

How to Configure a Site-to-Site IPsec IKEv1 VPN Tunnel

https://campus.barracuda.com/doc/72515938/

The firewall can establish IPsec VPN tunnels to any standard-compliant, third-party IKEv1 IPsec VPN gateway. The site-to-site IPsec VPN tunnel must be configured with identical settings on both the firewalls and the third-party IPsec gateway. The firewall supports authentication with a shared passphrase as well as X.509 certificate-based (CA-signed and self-signed) authentication. To allow traffic into the VPN tunnel, an access rule is required.



This example configuration uses the following settings:

| | Firewall Location 1 | Firewall Location 2 |
|------------------------------|---------------------|---------------------|
| Published VPN Network | 172.16.0.0/24 | 10.0.0.0/25 |
| Public IP Addresses | Dynamic via DHCP | 62.99.0.74 |

Before You Begin

On the **VPN** > **Settings** page of both firewalls, verify that you selected a valid VPN certificate. For more information, see <u>Certificate Manager</u>.

Step 1. Enable VPN Listener on the Dynamic IP Address of the Active Peer

On the firewall at Location 1, enable **Use Dynamic IPs** in the **GLOBAL SERVER SETTINGS** of the **VPN > Settings** page for the VPN service to listen on all IP addresses.



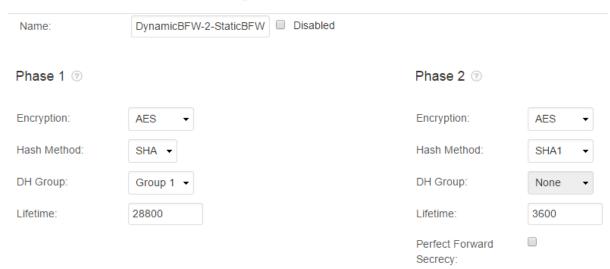


Step 2. Create the IPsec Tunnel on Location 1

Configure the firewall at Location 1 with the dynamic WAN IP as the active peer.

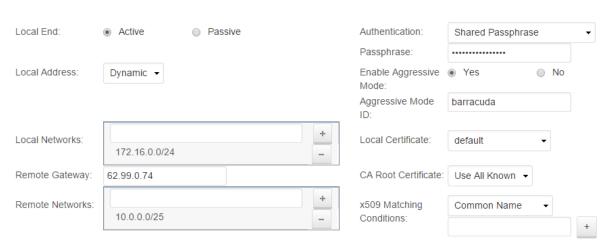
- 1. Log into the firewall at Location 1.
- 2. Go to VPN > Site-to-Site VPN.
- 3. In the Site-to-Site IPSec Tunnels section, click Add.
- 4. Enter a **Name** for the VPN tunnel.
- 5. Configure the settings for **Phase 1** and **Phase 2**.

Edit Site-to-Site IPSec Tunnel ③



- 6. Specify the network settings:
 - Local End Select Active.
 - Local Address Select Dynamic.
 - **Local Networks** Enter 172.16.0.0/24 (the network address for the locally configured LAN), and click +.
 - **Remote Gateway** Enter 62.99.0.74 (the WAN IP address of Location 2).
 - Remote Networks Enter 10.0.0.0/25 (the remote LAN), and click +.
- 7. Specify the authentication settings:
 - Authentication Select Shared Passphrase.
 - Passphrase Enter the shared secret.
- 8. Enable Aggressive Mode.
- 9. Define the Aggressive Mode ID.





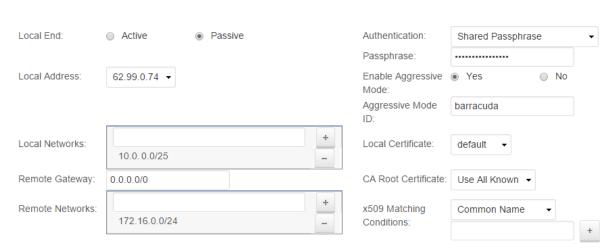
10. Add.

Step 3. Create the IPsec Tunnel on Location 2

Configure the firewall at Location 2, with the static WAN IP as the passive peer. Use 0.0.0.0/0 as the IP address for the remote gateway to allow the Location 1 firewall to use dynamic WAN IP addresses.

- 1. Log into the firewall at Location 2.
- 2. Go to VPN > Site-to-Site VPN.
- 3. In the Site-to-Site IPSec Tunnels section, click Add
- 4. Enter a **Name** for the VPN tunnel.
- 5. Configure the same settings for **Phase 1** and **Phase 2** as for Location 1.
- 6. Specify the network settings:
 - Local End Select Passive.
 - Local Address Select 62.99.0.74 the WAN IP address of Location 2).
 - Local Networks Enter 10.0.0.0/25 (the network address for the locally configured LAN), and click +.
 - **Remote Gateway** Enter 0.0.0.0/0 (because the WAN IP address of Location 1 is chosen dynamically via DHCP).
 - Remote Networks Enter 172.16.0.0/24. (the remote LAN), and click +.
- 7. Specify the authentication settings:
 - Authentication Select Shared Passphrase.
 - Passphrase
- 8. Enable **Aggressive Mode**.
- 9. Define the Aggressive Mode ID.





10. Click Add.

Step 4. Configure the Access Rule for VPN Traffic

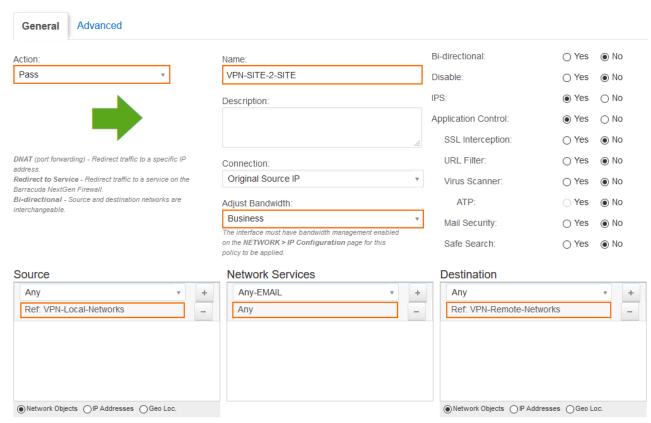
Remote and local subnets are automatically added to the **VPN-Local-Networks** and **VPN-Remote-Networks** network objects when saving the site-to-site VPN configuration. If not present, go to **FIREWALL > Network Objects** and create these network objects. For more information, see <u>Network Objects</u>.



Create PASS access rules on both Location 1 and Location 2 firewalls to allow traffic in and out of the VPN tunnel

- 1. Log into the firewall.
- 2. Go to FIREWALL > Access Rules.
- 3. Click Add Access Rule.
- 4. Add an access rule with the following settings:
 - Action Pass
 - Connection Select Original Source IP
 - Bi-directional Select the Bi-directional check box.
 - Service Select Any. A
 - Source Select the VPN-Local-Networks network object.
 - **Destination** Select the **VPN-Remote-Networks** network object.





- 5. At the top of the Add Access Rule window, click Add.
- 6. Drag the access rule above any other access rule matching this traffic.
- Click Save.

Step 5. Verify Successful VPN Tunnel Initiation and Traffic Flow

To verify that the VPN tunnel was initiated successfully and traffic is flowing, go to the **VPN** > **Site-to-Site VPN** page. Verify that green check marks are displayed in the **Status** column of the VPN tunnel.



To verify that network traffic is passing the VPN tunnel, open the console of your operating system and ping a host within the remote network. If no host is available, ping the management IP address of the remote firewall. Go to the **NETWORK** > **IP Configuration** page and ensure that **Services to**

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Allow: Ping is enabled for the management IP address of the remote firewall.

If network traffic is not passing the VPN tunnel, go to the **BASIC** > **Recent Connections** page and ensure that network traffic is not blocked by any other access rule.

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Figures

- 1. ipsec tunnel.png
- 2. s2s_dynamic_ips.png
- 3. s2s_ipsec_settings01.png
- 4. s2s_ipsec_settings02.png
- 5. s2s ipsec settings04.png
- 6. s2s_net_objects.png
- 7. s2s_access_rule.png
- 8. s2s_ipsec_tunnels.png

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