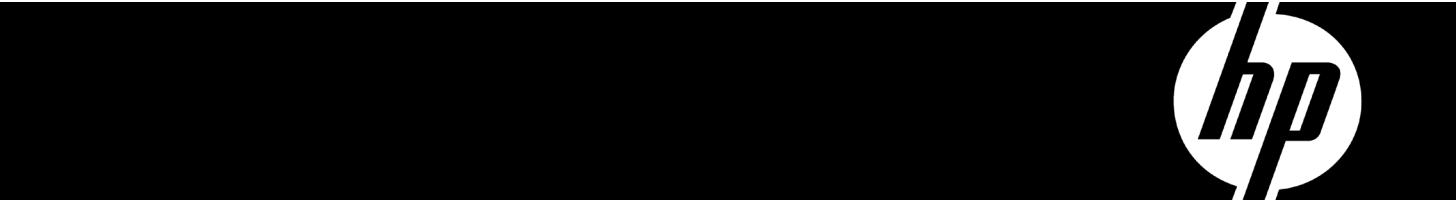


HP ProLiant DL165 G7 Server Installation Instructions



⚠ Important Safety Information

Before installation, read Important Safety Information on HP website
<http://www.hp.com/support/important-safety-information>

قبل التثبيت، اقرأ معلومات هامة حول السلامة في موقع HP على ويب.
 Před zahájením instalace si přečtěte důležité bezpečnostní informace uvedené na webovém serveru společnosti HP.
 进行安装前，请先参阅 HP 网站上的“重要安全信息”。
 在安裝前，請參閱 HP 網站上的「重要安全資訊」。
 Før installation, læs *Vigtige sikkerhedsoplysninger* på HPs websted.
 Lesen Sie vor dem Installieren das Dokument *Wichtige Sicherheitshinweise* auf der HP Website.
 Enne paigaldamist tutvuge *olulise ohutusteabega* HP veebisaidil.
 Antes de la instalación, lea la sección *Información de seguridad importante* en la página web de HP.
 Antes de proceder a la instalación, lea la información importante sobre seguridad en el sitio Web de HP.
 Avant installation, lisez attentivement le document *Informations importantes relatives à la sécurité* sur le site Web HP.
 Πριν από την εγκατάσταση, διαβάστε τις *Σημαντικές πληροφορίες σχετικά με την ασφάλεια* στην τοποθεσία της HP στο web.
 HP לפני ההתקנה, קרא את *Important Safety Information*.
 Prije instaliranja pročitaite *važne informacije o sigurnosti* na HP-ovim web-stranicama.
 Prima dell'installazione, consultare la sezione *Informazioni sulla sicurezza e sulle norme vigenti* del sito Web di HP.
 インストール前にHPのWebサイトで『安全に使用していただくために』をお読みください。
 설치를 시작하기 전에 HP 웹 사이트에서 주요 *안전 수칙*을 참조하십시오.
 Pirms instalēšanas izlasiet sadaļu *Svarīga drošības informācija* HP mājas lapā.
 Prieš jdiegdami perskaitykite *Svarbią saugos informaciją*, pateiktą HP tinklalapyje.
 A telepítés előtt tekintse át a HP webhelyén található *fontos biztonsági tudnivalókat*.
 Lees *Belangrijke veiligheidsinformatie* op de HP website, voordat u aan de installatie begint.
 Les *Viktig informasjon om sikkerhet* på HPs nettsted før du installerer.
 Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa* w witrynie sieci Web firmy HP.
 Antes de instalar, leia o documento *Informações importantes de segurança* no site web da HP.
 Antes de instalar, leia o documento *Informações importantes sobre segurança* no site da HP.
 Пред установкой ознакомьтесь с документом «*Указания по технике безопасности*» на веб-узле HP.
 Pred inštaláciou si prečítajte článok *Dôležité bezpečnostné informácie* na webovej lokalite spoločnosti HP.
 Pred namestitvijo preberite razdelek *Pomembne varnostne informacije* na HP-jevem spletnem mestu.
 Lue ennen asennusta *Tärkeitä turvallisuusohjeita* HP:n verkkosivuilta.
 Innan du installerar ska du läsa *Viktig säkerhetsinformation* på HP:s webbplats.
 Yüksekmeden önce HP web sitesindeki *Önemli Güvenlik Bilgileri* bölümünü okuyun.
 Перед встановленням прочитайте «*Важливу інформацію з безпеки*» на веб-сайті HP.

For translated instructions, see the Easy Set-up CD or
<http://www.hp.com/support>

Para obter instruções traduzidas, consulte Easy Set-up CD ou HP.com

Übersetzte Gebrauchsanleitungen finden Sie auf der Easy Set-up CD oder unter HP.com

Para obtener las instrucciones traducidas, consulte el Easy Set-up CD o la página web HP.com

Pour obtenir des instructions traduites, reportez-vous au CD Easy Set-up ou visitez le site HP.com

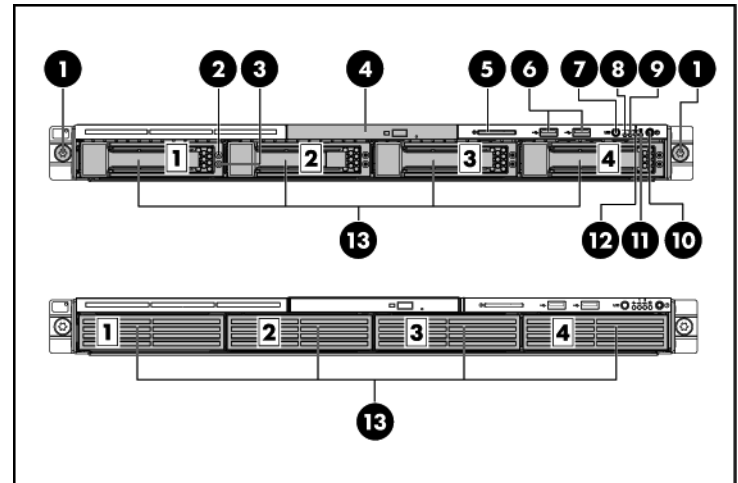
翻訳された手順については、Easy Set-up CDまたはHP.comを参照してください。

请参见 Easy Set-up CD 或访问 HP.com 以查看经过翻译的说明

Identifying server components

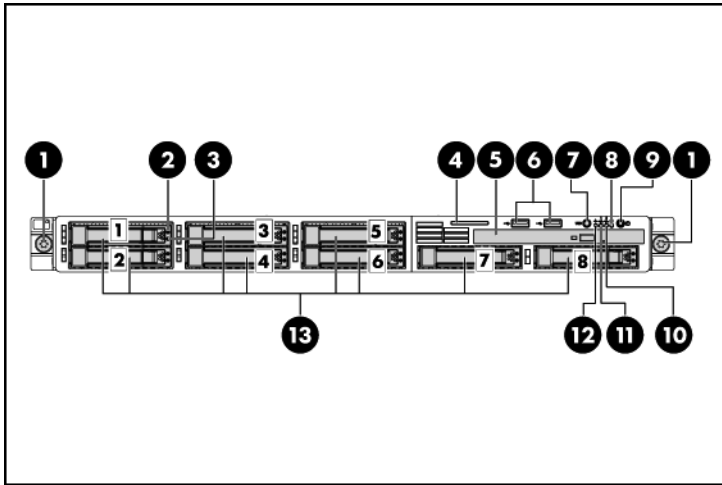
Front panel components

Figure 1 Front Panel Components / 4 3.5" LFF HDD



Item	Description
1	Thumbscrews for rack mounting
2	Drive status LED
3	Drive activity LED
4	Optical disc drive (optional)
5	Serial number pull tab
6	Front panel USB 2.0 port 0/1
7	Front UID LED/switch
8	System health LED
9	NIC 1/2 activity LED
10	Power LED/switch
11	Hard drive activity LED
12	NIC 3/4 activity LED
13	Hard disk drive (HDD) bays

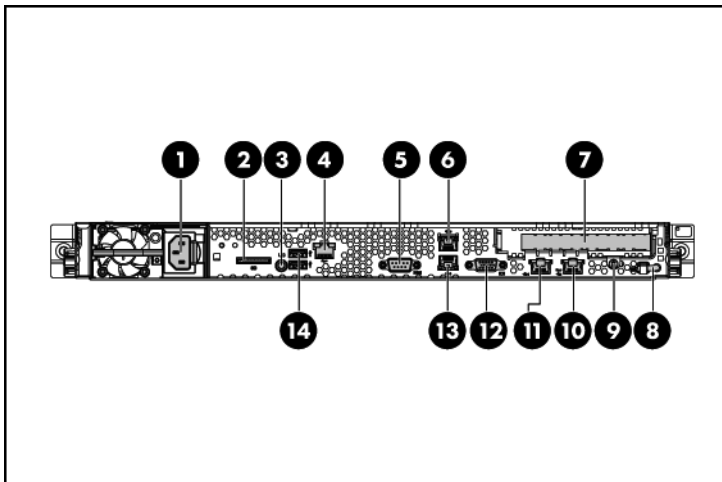
Figure 2 Front Panel Components / 8 2.5" SFF HDD



Item	Description
1	Thumbscrews for rack mounting
2	Drive status LED
3	Drive activity LED
4	Serial number pull tab
5	Optical disc drive (optional)
6	Front panel USB 2.0 port 0/1
7	Front UID LED/switch
8	Hard drive activity LED
9	Power LED/switch
10	NIC 3/4 activity LED
11	NIC 1/2 activity LED
12	System health LED
13	Hard disk drive (HDD) bays

Rear panel components

Figure 3 Rear Panel Components

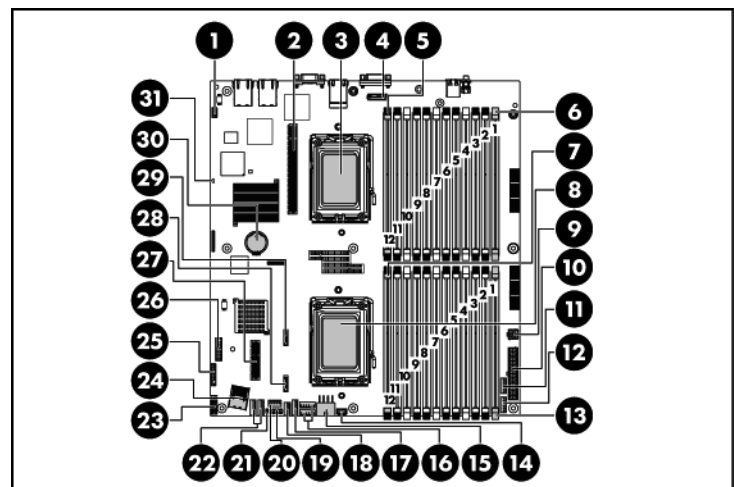


Item	Description
1	Power supply cable socket
2	SD card reader port (optional)
3	Rear UID LED/switch
4	Mgmt port (optional)
5	Serial port
6	GbE LAN port for NIC 4
7	Full-height/full-length PCI expansion card slot cover
8	T-10/T-15 wrench
9	Screw for PCI cage
10	GbE LAN port for NIC 1
11	GbE LAN port for NIC 2
12	VGA port
13	GbE LAN port for NIC 3
14	Rear panel USB 2.0 port 0/1

CAUTION: For more detailed information relating to installation of options, refer to any installation instructions that came with the option, as well as the HP ProLiant DL165 G7 Server Maintenance and Service Guide.

System board components

Figure 4 System Board Components



Item	Description
1	System maintenance jumper
2	PCIe x16 slot
3	Processor 1
4	Mgmt card connector
5	DIMM slot 12 for processor 1
6	DIMM slot 1 for processor 1
7	DIMM slot 12 for processor 2
8	Processor 2

Item	Description
9	4-pin power connector
10	24-pin power connector
11	Fan connector 1
12	Fan connector 2
13	DIMM slot 1 for processor 2
14	Backplane I ² C connector
15	8-pin power connector
16	Fan connectors 3/4
17	Fan connector 5
18	Internal USB 2.0 port
19	SD card USB 2.0 port
20	Front panel USB 2.0 port
21	SAS LED connector
22	Fan connectors 6/7
23	Mini-SAS connector for SATA
24	Power backplane control connector
25	Front panel header
26	TPM connector
27	PCIe x4 slot
28	ODD 2 SATA connector
29	ODD 1 SATA connector
30	3 V CMOS battery (CR2032)
31	NMI jumper

Server configuration resources

In addition to this Installation Sheet, other resources are available for more information regarding the configuration and maintenance of your server:

- For safety information and detailed procedures relating to installation of options, refer to any installation instructions that came with the option, as well as the *HP ProLiant DL165 G7 Server Maintenance and Service Guide*.
- For safety information and detailed procedures related to the rest of the steps listed in the “Configuring the Server” section, refer to the relevant chapter of the *HP ProLiant DL100 Series Server User Guide*.
- For information relating to system BIOS configuration and operating system installation, refer to the relevant section of the *HP ProLiant DL165 G7 Server Software Configuration Guide*.
- Refer to the *HP ProLiant DL165 G7 Server Easy Set-up CD* for additional information and updates not provided in this installation sheet. You can also access additional information and documentation from the HP website at <http://www.hp.com/>, either by connecting directly or through the Easy Set-up CD.

Server configuration overview

The steps listed below give an overview of the necessary setup procedures for preparing the HP ProLiant DL165 G7 Server for operation:

1. Connect the AC power cord and peripheral devices.
2. Power on the server.
3. Press “F10” to enter BIOS setup.
4. Note the server BIOS version.
5. Verify the server BIOS version against the latest BIOS version listed for this server.
6. If you do not have the latest BIOS, update the BIOS now. Refer to the *HP ProLiant DL165 G7 Server Maintenance and Service Guide*.
7. Install a supported operating system of your choice. For detailed procedures, refer to the documentation provided by the operating system vendor.

Pre- and post-installation procedures

When installing additional options in your HP ProLiant DL165 G7 Server, observe the following procedures:

Pre-installation procedures

1. Turn off the server and all the peripherals connected to it.
2. Disconnect the AC power cord from the power supply cable socket located on the server rear panel to reduce the risk of electrical shock.
3. If the server is installed in a rack, remove the server and place it on a flat surface.
4. Remove the top cover by following the procedure described later in the “Opening the server” section.

Post-installation procedures

1. Be sure all components are installed according to the described step-by-step instructions.
2. Check to make sure you have not left loose tools or parts inside the server.
3. Reinstall the PCI cage, air baffle, peripherals, and system cables that you have removed.
4. Reinstall the top cover.
5. Reinstall the server into the rack.
6. Connect all external cables and the AC power cord to the system.
7. Press the power button on the front panel to turn on the server.

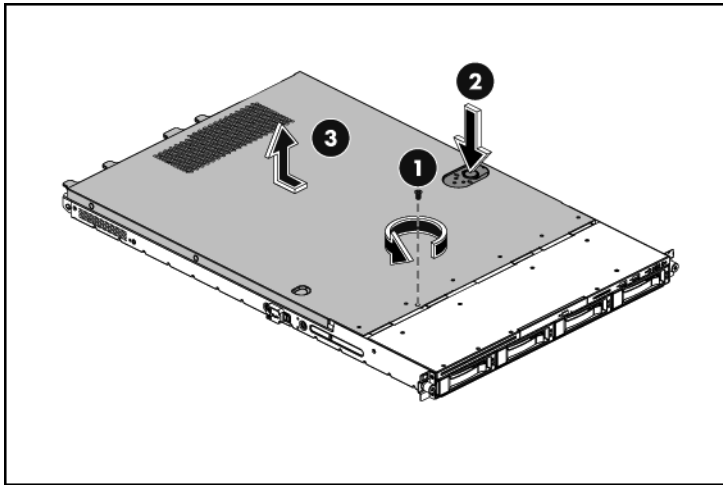
Opening the server

The top cover is removable. You need to remove the top cover before you can remove or replace a server component.

To remove the top cover:

1. Loosen the screw on the top cover with a T-10 wrench.
2. Press the latch on the top cover.
3. Slide the cover toward the rear of the server and then lift the top cover to remove it from the chassis. Lift the top cover away from the chassis.

Figure 5 Removing the Top Cover



Installing a hard drive

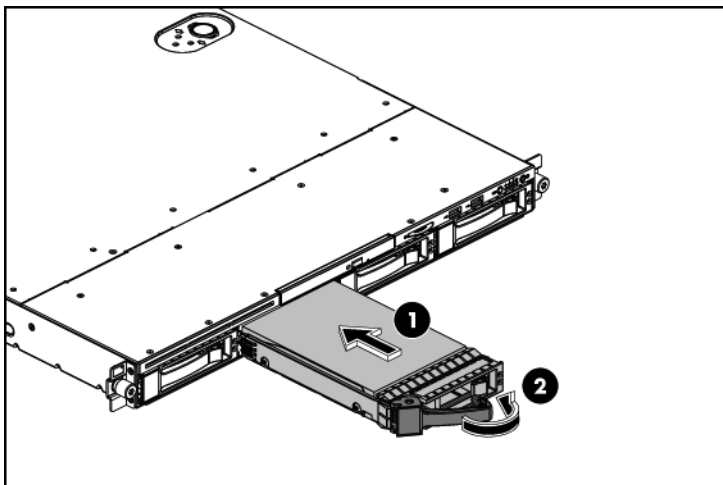
The drive bays on the front panel can accommodate up to four 3.5 in. LFF hard drives or up to eight 2.5 in. SFF hard drives. You can install either SAS hard drives or SATA hard drives in the server.

CAUTION: Drives can be damaged by static electricity. Before handling drives, touch an unpainted metal surface to discharge static electricity.

To install the hot-plug hard drive:

1. Push the hard drive assembly into the drive bay until it stops.
2. Press the hard drive carrier latch inward until it clicks.

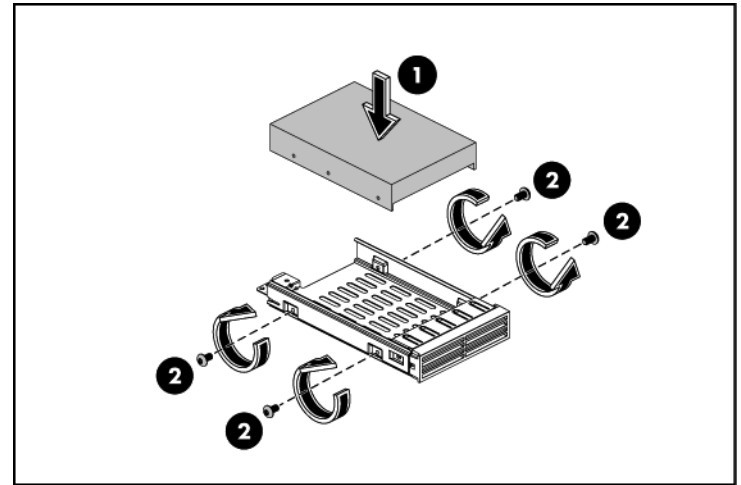
Figure 6 Installing the Hot-plug Hard Drive



To install the non-hot-plug hard drive:

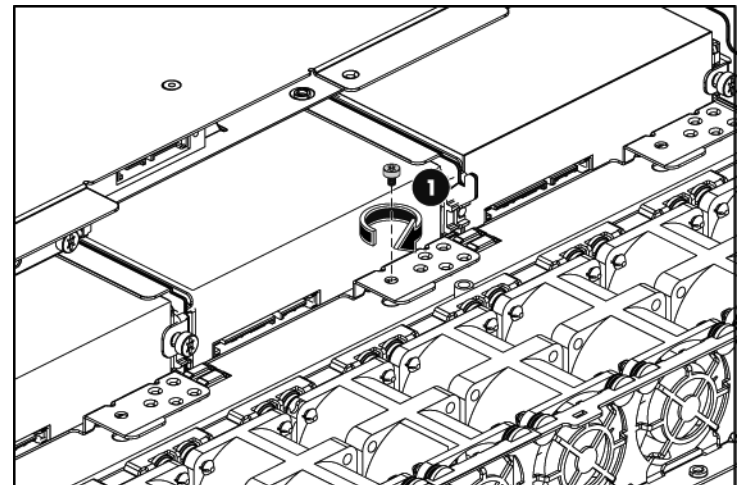
1. Remove the 5 screws from the carrier.
2. Put the non-hot-plug hard drive disk into the carrier.
3. Fasten the hard drive to the carrier using the screws (two on each side).

Figure 7 Installing the Non-hot-plug Hard Drive into the Carrier



4. Fasten the screw with the T-10/T-15 wrench provided to secure the hard drive to the chassis.

Figure 8 Installing the Non-hot-plug Hard Drive



Installing a memory module

CAUTION: DIMMs can be damaged by improper handling. Always use an anti-static wrist strap and grounding mat, and discharge static electricity before touching DIMMs.

NOTE: Refer to "System board components" in this document for the DIMM locations.

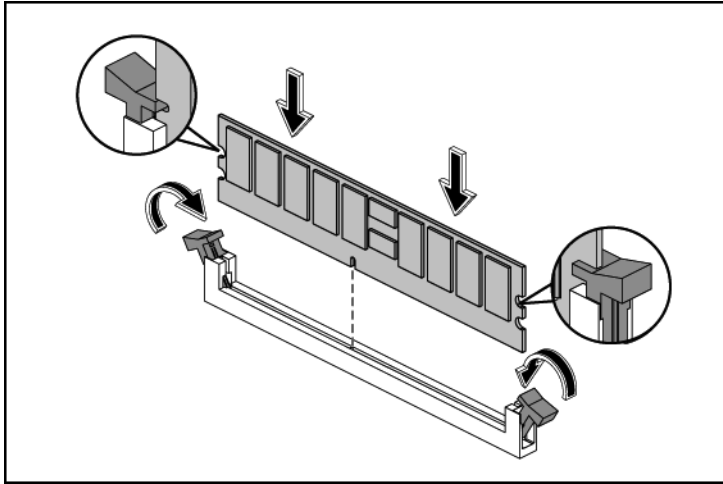
Memory Module Population Order												
Processor memory socket	1	2	3	4	5	6	7	8	9	10	11	12
Rank support per memory socket	SR/DR	SR/DR/QR	SR/DR	SR/DR	SR/DR/QR	SR/DR	SR/DR	SR/DR/QR	SR/DR	SR/DR	SR/DR/QR	SR/DR
RDIMM Population order without QR	A	I	E	C	K	G	B	J	F	D	L	H
UDIMM Population order without QR	A		E	C		G	B		F	D		H
Population order with QR along with SR/DR	E	A	I	G	C	K	F	B	J	H	D	L
Processor memory bank number	1	3	2	1	3	2	1	3	2	1	3	2

NOTES:
 SR = Single Rank, DR = Dual Rank, QR = Quad Rank.
 Population rules must be followed for both processors. DIMMs must be populated in alphabetic order (A, B, C...) as indicated in the matrix.
 Memory modules may be populated one at a time per processor, but populating two at a time per processor provides better performance.
 Memory modules should be populated four at a time per processor for best performance.
 Memory modules within a memory bank must be identical for best performance.
 Quad Rank memory module can only be installed in memory sockets 2, 5, 8, and 11.

To install the memory module:

- Align the notch on the bottom edge of the memory module with the keyed surface of the DIMM slot and then fully press the memory module into the slot until the holding clips snap back in place.

Figure 9 Installing the Memory Module



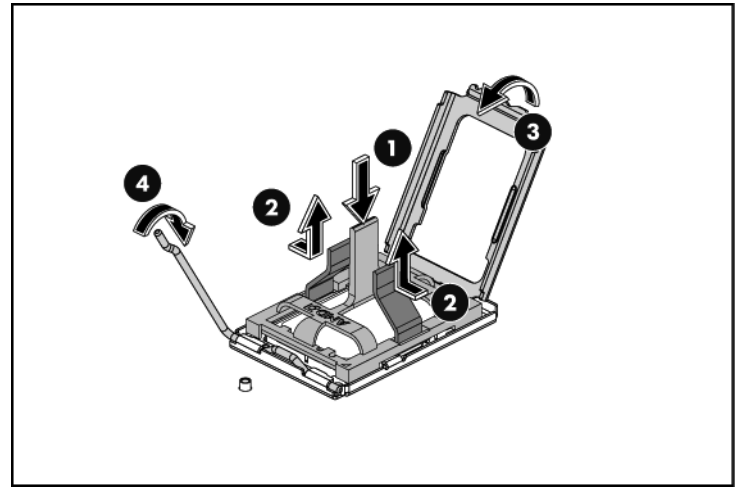
CAUTION: DIMM slots are structured to ensure proper installation. If you insert a DIMM but it does not fit easily into the slot, you may have inserted it incorrectly. Reverse the orientation of the DIMM and insert it again.

Installing a processor

To install the processor:

- For AMD processor with installation tool, use the processor installation tool to insert the processor into the socket, using the keys on the processor.
- Remove the processor installation tool.
- Engage the retention plate and the load lever.

Figure 10 Installing the Processor



For processor removal, reverse the above installation procedures.

CAUTION: With the load lever and the retention plate disengaged, hold the processor by its edges and align it over the empty processor socket. Make sure that you properly align the processor with the orientation notch on the socket.

CAUTION: To prevent overheating or a possible system crash, use only a heat sink model specified for the HP ProLiant DL165 G7 Server.

CAUTION: Align pin 1 on the processor with pin 1 on the processor socket, or pin damage will occur.

CAUTION: HP recommends using Shin-Etsu X-23-7783D thermal grease compound for your ProLiant server. Apply the grease to the top of the processor in either a 5 "Dot" or "S" shaped pattern. Ensure even distribution.

To install the heat sink:

1. Properly align the heat sink spring-loaded screws to the system board mounting holes.
2. Tighten the spring-loaded screws clockwise to secure the heat sink connection to the system board.

Figure 11 Installing the Heat Sink Assembly of Processor 1

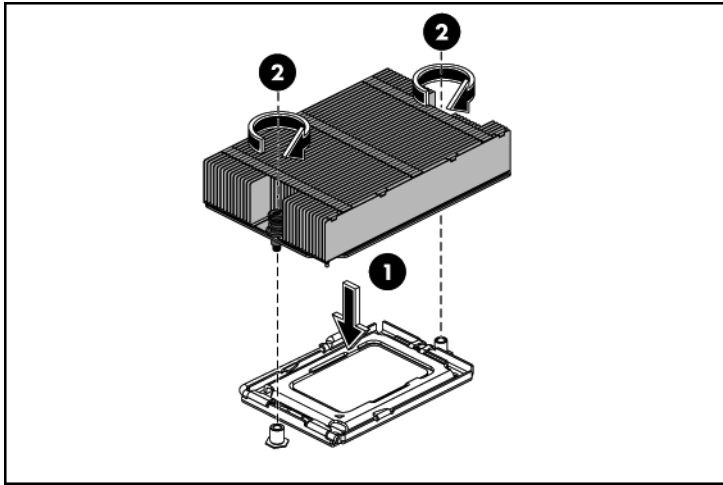
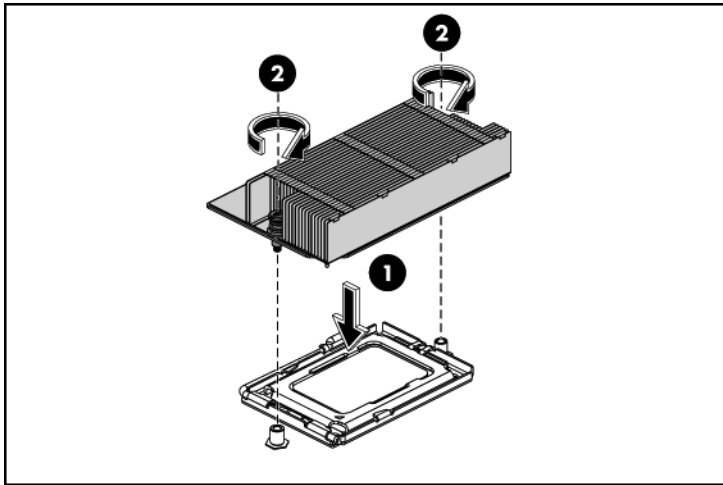


Figure 12 Installing the Heat Sink Assembly of Processor 2



CAUTION: Be sure that the heat sink sits squarely on the processor, or overheating and damage to the processor may occur.

CAUTION: When installing heat sinks of processor 1, it is recommended to put the heat sinks with the 15-fin side facing the DIMMs; When installing heat sinks of processor 2, it is recommended to put the heat sinks with the 2-fin side facing the DIMMs.

CAUTION: Do not over-tighten the spring-loaded screws to prevent them from breaking off. A maximum torque of 7 inch-lb is set for each screw. Rotate the heat sink a few degrees to the left and right to break the bonding of the thermal grease before removing the heat sink from the processor.

IMPORTANT: If the heat sink has been removed for any reason, it is critical that you apply more thermal interface material to the integrated heat spreader on the processor to ensure proper thermal bonding between the processor and the heat sink. Clean the contact surface of both the processor and heat sink with an alcohol pad, then re-apply an HP-approved thermal interface material before reinstalling the processor. Use a pattern of five dots when applying the thermal interface material—one dot in the center, and one dot at each corner.

CAUTION: For proper cooling, do not operate the server without the top cover, air baffle, expansion slot covers, or blanks installed. For additional information, see the user guide. If hot-plug components are supported, minimize the amount of time the top cover is removed.

Installing the system fans

For servers installed with one or two processors, the system fans should be installed differently according to the figures below:

Figure 13 Installing the System Fans for One Processor Configuration (The system fans should be installed on the 2nd, 4th, 5th and 6th system fan locations)

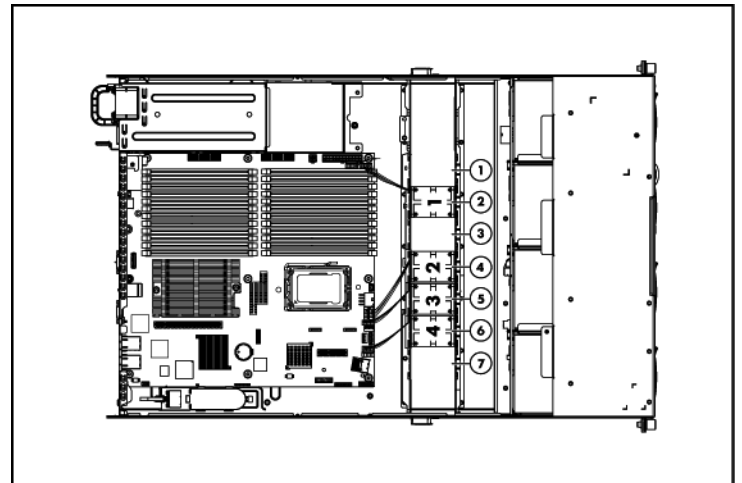
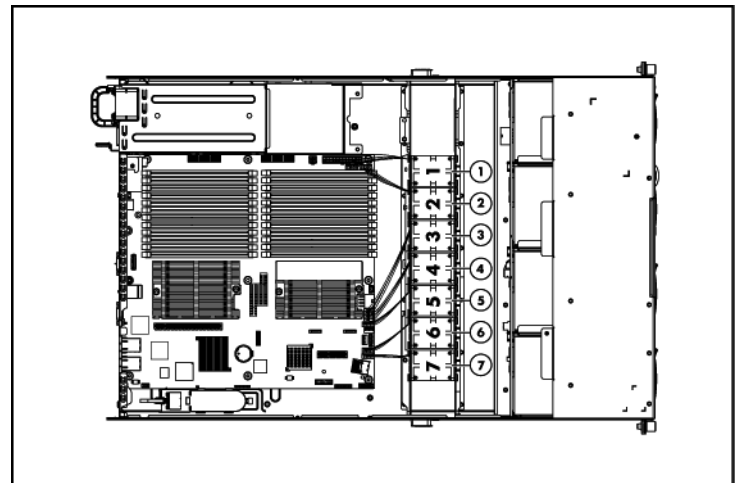


Figure 14 Installing the System Fans with Redundancy for Two Processors Configuration (The redundant fan functions are supported by the system fan 1, system fan 3, and system fan 7 when installed)

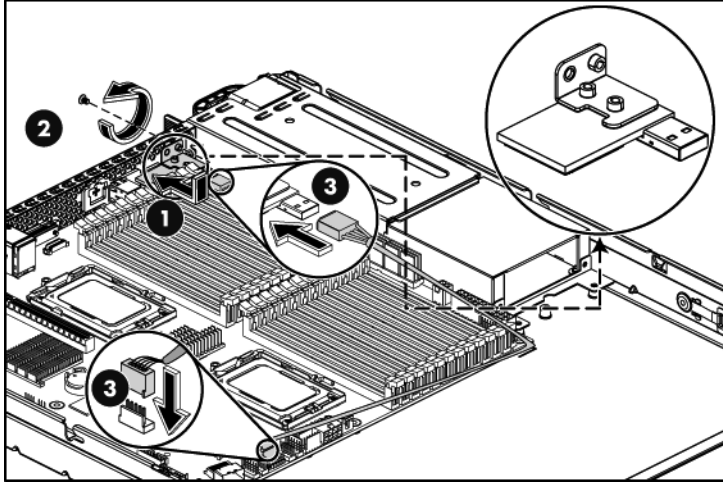


Installing the SD card reader module

To install the SD card reader module:

1. Remove the SD card reader module knock-out from the back panel of the server.
2. Align the SD card reader module to the back panel, and tighten the screw that secures the module to the chassis.
3. Connect the USB cable to the SD card reader module USB connector and link the other side of the USB cable connector to the system board. (Refer to your system hood label for the connector locations.)

Figure 15 Installing the SD card reader Module



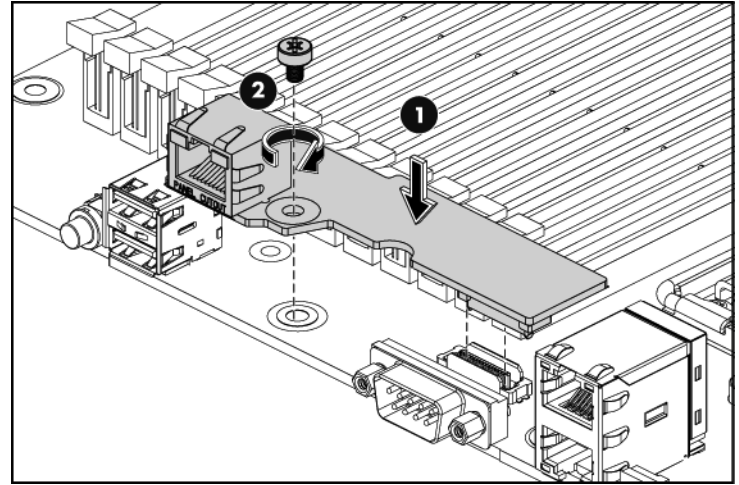
NOTE: You must use the slotted driver to remove the knock-out.

Installing the dedicated management port card

To install the dedicated management port card:

1. Remove the dedicated management port knock-out from the back panel of the server.
2. Insert the dedicated management port card into the mgmt card connector on the system board.
3. Tighten the screw clockwise to secure the dedicated management port card to the system board.

Figure 16 Installing the Dedicated Management Port Card



Additional documentation

For additional documentation, refer to the *HP ProLiant DL165 G7 Server Easy Set-up CD*. You can also access additional information and documentation from the HP external website, either by connecting directly or through the Easy Set-up CD.

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