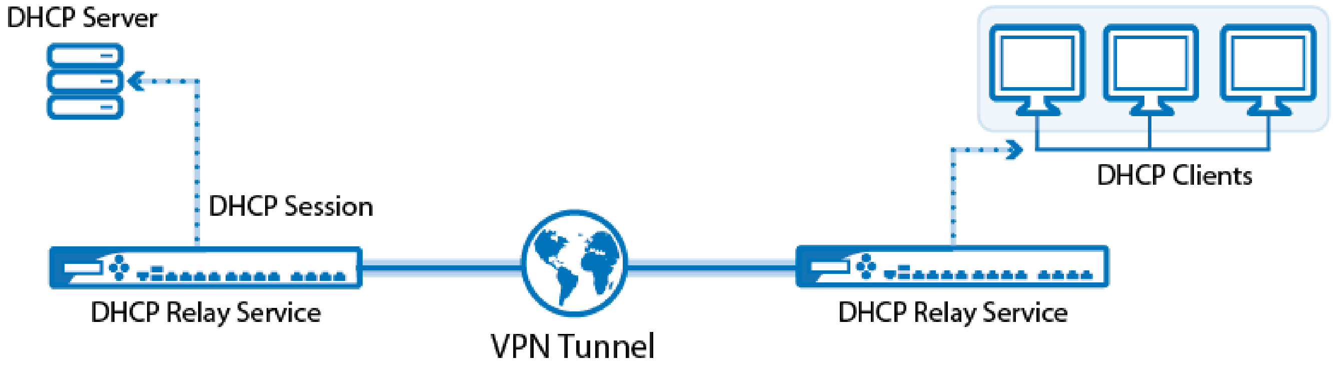
How to Configure a DHCP Relay over a VPN Tunnel

https://campus.barracuda.com/doc/48203182/

To use the same DHCP server in two different networks that are connected by a VPN tunnel, configure DHCP relays on both the local and remote Barracuda NextGen F-Series Firewalls.



Before you begin

- Create a Site-to-Site VPN tunnel between both locations.
- Use a separate DHCP server, such as the DHCP server on Windows Servers in your network. It is not possible to use the DHCP service on the NextGen Firewall F-Series in this scenario.

Step 1. Create an access rule on the local firewall

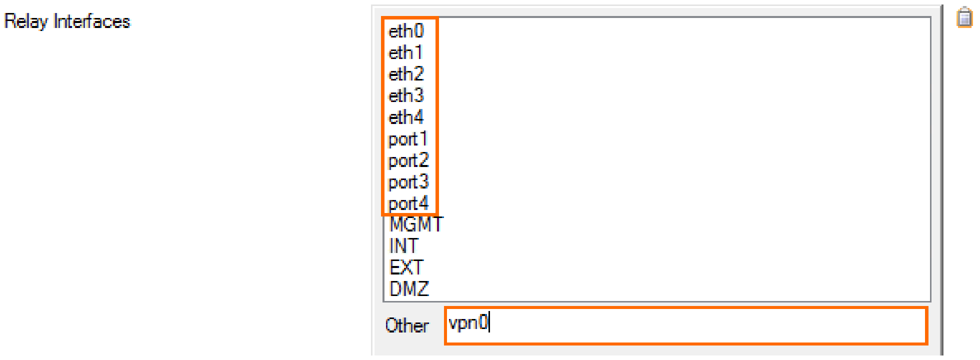
Create a PASS access rule allowing the management IP address of the remote NextGen Firewall F-Series access to the DHCP server.

1. Go to **CONFIGURATION** > **Configuration Tree > Box** > **Virtual Servers** > ***your virtual server*** > **Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Right-click in the main are and select **New** and **Rule**. The **Edit Rule** window opens.
4. Create the following access rule:
    - **Action** – Select **PASS**.
    - **Source** – Enter the management IP address of the remote NextGen Firewall F-Series.
    - **Service** – Create and select a Service object for UDP Port 67.
    - **Destination** – Enter the IP address of the DHCP server.
    - **Connection** – Select **No SNAT**.
5. Click **OK**.
6. Click **Send Changes** and **Activate**.

Step 2. Create a DHCP relay on the remote firewall

Configure DHCP Relay on the remote NextGen Firewall F-Series to pass along

1. Go to **CONFIGURATION** > **Configuration Tree > Box** > **Virtual Servers** > ***your virtual server*** > **Assigned Services > DHCP Relay > DHCP Relay Settings**.
2. Click **Lock**.
3. Check the **Enable Relay for IPv4** checkbox.
4. Click **+** for each **Relay Interface** the DHCP Relay listens on:
    1. Select the internal interface used to connect to the DHCP server from the list. E.g., **eth0**
    2. Enter the VPN interface used for the Site-to-Site tunnel in the **Other** textbox. E.g., `vpn0`

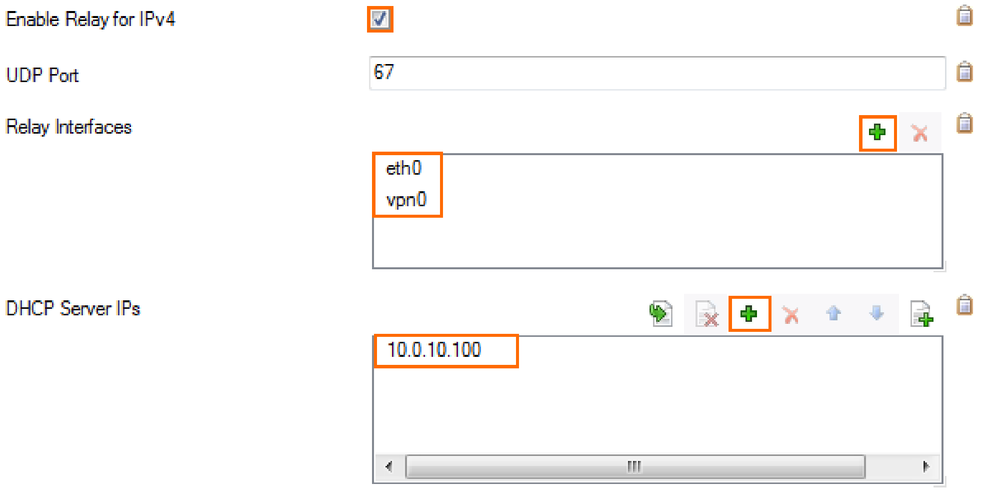


Relay Interfaces

eth0
eth1
eth2
eth3
eth4
port1
port2
port3
port4
MGMT
INT
EXT
DMZ

Other: vpn0

5. Click **+** and add the **DHCP Server IPs**. E.g., 10.0.10.100



Enable Relay for IPv4: ☑

UDP Port: 67

Relay Interfaces: eth0, vpn0

DHCP Server IPs: 10.0.10.100

6. Click **Send Changes** and **Activate**.

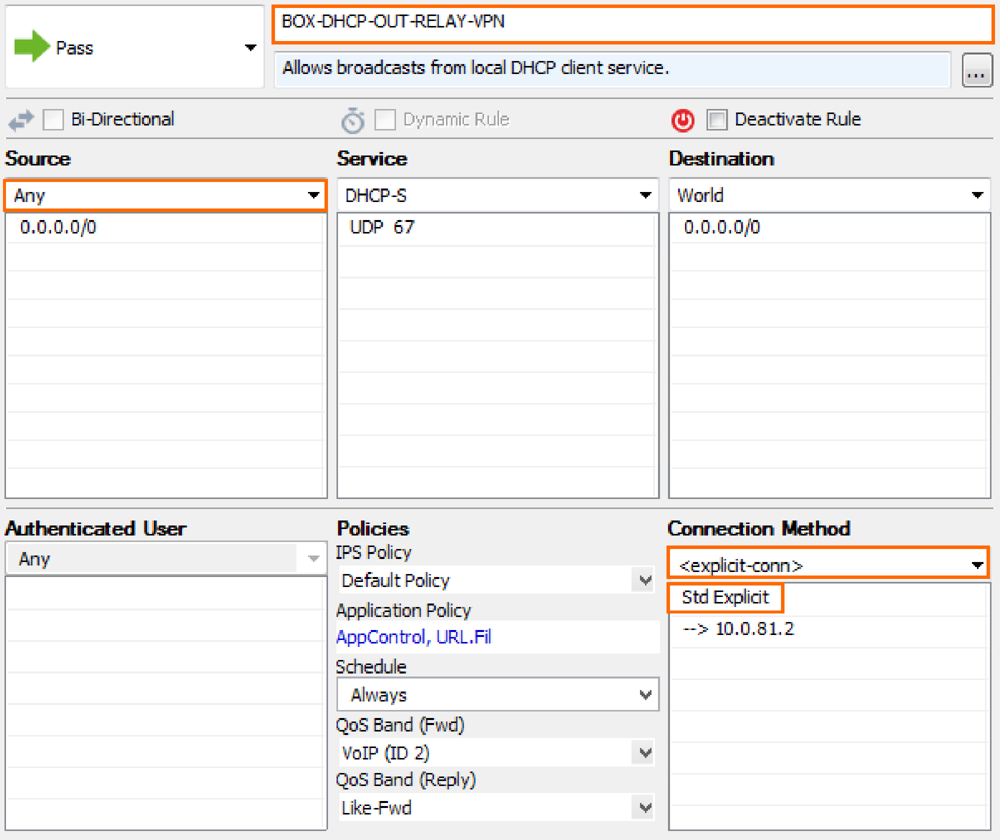
Step 3. Create a host firewall rule on the remote firewall

Create an access rule to allow the traffic of the DHCP Relay service into the VPN tunnel.

1. Go to **CONFIGURATION > Configuration Tree > Box > Infrastructure Services > Host**

Firewall Rules.

2. Click **Lock**.
3. Click on the **Outbound** rule set.
4. Create a new PASS access rule. The **Edit Rule** window opens.
5. Enter the **Name** of the rule. E.g., `BOX-DHCP-OUT-RELAY-VPN`
6. Use the following settings for the access rule:
   - **Action** – Select **PASS**.
   - **Source** – Select **Any**.
   - **Service** – Select **DHCP-S**.
   - **Destination** – Select **World**.
7. Select **<explicit-conn>** from the **Connection Method** list.
8. Double-click on **Std Explicit** in the **Connection Method** section. The **Edit / Create a Connection Object** window opens.



Pass

BOX-DHCP-OUT-RELAY-VPN

Allows broadcasts from local DHCP client service.

☐ Bi-Directional ☐ Dynamic Rule ☐ Deactivate Rule

Source	Service	Destination
Any	DHCP-S	World
0.0.0.0/0	UDP 67	0.0.0.0/0

Authenticated User: Any

Policies

IPS Policy: Default Policy

Application Policy: AppControl, URL.Fil

Schedule: Always

QoS Band (Fwd): VoIP (ID 2)

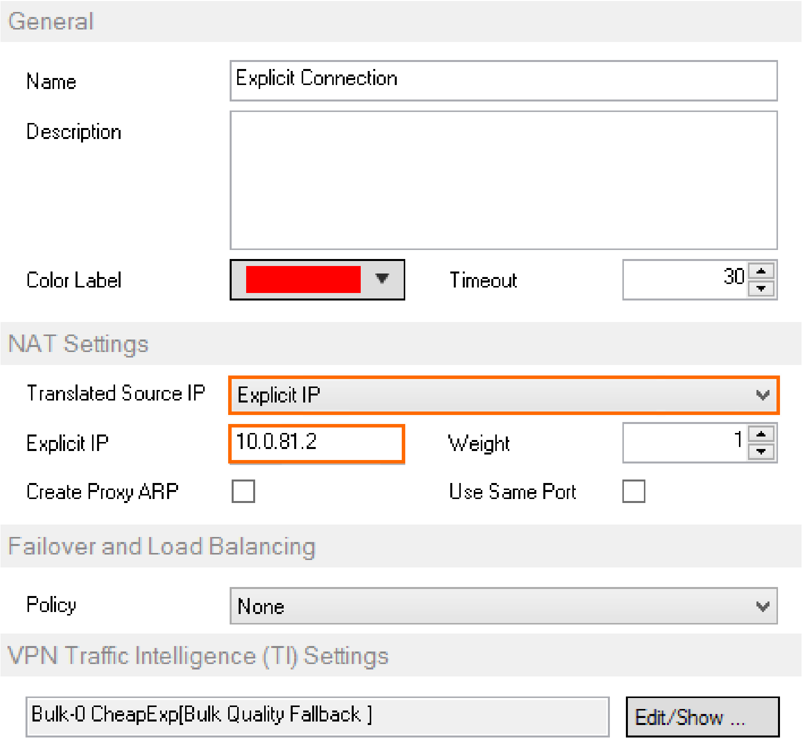
QoS Band (Reply): Like-Fwd

Connection Method: <explicit-conn>

Std Explicit

--> 10.0.81.2

9. From the **Translated Source IP** list select **Explicit IP**.
10. Enter the management IP address of the NextGen Firewall F-Series as the **Explicit IP**.



General

Name: Explicit Connection

Description:

Color Label: 🟥

Timeout: 30

NAT Settings

Translated Source IP: Explicit IP

Explicit IP: 10.0.81.2

Weight: 1

Create Proxy ARP ☐

Use Same Port ☐

Failover and Load Balancing

Policy: None

VPN Traffic Intelligence (TI) Settings

Bulk-0 CheapExp[Bulk Quality Fallback]

11. Click **OK**.
12. Click **OK**.
13. Place the access rule above the **BOX-DHCP-OUT** rule.
14. Click **Send Changes** and **Activate**.

Clients in the remote network can now receive DHCP leases from the DHCP server in the local network.

Figures

1. DHCP_Relay_VPN_Tunnel.png
2. relay01.png
3. relay02.png
4. relay05.png
5. relay06.png