HP Proliant DL380p Gen8 Carrier-Grade Server Read Before Install

Carrier-Grade Instructions

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Audience assumptions

This document is for the person who installs, administers, and troubleshoots servers and storage systems. HP assumes you are qualified in the servicing of computer equipment and trained in recognizing hazards in products with hazardous energy levels.

Contents

1 Converting to Carrier-Grade

This document provides conversion instructions and product-specific information for the carrier-grade version of the HP ProLiant DL380p Gen8 Server.

2 NEBS Conversion Cage Kit Contents

- NEBS PCI riser cage
- Riser Board Screws (2)
- PCI card screws (3)
- System board tray screw
- Warranty document
- RTF card

3 Installing the NEBS Conversion Cage Kit

⚠ **WARNING!** To prevent personal injury from hazardous energy, remove watches, rings, or other metal objects.

Preventing Electrostatic Discharge

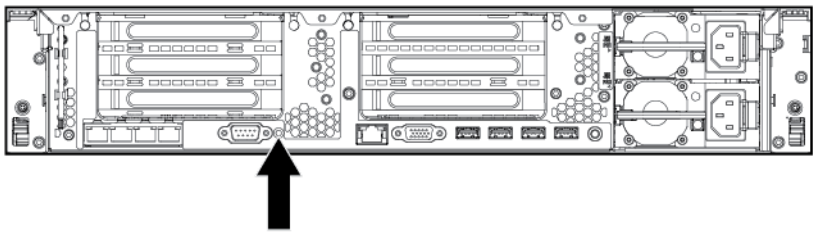
To prevent damage to the system, you must take precautions when setting up the system or the handling of parts. A discharge of static electricity from a finger or other conductor might damage system boards or other static sensitive devices. This type of damage can reduce the life expectancy of the device.

To prevent electrostatic damage, practice the following precautions:

- Avoid hand contact by transporting and storing parts in static-safe containers.
- Keep electrostatic-sensitive parts in containers until they arrive at static-free workstations.
- Before removing parts from containers, place parts on a grounded surface.
- Avoid touching pins, leads, or circuitry.
- Ensure you are properly grounded when touching a static-sensitive component or assembly.

If not factory integrated, the PCIe riser cage and retention screw for the system board tray provided in the HP ProLiant DL380p Gen8 server NEBS conversion cage kit (PN 707865-B21) must be installed in the commercial server.

The system board tray screw must be installed in the hole to the right of the 9-pin serial port on the back of the server. Torque screw to 4–6 lb-inch (0.45–0.68 N m).



The NEBS cage must replace the commercial PCIe riser cage. Locate the visible gaskets under the PCIe riser cage blanks to identify the NEBS cage. There are no gaskets installed on the commercial PCIe riser cage. To replace the PCIe riser cage:

1. Remove the PCIe riser cage from the server.
2. Remove any installed PCIe option cards.
3. Remove the PCIe riser board from the PCIe riser cage.
4. Install the PCIe riser board into the NEBS conversion PCIe riser cage. Torque screws to 4–6 lb-inch (0.45–0.68 N m).
5. Replace or install PCIe option cards.
6. Secure PCIe option cards using the screws provided with the NEBS conversion cage kit. Torque screws to 8-10 lb-inch (0.90–1.13 N m).
7. Install the assembled NEBS conversion PCIe riser cage into the server.

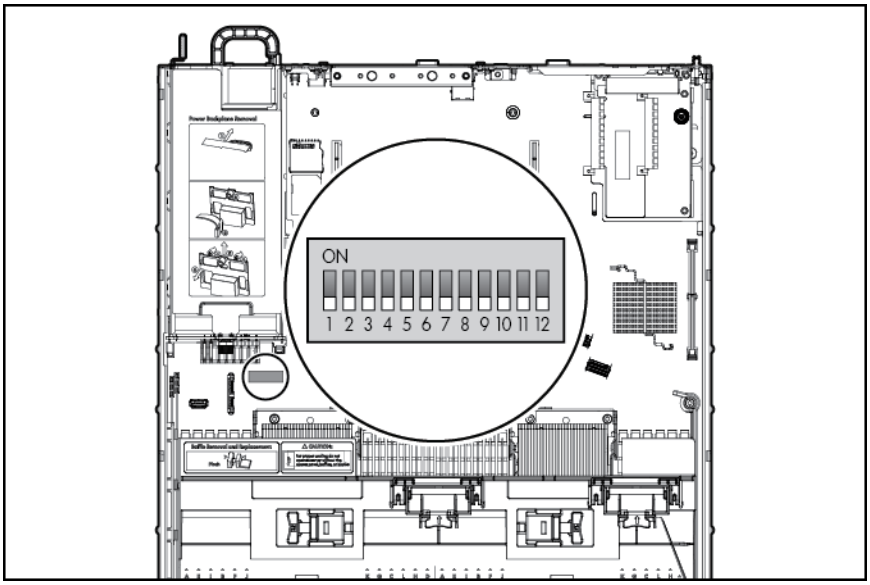
For details on the PCIe riser cage replacement procedure, see the *HP ProLiant DL380p Gen8 Server Maintenance and Service Guide*.

4 Changing the Settings on the System Maintenance Switch

To change the settings on the system maintenance switch:

1. Power off the server.
2. Remove power to the server.
3. Remove the top cover.
4. Locate the system maintenance switch. When viewed from the front of the server, the switch is located at the rear of the system board on the right side.

   See the following graphic illustration:



5. Select the system maintenance switch, the ID is *SW2*, and change position #10 to the **ON** position. You can use a plastic ball-point pen to flip the system maintenance switch.
6. Replace the top cover.

Verifying the System Maintenance Switch Setting

After you switch the setting, you must verify that position #10 on the system maintenance switch is in the **ON** position.

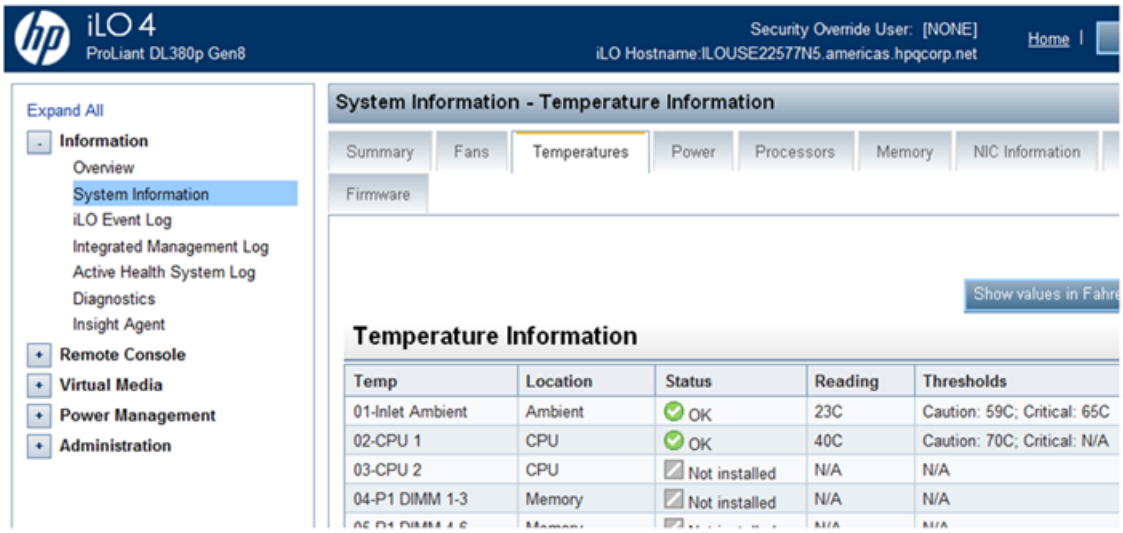
NOTE: The following instructions which verify the thresholds are correct, use HP Integrity iLO4. For complete information and instructions using iLO4, see the *HP iLO 4 User Guide* at the following HP website:

http://www.hp.com/go/ilo/docs

1. Log in to iLO4. For instruction, see the *HP Integrated Lights-Out 4 User Guide*.
2. Select **System Information** on the left navigation bar.

3. Select the **Temperatures** tab.

   If the temperature thresholds of sensor `01-Inlet Ambient` appear as shown below, the switch is set correctly.



Incorrect Thresholds

If the thresholds do not show up correctly, ensure the #10 position was set correctly. If incorrectly set, reset the system maintenance switch *SW2* to the factory defaults as described in the *HP Proliant DL380p Gen8 Server Maintenance and Service Guide* at the following HP website:

http://www.hp.com/go/hpsc

Enter a product name, or select *Servers*, and then select*Proliant /tc series servers*. Select your product, and then click *Manuals* under Knowledge Base. You may need to click through more than one page of manuals to find a specific one.

After you reset the switch settings to the factory defaults, repeat the procedure above on how to verify the system maintenance switch setting.

5 Cabling

Cable Information

This section provides cabling information for installing the HP ProLiant DL380p Gen8 Carrier-Grade Server.

Grounding

This carrier-grade product is intended for use in both common bonding networks and isolated bonding networks.

Grounding must comply with local, national, and other applicable government codes and regulations.

Dedicated safety grounds are implemented on both the AC and DC versions of this product. The AC product uses a standard three wire cord that includes a safety ground for each power supply. The DC product has a dedicated ground screw on each power supply.

WARNING! To ensure the safety ground, at least one power supply with an appropriately terminated ground lead must be installed at all times.

TIP: To ensure an adequate ground connection, mating surfaces should be cleaned to a bright metal finish and an antioxidant applied before connections are made.

Network Cabling

Intra-building connections of the HP Proliant DL-series Carrier-Grade Servers require the use of shielded cables grounded at both ends.

CAUTION: The intra-building ports of the equipment are suitable for connection to intra-building or unexposed wiring or cabling only. The intra-building ports of the equipment must not be metallically connected to interfaces that connect to the Outside Plant (OSP) or its wiring. These interfaces are designed for use as intra-building interfaces only (Type 2 or Type 4 ports, as described in *GR-1089–CORE, Issue 4*) and requires isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

6 Power Supply and Cable Information

Replacing the Fans and Power Supply

If a cooling fan or power supply fails, you must replace it. Replacement usually takes no longer than five (5) minutes. For instructions on replacing these components, see the *HP Proliant DL380p Gen8 Server Maintenance and Service Guide* on the HP website:

http://www.hp.com/go/hpsc

Enter a product name, or select *Servers*, and then select*Proliant /tc series servers*. Select your product, and then click *Manuals* under Knowledge Base. You may need to click through more than one page of manuals to find a specific one.

DC Power Supply

Table 1 DC Power Supply Specifications

Description	Value		
HP 750W CS DC Power Supply Kit	636673-B21		
Input Voltage Range (V DC)	36–72		
Frequency Range (Nominal) (Hz)	N/A		
Nominal Input Voltage (V DC)	36	48	72
Maximum Rated Output Wattage Rating (W)	750	750	750
Nominal Input Current (A)	23	17	11
Maximum Rated Input Wattage Rating (Watts)	815	805	795
Maximum British Thermal Unit Rating (BTU-Hr)	2780	2740	2720

IMPORTANT: This equipment is intended for installation in Network Telecommunication facilities.

NOTE: Battery return terminals are isolated DC returns (DC-I).

The following optional power supply cables are available:

- A5S97A: HP 1.3M, 48V DC Power Cable Kit
- A5S98A: HP 2.5M, 48V DC Power Cable Kit

Both cables use the color codes described in Table 2.

Table 2 DC Power Cable Color Codes

Cable color	Description
Black	Positive return
Red	Negative input voltage
Green/Yellow	Safety ground

AC Power Supply

Table 3 AC Power Supply Specifications

Description	Value						
HP 750W AC CS Platinum Plus Power Supply Kit	656363-B21						
Input Voltage Range (V rms)	100–240						
Frequency Range (Nominal) (Hz)	50/60						
Nominal Input Voltage (Vrms)	100	120	200	208	220	230	240
Maximum Rated Output Wattage Rating (W)	750	750	750	750	750	750	750
Nominal Input Current (A rms)	8.5	7.0	4.1	3.9	3.7	3.6	3.5
Maximum Rated Input Wattage Rating (Watts)	843	831	811	811	809	808	821
Maximum Rated VA (Volt-Amp)	855	842	822	821	820	819	832
Power Factor	0.9998						
Maximum Inrush Current (A peak)	30						
Leakage Current (mA)	0.42	0.50	0.83	0.87	0.92	0.96	1.00
Maximum British Thermal Unit Rating (BTU-Hr)	2878	2834	2769	2766	2762	2758	2803

IMPORTANT: This equipment is intended for installation in locations where the NEC applies.

IMPORTANT: The safety ground of the AC power cord must terminate the chassis to the internal equipment grounding system.

7 Installing the ProLiant DL380p Gen8 Server into a Seismic Rack

For information on the installation of the ProLiant DL380p Gen8 server using the commercial rack mount kit, see the HP website:

http://www.hp.com/go/hpsc

Enter a product name, or select *Servers*, and then select *Proliant /tc series servers*. Select your product, and then click *Manuals* under Knowledge Base. You may need to click through more than one page of manuals to find a specific one.

While not specifically designed for use in seismic rack solutions, the commercial kit was successfully evaluated in the AH343A HP Seismic Rack to the NEBS Zone 4 criteria as part of the ProLiant DL380p Gen8 Server NEBS certification.

IMPORTANT: Cage nuts for the seismic rack must be installed in the appropriate locations, and the kit must be installed as described in the *HP Quick Deploy Rail System Installation Instructions for Threaded-Hole Racks*.

IMPORTANT: You must provide the screws to secure the slide mounting bracket assemblies.

IMPORTANT: The server must be secured in the rack using the captive screws located behind the plastic retention levers on each side of the server.

NOTE: The square-hole cage nuts that are provided in the rack kit do not fit in the round holes in the seismic rack.

NOTE: While the cable arm has successfully demonstrated compliance to the NEBS Zone 4 criteria, the ability of the cable arm to meet seismic requirements must be based on customer-specific loading. Verification of the configured arm in a seismic solution is the responsibility of the customer.