How to Configure Session Balancing for VPN Tunnels with Traffic Intelligence

https://campus.barracuda.com/doc/70582461/

Session-based balancing for multi-transport TINA VPN tunnels is enabled per access rule in the Traffic Intelligence (TI) settings of the custom connection object. Session balancing can use a static round robin or an adaptive weighted round robin balancing policy:

- **(Static) Session Balancing** – Sessions are distributed over the configured transports by using a round-robin stye balancing policy. If used without adaptive balancing, it is recommended to use transports of similar bandwidth and latency. Static balancing is available for all transport protocols. Static session balancing can be configured to balance over multiple transports in the same TI class based on the defined TI ID range.
- **Adaptive Session Balancing** – All sessions are initially balanced statically over the primary and secondary transports. Link quality metrics gathered by Dynamic Bandwidth and Latency Detection are then used to rebalance sessions with lifetimes over 5 seconds to use the optimal transport. Shorter sessions are not rebalanced. Adaptive session balancing is available only on UDP transports. It is not possible to use session balancing with all transports in a class.

Before You Begin

Create a multi-transport VPN tunnel between two F-Series Firewalls:

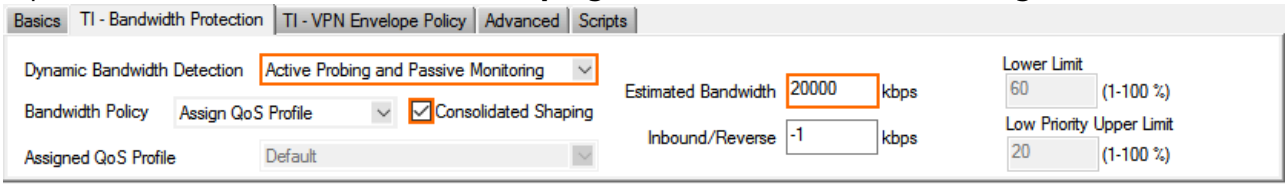
- Create a TINA site-to-site VPN tunnel. For more information, see How to Create a TINA VPN Tunnel between F-Series Firewalls or How to Create a VPN Tunnel with the VPN GTI Editor.
- Add one or more additional transports to the VPN tunnel. For more information, see How to Add a VPN Transport to a TINA VPN Tunnel with Explicit Transport Selection or How to Configure Traffic Intelligence Using the VPN GTI Editor.

Step 1. (Adaptive Session Balancing only) Enable Dynamic Bandwidth and Latency Detection for the VPN Transports

On both VPN endpoints, edit the TINA site-to-site VPN tunnel to enable Dynamic Bandwidth and Latency Detection.

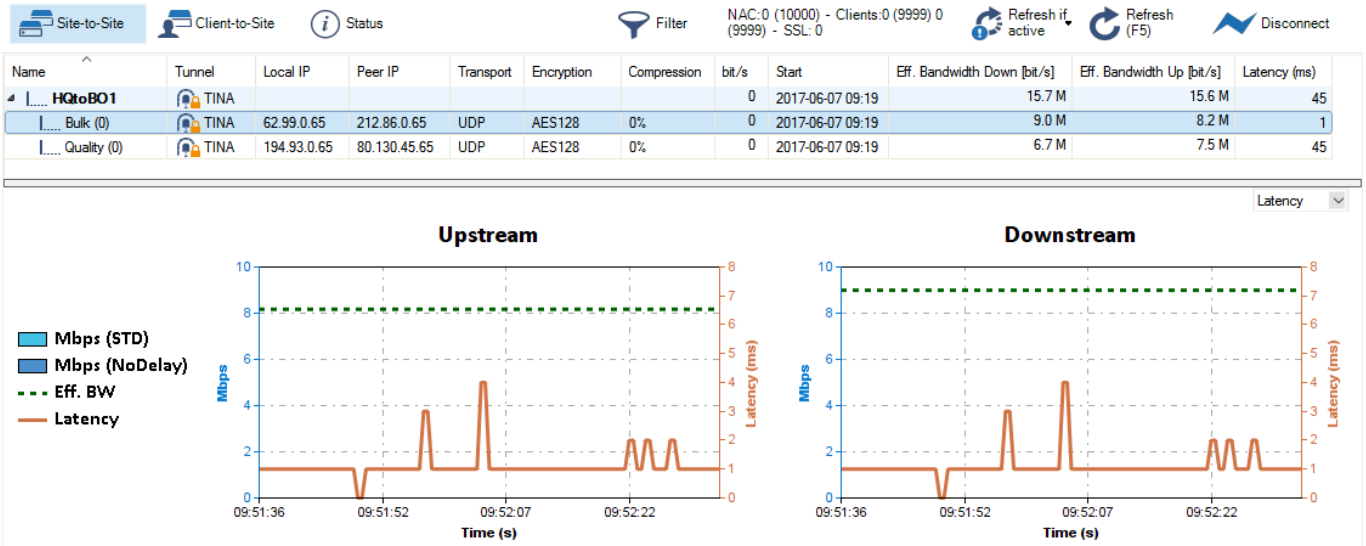
1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > Assigned Services > VPN Service > Site to Site VPN**.
2. Click **Lock**.
3. Double-click the TINA VPN tunnel. The **TINA Tunnel** window opens.
4. Click the **TI - Bandwidth Protection** tab.

5. From the **Dynamic Bandwidth Detection** list, select the policy:
   - **Active Probing and Passive Monitoring**
   - **Active Probing Only**
   - **No Probing - use Estimated Bandwidth**
6. Enter the **Estimated Bandwidth** bandwidth.
7. (optional) Select the **Consolidated Shaping** check box and select the **Assigned QoS Profile**.



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

To verify that Dynamic Bandwidth and Latency Detection is running, go to **VPN > Site-to-Site**. Right-click the transport and select **Monitor Traffic**.

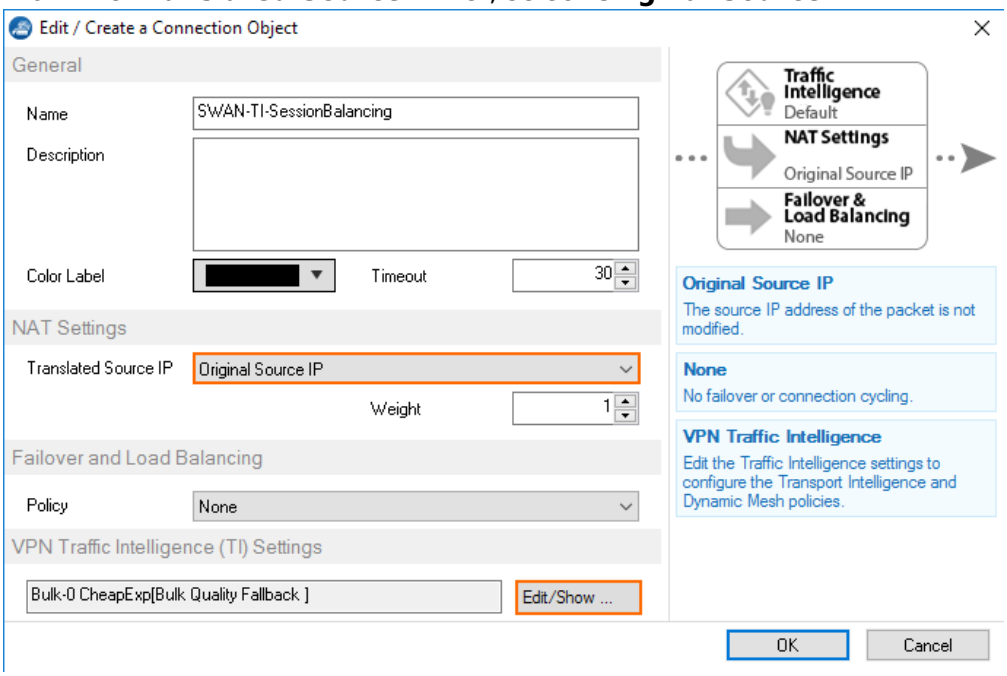


Step 2. Create a Custom Connection Object for the TI Master

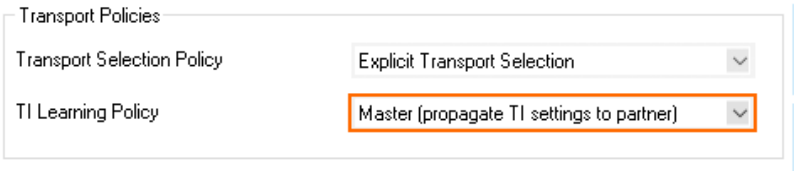
Configure session balancing with explicit transport selection. You can balance between the primary and secondary transport, or over multiple IDs of the primary transport class.

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > 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. In the **Name** field, enter a name for the connection object.

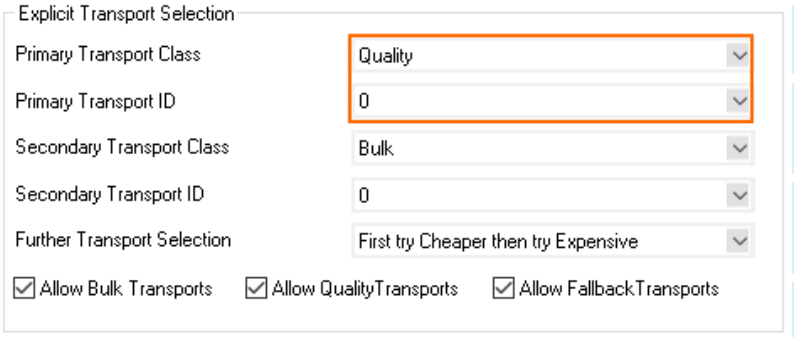
5. From the **Translated Source IP** list, select **Original Source IP**.



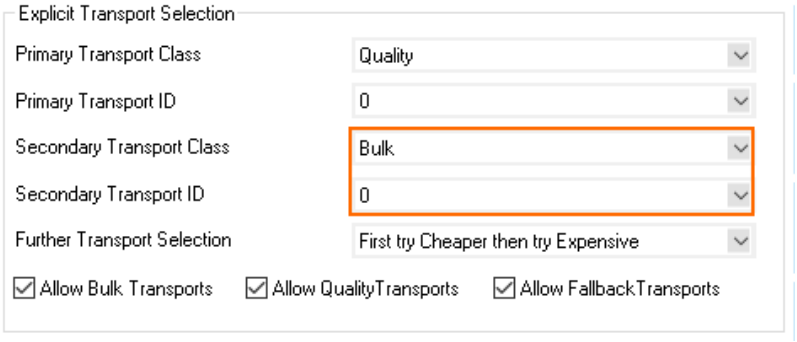
6. To edit the **VPN Traffic Intelligence** settings, click **Edit/Show**. The **TI Transport Selection** window opens.
7. From the **TI Learning Policy** drop-down list, select **Master**.



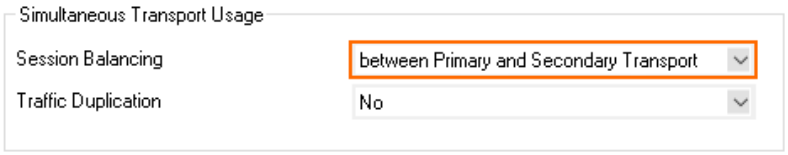
8. Configure the primary transport class and ID:
   - **Primary Transport Class** – Select the TI class of the primary transport.
   - **Primary Transport ID** – Select the ID for the primary transport.



9. (Balancing between primary and secondary transports only) Configure the secondary transport class and ID:
   - **Secondary Transport Class** – Select the TI class secondary transport.
   - **Secondary Transport ID** – Select the ID for the secondary transport.



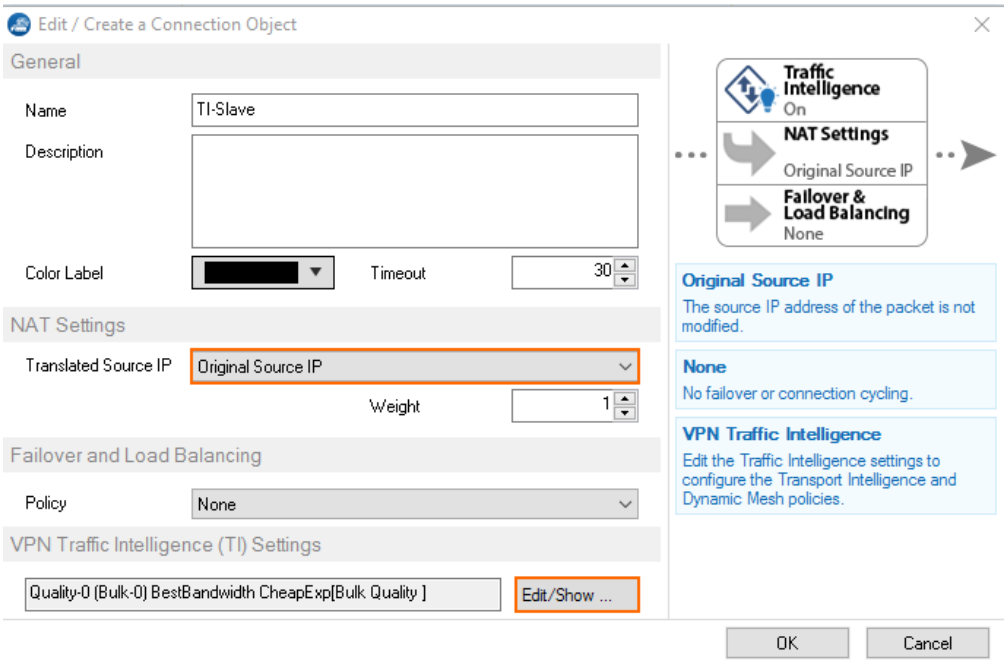
10. In the **Simultaneous Transport Usage** section, select the **Session Balancing** policy:
    - **None** – Disable session balancing.
    - **between Primary and Secondary Transport** – Sessions are balanced between the primary and secondary transport. Select this option for adaptive balancing.
    - **(static session balancing only) from ID=0 to ID=X** – Sessions are balanced between all available transports in the TI class of the primary transport with a TI ID in this range.



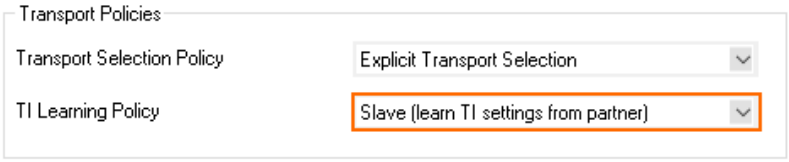
11. Click **OK**.
12. Click **Send Changes** and **Activate**.

Step 3. Create a Custom Connection Object for the TI Slave

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > 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**.



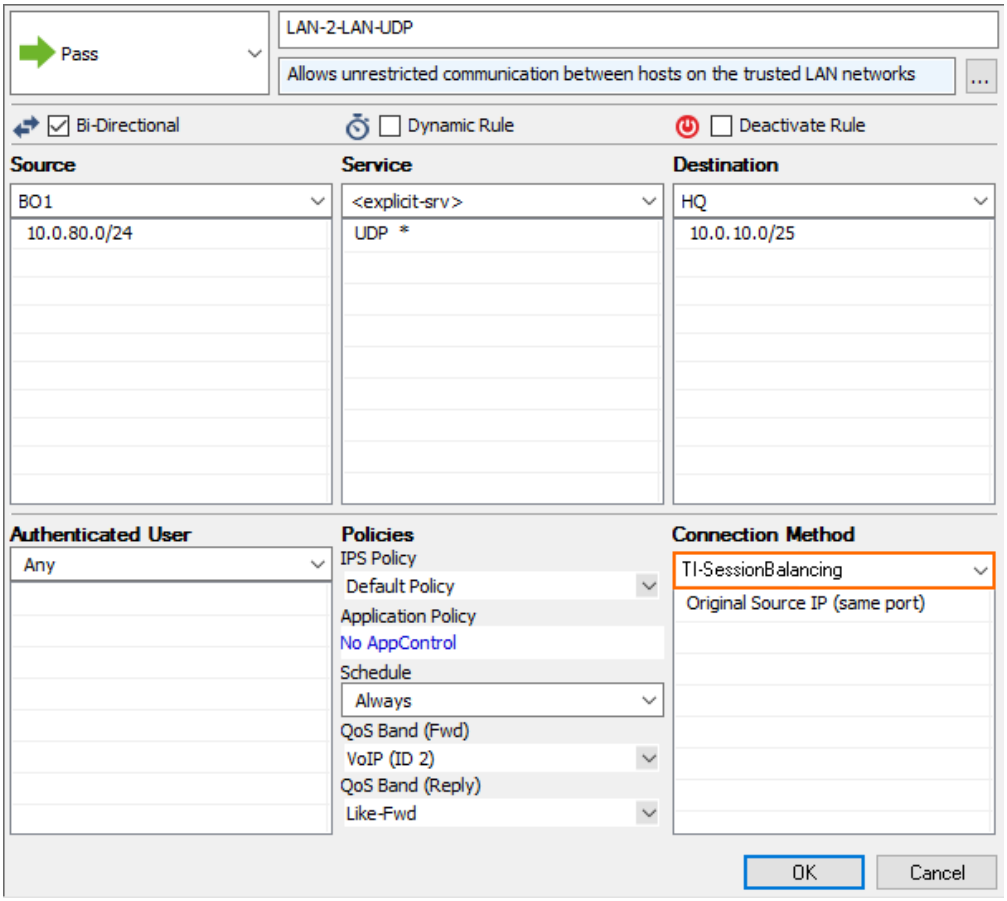
6. To edit the **VPN Traffic Intelligence** settings, click **Edit/Show**. The **TI Transport Selection** window opens.
7. From the **TI Learning Policy** drop-down list, select **Slave**.



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

Step 4. Modify Access Rule on the Firewall Acting as TI Master

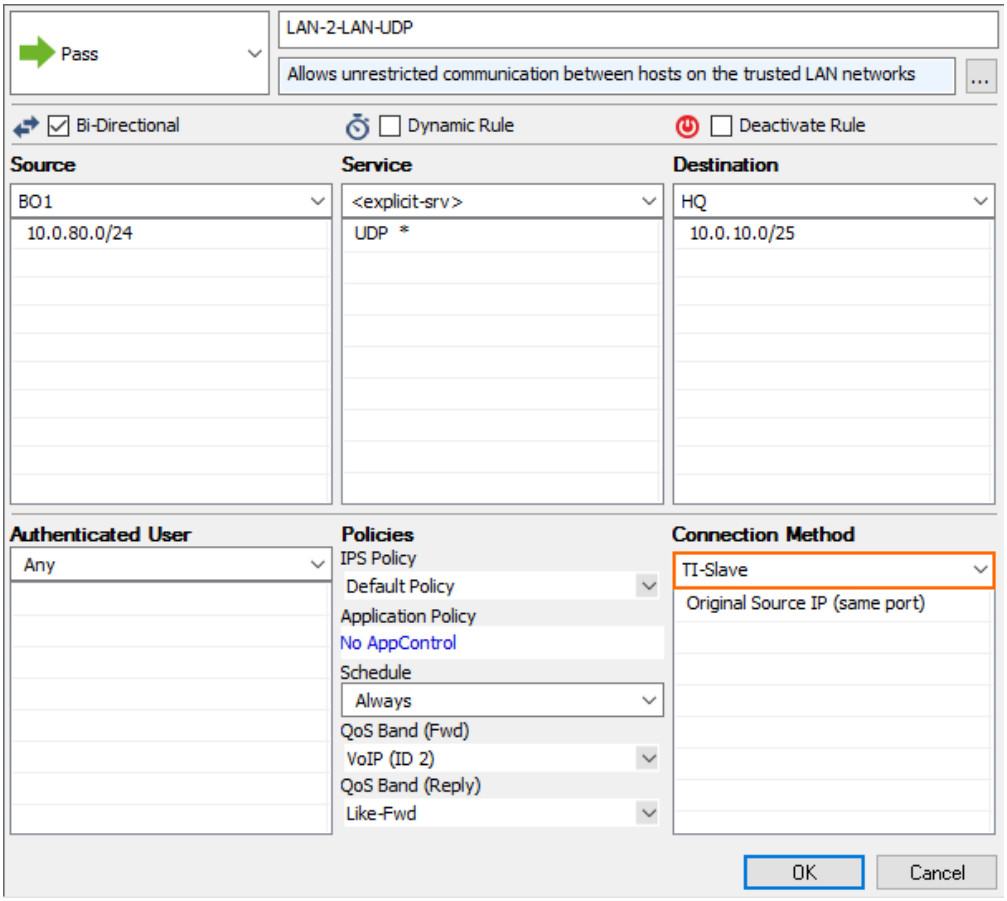
1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > Assigned Services > Firewall > Forwarding Rules**.
2. Click **Lock**.
3. Right-click the ruleset and select **New > Rule** to create an access rule to match the VPN traffic you want to balance:
   - **Action** – 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 TI Master created in step 2.



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

Step 5. Modify Access Rule on the Firewall Acting as TI Slave

1. Go to **CONFIGURATION > Configuration Tree > Box > Virtual Servers > *your virtual server* > 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 TI Slave created in step 3.



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

Figures

1. adapt_bandw_protection_01.png
2. TI_session_balancing_00a.png
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