

*EdgeXOS Platform Notes*

# **XRoads** Networks

Edge Network Appliance Platform Notes

EdgeXOS Server Load Balancing

## **Server Load Balancing Setup / Overview**

The EdgeXOS appliance has the ability to load balance TCP based applications across multiple servers using a simple configuration process. The server balancing is done in a round-robin basis and will automatically detect a server failover based on ICMP testing.

The server load balancing service provides a simple way to balance traffic (typically web traffic) across multiple servers and provide an automated failover process in the event that one of the servers should fail.

The server load balancing module accepts up to ten server addresses with each server being assigned a new connection request in round-robin order. The load balancer includes session persistence which ensures that once a session is established that it continues to use the same server until the session times out.

Note: The server load balancer failover process takes approx. 30-60 seconds. Each WAN address is automatically configured to use the server load balancing feature when enabled, so each of the primary WAN addresses will load balance incoming sessions for the defined port.

**Server Group Name:** This is the name you wish to assign to a new group. This name is only used for management purposes and can be anything you like, i.e. WebFarm, etc.

**Port Assignment:** This is the application port designation that will be balanced. This port must be between 1 and 65000 and can only be TCP/IP-based. UDP applications cannot be load balanced. Examples include: web services (port 80), email services (port 25), etc. Multi-port services cannot be load balanced at this time. This service was really designed for balancing web-based traffic.

**Server Addressing:** This is the IP address to which new sessions will be balanced, up to ten addresses can be defined. Example: 10.10.10.1 and 10.10.10.2, etc.

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Home Interfaces Shaping **NetBalancing** Firewall Site2Site Tools Reporting

**Edge2WAN Traffic Shaper** This is the NetBalancing control panel, from here you can control how inbound network address translation is enabled on any of your WAN interfaces. Example: If you are using 192.168.168.0/24 space for your LAN and your web server is located at 192.168.168.10, then you would create a services rule to pass all inbound web services via web port 80 to 192.168.168.10. Make sure to Save any changes made in this section or they will be lost upon reboot.

E2W55XV  
XOS Version 4.0 Build 137

**NetBalancing Selection:** Server Balancing

**Server Group:**

(Enter the name of this server grouping)

(Enter the TCP port to be shared by this group)

(IP Address - Server1)

(IP Address - Server2)

(IP Address - Server3)

(IP Address - Server4)

**Group Information:**

(IP Address - Server5)

(IP Address - Server6)

(IP Address - Server7)

(IP Address - Server8)

(IP Address - Server9)

(IP Address - Server10)

Reset Add / Update View Groups >>

In the example below we show how to easily create a server load balancing policy in order to balance web traffic across three servers and automatically failover in the event of a server outage.

Step 1) Goto the NetBalancing tab and select the Server Load Balancing menu

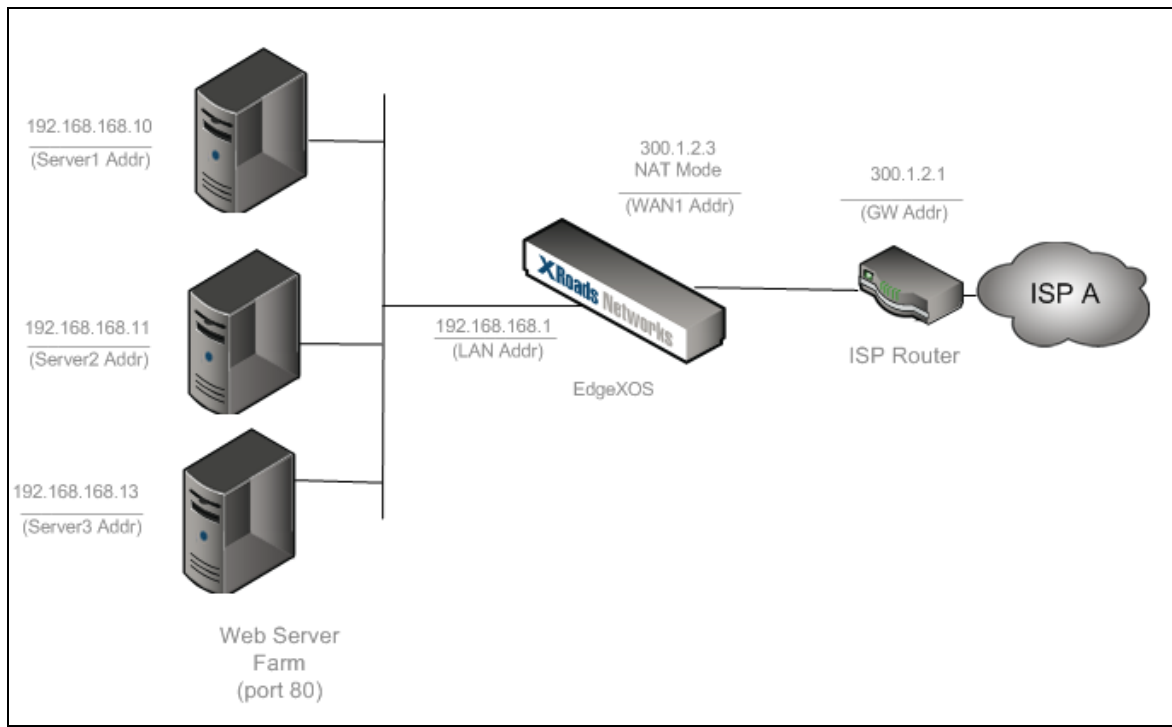
Step 2) Enter the Group Name (example WebFarm)

Step 3) Enter the TCP/IP port to be used (example port 80)

Note: The port must be for an IP application which uses a TCP between 1 and 65000.

Step 4) Enter the server address for each server that will be in the round-robin group.

Step 5) Click the Add/Update button to initialize the group.



#### TESTING:

Use the following steps to test the server farm configuration

- Step 1) Create a DNS rule which forwards all traffic for "test.yourdomain.com" to 300.1.2.3
- Step 2) Initiate a web connection to "test.yourdomain.com", you should get a response.
- Step 3) Disable one of the web servers, the next web server should then be used.
- Step 4) Re-enable all of the web servers, all servers should again be accessible.

#### Troubleshooting:

- Make sure that your DNS is setup correctly, if using ActiveDNS see the ActiveDNS guide for the proper configuration.
- Make sure that there are no firewall rules preventing access to port 80 on any of the associated WAN IP addresses. By default all inbound connectivity is blocked if the firewall is enabled.
- Make sure that each of your servers is accepting inbound connections on the defined port. This can be done by doing internal tests to each of the server addresses.
- Make sure that each of the WAN ports that you are testing on the EdgeXOS appliance is active. If a WAN port is inactive it will not allow incoming server load balancing via that WAN links IP address.
- Make sure that the port being forwarded is the correct port and that the defined server IP addresses are also correct.