

# HP ProLiant DL180 G6 Server Installation Sheet



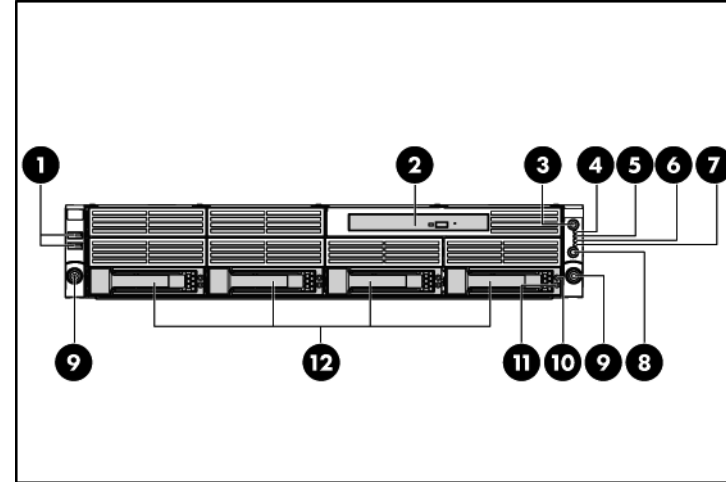
## Important Safety Information

Before installation, read *Important Safety Information* on the Documentation CD.  
 .Documentation CD اقرأ معلومات هامة حول السلامة على القرص المضغوط قبل التنصيب.  
 Před instalací si přečtěte příručku *Důležitá bezpečnostní informace* na disku CD.  
 安装之前, 请阅读文档 CD 上的 *重要安全信息*。  
 安裝前, 請閱讀說明文件光碟上的「*重要的安全性資訊*」。  
 Læs dokumentet *Vigtige sikkerhedsoplysninger* på dokumentations-cd'en, før produktet installeres.  
 Lesen Sie vor der Installation die *Sicherheitshinweise* auf der Documentation CD.  
 Enne installimist vt dokumentatsiooni CD-lt peatükki „*Tähtis ohutusteave*“.  
 Antes de la instalación, lea la sección *Información de seguridad importante* del CD Documentación.  
 Avant l'installation, lisez les *informations importantes relatives à la sécurité* CD Documentation.  
 Πριν την εγκατάσταση, διαβάστε *Σημαντικές πληροφορίες ασφαλείας* στο CD Documentation.  
 לפני ההתקנה, קרא את המידע הבטיחותי החשוב שב-Documentation CD (תקליטור התייוד).  
 Prije ugradnje, pročitajte *Važne sigurnosne informacije* na dokumentacijskom CD-u.  
 Prima dell'installazione, leggere sul CD le *Informazioni importanti sulla sicurezza*.  
 インストール前に、Documentation CDの『安全に使用していただくために』をお読みください。  
 설치하기 전에 Documentation CD의 주요 안전 수칙을 읽으십시오.  
 Pirms instalācijas, izlasiet drošības informāciju dokumentācijas CD.  
 Prieš diegdami perskaitykite *Svarbią saugos informaciją* dokumentacijos CD.  
 Telepítés előtt olvassa el a dokumentációs CD *Fontos biztonsági tudnivalók* dokumentumát.  
 Lees de *Belangrijke veiligheidsinformatie* op de documentatie-cd voordat u de installatie uitvoert.  
 Les "Viktig sikkerhetsinformasjon" på dokumentasjons-CDen før du installerer dette produktet.  
 Przed instalacją przeczytaj *Ważne informacje dotyczące bezpieczeństwa* na dysku CD Documentation.  
 Antes da instalação, leia as *Informações Importantes sobre Segurança* no CD da Documentação.  
 Перед установкой ознакомьтесь с разделом *Указания по технике безопасности* на компакт-диске «Документация».  
 Pred inštaláciou si prečítajte časť *Dôležitá bezpečnostná informácia* na disku Documentation CD.  
 Pred namestitvijo preberite *Pomembne varnostne informacije* na CD-ju Documentation.  
 Tärkeisiin turvatietoihin" Documentation CD -levyllä ennen tuotteen asentamista.  
 Läs dokumentet *Viktig säkerhetsinformation* på dokumentations-cd:n innan du installerar denna produkt.  
 Yüklemeden önce, Documentation CD'sindeki *Önemli Güvenlik Bilgileri*'ni okuyun.  
 Перед установкою прочитайте *Важливі відомості з безпеки* на CD документації.

## Identifying server components

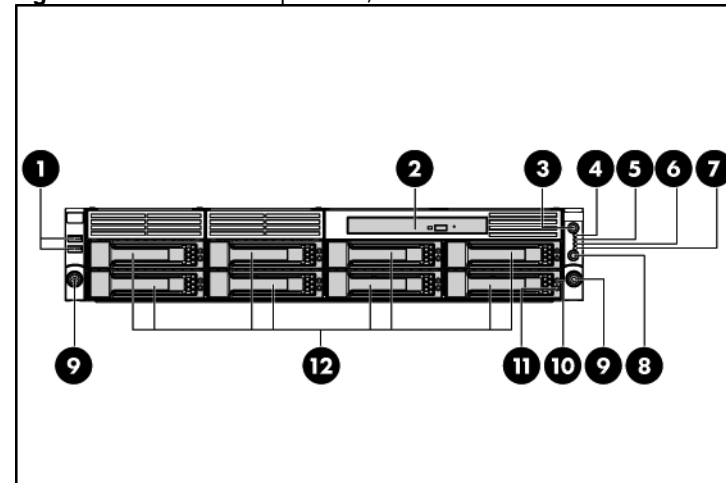
### Front panel components

Figure 1 Front Panel Components / 4 3.5" HDD Model



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

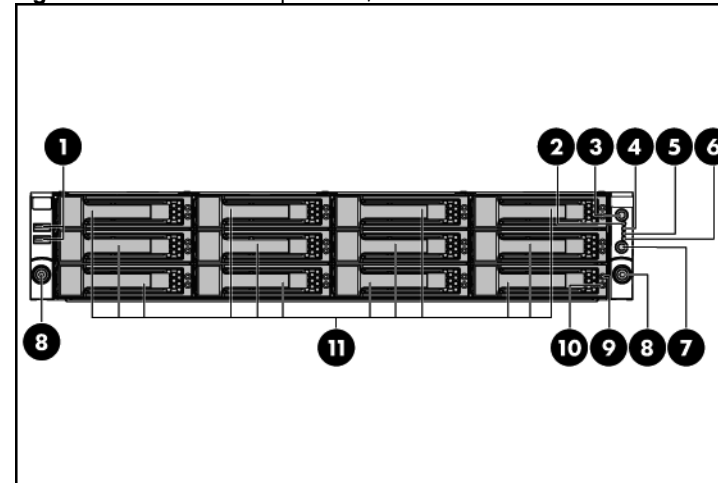
Figure 2 Front Panel Components / 8 3.5" HDD Model



Item	Description
1	Front panel USB 2.0 port 0/1

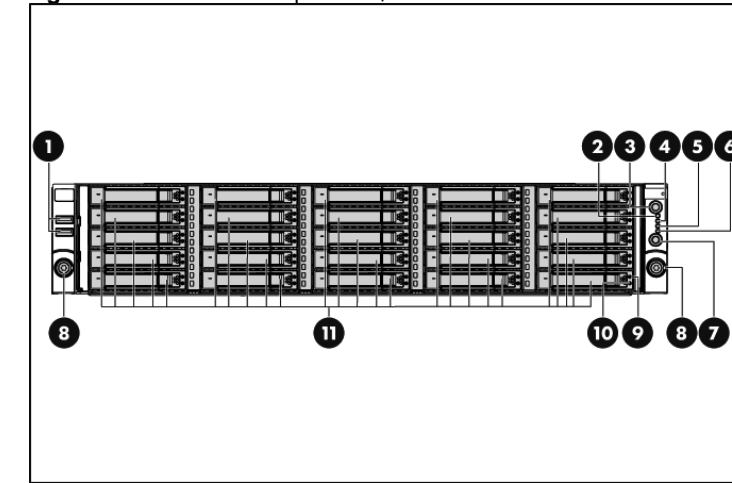
Item	Description
2	Optical disc drive
3	Front UID LED/switch
4	System health LED
5	NIC 1 activity LED
6	NIC 2 activity LED
7	Hard drive activity LED
8	Power LED/switch
9	Thumbscrews for rack mounting
10	Drive online/error LED
11	Drive activity LED
12	Hard disk drive (HDD) bays

Figure 3 Front Panel Components / 12 3.5" HDD Model



Item	Description
1	Front panel USB 2.0 port 0/1
2	System health LED
3	Front UID LED/switch
4	NIC 1 activity LED
5	NIC 2 activity LED
6	Hard drive activity LED
7	Power LED/switch
8	Thumbscrews for rack mounting
9	Drive online/error LED
10	Drive activity LED
11	Hard disk drive (HDD) bays

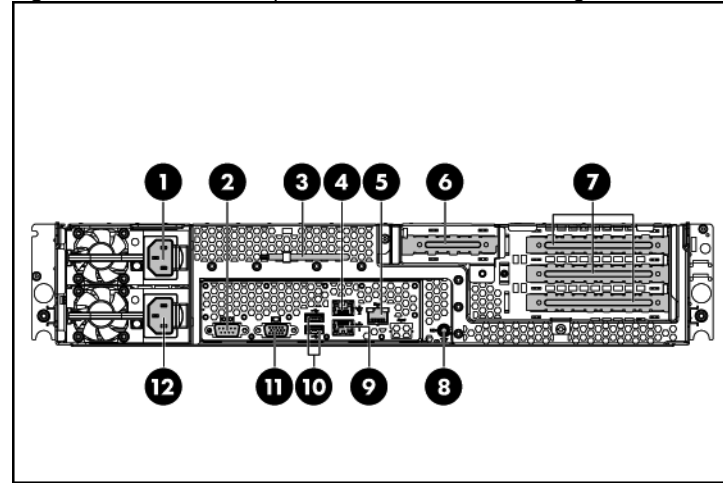
Figure 4 Front Panel Components / 25 2.5" HDD Model



Item	Description
1	Front panel USB 2.0 port 0/1
2	System health LED
3	Front UID LED/switch
4	NIC 1 activity LED
5	NIC 2 activity LED
6	Hard drive activity LED
7	Power LED/switch
8	Thumbscrews for rack mounting
9	Drive online/error LED
10	Drive activity LED
11	Hard disk drive (HDD) bays

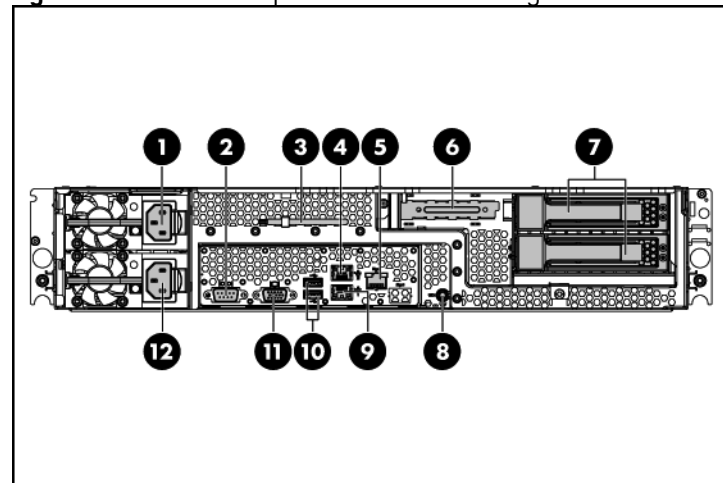
## Rear panel components

**Figure 5** Rear Panel Components for Standard PCI Cage



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

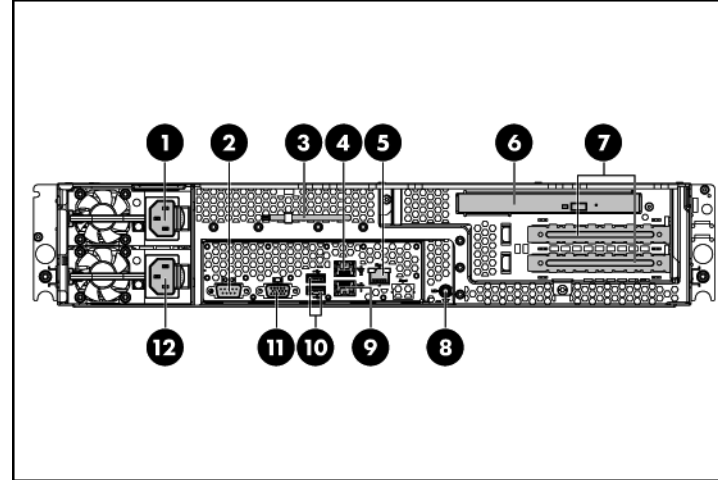
**Figure 6** Rear Panel Components for HDD PCI Cage



Item	Description
1	Power supply 2 cable socket
2	Serial port
3	T-10/T-15 wrench

Item	Description
4	GbE LAN port for NIC 2
5	Mgmt port (optional)
6	Low-profile PCI expansion card slot cover
7	Rear Hard Drives
8	UID LED/switch
9	GbE LAN port for NIC 1
10	Rear Panel USB 2.0 port 2/3
11	VGA port
12	Power supply 1 cable socket

**Figure 7** Rear Panel Components for DVD-ROM PCI Cage

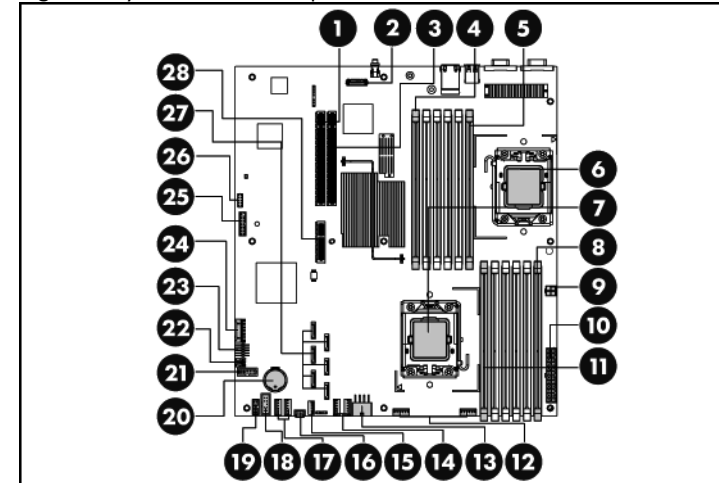


Item	Description
1	Power supply 2 cable socket
2	Serial port
3	T-10/T-15 wrench
4	GbE LAN port for NIC 2
5	Mgmt port (optional)
6	Optical Disc Drive
7	Full-height/full-length PCI expansion card slot covers
8	UID LED/switch
9	GbE LAN port for NIC 1
10	Rear Panel USB 2.0 port 2/3
11	VGA port
12	Power supply 1 cable socket

**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 DL180 G6 Server Maintenance and Service Guide.

## System board components

**Figure 8** System Board Components



Item	Description
1	PCIe slot
2	Mgmt card connector
3	PCIe slot
4	DIMM slot 6C for processor 2
5	DIMM slot 1D for processor 2
6	Processor 2
7	Processor 1
8	DIMM slot 6C for processor 1
9	4-pin power connector
10	System power connector
11	DIMM slot 1D for processor 1
12	Fan connector 1/2
13	8-pin power connector
14	Fan connector 3/4 (Fan 4 is unused)
15	Internal USB 2.0 port 4
16	Backplane I <sup>2</sup> C connector
17	Fan connector 5/6 (Fan 6 is unused)
18	Hard drive backplane SGPIO connector
19	Power supply EFF connector
20	3 V CMOS battery (CR2032)
21	Power backplane control connector
22	LCD connector (optional)
23	Front panel USB 2.0 port 0/1
24	Front panel header
25	TPM connector
26	System maintenance jumper
27	SATA connectors
28	PCIe slot

## 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 DL180 G6 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 DL180 G6 Server Software Configuration Guide*.
- Refer to the *HP ProLiant DL180 G6 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 DL180 G6 Server for operation:

- Connect the AC power cord and peripheral devices.
- Power on the server.
- Press "F10" to enter BIOS setup.
- Note the server BIOS version.
- Verify the server BIOS version against the latest BIOS version listed for this server.
- If you do not have the latest BIOS, update the BIOS now. Refer to the *HP ProLiant DL180 G6 Server Maintenance and Service Guide*.
- 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 DL180 G6 Server, observe the following procedures:

### Pre-installation procedures

- Turn off the server and all the peripherals connected to it.
- Disconnect the AC power cord from the power supply cable socket located on the server rear panel to reduce the risk of electrical shock.
- If the server is installed in a rack, remove the server and place it on a flat surface.
- 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.

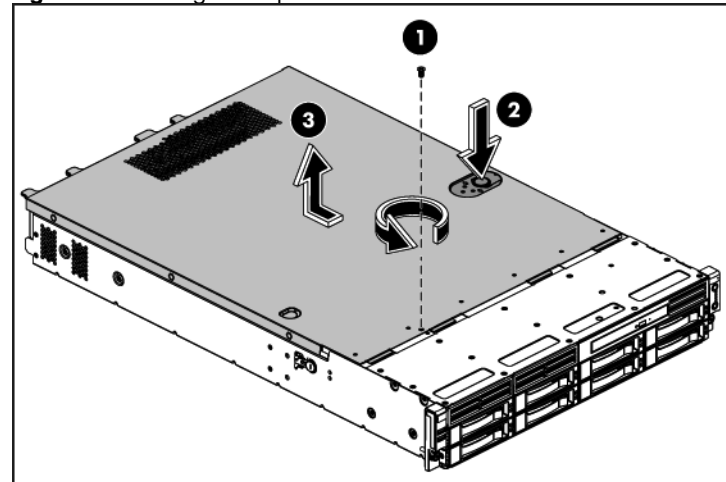
## Opening the server

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 9 Removing the Top Cover



## Installing a hard drive

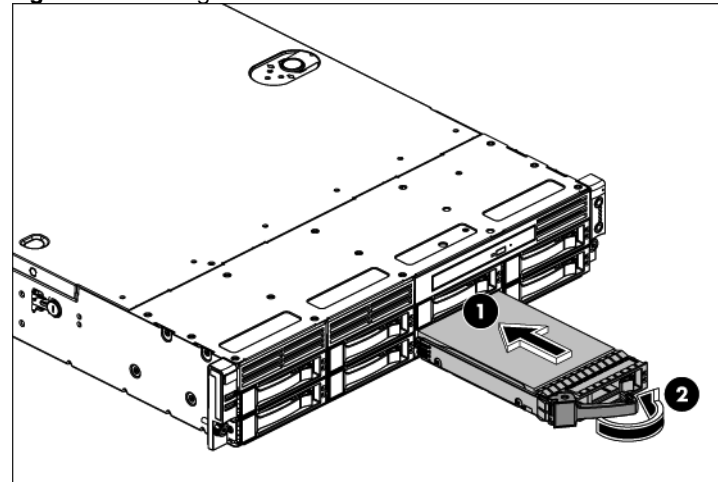
The drive bays on the front panel can accommodate up to twelve 3.5 in. or 2.5 in. hard drives. You can install either SAS hard drives or SATA hard drives in the server.

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

To install the 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.

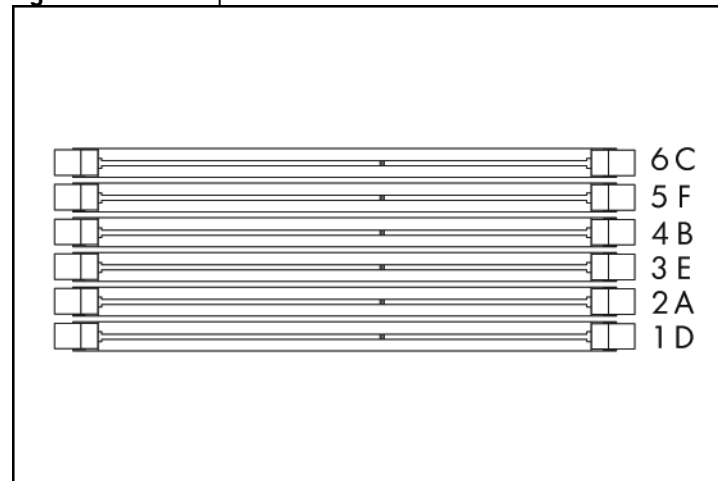
Figure 10 Installing the Hard Drive



## Installing a memory module

- Installation guide for 1P configuration:
  - Follow the sequence of 2A, 4B, 6C, 1D, 3E, and 5F for the corresponding processor when installing the memory.
- Installation guide for 2P configuration:
  - Follow the sequence of 2A, 4B, 6C, 1D, 3E, and 5F for the corresponding processor when installing the memory.
  - Install at least one memory DIMM for each processor.
  - The memory quantity installed for each processor can be different.

Figure 11 DIMM Population



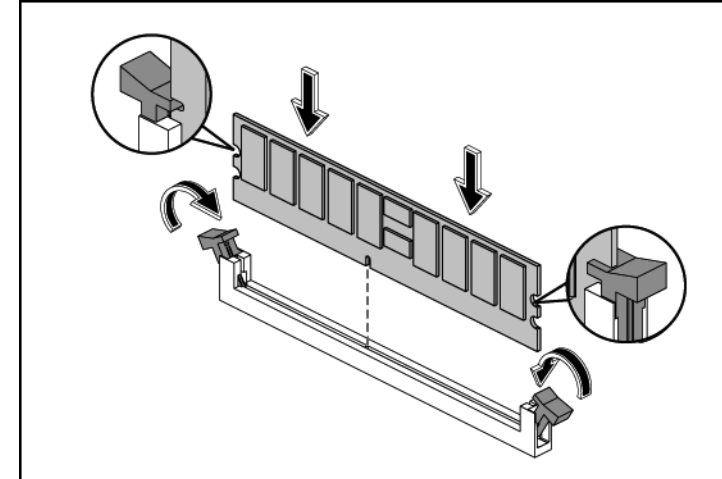
- ⚠ **CAUTION:** DIMMs can be damaged by improper handling. Always use an anti-static wrist strap and grounding mat, and discharge static electricity before touching DIMMs.

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

To install the memory module:

1. 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 12 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.

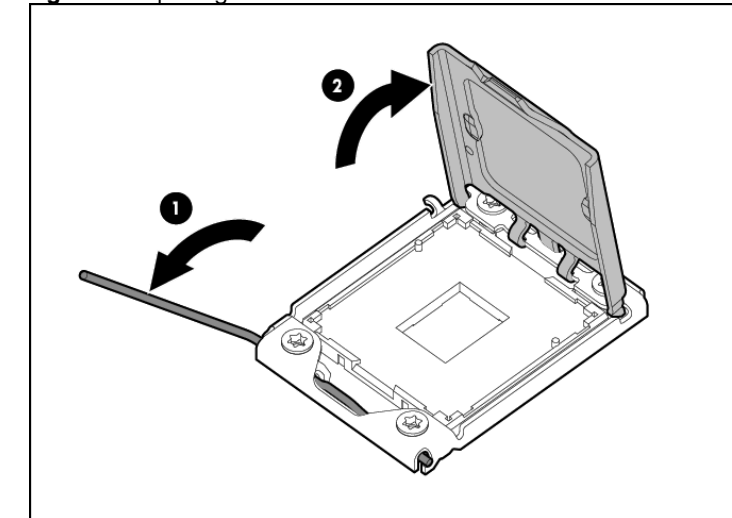
## Installing a processor

To install the processor:

- ⚠ **CAUTION:** Failure to completely open the processor locking lever prevents the processor from seating during installation, leading to hardware damage.

1. Open the processor locking lever and the processor socket retaining bracket. **Do not remove the processor socket cover.**

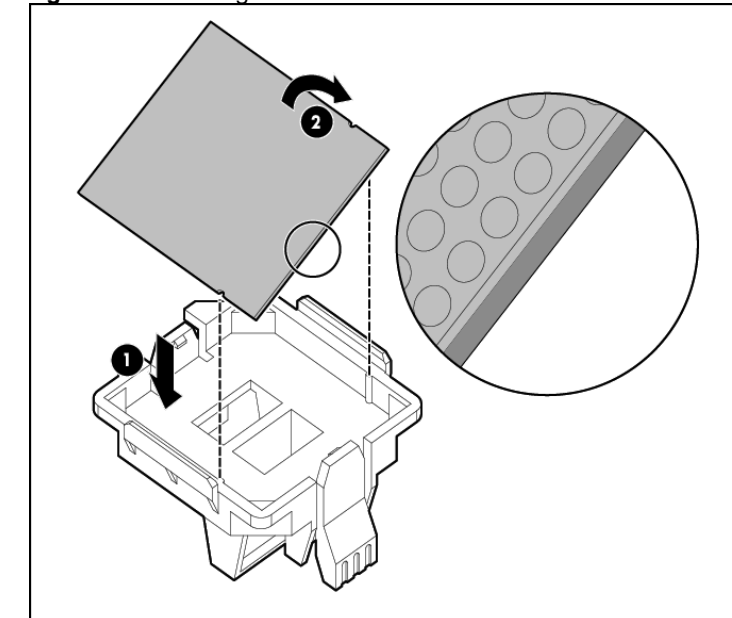
Figure 13 Opening the Lever and Bracket



- ⚠ **IMPORTANT:** Be sure the processor remains inside the processor installation tool.

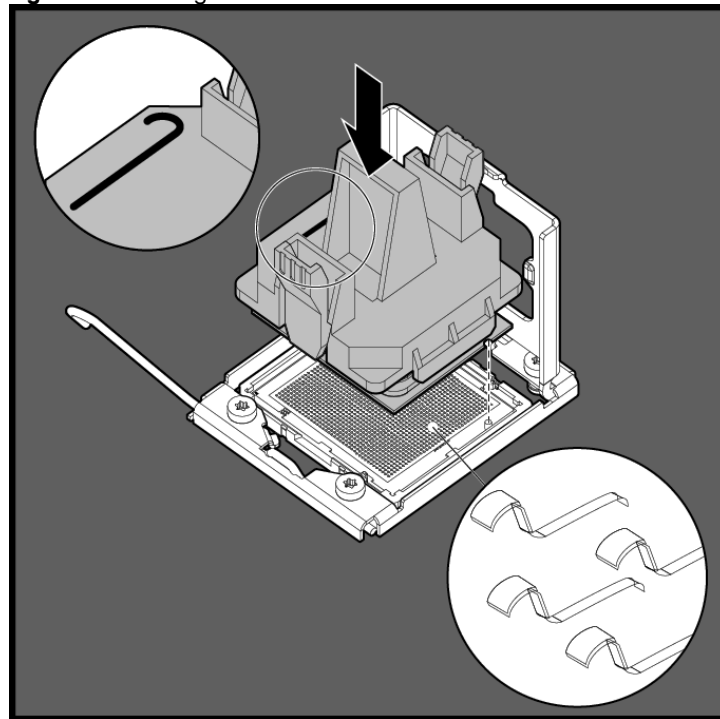
2. If the processor has separated from the installation tool, carefully re-insert the processor in the tool. Handle the processor by the edges only, and do not touch the bottom of the processor, especially the contact area.

Figure 14 Reinserting the Processor



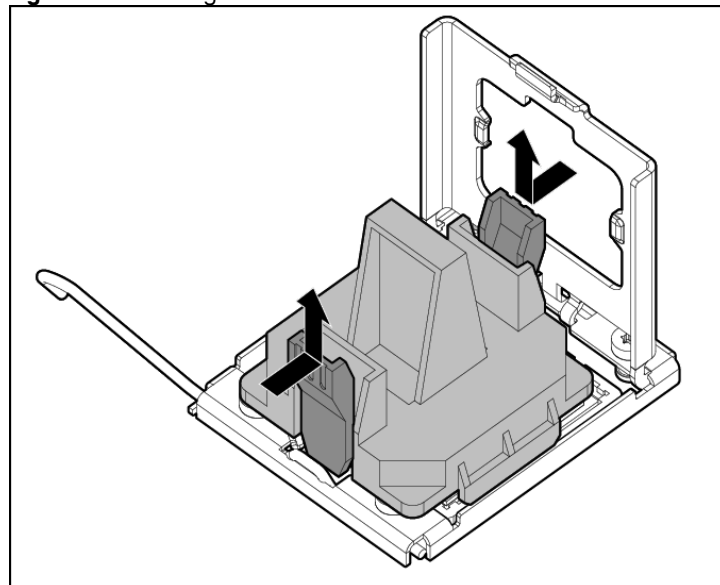
3. Align the processor installation tool with the socket, and then install the processor. **THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED.**

Figure 15 Installing the Processor



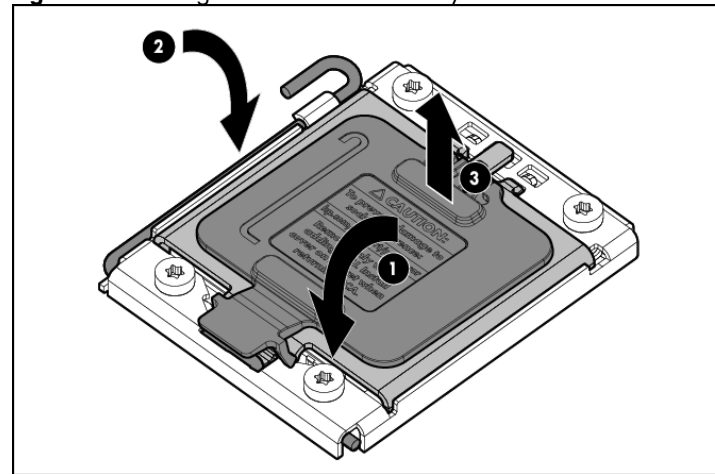
- 1 **CAUTION: THE PINS ON THE SYSTEM BOARD ARE VERY FRAGILE AND EASILY DAMAGED.** To avoid damage to the system board:
    - 2 Never install or remove a processor without using the processor installation tool.
    - 3 Do not touch the processor socket contacts.
    - 4 Do not tilt or slide the processor when lowering the processor into the socket.
4. Press the tabs on the processor installation tool to separate it from the processor, and then remove the tool.

Figure 16 Removing the Processor Installation Tool



5. Close the processor socket retaining bracket and the processor locking lever. **The processor socket cover is automatically ejected.** Remove the cover.

Figure 17 Installing the Heat Sink Assembly



- △ **CAUTION:** Be sure to close the processor socket retaining bracket before closing the processor locking lever. The lever should close without resistance. Forcing the lever closed can damage the processor and socket, requiring system board replacement.

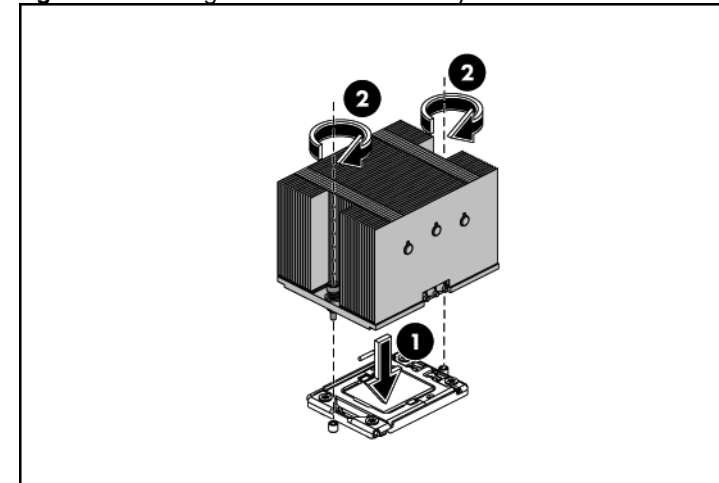
For processor removal, reverse the above installation procedures using the tool to remove the processor.

- △ **CAUTION:** To prevent overheating or a possible system crash, use only a heat sink model specified for the HP ProLiant DL180 G6 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 18 Installing the Heat Sink Assembly



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

**NOTE:** When installing two heat sinks, it is recommended to put the heat sinks with the 14-fin side facing the DIMMs.

- △ **CAUTION:** Do not over-tighten the spring-loaded screws to prevent them from breaking off. A maximum torque of 6 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.

## Additional documentation

For additional documentation, refer to the *HP ProLiant DL180 G6 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*.

### Legal notices

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