

So You Want to...

Install the Artesyn SharpStreamer™ PCIE-7207 into a HP DL380 Gen 9 Server ?

This document covers aspects of fitting the Artesyn SharpStreamer PCIE-7207 video processing accelerator card into a HP ProLiant DL380 Gen 9 server.

THE HP DL380 GEN 9 SERVER

The HP ProLiant DL380 server is the newest generation 2U, two-socket HP rack mount server based on the Intel® E5-26xx v3 Xeon® technology. The server is available in pre-configured models with a single CPU and options for additional features such as:

- Dual CPU configuration
- Redundant power supplies
- Scalable memory configuration
- Hard drive storage configurations
- PCI Express I/O and riser cards

For more details, visit the [HP website](#).



HP DL380 Gen 9 Server

SHARPSTREAMER PCIE-7207 HARDWARE INSTALLATION

Hardware installation dependencies:

- Dual CPU configuration mandatory for 2x SharpStreamer PCIE-7207
- HP DL380 Gen 9 Secondary three-slot riser card (PN: 719073-B21)

Before installing the SharpStreamer PCIE-7207 card(s) into the HP DL380, please ensure compliance with the above hardware dependencies. There is an alternate riser card which has three (3) PCI Express slots (PN: 719073-B21). The PCIE-7207 can only be installed on the top slot. Please note: if installing two (2) PCIE-7207 cards, you will need to the dual CPU configuration of the server as each PCI Express riser card is routed to a single CPU chipset.

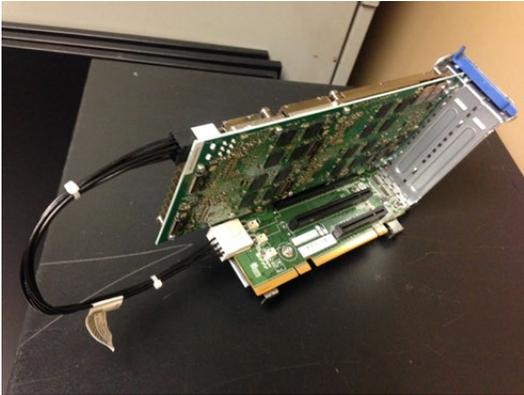
To install the PCIE-7207 card(s), first remove the top cover of the server. You must then remove each riser card from the system and insert the PCIE-7207 card into the top slot. When re-installing the riser card back into the system, you will need to raise the blue latch/latches on the system fan baffle and remove the thin metal cover from rear I/O panel. Once re-installed, re-screw in the riser cards and lower the latch to properly secure the board(s).

NEBS-GRADE SERVER RECONFIGURATION

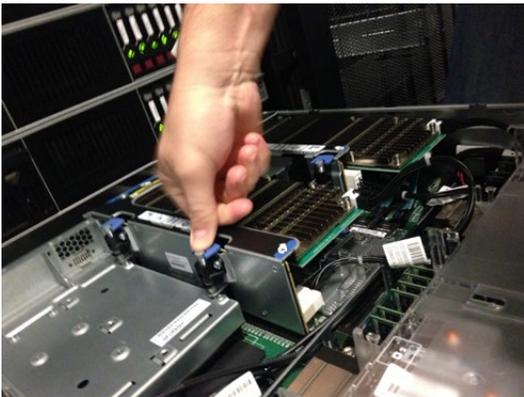
If NEBS compliance is required, please install HP DL380 NEBS Conversion Cage Kit (HP PN: 707865-B21) and ensure a full set of fans are present. A full set of fans are preinstalled if a two-processor configuration is in use. Additional installation details can be found in the [HP ProLiant DL380 Gen 8 Carrier-Grade Server Read Before Install Carrier-Grade Instructions](#) document. The PCIE-7207 is designed for NEB usage out of box and will not need any reconfiguration.



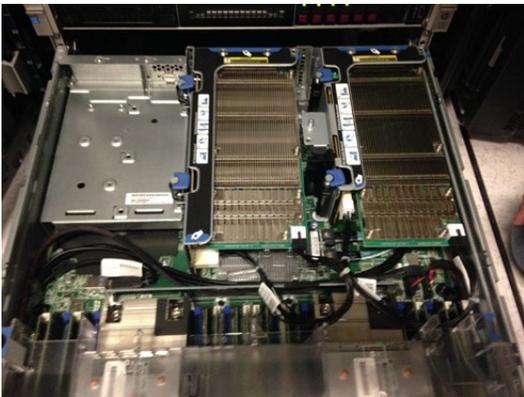
PCI Express Riser Cards



Auxiliary Power Cabling



PCI Express Riser Cards Re-installation



Dual PCIE-7207 Installation

INSTALLING THE SOFTWARE PACKAGE

Hardware installation dependencies

- Server running CentOS 7.x
- Tftp-server, syslinux and dhcp
- Firewall (i.e., firewalld, iptables, etc.) configured to allow system to run above services
- Unzip and install SharpStreamer Host-side utilities
- Unzip and install SharpStreamer Centos 7 reference image
- Auxiliary power cabling (PN: 504660-003)

Proceed with software installation as documented in each software package “readme” file. The Artesyn SharpStreamer PCIE-7207 documentation and software packages can be obtained through the SWORDS portal or through your Artesyn Field Application Engineer.

SYSTEM OPERATION AND THERMAL OPTIMIZATION

The HP DL380 system fans produce turbulent air within the system to cool the PCI Express cards. Because of these conditions we highly recommend monitoring the PCIE-7207 microprocessor subsystem temperatures. This can be done using the CPU temperature tool provided with the PCIE-7207 host side server utilities package. If either temperature sensor reports a temperature of 80°C, you may want to check whether anything mechanically is disrupting the system air flow or your system environment conditions have changed. If neither situation has occurred, the HP DL380 has three thermal configuration profiles which control the system fans’ behavior. In the BIOS setup screen under Advanced Options, you can set up the system into three different thermal configuration profiles: Increased Cooling, Optimum Cooling, and Maximum Cooling.

In data center environments (25°C ambient), we recommend using Increased Cooling profiles. During normal operation, you can expect the microprocessor subsystem temperature readings to be anywhere between 55°C and 67°C. If the temperature reading should go above 75°C, we recommend selecting the Maximum Cooling profile. For extended (NEBS abnormal 55°C) operation conditions, we recommend Maximum Cooling profile. Please ensure air flow is such that micro temperature sensors reading do not go above 95°C as these high temperatures may cause damage to the board.

Please note: the position of the riser card could also help lower turbulent air surrounding the card. Installing the card on the middle riser card instead of the system right side riser card drops the board air inlet temperature a few degrees and the board air outlet temperature over 5°C. For extreme environments where maximizing the fan speed via BIOS setting does not cool the SharpStreamer card to temperatures under 75°C during operation, HP offers a high performance fan kit (PN: 719079-B21) which can be used in place of the standard server fans.

Accelerator cards may require the use of additional custom mounting brackets to properly secure the cards inside the chassis.

If you should run into any questions or issues with the PCIE-7207 installation into the HP DL380, please contact your local Artesyn Field Application Engineer (FAE).



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