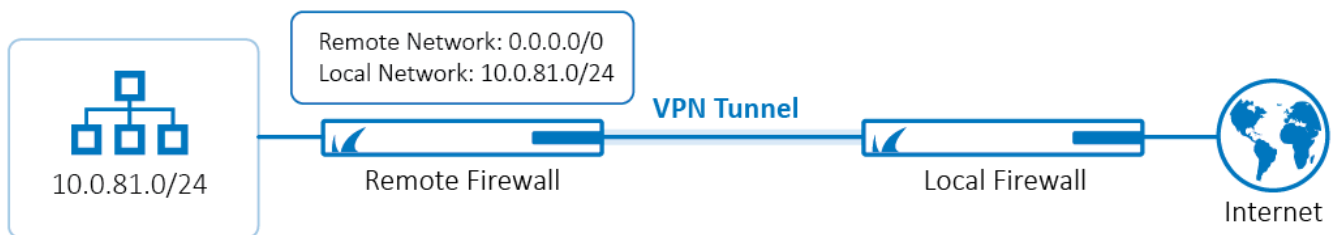


## How to Set Up a Default Route Through a Site-to-Site VPN Tunnel

<https://campus.barracuda.com/doc/70588070/>

To move the Internet breakout for the branch office to one central location, connect the branch offices with site-to-site VPN tunnels configured to send all Internet traffic for the client behind the remote firewall through the VPN tunnel. The local firewall can then apply company wide security policies in one location.



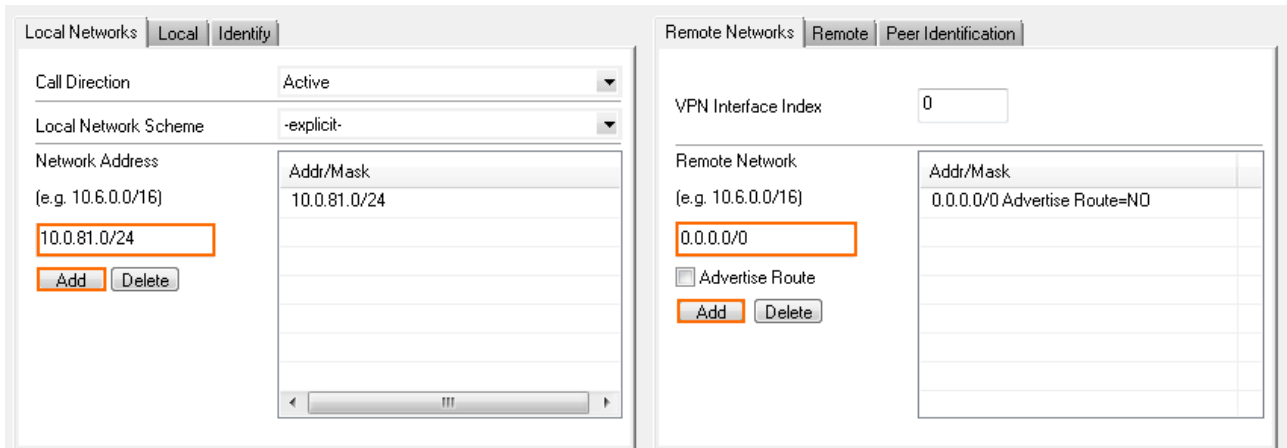
### Before You Begin

Configure a TINA site-to-site VPN tunnel between the local and remote firewalls.

For more information, see [How to Create a TINA VPN Tunnel between F-Series Firewalls](#).

### Step 2. Configure the VPN Tunnel on the Remote Firewall

1. Log into the remote firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > VPN-Service > Site to Site**.
3. Click **Lock**.
4. Double-click the VPN tunnel.
5. Configure the VPN tunnel between the remote and the local firewall:
  - o **Local Networks** - Enter the networks you want to route through the VPN tunnel.
  - o **Remote Networks** - Enter 0.0.0.0/0 as the remote network to forward all traffic through the site-to-site VPN tunnel to the remote firewall.

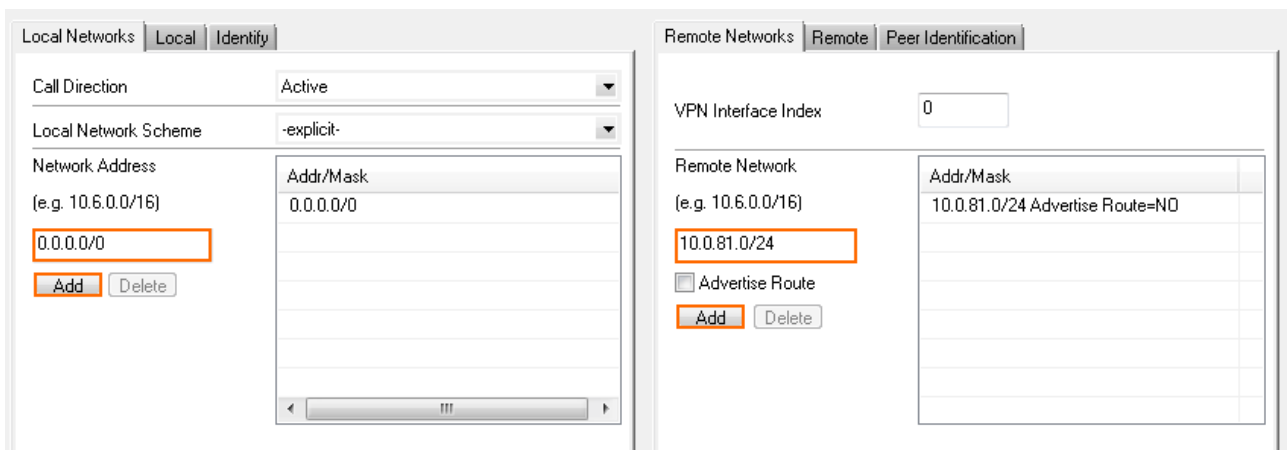


The screenshot shows two configuration panels. The left panel, titled 'Local Networks', has tabs for 'Local' and 'Identify'. It includes a 'Call Direction' dropdown set to 'Active', a 'Local Network Scheme' dropdown set to '-explicit-', and a 'Network Address' table. The table has columns for 'Network Address (e.g. 10.6.0.0/16)' and 'Addr/Mask'. The entry '10.0.81.0/24' is highlighted in the 'Network Address' column. Below the table are 'Add' and 'Delete' buttons. The right panel, titled 'Remote Networks', has tabs for 'Remote' and 'Peer Identification'. It includes a 'VPN Interface Index' input field set to '0', a 'Remote Network' table, and an 'Advertise Route' checkbox. The table has columns for 'Remote Network (e.g. 10.6.0.0/16)' and 'Addr/Mask'. The entry '0.0.0.0/0' is highlighted in the 'Remote Network' column, and '0.0.0.0/0 Advertise Route=NO' is in the 'Addr/Mask' column. Below the table are 'Add' and 'Delete' buttons.

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

### Step 3. Configure the VPN Tunnel on the Local Firewall

1. Log into the local firewall.
2. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > VPN-Service > Site to Site**.
3. Click **Lock**.
4. Double-click the VPN tunnel.
5. Configure the VPN tunnel between the local and the remote firewall:
  - **Local Networks** - Enter `0.0.0.0/0`.
  - **Remote Networks** - Enter the networks you want to route through the VPN tunnel.



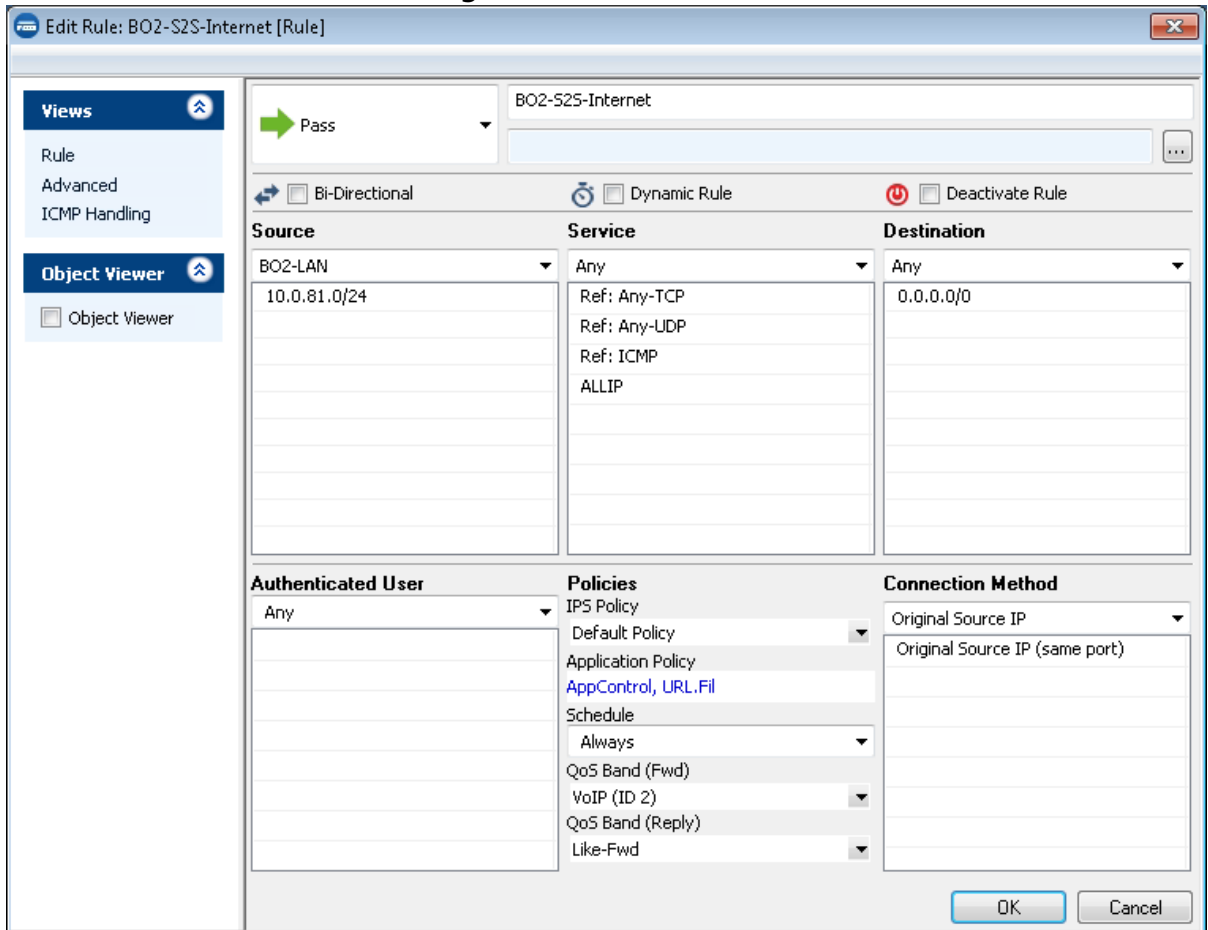
The screenshot shows two configuration panels. The left panel, titled 'Local Networks', has tabs for 'Local' and 'Identify'. It includes a 'Call Direction' dropdown set to 'Active', a 'Local Network Scheme' dropdown set to '-explicit-', and a 'Network Address' table. The table has columns for 'Network Address (e.g. 10.6.0.0/16)' and 'Addr/Mask'. The entry '0.0.0.0/0' is highlighted in the 'Network Address' column. Below the table are 'Add' and 'Delete' buttons. The right panel, titled 'Remote Networks', has tabs for 'Remote' and 'Peer Identification'. It includes a 'VPN Interface Index' input field set to '0', a 'Remote Network' table, and an 'Advertise Route' checkbox. The table has columns for 'Remote Network (e.g. 10.6.0.0/16)' and 'Addr/Mask'. The entry '10.0.81.0/24' is highlighted in the 'Remote Network' column, and '10.0.81.0/24 Advertise Route=NO' is in the 'Addr/Mask' column. Below the table are 'Add' and 'Delete' buttons.

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

### Step 4. Configure an Access Rule for the Remote Firewall

The remote firewall sends all Internet traffic through the VPN tunnel.

1. Log into the remote firewall.
2. On your firewall with no direct Internet access, go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > Firewall > Forwarding Rules**.
3. Click **Lock**.
4. Right-click the ruleset and select **New**. The **New Rule** window opens.
5. Enter a **Name** for the access rule.
6. Right-click the ruleset and select **New > Rule** to create an access rule to match the VPN traffic:
  - **Action** – Select **Pass**.
  - **Source** – Enter your private network used for the VPN tunnel.
  - **Service** – Select the services allowed to access the tunnel. Default: **Any**
  - **Destination** – Configure the route to the Internet as the destination so that traffic will be sent through the VPN tunnel to the remote firewall.
  - **Connection Method** – Select **Original Source IP**.



Views

- Rule
- Advanced
- ICMP Handling

Object Viewer

- Object Viewer

Pass

BO2-S2S-Internet

Bi-Directional  Dynamic Rule  Deactivate Rule

Source	Service	Destination
BO2-LAN 10.0.81.0/24	Any Ref: Any-TCP Ref: Any-UDP Ref: ICMP ALLIP	Any 0.0.0.0/0

Authenticated User	Policies	Connection Method
Any	IPS Policy Default Policy Application Policy AppControl, URL.Fil Schedule Always QoS Band (Fwd) VoIP (ID 2) QoS Band (Reply) Like-Fwd	Original Source IP Original Source IP (same port)

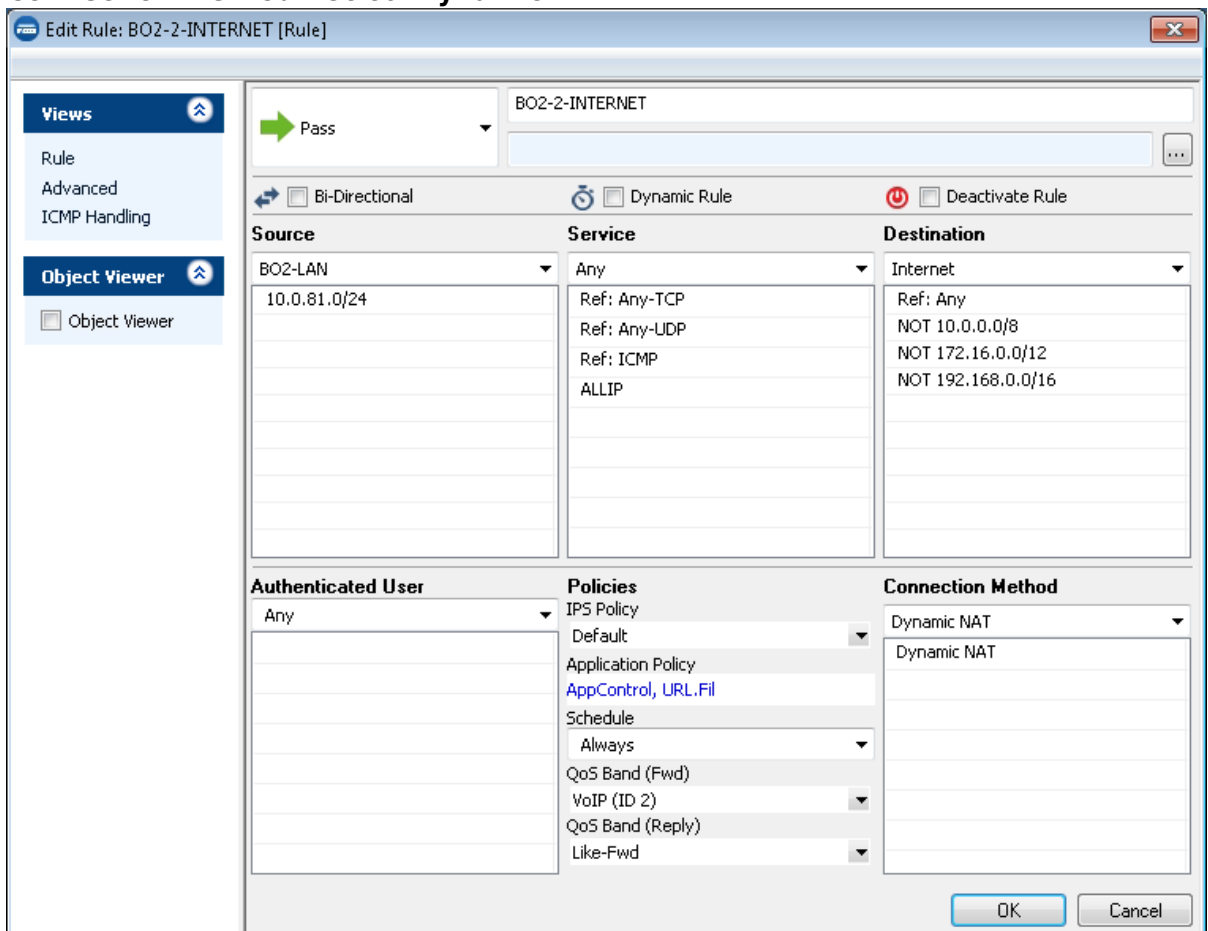
OK Cancel

7. Click **OK**.
8. Reorder the access rule by dragging it to the correct position in the Forwarding Firewall's ruleset. Make sure no access rule placed above it will match the traffic for the site-to-site access rule.
9. Click **Send Changes** and **Activate**.

## Step 5. Configure an Access Rule for the Local Firewall

The local firewall forwards Internet traffic from the remote networks.

1. Log into the local firewall.
2. On your firewall with direct internet access, go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > your virtual server > Assigned Services > Firewall > Forwarding Rules**.
3. Click **Lock**.
4. Right-click the ruleset and select **New**. The **New Rule** window opens.
5. Enter a **Name** for the access rule.
6. Right-click the rule set and select **New > Rule** to create an access rule to match the VPN traffic:
  - **Action** – Select **Pass**.
  - **Source** – Select your private local network.
  - **Service**– Select the services allowed to access the tunnel. Default: **Any**
  - **Destination** – Configure the route to the **Internet** as the destination.
  - **Connection Method** – Select **Dynamic NAT**.



Edit Rule: BO2-2-INTERNET [Rule]

Views: Rule, Advanced, ICMP Handling

Object Viewer: Object Viewer

Action: Pass

BO2-2-INTERNET

Bi-Directional:  Dynamic Rule:  Deactivate Rule:

Source	Service	Destination
BO2-LAN 10.0.81.0/24	Any Ref: Any-TCP Ref: Any-UDP Ref: ICMP ALLIP	Internet Ref: Any NOT 10.0.0.0/8 NOT 172.16.0.0/12 NOT 192.168.0.0/16

Authenticated User	Policies	Connection Method
Any	IPS Policy: Default Application Policy: AppControl, URL.Fil Schedule: Always QoS Band (Fwd): VoIP (ID 2): QoS Band (Reply): Like-Fwd:	Dynamic NAT

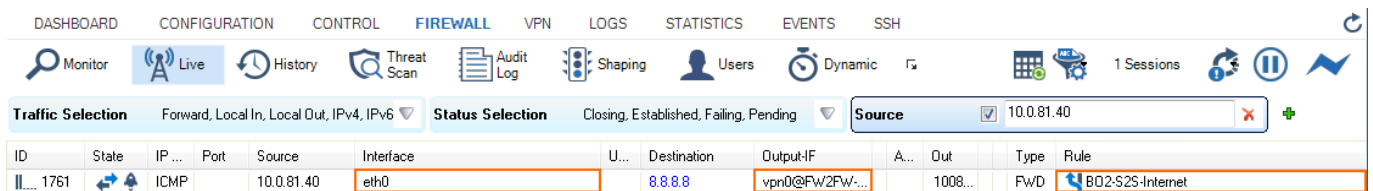
OK Cancel

7. Click **OK**.

8. Reorder the access rule by dragging it to the correct position in the Forwarding Firewall's ruleset. Make sure no access rule placed above it will match the traffic for the site-to-site access rule.
9. Click **Send Changes** and **Activate**.

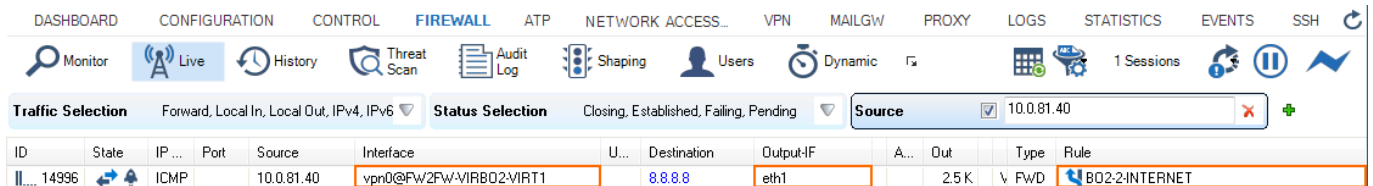
The clients behind the remote firewall can now access the Internet via the site-to-site VPN tunnel. On the local and remote firewall, go to **FIREWALL > Live**. Verify that the Internet traffic for the clients behind the remote firewall is flowing through the VPN tunnel and that it is forwarded to the Internet on the local firewall.

Remote firewall:



ID	State	IP ...	Port	Source	Interface	U...	Destination	Output-IF	A...	Out	Type	Rule
1761	ICMP	10.0.81.40		eth0		8.8.8.8	vpn0@FW2FW...	1008...			FwD	B02-S2S-Internet

Local Firewall



ID	State	IP ...	Port	Source	Interface	U...	Destination	Output-IF	A...	Out	Type	Rule
14996	ICMP	10.0.81.40		vpn0@FW2FW-VIRB02-VIRT1		8.8.8.8	eth1	2.5 K			FwD	B02-2-INTERNET

## Troubleshooting

If you have issues with the default route for the site-to-site VPN tunnel, try the following solutions:

- **No traffic passes through the default route** - Verify that the VPN connection itself works by setting up clients on both ends of the tunnel. Note that locally transmitted ICMP pings are not redirected through the tunnel. The client on the external system can also be an external web server.
- **ICMP traffic passes through the VPN tunnel in one direction but the reply does not** - Use Dynamic NAT on the external NextGen Firewall.
- **There is no connection to the Internet** - Make sure that a valid default route also appears in the regular network configuration of the external NextGen Firewall and that this default route points to a working Internet gateway.

## Figures

1. s\_to\_s\_default\_route.png
2. VPN\_tunnel\_firewall\_internal\_LAN.png
3. VPN\_tunnel\_firewall\_with\_internet\_access.png
4. LAN-to-Internet-via-VPN.png
5. LAN-to-Internet.png
6. log\_example\_remote\_fw.png
7. log\_example\_local\_fw.png

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