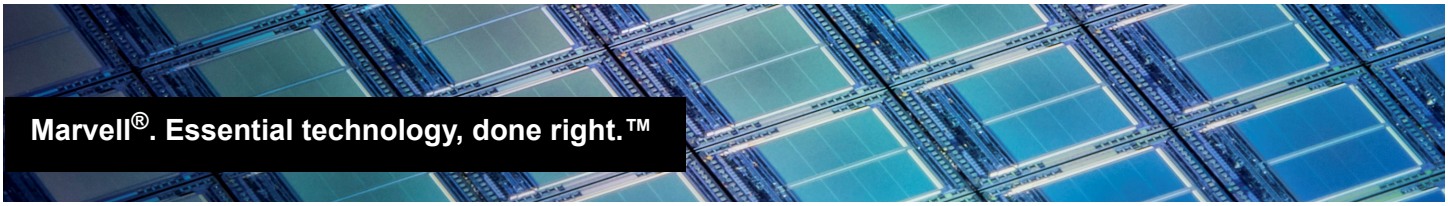

Configuring NPAR Using CCM with BIOS-based Boot on HPE ProLiant Servers

Products Affected

Product Name
HPE® StoreFabric® CN1100R Converged Network Adapters
HPE 57810S/57840S Series Ethernet and FlexFabric Adapters

Introduction

This application note provides instructions for enabling and configuring network partitioning (NPAR) on HPE 57810S/57840S Series Ethernet or FlexFabric Adapters and HPE StoreFabric CN1100R Converged Network Adapters using the Comprehensive Configuration Manager (CCM) tool on the HPE ProLiant® server platform. CCM is integrated into the BIOS on each adapter.

Prerequisites

To enable and configure NPAR, you need:

- One or more HPE 57810S/57840S Ethernet or FlexFabric Adapters and/or HPE StoreFabric CN1100R Converged Network Adapters
- An HPE ProLiant server

Note The NPAR configuration in an HPE blade environment is valid only when virtual connect (VC) is not used. If a VC switch is present, setting the **Multi-Function Mode** parameter to **NPAR1.5** has no effect.

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Configuring NPAR

To configure NPAR:

1. Start CCM (see the Marvell *Starting CCM with BIOS-Based Boot on HPE ProLiant Servers Application Note*, part number BC0051406-00), and then select an adapter and port to manage.

   The Main Menu opens.

2. Select **Device Hardware Configuration**.

   The Device Hardware Configuration menu opens (see Figure 1).

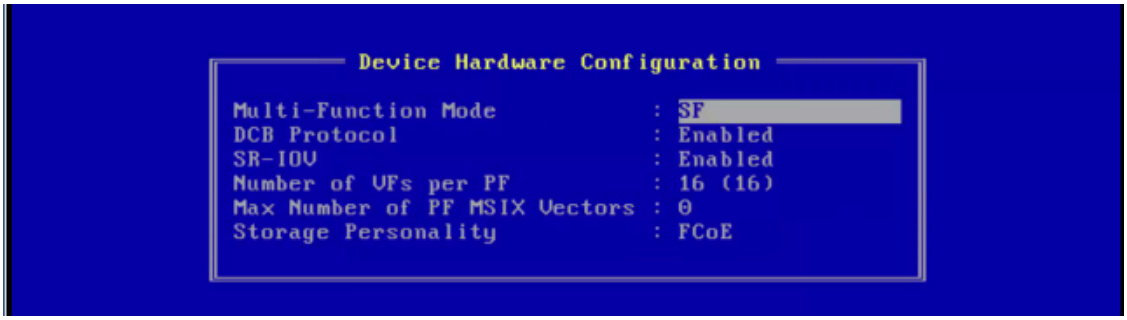

Figure 1. Device Hardware Configuration Menu—Single Function Mode

   In Figure 1, the **Multi-Function Mode** parameter is set to single function (**SF**) mode (in other words, NPAR is disabled). This setting is the default for HPE Ethernet/FlexFabric 57810S/57840S adapters. For HPE 53xFLB adapters for HPE BladeSystems, the default setting is **MF Allowed**, which is not the same as NPAR.

3. Press the RIGHT ARROW key; the value changes to **NPAR1.5**.

   When enabling NPAR on either port, it is also enabled on the other port.

4. Press ESC until the Main Menu appears.

5. Select **NIC Partition Configuration**, and then press ENTER.

   The NIC Partition Configuration menu opens (see Figure 2).

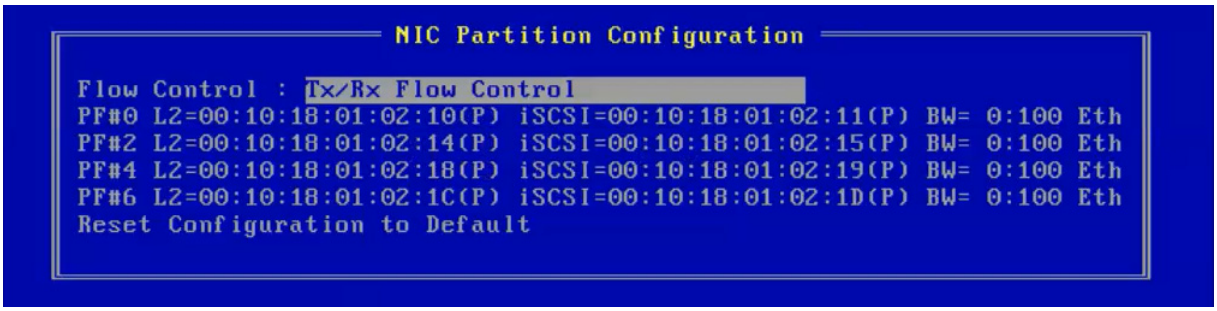

Figure 2. NIC Partition Configuration Menu

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Figure 2 shows the four physical functions (PF) for port 0. PF#0, PF#4, and PF#6 are fixed for Ethernet personality; they cannot be changed. PF#1, PF#5, and PF#7 for port 1 on a dual-port adapter function the same way (they cannot be changed).

6. To change the personality of PF#2 (or for PF#3 on port 1):
   a. Press the DOWN ARROW key to highlight **PF#2**, and then press ENTER.
      A new menu opens, allowing you to configure the personality of this physical function.
   b. Press the RIGHT ARROW key to toggle between the values **Ethernet**, **iSCSI**, and **FCoE** (see Figure 3).

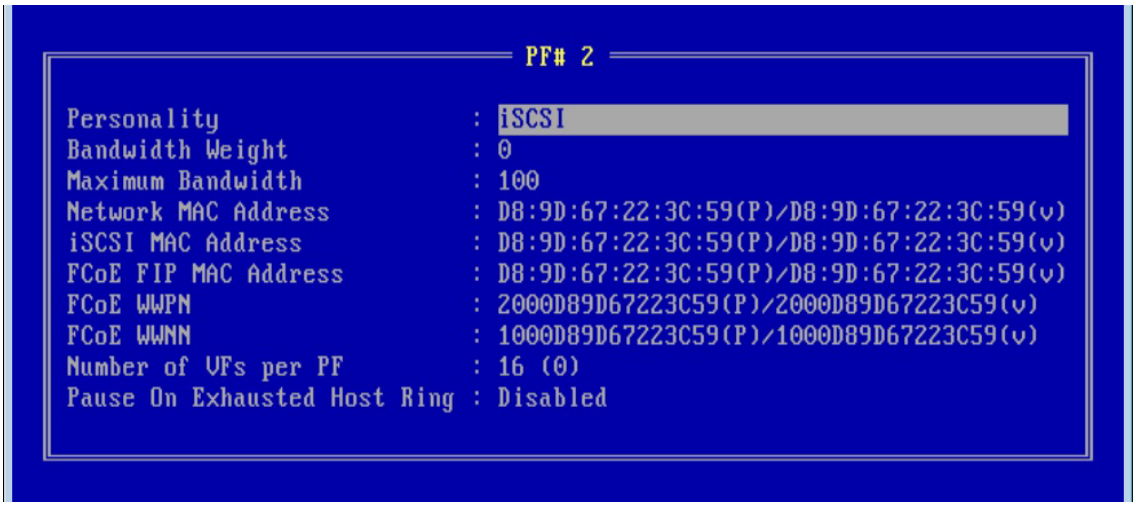

Figure 3. NPAR Configuration Change

Note

The **Bandwidth Weight** and **Maximum Bandwidth** options provide quality of service (QoS) control.

The bandwidth weight (BW) of a PF allows you to define and assign a particular percentage of the 10GbE bandwidth available on this port, which guarantees the bandwidth of this PF.

The BW on all four PFs must total either 0 percent or 100 percent. If you set the BW on one PF, you must also set the BW on the remaining three PFs so that the BW for all four PFs total 100 percent. The **Maximum Bandwidth** option sets the available bandwidth on a PF in 100Mb increments. The setting ranges from 1 to 100, equating to 100Mbps to 10,000MBps (10GbE).

7. Press ESC until the Exit Configuration menu appears.
8. Select **Exit and Save Configurations**, and then press ENTER.
   This option saves your changes.
9. Reboot the server.
10. Optionally, open the **Device Manager** to view the changes.

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References

For more information, see the following:

- Marvell *Network Partitioning (NPAR) for HPE ProLiant® Servers Solution Sheet*, part number SN0430982-00, located at:

  https://www.marvell.com/docs/hpe/assets/hpe-marvell-npar-hpe-proliant-servers.pdf

- Marvell video, “Make I/O Matter: NPAR Configuration with CCM for HP Gen8 Servers,” located at:

  https://www.youtube.com/watch?v=8kz4JopSbjk

- Marvell video, “Make I/O Matter: Overview of NPAR for HP Server Environments,” located at:

  https://www.youtube.com/watch?v=kD6z__WSPkQ&feature=youtu.be

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Document Revision History
Revision A, January 26, 2015
Revision B, July 10th, 2019
Revision C, February 12, 2021
Changes
Update to new Marvell logo.
Removed HPE 53X adapters; replaced with HPE 57810S/57840S.
Updated References section.

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