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Compaq ProLiant DL380 G2

Service Update

Abstract: This service update white paper describes an update to the Compaq ProLiant DL380 G2 Server and to service considerations for the controller, battery, and system board. It provides spares part and option kit numbers for the new 1.4 Ghz processor and reviews service procedures for removing or replacing the processor.

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Product Description

The ProLiant DL380 G2 Server has a new processor speed, 1.4Ghz. This document lists the new option and spare part number and reviews the corresponding procedures to service.



Features

This is a review of the features pertinent to this update.

- New, faster processor speed: 1.4Ghz

Quick Specs

DL380R02 P1400-512KB, 256MB 253864-XX1	Processor	(1) Intel Pentium III FC PGA2 1.4 GHz Processor standard (up to 2 supported)
	Cache	512-KB level 2 ECC cache
	Memory	256 MB (Standard) to 6 GB (Maximum) PC133MHz Registered ECC SDRAM
	Network Controller	(2) Compaq NC3163 Fast Ethernet NIC (embedded) PCI 10/100 WOL (Wake on LAN)
	Storage Controller	Smart Array 5i Controller (integrated on system board)
	Hard Drive	None ship standard
	Internal Storage	436.8 GB max (with optional hard drives)
	Optical Drive	24x IDE CD-ROM Drive (MultiBay)
	Form Factor	Rack (2U), (3.5-inch)

System and Mechanical Spare Parts List

As a review, Figure 1 and 2 illustrate an exploded views of the mechanical and system spare component parts. Table 1 lists the option and spare part numbers. Part numbers for the new processor are highlighted in yellow.

Figure 1. Mechanical parts exploded view

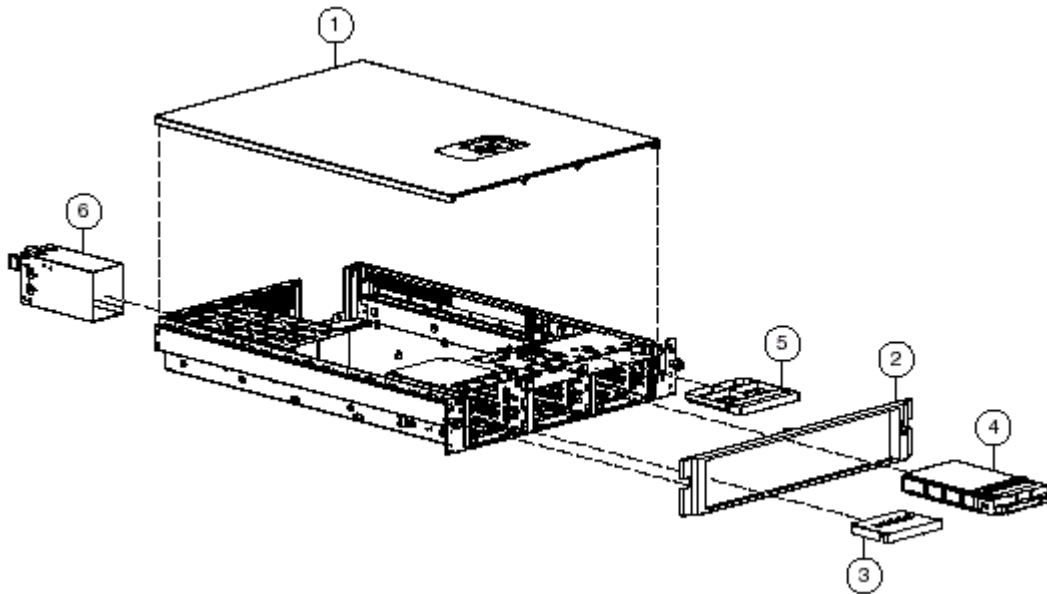


Table 1 Mechanical Components Spare Parts List

Item	Description	Part Number	Spare Part Number
1	Access panel (top cover)	218377-001	228523-001
2	Front bezel	218381-001	228512-001
3	Tape drive blank	218512-001	228498-001
4	Hard drive blank	349448-001	122759-001
5	CD blank	229567-001	228500-001
6	Power supply blank	218378-001	228501-001

Figure 2. System components exploded view

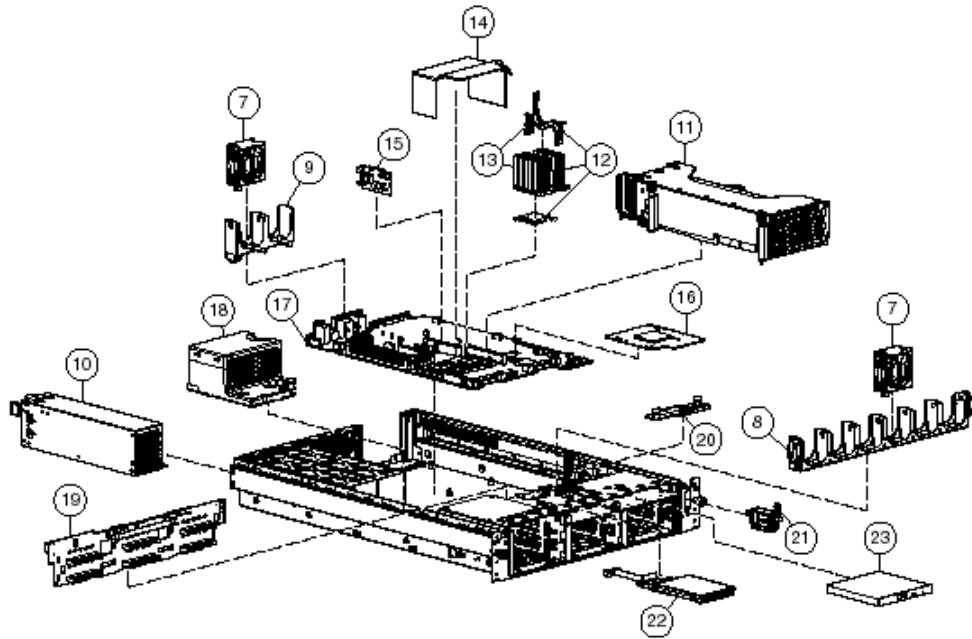


Table 2 System Components Spare Parts List

Item	Description	Part Number	Spare Part Number
System Components			
7	Hot-plug fan 60-mm	218382-001	228513-001
8	Front fan bracket 6-bay	218383-001	228514-001
9	Rear fan bracket 2-bay	218667-001	228493-001
10	Hot-plug power supply 400-W	194989-001	228509-001
11	PCI riser cage, with boards	227238-001	228495-001
12	Intel Pentium III processors a) 1.13-GHz processor, heatsink, and heatsink clip b) 1.26-GHz processor, heatsink, and heatsink clip c) 1.4-GHz processor, heatsink, and heatsink clip	235384-003 235384-002 235384-004	228524-001 228496-001 259593-001
13	Heatsink and heatsink clip	228075-001	228497-001
14	Air baffle	228073-001	228525-001
Boards			
15	Processor power module (PPM), 12-V, 28.5-A	217336-001	228506-001
16	Smart Array 5i Controller	011003-003	228510-001
17	System board, with heatsink	010933-001	228494-001
18	Power converter module	207066-001	228505-001

Item	Description	Part Number	Spare Part Number
19	SCSI backplane, 6-bay	010936-001	228502-001
20	CD MultiBay adapter board	010984-001	228504-001
21	Power button/LED board	010963-001	228503-001
	Mass Storage Devices		
22	Diskette drive, slimline, 1.44-MB	235168-001	228507-001
23	CD-ROM drive, IDE, 24X	222837-001	228508-001
	Cables		
24	SCSI cable kit *	—	228517-001
	SCSI cable, short, 68-pin	199606-018	—
	SCSI cable, long, 68-pin	166298-035	—
25	Signal cable kit *	—	228518-001
	Power button/LED cable, 14-pin	219048-001	—
	CD MultiBay cable, 50-pin	314014-006	—
	PCI Hot Plug backplane cable	219049-001	—
26	Miscellaneous cable kit *	—	228519-001
	System cable (LED/CD-ROM drive or diskette drive), 50-pin	219047-001	—
	Remote Insight Lights-Out Edition interface cable, 16- to 30-pin	233763-001	—
	Rack-mounting Hardware		
27	Rack-mounting hardware kit *	—	232793-001
	Standard rack rail, slide assembly, left	232041-001	—
	Standard rack rail, slide assembly, right	232040-001	—
	Cable management arm, assembly	227026-001	—
	Miscellaneous		
28	Hardware kit *	—	228527-001

Item	Description	Part Number	Spare Part Number
	Screws, T-15, flathead	228213-001	—
	Expansion slot cover	228072-001	—
29	Plastics kit *	—	228516-001
	PCI slot release lever	228194-001	—
	PCI shipping bracket	233129-001	—
	PCI lightpipe, rear	218517-001	—
	PCI lightpipe cover	218518-001	—
	PCI riser cage door latch	221047-001	—
	Thumbscrew with molded cap, PCI slot 1	179333-003	—
30	CD ejector assembly *	233905-001	237158-001
31	PCI expansion board ejector/divider *	218976-001	228515-001
32	Battery, 3.3-V, lithium *	334149-001	179322-001
33	Country kit *	195313-001	228526-001
34	Return kit, pack box and cushions *	—	228522-001
35	Maintenance and service guide *	203840-003	228520-001
	Memory		
36	DIMM, 128-MB, registered 133-MHz SDRAM *	127007-031	164278-001
37	DIMM, 256-MB, registered 133-MHz SDRAM *	127005-031	159377-001
38	DIMM, 512-MB, registered 133-MHz SDRAM *	127006-041	177628-001
39	DIMM, 1-GB, registered 133-MHz SDRAM *	127008-041	163902-001
	Options		
40	Telco rack-mounting kit *	228892-B21	232794-001
41	Third-party rack-mounting kit *	228894-B21	232795-001
Note:	* Not shown		

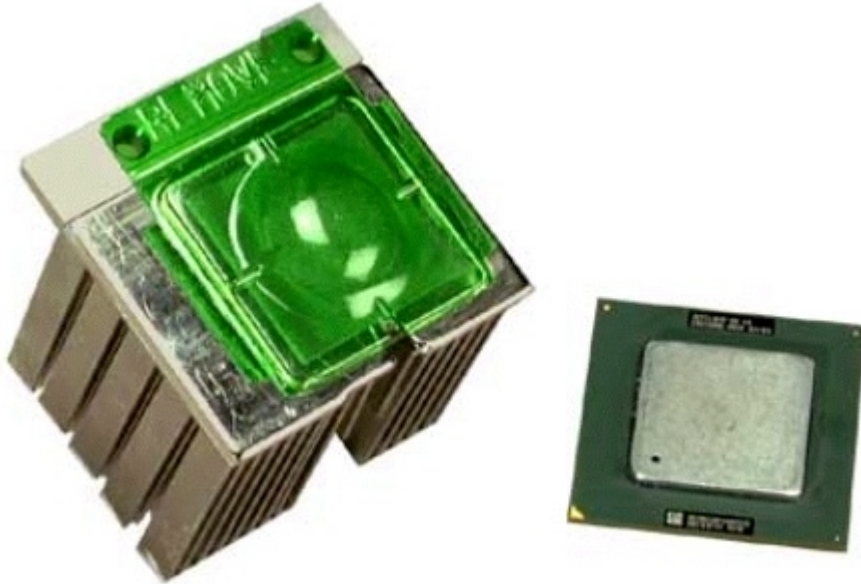
Table 3: Processor Option Kit

Description	Part Number
Pentium III P1133-512KB Processor Option Kit	201097-B21
Pentium III P1266-512KB Processor Option Kit	201098-B21
Pentium III P1400-512KB Processor Option Kit	201099-B21

Refer to the *QuickSpecs* for a more complete list of options. (See *References*.)

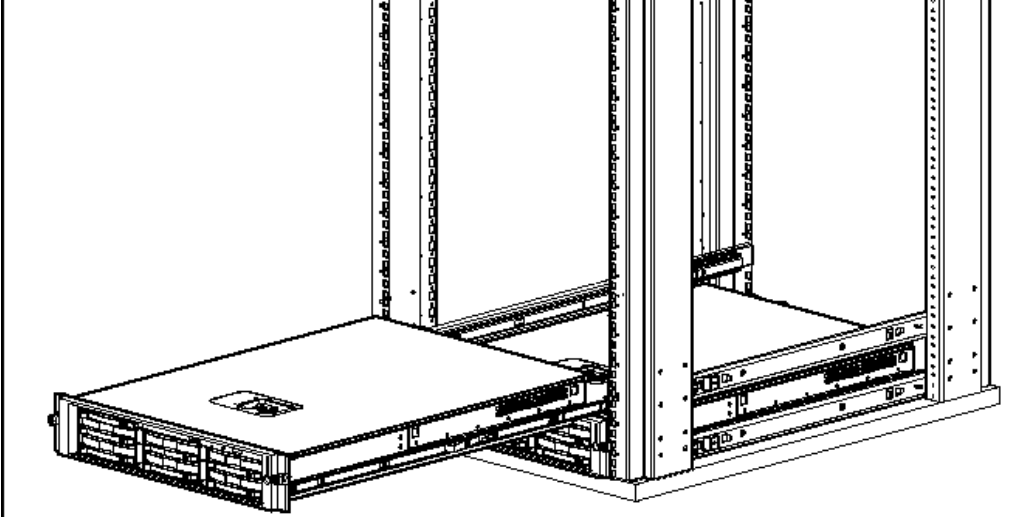
Servicing Procedures

Removing and Replacing the Processor



Bottom view of heatsink and top view of processor

Extending the server from the Rack

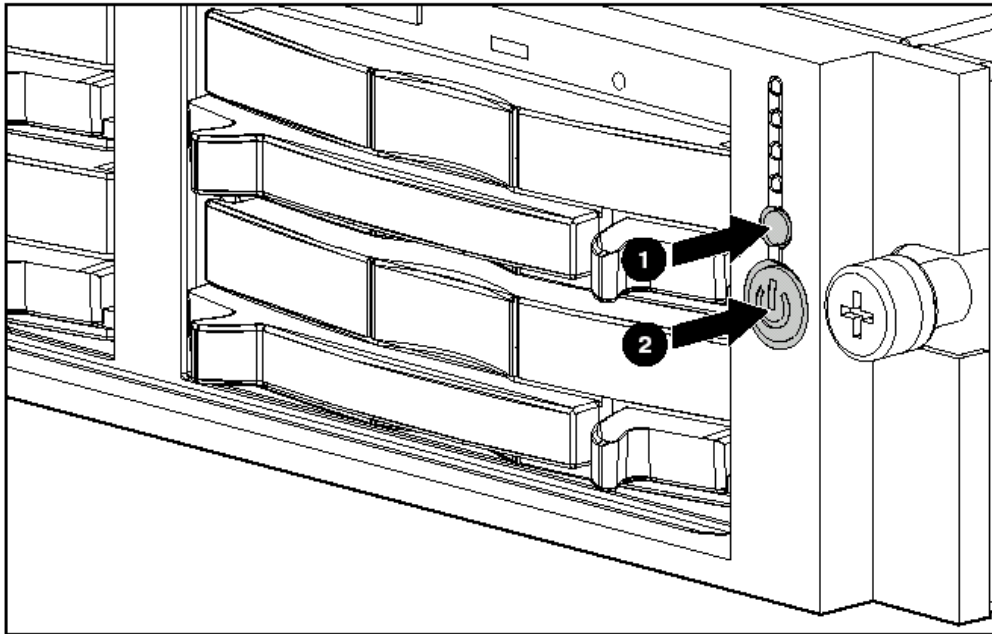
Step	Action
1.	Loosen the front panel thumbscrews that secure the server faceplate to the front of the rack.
2.	Extend the server until the server rail-release latches engage. 

Step	Action
3.	After performing the maintenance procedure, slide the server back into the rack: <ol style="list-style-type: none"> <li data-bbox="391 306 1429 350">a. Press the server rail-release latches. <li data-bbox="391 350 1429 394">b. Slide the server fully into the rack. <li data-bbox="391 394 1429 438">c. Secure the server by tightening the thumbscrews.

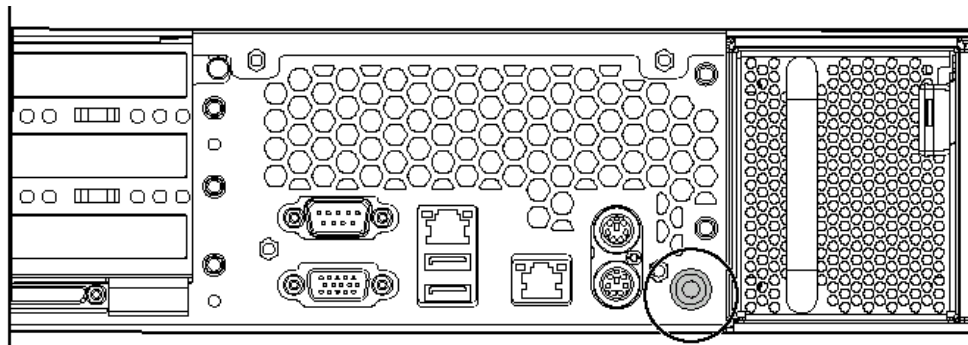
Power down the server

Step	Action
1.	Press the front unit identification LED switch on the server front panel to illuminate the LED ①. The rear unit identification LED switch illuminates on the server rear panel.

2.	Press the server Power On/Standby button to place the server in standby mode ②. The system power LED turns to amber when standby power mode is activated.
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3.	At the rear of the server, locate the illuminated rear unit identification LED switch that identifies the server you are servicing.
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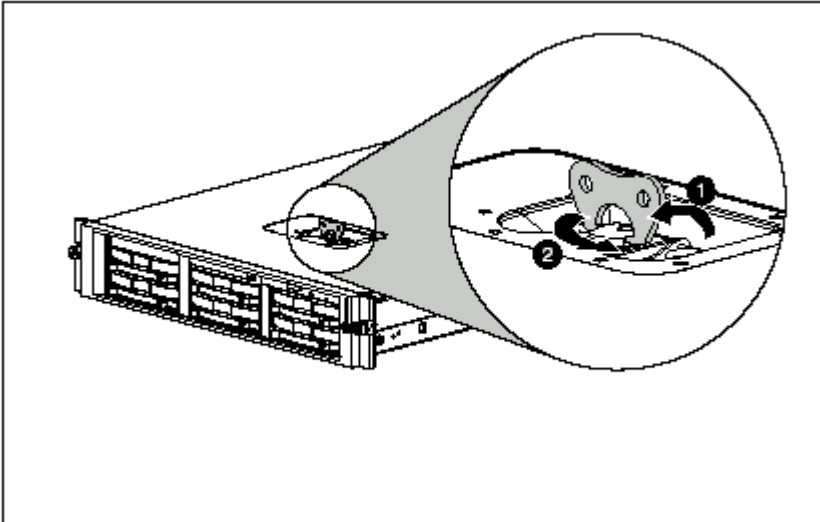


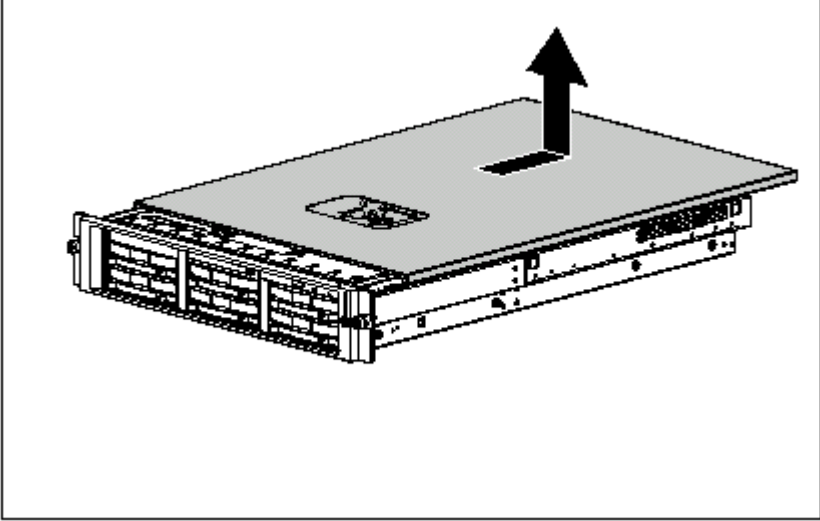
4.	Disconnect all power cords.
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Step	Action
5.	Disconnect all remaining cables on the server rear panel.

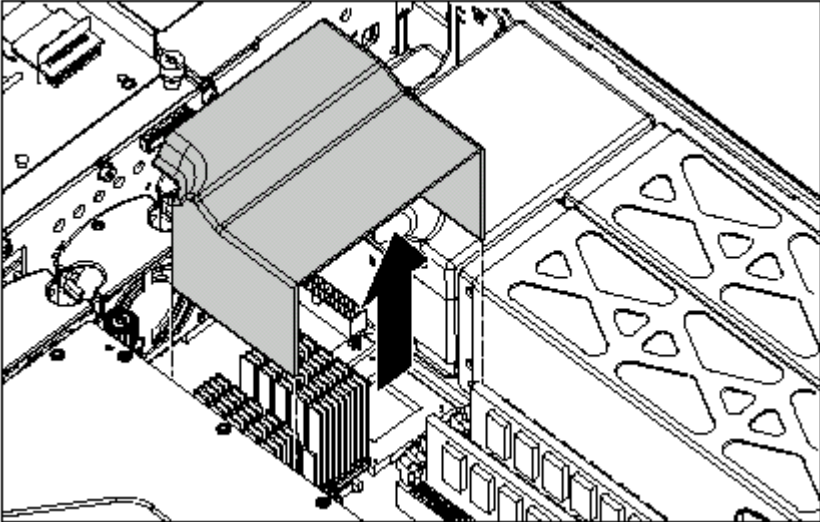
Remove and replace the access panel

CAUTION: Do not operate the server for extended periods without the access panel. Operating the server without the access panel results in improper airflow and improper cooling that can lead to thermal damage.

Step	Action
1.	Extend or remove the server from the rack. See the "Preparation Procedures" section in this chapter.
2.	Flip up the hood latch handle ❶.
3.	<p>Turn the handle one-half turn counter-clockwise ❷. When the latch disengages, it extends upward.</p> 
4.	Slide the access panel toward the rear of the unit about 1.25 cm (0.5 inch) and lift to remove the panel.

Step	Action
	
	Reverse steps 1 through 4 to replace the access panel.

Air Baffle

Step	Action
1.	Lift the air baffle.
	 <p data-bbox="402 1759 1406 1850">CAUTION: Always install the air baffle after completing hardware installation or maintenance procedures. Operating the server without installing the air baffle results in improper airflow and improper cooling that can lead to thermal damage.</p>

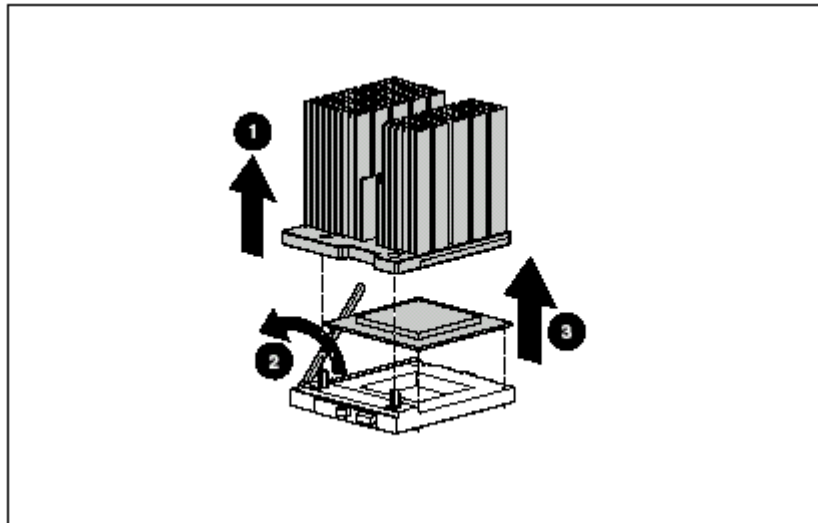
Step	Action
	Reverse steps 1 through 3 to replace the air baffle.

Remove the processor

CAUTION: Always use a new thermal pad and a new heatsink when replacing processors. Failure to use new components can cause damage to the processor.

Step	Action
1.	Open the locking lever on the heatsink-retaining clip ❶.
2.	Press the base of the heatsink-retaining clip and lift the opposite end of the clip to disengage the clip from the processor socket ❷.
3.	Remove the heatsink-retaining clip ❸. <div data-bbox="414 806 1229 1325" data-label="Image"> </div>
4.	Remove the heatsink ❶. <p>CAUTION: Discard the heatsink after you remove it from the processor. The heatsink is for one-time use only; after use the thermal interface material is degraded and does not provide proper thermal dissipation.</p>
5.	Lift the locking lever ❷.

6. Remove the processor ③.



Replace the processor

To replace a processor:

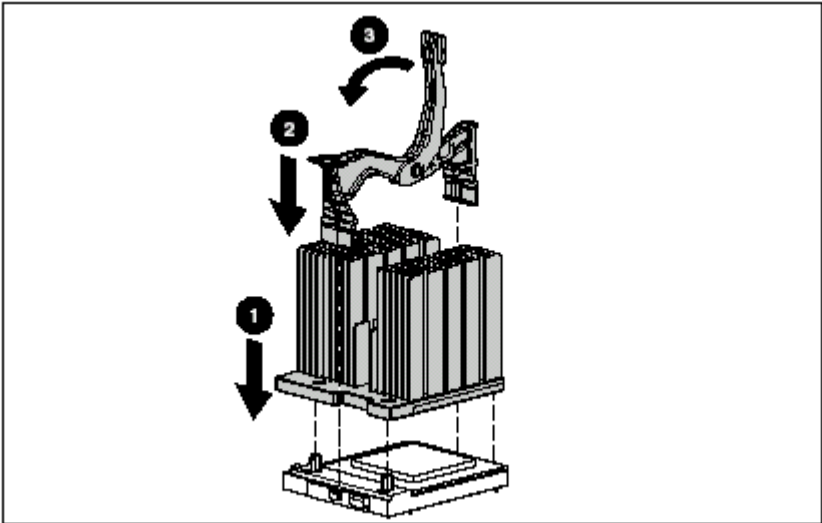
CAUTIONS:

- Processor socket 1 must be populated with a processor at all times. The system fails to boot if the socket is not populated.
- Do not mix processors of different types or speeds.
- You must align the processor pins to seat the processor into the socket

IMPORTANT: When installing a new processor, refer to the documentation that ships with the processor.

Step	Action
1.	Align the notched corner of the processor with the notched corner of the socket.
2.	Insert the processor ①.
3.	Close the locking lever on the processor socket ②.

Step	Action
	<div data-bbox="407 243 1219 764" data-label="Image"> </div> <p data-bbox="407 810 1390 863">CAUTION: Always use a new heatsink with thermal interface material when replacing processors. Failure to use new components may result in damage to the processor.</p>
<p data-bbox="345 911 370 940">4.</p>	<p data-bbox="407 911 1398 940">Remove the plastic cover on a new, unused heatsink to expose the thermal interface material.</p> <div data-bbox="407 953 1219 1472" data-label="Image"> </div>
<p data-bbox="345 1488 370 1518">5.</p>	<p data-bbox="407 1488 639 1518">Install the heatsink ❶.</p>
<p data-bbox="345 1554 370 1583">6.</p>	<p data-bbox="407 1554 878 1583">Carefully install the heatsink-retaining clip ❷.</p>
<p data-bbox="345 1606 370 1635">7.</p>	<p data-bbox="407 1606 992 1635">Close the locking lever on the heatsink-retaining clip ❸.</p>

Step	Action
	 <p>CAUTION: PPM slots must be populated when processors are installed. If PPM slots are not populated, the system does not boot.</p>
8.	Install a PPM in the corresponding slot, if the slot is empty.
9.	Install the air baffle.
10.	Install the access panel.
11.	Slide the server back into the rack.

Service Considerations

There are no new service considerations for this upgrade. However, here is a review of the service considerations that pertain to this new module.

The ProLiant DL380 G2 supports three processors: a 1.13-GHz, 1.26GHz, and (now) a 1.4GHz Pentium III Flip Chip - Pin Grid Array (FC-PGA). Each processor requires its own Processor Power Module (PPM). The processor and PPM are located on the server's System Board. The Processor Option Kit contains the processor, PPM and heat sink. The processor and PPM are spared separately. When installing a 2nd processor, these guidelines must be followed.

- A processor and its PPM must be installed in the first processor location
- The Processor Core Frequency and Speed configuration settings cannot be changed from the factory default. The System ROM will automatically detect and configure the speed of the processor.
- The Chassis ID switch on the system board should be left in the default positions.
- Both processors must be the same frequency/speed. Mixing of processors with different specifications is not permitted.
- After installing a processor and PPM, the system ROM based Setup and Configuration Utility must be ran. Save the new processor configuration to CMOS.

References

Service Guide

Compaq ProLiant DL380 Generation 2 Server Maintenance and Service Guide

This maintenance and service guide is a troubleshooting guide that can be used for reference when servicing the Compaq ProLiant DL380 Generation 2 server.

203840-003 (PDF,BM) 12759 KB *ARCHIVE* [Internal Link](#)

<https://www.orderz.com/compaq/issg/default2.asp> [External Link to order documentation](#)

Install Guide

Compaq ProLiant DL380 Generation 2 Server Setup and Installation Guide

This guide is designed to be used as step-by-step instructions for installation and as a reference for operation, troubleshooting, and future upgrades.

203844-001 (PDF,BM) 16448 KB *ARCHIVE* [Internal Link](#)

<https://www.orderz.com/compaq/issg/default2.asp> [External Link to order documentation](#)

QuickSpec

Compaq ProLiant DL380 Generation 2 (G2)

http://www.compaq.com/products/quickspecs/10902_div/10902_div.PDF

ProLiant DL380 Generation 2 QuickSpec

http://www.compaq.com/products/quickspecs/10902_div/10902_div.html

SPD

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