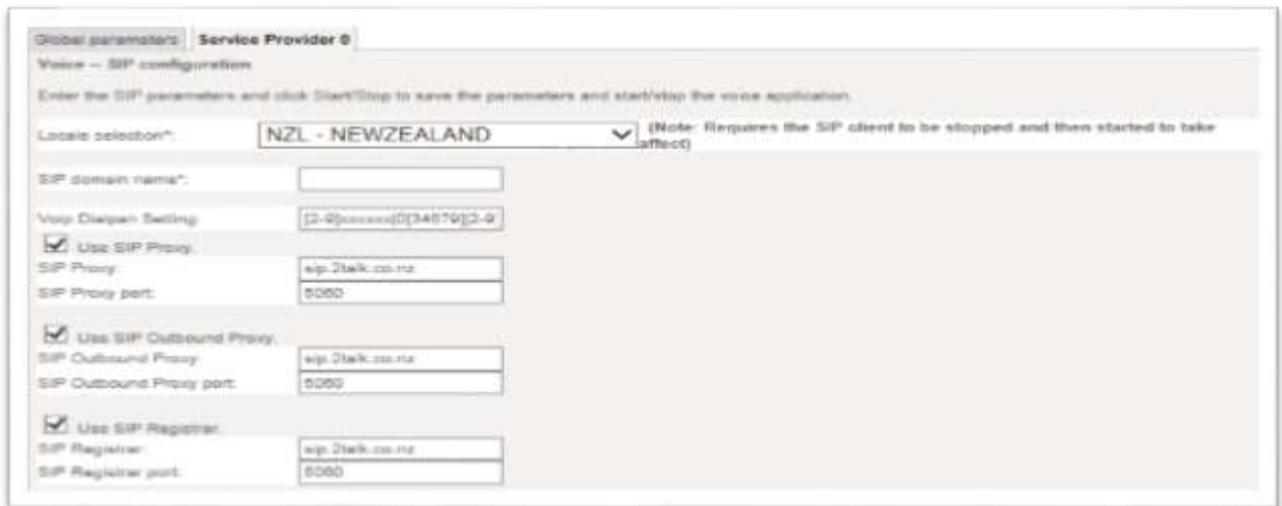
Enable Fullcone NAT
 Dial on demand (with idle timeout time)
 PPP IP extension
 Use Static IPv4 Address

4. Continue with “**VDSL2+ Setup Instructions**” from steps 5 – 7.
5. Once Completed, Any Device that is connected first to any of the LAN Switch Port Will Receive the WAN (Public) IP Address, any other Device connected after the first device will receive the Default Private IP Address range issued by the Inbox.

VoIP SIP Proxy / Credential Setup

Proxy Realm Setup

1. On the left hand menu, select ‘**Voice**’ button
2. Select Service Provider Tab to configure your SIP the Provider’s Proxy, Registrar settings.
 - SIP Proxy : <SIP Proxy URL>
 - Use Outbound Proxy: <SIP Proxy URL>
 - Use SIP Registrar <SIP Proxy URL>



Proxy SIP User Credential Setup

3. Follow screen capture below (Figure 2) to configure your SIP credentials supplied by your SIP provider.
 - Extension : <SIP Username>
 - Display Name: <SIP username>

- Authentication name: <SIP username>
NOTE: leave this field empty if you're SIP Provide uses the Kazoo platform.
- Password: <SIP Password>

Scroll down and select "APPLY

SIP Account	0	1
Description	TEL1	TEL2
Account Enabled	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Extension	SIP USERNAME	
Display name	testphone	
Authentication name	SIP USERNAME	
Password	*****	
Physical Terminal Assignment	1	0
Preferred ptime	20 ▾	20 ▾
Preferred codec 1	G.711ALaw ▾	G.711ALaw ▾
Preferred codec 2	G.711MuLaw ▾	G.711MuLaw ▾
Preferred codec 3	G.729a ▾	G.729a ▾
Preferred codec 4	G.726_24 ▾	G.726_24 ▾
Preferred codec 5	G.726_32 ▾	G.726_32 ▾
Preferred codec 6	PCMWIDEBAND ▾	PCMWIDEBAND ▾

* Changing this parameter for one service provider affects all other service providers.

Figure 2

SIP Retry / Expiry Setup

4. On the left hand menu, select '**Voice-SIP Advanced Setting**' button
5. Scroll down to the bottom and configure retry and expiry timer (Figure 3), you may use the recommended interval timer supplied by your SIP provider, if you don't get one, the default settings are fine.
 - Registration Expire Timeout: <Default = 20>
 - Registration Retry Interval: <Default = 10>

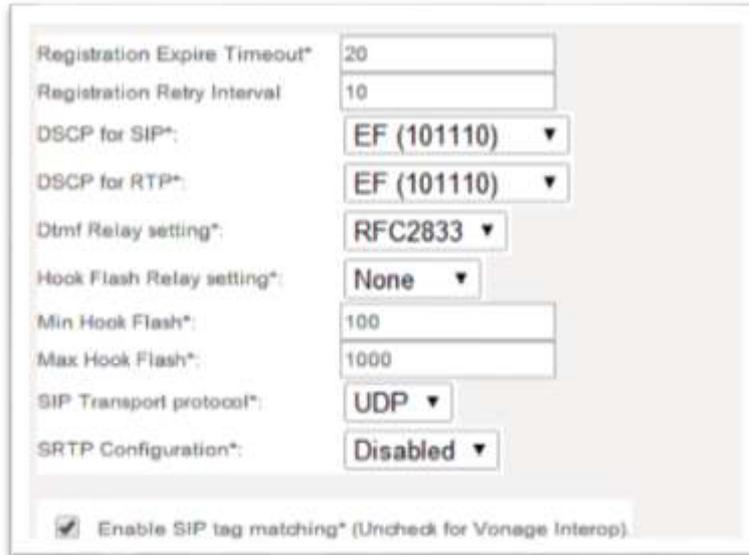


Figure 3

SIP Information

6. On the left hand menu, select 'Device Info' button
7. Scroll to the Bottom and see SIP Registration Information , (Figure 4)

Voice information.

TEL 1	testphone	Registered	Idle
TEL 2	Unconfigured		

Figure 4

SIP Debug

To capture and debug SIP information, you have three methods of achieving this.

- System Log Level - Inbox Logging mechanism
- WAN Port Mirroring – Mirror the WAN interface to a LAN port and capture egress & ingress traffic.
- From Inbox CLI Terminal – tcpdump packet filtering.

We will demonstrate how all three debugging methods used and how to set it up. System log being low level debug to terminal CLI as being very advance and powerful debugging method.

System Log Level Setup.

1. Navigate to “Voice-SIP Debug Settings”
2. Click on “Global Parameters” tab.
3. And set the LOG level to “DEBUG” (Figure 4) and click “Apply”



Figure 4

4. Navigate to “Management – System log” (Figure 5)

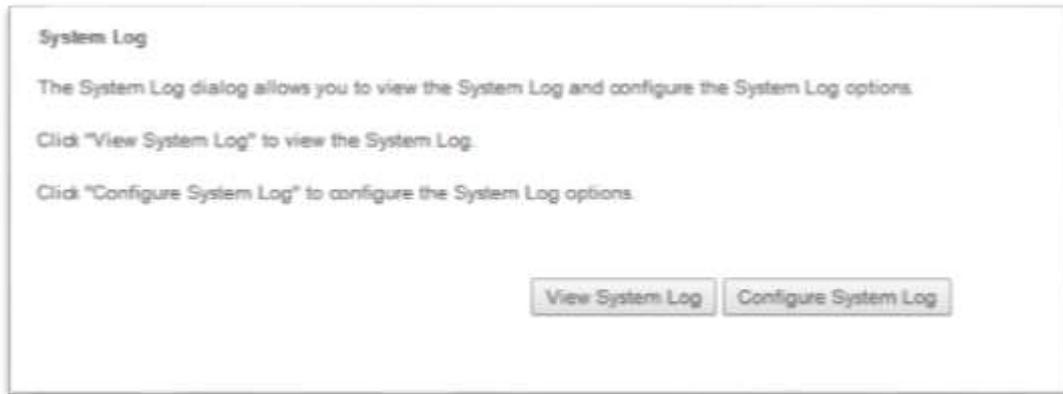


Figure 5

5. Click on “Configure System Log” (Figure 6)
 - a. Log = Enable (Radial Button)
 - b. Log Level = Debugging
 - c. Display Level = Debugging
 - d. Mode = local (here you can also set up a remote log server, which we won’t go into)
6. Click “Apply Save”
7. Click on “System Log” again and click on “View System log” to see the Inbox log and also SIP log’s

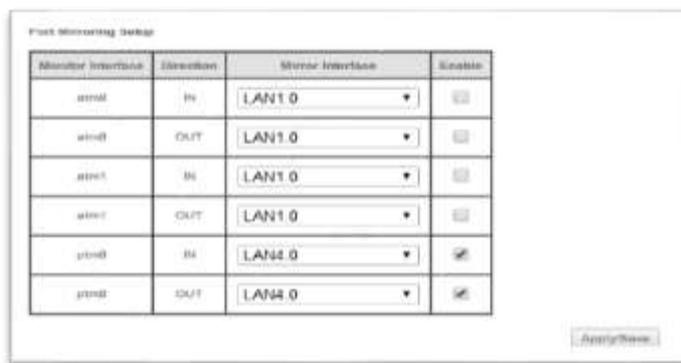


Figure 6

WAN Port Mirroring

Note: This packet capture method involves a third party tool such as “Wireshark”.

1. In your browser address bar type in your Innbox gateway IP address followed by “engdebug.html”
 - a. Eg <http://192.168.1.1/engdebug.html>
2. Look for your WAN interface and select a LAN port from the Drop down Menu, (Select the LAN port your PC is connected to). And tick the check box next to it to enable it.
3. Click “Apply Save”
4. Now the WAN uplink interface is now mirrored to the selected LAN port, you may now open up Wireshark and capture SIP traffic leaving and entering the Innbox gateway.



Monitor Interface	Direction	Mirror Interface	Enable
wan1	IN	LAN1.0	<input checked="" type="checkbox"/>
wan1	OUT	LAN1.0	<input checked="" type="checkbox"/>
wan1	IN	LAN1.0	<input checked="" type="checkbox"/>
wan1	OUT	LAN1.0	<input checked="" type="checkbox"/>
wan2	IN	LAN4.0	<input checked="" type="checkbox"/>
wan2	OUT	LAN4.0	<input checked="" type="checkbox"/>

Figure 7 below shows capturing traffic on LAN port 4 on a VDSL Connection

CLI Terminal Packet Filtering

This method requires you to “Telnet” or “SSH” into the Innbox Terminal Interface. We will be using “Putty” to telnet into our Innbox Gateway and run “TCPDUMP” to capture any SIP traffic entering and leaving the Innbox Gateway WAN interface.

1. Open up Putty and type in your Innbox Default Gateway IP address .
2. Login into the Innbox with the Above Login Credentials.
3. Execute “ifconfig” to determine your WAN uplink interface.



```
> ifconfig
```

4. Now execute "tcpdump -nqt -i ppp0.1 -s 0 -A -vvv port 5060"



```
> tcpdump -nqt -i ppp0.1 -vvv -s 0 -A port 5060
```

1. Note: ppp0.1 is my VDSL WAN interface
2. Now everything entering and leaving port 5060 will be displayed back to you in the terminal console.

For Further Assistance please call (09) 5891350

During office hours 9am - 5pm

Or Visit the Support Forum

<https://www.connectplay.co.nz/forum>