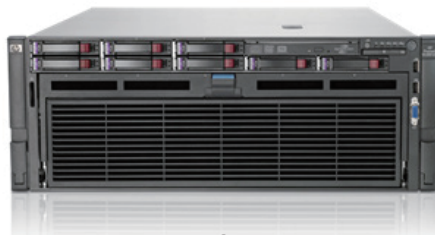


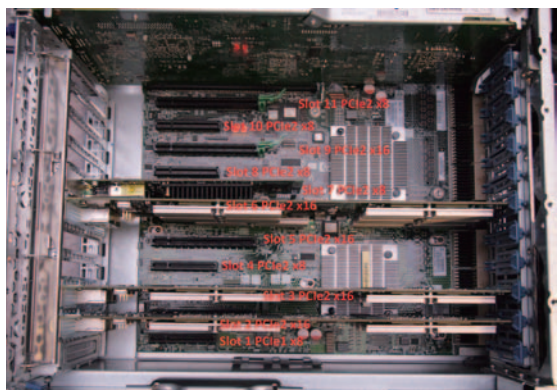
So You Want to...

Install Artesyn Embedded Technologies' SharpMedia™ PCIe-8120 into an HP DL580 Gen 7 server?

This document covers aspects of fitting the SharpMedia™ PCIe-8120 media processing accelerator card into an HP ProLiant DL580 Gen 7 server.



HP DL580 Gen 7



HP ProLiant DL580 Gen 7

THE HP DL580 GEN 7 SERVER

The HP ProLiant DL580 server is the newest generation 4U, 4 Socket HP rack mount server based on Intel's E7-4800 product family; EP Xeon® 7500 Series. The server is available in pre-configured models with Dual and Quad CPU configurations. Additional features include:

- Redundant power supplies
- Scalable memory configuration
- Hard drive storage configurations
- PCIExpress I/O and I/O expansion riser boards
- Flexible LOMs

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

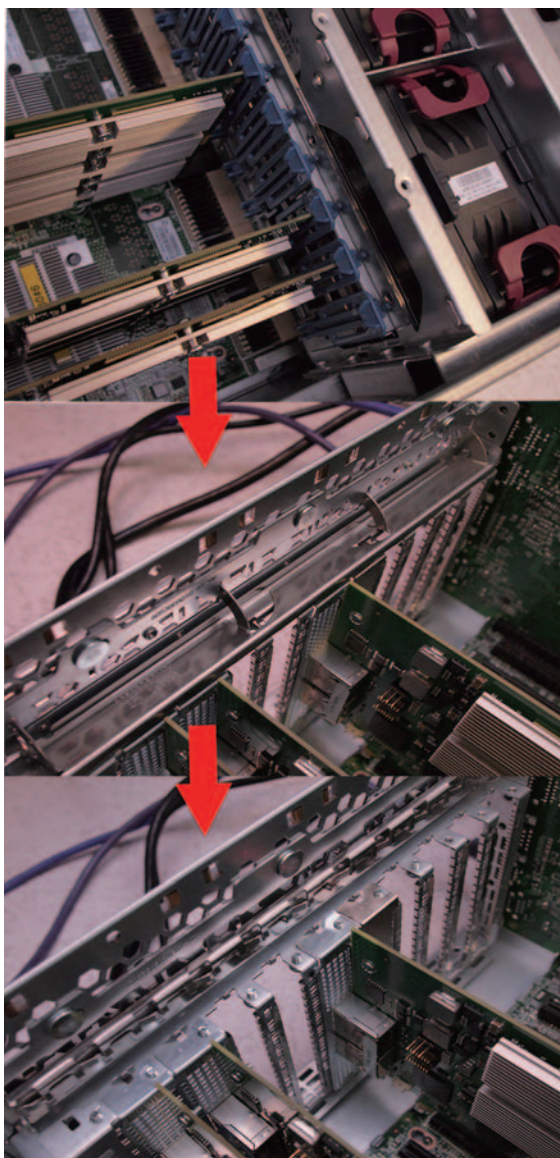
SHARPMEDIA PCIe-8120 HARDWARE INSTALLATION

Hardware Installation Dependencies:

- Dual (or more) CPU configuration mandatory
- PCI express I/O and I/O expansion boards required if need more than 5 standard PCI Express expansion slots

Before installing the Artesyn SharpMedia PCIe-8120(s) into the HP DL580, please ensure compliance with the above hardware dependencies. The DL580 comes standard with 5 PCI Express slots. If all 5 are populated, a PCI Express I/O and I/O expansion boards can be installed to provide an additional 6 slots. Photo 2 denotes DL580 with PCI Express Expansion board installed and slot numbers.

To install the SharpMedia PCIe-8120 card(s), first remove the top cover of the server. There will be a metal latch to release located next to the rear IO of the IO cards. Simply lift the latch and install the card(s) into the desired slot(s). There are blue IO card guides adjacent to the system fans. After cards are installed, you will need to press down on the metal latch to secure the IO cards in place. Please see below series of photos for more details on installation. We recommend installing SharpMedia PCIe-8120-X12 (12 DSP variant) in slots #2, 3, 5, 6 and 9 as these are PCI Express x16 slots. These slots provide sufficient slot power for high density variants.



**HP ProLiant DL580 Gen 7
Hardware Installation**

INSTALLING THE SOFTWARE PACKAGE

Software Installation Dependencies:

- Server running Red Hat Enterprise Linux 6.3 or CENTOS 6
- TFTP-server, tftp, dhcp, gnu-c++, tcl, expect, telnet, wireshark, vconfig, xinetd, net-tools, pciutils, ethtool, policycoreutils-python
- Disable firewalls (ex: service iptables stop)
- Unzip and install Artesyn Basic Blade Services (BBS) package (*pcie8120-<version>.zip*)
- Unzip and install Octasic software package (*octasic-sdk-<version>.zip*)

Proceed with the software installation as documented in the SharpMedia PCIE-8120 Installation and User Manual found in *pcie8120-doc-<version>.zip*. SharpMedia PCIE-8120 documentation, Artesyn BBS and Octasic software packages can be obtained via the Artesyn SWORDS portal or through local Artesyn support personnel.

SYSTEM OPERATION AND THERMAL OPTIMIZATION

The HP DL580 system fans provide direct air flow toward the PCI Express IO cards. We recommend monitoring both the SharpMedia PCIE-8120 air inlet and outlet temperatures during application runtime. This can be done using the "read-sensors" tool provided with the Artesyn BBS package. If either temperature sensor reports a temperature of 60°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 DL580 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 Optimum profile. During normal operation, you can expect the card temperature readings to be anywhere between 30 and upper 50's C. If the temperature reading should go above 60°C, you should use the Increased or Maximum Cooling profile. Please ensure air flow is such that card temperature sensors reading do not go above 80°C as these high temperatures may cause damage to the board. We observed system fans are running at mid 40% of maximum speed while running DSP and CPU stress tests.

If you should run into any questions or issues with the SharpMedia PCIE-8120 with the HP DL580, please contact your local Artesyn Field Application Engineer (FAE).



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