Layer 3 Switch for Microsoft Network Load Balancing in Multicast Mode Configuration Example

Created at 2010/05/30

Introduction to Microsoft Network Load Balancing

Network Load Balancing, a clustering technology included in the Microsoft Windows 2000 Advanced Server and Datacenter Server operating systems, enhances the scalability and availability of mission-critical, TCP/IP-based services, such as Web, Terminal Services, virtual private networking, and streaming media servers. This component runs within cluster hosts as part of the Windows 2000 operating system and requires no dedicated hardware support. To scale performance, Network Load Balancing distributes IP traffic across multiple cluster hosts. It also ensures high availability by detecting host failures and automatically redistributing traffic to the surviving hosts.
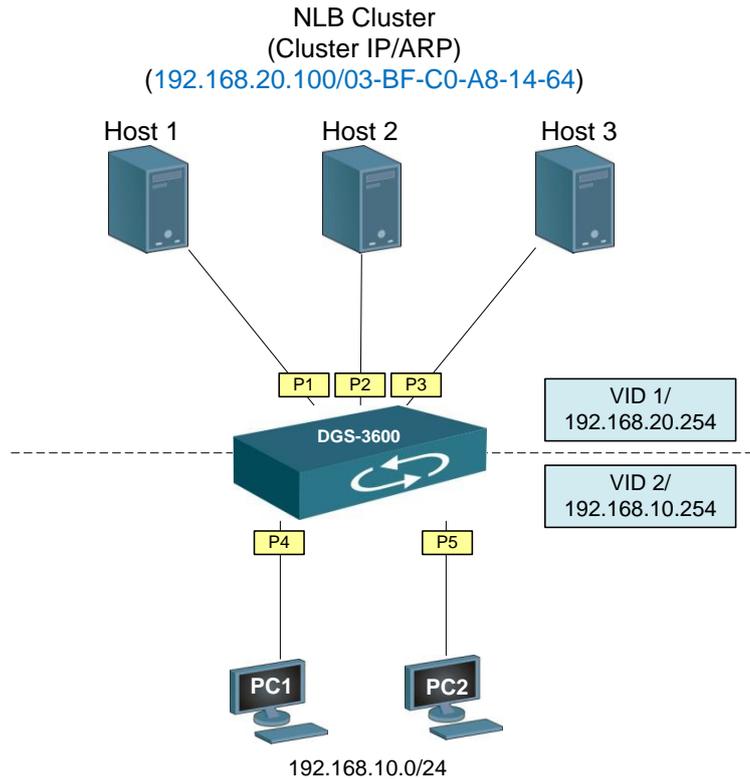
Multicast Mode

If you select Multicast mode in MS NLB configuration, NLB cluster member will respond to ARP for their virtual IP address using a multicast MAC address for example 03-bf-c0-a8-14-64. This issue arises when client from outside the local network since switch not accept dynamic learning ARP with multicast address. To overcome this problem, create static ARP of virtual IP address of MS NLB cluster.

Topology

In Figure-1, User in PC1 send packet to MS clusters. The ARP of virtual IP address is 03-bf-c0-a8-14-64.

Figure-1

NLB Cluster
(Cluster IP/ARP)
(192.168.20.100/03-BF-C0-A8-14-64)

Host 1   Host 2   Host 3

P1   P2   P3

DGS-3600

VID 1/
192.168.20.254

VID 2/
192.168.10.254

P4   P5

PC1   PC2

192.168.10.0/24

Configuration

The following procedure is required:

#	Command	Description
1	create arpentry <ipaddr> <macaddr>	Create static ARP entry

The following is the example in this scenario,

Switch Configuration

#ARP

create arpentry 192.168.20.100 03-BF-C0-A8-14-64

Verification

SwitchA:admin#**show arpentry static**

Command: show arpentry static

 ARP Aging Time : 5

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Interface          IP Address          MAC Address          Type
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                 192.168.20.100     03-BF-C0-A8-14-64    Static
```

Total Entries: 1

#	Command	Description
1	show arpentry static	Show static ARP entry

Reference

- [Network Load Balancing Technical Overview](#)