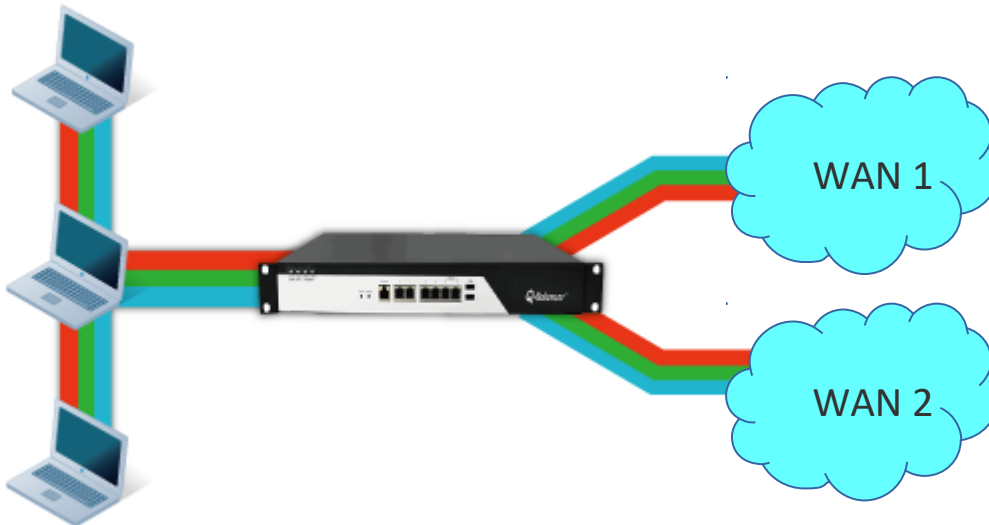




How To Guide: *WAN Load Balancing*

Introduction

Assuming there is a business network with 2 Internet connections, WAN 1 and WAN 2. The following is a simplified version of their network diagram:



On port 1

WAN 1: example_1

IP: 203.67.222.40

Subnet: 203.67.222.40/30

GW:203.67.222.1

On port 2

WAN 2: example_2

IP: 100.100.100.6

Subnet:100.100.100.0/29

GW:100.100.100.1

On port 4

LAN Subnet: 10.168.1.0/24

Interface IP: 10.168.1.254

Requirement

The Q-Balancer appliance is requested to distribute the traffic from LAN to the Internet across both WAN 1 and WAN 2. Meanwhile, when/if one of the WAN links is down, the LAN hosts can still access the Internet.

Solution: WAN Load Balancing

Follow the steps below to configure the appliance:

- 1. WAN > ADD > Static*
- 2. LAN > ADD*
- 3. Object > DPS > ADD > WRR by Connection*
- 4. 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

Down/Up Speed

15.3 / 2.9 Mbps

OK

CANCEL

WAN

WAN configuration 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

LAN_10.168.1.0

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 is done as follows:

LAN

ADD

DELETE

Name	↑↓	Port	↑↓	Interface	↑↓	Subnet	↑↓	Route	↑↓	IP	↑↓
LAN_10.168.1.0		Port 4		eth3_3		10.168.1.0/24		Interface		10.168.1.254	

Objects > DPS > ADD > WRR by Connection

Name

WRRbyConn_DPS

Backup Pool

None

Algorithm

Weighted Round Robin by Connection

Links

example_1, example_2

Weight

example_1



1

example_2



1

Proxy

OK

CANCEL

Dynamic Path Selection (DPS)

DPS configuration is done as follows:

Dynamic Path Selection

ADD	DELETE					
Name	↑↓	Backup Pool	↑↓	Algorithm	↑↓	Information
WRRbyConn_DPS		-		WRRC		example_1 1 example_2 1

Policy Routing > ADD

Priority



Source

LAN_10.168.1.0/24



Destination

Any



Direction

- Both
 Request
 Reply

Services

- Any
 Services
 Applications

Schedules

- Always
 Custom

Choose your option



Pool

WRRbyConn_DPS



NAT

- Smart
 Manual
 No

OK

CANCEL

Policy Routing

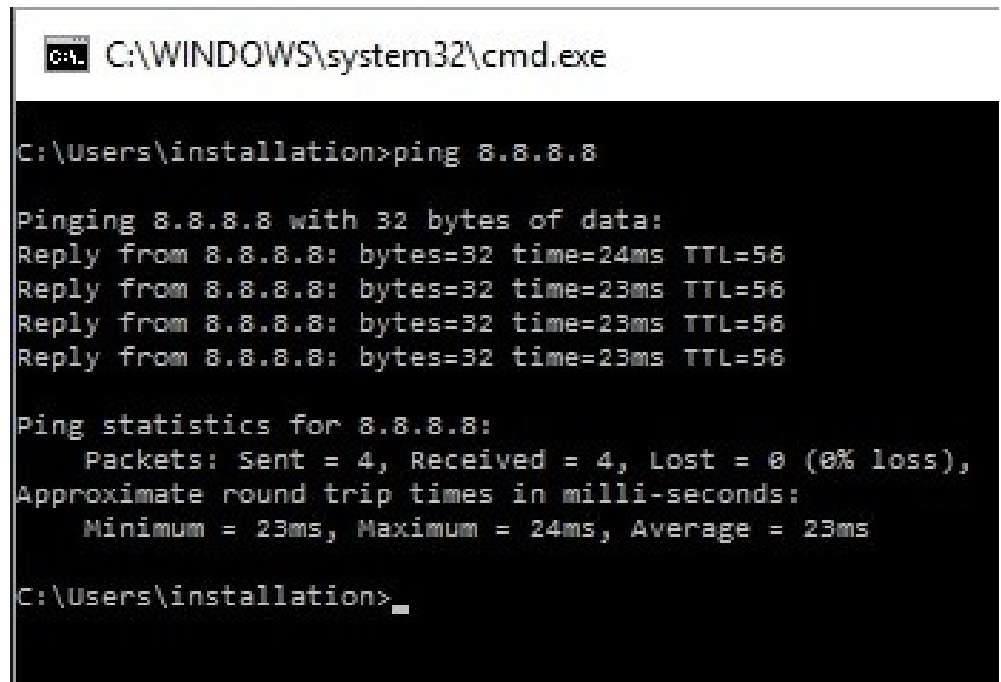
Configuration for Policy Routing is done as follows:

Policy Routing

Priority	Source	Destination	Services	Schedules	Pool	NAT
7	LAN_10.168.1.0/24	Any	Any	Always	WRRbyConn_DPS	Smart

Done!

When policy routing is done, the LAN hosts should be able to access the Internet at this stage.



```
C:\WINDOWS\system32\cmd.exe

C:\Users\installation>ping 8.8.8.8

Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time=24ms TTL=56
Reply from 8.8.8.8: bytes=32 time=23ms TTL=56
Reply from 8.8.8.8: bytes=32 time=23ms TTL=56
Reply from 8.8.8.8: bytes=32 time=23ms TTL=56

Ping statistics for 8.8.8.8:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 23ms, Maximum = 24ms, Average = 23ms

C:\Users\installation>
```

Save or backup the configuration file

Save the **Active** configuration file to **Boot** if you want it to be loaded after a reboot.

The screenshot displays the 'Configuration' interface. On the left, a sidebar contains several action buttons: 'Load', 'Save', 'Delete', 'Backup', and 'Upload'. The 'Save' button is circled in red. An arrow points from this button to the 'Boot' radio button in the configuration list. The configuration list includes several entries, each with a radio button: '20190612', '20190612', '_Bonding_Center_2MPV', '_Bonding_Client_2PPPoE_2MPV', and '_Bonding_Client_2Static_2MPV'. The 'Boot' radio button is selected and circled in red. Another arrow points from this radio button to the 'SAVE' button at the bottom right of the configuration area, which is also circled in red.