CHAPTER 7

Configuring Network Load Balancing for vEthernet

This chapter includes the following sections:

Information About Microsoft Network Load Balancing

Microsoft NLB is a clustering technology offered by Microsoft as part of the Windows server operating systems. Clustering enables a group of independent servers to be managed as a single system for higher availability, easier manageability, and greater scalability.

For more information about Microsoft Network Load Balancing. See this URL:

http://technet.microsoft.com/en-us/library/bb742455.aspx

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Configuring vEths for Running Microsoft Load Balancing in (Default) Unicast Mode

This section includes the following topics:

Guidelines and Limitations

- **no mac auto-static-learn** config is not supported on PVLAN ports.
- **no mac auto-static-learn** config is not supported on the ports configured with **switchport port-security mac-address sticky**.
- On Microsoft Network Load Balancing (MS-NLB) enabled vEthernet interfaces , Unknown Unicast Flood Blocking (UUFB) does not block MS-NLB related packets. In these scanarios, UUFB can be used to limit flooding of MS-NLB packets to non-MS-NLB ports within a VLAN.

Configuring Microsoft Network Load Balancing Support in Interface Configuration Mode

You can configure Microsoft Network Load Balancing in interface configuration mode.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

Note Make sure that the Cisco Nexus 1000V is configured before you configure Microsoft NLB on Windows virtual machines (VMs).

- You are logged in to the CLI in EXEC mode.
- Unicast is the default Microsoft Network Load Balancing mode of operation.
- Microsoft NLB replaces the MAC address of each server in the cluster to a common Microsoft NLB MAC address.

SUMMARY STEPS

1. **configure termina**l
2. **show running-config interface** *veth number*
3. **int veth 1**
4. **[no] mac auto-static-learn**
5. (Optional) **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	**configure terminal** **Example:** n1000v# configure terminal n1000v(config)#	Enters global configuration mode.
Step 2	**show running-config interface** <veth number> **Example:** show running-config interface Vethernet1	Displays the vEth configuration to determine if **no mac auto-static-learn** is configured or not.
Step 3	**int veth 1** **Example:** n1000v(config)# int veth 1	Sets interface configuration mode on vEthernet modules.
Step 4	**[no] mac auto-static-learn** **Example:** n1000v(config-if)# no mac auto-static-learn	Toggles the auto-mac-learning on vEthernet modules.
Step 5	**copy running-config startup-config** **Example:** n1000v(config)# copy running-config startup-config	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

EXAMPLES

The following example shows how to configure Microsoft Network Load Balancing directly on vEthernet:

```
n1000v(config)# int vethernet 1
n1000v(config-if)# no mac auto-static-learn
n1000v(config-if)#

n1000v(config-if)# show run int vethernet 1

!Command: show running-config interface Vethernet1
!Time: Tue Nov 15 19:01:36 2011

version 4.2(1)SV1(5.1)

interface Vethernet1
  inherit port-profile vm59
  description stc3, Network Adapter 2
  no mac auto-static-learn
  vmware dvport 34 dvswitch uuid "ea 5c 3b 50 cd 00 9f 55-41 a3 2d 61 84 9e 0e c4"
  vmware vm mac 0050.56B3.0071
```

The following example shows how to unconfigure Microsoft Network Load Balancing directly from vEthernet:

```
n1000v(config)# int vethernet 1
n1000v(config-if)# mac auto-static-learn
```

```
n1000v(config)# show run int vethernet 1

!Command: show running-config interface Vethernet1
!Time: Tue Nov 15 19:01:52 2011

version 4.2(1)SV1(5.1)

interface Vethernet1
  inherit port-profile vm59
  description stc3, Network Adapter 2
  mac auto-static-learn
  vmware dvport 34 dvswitch uuid "ea 5c 3b 50 cd 00 9f 55-41 a3 2d 61 84 9e 0e c4"
  vmware vm mac 0050.56B3.0071

n1000v(config)#
```

Configuring Microsoft Network Load Balancing in Port Profile Configuration Mode

You can configure Microsoft Network Load Balancing in port profile configuration mode.

BEFORE YOU BEGIN

Before beginning this procedure, you must know or do the following:

Note Make sure that the Cisco Nexus 1000V is configured before you configure Microsoft NLB on Windows virtual machines (VMs).

- You are logged in to the CLI in EXEC mode.
- Unicast is the default Microsoft Network Load Balancing mode of operation.
- Microsoft Network Load Balancing replaces the MAC address of each server in the cluster to a common Microsoft NLB MAC address.

SUMMARY STEPS

1. **configure terminal**
2. **show running config port-profile** <*profile name*>
3. **port-profile type vethernet ms-nlb**
4. **[no] mac auto-static-learn**
5. (Optional) **copy running-config startup-config**

DETAILED STEPS

	Command	Purpose
Step 1	**configure terminal** **Example:** n1000v# configure terminal n1000v(config)#	Enters global configuration mode.
Step 1	**show running config port-profile** <profile name> **Example:** n1000v(config)#show running config port-profile <profile name>	Displays the port profile configuration to determine if **no mac auto-static-learn** is configured or not.
Step 2	**port profile type vethernet ms-nlb** **Example:** n1000v(config)# port profile type vethernet ms-nlb	Sets port profile configuration mode on vEthernet modules.
Step 3	**[no] mac auto-static-learn** **Example**: n1000v(config-if)# no mac auto-static-learn	Toggles the auto-mac-learning on vEthernet modules.
Step 4	**copy running-config startup-config** **Example:** n1000v(config)# copy running-config startup-config	(Optional) Saves the running configuration persistently through reboots and restarts by copying it to the startup configuration.

EXAMPLES

The following example shows how to configure Microsoft Network Load Balancing in port profile mode:

```
n1000v(config)# port-profile type vethernet ms-nlb
n1000v(config-port-prof)#   vmware port-group
n1000v(config-port-prof)#   switchport mode access
n1000v(config-port-prof)#   switchport access vlan 59
n1000v(config-port-prof)#   no mac auto-static-learn
n1000v(config-port-prof)#   no shutdown
n1000v(config-port-prof)#   state enabled
n1000v(config-port-prof)#

n1000v(config-port-prof)# show run port-profile ms-nlb

!Command: show running-config port-profile ms-nlb
!Time: Tue Nov 15 19:00:40 2011

version 4.2(1)SV1(5.1)
port-profile type vethernet ms-nlb
  vmware port-group
  switchport mode access
  switchport access vlan 59
  no mac auto-static-learn
  no shutdown
  state enabled
```

The following example shows how to unconfigure Microsoft Network Load Balancing on vEthernet in port profile mode:

```
n1000v(config)# port-profile type vethernet ms-nlb
n1000v(config-port-prof)# mac auto-static-learn

n1000v(config-port-prof)# show run port-profile ms-nlb

!Command: show running-config port-profile ms-nlb
!Time: Tue Nov 15 19:01:05 2011

version 4.2(1)SV1(5.1)
port-profile type vethernet ms-nlb
  vmware port-group
  switchport mode access
  switchport access vlan 59
  mac auto-static-learn
  no shutdown
  state enabled
```

Feature History for Microsoft Network Load Balancing for Ethernet

This section provides the release history for Network Load Balancing for Ethernet.

Table 7-1 Feature History for Network Load Balancing for Ethernet

Feature Name	Releases	Feature Information
Network Load Balancing	4.2(1)SV1(5.1)	This feature was introduced.