QUANTUM NETWORKS

Q-BOND

THE FOUNDATION OF SECURE AND SIMPLE
SD-WAN NETWORKS

UNLOCK THE FULL POTENTIAL OF
SD-WAN WITH Q-BOND VPN

VPN TECHNOLOGY

Copyright Information

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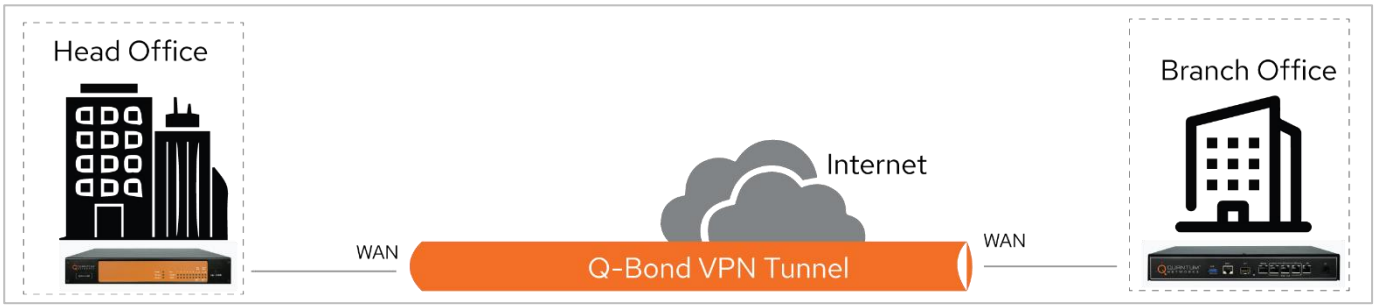
What is Q-Bond?

Q-Bond is a proprietary VPN bonding technology developed by Quantum Networks to simplify site-to-site VPN connections. Its key feature is the ability to utilize multiple WAN links to create a single logical VPN tunnel between devices.

This enables three main benefits:

- Bandwidth aggregation
- Enhanced VPN reliability
- Seamless failover



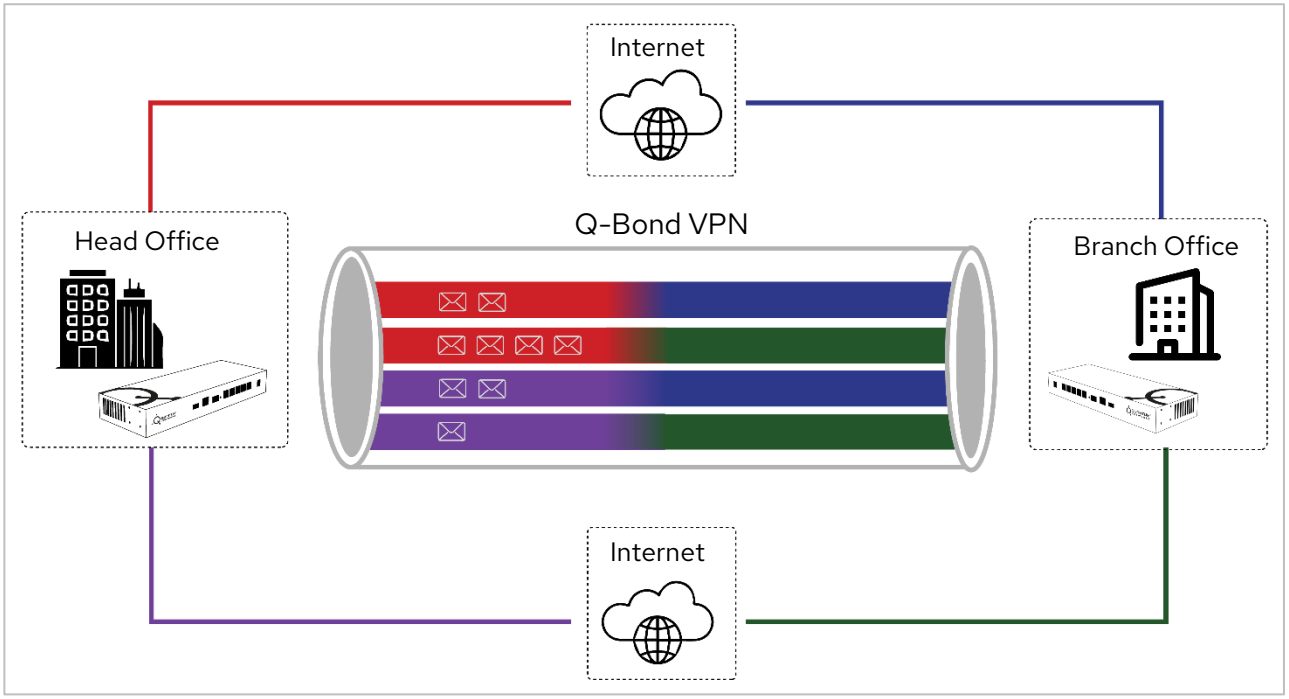
Q-Bond instantly detects the fail link and reroutes traffic at the packet level across the remaining healthy links. This advanced failure detection ensures highly reliable and resilient site-to-site connectivity, maintaining uninterrupted service even during ISP disruptions.

Key Benefits of Q-Bond

- Increased Application Performance
- Automated VPN Tunnel Failover & Fallback
- Fully Meshed Resiliency
- Service Provider Independence
- Only One Side Require Static IP
- Mitigation of the Possibility of Human Errors

How Q-Bond Works?

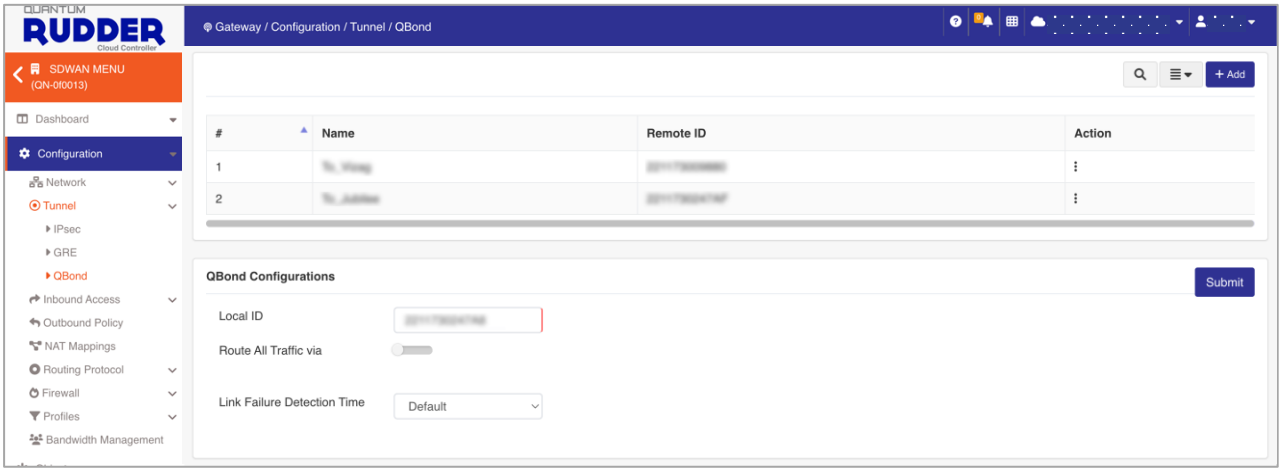
- QBond VPN tunnel forwards intranet traffic form one device to another.
- QBond provides automated route advertisements remote LAN networks.
- Q-Bond encrypts and encapsulates the intranet traffic within a UDP stream and distributing it across available links in the tunnel.
- Upon reaching the remote device, Q-Bond decrypts the data and reassembles the traffic packets in their original order.
- The remote device receives the traffic exactly as it was sent from the other location.



Configuration

QBond is a feature that allows you to combine multiple Internet connections into one stronger, more reliable connection. This helps improve Internet speed and stability, making sure your network stays connected even if one of the connections fails.

QBond Profiles



- Name: Displays the name of the QBond profile. Each profile allows you to configure a set of parameters for establishing the QBond connection.

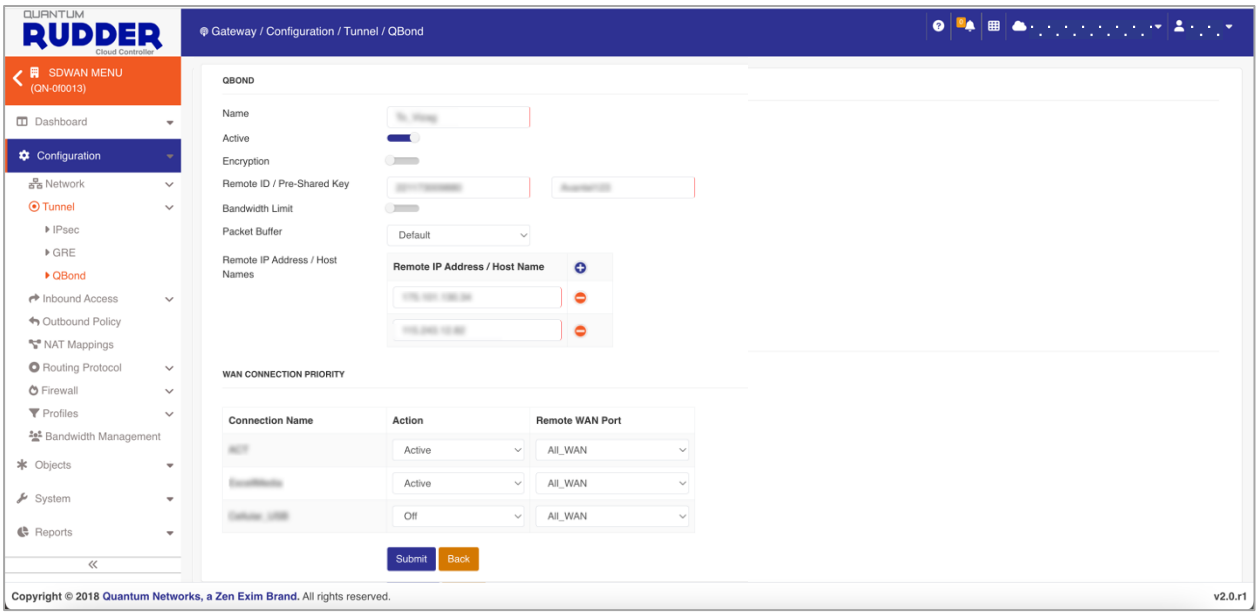
- Remote ID: Displays the unique identifier of the remote device you're connecting to. Ensure that this ID matches the one configured on the remote end.

Action: Allows you to edit or delete the QBond profile. Click on the options under this column to modify or remove a profile.

QBond Configuration

Parameter	Description
Local ID	This is your device's unique identifier within the QBond configuration. It should be automatically generated, but ensure it matches any preset requirements.
Route All Traffic via	Enable this option if you want to route all your network traffic through the QBond connection. This can be useful for centralized traffic management or specific security requirements.
Link Failure Detection Time	Set the duration after which a link is considered failed if no response is received. The default setting is recommended for most scenarios.

Actions: After configuring these options, click Submit to apply the settings.



Parameter	Description
Name	Enter a name for the QBond profile.
Active	Toggle to enable or disable the profile.
Encryption	Toggle to enable or disable encryption.
Remote ID/Pre-Shared Key	Input the Remote ID and Pre-Shared Key for authentication.
Bandwidth Limit	Enable to manually set Upload and Download speeds. Choose between Kbps or Mbps from the dropdown menu.
Packet Buffer	Select from "Default" or "Custom" in the dropdown. Choosing "Custom" displays a field to enter a specific buffer size.

Remote IP Address/Host Names	Enter the remote IP addresses or hostnames for connection. Click the "+" icon to add more entries.
WAN connection priority	
Connection Name	Displays the names of the WAN interfaces available on your device. You can prioritize these interfaces based on your connection needs.
Action	Set each WAN interface as either Active, Standby or Off depending on whether you want it to be used in the QBond connection.
Remote WAN Port	Specify the WAN port on the remote device that corresponds to each interface. This ensures proper routing of traffic between the two devices.

Actions: Adjust the settings as needed and click Submit to save your configuration.

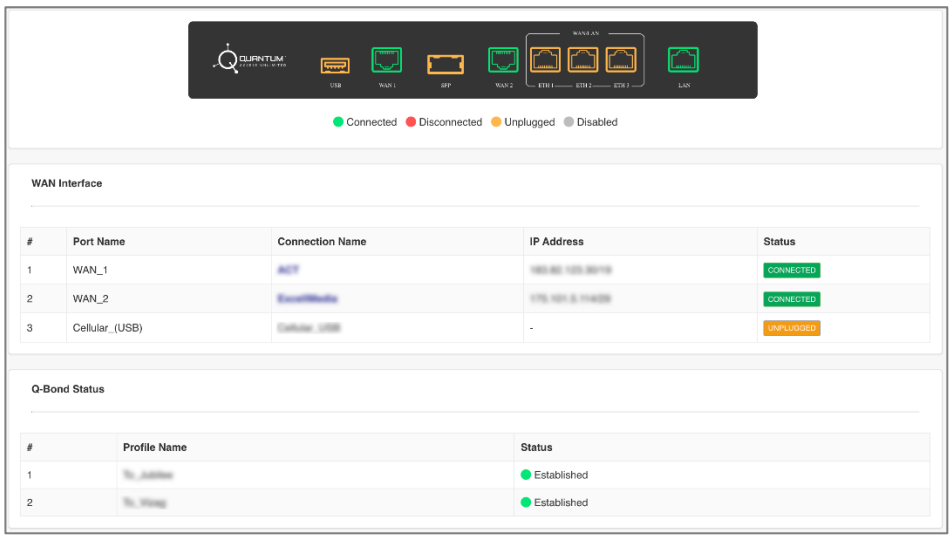
Note: QBond uses OSPF routing protocol to advertise LAN subnets in both devices, so when QBond is configured, it will auto configure OSPF parameters as well.

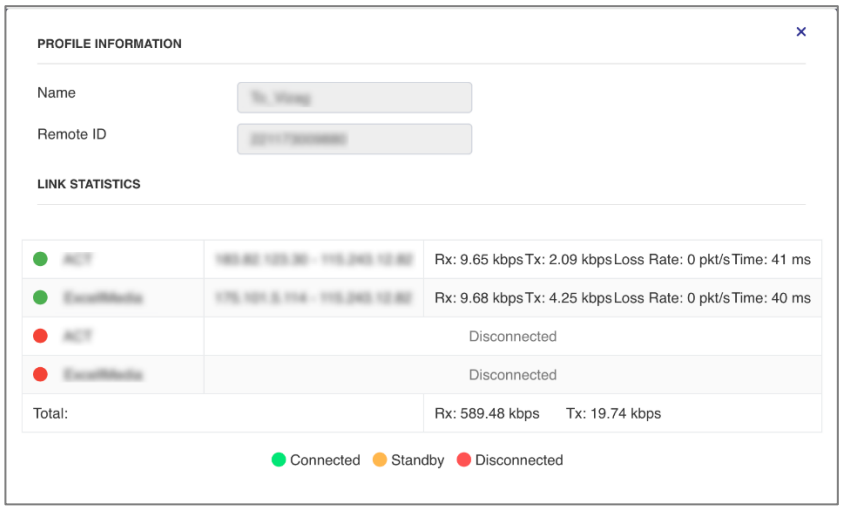
Reports

This section helps you monitor the real-time performance of your bonded connections, ensuring optimal network reliability and efficiency.

QBond Logs

The "QBond Logs" page provides detailed insights into the performance and status of your QBond profiles.





Profile Information

Parameter	Description
Name	The designated name of the QBond profile.
Remote ID	The unique identifier for the remote endpoint.

Link Statistics

WAN_1: Shows the link status and data metrics for each connection	
Total	Combined statistics for the links
Rx	Current receive rate
Tx	Current transmit rate
Loss Rate	Packet loss rate in packets/second
Time	Latency in milliseconds

Status indicators

Connected, indicated by a green dot: The link is active and data is being transmitted.
Standby, indicated by an orange dot: The link is in standby mode, ready to transmit data when needed.
Disconnected, indicated by a red dot: The link is inactive and not transmitting data.