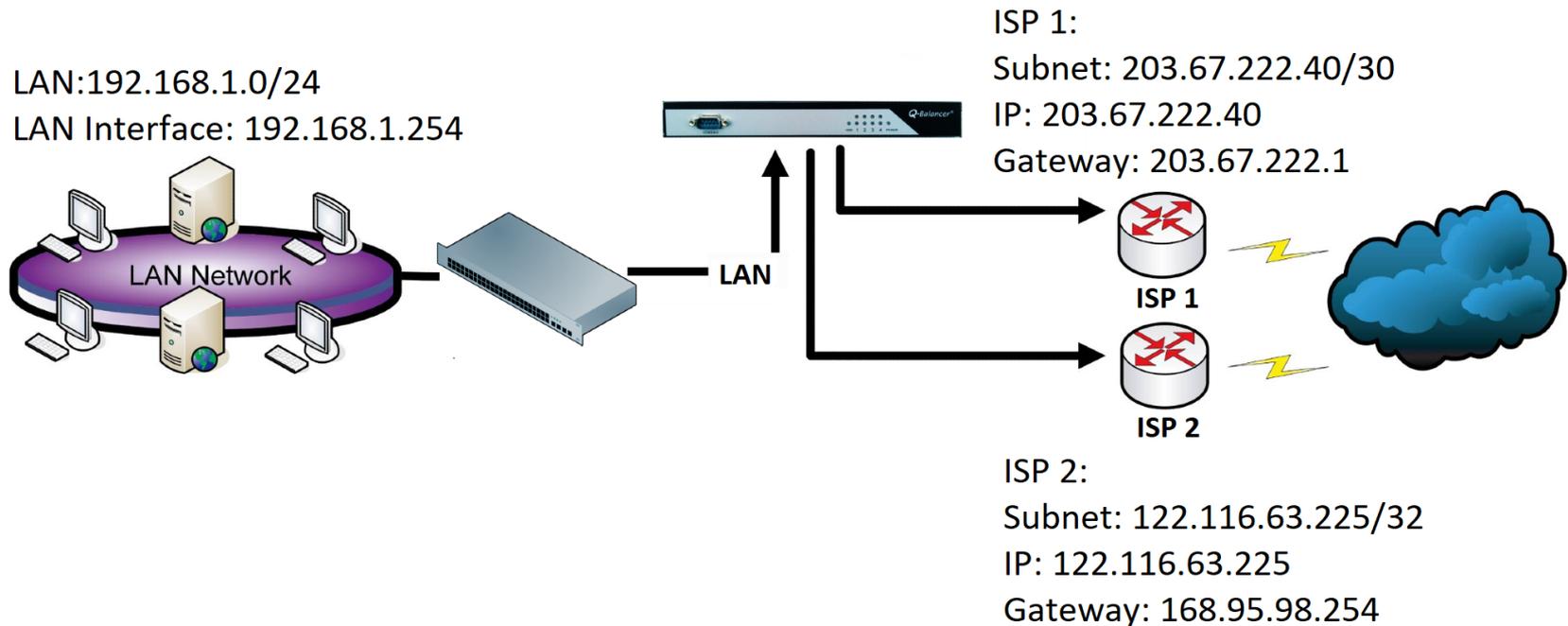




## **How To Guide:** *Inbound Load Balancing & Failover*

## Introduction

Assuming there is a Q-Balancer customer with two WAN link, and the following is their network diagram in simplified version:



The following are the screenshots for the network configuration:

## WAN

The **WAN** configuration is done as follows:

### WAN

ADD ▾		DELETE													
Enabled	Status	Type	↕	Name	↕	Port	↕	Interface	↕	Subnet	↕	IP	↕	Gateway	↕
<input checked="" type="checkbox"/>	✓	Static		SPARQ		Port 1		eth0_1		203.67.222.40/30		203.67.222.40		203.67.222.1	
<input checked="" type="checkbox"/>	✓	PPPoE		HiNet		Port 2		ppp1		122.116.63.225/32		122.116.63.225		168.95.98.254	

## LAN

The **LAN** configuration is done as follows:

### LAN

<b>ADD</b>	<b>DELETE</b>													
Enabled	Name	↑↓	Port	↑↓	Interface	↑↓	Subnet	↑↓	Route	↑↓	IP	↑↓	DHCP	↑↓
<input checked="" type="checkbox"/>	LAN_192.1		Port 4		eth3_5		192.168.1.0/24		Interface		192.168.1.254		✓	

## Objects > DPS

The **DPS** is configured as follows:

### Dynamic Path Selection

[ADD](#)[DELETE](#)**Name****Backup Pool****Algorithm****Information**

WRR\_Hinet\_SPARQ

-

WRRC

SPARQ

1

HiNet

3

## Policy Routing

The **Policy Routing** is configured as follows:

### Policy Routing

ADD		DELETE		Search			
Enabled	Priority ↑↓	Source ↑↓	Destination ↑↓	Services ↑↓	Schedules ↑↓	Pool ↑↓	
<input checked="" type="checkbox"/>	7	LAN_192.168.1.0/24	↔	Any	Any	Always	WRR_Hinet_SPARQ

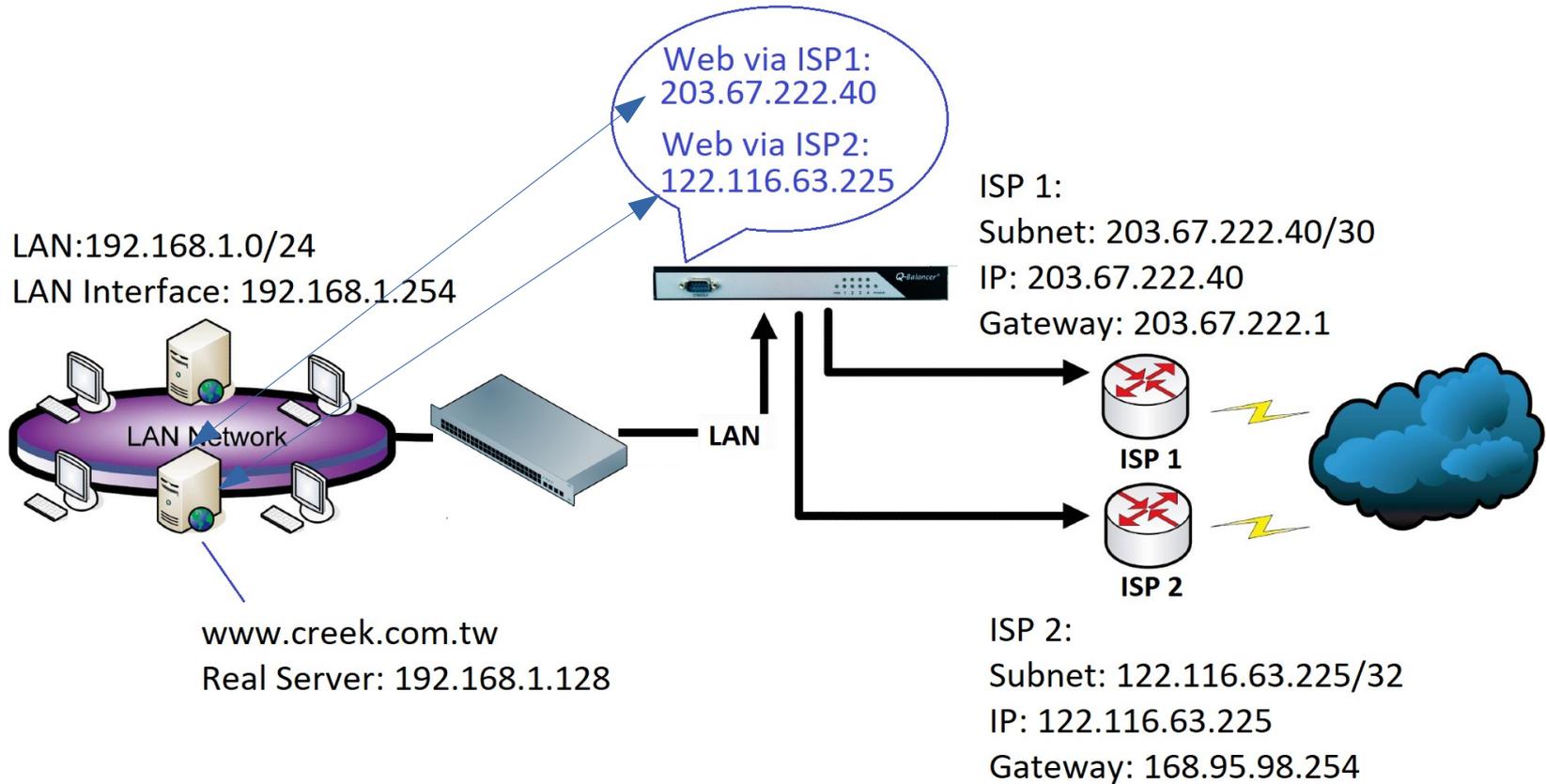
## *Requirement*

Now the Q-Balancer appliance is requested to:

1. Ensure connectivity for incoming requests to web server when/if any one of WAN links fails.
2. Distribute traffic from web server to the Internet across all available paths.

## Solution: Inbound Load Balancing & Failover

The following is the network diagram to be proposed:



Follow the steps below to configure Inbound Load Balancing with the IP details given:

- 1. Server Mapping > ADD (DNS + HTTP)*
- 2. DNS > Multihoming > ADD*

## Server Mapping

Add rules for *domain* and *http* on *Server Mapping* as follows:

Server Mapping										
ADD		DELETE								
Enabled	Source	↑↓	Virtual Server IP	↑↓	Services	↑↓	Real Server IP	↑↓	Real Services	↑↓
<input checked="" type="checkbox"/>	Any		203.67.222.40		domain		Q-Balancer		domain	
<input checked="" type="checkbox"/>	Any		203.67.222.40		http		192.168.1.128		http	
<input checked="" type="checkbox"/>	Any		203.67.222.40		maintain		Q-Balancer		maintain	
<input checked="" type="checkbox"/>	Any		122.116.63.225		domain		Q-Balancer		domain	
<input checked="" type="checkbox"/>	Any		122.116.63.225		http		192.168.1.128		http	
<input checked="" type="checkbox"/>	Any		122.116.63.225		maintain		Q-Balancer		maintain	

## DNS > Multihoming > ADD

Domain

creek.com.tw

TTL (Seconds)

1

Algorithm

Weighted Round Robin by Connection

ISP Selection

HiNet, SPARQ

SPARQ

IP

203.67.222.40

Weight

1

HiNet

IP

122.116.63.225

Weight

1

## DNS > Multihoming > ADD

Record +

	Name	Type	WAN	Priority	Value	MX	NS
	dns	A	SPARQ	10	203.67.222.40	Disabled	<input checked="" type="checkbox"/>
			HiNet	10	122.116.63.225	Disabled	<input checked="" type="checkbox"/>
	www	A	SPARQ	10	203.67.222.40	Disabled	<input type="checkbox"/>
			HiNet	10	122.116.63.225	Disabled	<input type="checkbox"/>

## Done!

- > On your PC, execute the command of *nslookup* for DNS query to the web site.
- > Check if the Q-Balancer appliance replies the DNS query with IP resolved from ISP 1 and 2 accordingly.

```
C: \Users\test>nslookup www.creek.com.tw
Server: dns.google
Address: 8.8.8.8

Name: www.creek.com.tw
Address: 122.116.63.225

C: \Users\test>nslookup www.creek.com.tw
Server: dns.google
Address: 8.8.8.8

Name: www.creek.com.tw
Address: 203.67.222.40

C: \Users\test>nslookup www.creek.com.tw
Server: dns.google
Address: 8.8.8.8

Name: www.creek.com.tw
Address: 122.116.63.225

C: \Users\test>nslookup www.creek.com.tw
Server: dns.google
Address: 8.8.8.8

Name: www.creek.com.tw
Address: 203.67.222.40
```