

WAN QoS Profile Configuration and Binding on the RV220W VPN Firewall

Objective

The bandwidth of the traffic that flows from the secure network (LAN) to the insecure network (WAN) can be shaped if Bandwidth Profiles are used. You can use a bandwidth profile to limit the rate that outbound traffic is sent at. This prevents the consumption of all the bandwidth of the Internet link by the LAN users.

Bandwidth profile configuration consists of the ability to enable the bandwidth control feature from the web configuration utility. This allows for customization of a profile and determines how much of the overall bandwidth can be consumed for each profile created. After you create a WAN QoS profile, you must bind the profile to a traffic selector. Traffic that matches the traffic selector follows the rules of the bound profile.

The objective of this document is to help configure bandwidth profiles on an RV220W VPN Firewall.

Applicable Device

- RV220W

Software Version

- 1.0.4.17

Configure Bandwidth Profiles

Step 1. Log in to the web configuration utility and choose **QoS > WAN QoS Profiles**. The *WAN QoS Profiles* page opens:

WAN QoS Profiles

Global Settings

WAN QoS: Enable

WAN QoS Mode: Priority
 Rate Limit

Priority Bandwidth Allocation Settings

High Priority: % (Range: 61 - 100, Default: 61)

Medium Priority: % (Range: 31 - 60, Default: 31)

Low Priority: % (Range: 10 - 30, Default: 10)

Total WAN (Internet) Bandwidth: Mbps (Range: 1 - 100, Default: 100)

WAN QoS Profile Table				
<input type="checkbox"/>	Name	Priority	Minimum Bandwidth Rate Kbps (Range: 1 - Max. Bandwidth)	Maximum Bandwidth Rate Kbps (Range: 100 - 1000000)
<input type="checkbox"/>	0 results found			
<input type="text"/>	<input type="text"/>	Low	<input type="text"/>	<input type="text"/>
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>		

Please click 'Save' button to take Add/Edit/Delete Operation into effect

Global Settings

Step 2. Check the **Enable** check box in the WAN QoS field to enable WAN QoS.

Step 3. Click the desired radio button in the WAN QoS Mode field. This option defines the type of bandwidth profile.

- Priority — This mode allows designation of a percentage of the total bandwidth of the WAN based on priority.
- Rate limit — This mode allows designation of the maximum amount of bandwidth allotted for a profile.

Note: A warning window appears that states if the WAN QoS modes changes then the previous WAN QoS configuration is reset. Click **OK** to continue.

Timesaver: Skip Steps 4 and 5 if Rate Limit is chosen.

Priority Bandwidth Allocation

Step 4. If you chose Priority in Step 3, enter the priority for this profile (low, medium, or high) in Priority Bandwidth Allocation Settings area.

- High — Enter the bandwidth allocation. This is the bandwidth allocated to high priority class traffic (61-100).
- Medium — Enter the bandwidth allocation. This is the bandwidth allocated to medium priority class traffic (31-60).
- Low — Enter the bandwidth allocation. This is the bandwidth allocated to low priority class traffic (10-30).

Step 5. In the Total WAN Internet Bandwidth field, enter the desired bandwidth to be allocated to the profile (1-100). Proper bandwidth allocation allows for the most efficient implementation of QoS profiles. The total bandwidth of the WAN is the entire amount of data that is being relayed to and from the network at any given moment.

WAN QoS Profile Table

Step 6. Click **Add** to add a new Bandwidth Profile.

Step 7. Enter the Profile Name into the Name field. The name is used to identify and associate the profile to traffic selection criteria.

Global Settings

WAN QoS Enable

WAN QoS Mode Priority
 Rate Limit

Priority Bandwidth Allocation Settings

High Priority % (Range : 61 - 100, Default : 61)

Medium Priority % (Range : 31 - 60, Default : 31)

Low Priority % (Range : 10 - 30, Default : 10)

Total WAN (Internet) Bandwidth Mbps (Range : 1 - 100, Default : 100)

WAN QoS Profile Table

	Name	Priority	Minimum Bandwidth Rate Kbps (Range : 1 - Max. Bandwidth)	Maximum Bandwidth Rate Kbps (Range : 100 - 1000000)
<input type="checkbox"/>	Profile 1	Medium	<input type="text"/>	<input type="text"/>

0 results found

Please click 'Save' button to take Add/Edit/Delete Operation into effect

Step 8. If Priority WAN QoS Mode was chosen in Step 3, choose the type of profile to limit bandwidth by high, medium or low priority from the **Priority** Type drop-down list. This is the priority applied to the QoS profile.

Global Settings

WAN QoS Enable

WAN QoS Mode Priority
 Rate Limit

Priority Bandwidth Allocation Settings

High Priority % (Range : 61 - 100, Default : 61)

Medium Priority % (Range : 31 - 60, Default : 31)

Low Priority % (Range : 10 - 30, Default : 10)

Total WAN (Internet) Bandwidth Mbps (Range : 1 - 100, Default : 100)

WAN QoS Profile Table

<input type="checkbox"/>	Name	Priority	Minimum Bandwidth Rate Kbps (Range : 1 - Max. Bandwidth)	Maximum Bandwidth Rate Kbps (Range : 100 - 1000000)
<input type="checkbox"/>	0 results found			
<input type="checkbox"/>	<input type="text" value="Profile 1"/>	<input type="text" value="Medium"/>	<input type="text" value="128"/>	<input type="text" value="300"/>

Please click 'Save' button to take Add/Edit/Delete Operation into effect

Step 9. If you chose **Rate Limit** in Step 3, enter the minimum and maximum bandwidth rates in kilobits per second. These fields are the bandwidth rates that are applied to the QoS profile.

Step 10. (Optional) To edit a QoS Profile, check the desired profile, then click **Edit**, edit the desired fields, and click **Save**.

Step 11. (Optional) To delete a QoS Profile, check the desired profile, then click **Delete**, edit the desired fields, and click **Save**.

Step 12. Click **Save** to apply settings.

Profile Binding

Once a WAN QoS Profile is created, it must be bound to a traffic selector. A traffic selector can be configured to apply to traffic based on IP address range, MAC address, VLAN, DSCP, or SSID. Any traffic that matches the traffic selector will follow the profile rules.

Step 1. Log in to the web configuration utility and choose **QoS > Profile Binding**. The *WAN QoS Profiles* page opens:

Note: Access to the *Profile Binding* page can also be attained by a click on the **Configure Profile Binding** button on the *WAN QoS Profile* page.

Profile Binding

Profile Binding Table				
<input type="checkbox"/>	WAN QoS Profile	Service	Traffic Selector Match Type	Match Configuration
<input type="checkbox"/> 0 results found				
<input type="button" value="Add"/> <input type="button" value="Edit"/> <input type="button" value="Delete"/>				

Step 2. Click **Add** to add a new profile binding. The *Profile Binding* page re-opens with new fields:

Profile Binding

Add / Edit Profile Binding Configuration

Available Profiles: Profile1

Service: ANY

Traffic Selector Match Type: IP Address Range

Starting IP Address: (xxx.xxx.xxx.xxx)

Ending IP Address: (xxx.xxx.xxx.xxx)

MAC Address:

VLAN ID: 1

DSCP Value: (Range : 0 - 63)

Available SSIDs: AP-1

Step 3. In the Available Profiles field, choose the WAN QoS profile to bind from the drop down list.

Step 4. In the Service field, choose the service that is applicable from the drop down list.

Profile Binding

Add / Edit Profile Binding Configuration

Available Profiles: Profile1

Service: ANY

Traffic Selector Match Type: IP Address Range

Starting IP Address: (xxx.xxx.xxx.xxx)

Ending IP Address: (xxx.xxx.xxx.xxx)

MAC Address:

VLAN ID: 1

DSCP Value: (Range : 0 - 63)

Available SSIDs: AP-1

Step 5. In the Traffic Selector Match Type field, choose the traffic selector to use to bind traffic to the profile.

- IP Address Range — Enter the starting and ending IP addresses in the Starting and Ending IP address fields. This binds traffic that matches an IP in the range, to the specified profile.
- MAC Address — Enter the MAC address in the MAC address field. This binds traffic that matches the MAC address, to the specified profile.
- VLAN — Choose the VLAN ID on the router from the VLAN ID drop-down list. Traffic that matches the VLAN ID is bound to the specified profile.
- DSCP — Enter the DSCP value in the DSCP value field (0-63). Traffic that has the DSCP is bound to the specified profile.
- SSID — Choose the SSID the selector applies to from the Available SSIDs drop down list. Traffic from the SSID is bound to the specified profile.

Step 6. Click **Save** to apply settings.