

Configuration of Advanced IPv6 Routing on RV016, RV042, RV042G and RV082 VPN Routers

Objective

Advanced routing provides the flexibility to view the routing information as well as configuring static and dynamic routing. Static routing provides network routing through fixed paths which are configured manually. Static routes are the simplest, but require caution as they are configured manually. Dynamic routing provides network routing by software applications which learn the network destinations dynamically and advertise the information to the other routers.

This document explains how to set up advanced IPv6 routing in order to configure dynamic and static routing settings on RV016, RV042, RV042G and RV082 VPN Routers.

Applicable Devices

- RV016
- RV042
- RV042G
- RV082

Software Version

- v4.2.1.02

Enable IPv6 Routing

Step 1. Log in to web configuration utility and choose **Setup > Network**. The *Network* page opens:

Network

Host Name : (Required by some ISPs)

Domain Name : (Required by some ISPs)

IP Mode

Mode	WAN	LAN
<input type="radio"/> IPv4 Only	IPv4	IPv4
<input checked="" type="radio"/> Dual-Stack IP	IPv4 and IPv6	IPv4 and IPv6

IPv4 IPv6

LAN Setting



MAC Address : 64:9E:F3:88:C6:88

Device IP Address :

Subnet Mask : ▼

Multiple Subnet : Enable

WAN Setting

Interface	Connection Type	Configuration
WAN1	Obtain an IP automatically	
WAN2	Obtain an IP automatically	

Step 2. Click the **Dual-Stack IP** radio button in the IP Mode area to configure IPv6 routing.

Step 3. Scroll down and click **Save** to save the settings.

Configure Advanced IPv6 Routing

Step 1. Log in to Router Configuration Utility and choose **Setup > Advanced Routing**. The *Advanced Routing* page opens:

Advanced Routing

IPv4

IPv6

Dynamic Routing

Working Mode : Gateway Router
RIP : Enabled Disabled
Receive RIP versions :
Transmit RIP versions :

Static Routing

Destination IP :
Subnet Mask :
Default Gateway :
Hop Count (Metric, max. is 15) :
Interface :

Add to list

Step 2. Click the **IPv6** tab. The IPv6 *Advanced Routing* page opens:

Advanced Routing

IPv4 IPv6

Dynamic Routing

Enable RIPng

Static Routing

Destination IP :

Prefix Length :

Default Gateway :

Hop Count (Metric, max. is 15) :

Interface :

Configure Dynamic Advanced IPv6 Routing

Dynamic routing allows the router to calculate the best route between the source and destination automatically. It also allows the router to adjust the routing table automatically if any change occurs.

The screenshot shows the 'Advanced Routing' configuration interface for IPv6. At the top, there are tabs for 'IPv4' and 'IPv6'. Below the tabs, the 'Dynamic Routing' section is highlighted with a red box and contains a checked checkbox labeled 'Enable RIPng'. Underneath, the 'Static Routing' section is visible, featuring several input fields: 'Destination IP', 'Prefix Length', 'Default Gateway', and 'Hop Count (Metric, max. is 15)'. The 'Interface' field is a dropdown menu currently set to 'LAN'. An 'Add to list' button is located to the right of the input fields. At the bottom right of the interface, there are 'Delete' and 'Add New' buttons.

Step 1. Check the **Enable RIPng** check box if you want to enable Dynamic Routing on the device. Routing Information Protocol (RIP) is a dynamic routing protocol that allows the router to automatically broadcast its routing information with other routers to calculate the best path between the source and destination and to adjust the routing table if any change occurs.

Step 2. Scroll down and click **Save** to save the settings.

Configure Static Advanced IPv6 Routing

Static routing is a powerful and advanced feature that allows you to manually add the routing path in the routing table. Routers that use static routing cannot change their routing table automatically even if a change occurs without manual involvement. Static routes should be configured and maintained by the network administrator. It is usually used to configure stub network and default routes. You can add up to 30 static routes.

Advanced Routing

IPv4 IPv6

Dynamic Routing

Enable RIPng

Static Routing

Destination IP : 2001:0db8:0002:0100:0300:ff00:0042:8329

Prefix Length : 32

Default Gateway : 2001:0db8:0002:0100:0300:ff00:0042:8328

Hop Count (Metric, max. is 15) : 2

Interface : LAN

Add to list

Delete Add New

Step 1. Enter the destination IPv6 address of the remote LAN in the Destination IP Address field.

Step 2. Enter the Prefix length of the destination IP address in the Prefix field.

Step 3. Enter the router IP address for which the specific static route is configured in the Default Gateway field.

Step 4. Enter the number of routers or nodes that the traffic passes to reach the destination in the Hop Count field. The maximum hop count is 15.

Advanced Routing

IPv4 | IPv6

Dynamic Routing

Enable RIPng

Static Routing

Destination IP :

Prefix Length :

Default Gateway :

Hop Count (Metric, max. is 15) :

Interface :

LAN
 WAN1
 WAN2

Step 5. Choose the appropriate interface from the interface drop-down list for which the static route is configured.

- LAN — The static route configured router gets the Internet connection from a LAN connected gateway router.
- WAN 1 — The static route configured router connects with other networks through the Internet connection.
- WAN 2 — The static route configured router connects with other networks through the secure Internet connection.

Step 6. Click **Add to List**. The new entry is added to the table.

Advanced Routing

IPv4 | IPv6

Dynamic Routing

Enable RIPng

Static Routing

Destination IP :

Prefix Length :

Default Gateway :

Hop Count (Metric, max. is 15) :

Interface : ▾

2001:0db8:0002:0100:0300:ff00:0042:8329

Step 7.(Optional) To delete a static route from the list, click the respective static route and click **Delete**.

Step 8. (Optional) To edit the static route, click the respective static route to select it and then click **Update** to edit information.

Step 9. (Optional) To add a new entry, click **Add New** and follow the previous steps.

Step 10. Scroll down and click **Save** to save the settings.