How to Add a VPN Transport to a TINA VPN Tunnel with Explicit Transport Selection

https://campus.barracuda.com/doc/79462907/

Add multiple VPN transports to your TINA site-to-site VPN tunnel to use SD-WAN. The SD-WAN settings in the access rules matching the traffic determine which transport is used.

Before You Begin

Create a TINA site-to-site VPN tunnel between two CloudGen Firewalls. For more information, see How to Create a TINA VPN Tunnel between CloudGen Firewalls.

Step 1. Add a Transport to the VPN Tunnel

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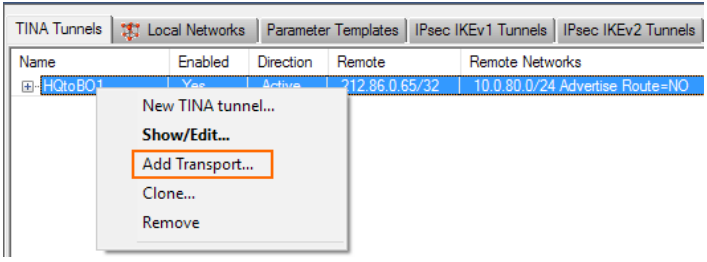
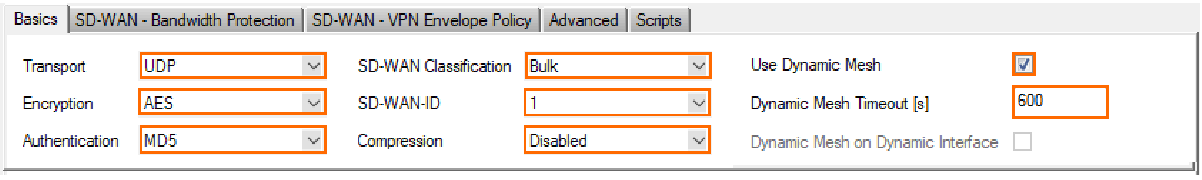
1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN Service > Site to Site**.
2. Click **Lock**.
3. Right-click an existing TINA VPN tunnel and select **Add Transport**. The **TINA Tunnel** window opens.



Name	Enabled	Direction	Remote	Remote Networks
HQtoBO1	Yes	Active	212.86.0.65/32	10.0.80.0/24 Advertise Route=NO

4. (IPv6 only) Select the **IPv6** check box. IPv6 is supported only for the VPN envelope.
5. Configure the **Basic** TINA tunnel settings. For more information, see TINA Tunnel Settings.
    - **Transport** – Select the transport encapsulation: **UDP** (recommended), **TCP**, **TCP&UDP**, **ESP**, or **Routing**.
    - **Encryption** – Select the encryption algorithm: **AES**, **AES256**, **3DES**, **CAST**, **Blowfish**, **DES**, or **Null**.
    - **Authentication** – Select the hashing algorithm: **MD5**, **SHA**, **SHA256**, **SHA512**, **NOHASH**, **RIPEMD160**, or **GCM**.
    - **SD-WAN Classification** – Select the SD-WAN classification.
    - **SD-WAN-ID** – Select the SD-WAN ID. Each SD-WAN class/ID combination can be used only once.
    - **Compression** – Select **Packet** or **Stream** compression. Do not use in combination with WAN Optimization.

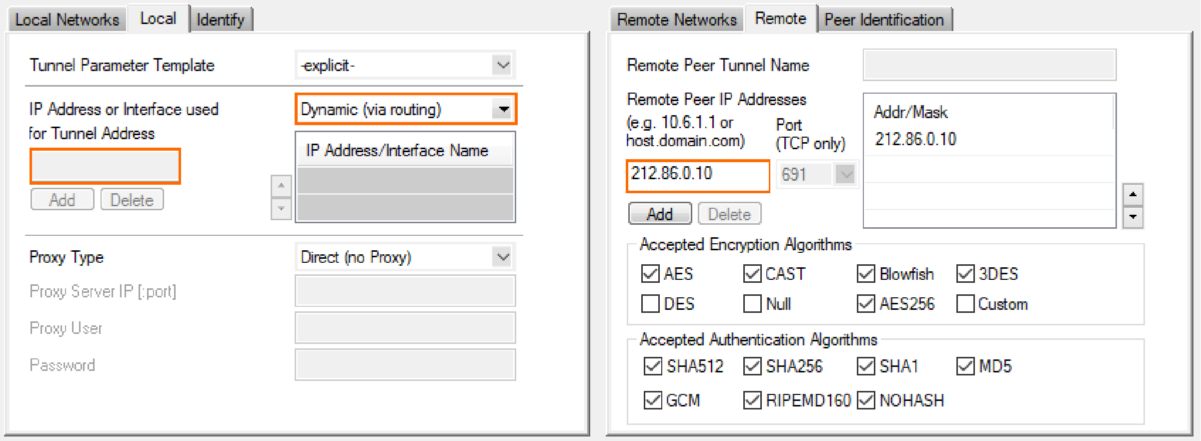


Transport: UDP
Encryption: AES
Authentication: MD5
SD-WAN Classification: Bulk
SD-WAN-ID: 1
Compression: Disabled
Use Dynamic Mesh: ☑
Dynamic Mesh Timeout [s]: 600
Dynamic Mesh on Dynamic Interface: ☐

6. In the **Direction** tab, select the **Call Direction** from the drop-down list. At least one of the firewalls must be active.

   > Configure the CloudGen Firewall with a dynamic IP address to be the active peer. If both firewalls use dynamic IP addresses, a DynDNS service must be used. For more information, see How to Configure VPN Access via a Dynamic WAN IP Address.

7. Click the **Local** tab, and configure the **IP address or Interface used for Tunnel Address**:
   - **(IPv4 only) First Server IP** – First IP address of the virtual server the VPN service is running on.
   - **(IPv4 only) Second Server IP** – Second IP address of the virtual server the VPN service is running on.
   - **Dynamic (via routing)** – The firewall uses a routing table lookup to determine the IP address.
   - **Explicit List (ordered)** – Enter one or more explicit IP addresses. Multiple IP addresses are tried in the listed order.
   - In the **Remote** tab, enter either one or more IPv4 or IPv6 addresses or an FQDN as the **Remote Peer IP Addresses,** and click **Add**.



Tunnel Parameter Template: -explicit-
IP Address or Interface used for Tunnel Address: Dynamic (via routing)
Proxy Type: Direct (no Proxy)
Proxy Server IP [:port]
Proxy User
Password

Remote Peer Tunnel Name
Remote Peer IP Addresses (e.g. 10.6.1.1 or host.domain.com): 212.86.0.10
Port (TCP only): 691
Addr/Mask: 212.86.0.10

Accepted Encryption Algorithms
☑ AES ☑ CAST ☑ Blowfish ☑ 3DES
☐ DES ☐ Null ☑ AES256 ☐ Custom

Accepted Authentication Algorithms
☑ SHA512 ☑ SHA256 ☑ SHA1 ☑ MD5
☑ GCM ☑ RIPEMD160 ☑ NOHASH

8. In the **Remote** tab, select the **Accepted Algorithms**. The list of accepted ciphers must contain the cipher selected in the previously configured **Encryption** settings.
9. (optional) Click the **Identity** tab and configure the **Identification Type** and **Server Protocol Key** for this transport. By default, the **Identity** settings of the TINA tunnel is used.
10. Click **OK**.
11. Click **Send Changes** and **Activate**.

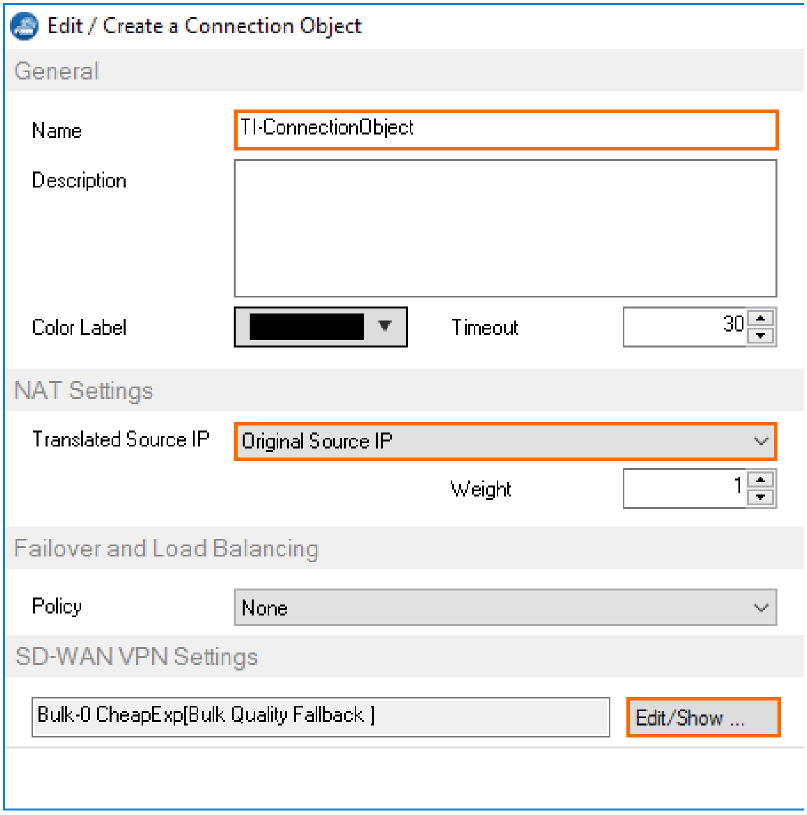
Step 2. Add the VPN Transport on the Remote Firewall

Duplicate the VPN transport configuration on the remote firewall. At least one firewall must be configured to use an active call direction.

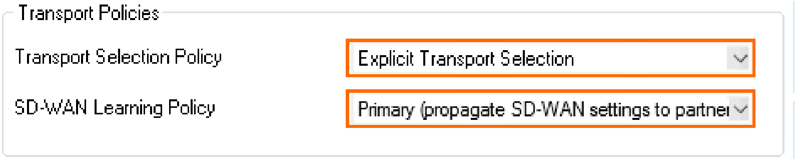
Step 3. Create a Custom Connection Object for the SD-WAN Primary

Create a custom connection object to route traffic into the new VPN transport and configure the firewall as a SD-WAN primary.

1. Go to **CONFIGURATION** > **Configuration Tree** > **Box** > **Assigned Services** > **Firewall** > **Forwarding Rules** .
2. In the left menu, click **Connections**.
3. Right-click the table and select **New Connection**. The **Edit/Create a Connection Object** window opens.
4. Enter a **Name**.
5. From the **Translated Source IP** list, select **Original Source IP**.
6. Click **Edit/Show**. The **SD-WAN Settings** window opens.

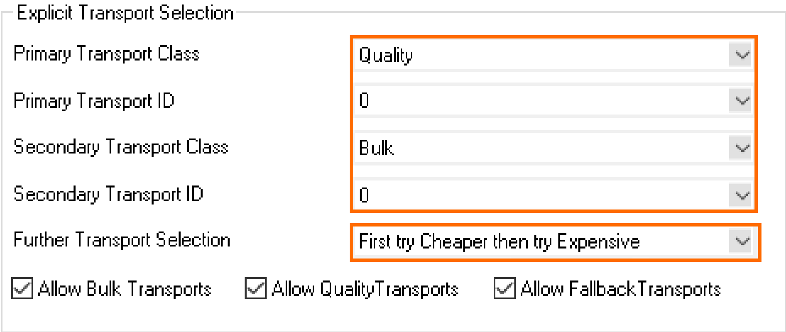

Edit / Create a Connection Object
General
Name: TI-ConnectionObject
Description:
Color Label
Timeout: 30
NAT Settings
Translated Source IP: Original Source IP
Weight: 1
Failover and Load Balancing
Policy: None
SD-WAN VPN Settings
Bulk-0 CheapExp[Bulk Quality Fallback]

7. From the **Transport Selection Policy** drop-down list, select **Explicit Transport Selection**.
8. From the **SD-WAN Learning Policy** drop-down list, select **Primary (Propagated SD-WAN settings to partner)**.


Transport Policies
Transport Selection Policy: Explicit Transport Selection
SD-WAN Learning Policy: Primary (propagate SD-WAN settings to partner

9. Configure the **Explicit SD-WAN Transport Selection** policy:
   - **Primary Transport Class** – Select the default transport class for the traffic matching this

   rule.
   - **Primary Transport ID** – Select the default transport ID for the traffic matching this rule.
   - **Secondary Transport Class** – Select the backup transport class.
   - **Secondary Transport ID** – Select the backup transport ID.
   - **Further Transport Selection** – Select the transports that are used if the primary and secondary VPN transports fail. Depending on the additional available VPN transports, you can define more than one backup path. Select from the following predefined policies:
     - **First try Cheaper then try Expensive**
     - **Only try Cheaper**
     - **First try Expensive then try Cheaper**
     - **Only try Expensive**
     - **Stay on Transport (no further tries)**
   - **Allow Bulk Transports | Allow Quality Transports | Allow Fallback Transports** – Enable all transport classes that can be used as a backup path in combination with the **Further Transport Selection** setting.



Explicit Transport Selection

Primary Transport Class: Quality
Primary Transport ID: 0
Secondary Transport Class: Bulk
Secondary Transport ID: 0
Further Transport Selection: First try Cheaper then try Expensive

☑ Allow Bulk Transports ☑ Allow QualityTransports ☑ Allow FallbackTransports

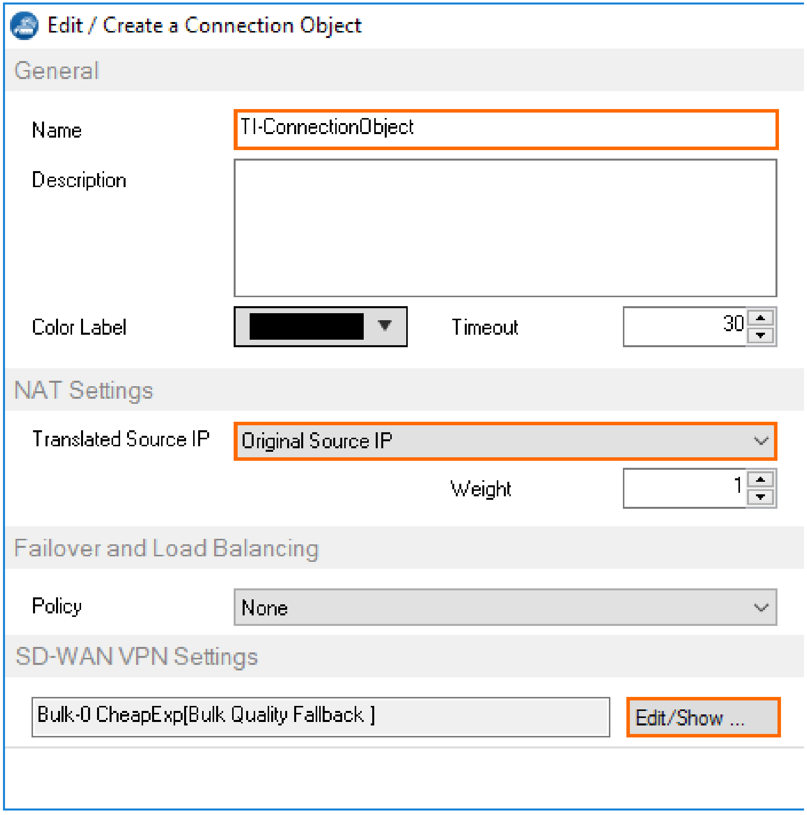
10. (TCP transports only) Configure **TCP Transport Traffic Prioritization** settings:
    - **When using BULK Transports** – The priority level for the bulk transport class.
    - **When using QUALITY Transports** – The priority level for the quality transport class.
11. (Dynamic Mesh only) Configure the **Dynamic Mesh** settings. For more information, see Dynamic Mesh VPN Networks.
12. Click **OK**.
13. Click **OK**.
14. Click **Send Changes** and **Activate**.

Step 4. Create a Custom Connection Object for the SD-WAN Secondary

Create a custom connection object to route traffic into the new VPN transport and configure the firewall as a SD-WAN secondary.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules** .
2. In the left menu, click **Connections**.
3. Right-click the table and select **New Connection**. The **Edit/Create a Connection Object** window opens.

4. Enter a **Name**.
5. From the **Translated Source IP** list, select **Original Source IP**.
6. Click **Edit/Show**. The **SD-WAN Settings** window opens.



Edit / Create a Connection Object

General

Name: TI-ConnectionObject

Description:

Color Label

Timeout: 30

NAT Settings

Translated Source IP: Original Source IP

Weight: 1

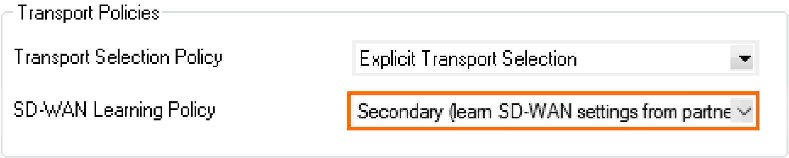
Failover and Load Balancing

Policy: None

SD-WAN VPN Settings

Bulk-0 CheapExp[Bulk Quality Fallback]

7. From the **SD-WAN Learning Policy** drop-down list, select **Secondary**. All other SD-WAN settings are learned from the SD-WAN primary.



Transport Policies

Transport Selection Policy: Explicit Transport Selection

SD-WAN Learning Policy: Secondary (learn SD-WAN settings from partne

8. Click **OK**.
9. Click **OK**.
10. Click **Send Changes** and **Activate**.

Step 3. Edit Access Rules Matching the VPN Traffic

Edit the access rules matching the VPN traffic on both firewalls to use the custom connection objects. If multiple firewalls are connected in a hub and spoke VPN network, the firewall acting as the VPN hub must be the SD-WAN primary. Create multiple access rules and connection objects to statically route VPN traffic through different VPN transports.

For more information, see How to Create Access Rules for Site-to-Site VPN Access.

Next Steps

Configure advanced SD-WAN features such as:

- How to Configure Adaptive Bandwidth Protection for VPN Tunnels with SD-WAN
- How to Configure Session Balancing for VPN Tunnels with SD-WAN
- How to Configure Traffic Duplication for VPN Tunnels with SD-WAN
- How to Configure Performance-Based Transport Selection for VPN Tunnels with SD-WAN

Figures