



## How To Guide:

### *Site-to-Site VPN Load Balancing with TMV Tunnels*

## *Introduction*

VPN load balancing enables site-to-site traffic to be distributed based on IP or session across multiple VPN tunnels.

This article outlines the configuration of TMV tunnel, which is terminated on the appliances at both ends, and their relevant routing policy.

## Diagram Example

### Branch:

#### Port 1:

WAN 1: example\_1

IP: 203.67.222.40, Subnet: 203.67.222.40/30,  
GW:203.67.222.1

#### Port 2:

WAN 2: example\_2

IP: 100.100.100.6, Subnet:100.100.100.0/29,  
GW:100.100.100.1

#### Port 4:

**Branch LAN:** 10.168.1.0/24, Interface:  
10.168.1.254

### HQ:

#### Port 1:

WAN 1: hq\_1

IP: 103.67.222.47, Subnet: 103.67.222.40/29,  
GW:103.67.222.41

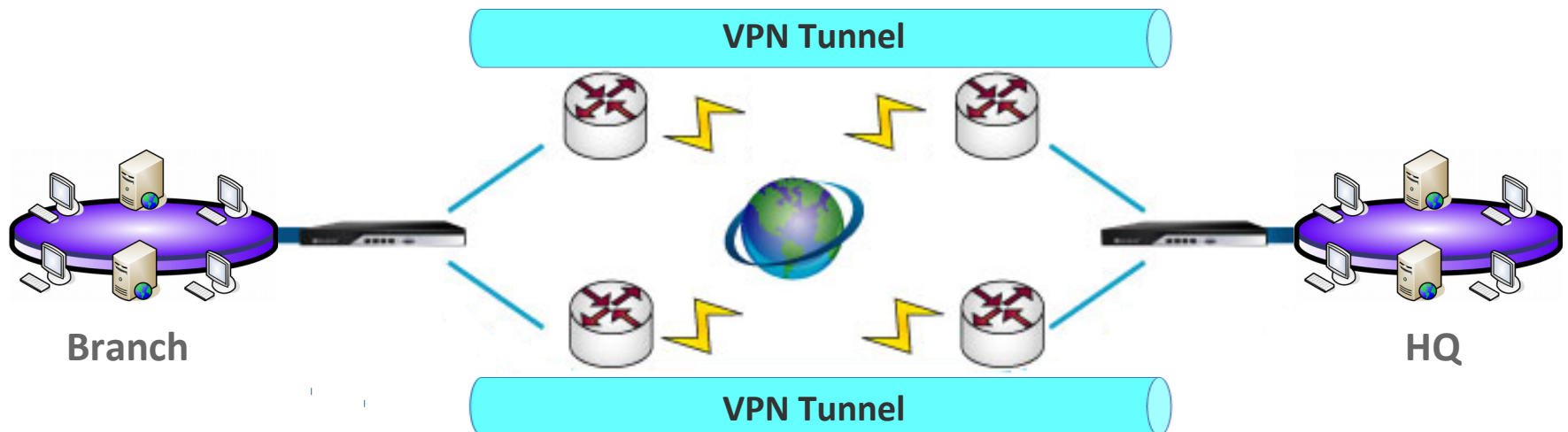
#### Port 2:

WAN 2: hq\_2

IP: 118.169.192.20, Subnet:  
118.169.192.20/30, GW:118.169.192.21

#### Port 4:

**HQ LAN:** 20.20.20.0/24, Interface:  
20.20.20.254



## Requirement

In this case, the configuration is required to:

- > Failover site-to-site access to the remaining active path in case one of WAN links failed.
- > Load Balance site-to-site traffic across all available tunnels.

## *Configuring VPN Load Balancing on the Branch Office Appliance*

Follow the steps below to configure site-to-site VPN load balancing on the branch appliance with the IP details given:

- 1. WAN > ADD*
- 2. LAN > ADD*
- 3. Tunnels > ADD*
- 4. Object > DPS > ADD*
- 5. Policy Routing > ADD*

## WAN > ADD > Static

Name

example\_1

Port

Port 1



Path Monitoring

dns\_ipv4

Subnet

203.67.222.40/30

IP

203.67.222.40

Gateway

203.67.222.1

OK

CANCEL

# WAN > ADD > Static

Name

example\_2

Port

Port 2 ▼

Path Monitoring

dns\_ipv4 ▼

Subnet

100.100.100.0/29

IP

100.100.100.6

Gateway

100.100.100.1

OK

CANCEL

## WAN

WAN configuration on the branch office appliance is done as follows:

### WAN

ADD 

DELETE

Status	Type	↑↓	Name	↑↓	Port	↑↓	Interface	↑↓	Subnet	↑↓	IP	↑↓	Gateway	↑↓
✓	Static		example_1		Port 1		eth0_6		203.67.222.40/30		203.67.222.40		203.67.222.1	
✓	Static		example_2		Port 2		eth1_2		100.100.100.0/29		100.100.100.6		100.100.100.1	



## LAN > ADD

Name

branch\_LAN

Related ISP

Auto

Port

Port 4

Subnet

10.168.1.0/24

Route

Interface  Gateway

IP

10.168.1.254

DHCP

Enabled



OK

CANCEL

# LAN

LAN configuration on the branch office appliance is done as follows:







## LAN

[ADD](#)[DELETE](#)

Name	↑↓	Port	↑↓	Interface	↑↓	Subnet	↑↓	Route	↑↓	IP	↑↓
branch_LAN		Port 4		eth3_3		10.168.1.0/24		Interface		10.168.1.254	

## Tunnels > ADD

For **TMV Tunnels**, there are 2 **Roles**, **client** and **server**. The **TMV Client** will automatically connect the **TMV server** to create tunnels, and the **Tunnel ID** on both ends have to be the same. Adding **TMV** on the branch appliance is done as follows:

Enabled	Name	Role	Local	Remote	Tunnel ID
<input checked="" type="checkbox"/>	tun_1	<input type="radio"/> Server <input checked="" type="radio"/> Client 	203.67.222.40	 103.67.222.47	 4031
<input checked="" type="checkbox"/>	tun_2	<input type="radio"/> Server <input checked="" type="radio"/> Client 	100.100.100.6	 118.169.192.20	 4032

## Objects > DPS > ADD

Adding a *DPS* object for *TMV* tunnels on the branch appliance:

Name  
branch\_VPN\_balancing

---

Backup Pool  
None

---

Algorithm  
Weighted Round Robin by Connection

---

Links  
tun\_1, tun\_2

---

Weight

tun\_1  1 tun\_2  1

---

Proxy

---

**Note:** All algorithms are applicable for VPN load balancing.

# Policy Routing > ADD

Priority 7

Highest Lowest

Source  
branch\_LAN +

Destination  
hq\_LAN +

Services  
 Any  Services  Applications

Schedules  
 Always  Custom

Choose your option +

Pool  
branch\_VPN\_balancing ▼

NAT  
 Smart  Manual  No

Choose your option ▼

QoS  
Enabled

Comments

OK CANCEL

Set branch subnet here for site-to-site policy routing.

Set HQ subnet here for site-to-site policy routing.

Choose the DPS newly created for TMV.

## Policy Routing

Policy Routing for VPN load balancing on the branch appliance is done as follows:

---

branch\_LAN



hq\_LAN

Any

Always

branch\_VPN\_balancing

No

-

## *Configuring VPN Load Balancing on the HQ Office Appliance*

*Follow the steps below to configure site-to-site VPN load balancing on the HQ office appliance with the IP details given:*

- 1. WAN > ADD*
- 2. LAN > ADD*
- 3. Tunnels > ADD*
- 4. Object > DPS > ADD*
- 5. Policy Routing > ADD*

## WAN > ADD > Static

Name

hq\_1

Port

Port 1 ▼

Path Monitoring

dns\_ipv4

Subnet

103.67.222.40/29

IP

103.67.222.47

Gateway

103.67.222.41

OK

CANCEL



**WAN > ADD > Static**

Name

hq\_2

Port

Port 2 ▼

Path Monitoring

dns\_ipv4

Subnet

118.169.192.20/30

IP

118.169.192.20

Gateway

118.169.192.21

OK

CANCEL

# WAN

WAN configuration on the HQ office appliance is done as follows:

## WAN

[ADD](#) [DELETE](#)

Status	Type	Name	Port	Interface	Subnet	IP	Gateway
✓	Static	hq_1	Port 1	eth0_9	103.67.222.40/29	103.67.222.47	103.67.222.41
✓	Static	hq_2	Port 2	eth1_10	118.169.192.20/30	118.169.192.20	118.169.192.21

## LAN > ADD

Name

hq\_LAN

Related ISP

Auto



Port

Port 4



Subnet

20.20.20.0/24

Route

Interface  Gateway

IP

20.20.20.254

DHCP

Enabled



OK

CANCEL

# LAN

LAN configuration on the HQ office appliance is done as follows:

## LAN

**ADD**

DELETE

Name	↑↓	Port	↑↓	Interface	↑↓	Subnet	↑↓	Route	↑↓	IP	↑↓
hq_LAN		Port 4		eth3_11		20.20.20.0/24		Interface		20.20.20.254	

## Tunnels > ADD

leave the fields blank.

Enabled	Name	Role	Local	Remote	Tunnel ID
<input checked="" type="checkbox"/>	tun_1	<input checked="" type="radio"/> Server <input type="radio"/> Client	103.67.222.47		4031
<input checked="" type="checkbox"/>	tun_2	<input checked="" type="radio"/> Server <input type="radio"/> Client	118.169.192.20		4032

## Objects > DPS > ADD

Adding a **DPS** object for **TMV** tunnels on the HQ appliance:

Name

hq\_VPN\_balancing

Backup Pool

None

Algorithm

Weighted Round Robin by Connection

Links

tun\_1, tun\_2

Weight

tun\_1



1

tun\_2



1

Proxy

OK

CANCEL

# Policy Routing > ADD

Set branch subnet here for policy routing.

Priority 7

Highest Lowest

Source  
hq\_LAN +

Destination  
branch\_LAN +

Services  
 Any  Services  Applications

Schedules  
 Always  Custom  
Choose your option +

Pool  
hq\_VPN\_balancing

NAT  
 Smart  Manual  No  
Choose your option

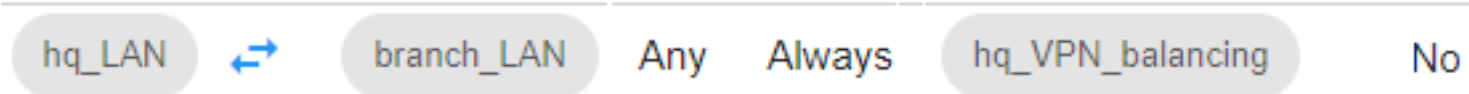
QoS  
Enabled

Comments

**OK** CANCEL

## Policy Routing

Policy Routing for site-to-site VPN load balancing on the HQ office appliance is done as follows:





***Done!***

Check if it works. For example, on the LAN hosts at branch office run the command PING to the hosts at HQ office.