your future life

Inbound Load Balance

User Manual

Inbound Load Balance

Qno Firewall/Router not only supports efficient Outbound Load Balance, but Inbound Load Balance. It distributes inbound traffic equally to every WAN port to make best use of bandwidth. It also can prevent traffic from unequally distribution and congested. Users can use only one device to satisfy the demand of Inbound/Outbound Load Balance simultaneously.

Following introduces how to enable and setup Inbound Load Balance step by step.

Attention!

In For some models of Qno routers, user can try the function for a period but with time limit. If the function can match your network demand, you can apply for the official version License Key in Qno Official Website (www.qno.com.tw). After applying, auditing, paying and inputting License Key successfully, users can use the official version without time limit.

1. System Tool => License Key => Try to enable "Inbound Load Balance."

After enabling Trial version, "Status and Information" column will display the remaining trial time. If trial expires, the function can not work out at all unless users enter an official License Key.

2. Go to "Inbound Load Balance" in "Advanced Function" and click "Edit" to configure.
3. Enable "Inbound Load Balance."

Inbound Load Balance

Enabled Inbound Load Balance

Domain Name	TTL	Administrator
test.com	7200	test @test.com

DNS Server Settings (NS Record)

Name Server	Interface
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0

Host Record (A Record)

Host Name	WAN IP
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0

Alias Record (CName Record)

Alias	Target
.test.com	.test.com
.test.com	.test.com
.test.com	.test.com
.test.com	.test.com

Mail Server(MX Record)

Host Name	Weight	Mail Server
		.test.com
		.test.com

Apply Cancel

4. Configure Domain Name and Host IP.

Assign DNS service provider and Host IP address. Take the setting on TWNIC as an example, the network structure and IP are as following:

WAN1：ADSL ISP A 210.10.1.1

WAN2：ADSL ISP B 200.1.1.1

Domain Name：abc.com.tw

Name Server(NS)：ns1.abc.com.tw /ns2.abc.com.tw

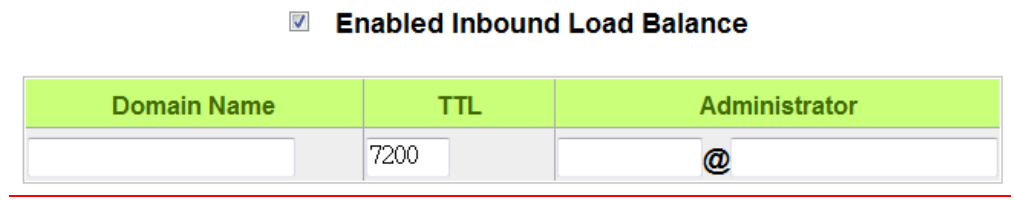
Go to website of your DNS service provider to modify your own DNS Host/IP, as the following figure:

Choose DNS mode, and then fill in the Host name and corresponding IP address of WAN1 and WAN2. Press **"Finish"** button, the setting will be effective in 24 hours.

Attention!

Please follow your ISP to modify Host/IP assignment if your upper level isn't TWNIC! If your DNS agent is other ISP, please refer to the Web configuration provided by your ISP!?

5. Configure Firewall/Router Domain Name



Domain Name:	Input the Domain Name which is applied before. The domain name will be shown in following configuration automatically without entering again.
Time To Live:	Time To Live (the abbreviation is TTL) is time interval of DNS inquiring (second, 0~65535). Too long interval will affect refresh time. Shorter time will increase system's loading, but the effect of Inbound Load Balance will be more correct. You can adjust according your reality application.
Administrator:	Enter administrator's E-mail address, e.g. test@abc.com.tw.

6. DNS Server Settings: Add or Modify NS Record. (NS Record)

NS Record is the record of DNS server to assign which DNS server translates the domain name.

DNS Server	Input registered NS Record, ex. ns1, ns2.
Interface:	Assign WAN IP address as corresponding IP of NS Record. The system will show all acquired enabled WAN IP addresses automatically so that users can check directly. But users have to check if the IP addresses are the same as the corresponding settings on TWNIC DNS service provider. (Ex. ns1.abc.com.tw ⇔ WAN1: 210.10.1.1, ns2.abc.com.tw⇔WAN2: 200.1.1.1)

7. Host Record: Add or modify host record. (A Record)

Host Record (A Record)

Host Name	WAN IP
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0
.test.com	WAN 1:192.168.4.164 WAN 2:0.0.0.0 WAN 3:0.0.0.0 WAN 4:0.0.0.0

Host Name:	Input the host name which provides services. E.g. mail server or FTP.
WAN IP:	Check corresponding A Record IP (WAN Port IP). If more than one IPs is checked, Inbound traffic will be distributed on this WANs.

8. Alias Record : Add or modify alias record (CNAME Record)

This kind of record allows you to assign several names to one computer host, which may provide several services on it.

For instance, there is a computer whose name is "host.mydomain.com" (A record). It provides WWW and Mail services concurrently. Administrator can configure as two CNAME: WWW and Mail. They are "www.mydomain.com" and "mail.mydomain.com". They are both orientated to "host.mydomain.com."

You can also assign several domain names to the same IP address. One of the domains will be A record corresponding server IP, and the others will be alias of A record domain. If you change your server IP, you don't have to modify every domain one by one. Just changing A record domain, and the other domains will be assigned to new IP address automatically.

Alias Record (CName Record)

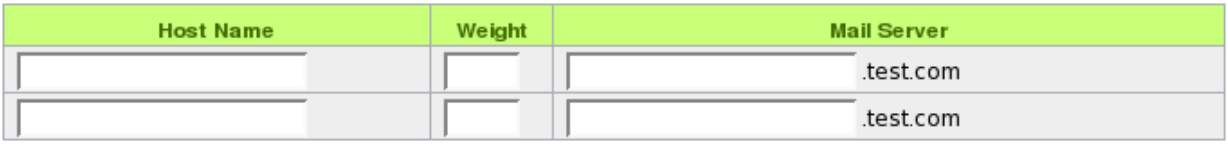
Alias	Target
.test.com	.test.com
.test.com	.test.com
.test.com	.test.com
.test.com	.test.com

Alias:	Input Alias Record corresponding to A Record.
Target:	Input the existed A Record domain name.

9. Mail Server: Add or modify mail server record.

MX Record is directed to a mail server. It orientates to a mail server according to the domain name of an E-mail address. For example, someone on internet sends a mail to user@myhomain.com. The mail server will search MX Record of mydomain.com through DNS. If the MX Record exists, sender PC will send mails to the mail server assigned by MX Record.

Mail Server(MX Record)



Host Name:	Display the host name without domain name of mail host.
Weight:	Indicate the order of several mail hosts, the smaller has more priority.
Mail Server:	Input the server name which is saved in A Record or external mail server.

Click **"Apply"** button to save the configuration. Besides, users have to configure DNS service port as following description.

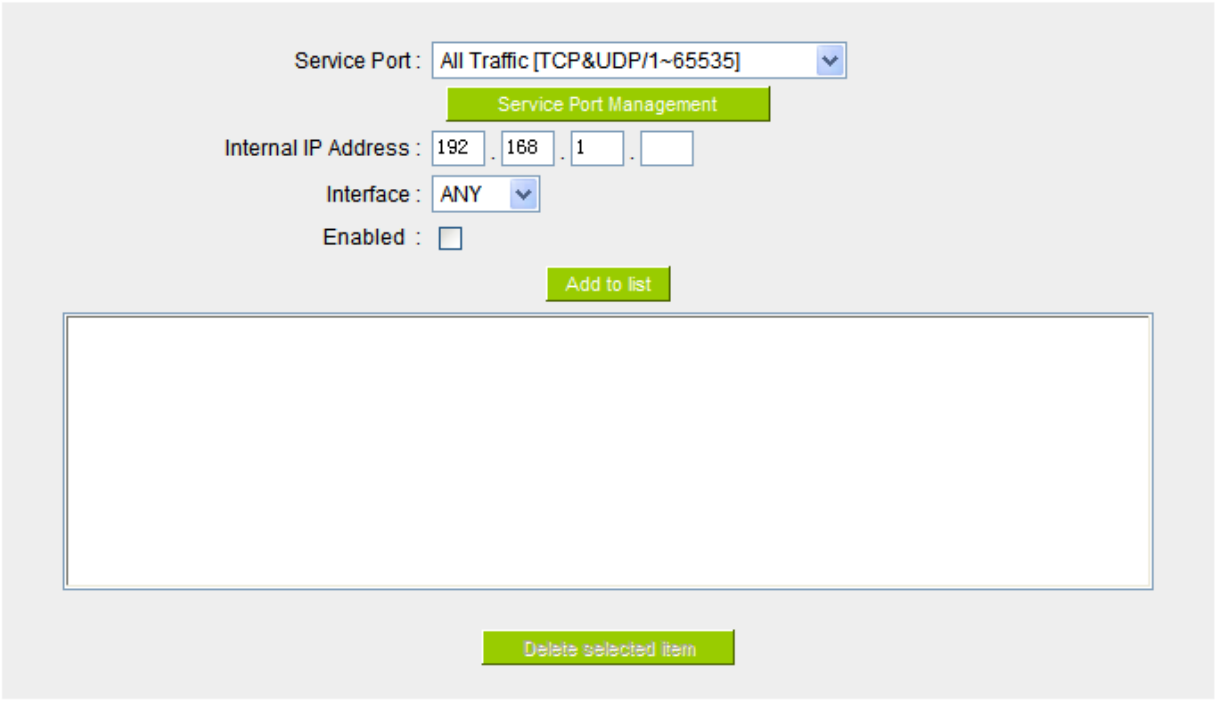
10. Enable DNS Query (DNS service port) in Access Rule of Firewall setting.

Add a new access rule in Firewall setting to enable DNS service port of the WAN on which Inbound Load Balance need to be enabled.

Action:	Check "Allow".
Service Port:	From the drop-down menu, select "DNS [UDP/53~53]."
Log:	Check "Enable" if DNS Query data should be recorded.
Interface:	Check the WAN port on which Inbound Load Balance is enabled.
Source IP:	Select "Any".
Dest. IP:	Select WAN port and input correspondingly IP of the domain name. Take the previous example, input 210.10.1.1.
Scheduling:	Select "Always".

11. Enable internal IP and service port corresponding to A Record in Port Range Forwarding of Advanced Function.

Port Range Forwarding



Service Port:	Activate the service port of A Record server, e.g. SMTP [TCP/25~25] for Mail.
Internal IP:	Input the internal IP of A Record, e.g. 192.168.8.100 of Mail server.
Interface:	Select the WAN port of A Record and corresponding IP.
Enable:	Activate the configuration.
Add to List:	Add to the active service content.