

# Configure Port Address Translation (PAT) on RV320 and RV325 VPN Router Series

## Objective

The objective of this document is to show you how to configure port address translation (PAT) on the RV32x Series VPN Routers.

## Introduction

PAT is an extension of Network Address Translation (NAT). NAT is the process used to convert private IP addresses to public IP addresses. It helps to protect the private IP addresses from any malicious attacks or discovery as the private IP addresses are kept hidden. It allows multiple Local Area Network (LAN) devices to share the same public IP but different port numbers. This protects the private IPs as well as distinguishing each device from the others.

## Applicable Devices

- RV320 Dual WAN VPN Router
- RV325 Gigabit Dual WAN VPN Router

## Software Version

- v1.1.0.09

## PAT Configuration

Step 1. Log in to the Web Configuration Utility to choose **Setup > Port Address Translation**.

## System Summary

▼ Setup

1

Network

Password

Time

DMZ Host

2

Forwarding

Port Address Translation

One-to-One NAT

MAC Address Clone

Dynamic DNS

Advanced Routing

Inbound Load Balance

USB Device Update

The *Port Address Translation* page opens:

Port Address Translation

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
0 results found!		
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
<input type="button" value="Service Management ..."/>		

## Adding PAT

Step 1. Click **Add** to add a service. This service is the protocol which is used to map the private IP address with the public IP address.

Port Address Translation

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
0 results found!		
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
<input type="button" value="Service Management ..."/>		

A new row is added in the *Port Address Translation Table*:

Port Address Translation

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
<input type="checkbox"/> HTTP Secondary [TCP/8080~8080]	<input type="text"/>	<input type="checkbox"/>
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>
<input type="button" value="Service Management ..."/>		

Step 2. Choose the desired service from *Service* drop-down list. This is the service on which PAT is performed to convert the private IP addresses into public IP addresses.

### Port Address Translation

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
SMTP [TCP/25~25]		<input type="checkbox"/>
DNS [UDP/53~53]		
FTP [TCP/21~21]		
HTTP [TCP/80~80]		
HTTP Secondary [TCP/8080~8080]		
HTTPS [TCP/443~443]		
HTTPS Secondary [TCP/8443~8443]		
TFTP [UDP/69~69]		
IMAP [TCP/143~143]		
NNTP [TCP/119~119]		
POP3 [TCP/110~110]		
SNMP [UDP/161~161]		
SMTP [TCP/25~25]		
TELNET [TCP/23~23]		
TELNET Secondary [TCP/8023~8023]		
TELNET SSL [TCP/992~992]		
DHCP [UDP/67~67]		
L2TP [UDP/1701~1701]		
PPTP [TCP/1723~1723]		
IPSec [UDP/500~500]		

Buttons: Add, Save, Service Management ...

Step 3. Enter the IP address of the device or a domain name which has the particular service into the *Name or IP Address* field. This is the source IP address on which the PAT is performed.

### Port Address Translation

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
HTTPS [TCP/443~443]	192.143.2.3	<input checked="" type="checkbox"/>

Buttons: Add, Edit, Delete, Service Management ...

Buttons: Save, Cancel

**Note:** If you want to add a new service, refer to the [Service Management](#) section.

Step 4. Check the **Status** check box to enable the service. If you do not check Status, the service appears inactive.

Step 5. Click **Save** to save the settings.

## Edit PAT

Step 1. If you want to change any port address translation settings, check the check box beside the appropriate service to select it.

**Port Address Translation**

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
<input type="checkbox"/> HTTPS[TCP/443~443]	192.158.2.3	Disabled
<input checked="" type="checkbox"/> DNS[UDP/53~53]	158.12.2.4	Enabled

Step 2. Click **Edit** and change the necessary setting.

Step 3. Click **Save** to save the settings.

## Delete PAT

Step 1. If you want to delete any specific port address translation, check the check box beside the appropriate service to select it.

**Port Address Translation**

Port Address Translation Table		
<input type="checkbox"/> Service	Name or IP Address	Status
<input type="checkbox"/> HTTPS[TCP/443~443]	192.158.2.3	Disabled
<input checked="" type="checkbox"/> DNS[UDP/53~53]	158.12.2.4	Enabled

Step 2. Click **Delete**.

Step 3. Click **Save** to save the settings.

## Service Management

If you do not get any specific service under the *Service* drop-down list, you have to add the desired service. You can even change the service list or delete any specific service from the list based on your need.

Step 1. Click **Service Management**. The *Service Management Table* window opens:

## Port Address Translation

Port Address Translation Table			
<input type="checkbox"/>	Service	Name or IP Address	Status
<input type="checkbox"/>	DNS[UDP/53~53]	192.168.1.2	Enabled
<input type="checkbox"/>	HTTP[TCP/80~80]	192.168.1.3	Enabled

### Add a Service

Step 1. Click **Add** to add a service. You can add up to 30 services.

Service Management Table					Items 1-5 of 19 <input type="button" value="5"/> per page	
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port		
<input type="checkbox"/>	DNS	UDP	53	53		
<input type="checkbox"/>	FTP	TCP	21	21		
<input type="checkbox"/>	HTTP	TCP	80	80		
<input type="checkbox"/>	HTTP Secondary	TCP	8080	8080		
<input type="checkbox"/>	HTTPS	TCP	443	443		

A new row is added:

Service Management Table					Items 1-5 of 19 <input type="button" value="5"/> per page	
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port		
<input type="checkbox"/>	DNS	UDP	53	53		
<input type="checkbox"/>	FTP	TCP	21	21		
<input type="checkbox"/>	HTTP	TCP	80	80		
<input type="checkbox"/>	HTTP Secondary	TCP	8080	8080		
<input type="checkbox"/>	HTTPS	TCP	443	443		
<input type="checkbox"/>	<input type="text"/>	<input type="button" value="TCP"/>	<input type="text"/>	<input type="text"/>		

Step 2. Enter the desired name for the service in *Service Name* field.

Service Management Table					Items 1-5 of 19	5	per page
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port			
<input type="checkbox"/>	DNS	UDP	53	53			
<input type="checkbox"/>	FTP	TCP	21	21			
<input type="checkbox"/>	HTTP	TCP	80	80			
<input type="checkbox"/>	HTTP Secondary	TCP	8080	8080			
<input type="checkbox"/>	HTTPS	TCP	443	443			
	<input type="text" value="TFTP"/>	<input type="text" value="TCP"/>	<input type="text"/>	<input type="text"/>			
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>			<input type="button" value="Previous"/>	<input type="button" value="Next"/>	Page 1 of 4

Step 3. Choose the desired protocol from the *Protocol* drop-down list. This protocol is the transport layer protocol which helps to convert the private IP addresses to public IP addresses.

Service Management Table					Items 1-5 of 19	5	per page
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port			
<input type="checkbox"/>	DNS	UDP	53	53			
<input type="checkbox"/>	FTP	TCP	21	21			
<input type="checkbox"/>	HTTP	TCP	80	80			
<input type="checkbox"/>	HTTP Secondary	TCP	8080	8080			
<input type="checkbox"/>	HTTPS	TCP	443	443			
	<input type="text" value="TFTP"/>	<input type="text" value="TCP"/>	<input type="text"/>	<input type="text"/>			
<input type="button" value="Add"/>	<input type="button" value="Edit"/>	<input type="button" value="Delete"/>			<input type="button" value="Previous"/>	<input type="button" value="Next"/>	Page 1 of 4

- TCP - Transmission Control Protocol (TCP) is a connection oriented Internet protocol which is used to provide reliable, ordered data transfer.
- UDP - User Datagram Protocol (UDP) is a connectionless Internet protocol which is used to provide quick data transfer, but non-reliable and disordered.
- IPv6 - Internet Protocol version 6 (IPv6) is the newest version of Internet protocol which can be used to accommodate a lot of users with IP.

Step 4. Enter a port number which you want to use as an external port in the *External Port* field. The external port number is used to establish the connection between the end user device of the external public network and the PAT device.

Service Management Table					Items 1-5 of 19	5	per page
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port			
<input type="checkbox"/>	DNS	UDP	53	53			
<input type="checkbox"/>	FTP	TCP	21	21			
<input type="checkbox"/>	HTTP	TCP	80	80			
<input type="checkbox"/>	HTTP Secondary	TCP	8080	8080			
<input type="checkbox"/>	HTTPS	TCP	443	443			
	<input type="text" value="TFTP"/>	<input type="text" value="TCP"/>	<input type="text" value="152"/>	<input type="text" value="147"/>			

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Step 5. Enter a port number which you want to use as an internal port in the *Internal Port* field. The internal port is used to establish a connection between the PAT device and the private network device.

Step 6. Click **Save** to save the settings.

### Edit Service Management

Step 1. If you want to change any setting for a specific service, check the check box beside the appropriate service to select the appropriate service.

Service Management Table					Items 16-20 of 20	5	per page
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port			
<input type="checkbox"/>	DHCP	UDP	67	67			
<input type="checkbox"/>	L2TP	UDP	1701	1701			
<input type="checkbox"/>	PPTP	TCP	1723	1723			
<input type="checkbox"/>	IPSec	UDP	500	500			
<input checked="" type="checkbox"/>	DCS	TCP	41	2			

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**Note:** You can edit only the newly created Service. You cannot edit an existing service.

Step 2. Click **Edit** and change the setting.

Step 3. Click **Save** to save the settings.

### Delete Service Management



Service Management Table					Items 16-20 of 20 <input type="text" value="5"/> per page	
<input type="checkbox"/>	Service Name	Protocol	External Port	Internal Port		
<input type="checkbox"/>	DHCP	UDP	67	67		
<input type="checkbox"/>	L2TP	UDP	1701	1701		
<input type="checkbox"/>	PPTP	TCP	1723	1723		
<input type="checkbox"/>	IPSec	UDP	500	500		
<input checked="" type="checkbox"/>	DCS	TCP	41	2		

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Step 1. If you want to delete any specific service, check the check box beside the appropriate service to select the appropriate service.

**Note:** You can delete the only newly created service. You cannot delete an existing service.

Step 2. Click **Delete**.

Step 3. Click **Save** to save the settings.

## Conclusion

You have now successfully configured PAT on the RV32x series VPN routers.