How to Configure Packet-Based Balancing for VPN Tunnels with SD-WAN

https://campus.barracuda.com/doc/79462910/

Packet-Based Balancing distributes traffic on a per-packet basis over multiple VPN transports in the same transport class. VPN transports using Packet-Based Balancing must have the same bandwidth and latency (Round Trip Time). In most cases, using Adaptive Session Balancing is preferable to Packet-Based Balancing because it allows for different link-quality requirements.

Limitations

- VPN transports must be in the same transport class.
- WAN links must have the same bandwidth and latency. For example: multiple identical WAN links from the same ISP.

Before You Begin

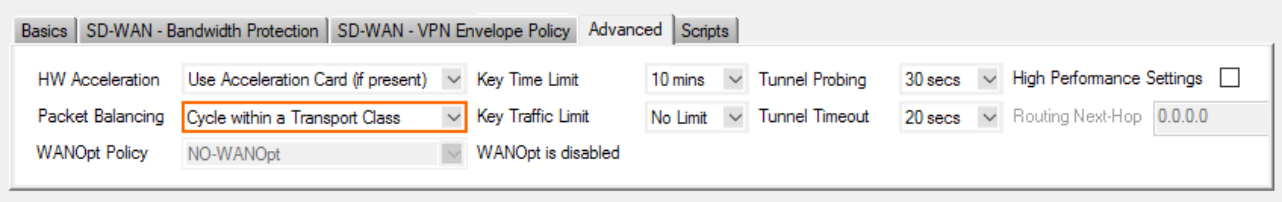
Create a multi-transport VPN tunnel between two CloudGen Firewalls:

- Create a TINA site-to-site VPN tunnel. For more information, see How to Create a TINA VPN Tunnel between CloudGen Firewalls or How to Create a VPN Tunnel with the VPN GTI Editor.
- Add one or more additional transports in the same SD-WAN class to the VPN tunnel. For more information, see How to Add a VPN Transport to a TINA VPN Tunnel with Explicit Transport Selection or How to Configure SD-WAN Using the VPN GTI Editor.

Step 1. Enable Packet-Based Balancing

Packet-Based Balancing must be enabled for all transports in the transport class.

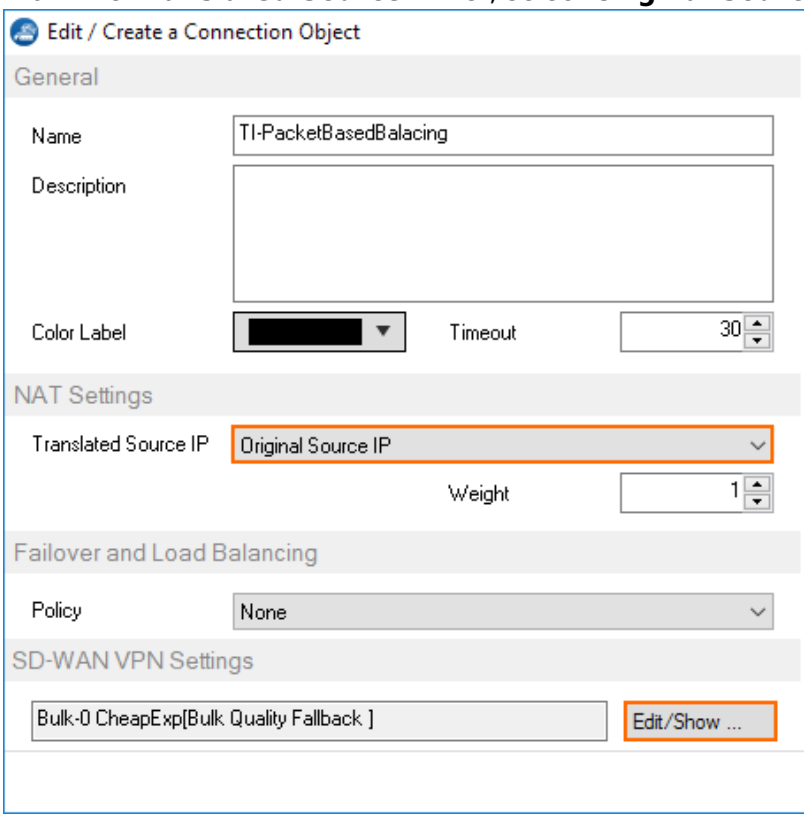
1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > VPN-Service > Site to Site VPN**.
2. Click **Lock**.
3. Double-click the TINA VPN tunnel. The **TINA Tunnel** window opens.
4. Click the **Advanced** tab.
5. From the **Packet Balancing** list, select **Cycle within a Transport Class**.



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

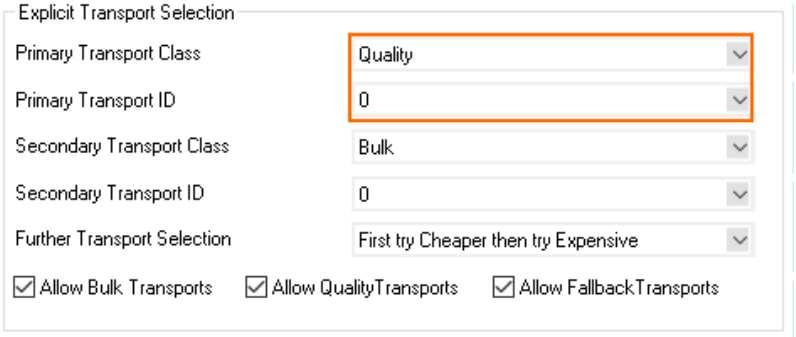
Step 2. Create a Custom Connection Object for the SD-WAN Primary

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**.

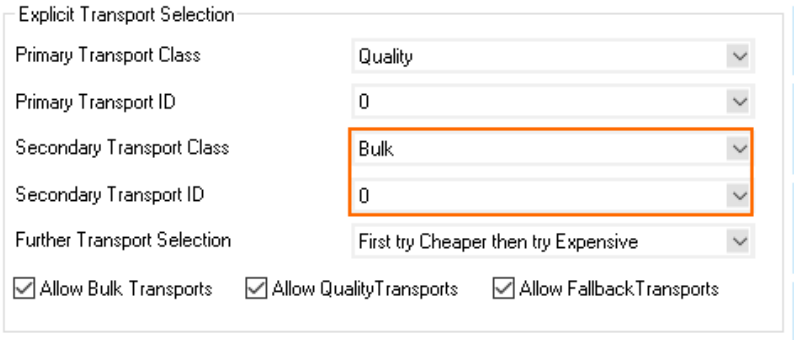


6. To edit the **VPN SD-WAN** settings, click **Edit/Show** . The **SD-WAN Settings** window opens.
7. From the **SD-WAN Learning Policy** list, select **Primary**.

8. From the **Primary Transport Class** list, select the primary transport class.
9. From the **Primary Transport ID** list, select the ID for the primary transport.



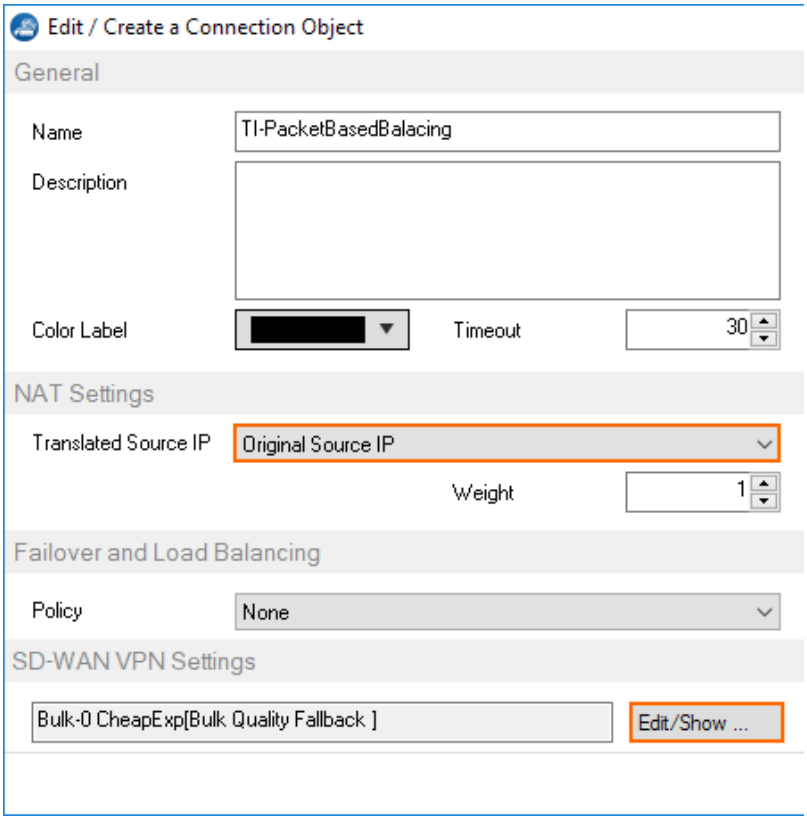
10. From the **Secondary Transport Class** list, select the same transport class used for the primary transport.
11. From the **Secondary Transport ID** list, select the ID for the secondary transport.



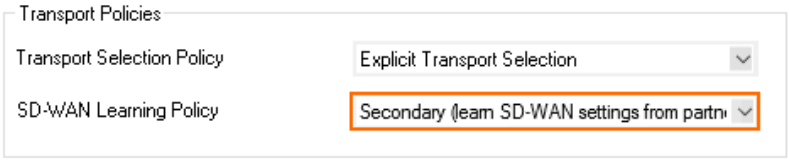
12. Click **OK**.
13. Click **Send Changes** and **Activate**.

Step 3. Create a Custom Connection Object for the 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. To edit the **VPN SD-WAN** settings, click **Edit/Show**. The **SD-WAN Settings** window opens.
7. From the **SD-WAN Learning Policy** drop-down list, select **Secondary**.

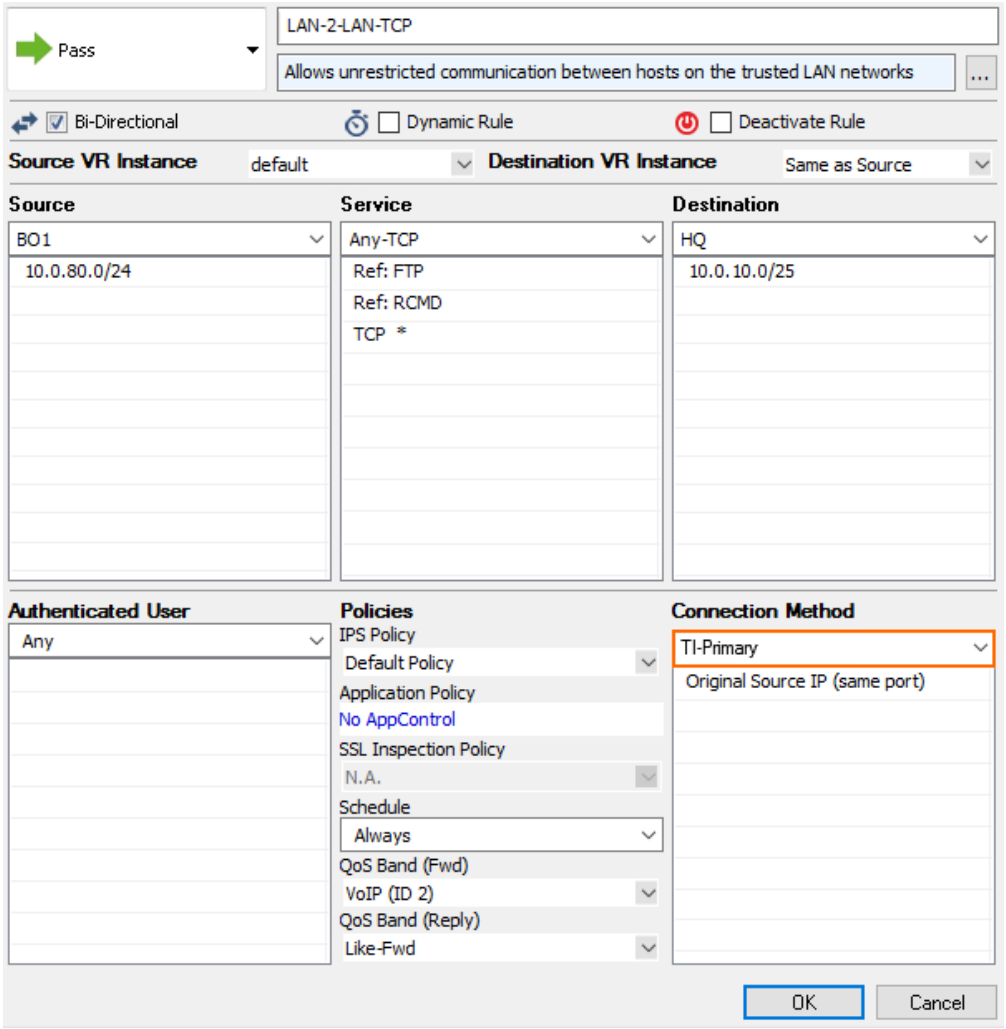


8. Click **OK**.
9. Click **Send Changes** and **Activate**.

Step 4. Modify Access Rule on the Firewall Acting as SD-WAN Primary

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Right-click the ruleset and select **New > Rule** to create an access rule to match the VPN traffic you want to balance:
   - **Action** – Select **Pass**.
   - **Bi-Directional** – Select the check box to apply the rule in both directions.
   - **Source** – Select a network object for all local networks.
   - **Service** – Select a service object from the list.
   - **Destination** – Select the network object containing the remote networks.
   - **Connection Method** – Select the connection object for the SD-WAN primary created in

Step 2.

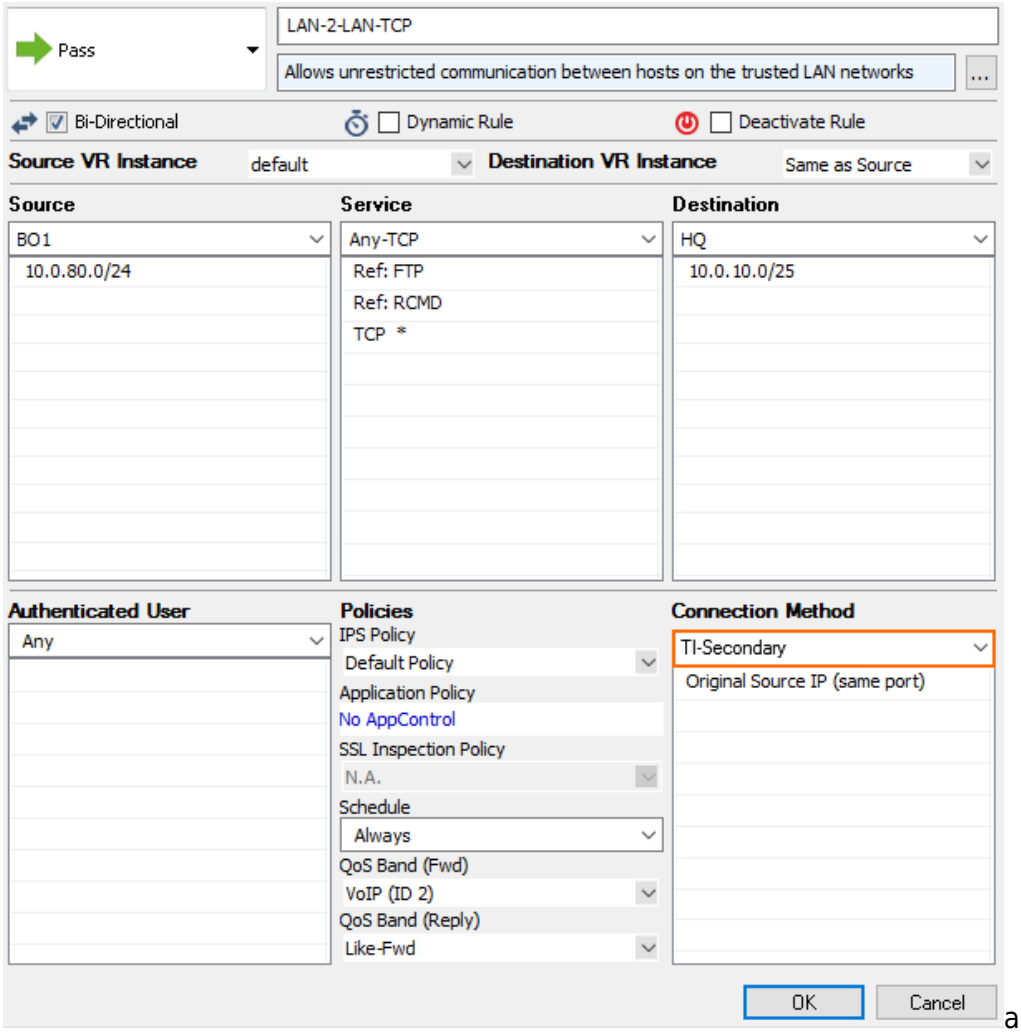


4. Click **OK**.
5. Click **Send Changes** and **Activate**.

Step 5. Modify Access Rule on the Firewall Acting as SD-WAN Secondary.

1. Go to **CONFIGURATION > Configuration Tree > Box > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Right-click the ruleset and select **New > Rule** to create an access rule to match the VPN traffic you want to balance:
   - **Action** – Select **Pass**.
   - **Bi-Directional** – Select the check box to apply the rule in both directions.
   - **Source** – Select a network object for all local networks.
   - **Service** – Select a service object from the list.
   - **Destination** – Select the network object containing the remote networks.
   - **Connection Method** – Select the connection object for the SD-WAN secondary created in

Step 3.



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4. Click **OK**.
5. Click **Send Changes** and **Activate**.

Traffic matching these access rules and using the VPN transports are now balanced per packet within the transport class.

Figures

1. TI_packet_balacing_01.png
2. TI_packet_balacing_02 (1).png
3. TI_session_balacing_01a.png
4. TI_session_balacing_01b.png
5. TI_session_balacing_01c.png
6. TI_packet_balacing_02.png
7. TI_session_balacing_01e.png
8. TI_packet_balacing_051.png
9. TI_packet_balacing_05.png