

Re: NLB with Catalyst switches

Source:

<http://www.tech-archive.net/Archive/Windows/microsoft.public.windows.server.clustering/2005-04/msg00157.html>

- *From:* "Ryan Sokolowski [Avanade]" <ryan@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Wed, 6 Apr 2005 11:09:23 -0700
-

Harrison,

Gerald is correct in recommending that you configure your NLB Cluster to use 2 NICs and then use a VLAN to isolate the switch flooding that you're experiencing.

Here are some steps that I've written and shared here before for configuring a 2-NIC NLB Cluster; I hope this helps you reconfigure things in your maintenance window more quickly and get home to relax!

—Ryan

How-To: Configure Network Load Balancing (NLB) with Two Network Adapters

1.. Assign appropriate IP addresses to each NIC, placing them in separate subnets.

· Node1 –

o "Public" NIC

§ IP address: 10.10.2.17

§ Subnet: 255.255.255.0

§ Gateway: 10.10.2.1

§ DNS: as appropriate

o "NLB" NIC

§ IP address: 192.168.1.1

§ Subnet: 255.255.255.0

§ Gateway: N/A

§ DNS: N/A

· Node2 –

o "Public" NIC

§ IP address: 10.10.2.18

§ Subnet: 255.255.255.0

§ Gateway: 10.10.2.1

§ DNS: as appropriate

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- o "NLB" NIC

- § IP address: 192.168.1.2

- § Subnet: 255.255.255.0

- § Gateway: N/A

- § DNS: N/A

2.. On the "Public" NICs, click "Advanced" and add an additional IP address as the Virtual IP Address which clients will connect to from the Public network (i.e. – 10.10.2.177)

3.. Install "Network Load Balancing" as an additional service from the "Public" adapter properties.

a.. Click "Install.." and then select "Service" in the upper–window and click "Add."

b.. Select "Network Load Balancing" in the upper–window and click "OK"

c.. Answer any prompts and provide the correct path to installation media.

4.. Once NLB is installed, return to the Properties page for the "Public" NIC and select the check–box next to "Network Load Balancing." This enables the service globally.

5.. Next, select the item "Network Load Balancing" and click "Properties"

6.. Configure the NLB Cluster properties according to your parameters, using the following example steps as a guide.

· Node1 –

- o "Public" NLB Cluster Parameters tab

- § Primary IP address: 10.10.2.177

- § Subnet: 255.255.255.0

- § Full Internet Name mail.domain.com

- o "Public" NLB Host Parameters tab

- § Priority: 1

- § Dedicated IP address: 10.10.2.17

- § Subnet: 255.255.255.0

· Node2 –

- o "Public" NLB Cluster Parameters tab

- § Primary IP address: 10.10.2.177

- § Subnet: 255.255.255.0

- § Full Internet Name mail.domain.com

- o "Public" NLB Host Parameters tab

- § Priority: 2

- § Dedicated IP address: 10.10.2.18

- § Subnet: 255.255.255.0

7.. MultiCast support can be optional in this configuration.

8.. You can also now take time to create a static Host record (A record) in your scenario's DNS infrastructure to provide appropriate name resolution to the NLB cluster name (i.e. – mail.domain.com or just mail).

9.. Your NLB cluster should be up and running.

10.. An external client should now be able to ping the IP address of the

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NLB cluster (i.e. – 10.10.2.177) as well as each of the individual node addresses (i.e. – 10.10.2.17 & –.18).

11.. Many good diagnostic commands can be found by typing "wlbs /?" in a command window. For example, "wlbs query" shows the status and convergence state of the cluster.

12.. IMPORTANT NOTE: In this configuration, each individual node is NOT able to ping the other node's Public physical IP address (i.e – 10.10.2.17 cannot ping 10.10.2.18 and vice-versa). I believe this is expected behavior, as the NLB cluster is now responding to requests on the Virtual Cluster address (i.e. – 10.10.2.177).

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"A troubleshooter's best tool is the Event Viewer and understanding the events and messages contained therein."

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"Harrison Midkiff" <HMidkiff@xxxxxxxxxxx> wrote in message
news:%23SqtgrOFHA.3144@xxxxxxxxxxxxxxxxxxxxxxxxxxxx

> Gerald:

>

> Thanks for replying to my post.

>

> So I guess I was heading in the right direction. It looks like I will not
> be able to stop the flooding issue on the switch so I will have to isolate
> it to a separate VLAN and place my NLB TS servers in it. When the
> flooding occurs it will only effect the NLB TS servers. I am still leery
> of what this will do to the users sessions when it happens.... In
> addition I assume I should reconfigure to multicast and add a 2nd NIC to
> the servers. So the NIC configuration should be as follows

>

> NIC 1

> NLB – ENABLED

> Server IP Address – 10.1.1.7

> Cluster IP Virtual Address – 10.1.1.6

> Default Gateway – BLANK

>

> NIC 2

> NLB – *** NOT ENABLED ***

> Server IP Address – 10.1.1.8

> Cluster IP Virtual Address – 10.1.1.6

> Default Gateway – Configured

>

> This should allow traffic to be received on NIC 1 and sent back on NIC 2

> if I understand correctly. Any more advice you have would be greatly

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> appreciated. I have a maintenance window tomorrow night and I am going to
> reconfigure everything then.
>
> Thanks again...
>
> Harrison Midkiff
>
>
> "Gerald Aigenbauer" <ga@xxxxxx> wrote in message
> news:uUMhaSqOFHA.2748@xxxxxxxxxxxxxxxxxxxxxxxxxxxx
>> hi harrison!
>>
>> you have two possibilities: configuring a vlan for the both network card
>> ports on the cisco switches, or you use a switch for the two cluster nlb
>> nodes only. in both cases you connect the new formed network via l3
>> routing interface (l3 switch oder router) to the rest of your network
>> infrastructure.
>>
>> look here for some extra information: Installing NLB on a Dual-NIC System
>> with seperated Heartbeat
>>
>> gerald aigenbauer.
>>
>> "Harrison Midkiff" <HMidkiff@xxxxxxxxxx> schrieb im Newsbeitrag
>> news:ef08UNqOFHA.1172@xxxxxxxxxxxxxxxxxxxxxxxxxxxx
>>> Hello:
>>>
>>> I have recent upgraded my network and deployed Cisco switches with VLAN,
>>> trunking and EtherChannels. After a few days I started experiencing
>>> brief periods where all network traffic would bog down. After
>>> performing several sniffs I was able to determine the problem was my 2
>>> NLB TS servers. Due to both servers having the same virtual MAC address
>>> I am getting unicast flooding when there is an ARP request for the MAC
>>> address of the virtual IP address assigned to the NLB. Currently my NLB
>>> servers are in unicast mode and I am using 1 NIC. I thought using a
>>> second NIC and reconfiguring to multicast would correct this problem but
>>> it does not. The switch flooding issue still has the potential to
>>> reoccur.
>>>
>>> I have read over a dozen TechNet articles on configuring NLB but they do
>>> not go into enough detail when it comes to the ARP requests regarding
>>> the virtual MAC and switches. I read a blurg in "Intro MS Windows
>>> Server 2003" which talked about switch flooding and said to place the
>>> severs on there own VLAN. With all the reading I have been doing for
>>> best performance I should use 2 NICs.
>>>
>>> Is creating a new VLAN for these servers my best option? Is there
>>> something better? Does anyone know of the best way to reconfigure this
>>> for performance and good TechNet articles?
>>>
>>> Harrison Midkiff

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>>
>
>

• **References:**

- ◆ **NLB with Catalyst switches**
 - ◇ *From:* Harrison Midkiff
 - ◆ **Re: NLB with Catalyst switches**
 - ◇ *From:* Gerald Aigenbauer
 - ◆ **Re: NLB with Catalyst switches**
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