Using HP ProLiant Network Teaming Software with Microsoft® Windows® Server 2008 Hyper-V or with Microsoft® Windows® Server 2008 R2 Hyper-V

HOWTO, 4TH Edition

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Introduction

HP ProLiant Network Teaming Software lets your ProLiant systems running Microsoft® Windows® Server 2008 Hyper-V take advantage of HP network controller teaming technology.

NIC teaming means grouping several physical NICs into a single logical NIC. NIC teaming enhances fault tolerance by increasing availability of a server’s network connection. Multiple network paths let you balance network traffic for better performance.

Microsoft Windows Server 2008 Hyper-V is a scalable, hypervisor-based virtualization platform for provisioning and managing virtual server workloads. NIC teaming and virtualized platforms can work together to increase efficiency of large-scale enterprise systems.

This HOWTO paper defines a step-by-step procedure for installing the software and implementing NIC teaming.

Software requirements

Using NIC teaming on an HP ProLiant server in a Hyper-V environment requires the following software:

- HP ProLiant Network Teaming Software: HP Network Configuration Utility (NCU) version 10.10 or greater. It is in HP ProLiant Support Pack (PSP) 8.60 on the HP SmartStart CD. It is also available from [http://www.hp.com](http://www.hp.com).
- Microsoft Windows Server 2008 Hyper-V

Before installing the teaming software, verify HP ProLiant server support: Refer to the HP paper “Implementing Microsoft Windows Server 2008 Hyper-V on HP ProLiant Servers.”

Order of installation

You must install and enable the software in the following order:

1. Install and enable the latest version of Hyper-V from Microsoft.
   
   Review and install the appropriate Windows updates and hot fixes identified at “Hyper-V Update List for Windows Server 2008” and “Hyper-V Update List for Windows Server 2008 R2.”
   
   Using Windows Server 2008 R2 Server Core or Microsoft® Hyper-V™ Server 2008 R2 requires you to install the hot fix “Windows Server 2008 R2 Server Core.”

2. Install and enable the HP ProLiant Network Teaming Software.
NOTES
If you install the teaming software before installing HyperV, the network adapters may stop passing traffic. To resolve this issue, uninstall both the HP teaming software and Hyper-V and then reboot the server. Reinstall Hyper-V and then the teaming software.

There is no known method of uninstalling HP ProLiant Teaming software on machines running Windows Server 2008 Server Core. We are developing a tool for removing the teaming software. It will be available on the HP website in the future. We recommend that you configure any machine that will run Server Core, Hyper-V, and teaming during the initial installation using the order of installation described above.

Uninstalling teaming software
1. In Windows, select Start > Control Panel.
2. Double-click on the Network Connections icon. The Network Connections window appears as shown below.
3. Right-click any Local Area Connection icon and select Properties.
4. In the list of protocol and services, select HP Network Configuration Utility and click Uninstall.
5. After you uninstall the utility, the operating system typically asks if you want to reboot the server. Click Yes.
6. After the system reboots, no instances of a teamed device should appear in the Network Control panel. No references to the HP Network Configuration Utility should appear on the property sheet (shown below).

![Network Connections Panel](image)

7. If Hyper-V has been installed on the system, uninstall it now.

After removing the HP Network Configuration Utility and Hyper-V from the system, begin the re-installation. Install and enable Hyper-V first; then install the HP Network Configuration Utility.
Creating an HP Network Team

Once you have installed the HP Network Configuration Utility, a network team may not be created if you selected any of the network interfaces to be configured as part of a team under HP Network Configuration Utility during the installation of Hyper-V. To create an HP Network Team, proceed as follows.

1. If any network interfaces were selected during the installation of Hyper-V, remove them from the Virtual Network Manager: Select the interface in the left hand navigation screen and click the remove button.

2. Once you have removed all intended network interfaces from the navigation window, click OK to apply the changes. A confirmation pop-up will appear to confirm the changes to the Microsoft Virtual Network; click Yes to continue.

3. With the installation of Hyper-V, Microsoft installs and binds the Microsoft Virtual Network Switch Protocol to the network interfaces. You must de-select this in the properties window for each network interface to be configured as part of a team in HP Network Configuration Utility.
If the Microsoft Virtual Network Switch Protocol is selected and enabled in the properties screen for any of the network ports, the Team, Dissolve, and VLAN options will not be available in HP Network Configuration Utility, as shown below.
4. With all of the desired network interfaces un-bound from the Microsoft Virtual Network Switch Protocol in the properties screen, the Team, Dissolve, and VLAN options will be available in HP Network Configuration Utility. To create the network team, select the network interfaces desired to be used in the team, and click on Team.

5. The NCU window then displays the network team as shown below. To save and apply the new network team, click OK.
6. Once the network configuration changes have completed, you can access the Microsoft Virtual Network Manager within Hyper-V and configure the HP Network Team for use in Hyper-V. After making all necessary configuration options in the Microsoft Virtual Network Manager, click **OK** to save the configuration.
After the Microsoft Virtual Network Manager has applied all configuration changes for the HP Network Team selected, the properties screen for the HP Network Team will indicate that the Microsoft Virtual Network Switch Protocol has been assigned and bound to the HP Network Team, as shown below.
Dissolving an HP Network Team

The process for dissolving an HP Network Team that has been configured as previously described will require the following steps:

1. Remove the HP Network Team from the Virtual Network Manager.
2. In the properties screen for the HP Network Team, deselect the Microsoft Virtual Network Switch Protocol.
3. In the HP Network Configuration Utility, select the team to be dissolved and press the Dissolve button. Click OK to apply the network changes.
VLANs with Hyper-V

Hyper-V supports VLANs. To enable this functionality, complete the following steps:

1. Install and enable Hyper-V in the operating system, and then install the NCU.
2. Open the NCU. In the Team Properties window, configure the NIC team(s). Note that Jumbo Frames are supported for Windows® Server 2008 R2 Hyper-V but not for Microsoft® Windows® Server 2008 Hyper-V.
3. Highlight VLAN Promiscuous and click Enabled as shown below.

![VLAN Promiscuous](image)

4. Within server manager, open virtual network manager and select the team name created in steps 2 and 3.
5. Under settings, find the team and create a new virtual network.
6. Assign the new virtual network to a new virtual machine: Check the **Enable virtual LAN Identification** box and enter the desired VLAN identifier (ID).

**NOTE**
We recommend that you do not use a VLAN ID of "1" when you configure virtual machines.

End of procedure.
For more information

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<th>Resource description</th>
<th>Web address</th>
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<td>HP website for Hyper-V</td>
<td><a href="http://www.hp.com/go/hyper-v">www.hp.com/go/hyper-v</a></td>
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Call to action

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