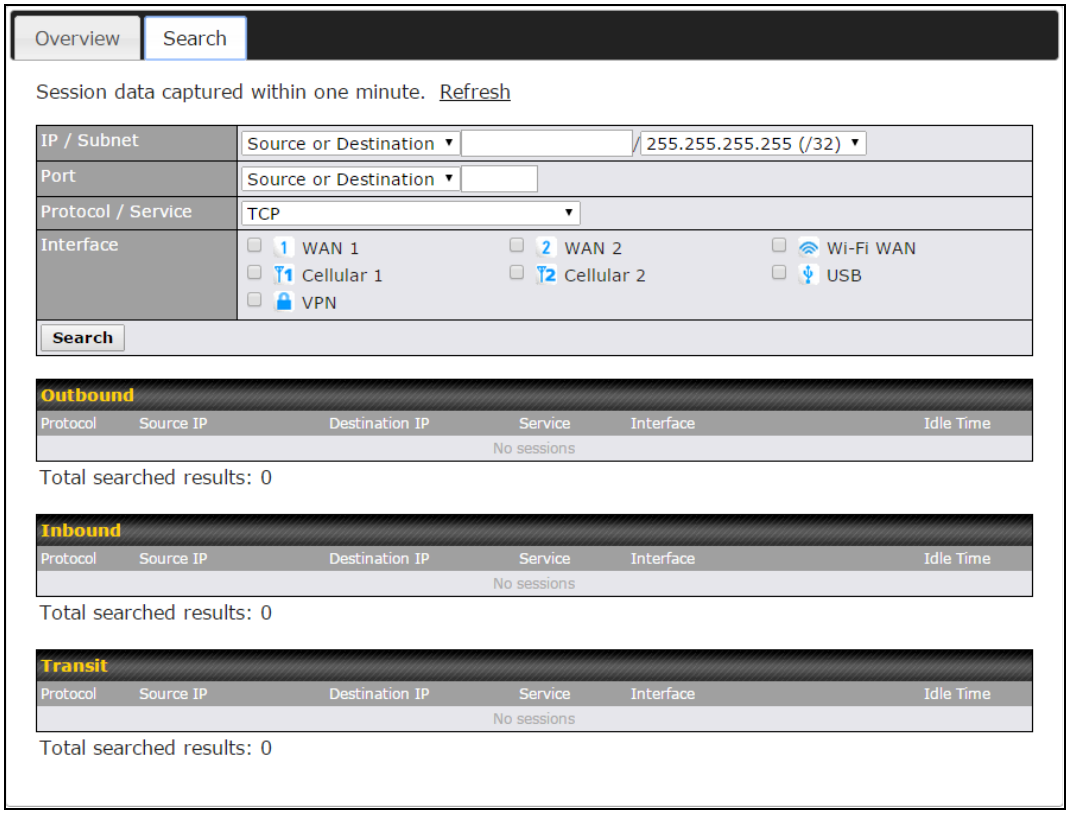
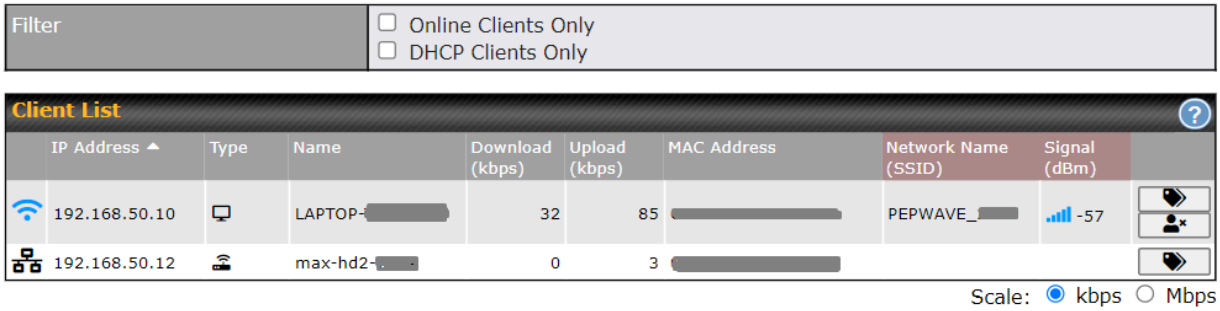


This **Active Sessions** section displays the active inbound/outbound sessions of each WAN connection on the Pepwave router. A filter is available to sort active session information. Enter a keyword in the field or check one of the WAN connection boxes for filtering.

29.4 Client List

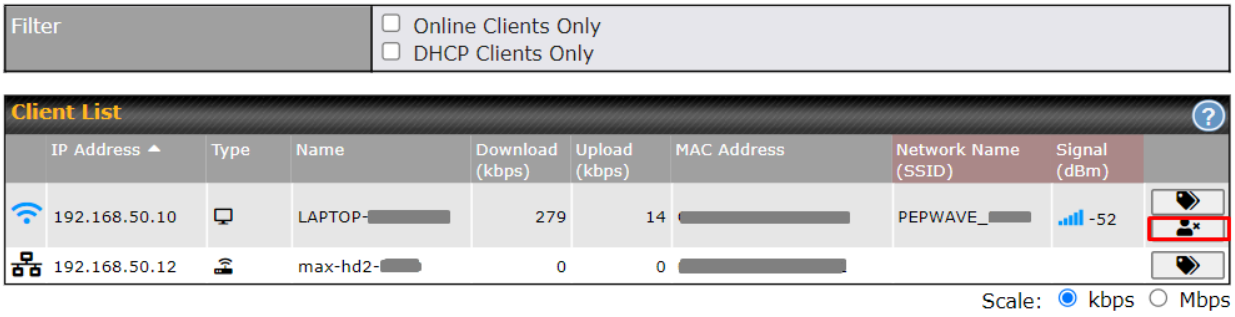
The client list table is located at **Status > Client List**. It lists DHCP and online client IP addresses, names (retrieved from the DHCP reservation table or defined by users), current download and upload rate, and MAC address.

Clients can be imported into the DHCP reservation table by clicking the button on the right. You can update the record after import by going to **Network > LAN**.

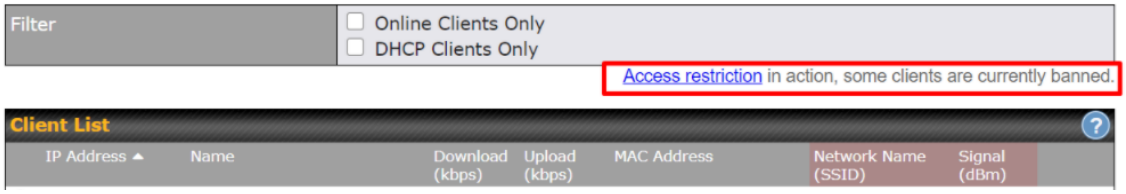


If the PPTP server (see **Section 19.2),** SpeedFusion™ (see **Section 12.1**), or AP controller (see **Section 20**) is enabled, you may see the corresponding connection name listed in the **Name** field.

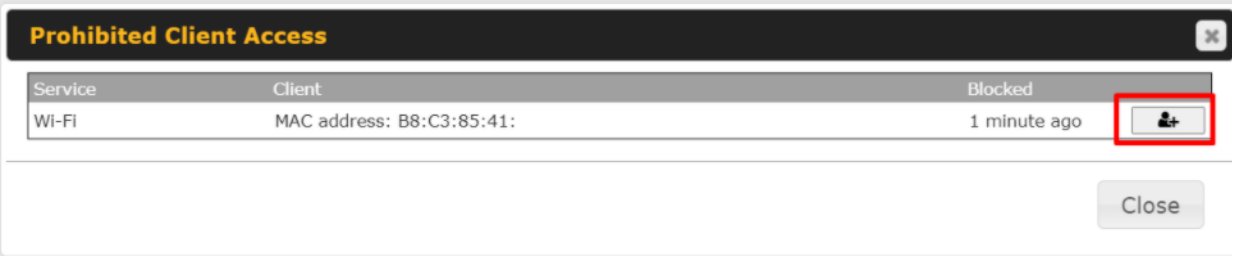
In the client list table, there is a "Ban Client" feature which is used to disconnect the Wi-Fi and Remote User Access clients by clicking the button on the right.



There is a blocklist on the same page after you banned the Wi-Fi or Remote User Access clients.

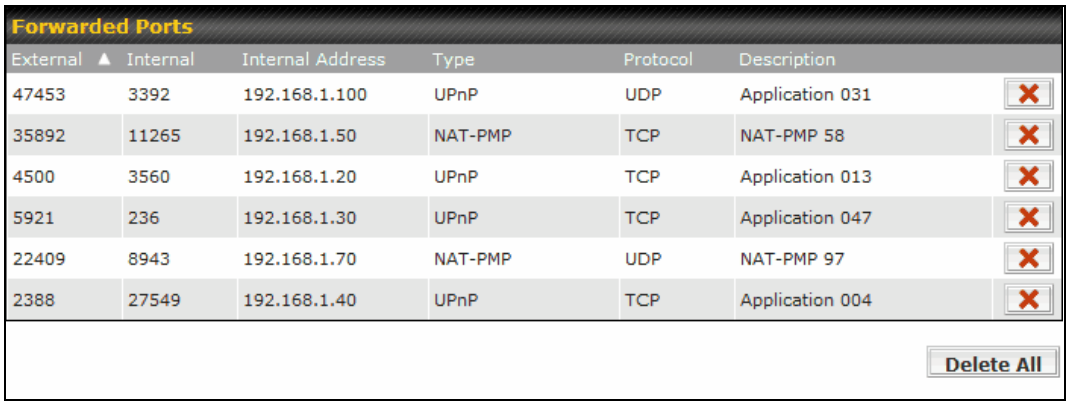


You may also unblock the Wi-Fi or Remote User Access clients when the client devices need to reconnect the network by clicking  the button on the right.



29.5 UPnP / NAT-PMP

The table that shows the forwarded ports under UPnP and NAT-PMP protocols is located at **Status > UPnP/NAT-PMP**. This section appears only if you have enabled UPnP / NAT-PMP as mentioned in **Section 16.1.1**.



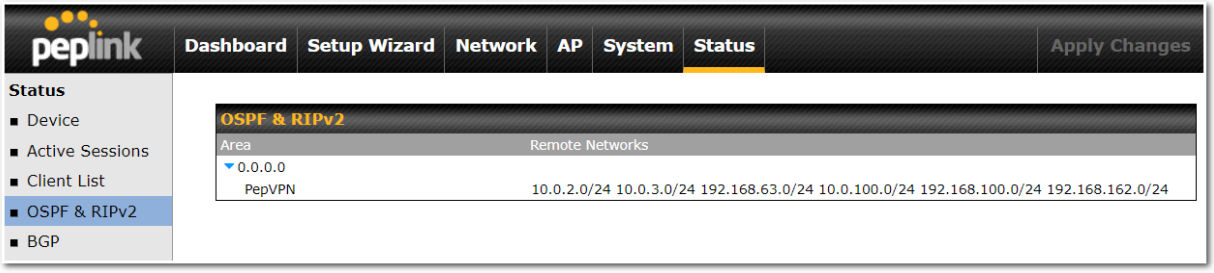
Click  to delete a single UPnP / NAT-PMP record in its corresponding row. To delete all records, click **Delete All** on the right-hand side below the table.

Important Note

UPnP / NAT-PMP records will be deleted immediately after clicking the button  or **Delete All,** without the need to click **Save** or **Confirm**.

29.6 OSPF & RIPv2

The table shows status of OSPF and RIPv2.

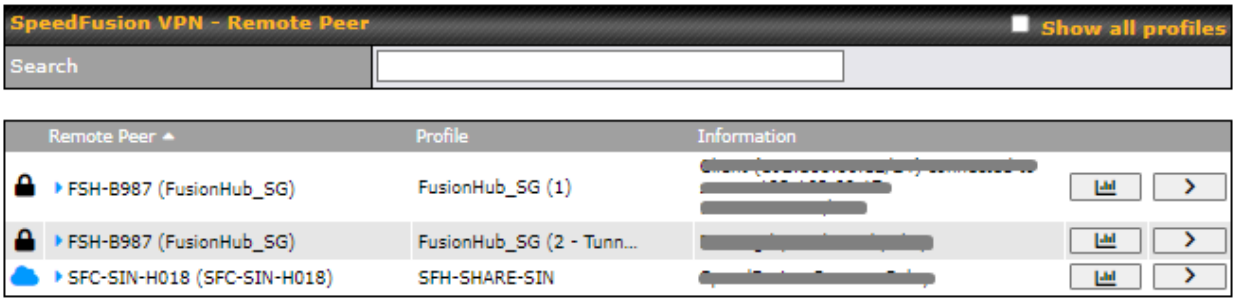


29.7 BGP

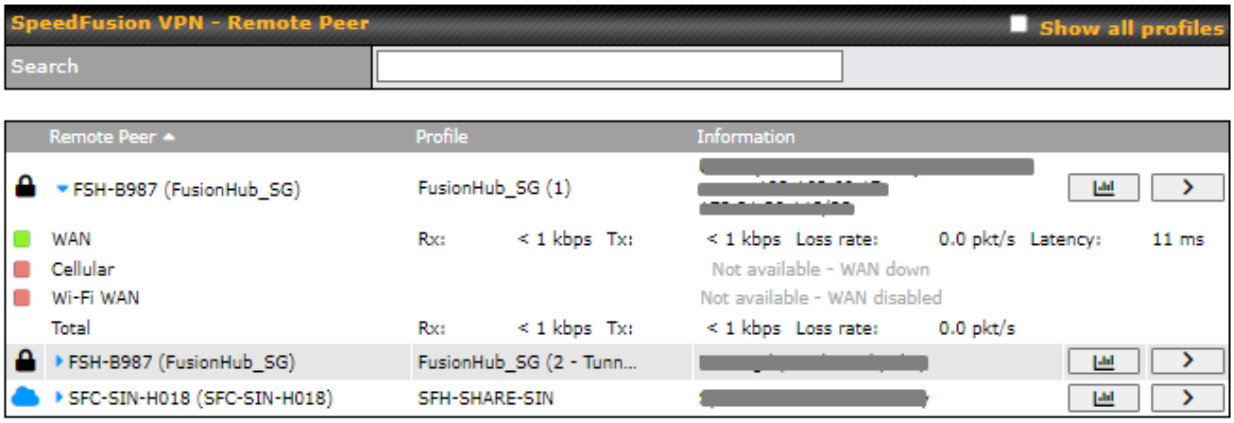
The table shows status of BGP

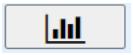
29.8 SpeedFusion VPN

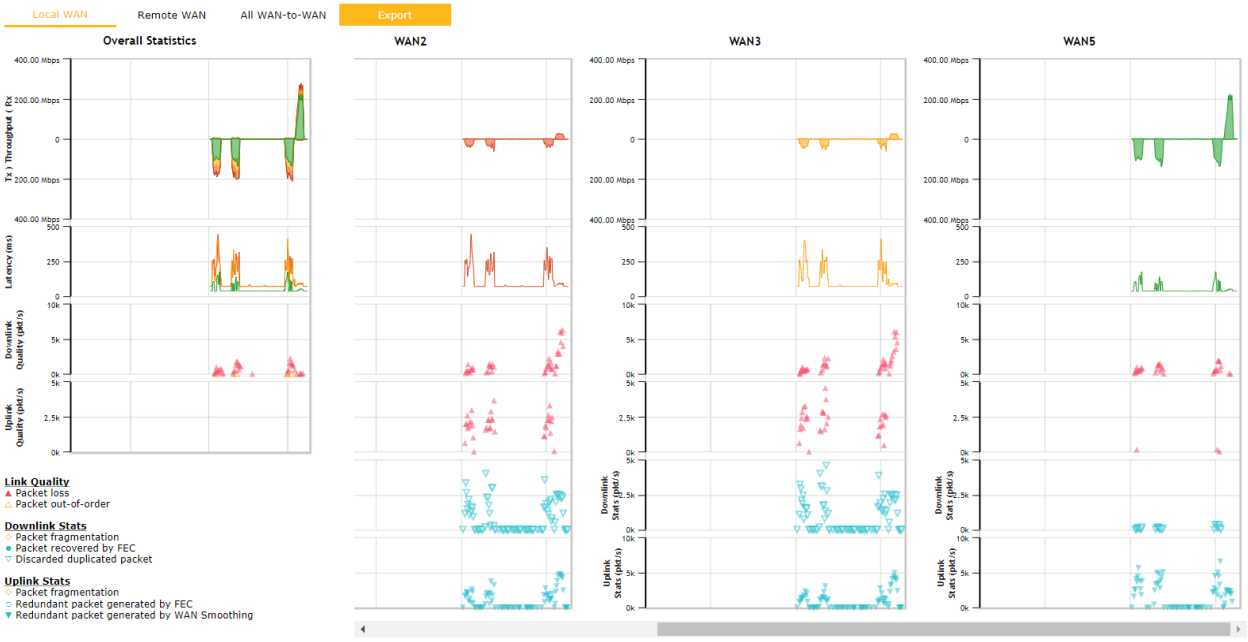
Current SpeedFusion VPN status information is located at **Status > SpeedFusion VPN**. Details about SpeedFusion VPN connection peers appears as below:



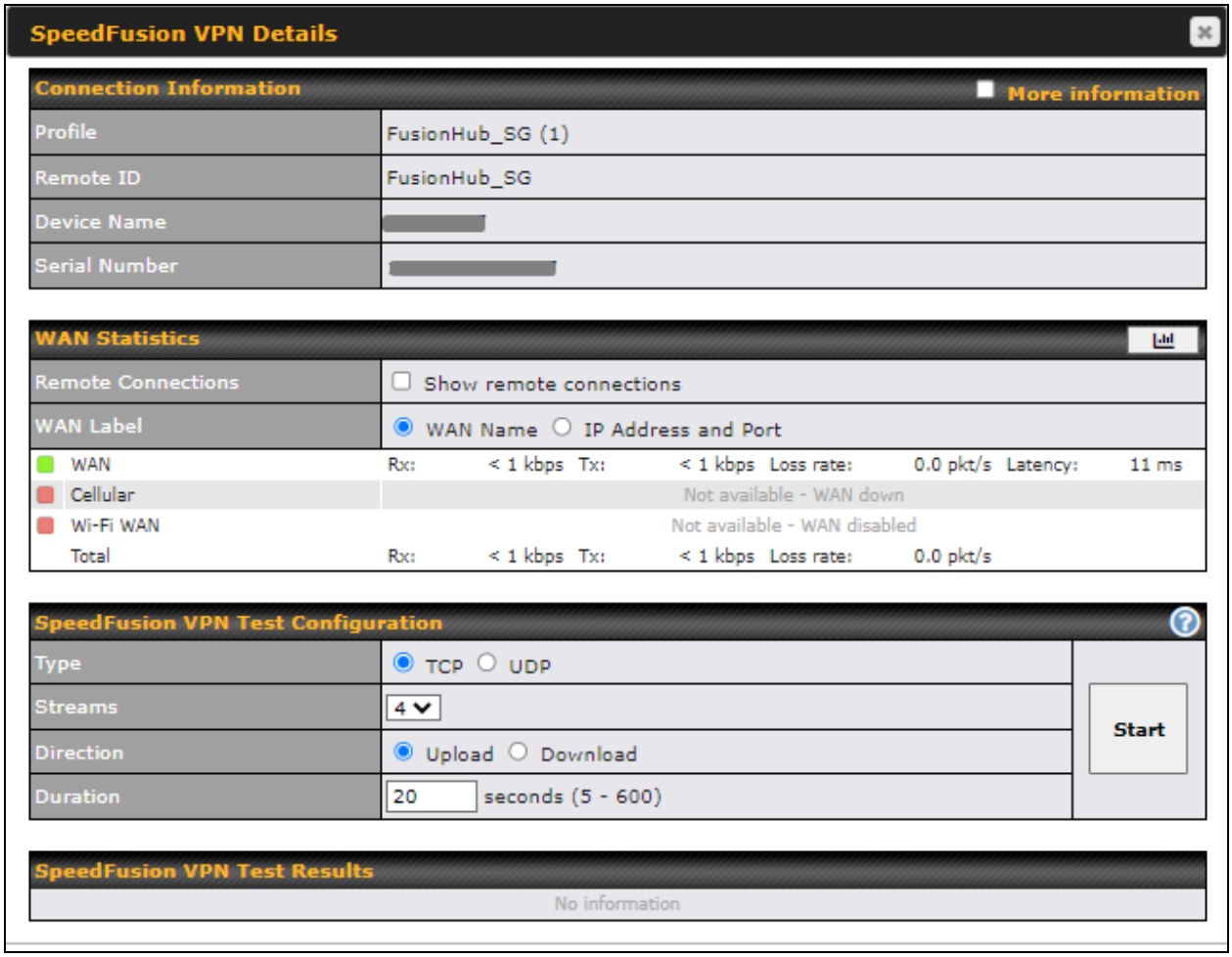
Click on the corresponding peer name to explore the WAN connection(s) status and subnet information of each VPN peer.



Click the  button for a SpeedFusion chart displaying real-time throughput, latency, and drop-rate information for each WAN connection.



When pressing the button, the following menu will appear:



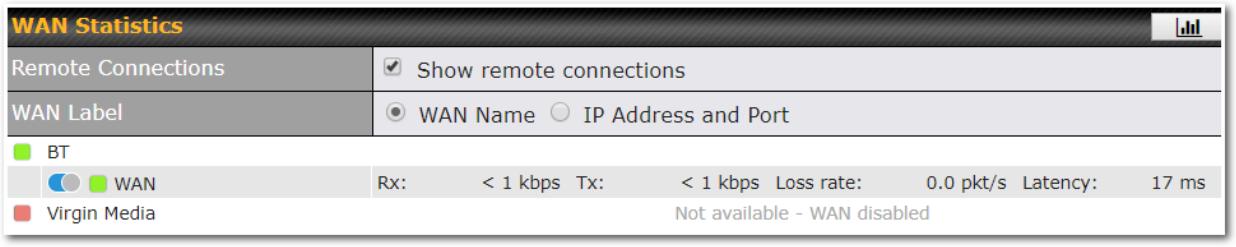
The **connection information** shows the details of the selected SpeedFusion VPN profile, consisting of the Profile name, **Router ID**, **Router Name** and **Serial Number** of the remote router
Advanced features for the SpeedFusion VPN profile will also be shown when the **More Information** checkbox is selected.

The **WAN statistics** show information about the local and remote WAN connections (when **show Remote connections**) is selected.
The available details are **WAN Name, IP address** and **port** used for the Speedfusion connection. **Rx and Tx rates, Loss rate and Latency**.

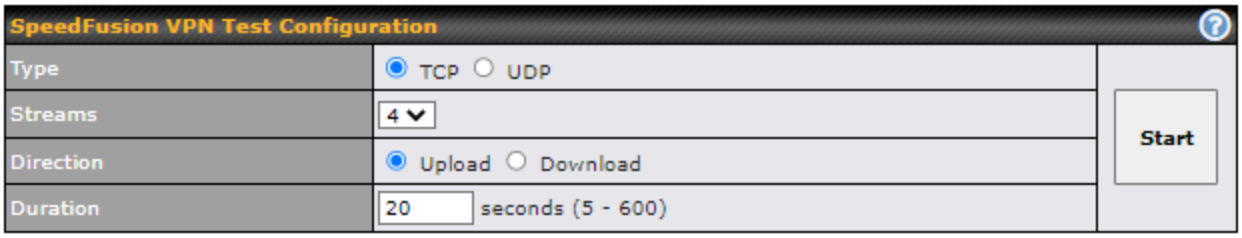
Connections can be temporarily disabled by sliding the switch button next to a WAN connection to the left.
The wan-to-wan connection disabled by the switch is temporary and will be re-enabled after 15

minutes without any action.

This can be used when testing the SpeedFusion VPN's speed between two locations to see if there is interference or network congestion between certain WAN connections.



The SpeedFusion VPN test configuration allows us to configure and perform thorough tests. This is usually done after the initial installation of the routers and in case there are problems with aggregation.



Press the Start button to perform throughput test according to the configured options.

If TCP is selected, 4 parallel streams will be generated to get the optimal results by default. This can be customized by selecting a different value of streams.

Using more streams will typically get better results if the latency of the tunnel is high.

SpeedFusion VPN Test Results

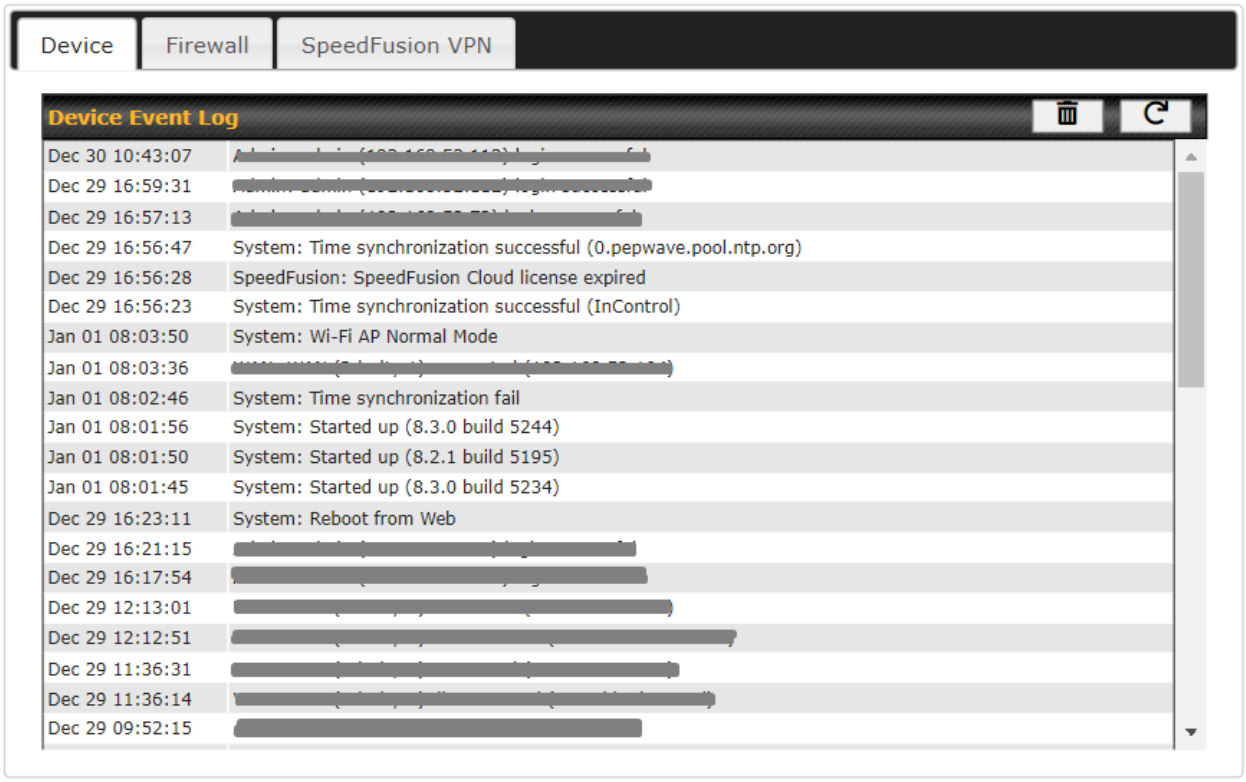
```
    1.0s:     16.2527 Mbps        0 retrans /    306 KB cwnd
    2.0s:     20.4445 Mbps        0 retrans /    306 KB cwnd
    3.0s:     18.3526 Mbps        0 retrans /    306 KB cwnd
    4.0s:     17.8258 Mbps        0 retrans /    306 KB cwnd
    5.0s:     17.3014 Mbps        0 retrans /    306 KB cwnd
    6.0s:     14.1558 Mbps        0 retrans /    306 KB cwnd
    7.0s:     18.3500 Mbps        0 retrans /    306 KB cwnd
    8.0s:     15.7252 Mbps        0 retrans /    306 KB cwnd
    9.0s:     17.2932 Mbps        0 retrans /    306 KB cwnd
   10.0s:     20.4591 Mbps        0 retrans /    306 KB cwnd
   11.0s:     11.5347 Mbps        0 retrans /    306 KB cwnd
   12.0s:     15.2043 Mbps        0 retrans /    306 KB cwnd
   13.0s:     12.0584 Mbps        0 retrans /    306 KB cwnd
   14.0s:     13.1074 Mbps        0 retrans /    306 KB cwnd
   15.0s:     10.4849 Mbps        0 retrans /    306 KB cwnd
   16.0s:     12.5838 Mbps        0 retrans /    306 KB cwnd
   17.0s:     15.2043 Mbps        0 retrans /    306 KB cwnd
   18.0s:     16.2486 Mbps        0 retrans /    306 KB cwnd
   19.0s:     18.8789 Mbps        0 retrans /    306 KB cwnd
   20.0s:     18.3491 Mbps        0 retrans /    306 KB cwnd
--
 Stream 1:      3.9913 Mbps        0 retrans /     78 KB cwnd
 Stream 2:      3.9728 Mbps        0 retrans /     74 KB cwnd
 Stream 3:      3.9879 Mbps        0 retrans /     75 KB cwnd
 Stream 4:      4.0044 Mbps        0 retrans /     79 KB cwnd

  Overall:     15.9564 Mbps        0 retrans /    306 KB cwnd
--
TEST DONE
```

Peplink also published a whitepaper about Speedfusion which can be downloaded from the following url:
http://download.peplink.com/resources/whitepaper-speedfusion-and-best-practices-2019.pdf

29.9 Event Log

Event log information is located at **Status > Event Log**.

29.9.1 Device Event Log

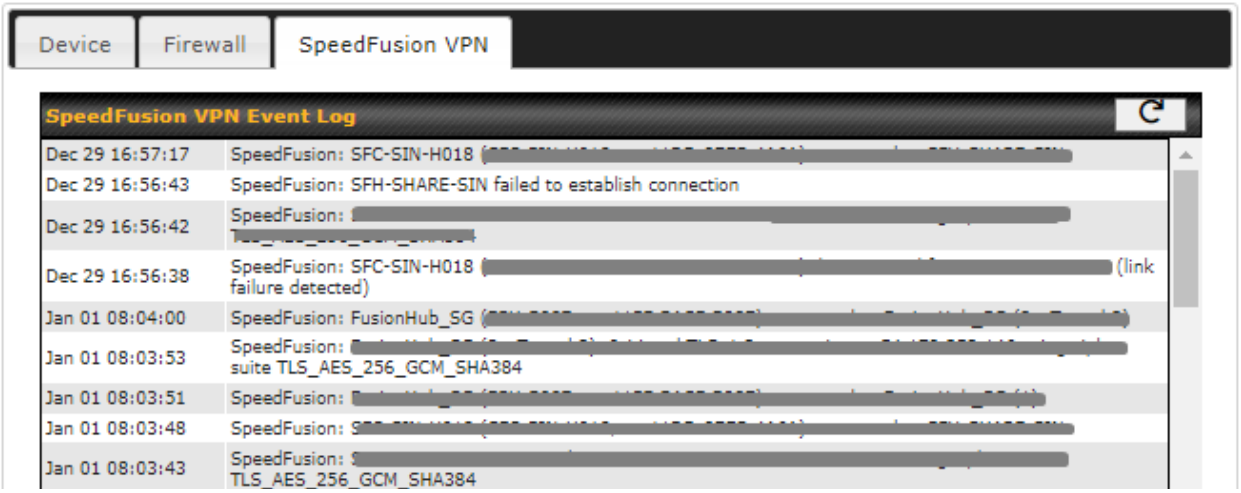


The log section displays a list of events that has taken place on the Pepwave router. Click the  to refresh log entries automatically. Click the  button to clear the log.

29.9.2 Firewall Event log

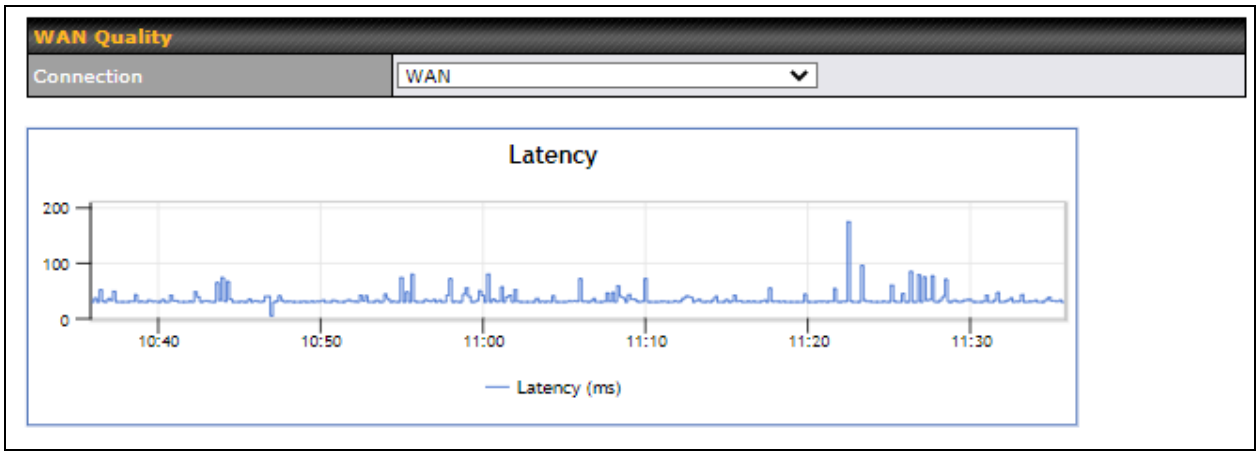
This section displays a list of events that have taken place within a firewall. Click the  button and the log will be refreshed.

29.9.3 SpeedFusion VPN Event log



This section displays a list of events that have taken place within a SpeedFusion VPN connection. Click the  button and the log will be refreshed.

30 WAN Quality



The **Status > WAN Quality** allow to show detailed information about each connected WAN connection.

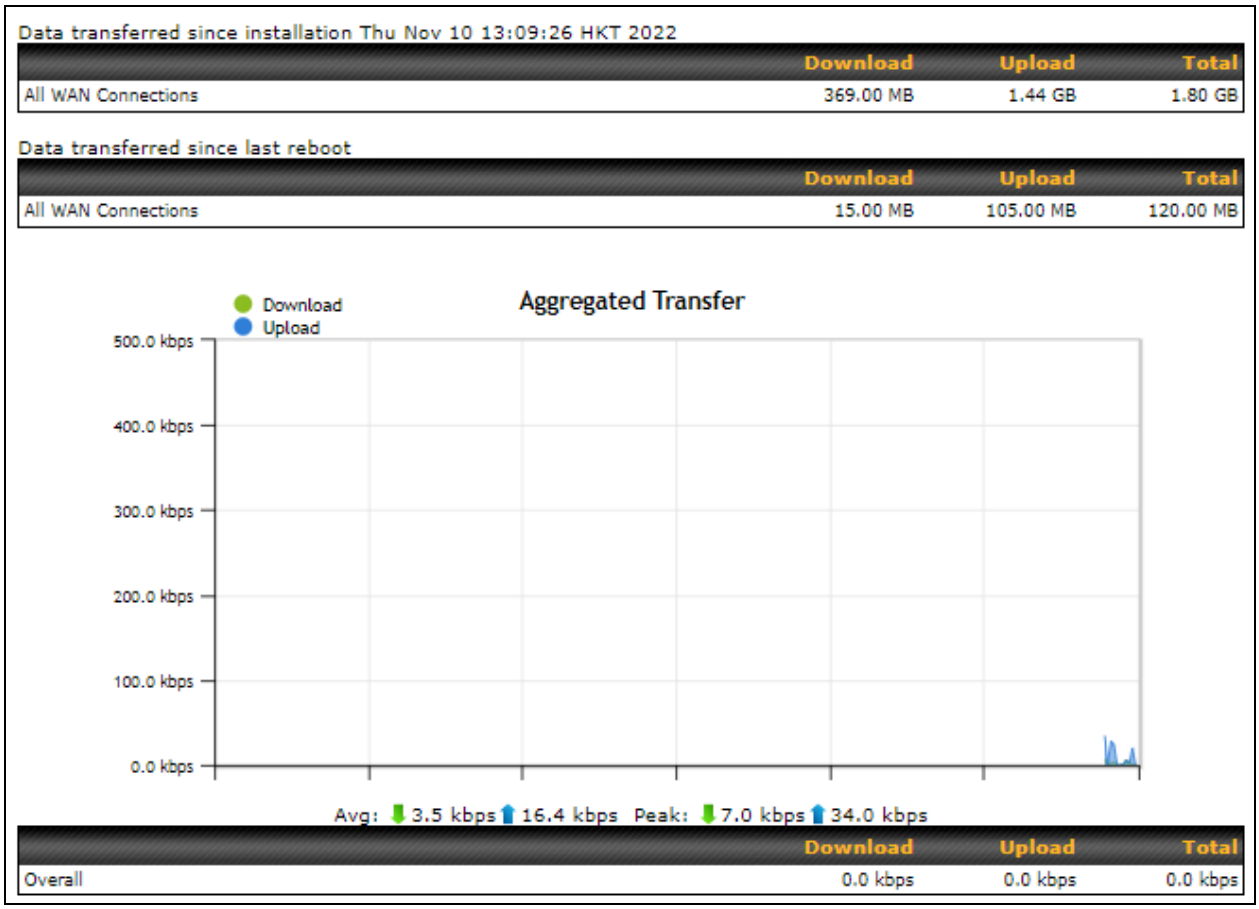
For cellular connections it shows signal strength, quality, throughput and latency for the past hour.

31 Usage Reports

This section shows bandwidth usage statistics and is located at **Status > Usage Reports** Bandwidth usage at the LAN while the device is switched off (e.g., LAN bypass) is neither recorded nor shown.

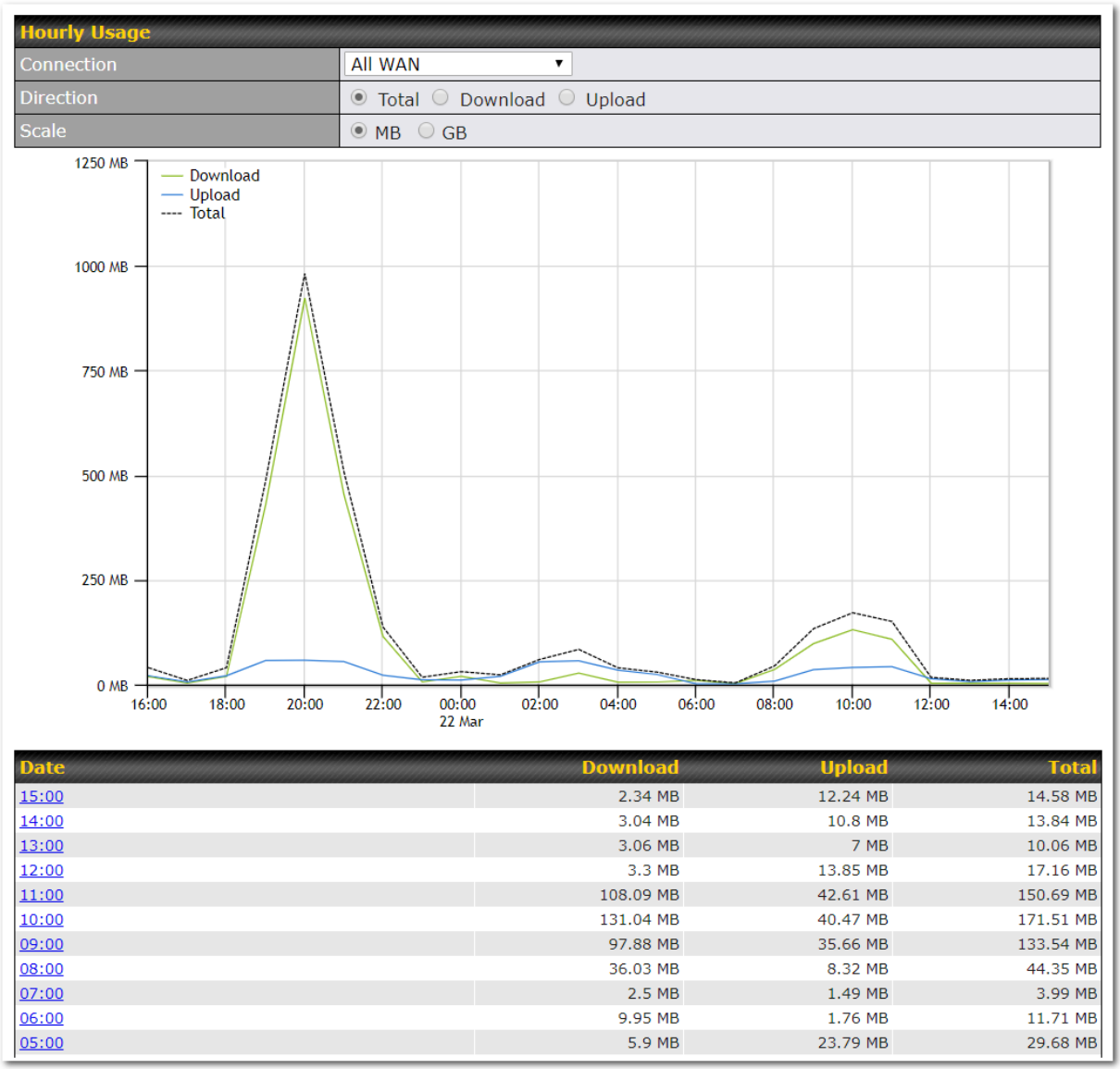
31.1 Real-Time

The **Data transferred since installation** table indicates how much network traffic has been processed by the device since the first bootup. The **Data transferred since last reboot** table indicates how much network traffic has been processed by the device since the last bootup.



31.2 Hourly

This page shows the hourly bandwidth usage for all WAN connections, with the option of viewing each individual connection. Select the desired connection to check from the drop-down menu.



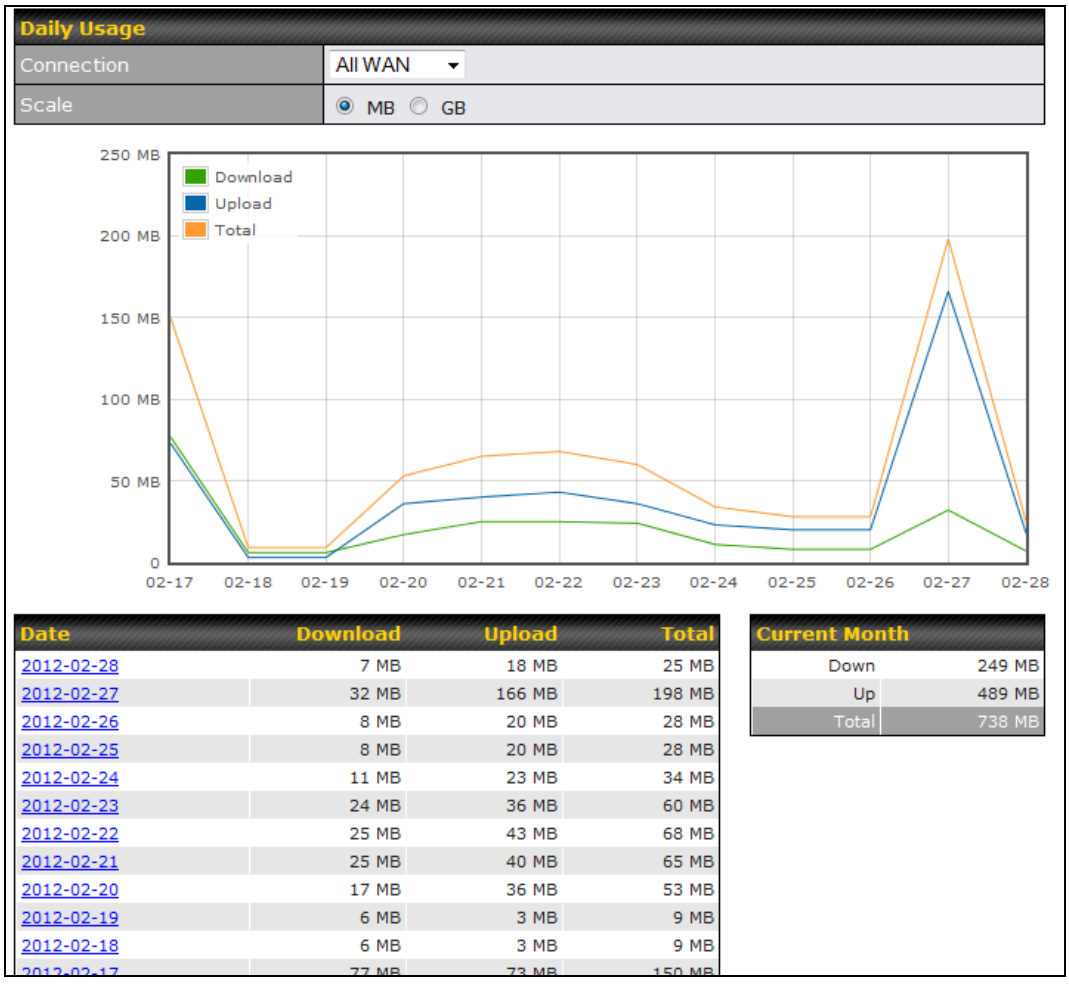
Date	Download	Upload	Total
15:00	2.34 MB	12.24 MB	14.58 MB
14:00	3.04 MB	10.8 MB	13.84 MB
13:00	3.06 MB	7 MB	10.06 MB
12:00	3.3 MB	13.85 MB	17.16 MB
11:00	108.09 MB	42.61 MB	150.69 MB
10:00	131.04 MB	40.47 MB	171.51 MB
09:00	97.88 MB	35.66 MB	133.54 MB
08:00	36.03 MB	8.32 MB	44.35 MB
07:00	2.5 MB	1.49 MB	3.99 MB
06:00	9.95 MB	1.76 MB	11.71 MB
05:00	5.9 MB	23.79 MB	29.68 MB

31.3 Daily

This page shows the daily bandwidth usage for all WAN connections, with the option of viewing each individual connection.

Select the connection to check from the drop-down menu. If you have enabled the **Bandwidth Monitoring** feature**,** the **Current Billing Cycle** table for that WAN connection will be displayed.

Click on a date to view the client bandwidth usage of that specific date. This feature is not available if you have selected to view the bandwidth usage of only a particular WAN connection. The scale of the graph can be set to display megabytes (**MB**) or gigabytes (**GB**).



Date	Download	Upload	Total
2012-02-28	7 MB	18 MB	25 MB
2012-02-27	32 MB	166 MB	198 MB
2012-02-26	8 MB	20 MB	28 MB
2012-02-25	8 MB	20 MB	28 MB
2012-02-24	11 MB	23 MB	34 MB
2012-02-23	24 MB	36 MB	60 MB
2012-02-22	25 MB	43 MB	68 MB
2012-02-21	25 MB	40 MB	65 MB
2012-02-20	17 MB	36 MB	53 MB
2012-02-19	6 MB	3 MB	9 MB
2012-02-18	6 MB	3 MB	9 MB
2012-02-17	77 MB	73 MB	150 MB

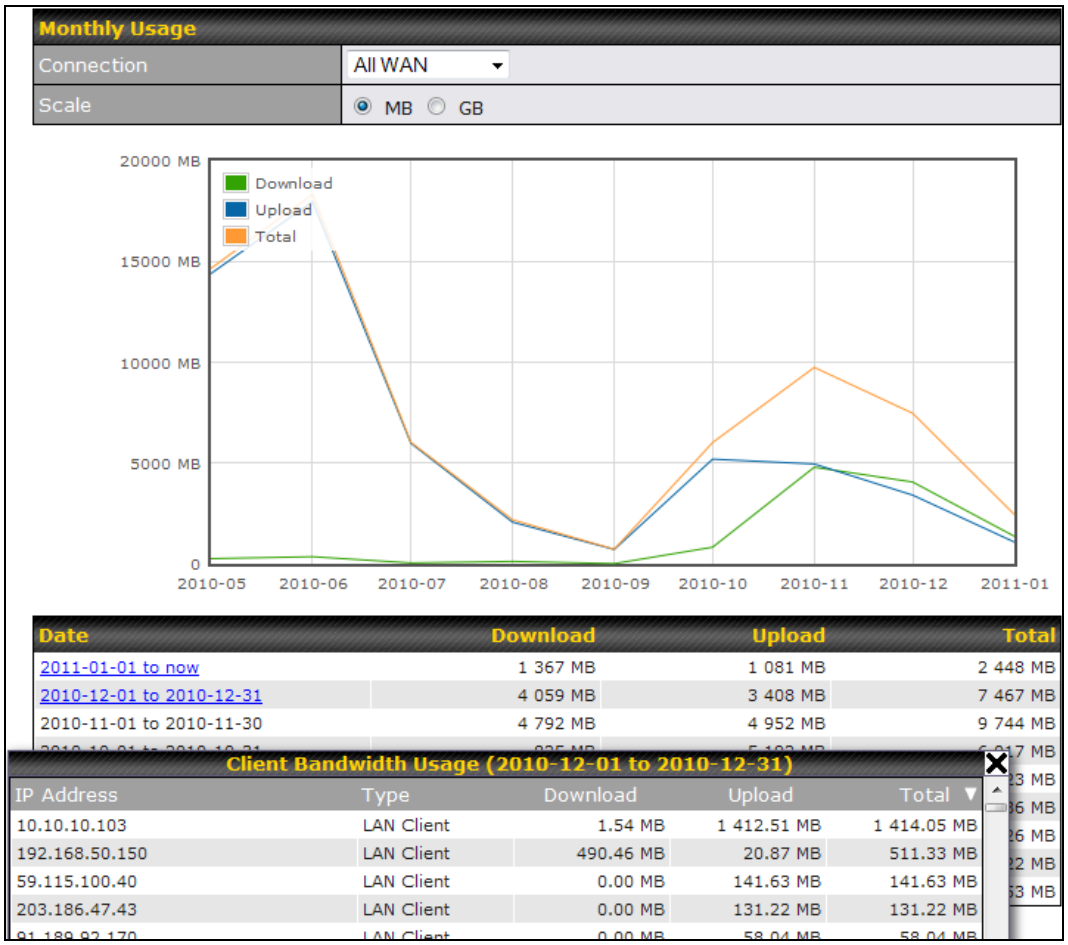
Current Month	
Down	249 MB
Up	489 MB
Total	738 MB

All WAN Daily Bandwidth Usage

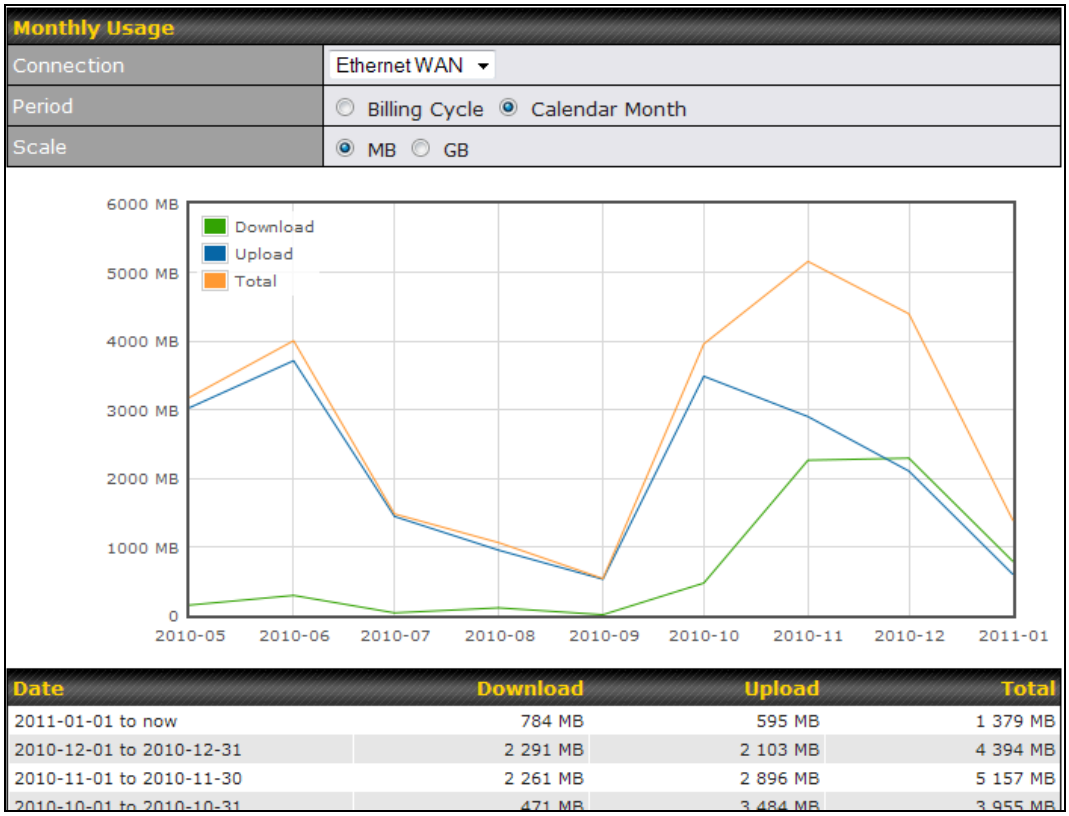
31.4 Monthly

This page shows the monthly bandwidth usage for each WAN connection. If you have enabled the **Bandwidth Monitoring** feature, you can check the usage of each particular connection and view the information by **Billing Cycle** or by **Calendar Month**.

Click the first two rows to view the client bandwidth usage in the last two months. This feature is not available if you have chosen to view the bandwidth of an individual WAN connection. The scale of the graph can be set to display megabytes (**MB**) or gigabytes (**GB**).



All WAN Monthly Bandwidth Usage



Ethernet WAN Monthly Bandwidth Usage

Tip

By default, the scale of data size is in **MB**. 1GB equals 1024MB.

Appendix A: Restoration of Factory Defaults

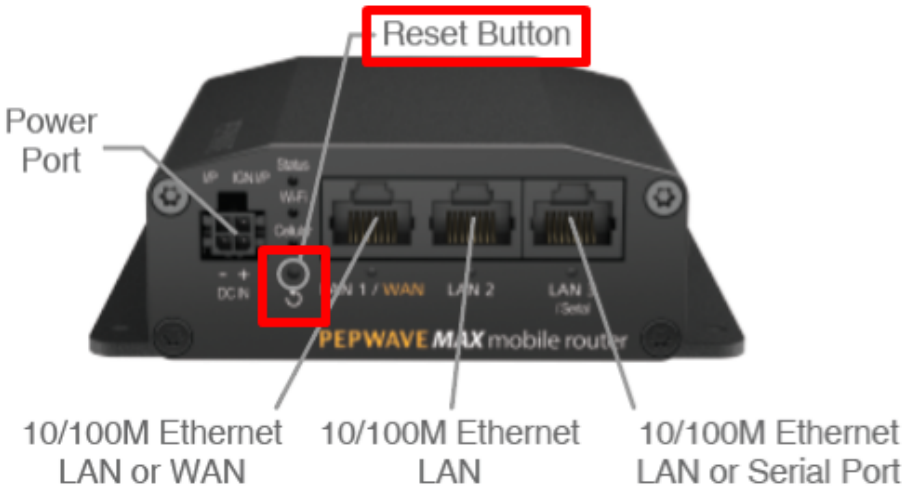
To restore the factory default settings on a Pepwave router, follow the steps below:

1. Locate the reset button on the front or back panel of the Pepwave router.
2. With a paperclip, press and keep the reset button pressed.

Hold for approximately 20 seconds for factory reset (Note: The LED status light shows in RED, all WAN/LAN port lights start blinking, and release the button)

After the Pepwave router finishes rebooting, the factory default settings will be restored.

Important Note
All previous configurations and bandwidth usage data will be lost after restoring factory default settings. Regular backup of configuration settings is strongly recommended.



Appendix B: Overview of ports used by Peplink SD-WAN routers and other Peplink services

Default Port Number	Usage	Service	Inbound/Outbound	Default Status
UDP 5246	Data flow	InControl	Outbound	Enabled
TCP 443	HTTPS service	InControl	Outbound	Enabled
TCP 5246	Optional, used when TCP 443 is not responding	InControl	Outbound	Enabled
TCP 5246	Remote Web Admin	InControl Virtual Appliance	Outbound	Enabled
TCP 4500	VPN Data (TCP Mode)	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
TCP 32015	VPN handshake	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
UDP 4500	VPN Data	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
UDP 32015º	VPN Data (alternative)	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
TCP/UDP 4500+N-1^	VPN Sub-Tunnels Data	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
UDP 32015+N-1^	VPN Sub-Tunnels Data (alternative)	SpeedFusion VPN / SpeedFusion	Inbound / Outbound*	Disabled
UDP 4500	VPN Data	IPsec	Inbound / Outbound*	Disabled
UDP 500	VPN initiation	IPsec	Inbound / Outbound*	Disabled
UDP 500	L2TP	Remote User Access	Inbound	Disabled
UDP 1701	L2TP	Remote User Access	Inbound	Disabled
UDP 4500	L2TP	Remote User Access	Inbound	Disabled
UDP 1194	OpenVPN	Remote User Access	Inbound	Disabled
IP 47	PPTP (GRE)	Remote User Access	Inbound	Disabled
TCP 2222	Remote Assistance Direct connection	Peplink Troubleshooting Assistance	Outbound	Enabled

TCP 80	HTTP traffic	Web Admin Interface access	Inbound	Enabled
TCP 443	HTTPS traffic	Web Admin Interface access (secure)	Inbound	Enabled
TCP 8822	SSH	SSH	Inbound	Disabled
UDP 161	SNMP Get	SNMP monitoring	Inbound	Disabled
UDP 162	SNMP Trap	SNMP monitoring	Outbound	Disabled
TCP, UDP 1812	Radius Authentication	Radius	Outbound	Disabled
TCP, UDP 1813	Radius Accounting	Radius	Outbound	Disabled
UDP 123	Network Time Protocol	NTP	Inbound Outbound	Disabled Enabled
TCP 60660	Real-time location data in NMEA format	GPS	Outbound	Disabled

Disclaimer:

- By default, only TCP 32015 and UDP 4500 are needed for SpeedFusion VPN / SpeedFusion.
- Inbound / Outbound* - Inbound = For Server mode; Outbound = For Client mode
- UDP 32015º - If IPsec VPN or L2TP/IPsec RUA is enabled, the UDP 4500 is occupied, so SpeedFusion VPN / SpeedFusion will automatically switch to UPD 32015 as VPN data port .
- UDP 32015+N-1^ / TCP/UDP 4500+N-1^ - When using Sub-Tunnels, multiple ports are in use (1 for each Sub-Tunnel profile).
- The default UDP data ports used when using (N number of Sub-Tunnel profiles) are: 4500…4500+N-1, or (when port 4500 is in use by IPsec or L2TP/IPsec) 32015… 32015+N-1".

FCC Requirements for Operation in the United States
Federal Communications Commission (FCC) Compliance Notice:

For B One 5G

Federal Communication Commission Interference Statement

Any changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) this device may not cause harmful interference and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Wi-Fi 5GHz Device

The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

